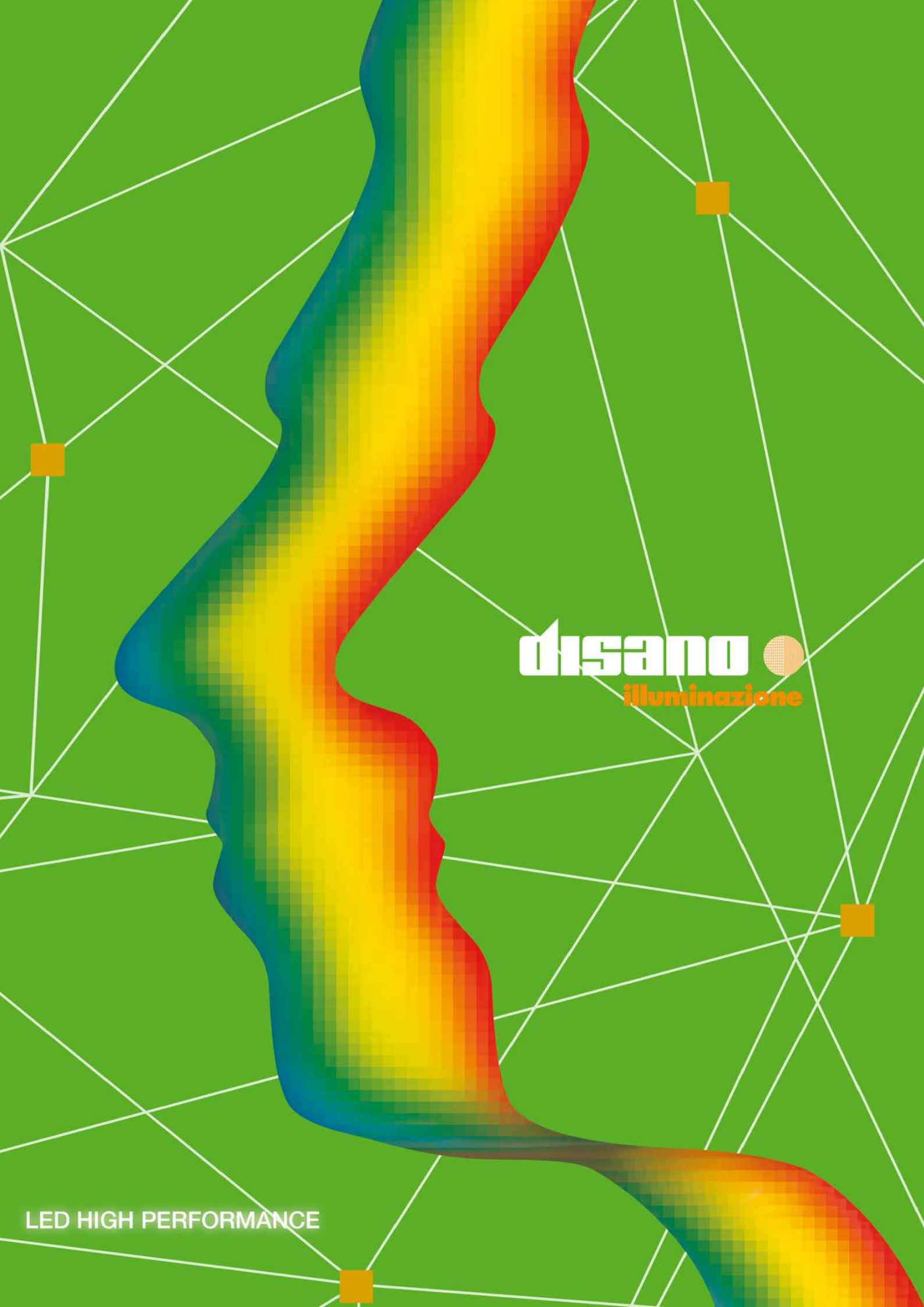

disano
illuminazione
LED HIGH PERFORMANCE

Thanks to their extraordinary features combining compact sizes, **high efficiency and long life**, leds are widely used in many professional applications, such as traffic lights, automotive field, back-lightening systems for video-telephony displays, general lightening, road and effect lightening. In the field of traditional lightning, leds are successfully used for orientation and decorative lighting. Recently, thanks to a rapid performance improvement it is also possible to realize solutions for functional inside and outside lighting.

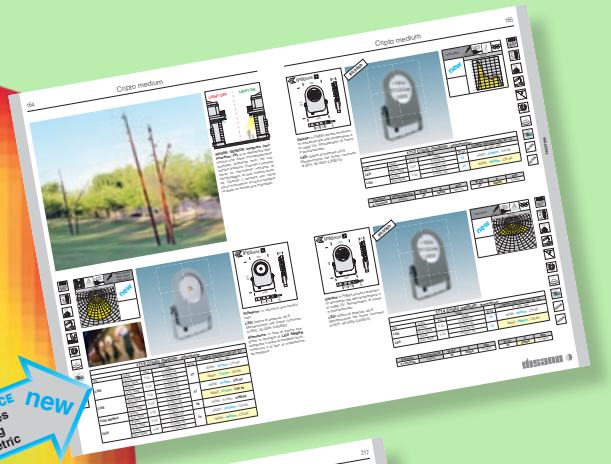
Leds also have other important features:

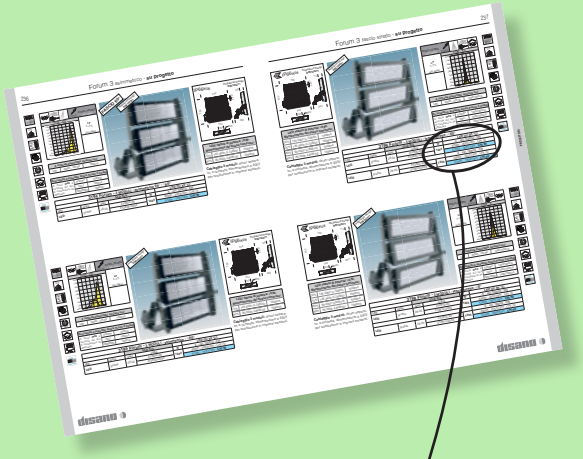
- They don't release heat.
- They produce a white and clean light.
- Unlike energy saving lamps, when they are turned off, they immediately produce light, you don't have to wait not even one minute for their maximum efficiency.

Moreover the LED-technology offers the following advantages:

Environmental-friendly:
in order to produce LEDs, no heavy metals are used and the total control of the light flow guarantees a very efficient system, without any waste.

Ergonomic: as the light flow can be oriented exclusively where it is needed, without light or energy losses.





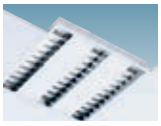


	LED (tj= 85 °C)
W	K - ølm 1200mA - CRI
1223	4000K - 206316lm - CRI 70
	5700K - 169170lm - **CRI 90**
	K - ølm 1300mA - CRI
1333	4000K - 220572lm - CRI 70
	5700K - 180870lm - **CRI 90**

NOMINAL LUMINOUS FLUX AND POWER
In some cases Disano uses and reports the values provided by manufacturers regarding the LED's **nominal luminous flux** (Ta=25°C) with a tolerance of ± 10% compared to the reported value. The **W** column indicates the **nominal power** of the LED module. The values indicated in the relevant column regarding the LED module refer to a specific temperature: For the LED CHIP the reference is "**tj**", and for the COB LED the reference is "**tp**".

	LUMEN OUTPUT (tq= 25 °C)
W tot	K - ølm - CRI - degrees
816	4000K - **123894lm** - CRI≥70 - 60°
	3000K - **115221lm** - CRI≥70 - 60°
	5700K - **123894lm** - CRI≥70 - 60°

OUTPUT LUMINOUS FLUX AND POWER
The **luminous flux emitted** by the light source stated by **Disano** in its catalogues may show a tolerance of ± 10% with reference to the reported values. The **W tot** column (except for the emergency versions, of which values are to be provided upon request) indicates the total wattage absorbed by the entire system (LED + driver) and will not exceed 10% of the reported value. The values reported in the relevant column refer to the luminaire's ambient temperature "**tq**".



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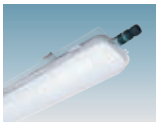

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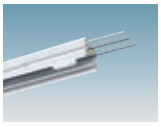

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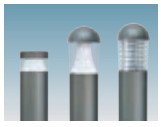

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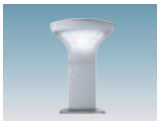

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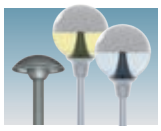

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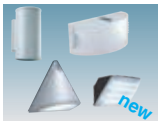

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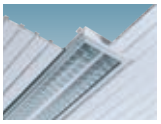

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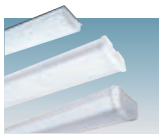

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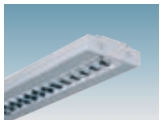

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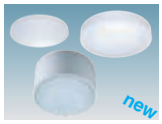

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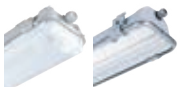

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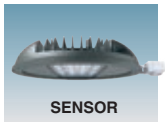



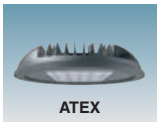



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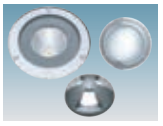

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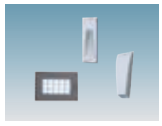

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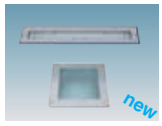

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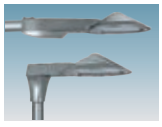

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We respect the planet

Vision

Disano's corporate philosophy is the same that has contributed to the success of **Made-in-Italy** brands in the world, namely top-quality products, excellent reliability, and utmost attention to customer relations. Disano believes that the new light-based technologies are particularly important to foster a form of development that is closer to the health of the planet and the wellbeing of its inhabitants. It considers smart lighting and human centric lighting as major opportunities for the lighting industry.

Mission

Disano's mission is to provide the market with the widest possible range of products that incorporate latest technology and top-notch design and manufacturing quality. To achieve this goal, it uses the best materials available and pays close attention to every detail of the product's development cycle. The company assists clients using its own team of consultants through the development of complex projects to favour the best application of its lighting fixtures.

Plant the planet

Planting new plants and taking care of them means taking care of our future. Simple everyday gestures that, one day, Mother Nature will give back with the same care and dedication. Disano's products were made with an eye towards environmental sustainability because it understands that protecting the planet is important for all of us.

Lighting technology goes green

Disano's products fully meet current industry demands, increasingly geared towards long-lasting energy-efficiency and smart lighting control systems. Disano offers one of the most complete and constantly updated ranges of LED lighting fixtures currently on the market.

Greener cities begin with eco-friendly lighting

Cities strive for a sustainable future. The desire for more liveable urban spaces with no energy waste and a minimum impact on the environment is a growing interest everywhere, from large cities to small towns. The installation of more efficient lights that can be managed with the new technologies is the first step to building a greener city.new technologies is the first step towards a greener city.

Smart lighting - an ecological choice

The digital revolution has changed the way we move around in our cities. Streets are safer and more sustainable with smarter lighting systems, which reduce consumption and improve performance, delivering light only where and when needed. Smart lighting systems can be dimmed at different times to prevent waste. They can be controlled remotely, warning about failures along the line. The new lighting technology is conceived to protect the environment and to manage, supervise and develop smart city projects.



Sport for all with eco-friendly lights

High-quality lighting is a fundamental requirement even for small sport facilities, where sport means health and fun for all, not only professional athletes. The system must be energy-efficient and comply with regulations. Moreover, lights must be addressed to prevent glare on the play field and dispersions in the surrounding environment. With extraordinary results in indoor and outdoor systems, Disano's light fixtures are always the right choice to enjoy sports of any type and level.

Comfort and safety for drivers

The importance of infrastructure for transportation and the community has been increasingly recognised as amazing hubs of attraction with their places for shopping, culture and entertainment. Lighting must therefore meet all these different aesthetic and functional needs. The great variety of Disano's fixtures makes infrastructure lighting systems more functional, safer and practical.

Highlighting beauty while respecting the surroundings

Illuminating artistic and cultural heritage is a delicate task. Light must respect the environment and the natural colours of materials, while blending seamlessly into the landscape which is an integral part of the architectural or artistic setting. Today, it is possible to achieve extraordinary results with a new generation of spotlights, featuring reduced dimensions and LED sources that do not damage the artwork, while saving energy.

Clean and planet-friendly agriculture

Farming with LED lights means reducing soil consumption and saving water resources, and it does not need the use of pesticides. According to research on the luminous spectrum, LED lights can be used efficiently to boost plant growth without altering its biological characteristics. This is a new type of agriculture that can meet the future challenges in resource availability, food security and health.

Whether it's for indoor or outdoor areas, public or private offices, commercial or industrial spaces, Disano offers a **WIDE RANGE OF LIGHTING MANAGEMENT SOLUTIONS** that can help increase energy savings, visual comfort and safety.

INDOOR LIGHTING SOLUTIONS

ELEMENTARY SOLUTION

PLUG & PLAY systems with on-board sensors:

ON/OFF



- Solution with built-in sensors
- Sensors attached to the lighting body and visible
- Programming via app or remote control of sensors or trimmers
- "PLUG&PLAY" no installation difference with a non-dimmable product
- The installer and the user do not require specific skills because the lighting fixture is configured to change lighting levels automatically

DIMM 0/10V - 1/10V



- No additional cabling
- No centralized controls
- No programming and commissioning from specialized technicians
- No remote communication

DIMM DALI



MEDIUM SOLUTION

CABLED solutions for DALI dimmable fixtures:

PUSH DIMM



- The lighting fixture is equipped with a DALI PUSH DIM LED driver
- Simple additional cabling and possibility to use a standard NO switch

PRESENCE SENSOR



PRESENCE SENSOR



HIGH CEILINGS

ADVANCED SOLUTION

High-tech WIRELESS solutions to be managed via app:

BASIC DIM



DISMART



ActiveAhead



- System equipped with smart sensors with high level of automation
- Easy-to-use app and software that do not require skills from specialists (e.g. DALI commissioning or software engineer)
- Built-in or external sensors and, if requested, additional cabling that does not require complex circuitry

SMART (IoT) SOLUTION

COMPLEX solutions requiring lighting management hardware and software:

ZHAGA SOCKET



SMART solution:
- Wired and wireless solutions
- System with all fixtures and sensors are managed with the BUS link (or over the air) with the possibility of a limited, but extremely simple, management
- Possibility to configure via app/smartphone/tablet
- Suitable for medium-small systems: variable complexity, including situations that may require the intervention of specialized workers
- Scalable

WIRELESS (IoT)



IoT solution:
- Device complete with smart technology and hardware infrastructure with software for remote control

For more information see chapter *Lighting management systems and recommendations*

Disano illuminazione offers a wide range of solutions that meet the design requirements of both simple and complex installations which include the concepts of **Smart Building** and **Smart City**, as well as **IoT infrastructure** where data are monitored and the system is analyzed to increase energy savings through personalized control strategies, which can be reconfigured endlessly to enable our lighting fixtures to interface with Building Automation IoT systems.
Simple access and usage are crucial for making the technology available to everyone through smartphones and tablets.

OUTDOOR LIGHTING SOLUTIONS

ELEMENTARY SOLUTION

Programmable luminaires:

ADVANCED PROG - BASIC PROG - Virtual midnight - systems with 1/10V on-board sensors



The luminaire is equipped with a smart LED driver
• Advanced Prog (CLD PROG wiring): luminaires made to meet specific technological needs and designed, as standard, to integrate special functions to ensure high energy-savings, customization options and versatility of use in many applications.

• Basic Prog (CLD BASIC wiring): luminaires developed to grant great flexibility of use thanks to the possibility to vary luminous flux intensity by changing the LED drive current.

• Virtual Midnight with sub-code -30: lights can be dimmed in 4 steps (up to 8 steps upon request)

• Fixtures with sub-code -1219: lighting fixture complete with stand-alone motion sensor with 1/10V control.

SMART SOLUTION

COMPLEX solutions requiring lighting management hardware and software:

NEMA SOCKET - ZHAGA SOCKET



The lighting fixture is designed to accept NEMA/ZHAGA socket
• Option to install sensors and remote control at a later time by using the fixture's socket
• No additional cabling is required

PHOTOCELL and LIGHTING-MOTION SENSOR



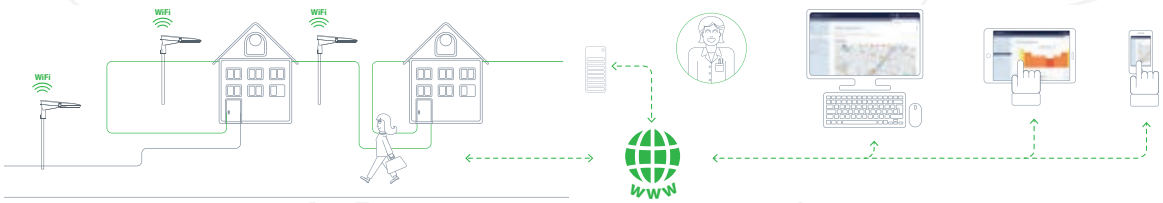
• External installation of fixture, no EMC issues

WIRELESS ANTENNAS WITH REMOTE CONTROL



SMART (IoT) SOLUTION

COMPLEX solutions requiring lighting management hardware and software:



• Device complete with smart technology and hardware infrastructure with software for remote control

SPORTING SOLUTION

COMPLEX solutions requiring lighting management hardware and software:

BASIC WIRELESS



ADVANCE WIRELESS



DMX TOP SOLUTION



• Small and medium-sized sports facilities
• Large-sized sports facilities (stadiums/sport centres/campuses)

For more information see chapter *Lighting management systems and recommendations*

...from 1957...

Disano illuminazione S.p.A., founded in 1957, located in rozzano (milan), Has a total production area of 15,000 sqm.
The factory is located in Dorno (PV) and covers a floor surface of 100,196 sqm. This area includes the logistics department and the automatic warehouse (16,396 sqm), with an overall capacity of 22,500 pallets.

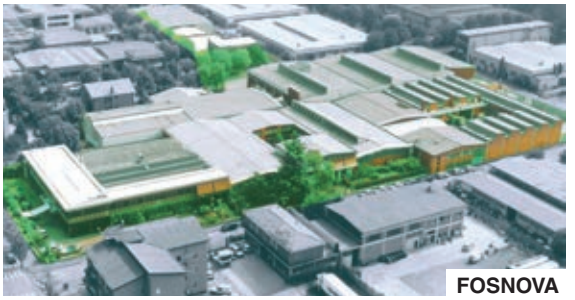
“DISANO” is a leading manufacturer of lighting fixtures, covering all the main market areas:
- Commercial service sector (ceiling fixtures, recessed fixtres for false ceilings, integrated modular systems)
- Industrial applications (watertight fixtures and high bays)
- Outdoor applications (lawn fixtures, urban decora-tion compositions, floodlights for lighting large areas, and street lanterns).







Disano Group



FOSNOVA



ILUMINACION DISANO



DISANO FRANCE





FOSNOVA S.r.l., located in Rozzano (Milan), near the Disano S.p.A. plant, boasts decade long expertise in architectural lighting design. Currently, Fosnova's production specializes mostly in fixtures utilising the most recently developed light sources.The Fosnova product range offers a variety of solutions to indoor lighting problems, including:
downlights and spotlights , interior floodlights , free standing, wall and ceiling mounted fixtures, fluorescent light modular systems, electrified tracks.

France-based **DISANO FRANCE** s.a., established in 1993, equipped with a warehouse and customer support offices, is responsible for distributing the Group's products in the French territory.

Spain-based **ILUMINACION DISANO** s.a., established in 1992, is now located in new headquarters situated in Roda de Barà (Tarragona), and is responsible for distributing the Group's products in the Spanish territory. Additionally, Iluminación Disano has a productive area of approximately 11,850 sqm totally covered, equipped with advanced systems and highly automated. Iluminacion Disano's logistics operate on a fully automated area, with an overall capacity of 6360 pallets. Lastly, the site is home to an office area, including sales, technical and customer support offices.

DISANO is also present in **PORTUGAL, IRELAND, BELGIUM, LUXEMBOURG, CZECH REPUBLIC, SLOVAKIA, POLAND, SLOVENIA, CROATIA, BOSNIA AND HERZEGOVINA, MONTENEGRO, SERBIA, MIDDLE EAST, RUSSIA, AFRICA and LATIN AMERICA** with its own technical support and sales offices.

Quality certification

The Disano Group considers service to the market and continuity in relations with customers as key elements in company policy in which it has continuously invested in Italy and Europe. Improvements in manufacturing technology, excellent innovation, rigorous controls throughout the entire corporate process system, high product quality control standards, as well as the development of advanced computer systems for lighting design calculations. The photometric measurements certified by the CSQ mark are entirely conducted in our research laboratories, in compliance with the European Lighting Design Committee's guidelines.
For DISANO Illuminazione, **Quality System Certification (CSQ-IQNET)** in compliance with **UNI EN ISO 9001:2015** standard (design, production and sale of lighting fixtures and accessories) is an further step towards improvement of the company processes aimed at achieving customer satisfaction.
An Environmental Policy is the framework of the values and principles that guide a company's commitment in environmental protection; to this end, it implements an Environmental Management System compliant with the requirements of **UNI EN ISO 14001**. Disano illuminazione is making efforts to pursue the constant improvement of its environmental performance in order to reduce and prevent pollution by identifying the environmental issues and impacts (both direct and indirect) associated with its business.



Production



On a surface area of 66.645 sqm, production is highly automated and ensures high quality standard in terms of reliability and long product life.

PLASTIC MATERIALS AND METALS
The unit is equipped with injection moulding machines (up to 2500 tons each), extrusion machines, equipment to make sheet metals and profiles also used for electrified tracks.

MACHINING OF SHEET METALS AND OPTICAL SYSTEMS
Computer controlled, high-precision manufacturing tools include mechanical and hydraulic presses; all systems are specially designed for controlled quality production and competitive pricing.



PAINTING PLANT
All Disano lighting products have double coated surfaces. The double coating process is fundamental to ensure that fixtures exposed to aggressive outdoor agents are able to withstand such conditions as high pollution rates, salty environments or extreme weather conditions. Our surface coating department is able to meet the highest quality and environmentally friendly standards. Each luminaire undergoes special preparation and our plant is equipped with an air purifier capable of meeting latest anti-pollution standards.



The coating cycle is made up of the following stages:
• before being coated, each piece undergoes chemical treatments to allow a firm fixation of the coating onto the surface.
- **STANDARD POWDER COATING**: the standard powder coating consists of a pre-treatment of the metal surface and of a successive single layer of polyester powder coating
- **MARINE POWDER COATING**: the powder coating of fixtures meant to be installed in marine environments include the metal surface pre-treatment, a first epoxy primer coating and the successive polyester powder coating (totally 2 layers).
- **POWDER COATING FOR AGGRESSIVE ENVIRONMENTS** (resistant to acetic salt fogs): the powder coating for aggressive environments consists of a metal surface pre-treatment, a first layer of zinc primer, a second layer of epoxy primer and a successive layer of polyester powder coating (totally 3 layers).
- **STANDARD LIQUID COATING**: the standard liquid coating cycle consists of a metal surface pre-treatment, a first epoxy cataphoresis coating and a final layer of bi-component acrylic liquid coating (totally 2 layers).
- **MARINE LIQUID COATING**: the standard liquid coating cycle consists of a metal surface pre-treatment, a first epoxy cataphoresis coating, a successive layer of bi-component acrylic liquid primer and a final layer of bi-component acrylic liquid coating (totally 3 layers).

MANUFACTURING/PRODUCTION OFFICES
The offices in charge of production and shipping are located close to the factory. Arranged on several levels, they cover a surface area of approximately 2,660 sqm. The covered car park extends on a floor surface of 1,450 sqm.

Laboratories

Underwriters Laboratories The Disano illuminazione laboratories perform photometric analysis with third-party reviewers of UL International Italia and are authorized to conduct the following tests:

UNI EN 13032-1:2012
Measurement and presentation of photometric data of lamps and luminaire, Part: 1 Measurement and file format.
UNI EN 13032-4:2015
Measurement and presentation of photometric data of lamps and luminaires, Part: 4 LED lamps, modules and luminaires.
IES LM-79-08
Approved method: Electrical and photometric measurement of solid-state lighting products (sec. 9.0, 10.0, 11.0, 12.0, 12.2, 12.5,14.0).



RESEARCH & DEVELOPMENT: FROM THE EXCELLENCE OF OUR LABS TO THE QUALITY AND SAFETY OF OUR LUMINAIRES.
Disano has always privileged investments to equip its laboratories with cutting-edge technologies to promote the ongoing improvement of the production processes and the design of new lighting fittings. The Research and Development sector occupies a central position in the activities engaged in by Disano. In particular, this sector focuses on:
• the design of new lighting fittings
• the search for new lighting solutions,
• experimenting new light sources and materials.
The experimental work on new materials and the experimental testing of the innovations introduced enable the Disano Group to achieve a qualitative standard that ensures an absolute guarantee and a technological level that is always very advanced.

PRODUCT SAFETY LABORATORIES (third-party supervision by IMQ-UL)
At the Disano illuminazione laboratories, which use the same instrumentation employed in the most accredited certifying bodies, all products undergo several tests to measure their efficiency and resistance to use and to weather. Disano illuminazione performs tests under the supervision of two of the most important certifying bodies in Italy: IMQ S.p.A and UL Italia. The company's laboratories, in accordance with the WMT/CTF-Level 2 testing procedure, are authorized to issue the ENEC certification to ensure compliance with the following global lighting standards:
IEC/EN 60598-1 - Luminaires
IEC/EN 60598-2-1 - Fixed general purpose lights
IEC/EN 60598-2-3 - Road and street lights
IEC/EN 60598-2-5 - Floodlights
IEC/EN 60598-2-6 - Lights with built-in transformers
IEC/EN 60598-2-13 - Ground recessed lights
IEC/EN 60598-2-22 - Emergency lights

PRODUCT ELECTROMAGNETIC COMPATIBILITY LABORATORIES (third-party supervision by IMQ-UL)
Moreover, Disano illuminazione laboratories perform electromagnetic compatibility tests on its lighting products in compliance with the following global lighting standards:
IEC/EN 61547 - General lighting EMC immunity with special reference to surges, bursts, voltage dips and short interruptions and electrostatic discharges
IEC/EN 55015 - Limits and methods of measurement
IEC/EN 61000-3-2 - Analysis of harmonic current emissions
IEC 61000-3-3 - Flickering measurement
The company's laboratories also carry out the following tests: chemical tests, physical tests and electrical tests on semi-finished products selected for production, tests on randomly selected samples from semi-finished products, functional tests on randomly selected samples from finished products, accelerated exposure tests of coatings to measure resistance to ultraviolet radiation. In this way, Disano illuminazione can ensure the quality of all of the components used, in compliance with internationally accepted procedures before each finished product is placed on the market.

MEASUREMENTS (third-party supervision by UL)
The adoption of computer aided design technology enables the reflector's optimum configuration to be studied in relation to the distribution of the desired light beam and the determination of the correct ratio between the parabola and the position of the lamp. The experimental tests of the lighting parameters are then performed on the first sample of the parabola using a mirror goniophotometer. The goniophotometer consists of various components, the core feature comprises the photometric tunnel, where the samples are positioned. The following parameters are measured: luminous flux for each spatial angle, temperature, the electric parameters for the power supply are tested and managed using a process computer that enables measurements to be made in accordance with the international standards prescribed by the CIE regulations. The light sources used for the measurements are prepared beforehand in the lamp ageing laboratory that is an integral part of the laboratory facility. A measurement is taken before starting the final production to define the lighting unit's correct photometric curve. The lighting unit's photometric data is recorded and processed by the computer. Samples of finished products as subjected to the lighting quality control process.

Distribution service



DISTRIBUTION SERVICE
Italy: a large 144,000 m3 warehouse for a total of 22,500 pallets has the purpose of optimising the delivery and shipping service to the customers' local warehouses, for a faster response to the end market.
Spain: a fully automated warehouse with an overall capacity of approximately 6360 pallets.
France: Semi-Automatic warehouse for the entire French Market.

SEMI-FINISHED PRODUCT WAREHOUSE
The warehouse covers a surface area of approximately 12,000 sqm. With an overall capacity of 13,650 pallets, and is entirely automated for semi-finished products.

POLE WAREHOUSE
The warehouse where poles are stored develops on a floor surface of approximately 2,100 sqm and is operated in a semi-automatic way.

Customer services

The disano group offers designers, installers and distributors a series of free services that are able to completely satisfy technical, lighting design and commercial needs.

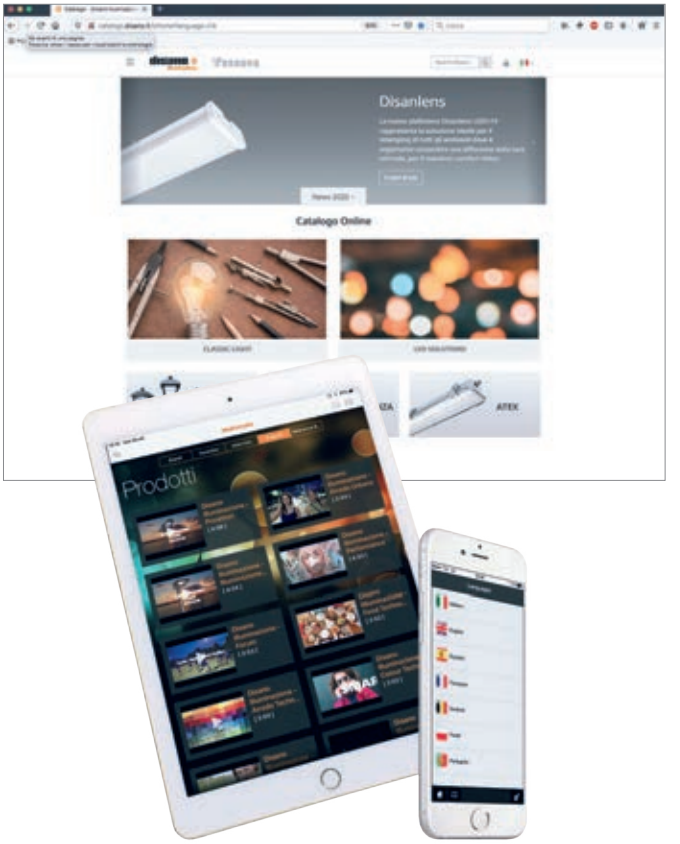
CATALOGUE
The paper catalogues produced by the Disano Group are a consolidated tradition that is repeated every year, not only in Italian, but also in Spanish, French and English.

CONSULTING CENTRE
From the Lighting Technology Consulting Centre, you can request any type of support for the correct use of light fixtures. In fact, the Disano Group guarantees total flexibility in implementing projects using non standard fixtures.The Group's aim is to keep an open-door policy with its customers, and to be at their service at all times.

OUR PROMOTERS
Promoters are present in every region and are at the complete disposal of wholesalers, installers and designers to immediately solve any technical, commercial or lighting design problem and to promote the Disano product nationwide.
They also supply estimates and develop lighting design projects, ensuring continuous support.

MARKETING
The Marketing Department has been set up to assist wholesalers by implementing marketing and promotional support actions at the point of sale, advertising their trademarks to make them become reference point for end users.





A narrative of light on the Web

The Disano Group has created an innovative **WEBSITE**, periodically updated, which provides detailed data and information about the company, its products, representative projects, designs, new products.
Want to browse Disano and Fosnova catalogues easily and quickly, view technical specifications at a glance or retrieve design information with just a few clicks? Now you can thanks to our application for **iPAD AND iPHONE** available in four languages (Italian, English, French and Spanish)!
A close-up of a Disano product against a dark background and the words 'Turn On': this is the homepage that users see when they log into our virtual world. May the journey begin!

What is LED?

LED is the acronym for **LIGHT EMITTING DIODE**, a component that emits monochromatic light with the flow of electric current. LEDs are providing lighting designers with a whole new range of exiting tools to help them achieve the best results and develop creative lighting solutions with amazing effects that were once technically impossible to achieve. A high-quality LED with an **CRI>90** index rated at 3200K - 6500K has also appeared on the market over the last year. The brightness, homogeneity, and colour rendering of LED lights have been improved to the extent that they are now being used for a wide range of lighting applications. **LED** modules consist of a certain number of light emitting diodes mounted on a printed circuit board (rigid and flexible) with active or passive current regulating devices. Optics or light guiding devices can also be added depending on the field of application to obtain different beams and light. The variety of colours, the compact size and the flexibility of the modules ensure a broad range of creative possibilities in many applications.

Photobiological safety

- Crystal layers treated by chemical vapour deposition (wafer)
- A number of layers are then selected based on their luminosity and colour temperature (chip)
- The chip is mounted on a support to dissipate heat and add current continuity to the system (package)
- Lens support
- Protection against external stress
- The rear side of the package emits heat, the front emits light

LEDs: how do they work?

LEDs are semiconductor devices which convert electricity into visible light. When powered (direct polarization), the electrons move through the semiconductor, and some of them fall in a lower energy band. Throughout the process, the energy “saved” is emitted as light.
Technological research has allowed to achieve 200 lm/W for each high voltage LED. The current level of development shows that LED technology has not yet reached its full potential.

Technical specifications

We often read about photobiological safety in lighting design. This very important factor is determined by the amount of radiations emitted by all the sources with a wave length ranging between 200 nm and 3000 nm. Excessive radiation exposure can be harmful for human health. The EN62471 standard classifies light sources into risk groups.



Risk Group 0 (RG0): luminaires are exempt from photobiological risks in compliance with standard EN 62471.



Risk Group 0 (RG0 Ethr): luminaires are exempt from photobiological risks in compliance with standard EN 62471 - IEC/TR 62778. If necessary, contact our customer service for the observation distance.



Risk Group 1 (low risk group): luminaires do not pose any risks due to normal behavioural limitations of a person when exposed to a light source.



Risk Group 2 (intermediate risk group): luminaires do not pose any risks due to people’s aversion response to very bright light sources or due to thermal discomfort.



Environmental advantages

Extremely long working life (50.000 h)

Growing efficiency

Instant switch-on mode

Dimming option with no colour temperature variations

Filter-free direct coloured light emission

Complete colour spectrum

Dynamic colour control mode (DMX, DALI)

Can be switched on also at low temperature rates (-35°C)

Photobiological safety



Advantages for users

A wide range of different colours together with compact and flexible modules enable many creative and innovative design solutions

Reduced maintenance costs

Lower energy consumption, longer working life and reduced maintenance facilitate the creation of interesting applications



General advantages

Mercury-free

No IR or UV components can be found in the visible light spectrum

Reduced use of renewable and non-renewable energy sources

Environment enhancement

No light pollution

Less power installed in each lighting point



Design-related advantages

Wide choice of design solutions

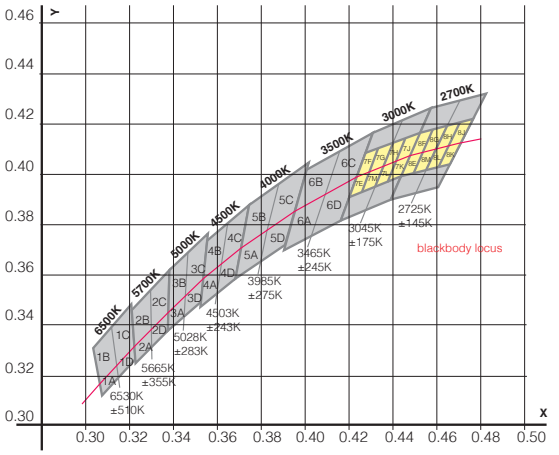
Bright, saturated colours

Vibration resistant lights

Unidirectional light emission (light is shed only upon the desired object or area)

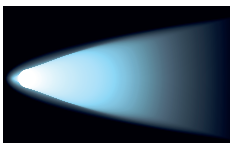
White LED

Several distinctions are made during the production process of the LED lights selected. The chromatic areas called 'bin' are horizontal contours along the BBL line. **Colour uniformity depends on the manufacturer's know-how and quality standards.** A larger selection means higher quality, but also higher costs.



Graphic representation of BINNING: choice of LEDs to use in relation to their colour temperature. Source: Lumileds, 2011.

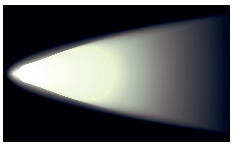
Cold white



5000K ÷ 7000K - CRI 70

Typical colour temperature: 5600K
Outdoor applications (e.g., parks, gardens)

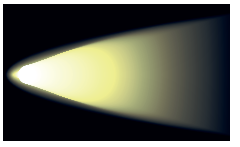
Natural white



3700K ÷ 4300K - CRI 75

Typical colour temperature: 4100K
Combinations with existing light sources (e.g., shopping centres)

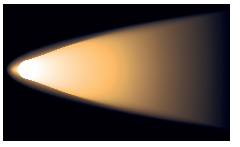
Warm white



2800K ÷ 3400K - CRI 80

Typical colour temperature: 3200K
For indoor applications, to enhance colours

Amber



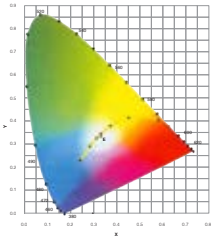
2200K

Typical colour temperature: 2200K
Outdoor applications (e.g., parks, gardens, historical centres)

MacAdam Ellipses

Refer to the area on a chromaticity diagram that contains all the colours which are indistinguishable, to the average human eye, from the colour at the centre of an ellipse. The contour of the ellipse represents the just-noticeable difference of chromaticity. MacAdam shows the difference between two light sourcesthrough ellipses, which are described as having 'steps' that indicate the standard deviation of colour. In applications where light sources are visible, this phenomenon should be taken into account because a 3-step ellipse has a lower colour variation than a 5-step.

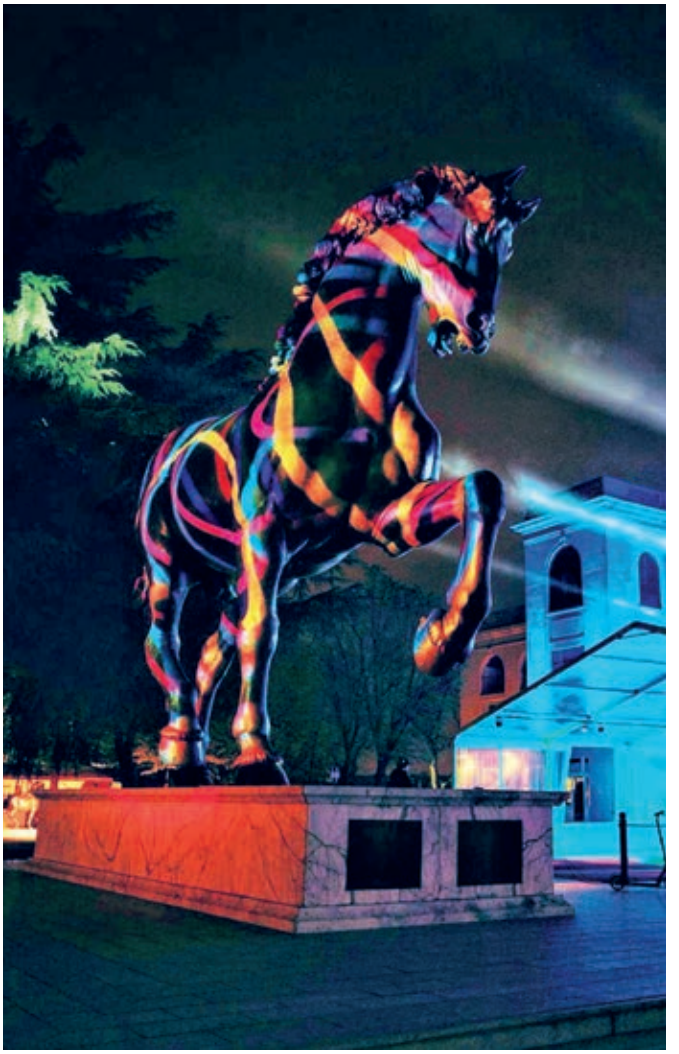
Size (MacAdam ellipses)	Visibility
1 SDCM	Colour differences are not visible
2 SDCM	Colour differences are visible only with instruments
3 SDCM	Colour differences are hardly visible
4 SDCM	Colour differences are visible
5 SDCM	Colour differences are clearly visible



Source:
Standard Chromaticity Region Plotted on the 1931 CIE Curve.

Coloured LEDs

The CIE chromatic diagram is based on the physiological peculiarity of the human eye to assess colours by breaking them down into three fundamental chromatic components (three-colour process): red, blue and green, positioned at the top of the diagram curve. The CIE chromatic diagram can be obtained by calculating x and y for each pure colour. The spectrum colours (or pure colours) can be found on the contour curve, while the colours inside the diagram are real colours. It should be noted that the colour white (and other colours in the central area - achromatic colours or shades of grey) are not pure colours, and can not be associated to a specific wavelength.



LED and traditional lamps

LEDs have a nominal light output of 150 Lumens and can bring remarkable energy savings compared to conventional sources: Discharge lamps with high colour rendering (Ra>60). They can save up to 30-40% in energy costs. When comparing a LED lighting system with a conventional system we need to take into account the fixture's actual Lm/W ratio rather than the source's initial lumens. The Lm/W ratio of any lighting fixture depends on different factors, such as power loss or power variations due to temperature. In discharge lamps these variations cut by half the initial luminous efficiency (expressed in lumen per watt) of sodium or metal halide sources. The products designed by Disano, instead, minimize losses and operate efficiency even with traditional technology

The wavelength of light (colour) is adjusted using semiconductor materials and different production processes.
Unlike lamps emitting a continuous spectrum, **LED lights emit monochromatic light of one particular colour to guarantee the emission.**

Light sources (colour temperature)	K
Blue sky	12-20.000
Summer daylight (sunshine and sky)	6500
"Daylight" fluorescent tube	6300
White light LEDs	**5600**
Sunlight (midday, summer, mid-latitude)	5400
"Cool white" fluorescent tube	3400
"Warm white" LED	**3250**
100W halogen lamp	3000
"Warm white" fluorescent tube	2950
Amber	2200
Sodium lamp	2100
Sunlight (dawn, dusk)	2000
Candle light	1850-1900

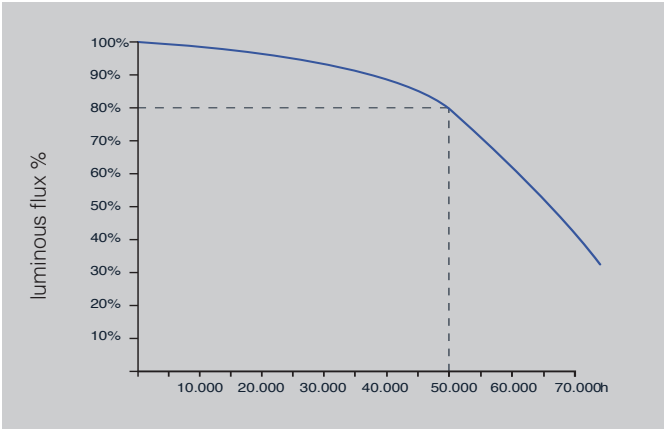
Light sources (colour rendering)	CRI
Sodium lamp	0-25
White light mercury lamp	45
"Warm white" fluorescent tube	55-73
"Cool white" fluorescent tube	65-86
LED	**80**
Metal halide lamps	85-93
100W incandescent lamp	100

Life expectancy

Firstly, it should be noted that LEDs, unlike traditional sources, will not turn off suddenly when their working life ends, but will slowly fade their initial luminous flux until they turn off completely. In fact, LEDs do not break (except for manufacturing damages) but decay gradually and constantly. The decrease of LED flux, normally after 50,000 hrs, is defined by the working life and is represented by the L80 mark (see charts), which means that the flux is kept up to 80% after 50,000 hrs.
The "B" letter followed by a number ranging between 10 and 50 indicates the quality of the fixture and defines the LED percentage that doesn't keep the declared characteristics when it reaches 50,000 working hours.

EXAMPLE: LED declared L80/B10 = 50,000 hrs

This means that when the LED reaches 50,000 hours of operation, 90% (B10) of the LED will have a luminous flux corresponding to 80% of the initial flux (L80)



The influence of heat

The working life of LEDs largely depends on their inner temperature.
Any statement about the working life of a LED light is considered reliable after assessing the influence of temperature. Excessive temperature affects the correct functioning of LED lights and reduces their working life.
The values concerning lamp life are regarded as reliable after determining the effect of heat on LED sources. In fact, overheated LEDs are more likely to be affected by malfunction and have a shorter life cycle. Therefore, for LEDs to operate properly, guarantee long life (e.g. 50,000 hrs) and a natural degradation of the luminous flux (e.g. L70), they must be designed to evenly dissipate the heat they produce. The nominal performance of LEDs is respected only if their working temperature is not exceeded (Tj)

Disano is a competent and responsible company that takes these factors into account and measures real values.

Thermal Resistance (C°/W): it indicates the difficulty of LED lights to expel heat, which causes the light sources to deteriorate. TR should be very low to guarantee energy efficiency and durability (LM70). A range of products characterized by even lower values will be launched shortly to guarantee improved light levels and longer working life (at present, a minimum of 50,000 hours in certain conditions).

Luminous flux and power

OUTPUT LUMINOUS FLUX AND POWER
The **luminous flux emitted** by the light source stated by **Disano** in its catalogues may show a tolerance of ± 10% with reference to the reported values.
The **W tot** column (except for the emergency versions, of which values are to be provided upon request) indicates the total wattage absorbed by the entire system (LED + driver) and will not exceed 10% of the reported value.
The values reported in the relevant column refer to the luminaire's ambient temperature "**tq**".
tq = temperature of the environment surrounding the luminaire with reference to a specific performance.

NOMINAL LUMINOUS FLUX AND POWER
In some cases Disano uses and reports the values provided by manufacturers regarding the LED's **nominal luminous flux** (Ta=25°C) with a tolerance of ± 10% compared to the reported value.
The **W** column indicates the **nominal power** of the LED module.
The values indicated in the relevant column regarding the LED module refer to a specific temperature.
For the LED CHIP the reference is "**tj**", and for the COB LED the reference is "**tp**".
tj = temperature of LED's internal junction point.
tp = temperature of the LED module's outer surface

Power supply

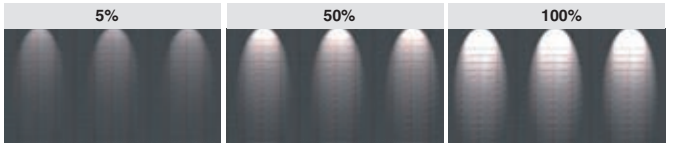
Based on the type of LED, they can be powered:
- with a 24V power supply- signalling/semi-power/power LED
- with a 1050mA power supply – power LED
- The latter can be powered with a higher current to increase its luminous flux and power. In this case it is fundamental to ensure that LEDs have excellent air circulation and a good heat sink to dissipate heat.
- the LED power supply has the purpose to maintain and control the exact current circuiting through the circuit; excessive current would damage the LEDs in a few seconds while a weak current would impair performance. -To guarantee constant current, all LEDs of a circuit must be connected in series; if they are connected in parallel (like the one usually used for halogen bulbs) this will deteriorate LEDs very quickly. Power supplies have an isolated output and the maximum input voltage never reaches dangerous levels.

Example:

Power supply	n.LED	W	øIm 4000K - CRI70	øIm 3000K - CRI70
350mA	5	22	2702lm	2567lm
	10	44	5404lm	5134lm
	14	60	7566lm	7187lm
530mA	5	33	3976lm	3778lm
	10	65	7953lm	7555lm
	14	91	11135lm	10578lm
700mA	5	43	5098lm	4843lm
	10	87	10196lm	9686lm
	14	122	14275lm	13561lm

LED regulation

The opportunity to check each channel to which LED lights of the same colour are connected enables to obtain a range of colours based on different shades of red, green and blue. Colour emission is regulated using specific dimmer switches. In other words, **these accessories switch the LED lights on and off with a constant frequency and at variable switch-on intervals** (the slowness of the human eye ensures that the on-off mode is integrated and regulated, giving the impression of regulation).



Temperature controller

Our products are equipped with an automatic temperature control device. In the event of an unexpected temperature rise caused by anomalous weather conditions, the system will reduce the drive current or turn off the system as the LED gets warmer, guaranteeing proper operation. Moreover they are equipped with an overvoltage protection device as required by EN 61547.

In short:
- fixtures that are powered at up to 530mA have a smart current limiting device;
- fixtures that are powered at 700mA have an On/Off device.

DRIVERS for dimming LED lights

Owing to the large number of different methods, it is up to the manufacturer of the driver to specify the type of control signal. Even though commonly accepted control standards do not exist, the most popular are:

1-10 V

1-10V (subcode -12): a 1-10 voltage rate is applied to the driver to produce variable light levels, which are proportionate to the light emitted by a LED lamp.

DALI (subcode -0041): digital transmission protocol for sending light levels information to the LED drivers.

Up to 64 DALI fixtures can be controlled with a high degree of flexibility via a 2-wire control line individually, jointly or in up to 16 groups. The lighting is switched on and dimmed via a control line.

BENEFITS:
• Simple planning: no need to assign lighting groups at the planning stage. Instead, they can be set later with the aid of a controller. Control line planning can be separated from power supply planning.
• Simple installation: the control line is protected against polarity reversal and can be routed together with the power supply, for example in a 5-core sheathed cable. The control line must be simply rated for line voltage. There is no need for a special cable.
• Flexible lighting groups for later changes: with DALI, the lighting groups are not hard-wired. The individual luminaires are grouped by simply assigning them to groups with the aid of a controller. These groupings can be changed at any time.
• Synchronous changes of lighting scenes: even if different luminaires are started at different dimmer values or different types of lamp are combined with one another, DALI changes from one lighting scene to another in synchronous mode.

IGBT

IGBT: lamps are turned on and off by a rapid touch; light intensity is regulated by keeping pressure on the pushbuttons.

PUSH DALI

With **PushDALI (subcode -0045)** it is possible to create lighting systems that can be easily switched ON/OFF and dimmed at low costs using conventional mains voltage push-buttons for lighting control. The different switching and dimming functions depend on the fixture's operating status at a given moment and on how long the button is pressed. A short pressure of the button turns the connected drivers ON or OFF; a longer pressure of the button will dim the connected drivers (i.e. the fixture's light level increases or decreases).

BENEFITS:
• Low-cost dimming and switching
• User-friendly operation from multiple lighting control points
• Theoretically unlimited number of driver (we recommend a maximum of 25 driver per button)
• Selectable fade times depending on the driver used
• Dimming levels tailored to human eye sensitivity
• A solution that can be used in combination with ambient light sensors (if any)
• Lighting control signal that corresponds to the mains voltage
• Powerless switching via a lighting control interface

Visual comfort - UGR



Maximum light stability for visual wellbeing



The primary objective of any interior lighting system is to achieve the best visual comfort adjusted to the needs of the space where light is used. In work spaces, for instance, thanks to new light sources and control systems, the lighting system can establish a relation with natural daylight and therefore create a visually comfortable space during the entire course of the work day, avoiding waste and protecting the health of workers.

Do you want to avoid headaches or eye strain?



Choose fixtures with glare control (**UGR<19 or UGR<16**) for safe and comfortable lighting levels.

Our mind perceives light oscillations at up to 200 Hz.

A long-term exposure to high frequencies (between 70 and 160 Hz) can cause discomfort, headaches, visual fatigue and impaired visual performance.

Classification of UGR values by applications

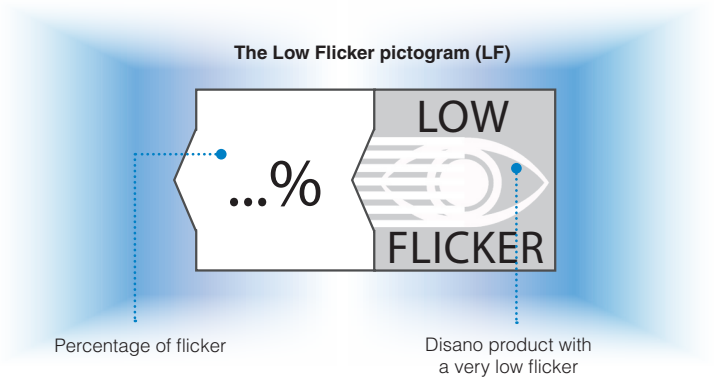
No or imperceptible glare	UGR≤13
Very demanding applications (technical drawings)	**UGR≤16**
Offices and schools (reading, business meetings, computer work)	**UGR≤19**
Industrial applications, craftsmen	UGR≤22
Transit areas	UGR≤25
High glare	UGR>28

The UGR (unified glare rating) is an international unified measure developed by the CIE (Commission International de l'Eclairage) to assess the direct glare generated by a lighting system.

The European standard regulating the lighting of indoor work places (**UNI-EN 12464-1**) recommends a specific UGR value for different applications ranging between **10 and 30**; **the lower the UGR value, the lower the glare**. The exact value of this index differs by project type because it depends on the position of the luminaires, room characteristics (dimensions, reflections) and on the point of observation of viewers.

Low Flicker

On a chosen selection of fixtures, Disano illuminazione uses **ripple-free** LED switching drivers capable of minimizing flicker. For all Disano spotlights you may find the following mark/pictogram:



The level of flicker that can be perceived or that is acceptable to human eye may vary. In the presence of a high level of flicker, especially based on perception, optical flicker can generate distress among users and cause a lighting system to be unacceptable from the quality point of view. At present there is no test or verification that can help identify low-flicker optical products. Disano illuminazione, after years of research in the lighting sector, has indentified optimal flicker limits for products that operate at frequencies of ≥400 Hz. With these optimal limits Disano illuminazione can now offer products with proper quality values and be certified with the Low Flicker Mark, allowing easy identification. **The mark is identified with the "Low Flicker" logo that includes a maximum flicker value of 8% at frequencies of ≥400 Hz.**

Flicker is a common issue with LED lamps. It can occur at frequencies below 60 Hz and depends on several factors, such as the ripple emitted by drivers. The notion of flicker-free is very different from that of ripple-free. Ripple is most commonly used by driver manufacturers. Furthermore, "flicker-free" does not mean "without" but rather "very low".

Ripple Free

Ripple free: Quality LED drivers come with a sophisticated multistage circuit to power LED with an ideal current source (one line), without overloads (**Figure 1**). By "ripple" we mean the dimension of the output waveform of a LED driver. Despite the oscillation occurs at frequencies that cannot be perceived by naked eye, evidence shows that the human brain can perceive light oscillations up to 200 Hz (in LED drivers with ripple, this frequency is 100 Hz). Possible problems include headaches, eye strain, distorted vision and, in some cases, even epileptic seizures. Figure 2 shows the greatest impact on LED life at high temperatures: the LED appears to be overpowered in zone "A" and underpowered in zone "B".

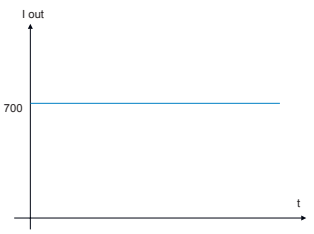


Figure 1. LED powered with ideal current

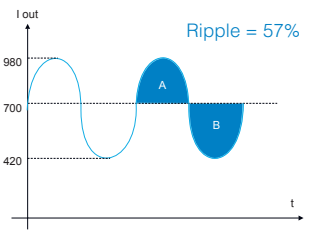


Figure 2. A: LED overpowered, B: LED underpowered

Figure 2: in the absence of a suitable heat sink, the excess temperature of area "A" is not balanced by zone "B", with the result that the LED junction temperature will be higher than the temperature of a RIPPLE-FREE product.

Flicker and video coverage

Light with no glare
Lighting must meet the needs of international events in terms of efficiency and high-definition TV broadcasting, which require high levels of luminance, light uniformity, excellent colour rendering and greater attention the visual comfort of spectators and athletes with a light without glare.



Need more stable images and videos?
Luminous flux oscillations have clear impacts on monitors where images may appear fuzzy or blurry. Therefore, light stability is a key requirement for obtaining high quality videos. It is important to consider that light oscillations provoke effects during video broadcasting, where images appear crossed by numerous black lines, making watching impossible. In addition to this, high current oscillations have a negative effect on LEDs, on the driver life and on the efficiency of the entire lighting system.

Guidelines for TV broadcasts with LED lighting systems
During a broadcast it is not uncommon to perceive an annoying flicker especially during slow motion. This flicker is distracting and should be eliminated where possible. The circumstances that produce the flicker vary upon the frequency modulation, voltage and camera frame rate. The table below provides a general rule of flicker factor values produced by various lighting systems.
A flicker factor of less than 5% will generally not cause problems for slow motion replays at up to 150 frames per second. A lighting system with a flicker factor of less than 5% will eliminate the perceived flicker at most frame rates per second used within the sports television industry. The acceptable level of flicker factor (FF) is indicated in the Illuminance Category Tables.

Flicker Factor Reference Table

Type of Illuminance System	FF value (guide only)
Daylight	0 %
LED Luminaires - % of flicker depend upon the type of LED power supply	<3 %
Discharge lamps with high frequency ballasts	<4 %
Discharge lamps with 3-phase magnetic ballasts for uniform light	8-20 %
Discharge lamps with single-phase magnetic ballasts	30-50 %

Protection against high voltage levels - Surge Protector

SURGE

To guarantee optimal LED fixture performance during the expected service life,
Disano provides its luminaires with an advanced surge protector that can withstand surges of up to 8 kV, based on product.
The surge protector is compliant with EN 61547 and has the aim to protect the LED module and related driver.

It operates in two modes:

• **differential mode:** surge between power conductors, between the phase conductor to the neutral conductor. Substantially, between phase (L) and neutral (N) no substantial surges are present because voltage peaks are suppressed by other equipment connected to the power line; as a consequence a lower surge protector is sufficient. Depending on the type of product, Disano provides a protection from surges of up to 6 kV.

• **common mode:** surge between power conductors, L/N, to the ground or the body of the luminaire if it is classified in class II (i.e. it is installed on a metal pole). Overvoltage in the common mode are generated by lightning strikes and may reach very high levels. Depending on the type of product, Disano provides a protection from surges of up to 8 kV (10kV upon request).



Every year, public/road and amenity lighting managers are called to face the numerous damages caused by lightning and overcurrents. To protect lighting installations from *surge*, i.e. the rapid increase in voltage between parts of opposite polarities and/or the ground, Disano has equipped its luminaires with an EN 61547 compliant **surge protector**, capable of protecting the LED module and their related driver from voltage spikes.

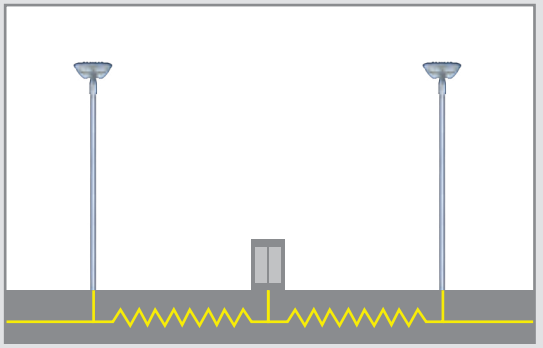
Benefits of the LED lighting
Thanks to their efficiency, LED sources are well suited to illuminate roads and industrial and commercial buildings. In comparison, LEDs consume up to 70 % less energy than traditional lamps and their service life (up to 100,000 hours long) help save on energy and maintenance costs. Moreover, LED systems can be easily monitored via lighting control systems and sensors that control lights based on different needs.

Surge protective device
Street lighting installations and generally all lighting fixtures mounted outdoors are directly exposed to three types of overvoltage which may be caused by:
- the line powering the system/luminaires
- the environment due to the accumulation of electrostatic discharges (ESD)
- lightning strikes falling near the lighting system

LEDs and their related drivers are designed exclusively for low voltage values, making them particularly sensitive to overvoltage. The economic benefits deriving from the use of LED lighting systems could be lost in case of system failure and the consequent maintenance or replacement of the LED modules; it is therefore necessary to equip luminaires with the right surge protective device.

The effects of surges
Surges of reduced magnitude do not necessarily cause the immediate failure of the LED modules or of the drivers that have not been adequately protected. However, if such surges occur very often, they can cause the early wear of the LED and consequently shorten its service life. High power surges caused by lightning, instead may translate into a sudden failure of the LED modules or of the drivers. Overvoltage can cause high current to flow in drivers and in the LED modules, resulting into the following effects:
- partial or total failure of the LED modules or of the drivers
- faster deterioration of the LED modules, shortening their service life
- failure of the command interface

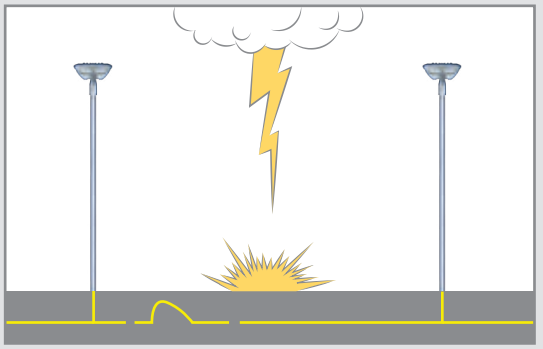
What is a surge
A surge is a rapid increase in voltage on a power line between parts of opposite polarities and/or the ground. Some power surges may exceed the isolation or immunity threshold of electronic components causing it to fail. A power surge may be caused by one of the following conditions:



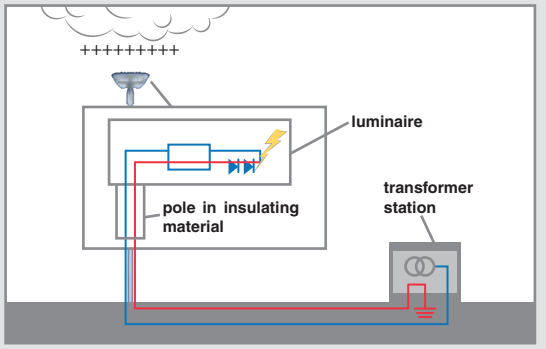
Switching processes/changing the load on the power line

Differential mode: between power conductors, and between the phase conductor and the neutral pole conductor. This mode mainly concerns the primary circuits of the LED driver causing it to fail by short circuit. But if the phenomenon accumulates high energy, it could also affect the LED modules before it dissipates.

Common mode: between power conductors, L/N, to the ground phase or to the body of the luminaire if it is classified in class II (i.e. it is installed on a metal pole). This does not damage the driver's internal circuits but it will be transferred to the secondary circuit, directly affecting the LED modules.



Lightning falling near the installation
These surges are originated when lightning strikes near the lighting installation. The high voltage discharged by the lighting propagates to the ground diminishing its strength as it goes further away from the point where it fell. The metal pole takes on the same potential of the surrounding ground, electrically affecting the LED module and the related driver



Accumulation of electrostatic discharges
Since the fixture's power system is connected to the ground (TT and TN distribution systems require the connection of the neutral connector to the ground in the transformer station), a differential in potential is created between the luminaire's body and the LED driver's internal circuits connected to the neutral of the power line. The voltage value that is created is so high that it generate a discharge onto the neutral-ground conductors in the following order: metal body – heat sink –LED module – LED driver – neutral conductor. In this case, the failure affects mostly the LED module.

Advanced Prog & Basic Prog

Disano outdoor lighting products are divided into two ranges that provide the end user with different types of technology:

Advanced Prog (CLD PROG wiring): luminaires made to meet specific technological needs and designed, as standard, to integrate special functions to ensure high energy-savings, customization options and versatility of use in many applications (e.g. installation with dimmers or emergency supply). *These functions are already available on standard products and must be enabled on request (**except** for versions with **LED COB**)*. These products do not require any modification to the entire system because the lamp only needs to be connected to mains power supply no pilot cable and/or control bus required.

Basic Prog (CLD BASIC wiring): luminaires developed to grant great flexibility of use thanks to the possibility to vary luminous flux intensity by changing the LED drive current.

Amenitiy and street lighting fixtures are equipped with the latest generation of programmable drivers that allow controlling different aspects and functions of a lighting system:

OPERATING MODE	DESCRIPTION	ADVANCED PROG	BASIC PROG
Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture	✔	✔
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)	✔	
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.	✔	
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC	✔	
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life	✔	
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)	✔	
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on	✔	
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP	✔	

Operating mode

LUMINOUS FLUX SETUP
With this function luminaires can adjust their **luminous flux to optimise design requirements** by varying LED drive current. A reduced luminous flux caused by a reduced current allows the LED to operate in better thermal conditions due to the reduction in power consumption.

NOTE: an increase of the luminous flux must always be assessed by our technical staff.

MAINS VOLTAGE REGULATION
This function allows the luminaire to be **dimmed when the mains voltage varies between 170 and 250 V AC**. It allows using LED luminaires with a dimmer that varies the mains voltage. It is used to dim the lights of older systems fitting traditional lamps. With the use of a software programme it is possible to set the maximum and minimum brightness levels that the luminaire must ensure when the mains voltage varies.

CLO (COSTANT LIGHT OUTPUT)
The LED's luminous flux is **kept constant throughout the luminaire's entire lifetime**. The Constant Light Output (CLO) function compensates for the natural decay of the luminous flux by progressively increasing LED driver current. This results in a slow and constant increase in the luminaire's power consumption.

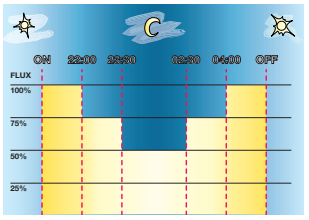
MONITORING
The driver records the **operating conditions throughout the entire service life** (operating hours, operating temperature, overvoltage). In the event of a product malfunction, the system will quickly and easily detect the problem.

SETUP VIA APP
Luminous flux, Virtual Midnight, power regulation and CLO values can be reprogrammed in accordance with the product's specifications and certificates only after agreeing them with our offices.

VIRTUAL MIDNIGHT

To increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The "virtual midnight" is the reference point for dimming lights according to the desired profile. The device is integrated in the LED driver and therefore does not require any modification to the system.

In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.

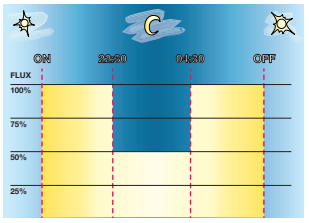


Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

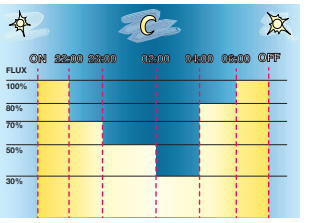
ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request.*

Virtual midnight in 2 steps subcode -31



Settings upon request	
Time	**Flux**
on ÷ 22:30	100%
22:30 ÷ 04:30	50%
04:30 ÷ off	100%

Virtual midnight in 5 steps subcode -32



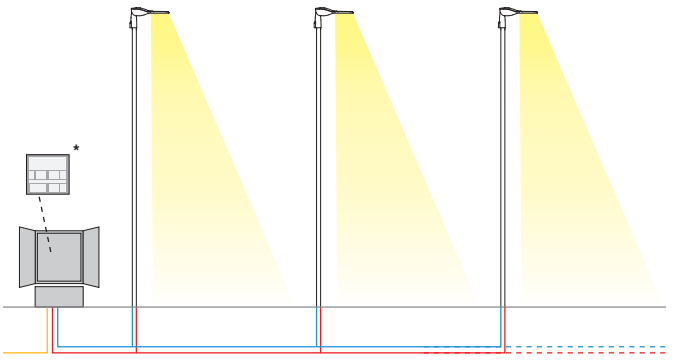
Settings upon request	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	70%
23:00 ÷ 02:00	50%
02:00 ÷ 04:00	30%
04:00 ÷ 06:00	80%
06:00 ÷ off	100%

BROADCAST PROG

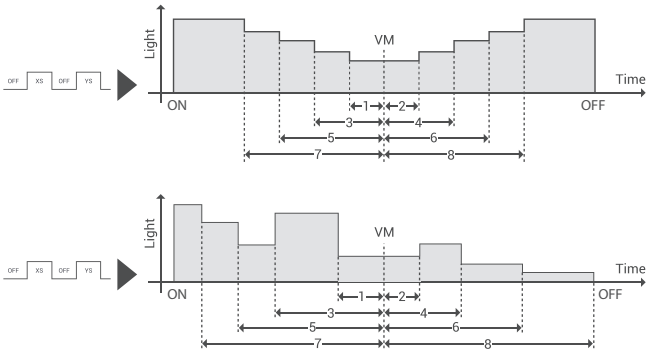
The Broadcast Prog function, **through a regular sequence of voltage interruptions**, allows modifying the driver programming of all the luminaires installed on the same power line by means of a **predefined sequence of ON/OFF cycles** that interrupt the phase without the need of additional cables. The Broadcast Prog function requires the use of an external device to be mounted in the luminaires' electrical supply panel. In addition to the **energy savings** that can be obtained with the "Virtual Midnight" function, there is the **possibility to vary the profile** of the entire system without having to use complex management systems

The external device to be used in the supply panel allows the automatic reconfiguration of the entire line. With the use of additional accessories, it is also possible to control and monitor the system remotely.

With this technology it is possible:
- enable/disable the "Virtual Midnight" function
- reconfigure the luminaire's drivers, modifying each one of the 8 steps (4 pre- and 4 post-virtual midnight) in terms of time and luminous flux regulation.



*** device with integrated Broadcast Prog technology**



configuration examples

Upon request: you can use a device equipped with SIM card to control the power line of lighting fixtures. By interfacing with a wireless device you can re-programme the LED driver.

Smart Solutions

DISANO illuminazione is capable of offering solutions that meet the needs of modern smart cities that use IoT technologies. This range is based on integrated wireless solutions that use different network protocols (BLE, Zigbee, 5G) and Zhaga and Nema standards for remote control, reporting, detección, and the possibility of CMS integration.

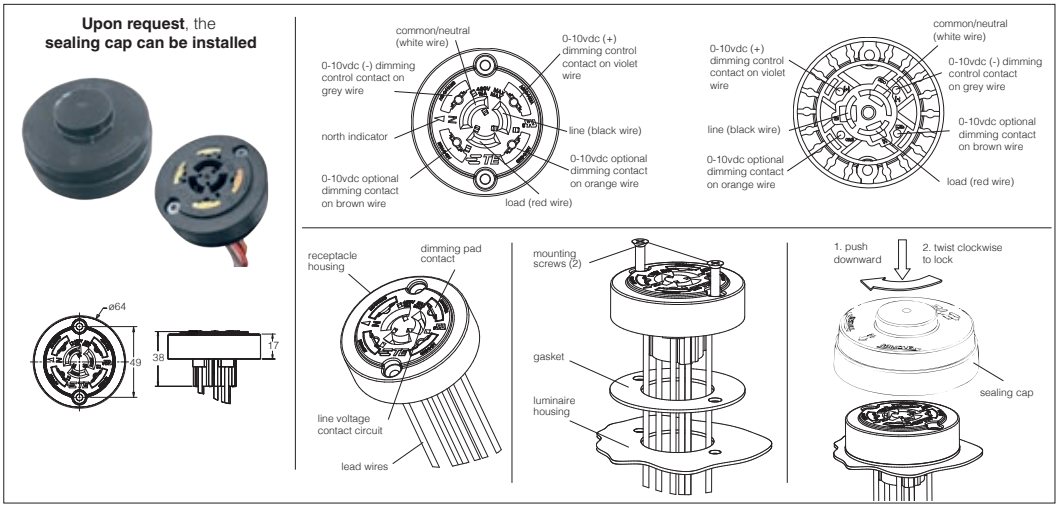
You can find the details of these products in the following pages and/or in the section of our catalogue dedicated to "Lighting Management Systems".

To monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

Nema Socket

Disano's luminaires with **subcode -40** come with the **Nema Socket** to enable the electrical and mechanical connection between the sensor and the light fixture. The socket is made in plastic material and is complete with a gasket to ensure perfect IP protection; moreover, thanks to its removable structure, it can be installed directly onto the luminaire's body (without accessing any internal parts) and **without using tools**, hence facilitating future maintenance; **upon request**, the sealing cap can be installed. The Nema Socket can be adapted to **5/7 poles**: 3 for the electrical connection, and the remaining 2/4 to carry 1-10V or DALI signals; it is also perfectly suited to integrate all "smart" devices for remote lighting control.

Applications: the **Nema Socket** is ideal for use in public or private street lights, car parks, cycle and pedestrian lanes, corridors within hospitals, schools and industrial plants and urban amenities and generally in any area where you need a "smart" control of lighting fixtures.

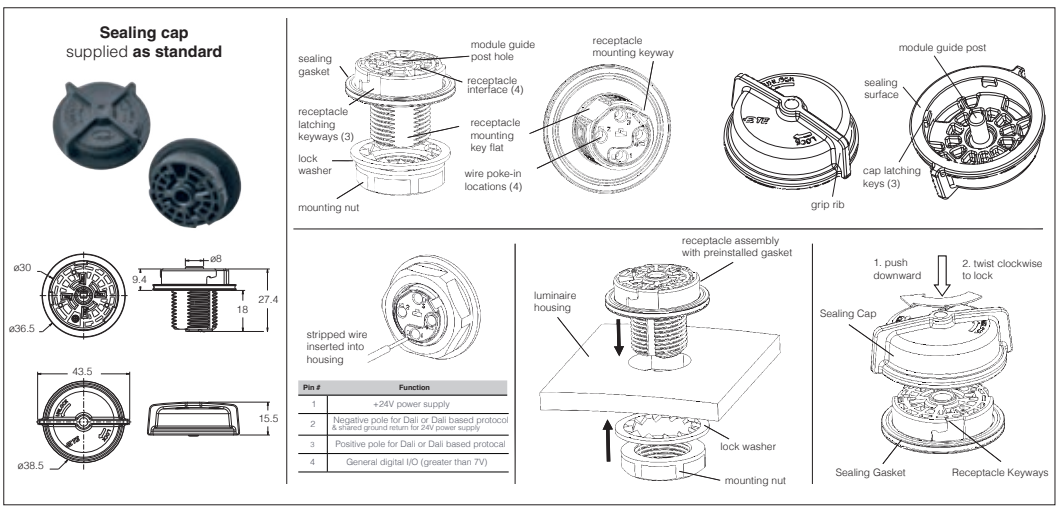


Advantages:
- Easy installation without tools
- Up to 355-degree rotation
- Robust twist-lock contacts for reliable power interconnection
- The socket is pre-terminated with wire conductors to facilitate the integration into new and existing lighting systems
- It accepts DIMM dimmable photocells (ANSI standard) to enable connection between the photocell and the lighting fixture
- Available with two or four dimming contacts to support dimming protocols over one or two channels

Zhaga Socket

Disano's fixtures with **subcode -0054** are compatible with the **Zhaga Socket** that ensures an electric and mechanical connection between the sensor and the luminaire, simplifying the complex architecture of street lighting installations and removing the need for accessory modules and cabling. The **Zhaga Socket** consists of a standard interface between the receptacle on the fixture and its basic components and cover that, together, form the housing of the control module. The built-in low friction seals, that can be coupled together, protect both the fixture and the module. UV-resistant and strong materials complete the features of this reliable connector.

Applications: the **Zhaga Socket** is ideal for use in public or private street lights, car parks, cycle and pedestrian lanes, corridors within hospitals, schools and industrial plants and urban amenities and generally in any area where you need a "smart" control of lighting fixtures.



Pin #	Function
1	+24V power supply
2	Negative pole for Dali or Dali based protocol & shared ground return for 24V power supply
3	Positive pole for Dali or Dali based protocal
4	General digital I/O (greater than 7V)

Advantages:
- Easy tool-free mounting. The module is attached and secured with a bayonet clamp
- Compact dimensions for greater design flexibility
- The special (push-in) contacts reduce logistics problems arising from the need to use cables with various lengths for different lighting fixtures
- Single built-in seal that protects both the fixture and the modules, minimizing mounting times.

What is a smart city? A smart city is a city where there is a better quality of life and where public spaces can help citizens achieve their full potential and move more freely, while saving time and respecting the surrounding environment. The intelligence of a «Smart City» is an inteligence that is distributed, shared horizontal and social that promotes the participation of citizens and the organization of the city towards a greater optimization of resources and results. Energy consumption, public resource use and time are all optimized. With the Web and the new technologies, access to services is easier and public spaces can be organized to favour mobility, save time and turn our cities smarter.
Remote management systems make objects more intelligent and recognizable, so that they can communicate data and provide access to aggregated information. Thanks to a more efficient use of the Web, everything within a city (urban fittings, public buildings, monuments, etc.) can play an active role and become collectors and distributors of information about traffic, energy consumption, services and assistance to citizens, cultural and touristic attractions and much more.

The fixture can be equipped with a **control system which provides lighting managers with the ability to improve the performance of urban and street lighting** installations while saving costs by lowering energy usage, optimizing operation and reducing CO2 emissions. The system incorporates the latest technologies in power electronics, communications and IoT. This makes possible, among other features, an on/off scheduled switching, a dynamic programming of lighting levels, map-based visualizations, automatic alarm reports, real-time fixture monitoring and maintenance scheduling of every single luminaire of multiple installations at once. The system has a friendly and secure web-based user interface which can be operated anywhere and anytime from any web-connected device such as computers, smartphones and tablets providing real time and accurate control of the lighting infrastructure.



System Highlights

- Flexible solution
  - Valid for new installations as well as for lighting renovation
  - Autonomous system but integrable with other city services platforms
  - Valid worldwide
  - Compatible with most Smart City services platforms
- Values and revenues
  - Better lighting performance
  - Money savings
  - Energy costs reduction
  - Operation costs reduction
- Users
  - Municipalities and County Councils
  - Smart City platforms operators
  - Managers of large infrastructure
- Applications
  - Street and residential lighting (streets, roads)
  - Urban & architectural lighting (monuments, public spaces)
  - Large infrastructure lighting (airports, ports)
  - Large areas and sport lighting (car parks, stadiums)
  - Urban events lighting (celebrations, demostrations)

System Architecture & Components

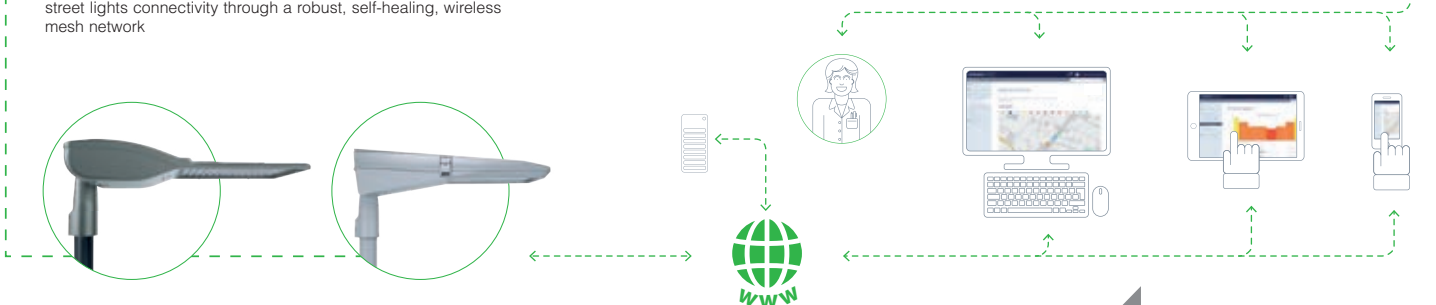
- System architecture
  - Smart power electronics: LED drivers
  - Wireless network hardware
  - RF Nodes and GSM Gateways
  - Cloud-based data acquisition and network management
  - Management software suite (Network & data management)
  - Web-based multi-device user friendly interface
- Technical aspects
  - Fully programmable electrical parameters and functionalities
  - Connectivity of sensors
  - Self-diagnosis, notification of alarms
  - Mains voltage and frecuency monitoring
  - High efficiency
- Lighting network nodes
  - Multi-hop wireless mesh network
  - IP-based protocol, broad coverage
  - Automatic neighbour discovery, self-organization, ad hoc configuration
  - Extensibility, interoperability, open standards
  - Robust link, reliable and high-performance network
  - Additional sensor data acquisition (optional)
- Gateway
  - Mesh network concentrator
  - 2G/3G/LTE network gateway
  - Time and date precise synch
- Central host and database
  - Local or cloud hosting available
  - End-to-end secured system
  - Smart City and other horizontal management platforms integrability
  - Multi-level data interchange capabilities, app interfaces
  - Business Intelligence and data analytics
- Management Software Suite
  - Lighting configuration, management and maintenance
  - Easy installation, test capabilities
  - Data network management and configuration
  - Reports, statistics and data visualization tools
- Fast commissioning
  - Ease of installation
  - Assembling outside fitting
  - Remote configuration
  - Reliable, outdoor-proof
- Accuracy
  - GPS accurate location
  - Point-to-point management
  - Real-time operation

Smart City Lighting

- Flexible and avant-garde lighting
  - Programmable lighting
  - Dynamic lighting
  - Reactive to events
  - Makes possible a human centric lighting
  - Increases citizen satisfaction
  - Helps to improve safety on streets
  - Compatible with most existing Smart City & urban services management platforms and easily adaptable thanks to its open architecture
- Environmental sustainability
  - Energy savings
  - Reduction of CO2 footprint
  - Lower lighting pollution
- Data-enabled lighting
  IoT technology enables scalable, site-based or cloud-based street lights connectivity through a robust, self-healing, wireless mesh network

User Friendly Web-based Interface

- Main functionalities
  - Easy lighting levels & timing configuration
  - Creation of customized lighting schedules
  - Energy consumption monitoring
  - Power supply monitoring
  - Alarms and events reporting
  - Operation time recording
  - Geolocation and mapping of luminaires (multiple map choice)
  - Easy allocation of luminaires by town, street, coordenates, type
  - Manteinance planning
  - Multiple users administration
- Optimum lighting maintenance
  - Possibility of preventive maintenance
  - Optimization of reactive maintenance
- Privacy and security commitment
  - Encrypted communications
  - Safe communications exchange through highest encryptation levels
  - Database access security
  - Secure hosting
  - Cloud protection and data confidentiality
  - Safe access with authentication
  - Highest protection against unauthorized access



Power line carrier remote control systems

A special control system can be inserted inside the lighting fixture or into the lamp pole to monitor the product's operating parameters (Ordered with **sub-code -0078**). This control system is electrically connected to the fixture through a 1-10Vdc or PWM output of the fixture's transformer. This type of remote control system is called "point-to-point". A "point-to-point" system is a set of electrical equipment used to monitor, programme and control individual LED lighting fixtures. This system is based on the power line carrier (PLC) technology that enables a digital two-way communication between the module installed in the fixture and the control system. The control system is located inside the control panel. The digital data are adjusted to the mains voltage, so no BUS or extra conductors are needed.
Thanks to this "point-to-point" system, it is possible, for example, to monitor and save the fixture's electrical parameters and, based on these settings, generate failures or trigger alarms, turn off/on or adjust the fixture's brightness. This is done through either manual or pre-set commands. The communication between the control centre (PC) and the "point-to-point" system occurs through a control panel using normal communication channels (GSM-GPRS-network LAN etc.). The commands sent from the control centre are conveyed by the control module located inside the panel through the power line carriers which dispatch the commands to the individual fixtures and vice versa. The management module can control up to 990 lights and can reach a distance of 1.5 km. Beyond this distance, an extra module can be inserted into the fixture to serve as a signal repeater. The control module has a series of pre-set light configurations for light dimming. However, each controller inserted into a fixture saves several information regarding the cycle that should be used for that specific fixture. This cycle, which consists of up to 5 steps, is started every day at pre-set hours, and serves the purpose to define the application time and the action to be performed. The "point-to-point" module is independent from the cycle management of its corresponding fixture, and will work even if the communication from the control module is lost.

These controls, settings and data are all managed through a software programme that regularly downloads all the information required to manage the systems and check for any failures.

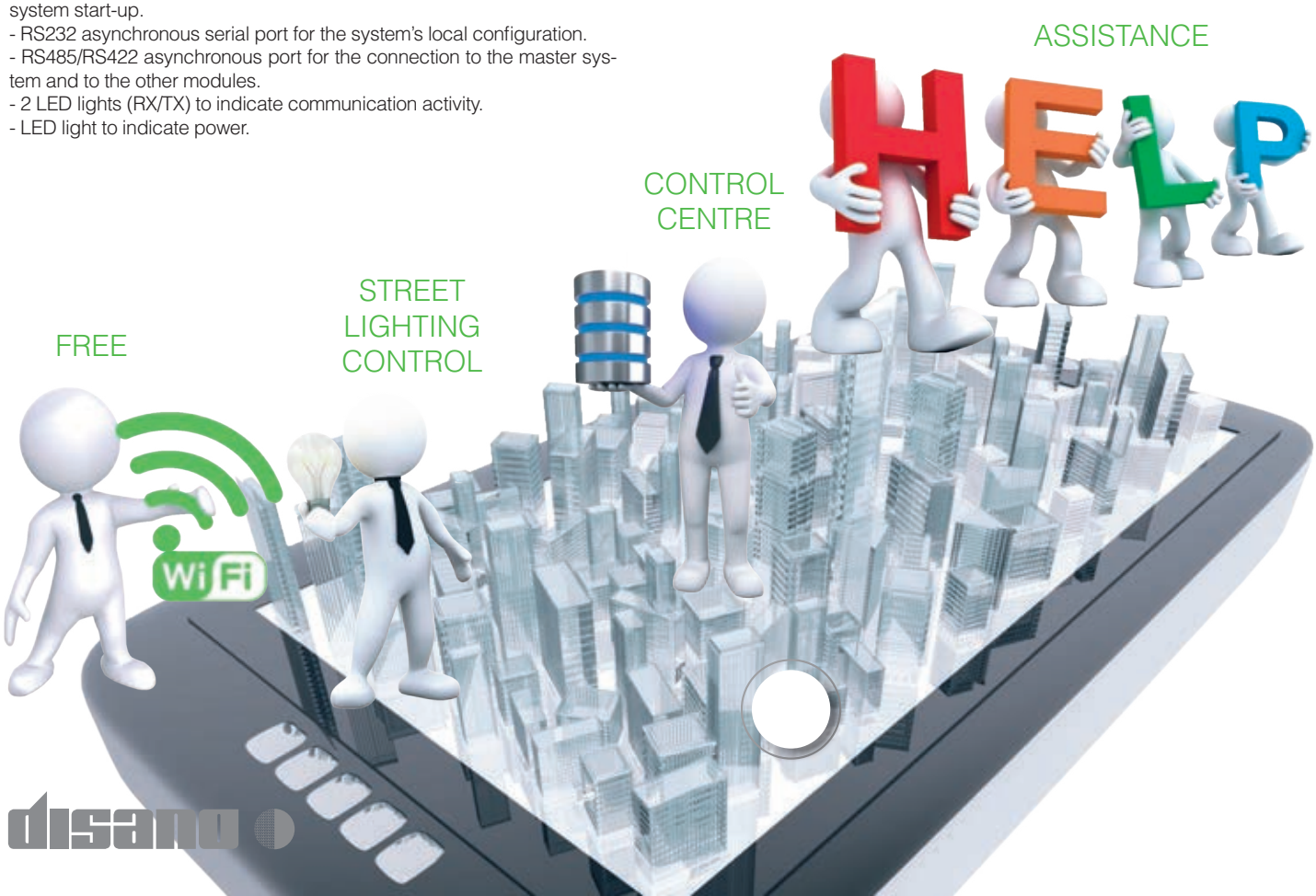
Technical characteristics of control module
(to be inserted inside the control panel)

Power: 230Vac 50/60Hz (about 21mA at 230V, 44mA Max).
Container: degree of protection IP20, bar connection DIN 9 modules.
Clock calendar: maximum error of +/- 4min/year in the 0-70°C range.
Memory: nearly 20dd for a system with a maximum number of controlled points (990).
Operating temperature: ambient temperature -20°C +55°C.
Without power supply: no loss of data, 3 days of clock life.
Input sections: configured as 2 in 24Vdc.

Standard supply:
- clock calendar from PC control centre.
- all the settings made by the modules are saved.
- sampling: up to 3 for each night, of which one is fixed after 7 min. from system start-up.
- RS232 asynchronous serial port for the system's local configuration.
- RS485/RS422 asynchronous port for the connection to the master system and to the other modules.
- 2 LED lights (RX/TX) to indicate communication activity.
- LED light to indicate power.

Technical characteristics of step-to-step controller
(to be inserted inside the fixture)

Power: 150 - 254Vac 50/60Hz self-powered.
Container: plastic with IP20 or IP66 degree of protection.
Connections: IP66 version with cables FROR-Npi 2x2.5 mm2 L=20cm
Version IP20 with clamps; installed in series between power supply and fixture housing.
Internal consumption: min. 0.7 VA
Operating temperature: ambient temperature -20°C +65°C.
Communication: ASK power line carrier
Baud rate: 1000
Regulatory framework: EN50065-1 , EN50178
Class of insulation: Class 2
Output: 1-10 Vdc; PWM; DALI



Regulations regarding street lighting and light quality

To improve lighting output, save energy: the constantly growing amount of information regarding the possibilities and opportunities offered by the use of LED sources in street lighting led DISANO to provide clarifications in this short text where it explains why Disano fixtures are suitable for these kinds of installations, while complying with street lighting standards (EN13201 and UNI11248) and Regional regulations required to fight lighting pollution and save energy costs.

The luminance levels used for street lighting fall within the levels ranging between 0.01cd/m2 and 3.00cd/m2.

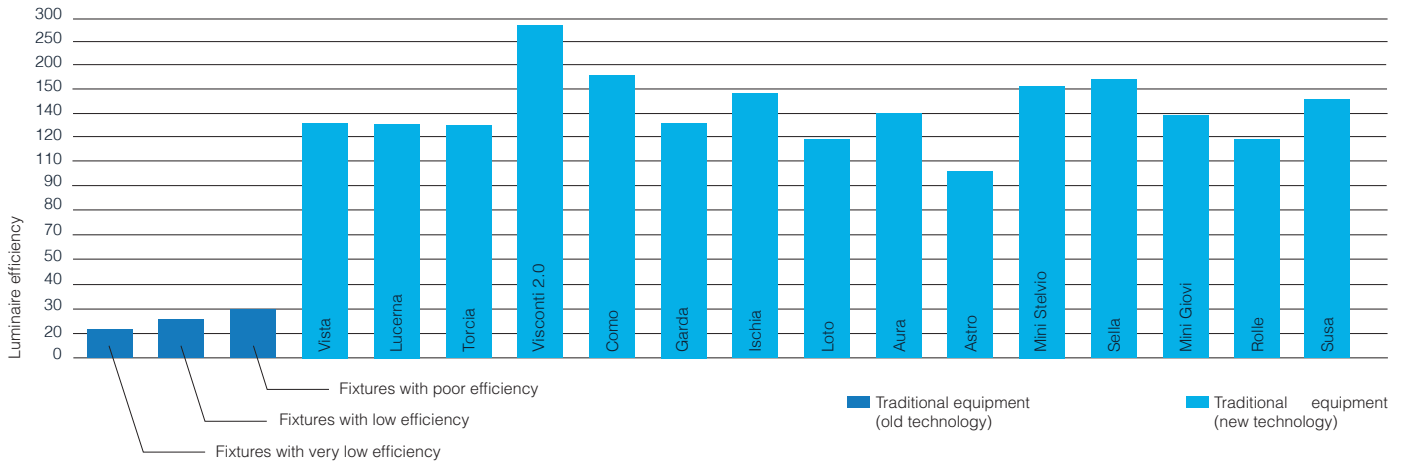
0,01 cd/m²		**3,00 cd/m²**
Star-studded sky	Street lighting	Daylight or indoor lighting

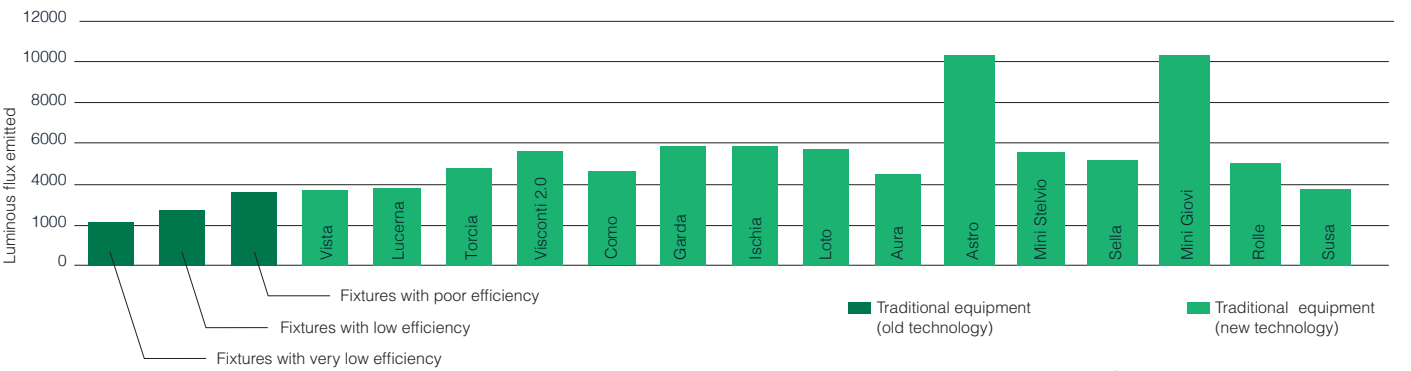
Numerous studies and trials have tested drivers'reaction times both in the presence of fixed obstacles and on streets illumined with different light sources. On streets with luminance levels ranging between 0.01 – 3.00, tests proved that reaction time is remarkably slower when white light bulbs are used. This means that, in order to have the same reaction time, it is necessary to have higher luminance levels when sodium lamps are used and lower levels if metal iodide or LED lamps are used. Moreover, with low luminance levels and light sources emitting predominantly blue/green lights, there are 7% fewer accidents per km compared to predominantly yellow/red lights. (Source: Anie)
The UNI11248 standard introduces new safety parameters. One of these parameters concerns the quality of light. The UNI standard states that when sources with a colour rendering below 30 are used, the lighting category of the reference road must be increased. In other words, it is necessary to increase the amount of light so that the lighting system is compliant with requirements.
Sources with a colour rendering above 60, instead, must reduce the reference road category and therefore the required luminance levels. This involves that a road's lighting system varies depending on the colour rendering of the lighting sources being installed: if sources have high colour renderings then the average luminance levels imposed by the Standard will be lower, therefore reducing the installed power

Light pollution

LEDs, just like any other light source, require optics or lenses to orient the light beam and prevent it from directing light upwards, and meeting anti light pollution requirements. Disano has designed a series of reflectors and optics that can effectively prevent light pollution. These reflectors orient the light beam in such a way as to obtain photometric distributions, which can be installed not only in road lighting systems, but in many other applications, even improving performance if compared with the optics of traditional lamps. Each single LED is controlled and equipped with a reflector that models the light beam, optimizing performance and obtaining sharp light distribution. Optics guarantee performance rates ranging from 80% to 95%, which are much higher that the values compared to the reflectors of discharge lamps.

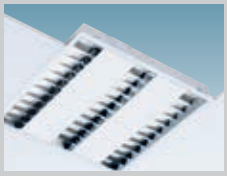
LED technology and traditional devices: efficiency and luminous flux compared



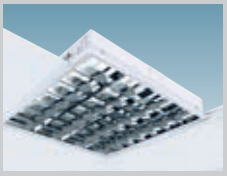




MINICOMFORT



COMFORT



COMFORTLIGHT



LED PANEL



Minicomfort p. 4
Comfort p. 10
Comfortlight p. 11
LED Panel HE DIP SWITCH p. 13
LED Panel p. 14

CRETA



RODI



COMFORTSQUARE

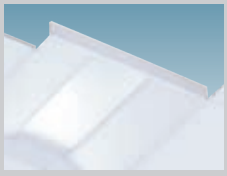


IBIS



Creta p. 16
Rodi p. 18
Comfortsquare DIP SWITCH p. 24
Ibis p. 28

HERON



SUPERCOMFORT



COMPACT DARK



COMPACT



Heron p. 30
Supercomfort p. 32
Compact Dark DIP SWITCH p. 34
Compact p. 36

HEALTH DARK - HEALT



ERMETICA



COMFORT PANEL



DISANLENS

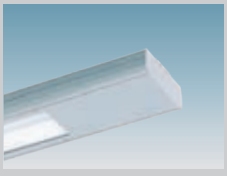


Health Dark p. 38
Health Dark DIP SWITCH p. 40
Health p. 43
Ermetica p. 44
Comfort Panel p. 45

CHANNEL



COMETA



OBLÒ 2.0



COMPACT - GLOBO 2.0



Disanlens p. 46
Channel p. 52
Cometa p. 54
Oblò 2.0 p. 56
Compact p. 58
Globo 2.0 p. 59

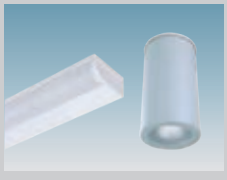
GLOBO - ORMA



CUBO - RIQUADRO



RIGO - CILINDRO



SAFETY - SAFETY FLAG



Globo - Orma p. 60
Cubo - Riquadro p. 61
Rigo p. 62
Cilindro p. 63
Safety p. 64
Safety Flag p. 65



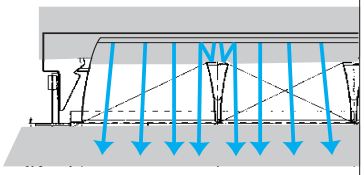
GENERAL CHARACTERISTICS

Housing: in galvanised steel sheet panels, pre-coated with a polyester resin.

Dark light louvre: double parabolic louvres, in high-gloss 99.99 aluminium, anti-glare and anti-iridescence, very low luminance, PVD treatment to improve luminous efficiency.

Equipment: supplied without brackets: for non-surface mounted versions, use bracket acc. 326.
Driver can work also with **DC198-264V** so that the ceiling lamp can be used as an emergency fixture with centralized power supply

LED: power factor: 0,95.
Luminous flux maintenance 70%: 80.000h (L70B20).
Colour temperature: 4000 K
(Upon request: 3000K).

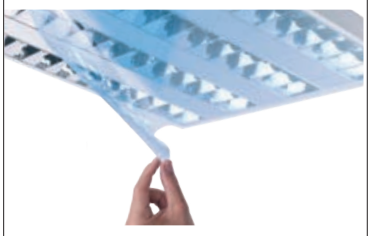


Optical with flow recovery

OTHER CHARACTERISTICS



Easy connection
Equipped with hinged door and quick clamping mechanism.



Protective film
Supplied with a protective film to prevent the fixtures from accumulating dirt and to keep the optics clear and ensure perfect performance.

LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

OTHER

DIMM DIG

Standard version **CLD D-D (DALI)** wiring with **subcode -0041:** thanks to pre-programmed settings or a software programme, this type of wiring allows accurate light emission dimming.

UGR <16

The UGR (unified glare rating) is an international unified measure developed by the CIE (Commission International de l'Eclairage) to assess the direct glare generated by a lighting system. The European standard regulating the lighting of indoor work places (**UNI-EN 12464-1**) recommends a specific UGR value for different applications ranging between **10 and 30**; **the lower the UGR value, the lower the glare**. The exact value of this index differs by project type because it depends on the position of the luminaires, room characteristics (dimensions, reflections) and on the point of observation of viewers.

UPON REQUEST

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

DIMM 1-10V

Version **CLD D (1/10V)** wiring with **subcode -12.**

PUSH DIG

Version **CLD D-D (PUSH)** wiring with **subcode -0045:** it is possible to create lighting systems that can be easily switched ON/OFF and dimmed at low costs using conventional mains voltage push-buttons for lighting control.

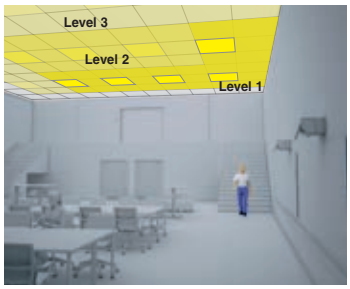
EM EC

Version **CLD EC** wiring with **subcode -0050:** permanently mounted fixture, operating in AC/DC mode, with centralized emergency device, not incorporated into the fixture.

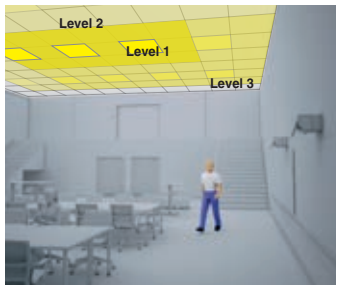
Upon request "Smart sensor": Smart sensor is an energy efficiency controller for LED panels and dimmer fittings. It uses 1-10V DC dimming technology to control all connected lighting fixtures. Smart sensor also features occupancy sensing and daylight harvesting components and programming units to ensure energy efficiency and lower power consumption. At the heart of the system is the sensor node, which is integrated into each luminaire during assembly. Each sensor node contains a motion sensor, infrared transmitter, infrared receiver, ambient light sensor and intelligent microprocessor.



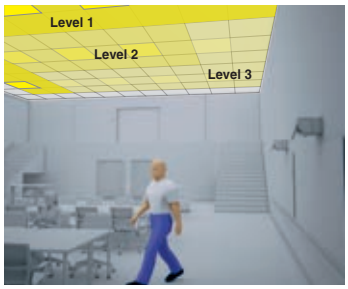
Presence detector: lights turn on when they detect movement and turn off when they are no longer needed. This offers further savings. Order with subcode -0092.



How it works. 01
When a sensor node detects occupancy of a space, it turns on its luminaire to a predetermined light level (e.g. 100%). It simultaneously communicates this occupancy to its neighbouring luminaires using a level 1 proximity-limited infrared signal.

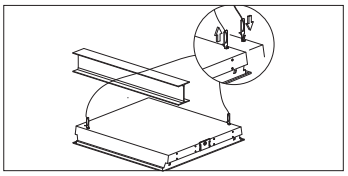


02
On receipt of the **level 1** signal, the neighbouring sensor node switches its own luminaire to a predetermined light level, which is appropriate to the occupant standing in that space (e.g. 80% brightness), and simultaneously relays a **level 2** signal to its own neighbours.

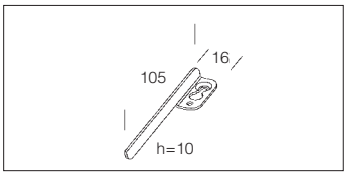


03
This communication propagates rapidly throughout the floor with each sensor node receiving a signal indicating how close a occupant is to it, adjusting its light level accordingly **(level 3)**

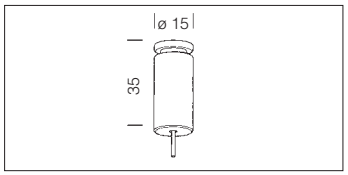
ACCESSORIES



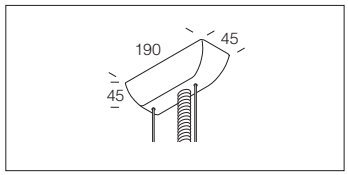
acc. 320 safety cord	
998004-00	
Steel safety cord.	



acc. 326 adjustable bracket	
galvanized	998059-00
In zinc plated steel. 4-pc set to be used when art. 841 is not contact mounted.	

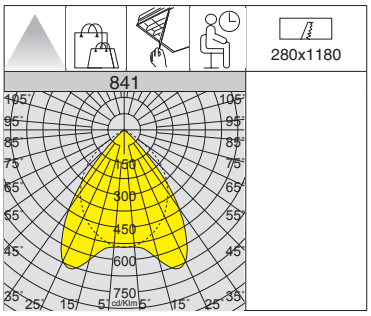


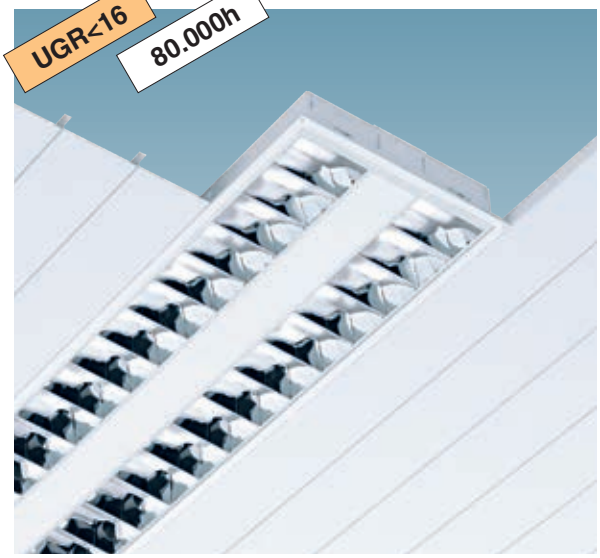
acc. 2518 simple suspension	
galvanized	994019-00
Suspension supplied with steel wire, 1.75 m long with millimetric adjustment. Max load: 20 kg.	



acc. 2608 powered suspension	
white	994617-00
Nylon cover and steel brackets. With steel wire Ø1,5mm; L=1,5m - 30Kg, and millimetric adjustment.	

L70 B20 80.000h
RG0
DARK 65%<500 LIGHT
DIMM DIG
EM EC
LOW FLICKER
UGR <16





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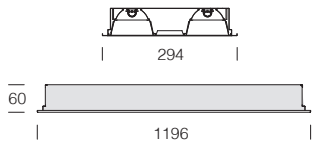
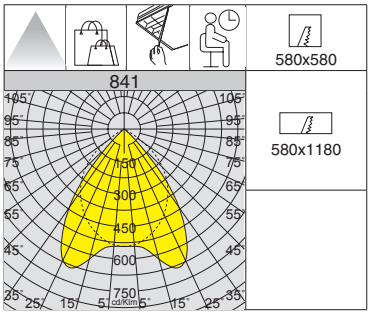


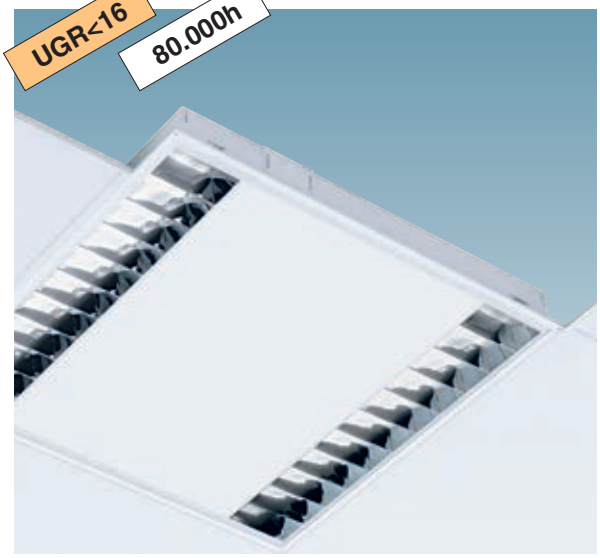
Upon request versions with:
- emergency wiring with centralized power supply **CLD EC** with **sub-code -0050.**
- **CLD D-D (PUSH)** wiring with **sub-code -0045.**

841 Minicomfort

		CLD			CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED 2x	white	2.50	1196	153533-00	153533-0041	**37**	4000K - 4093lm - CRI≥80

L70 B20 80.000h
RG0
DARK 65%<500 LIGHT
DIMM DIG
EM EC
LOW FLICKER
UGR <16





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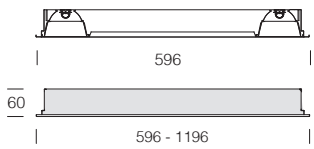

Upon request versions with:
- emergency wiring with centralized power supply **CLD EC** with **sub-code -0050.**
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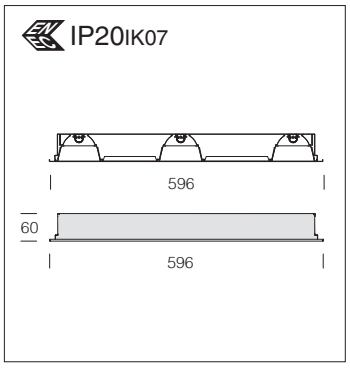
841 Minicomfort

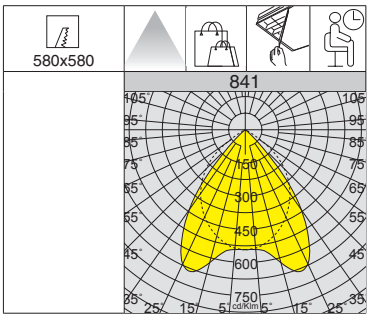
		CLD			CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED 2x	white	2,50	596	153536-00	153536-0041	**19**	4000K - 2046lm - CRI≥80

841 Minicomfort

		CLD			CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED 2+2	white	5.00	1196	153537-00	153537-0041	**37**	4000K - 4093lm - CRI≥80

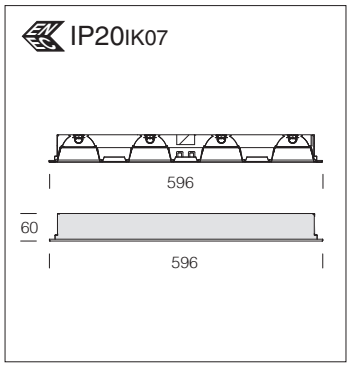


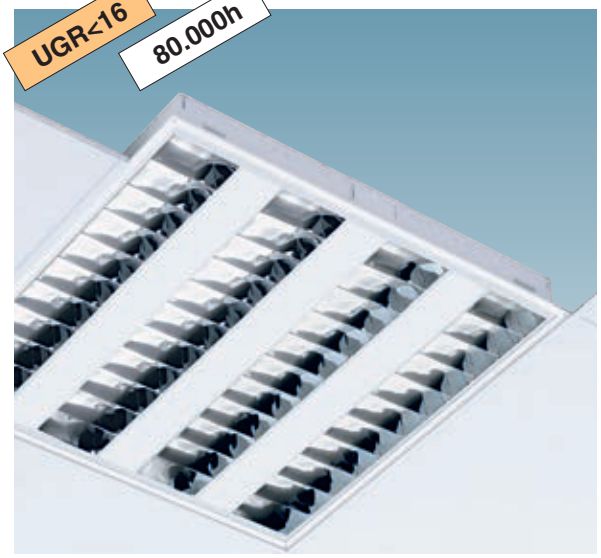


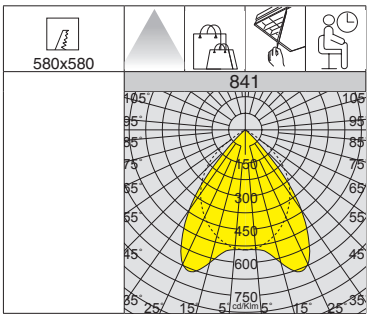


Upon request versions with:
- emergency wiring with centralized power supply **CLD EC** with **sub-code -0050.**
- **CLD D-D (PUSH)** wiring with **sub-code -0045.**

841 Minicomfort							
		CLD			CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED 3x	white	3.30	596	153534-00	153534-0041	**28**	4000K - 3069lm - CRI≥80
				153538-00	153538-0041		4000K - 2925lm - **CRI 90**







Upon request versions with:
- emergency wiring with centralized power supply **CLD EC** with **sub-code -0050.**
- **CLD D-D (PUSH)** wiring with **sub-code -0045.**

841 Minicomfort							
		CLD			CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED 4x	white	3.50	596	153535-00	153535-0041	**37**	4000K - 4093lm - CRI≥80
				153539-00	153539-0041		4000K - 3901lm - **CRI 90**

L70 B20 80.000h

RG0

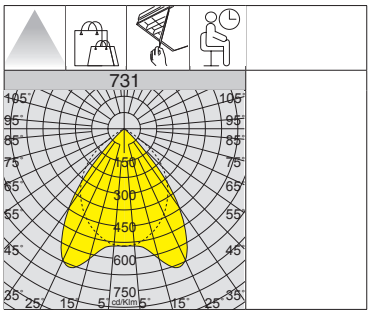
DARK 65%<500 LIGHT

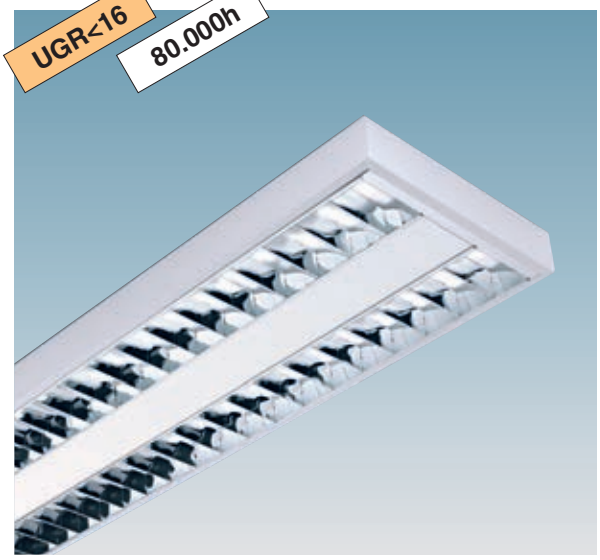
DIMM DIG

EM EC

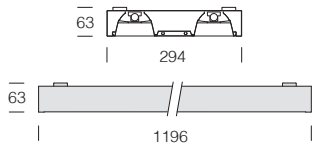
LOW FLICKER

UGR <16





IP20 IK07



Upon request versions with:
- emergency wiring with centralized power supply **CLD EC** with **sub-code -0050.**
- **CLD D-D (PUSH)** wiring with **sub-code -0045.**

731 Minicomfort

		CLD			CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED 2x	white	2.50	1196	143533-00	143533-0041	**37**	4000K - 4093lm - CRI≥80

L70 B20 80.000h

RG0

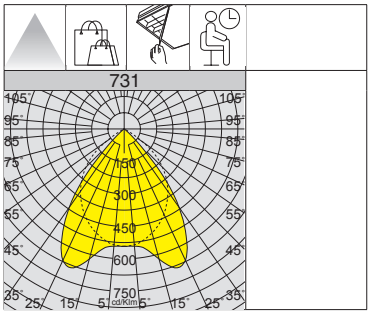
DARK 65%<500 LIGHT

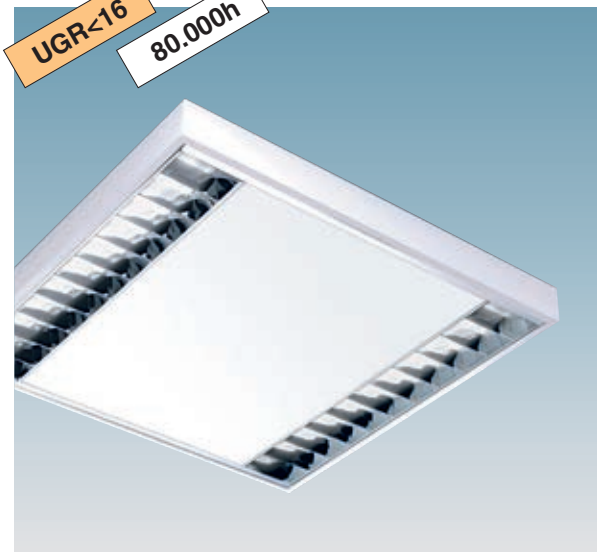
DIMM DIG

EM EC

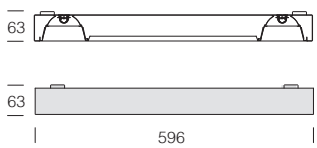
LOW FLICKER

UGR <16





IP20 IK07

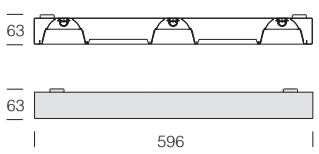


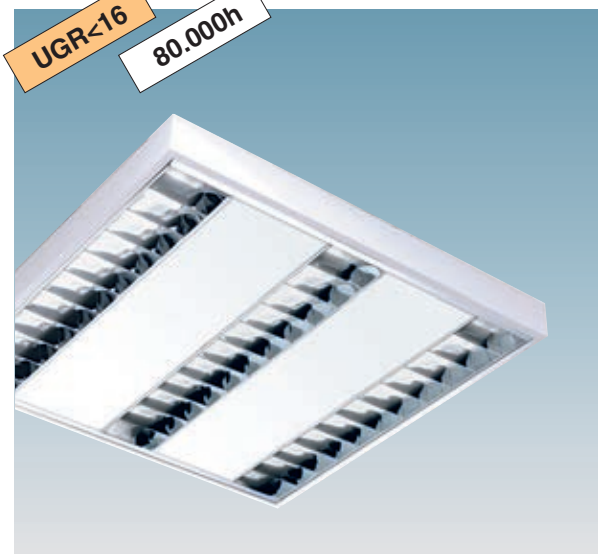
Upon request versions with:
- emergency wiring with centralized power supply **CLD EC** with **sub-code -0050.**
- **CLD D-D (PUSH)** wiring with **sub-code -0045.**

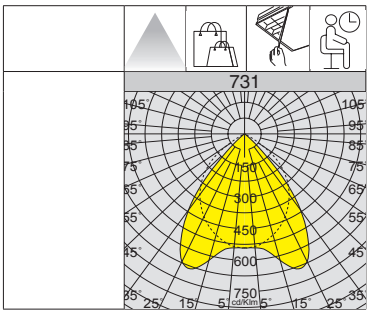
731 Minicomfort

		CLD			CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED 2x	white	3.50	596	143536-00	143536-0041	**19**	4000K - 2046lm - CRI≥80

IP20IK07







Upon request versions with:
- emergency wiring with centralized power supply **CLD EC** with **sub-code -0050.**
- **CLD D-D (PUSH)** wiring with **sub-code -0045.**

L70 B20 80.000h

RG0

DARK 65% 500 LIGHT cd

DIMM DIG

EM EC

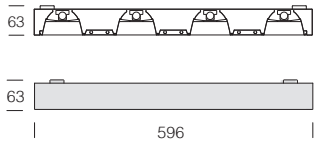
LOW FLICKER

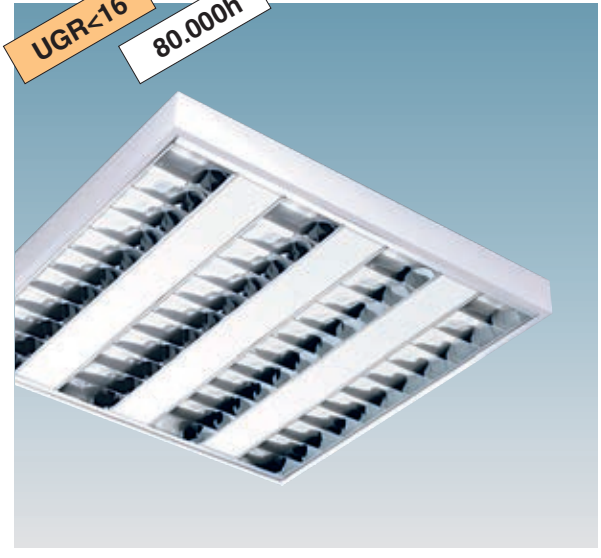
UGR <16

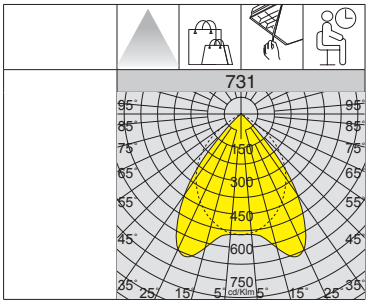
731 Minicomfort

		CLD			CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED 3x	white	3.50	596	143534-00	143534-0041	**28**	4000K - 3069lm - CRI≥80
				143538-00	143538-0041		4000K - 2925lm - **CRI 90**

IP20IK07







Upon request versions with:
- emergency wiring with centralized power supply **CLD EC** with **sub-code -0050.**
- **CLD D-D (PUSH)** wiring with **sub-code -0045.**

L70 B20 80.000h

RG0

DARK 65% 500 LIGHT cd

DIMM DIG

EM EC

LOW FLICKER

UGR <16

731 Minicomfort

		CLD			CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED 4x	white	3.50	596	143535-00	143535-0041	**37**	4000K - 4093lm - CRI≥80
LED 4x	white	3.50	596	143539-00	143539-0041		4000K - 3901lm - **CRI 90**

L70 B20 80.000h

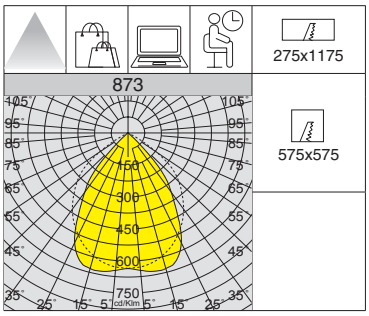
RG0

DARK 65%<500 LIGHT

U.V.

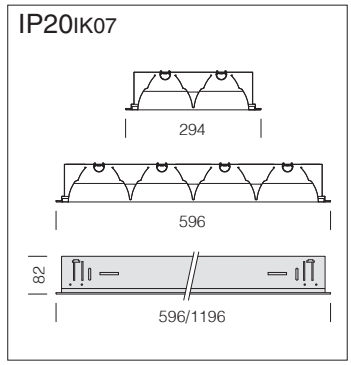
LOW FLICKER

UGR <19



Dark light louvre: double parabolic louvres, in high-gloss 99.99 aluminium, anti-glare and anti-iridescence, very low luminance, PVD treatment to improve luminous efficiency.





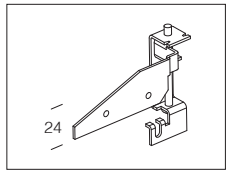
GENERAL CHARACTERISTICS

Housing: in steel sheet.

Equipment: Snap fastening optics, which remain attached by safety cords. Supplied without brackets for contact mounting on the cross T structure. When not contact mounted, use brackets, acc. 901.

LED: power factor ≥0.9.
Luminous flux maintenance 70% 80.000h (L70B20).
Photobiological safety class: exempt group.

873 Comfort							
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED 2x	white	4.10	1196	151050-00	151050-07	37	4000K - 3674lm - CRI≥80
LED 4x		3.50	596	151052-00	151052-07		4000K - 3674lm - CRI≥80



acc. 901 adjustable bracket

galvanized	998026-00

In zinc plated steel. 4-pc set to be used when the fixture is not contact mounted.

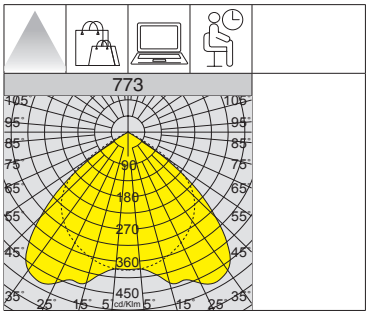
L70 B50 40.000h

RG0

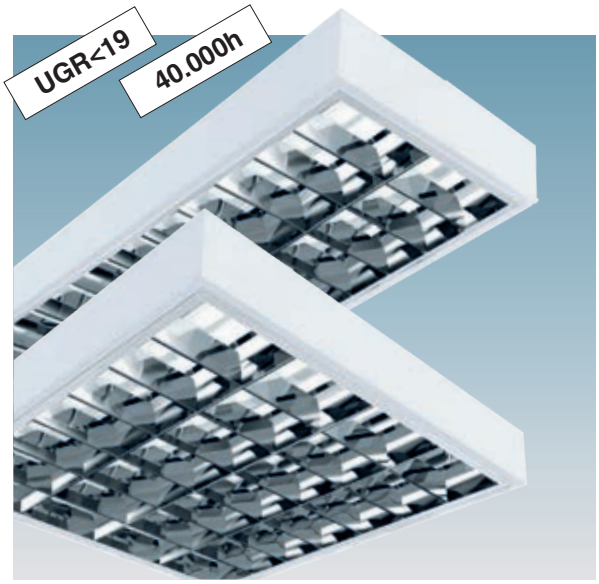
DARK 65%<500 LIGHT

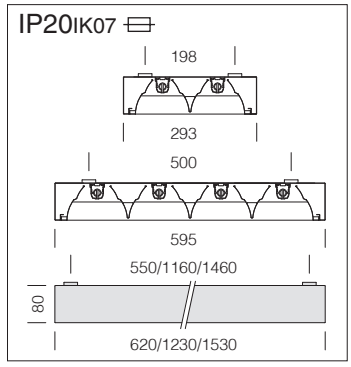
U.V.

UGR <19



773 Comfort
complete with LED TUBES
- Life: **40.000h**
- No maintenance costs
- Instant start-up





GENERAL CHARACTERISTICS

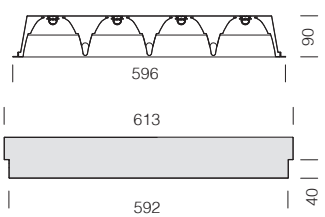
Housing: in steel sheet.

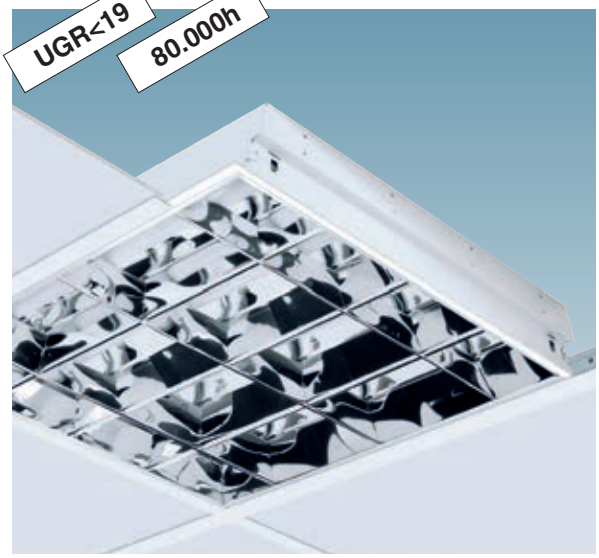
Equipment: Snap fastening optics, which remain attached by safety cords and protection fuse.

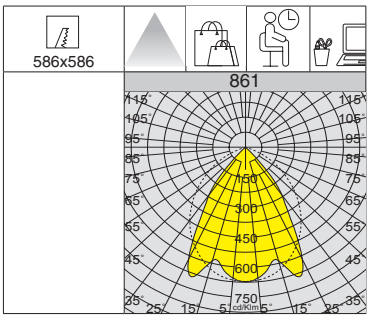
LED: power factor ≥0.9.
Luminous flux maintenance 70% 40.000h (L70B50).
- Glass tube with G13 connector.
- Eco-friendly: no U.V. and I.R. emission.

773 Comfort - with LED TUBES						
		CLD-F				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED 2x	white	4.60	1230	141070-00	32	4000K - 2479lm - CRI 80
LED 2x		5.50	1530	141071-00	40	4000K - 3098lm - CRI 80
LED 4x		4.40	620	141072-00	32	4000K - 2479lm - CRI 80

IP20IK07







L70 B20 80.000h

RG0

DARK 65°<500 LIGHT

LOW FLICKER

UGR <19

Dark light louvre: dark light double parabolic louvres, lengthwise and crosswise in high-gloss, plated aluminium, anti-glare and anti-irridescence, very low luminance 65° 99.85.

GENERAL CHARACTERISTICS

Housing: in galvanised steel sheet panels, pre-coated with polyester resin.

Equipment: hinged door and quick clamping mechanism. With protective film on fixture and baffle louvre.

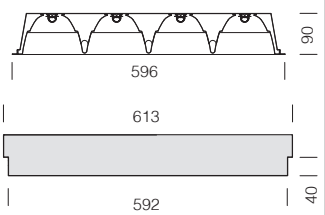
Mounting: recessed for contact mounting on the cross T structure max. 38mm.

LED: power factor: 0,95.
Luminous flux maintenance 70% 80.000h (L70B20).
Colour temperature: 4000K (upon request: 3000K or 6500K).

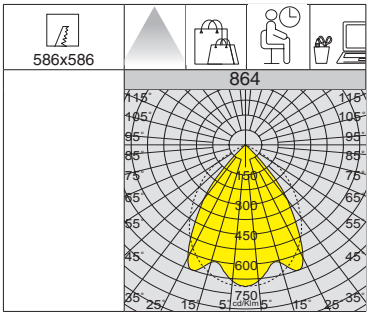
861 Comfortlight

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED 4x	white	3.50	596	150459-00	**37**	4000K - 3990lm - CRI≥80

IP20IK07







L70 B20 80.000h

RG0

DARK 65°<500 LIGHT

LOW FLICKER

UGR <16

Dark light louvre: dark light double parabolic louvres, lengthwise and crosswise in high-gloss, plated aluminium, anti-glare and anti-irridescence, very low luminance 65° 99.85.

GENERAL CHARACTERISTICS

Housing: in galvanised steel sheet panels, pre-coated with polyester resin.

Equipment: hinged door and quick clamping mechanism. With protective film on fixture and baffle louvre.

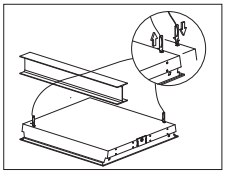
Mounting: recessed for contact mounting on the cross T structure max. 38mm.

LED: power factor: 0,95.
Luminous flux maintenance 70% 80.000h (L70B20).
Colour temperature: 4000K (upon request: 3000K or 6500K).

864 Comfortlight

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED 4x	white	3.50	596	150460-00	**37**	4000K - 3620lm - CRI≥80

acc. 320 safety cord
998004-00
Steel safety cord.



GENERAL CHARACTERISTICS

Housing and frame: housing in galvanised steel sheet, and frame in aluminium.

Inner slab: in PMMA.

Diffuser: in prismatic engineering plastic with high thermal transmittance.

UGR glare index: UGR<19 (in any situation). - EN 12464.

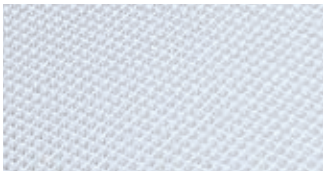
Rapid wiring connection: the fixture does not need to be opened, it can be easily embedded into a ceiling, and almost no need for maintenance.

LED: power factor: 0,95
Luminous flux maintenance 80%: 50.000h (L80B20).
Photobiological safety class: exempt group

LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

OTHER CHARACTERISTICS



Construction quality is an important factor for the product's aesthetics and performance, turning into a key element to ensure reliability over time. In the case of Disano's **LED Panel**, the slab is made in top-notch material, **PMMA** (poly methyl methacrylate), a polymer that keeps its characteristics unaltered in time and prevents the lens from yellowing.
Disano has produced **LED Panel** with materials that ensure long lasting operation to save its original technical characteristics: 80% lumen maintenance for **50000h** (L80B20), perfect colour rendering (**CRI≥80 or CRI>90**), no glare (**UGR<19**) and certified low flicker level.

OTHER INFORMATION

DIMM DIG

Standard version **CLD D-D (DALI)** wiring with **subcode -0041:** thanks to pre-programmed settings or a software programme, this type of wiring allows accurate light emission dimming.

UGR <19

The UGR (unified glare rating) is an international unified measure developed by the CIE (Commission International de l'Eclairage) to assess the direct glare generated by a lighting system. The European standard regulating the lighting of indoor work places (**UNI-EN 12464-1**) recommends a specific UGR value for different applications ranging between **10 and 30**; **the lower the UGR value, the lower the glare**. The exact value of this index differs by project type because it depends on the position of the luminaires, room characteristics (dimensions, reflections) and on the point of observation of viewers.

UPON REQUEST

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

PUSH DIG

Version **CLD D-D (PUSH)** wiring with **subcode -0045:** it is possible to create lighting systems that can be easily switched ON/OFF and dimmed at low costs using conventional mains voltage push-buttons for lighting control.

CEILING MOUNTED INSTALLATION WITH FRAME FOR LED PANEL ART. 840 - 842 - 844

acc. 595 frame 600x600 h45	
white	998031-00
Frame in white-coated aluminium; to be used for ceiling installation of LED Panel art. 840 - 842 - 844.	



acc. 595 frame 1200x300 h45	
white	998032-00
Frame in white-coated aluminium; to be used for ceiling installation of LED Panel R art. 840 - 842.	

1) Assembly the frame according to the following illustration (**fig.1**)

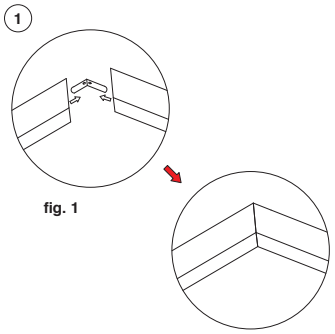
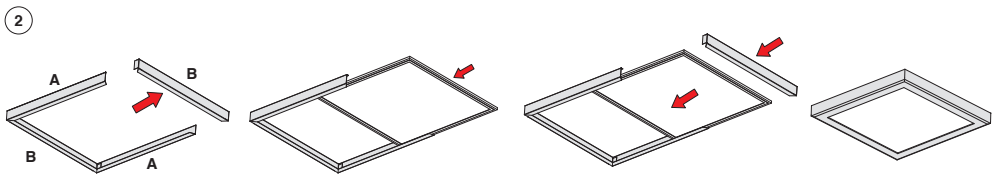
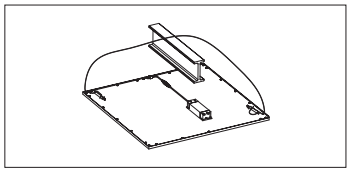


fig. 1

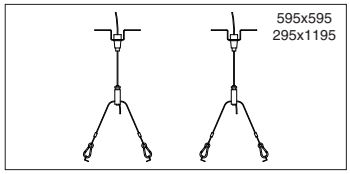
2) Installation
- Drill 4 holes at marking position with expansion screws and self-tapping screws (not screw too tight).
- Install the frame on the roof.
- Move and fix the ceiling frame (lift to right, or right to left) through hardy hole.
- Tighten self-tapping screws.
- Open the frame **B** on one side, insert the panel into the frame, then seal the frame with tightening screws.



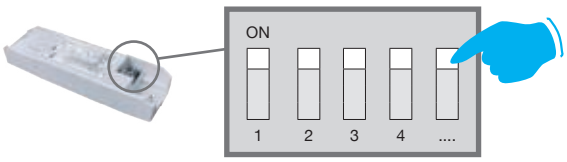
ACCESSORIES



acc. 320 safety cord
998004-00
Steel safety cord.



acc. 2520 simple suspension
994631-00
Suspension supplied with steel wire, and millimetric adjustment. Bag containing 2 pieces.



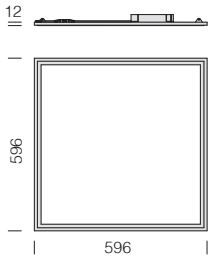
ADAPT THE CURRENT TO ACHIEVE OPTIMAL LUMINOUS FLUX

DIP SWITCH SETTING: the fixture comes with a *DIP SWITCH* driver for **THE SETTING OF THE OUTPUT CURRENT**. In this way you, can **ENSURE THE BEST LUMINOUS FLUX** for any lighting design.

The possibility to choose the correct drive current for LEDs will allow you to have the right power under specific design conditions. Using a lower current will improve the efficiency of fixtures and therefore increase energy savings, whilst a higher current will result in a higher light flux so that you can reduce the number of fixtures.

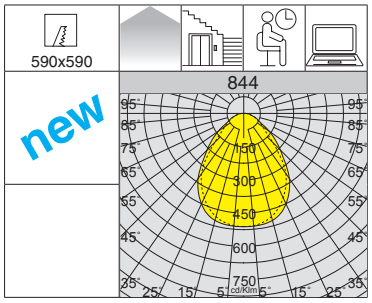


v.a. IP20 IK06
v.l. IP43 IK06



Upon request version with:
- **CLD D-D (DALI)** wiring with **sub-code -0041.**
- **CLD D-D (PUSH)** wiring with **sub-code -0045.**





L80 B20 50.000h

RG0

LOW FLICKER

UGR <19

3000K

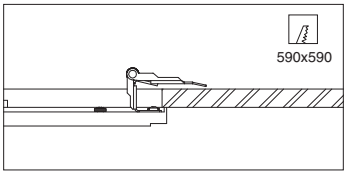
4000K

844 LED Panel HE - DIP SWITCH						
		CLD				LUMEN OUTPUT (tq= 25 °C)
wattage	colour	weight	code	I out	W tot	K - ølm - CRI
LED	white	3.00	150225-00	800	31	4000K - **4081lm** - CRI≥80
			150225-39			3000K - **3877lm** - CRI≥80

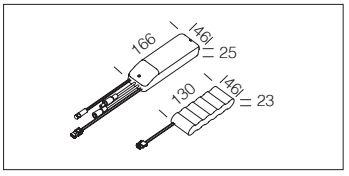
DIP SWITCH SETTING		
		LUMEN OUTPUT (tq= 25 °C)
I out	W tot	K - ølm - CRI
700	27	4000K - 3593lm - CRI≥80
800	*31*	*4000K - 4081lm - CRI≥80*
900	35	4000K - 4538lm - CRI≥80
1000	40	4000K - 4996lm - CRI≥80

GRADATION PAR DIP SWITCH		
		LUMEN OUTPUT (tq= 25 °C)
I out	W tot	K - ølm - CRI
700	27	3000K - 3413lm - CRI≥80
800	*31*	*3000K - 3877lm - CRI≥80*
900	35	3000K - 4311lm - CRI≥80
1000	40	3000K - 4746lm - CRI≥80

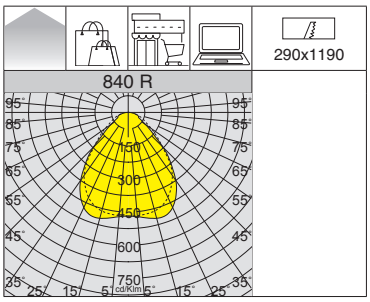
acc. 907 springs
998038-00
Springs for recessed non-surface mounting on plasterboard. Bag containing 4 pieces.

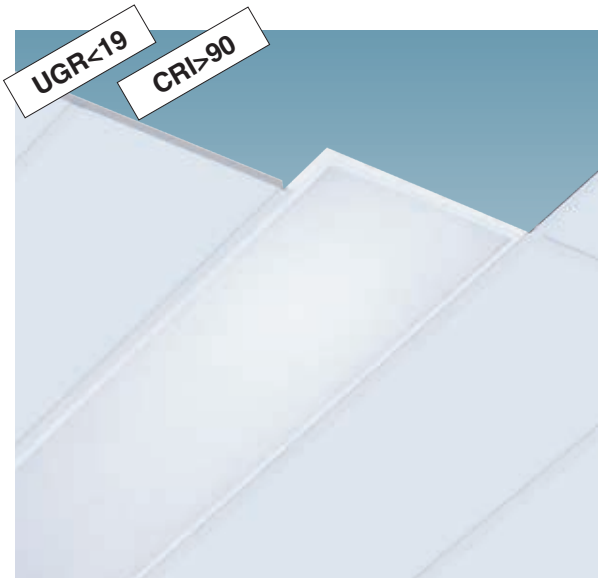


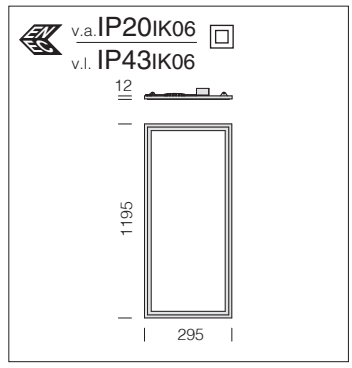
acc. 600 EM power kit	
1h	986604-00
3h	986604-31
EM (emergency) lamp power kit complete with connectors.	



L80 B20 50.000h
RG0
DIMM DIG
LOW FLICKER
UGR <19
3000K
4000K



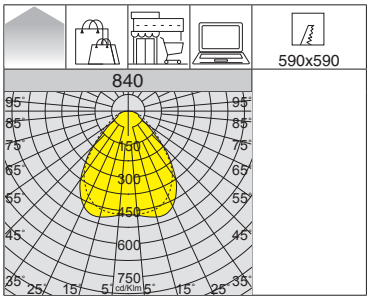


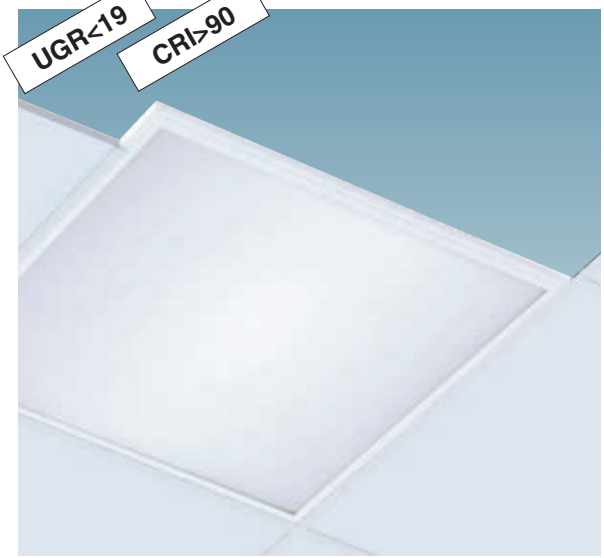


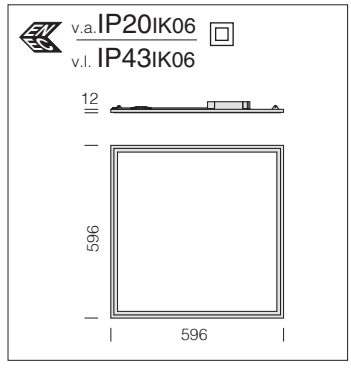
Upon request version with:
• **CLD D-D (PUSH)** wiring with **sub-code -0045.**

840 LED Panel R						
		CLD		CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	white	4.00	150209-00	150209-0041	**33**	4000K - 3318lm - **CRI>90**
			150209-39			3000K - 3086lm - **CRI>90**

L80 B20 50.000h
RG0
DIMM DIG
LOW FLICKER
UGR <19
3000K
4000K



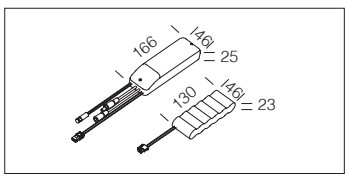




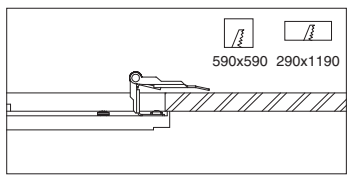
Upon request version with:
• **CLD D-D (PUSH)** wiring with **sub-code -0045.**

***** art. 150211-00: no **UGR<19**

840 LED Panel						
		CLD		CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	white	3.00	150208-00	150208-0041	**33**	4000K - 3318lm - **CRI>90**
			150208-39			3000K - 3086lm - **CRI>90**
LED*	white	3.00	150211-00		**47**	4000K - 4250lm - **CRI>90**

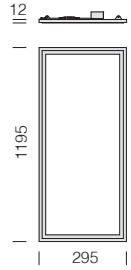


acc. 600 EM power kit	
1h	986604-00
3h	986604-31
EM (emergency) lamp power kit complete with connectors.	

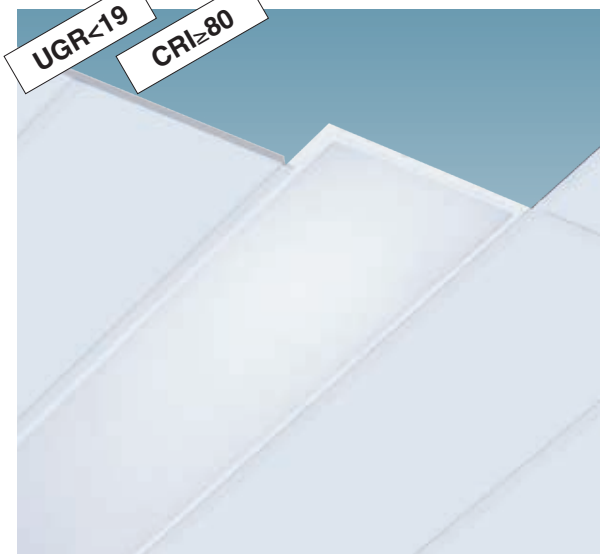


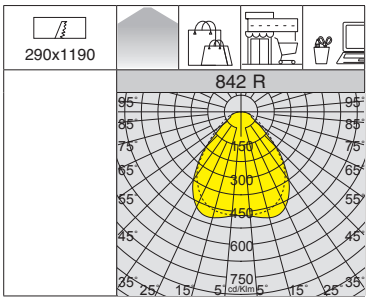
acc. 907 springs
998038-00
Springs for recessed non-surface mounting on plasterboard. Bag containing 4 pieces.

v.a. IP20 IK06
v.l. IP43 IK06



Upon request version with:
• **CLD D-D (PUSH)** wiring with **sub-code -0045.**

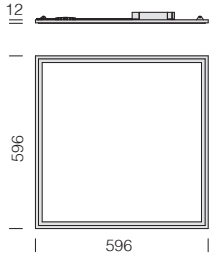




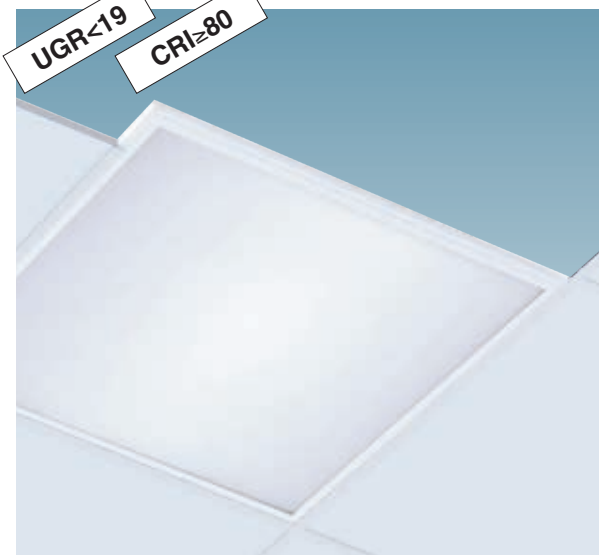
L80 B20 50.000h
RG0
DIMM DIG
LOW FLICKER
UGR <19
3000K
4000K

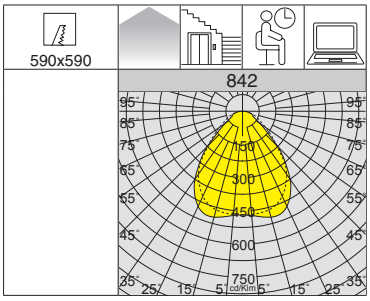
842 LED Panel R						
		CLD		CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	white	4.00	150206-00	150206-0041	**33**	4000K - 3600lm - CRI≥80
			150206-39			3000K - 3348lm - CRI≥80

v.a. IP20 IK06
v.l. IP43 IK06



Upon request version with:
• **CLD D-D (PUSH)** wiring with **sub-code -0045.**

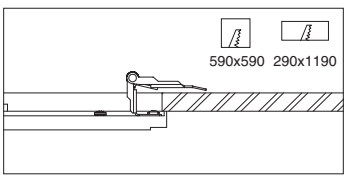




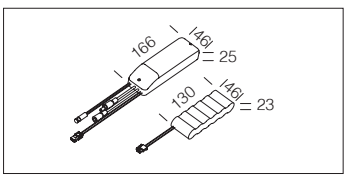
L80 B20 50.000h
RG0
DIMM DIG
LOW FLICKER
UGR <19
3000K
4000K

842 LED Panel						
		CLD		CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	white	3.00	150205-00	150205-0041	**33**	4000K - 3600lm - CRI≥80
			150205-39			3000K - 3348lm - CRI≥80

acc. 907 springs
998038-00
Springs for recessed non-surface mounting on plasterboard. Bag containing 4 pieces.



acc. 600 EM power kit	
1h	986604-00
3h	986604-31
EM (emergency) lamp power kit complete with connectors.	



GENERAL CHARACTERISTICS

Creta is the new recessed LED **backlighting** ceiling fixture that opens up a whole different way of thinking about artificial lighting; it offers a very bright and diffused lighting, while keeping energy consumptions extremely low and setting itself as the ideal solution for general and functional lighting applications

Housing and frame: housing in galvanised steel sheet, and frame in aluminium, contact mounting on the cross T structure.

Optics: secondary lenses in PMMA with high transparency and non-yellowing properties.

UGR glare index: UGR<17 (in any situation) - EN 12464.

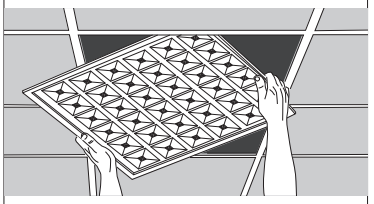
Wiring: rapid wring connection, the fixture does not need to be opened.

LED: luminous flux maintenance 80%; 50.000h (L80B20).
Power factor ≥0.95.
Photobiological safety class: exempt group.

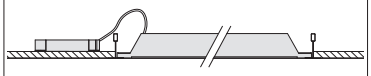
OTHER CHARACTERISTICS



Fixture with a thin design and lenticular optics, ideal in environments that require a controlled lighting distribution and maximum visual comfort (UGR<17).



Rapid wiring connection, the fixture does not need to be opened, it can be easily embedded into a ceiling, and almost no need for maintenance.



Fixture complete with external driver. It can be easily installed in false ceilings.

OTHER INFORMATION

The UGR (unified glare rating) is an international unified measure developed by the CIE (Commission International de l'Eclairage) to assess the direct glare generated by a lighting system. The European standard regulating the lighting of indoor work places (**UNI-EN 12464-1**) recommends a specific UGR value for different applications ranging between **10 and 30**; **the lower the UGR value, the lower the glare**. The exact value of this index differs by project type because it depends on the position of the luminaires, room characteristics (dimensions, reflections) and on the point of observation of viewers.

LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

ECONOMIC BENEFITS



The economic benefits of the new technologies alone are not able to ensure efficiency without the combination of other important advantages. The most significant one concerns the quality of light. New lighting fixtures will make you live and work better. The picture shows how lighting quality is the result of a set of elements connected to visual perception. These elements include visual performance, associated with the level of lighting, glare limitation, visual comfort, which is determined by the correct distribution of light and by a good colour rendering and ambient lighting, which depends on the colour of the light source and on light beam direction. In other words, a good lighting system is one that ensures the right amount of light, without producing glare and where colours can be admired almost as if they were viewed under natural light.

CEILING MOUNTED INSTALLATION WITH ACC. 595 FRAME FOR CRETA LED



acc. 595 frame 600x600 h70	
white	998035-00
Frame in white-coated aluminium; to be used for ceiling installation of Creta LED.	

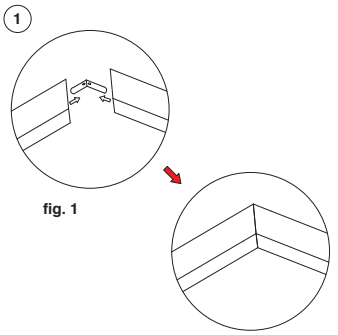
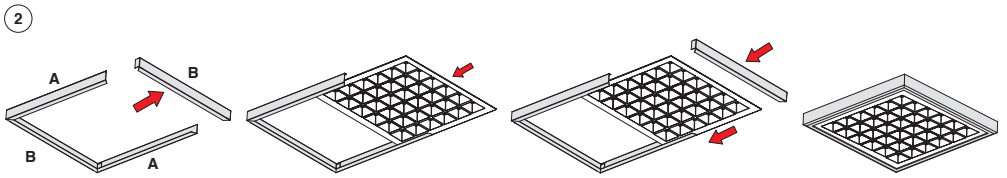


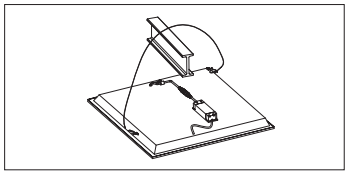
fig. 1

1) Assembly the frame according to the following illustration (**fig.1**)

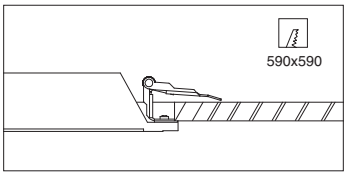
2) Installation
• Drill 4 holes at marking position with expansion screws and self-tapping screws (not screw too tight).
• Install the frame on the roof.
• Move and fix the ceiling frame (lift to right, or right to left) through hardy hole.
• Tighten self-tapping screws.
• Open the frame **B** on one side, insert the panel into the frame, then seal the frame with tightening screws.



ACCESSORIES



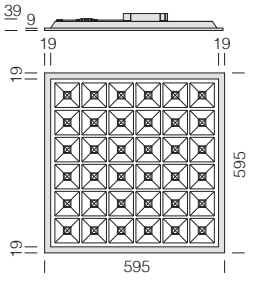
acc. 320 safety cord
998004-00
Steel safety cord.



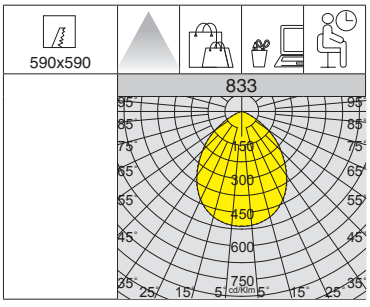
acc. 907 springs
998038-00
Springs for recessed non-surface mounting on plasterboard. Bag containing 4 pieces.



v.a. IP20 IK06
v.l. IP40 IK06









L80 B20 50.000h

RG0

U.V.

DIMM DIG

LOW FLICKER

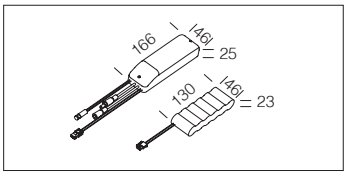
UGR <17

3000K

4000K

833 Creta - UGR<17							
		CLD			CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED	white	2.00	595	150240-00	150240-0041	30	4000K - 3966lm - CRI 80
				150240-39	150240-3941		3000K - 3688lm - CRI 80

acc. 600 EM power kit	
1h	986604-00
3h	986604-31
EM (emergency) lamp power kit complete with connectors.	





GENERAL CHARACTERISTICS

Rodi: recessed LED ceiling fixture with a very slender design and high-efficiency 3000K/4000K LED sources.

Housing and frame: housing in galvanised steel sheet, and frame in aluminium, contact mounting on the cross T structure.

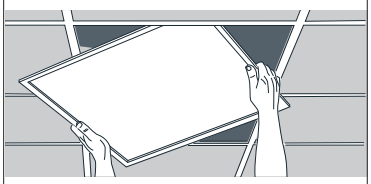
Wiring: rapid wring connection, the fixture does not need to be opened.

LED: luminous flux maintenance 80%; 50.000h (L80B20).
Power factor ≥0.95.
Photobiological safety class: exempt group.



Rodi offers a very bright and diffused lighting, while keeping energy consumptions extremely low and setting itself as the ideal solution for general and functional lighting applications

OTHER CHARACTERISTICS



Rapid wiring connection, the fixture does not need to be opened, it can be easily embedded into a ceiling, and almost no need for maintenance.



Fixture complete with external driver. It can be easily installed in false ceilings.

DIMM DIG Standard version **CLD D-D (DALI)** wiring with **subcode -0041:** thanks to pre-programmed settings or a software programme, this type of wiring allows accurate light emission dimming.

OTHER INFORMATION

UGR <19

UGR <22

The UGR (unified glare rating) is an international unified measure developed by the CIE (Commission International de l'Eclairage) to assess the direct glare generated by a lighting system. The European standard regulating the lighting of indoor work places (**UNI-EN 12464-1**) recommends a specific UGR value for different applications ranging between **10 and 30**; **the lower the UGR value, the lower the glare**. The exact value of this index differs by project type because it depends on the position of the luminaires, room characteristics (dimensions, reflections) and on the point of observation of viewers.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

ECONOMIC BENEFITS



The economic benefits of the new technologies alone are not able to ensure efficiency without the combination of other important advantages. The most significant one concerns the quality of light. New lighting fixtures will make you live and work better. The picture shows how lighting quality is the result of a set of elements connected to visual perception. These elements include visual performance, associated with the level of lighting, glare limitation, visual comfort, which is determined by the correct distribution of light and by a good colour rendering and ambient lighting, which depends on the colour of the light source and on light beam direction. In other words, a good lighting system is one that ensures the right amount of light, without producing glare and where colours can be admired almost as if they were viewed under natural light.

CEILING MOUNTED INSTALLATION WITH ACC. 595 FRAME FOR RODI LED

acc. 595 frame 600x600 h70	
white	998035-00
Frame in white-coated aluminium; to be used for ceiling installation of Rodi LED.	



acc. 595 frame 1200x300 h70	
white	998036-00
Frame in white-coated aluminium; to be used for ceiling installation of Rodi R LED.	

1) Assembly the frame according to the following illustration (**fig.1**)

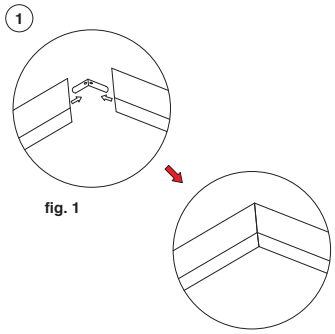
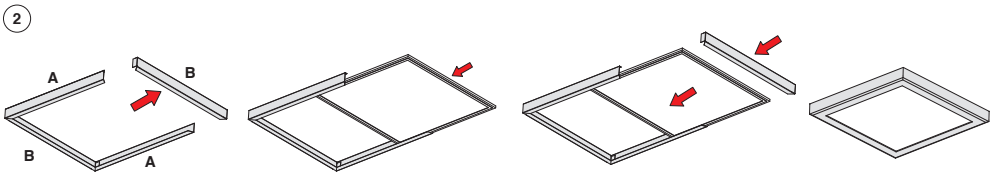


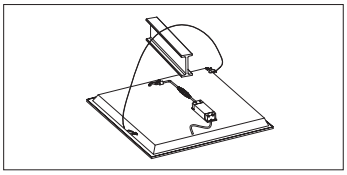
fig. 1

2) Installation
- Drill 4 holes at marking position with expansion screws and self-tapping screws (not screw too tight).
- Install the frame on the roof.
- Move and fix the ceiling frame (lift to right, or right to left) through hardy hole.
- Tighten self-tapping screws.
- Open the frame **B** on one side, insert the panel into the frame, then seal the frame with tightening screws.

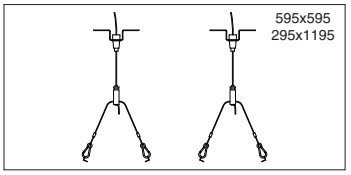


ACCESSORIES

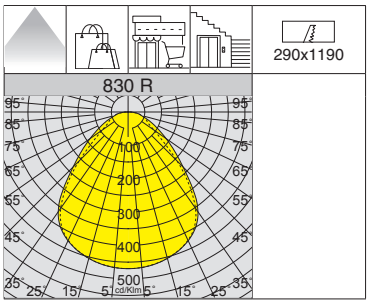
acc. 320 safety cord
998004-00
Steel safety cord.

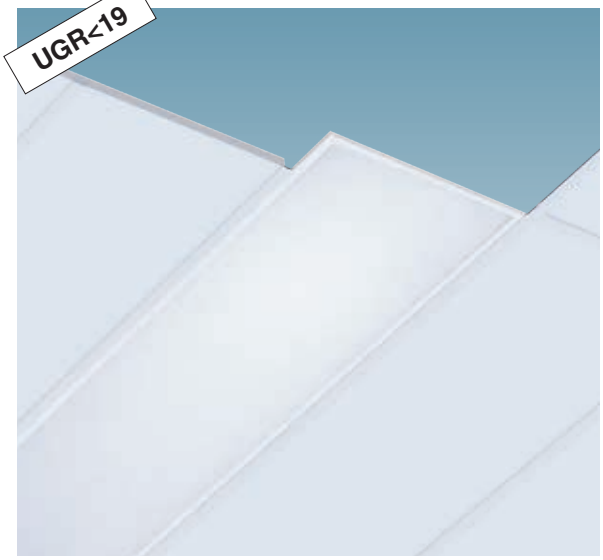


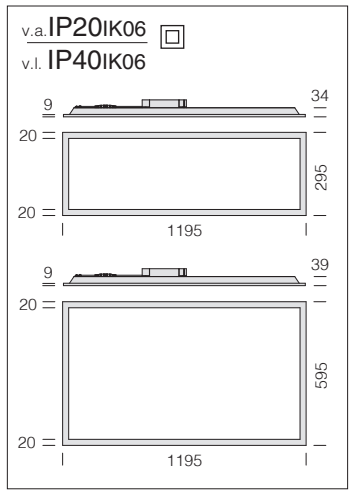
acc. 2520 simple suspension
994631-00
Suspension supplied with steel wire, and millimetric adjustment. Bag containing 2 pieces.



L80 B20 50.000h
RG0
U.V.
DIMM DIG
LOW FLICKER
UGR <19
3000K
4000K





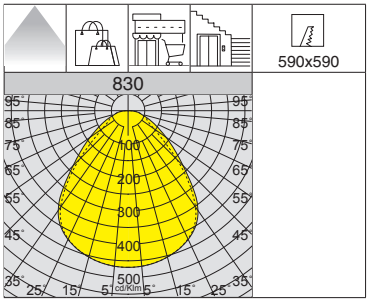


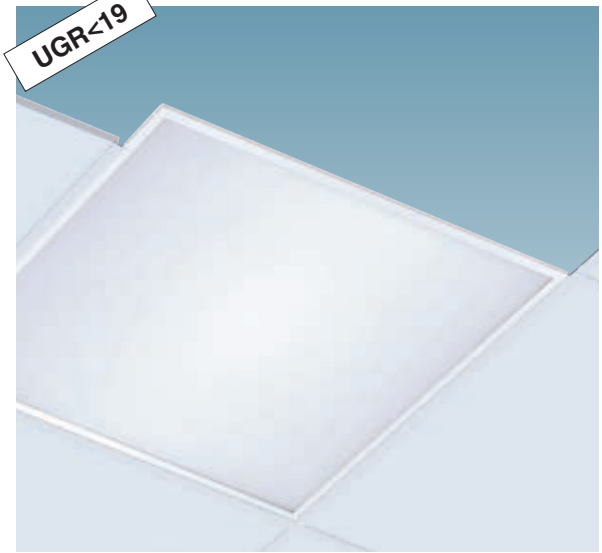
Diffuser: in prismatic engineering plastic with high thermal transmittance.

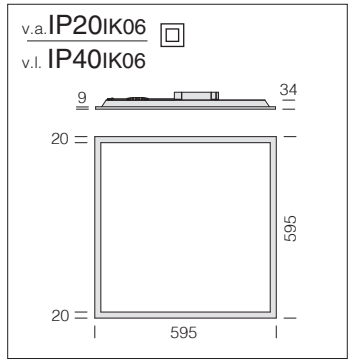
830 Rodi R - UGR<19

		CLD			CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED	white	2.50	295x1195	150243-00	150243-0041	**37**	4000K - 3921lm - CRI 80
				150243-39	150243-3941		3000K - 3647lm - CRI 80
LED	white	3.50	595x1195	150244-00		**67**	4000K - 7353lm - CRI 80

L80 B20 50.000h
RG0
U.V.
DIMM DIG
3000K
4000K
LOW FLICKER
UGR <19



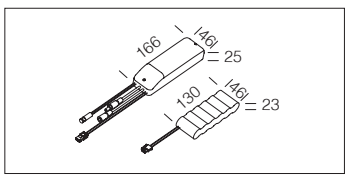




Diffuser: in prismatic engineering plastic with high thermal transmittance.

830 Rodi - UGR<19

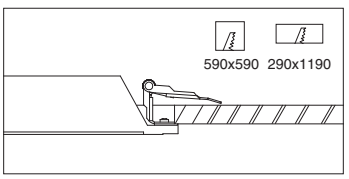
		CLD			CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED	white	2.00	595	150242-00	150242-0041	**39**	4000K - 4002lm - CRI 80
				150242-39	150242-3941		3000K - 3722lm - CRI 80



acc. 600 EM power kit

1h	986604-00
3h	986604-31

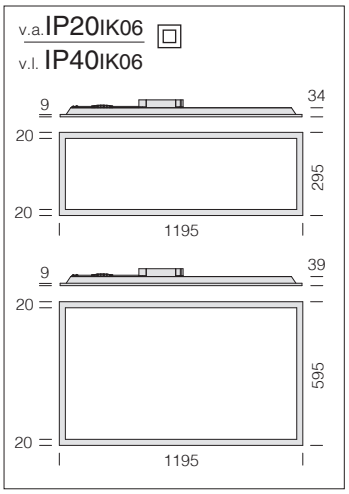
EM (emergency) lamp power kit complete with connectors.



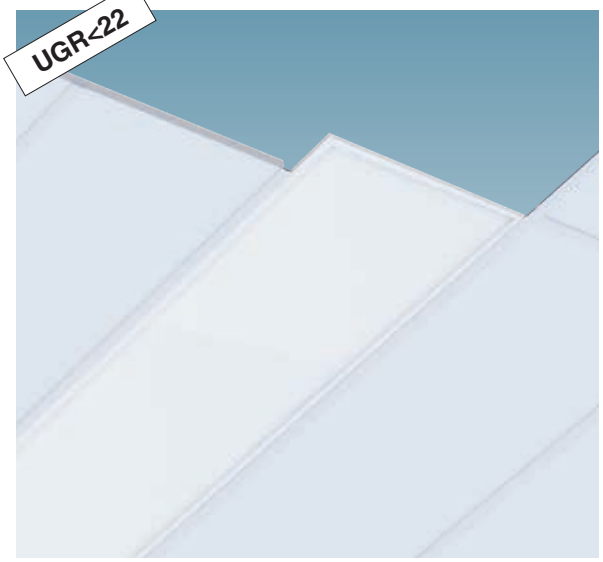
acc. 907 springs

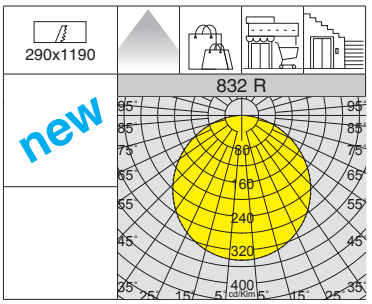
998038-00

Springs for recessed non-surface mounting on plasterboard. Bag containing 4 pieces.



Diffuser: in opal engineering plastic with high thermal transmittance.





L80 B20 50.000h

RG0

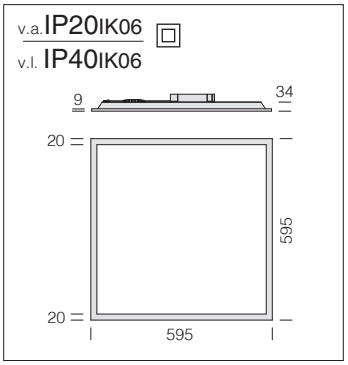
U.V.

LOW FLICKER

UGR <22

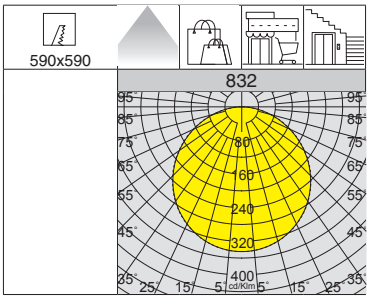
832 Rodi R - UGR<22

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	white	2.50	295x1195	150233-00	**39**	4000K - 4374lm - CRI 80
LED	white	3.50	595x1195	150234-00	**67**	4000K - 7710lm - CRI 80



Diffuser: in opal engineering plastic with high thermal transmittance.





L80 B20 50.000h

RG0

U.V.

LOW FLICKER

UGR <22

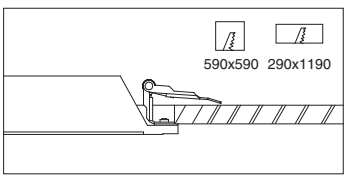
832 Rodi - UGR<22

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	white	2.00	595	150232-00	**39**	4000K - 4464lm - CRI 80

acc. 907 springs

998038-00

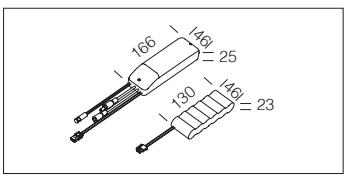
Springs for recessed non-surface mounting on plasterboard. Bag containing 4 pieces.



acc. 600 EM power kit

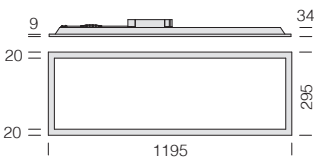
1h	986604-00
3h	986604-31

EM (emergency) lamp power kit complete with connectors.

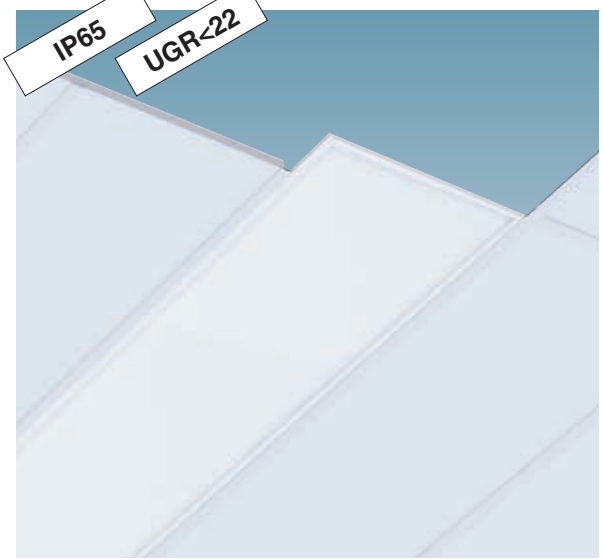


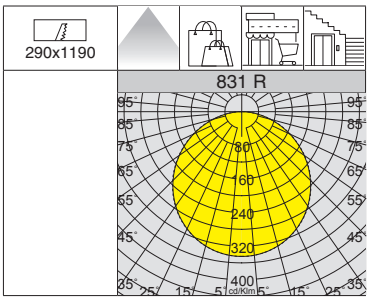


v.a. IP20IK06
v.l. IP65IK06



Diffuser: in opal engineering plastic with high thermal transmittance.

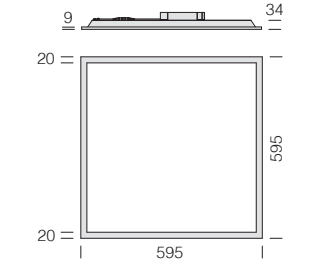




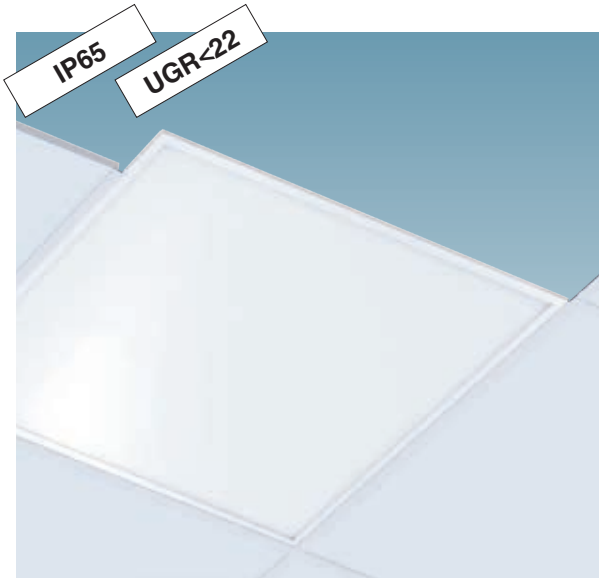
L80 B20 50.000h
RG0
U.V.
LOW FLICKER
UGR <22

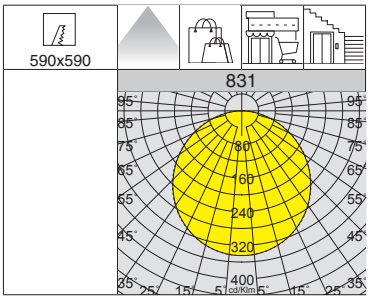
831 Rodi R IP65 - UGR<22						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	white	2.50	295x1195	150237-00	**39**	4000K - 4374lm - CRI 80

v.a. IP20IK06
v.l. IP65IK06



Diffuser: in opal engineering plastic with high thermal transmittance.

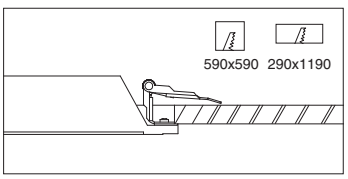




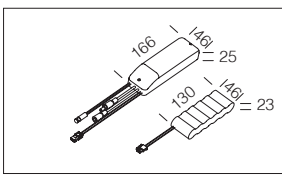
L80 B20 50.000h
RG0
U.V.
LOW FLICKER
UGR <22

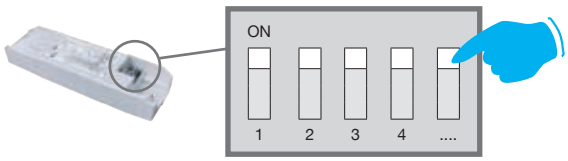
831 Rodi IP65 - UGR<22						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	white	2.00	595	150232-00002264	**39**	4000K - 4464lm - CRI 80

acc. 907 springs
998038-00
Springs for recessed non-surface mounting on plasterboard. Bag containing 4 pieces.



acc. 600 EM power kit	
1h	986604-00
3h	986604-31
EM (emergency) lamp power kit complete with connectors.	





ADAPT THE CURRENT TO ACHIEVE OPTIMAL LUMINOUS FLUX

DIP SWITCH SETTING: the fixture comes with a *DIP SWITCH* driver for **THE SETTING OF THE OUTPUT CURRENT**. In this way you, can **ENSURE THE BEST LUMINOUS FLUX** for any lighting design.

The possibility to choose the correct drive current for LEDs will allow you to have the right power under specific design conditions. Using a lower current will improve the efficiency of fixtures and therefore increase energy savings, whilst a higher current will result in a higher light flux so that you can reduce the number of fixtures.



CEILING MOUNTED INSTALLATION WITH ACC. 595 FRAME FOR COMFORTSQUARE LED



acc. 595 frame 600x600 h70	
white	998035-00
Frame in white-coated aluminium; to be used for ceiling installation of Comfortsquare LED.	

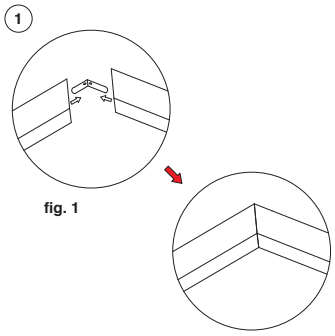
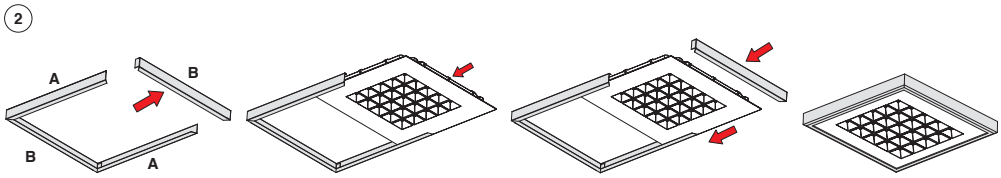


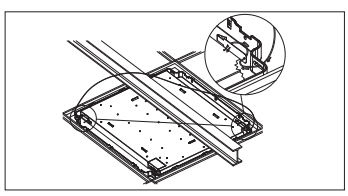
fig. 1

1) Assembly the frame according to the following illustration (**fig.1**)

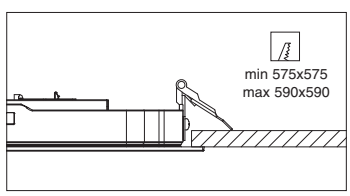
2) Installation
- Drill 4 holes at marking position with expansion screws and self-tapping screws (not screw too tight).
- Install the frame on the roof.
- Move and fix the ceiling frame (lift to right, or right to left) through hardy hole.
- Tighten self-tapping screws.
- Open the frame **B** on one side, insert the panel into the frame, then seal the frame with tightening screws.



ACCESSORIES



acc. 320 safety cord
998004-00
Steel safety cord.



acc. 907 springs
998038-00
Springs for recessed non-surface mounting on plasterboard. Bag containing 4 pieces.

GENERAL CHARACTERISTICS

Housing: self-extinguishing injection-moulded polycarbonate in RAL 9016 colour. Gear box in white-coated 7/10 thickness steel sheet.

Optics: secondary lenses in PMMA with high transparency and non-yellowing properties, and two photometric distributions with wide and middle beam angles.

Coating: ceiling version in anaphoresis bath with acrylic white enamelling, UV-stabilized.

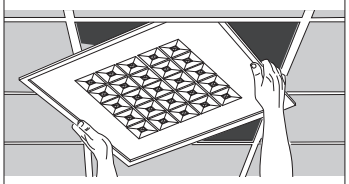
UGR glare index: UGR<16 - UGR<19 (in any situation) - EN 12464.

LED: power factor ≥0.9.
Luminous flux maintenance 80% 100.000h (L80B20).
Luminous flux maintenance 90% 50.000h (L90B10).
Photobiological safety class: exempt group.

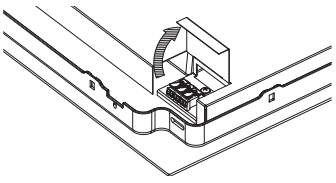
LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

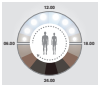
OTHER CHARACTERISTICS



Rapid wiring connection, the fixture does not need to be opened, it can be easily embedded into a ceiling, and almost no need for maintenance.



Easy connection
Equipped with hinged door and quick clamping mechanism.



Comfortsquare is available in Tunable White and HCL version (For more info, go to www.disano.it).

OTHER INFORMATION



Fixture with a thin design and lenticular optics, ideal in environments that require a controlled lighting distribution and maximum visual comfort (UGR<16 - UGR<19).

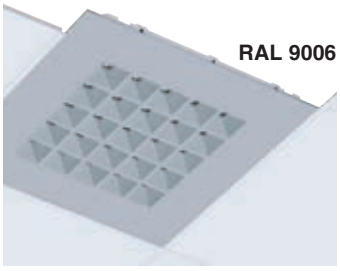
UGR <16

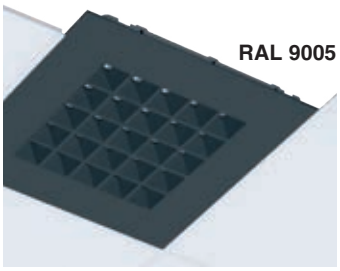
The UGR (unified glare rating) is an international unified measure developed by the CIE (Commission International de l'Eclairage) to assess the direct glare generated by a lighting system. The European standard regulating the lighting of indoor work places (**UNI-EN 12464-1**) recommends a specific UGR value for different applications ranging between **10 and 30**; **the lower the UGR value, the lower the glare**. The exact value of this index differs by project type because it depends on the position of the luminaires, room characteristics (dimensions, reflections) and on the point of observation of viewers.

UPON REQUEST

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

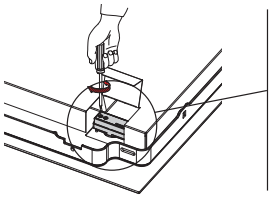
Upon request: available in in colored versions.

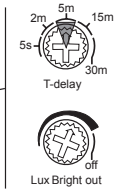




CHARACTERISTICS AND FUNCTIONS OF COMFORTSQUARE WITH BUILT-IN PRESENCE AND LIGHTING SENSOR

The standard version of Comfortsquare has a presence/lighting sensor that switches the lamp on or off whenever it detects somebody in the room and according to the amount of light inside the room. The standard ceiling lamp is equipped with a door that allows adjusting the settings for the delay and the light value of the bright-out function through 2 potentiometers.

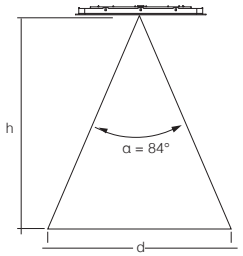




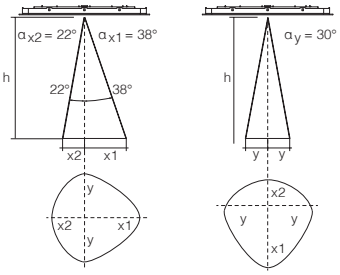
Time potentiometer = 5s, 2m, 5m, 15m, 30m, default = 5 s
(Note: it is possible to select only the steps indicated, no intermediate value is allowed)

Lux potentiometer = 50 – 500 lx, default = off
Bright-out function: without lamp switch on with sufficient detected luminosity. The Bright-out function will activate if the OFF position is not selected.

Presence and motion detection



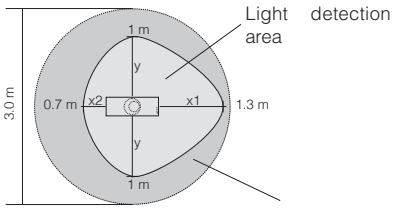
Light level scanning area



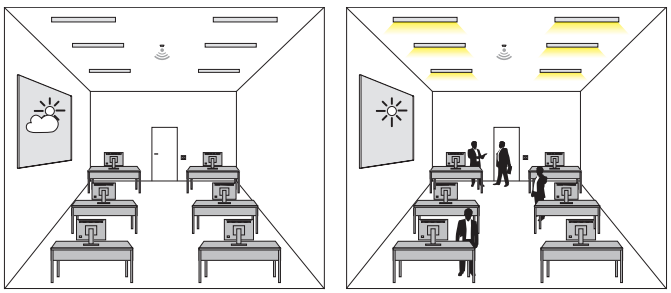
h *	x1	x2	y	d
1.7m	1.3m	0.7 m	1.0m	3.0 m
2.0 m	1.6m	0.8 m	1.2m	3.6 m
2.3m	1.8m	0.9 m	1.3m	4.1 m
2.5 m	2.0 m	1.0 m	1.4m	4.5 m
2.7 m	2.1m	1.1 m	1.6m	4.9 m
3.0 m	2.3m	1.2m	1.7m	5.4 m
3.5m	2.7m	1.4 m	2.0 m	6.3 m
4.0 m	3.1m	1.6m	2.3m	7.2m

* Maximum installation height recommended for offices is 3 m and for corridors is 4 m

Example of installation at 1.7 m



EXAMPLE OF INSTALLATION WITH EXTERNAL PRESENCE AND LIGHTING SENSOR



The presence detector adjusts the lights to a preset lighting value based on the people occupying a room and the amount of light at that moment. The integrated lighting sensor constantly measures the level of luminosity in the room and compares this value with the value set by the presence detector. The DIMM **DALI** versions of Comfortsquare can be used with the presence detector by ordering with **subcode -0041**.

WHAT TO ORDER:
KIT 1 - example of installation in offices with:
- 6 pcs - art. 710 Comfortsquare (140310-0041)
- 1 pcs - MASTER DALI sensor (986418-00)
- 1 pcs - DALI remote control (986421-00)

For further information see chapter Lighting management systems and recommendations.



L80 B20 100.000h

L90 B10 50.000h

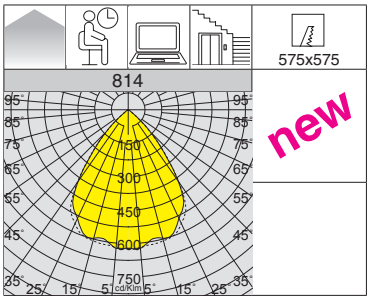
RG0

LOW FLICKER

UGR <16

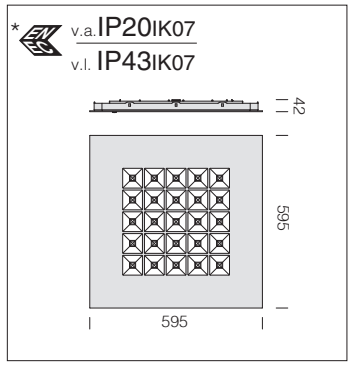
3000K

4000K



Upon request version with:
- **CLD D-D (DALI)** wiring with **sub-code -0041.**
- **CLD D-D (PUSH)** wiring with **sub-code -0045.**





DIP SWITCH SETTING		
		LUMEN OUTPUT (tq= 25 °C)
I out	W tot	K - ølm - CRI
550	16	4000K - 1935lm - **CRI 90**
650	19	4000K - 2290lm - **CRI 90**
750	***21***	*4000K - 2643lm - **CRI 90***
850	24	4000K - 2992lm - **CRI 90**
900	26	4000K - 3165lm - **CRI 90**
950	27	4000K - 3338lm - **CRI 90**
1000	28	4000K - 3510lm - **CRI 90**
1050	30	4000K - 3681lm - **CRI 90**

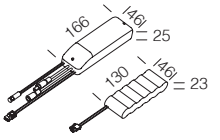
GRADATION PAR DIP SWITCH		
		LUMEN OUTPUT (tq= 25 °C)
I out	W tot	K - ølm - CRI
550	16	3000K - 1935lm - **CRI 90**
650	19	3000K - 2290lm - **CRI 90**
750	***21***	*3000K - 2643lm - **CRI 90***
850	24	3000K - 2992lm - **CRI 90**
900	26	3000K - 3165lm - **CRI 90**
950	27	3000K - 3338lm - **CRI 90**
1000	28	3000K - 3510lm - **CRI 90**
1050	30	3000K - 3681lm - **CRI 90**

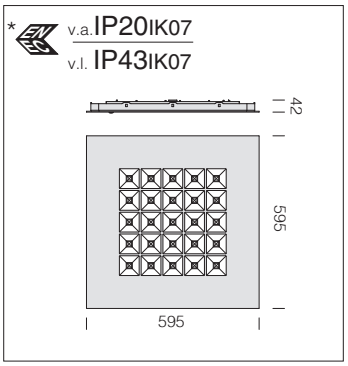
810 Comfortsquare - DIP SWITCH - 76° beam

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	I out	W tot	K - ølm - CRI - degrees
LED	white	4.00	150360-00	***750***	**21**	4000K - **2643lm** - **CRI 90** - 76°
			150360-39			3000K - **2643lm** - **CRI 90** - 76°
LED	white	4.00	150360-19	***750***	**21**	4000K - **2643lm** - **CRI 90** - 76°
			150360-1928			3000K - **2643lm** - **CRI 90** - 76°

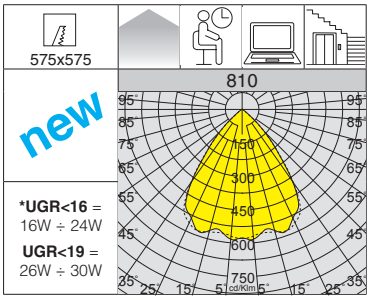
The standard version of Comfortsquare with subcode **-19** has a presence/lighting sensor that switches the lamp on or off whenever it detects somebody in the room and according to the amount of light inside the room.

acc. 600 EM power kit	
1h	986604-00
3h	986604-31
EM (emergency) lamp power kit complete with connectors.	









L80 B20 100.000h

L90 B10 50.000h

RG0

LOW FLICKER

UGR <16

3000K

4000K

Upon request version with:
- **CLD D-D (DALI)** wiring with **sub-code -0041.**
- **CLD D-D (PUSH)** wiring with **sub-code -0045.**

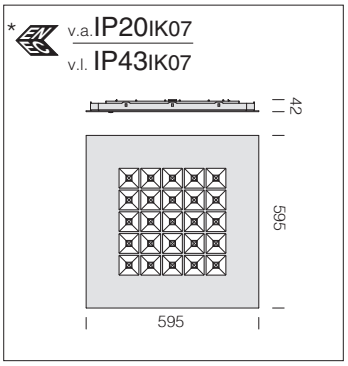
DIP SWITCH SETTING		
		LUMEN OUTPUT (tq= 25 °C)
I out	W tot	K - ølm - CRI
550	16	4000K - 1921lm - **CRI 90**
650	19	4000K - 2274m - **CRI 90**
750	***21***	*4000K - 2624lm - **CRI 90***
850	24	4000K - 2970lm - **CRI 90**
900	26	4000K - 3142lm - **CRI 90**
950	27	4000K - 3314lm - **CRI 90**
1000	28	4000K - 3484lm - **CRI 90**
1050	30	4000K - 3654lm - **CRI 90**

GRADATION PAR DIP SWITCH		
		LUMEN OUTPUT (tq= 25 °C)
I out	W tot	K - ølm - CRI
550	16	3000K - 1921lm - **CRI 90**
650	19	3000K - 2274m - **CRI 90**
750	***21***	*3000K - 2624lm - **CRI 90***
850	24	3000K - 2970lm - **CRI 90**
900	26	3000K - 3142lm - **CRI 90**
950	27	3000K - 3314lm - **CRI 90**
1000	28	3000K - 3484lm - **CRI 90**
1050	30	3000K - 3654lm - **CRI 90**

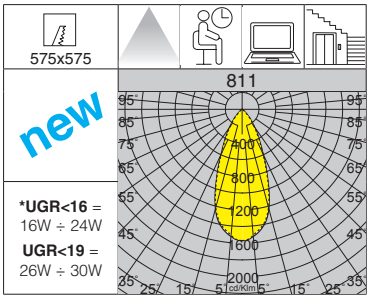
810 Comfortsquare - DIP SWITCH - 76° beam

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	I out	W tot	K - ølm - CRI - degrees
LED	white	4.00	150340-00	***750***	**21**	4000K - **2624lm** - **CRI 90** - 76°
			150340-39			3000K - **2624lm** - **CRI 90** - 76°
LED	white	4.00	150340-19	***750***	**21**	4000K - **2624lm** - **CRI 90** - 76°
			150340-1928			3000K - **2624lm** - **CRI 90** - 76°

The standard version of Comfortsquare with subcode **-19** has a presence/lighting sensor that switches the lamp on or off whenever it detects somebody in the room and according to the amount of light inside the room.







L80 B20 100.000h

L90 B10 50.000h

RG0

LOW FLICKER

UGR <16

3000K

4000K

Upon request version with:
- **CLD D-D (DALI)** wiring with **sub-code -0041.**
- **CLD D-D (PUSH)** wiring with **sub-code -0045.**

DIP SWITCH SETTING		
		LUMEN OUTPUT (tq= 25 °C)
I out	W tot	K - ølm - CRI
550	16	4000K - 1909lm - **CRI 90**
650	19	4000K - 2259lm - **CRI 90**
750	***21***	*4000K - 2607lm - **CRI 90***
850	24	4000K - 2951lm - **CRI 90**
900	26	4000K - 3122lm - **CRI 90**
950	27	4000K - 3292lm - **CRI 90**
1000	28	4000K - 3462lm - **CRI 90**
1050	30	4000K - 3630lm - **CRI 90**

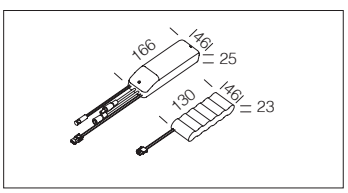
GRADATION PAR DIP SWITCH		
		LUMEN OUTPUT (tq= 25 °C)
I out	W tot	K - ølm - CRI
550	16	3000K - 1909lm - **CRI 90**
650	19	3000K - 2259lm - **CRI 90**
750	***21***	*3000K - 2607lm - **CRI 90***
850	24	3000K - 2951lm - **CRI 90**
900	26	3000K - 3122lm - **CRI 90**
950	27	3000K - 3292lm - **CRI 90**
1000	28	3000K - 3462lm - **CRI 90**
1050	30	3000K - 3630lm - **CRI 90**

811 Comfortsquare - DIP SWITCH - 43° beam

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	I out	W tot	K - ølm - CRI - degrees
LED	white	4.00	150350-00	***750***	**21**	4000K - **2607lm** - **CRI 90** - 43°
			150350-39			3000K - **2607lm** - **CRI 90** - 43°
LED	white	4.00	150350-19	***750***	**21**	4000K - **2607lm** - **CRI 90** - 43°
			150350-1928			3000K - **2607lm** - **CRI 90** - 43°

The standard version of Comfortsquare with subcode **-19** has a presence/lighting sensor that switches the lamp on or off whenever it detects somebody in the room and according to the amount of light inside the room.

acc. 600 EM power kit	
1h	986604-00
3h	986604-31
EM (emergency) lamp power kit complete with connectors.	



Ibis - UGR<16 - CRI 90



GENERAL CHARACTERISTICS

Housing: pressed steel, surface mounted on T-beams.

Dark light optics: honeycomb structure with PMMA lens to minimize glare.

Internal slab: in PMMA.

Diffuser: in prismatic plastic with high thermal transmittance.

UGR glare index: UGR<16 (in any situation). - EN 12464

LED: luminous flux maintenance 90%: 50.000h (L90B10).
Power factor ≥0.9.
Photobiological safety class: exempt group.

LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

OTHER CHARACTERISTICS



Ibis is a luminaire that stands out for its flexibility. Its antiglare optics and internal PMMA slab guarantees optimal light distribution and ensures maximum visual comfort (**UGR<16**), allowing the fixture to be seamlessly inserted into any room that requires controlled lighting (e.g. offices with VDT workstations, etc.).

DIMM DIG

Standard version **CLD D-D (DALI)** wiring with **subcode -0041:** thanks to pre-programmed settings or a software programme, this type of wiring allows accurate light emission dimming.

OTHER INFORMATION

UGR <16

The UGR (unified glare rating) is an international unified measure developed by the CIE (Commission International de l'Eclairage) to assess the direct glare generated by a lighting system. The European standard regulating the lighting of indoor work places (**UNI-EN 12464-1**) recommends a specific UGR value for different applications ranging between **10 and 30**; **the lower the UGR value, the lower the glare**. The exact value of this index differs by project type because it depends on the position of the luminaires, room characteristics (dimensions, reflections) and on the point of observation of viewers.

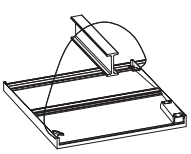
UPON REQUEST

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

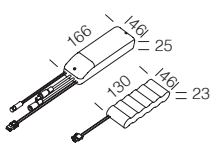
PUSH DIG

Version **CLD D-D (PUSH)** wiring with **subcode -0045:** it is possible to create lighting systems that can be easily switched ON/OFF and dimmed at low costs using conventional mains voltage push-buttons for lighting control.

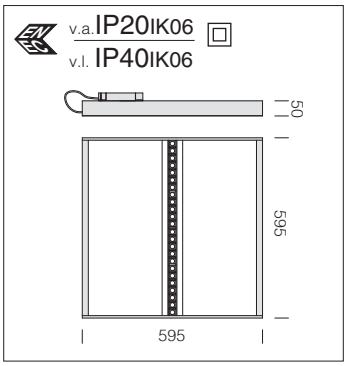
ACCESSORIES



acc. 320 safety cord
998004-00
Steel safety cord.

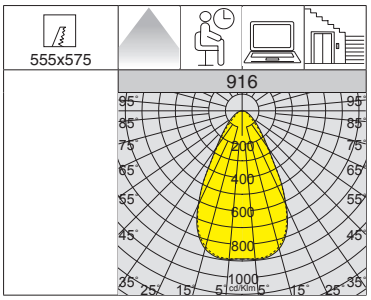


acc. 600 EM power kit	
1h	986604-00
3h	986604-31
EM (emergency) lamp power kit complete with connectors.	



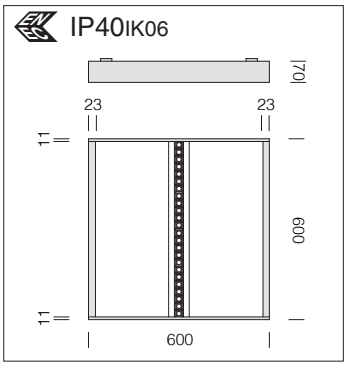
Upon request version with:
• **CLD D-D (PUSH)** wiring with **sub-code -0045.**





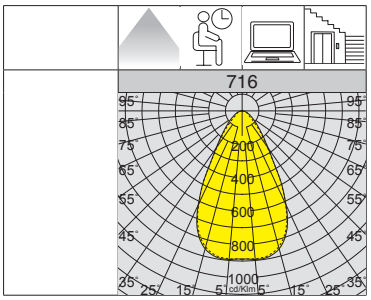
L90 B10 50.000h
RG0
DIMM DIG
LOW FLICKER
UGR <16
3000K
4000K

916 Ibis						
		CLD		CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	white	3.00	114014-00	114014-0041	**33**	4000K - 3265lm - **CRI 90**
			114014-39	114014-3941		3000K - 3036lm - **CRI 90**
LED	white	3.00	114014-15*		**36**	4000K - 3265lm - **CRI 90**
*** double switching**						



Upon request version with:
• **CLD D-D (PUSH)** wiring with **sub-code -0045.**

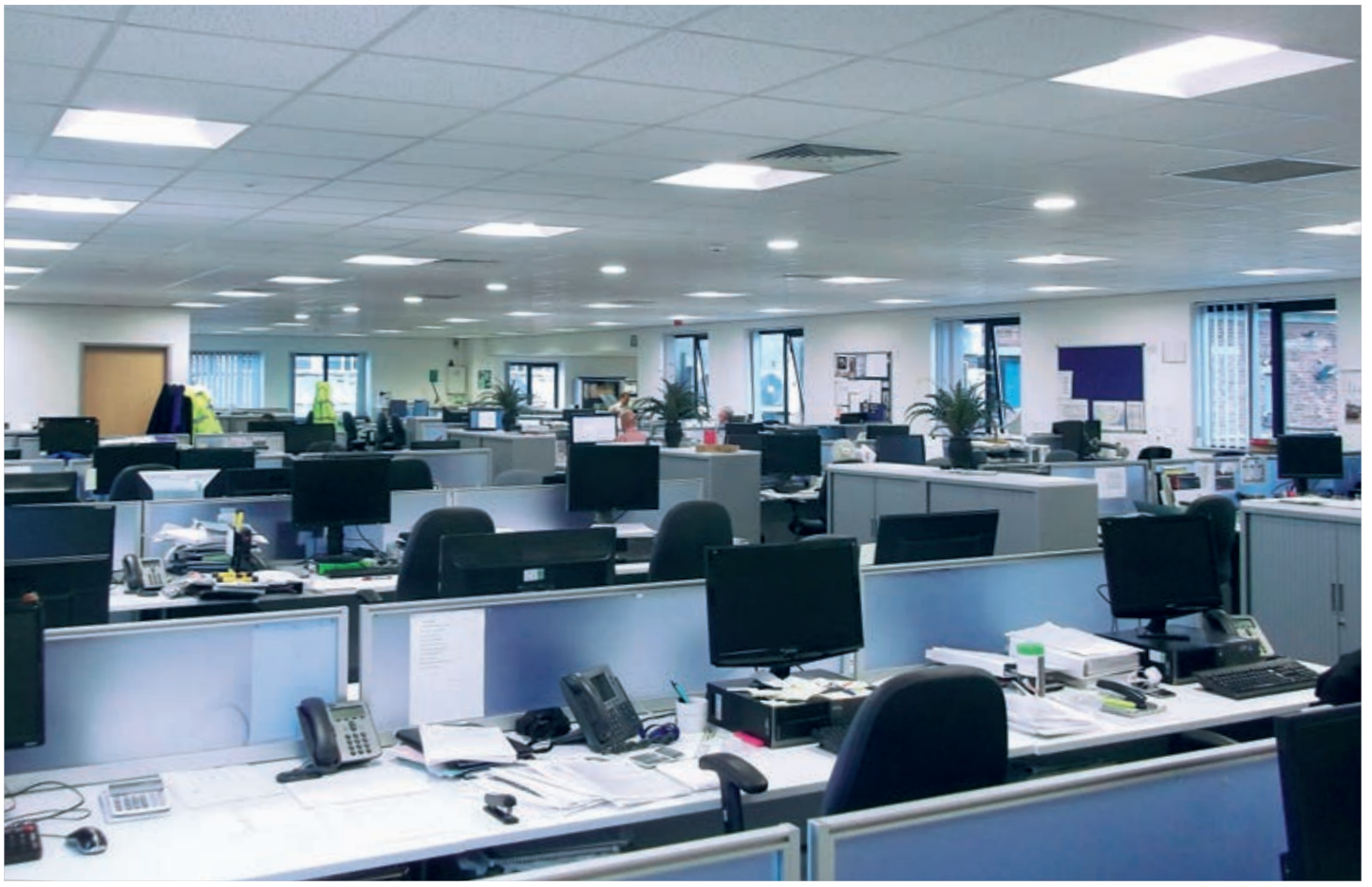






L90 B10 50.000h
RG0
DIMM DIG
LOW FLICKER
UGR <16
3000K
4000K

716 Ibis - ceiling						
		CLD		CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	white	7.00	114024-00	114024-0041	**33**	4000K - 3265lm - **CRI 90**
			114024-39	114024-3941		3000K - 3036lm - **CRI 90**



GENERAL CHARACTERISTICS

High lighting performance, drastic cuts in energy costs and all the advantages offered by LED sources are the distinctive traits of **Heron**, the evolution of the classic panel led.

Housing: pressed steel, surface mounted on T-beams.

Diffuser: in prismatic plastic with high thermal transmittance.

UGR glare index: UGR<19 (in any situation). - EN 12464.

LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.9.
Photobiological safety class: exempt group.

OTHER CHARACTERISTICS



The lamp's shape guarantees uniform light distribution: white-light LEDs emit high quality lighting to ensure the best visual comfort (**UGR<19**) and perfect colour rendering, ideal for all those spaces that need constant lighting.

LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

OTHER INFORMATION

UGR <19

The UGR (unified glare rating) is an international unified measure developed by the CIE (Commission International de l'Eclairage) to assess the direct glare generated by a lighting system. The European standard regulating the lighting of indoor work places (**UNI-EN 12464-1**) recommends a specific UGR value for different applications ranging between **10 and 30**; **the lower the UGR value, the lower the glare**. The exact value of this index differs by project type because it depends on the position of the luminaires, room characteristics (dimensions, reflections) and on the point of observation of viewers.

UPON REQUEST

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

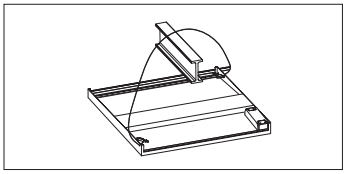
DIMM 1-10V

Version **CLD D (1/10V)** wiring with **subcode -12.**

DIMM DIG

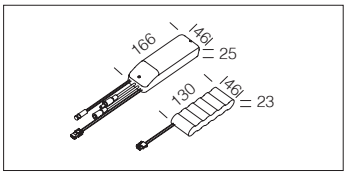
Version **CLD D-D (DALI)** wiring with **subcode -0041:** thanks to pre-programmed settings or a software programme, this type of wiring allows accurate light emission dimming.

ACCESSORIES

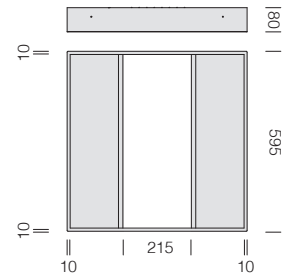


acc. 320 safety cord
998004-00
Steel safety cord.

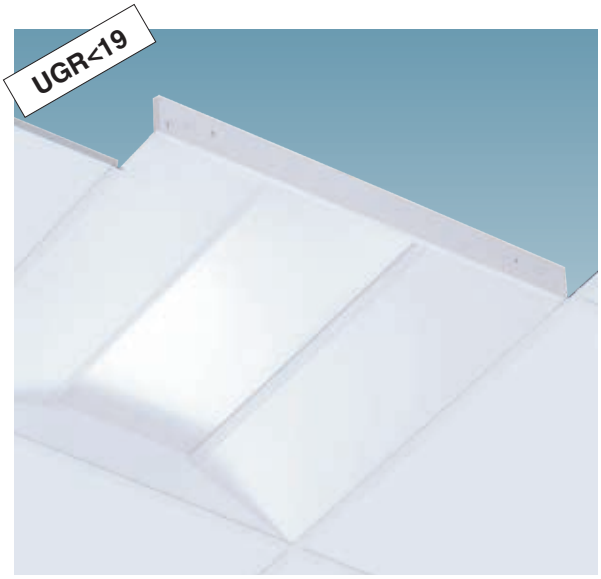
acc. 600 EM power kit	
1h	986604-00
3h	986604-31
EM (emergency) lamp power kit complete with connectors.	

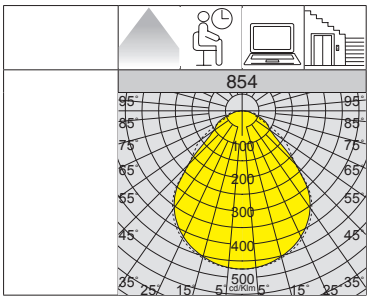


v.a. IP20IK06
v.l. IP40IK06



Upon request version with:
• **CLD D-D (DALI)** wiring with **sub-code -0041.**

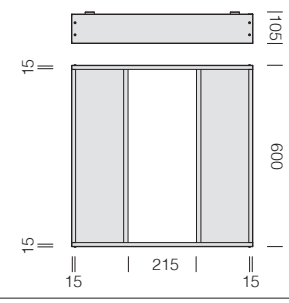




L80 B20 50.000h
RG0
DIMM DIG
LOW FLICKER
UGR <19

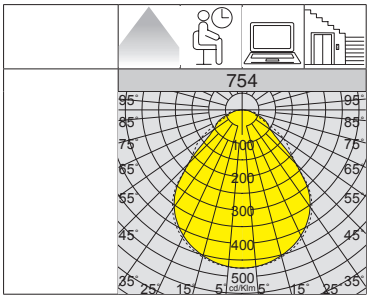
854 Heron					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	white	3.40	150212-00	**28**	4000K - 3375lm - CRI 80
			150213-00	**38**	4000K - 4556lm - CRI 80

IP40IK06



Upon request version with:
• **CLD D-D (DALI)** wiring with **sub-code -0041.**





L80 B20 50.000h
RG0
DIMM DIG
LOW FLICKER
UGR <19

754 Heron - ceiling					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	white	7.40	140212-00	**28**	4000K - 3375lm - CRI 80
			140213-00	**38**	4000K - 4556lm - CRI 80



GENERAL CHARACTERISTICS

Housing: in steel sheet.

Diffuser: in shatterproof and self-extinguishing V2 matt polycarbonate.

Coating: white polyester powder coating, UV stabilized.

Supplied without mounting brackets for contact mounting on the cross T structure. For non-contact mounting, please order brackets acc. 898/899.

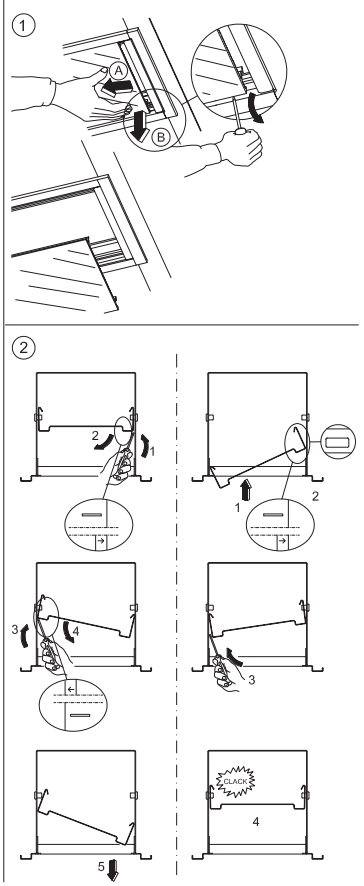
Upon request: loop-in connection, max 1,5mmq.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 50.000h (L80B20).
Photobiological safety class: exempt group.

LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

INSTALLATION



OTHER INFORMATION



The economic benefits of the new technologies alone are not able to ensure efficiency without the combination of other important advantages. The most significant one concerns the quality of light. New lighting fixtures will make you live and work better. The picture shows how lighting quality is the result of a set of elements connected to visual perception. These elements include visual performance, associated with the level of lighting, glare limitation, visual comfort, which is determined by the correct distribution of light and by a good colour rendering and ambient lighting, which depends on the colour of the light source and on light beam direction. In other words, a good lighting system is one that ensures the right amount of light, without producing glare and where colours can be admired almost as if they were viewed under natural light.

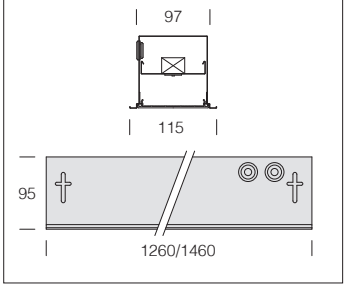
UPON REQUEST

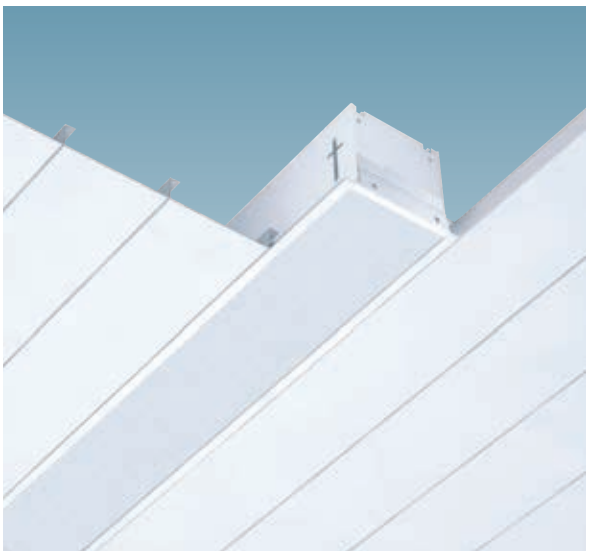
Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

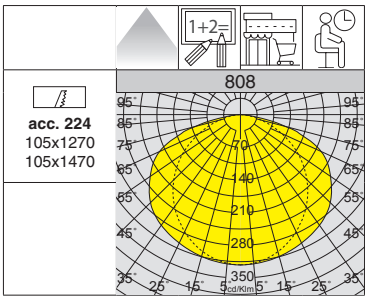
DIMM DIG

Version **CLD D-D (DALI)** wiring with **subcode -0041:** thanks to pre-programmed settings or a software programme, this type of wiring allows accurate light emission dimming.

v.a. IP20 IK07
v.l. IP40 IK07







L80 B20 50.000h

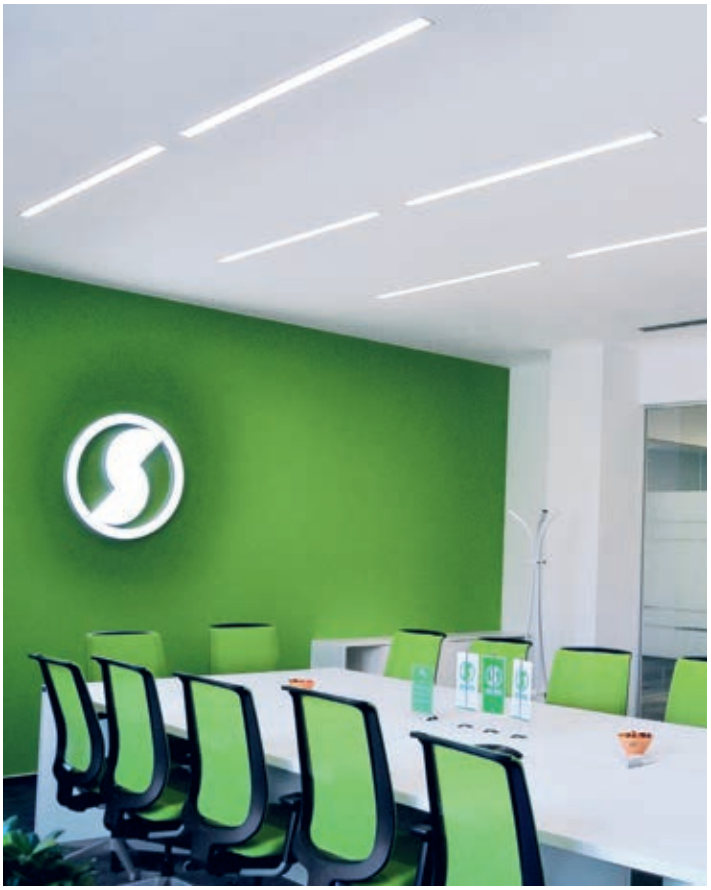
RG0

U.V.

LOW FLICKER

848 Supercomfort						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	white	3.60	1260	153436-00	**26**	4000K - 2598lm - CRI≥80
				153437-00	**48**	4000K - 4855lm - CRI≥80
LED	white	4.50	1460	153438-00	**72**	4000K - 7073lm - CRI≥80

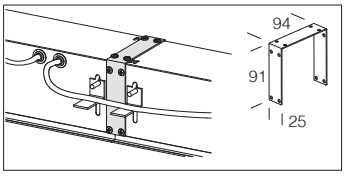
ACCESSORIES



acc. 200 bracket for conti. line

steel	998011-00

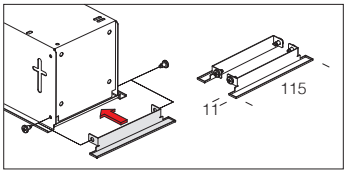
To be used when the lighting system is installed in continuous row.



acc. 224 end cap

white	998014-00

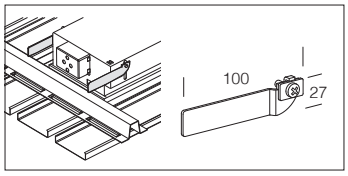
To be used on ceiling fixtures as end caps (also for installation in continuous line).



acc. 898 front bracket

galvanized	998025-00

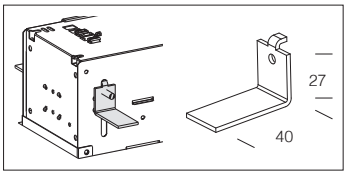
Set of 4 pcs. Bracket for frontal mounting.

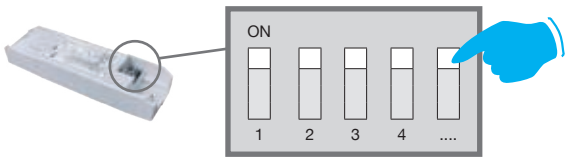


acc. 899 bracket

galvanized	998027-00

In zinc plated steel. 4-pc set to be used when the fixture is not contact mounted.





ADAPT THE CURRENT TO ACHIEVE OPTIMAL LUMINOUS FLUX

DIP SWITCH SETTING: the fixture comes with a *DIP SWITCH* driver for **THE SETTING OF THE OUTPUT CURRENT**. In this way you, can **ENSURE THE BEST LUMINOUS FLUX** for any lighting design.

The possibility to choose the correct drive current for LEDs will allow you to have the right power under specific design conditions. Using a lower current will improve the efficiency of fixtures and therefore increase energy savings, whilst a higher current will result in a higher light flux so that you can reduce the number of fixtures.



GENERAL CHARACTERISTICS

Housing-reflector: in shatterproof self-extinguishing V0 polycarbonate, metalized with high-grade aluminium powers and equipped with anti-reflexion and anti-glare optics. The wide perimeter border on the false ceiling has white coloured photogravure finishing. Springs for false ceiling mounting are made in galvanised steel wire. Lamp shielding angle of 65°.

Shield: in shatterproof, self-extinguishing transparent V0 polycarbonate. Internal micro-lenticular film and glass shielding of **UGR<19**.

Internal reflector: in white self-extinguishing V0 polycarbonate with polished finishing.

Heat sink: black-coated die-cast aluminium with integrated cooling fins.

Coating: UV epoxy polyester power coating.

UGR glare index: UGR<19 (in any situation). - EN 12464.



Compact Dark is available in Tunable White and HCL version (For more info, go to www.disano.it).

OTHER INFORMATION



The UGR (unified glare rating) is an international unified measure developed by the CIE (Commission International de l'Eclairage) to assess the direct glare generated by a lighting system. The European standard regulating the lighting of indoor work places (**UNI-EN 12464-1**) recommends a specific UGR value for different applications ranging between **10 and 30**; **the lower the UGR value, the lower the glare**. The exact value of this index differs by project type because it depends on the position of the luminaires, room characteristics (dimensions, reflections) and on the point of observation of viewers.



Product with a very low flicker; uniform light for greater eye protection.

ECONOMIC BENEFITS

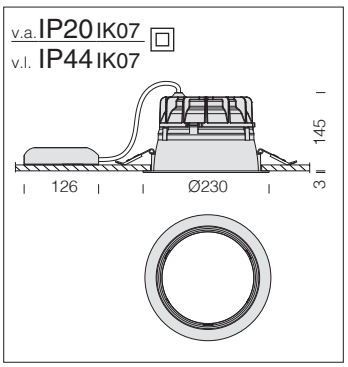


The economic benefits of the new technologies alone are not able to ensure efficiency without the combination of other important advantages. The most significant one concerns the quality of light. New lighting fixtures will make you live and work better. The picture shows how lighting quality is the result of a set of elements connected to visual perception. These elements include visual performance, associated with the level of lighting, glare limitation, visual comfort, which is determined by the correct distribution of light and by a good colour rendering and ambient lighting, which depends on the colour of the light source and on light beam direction. In other words, a good lighting system is one that ensures the right amount of light, without producing glare and where colours can be admired almost as if they were viewed under natural light.

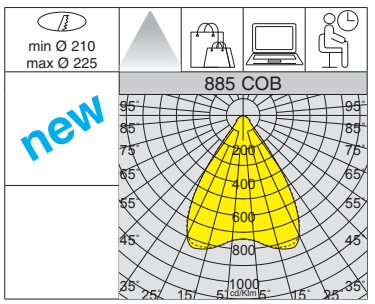
UPON REQUEST



Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).







L90 B10 55.000h

RG0

U.V.

LOW FLICKER

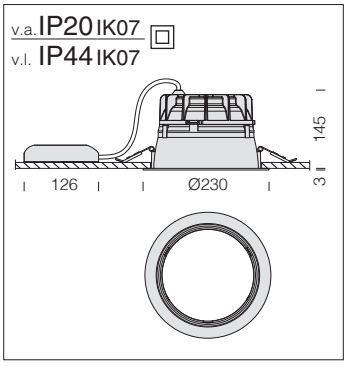
UGR <19

LED: Power factor ≥0,92.
Luminous flux maintenance 90%: 55.000h (L90B10).
Photobiological safety class: Exempt group.

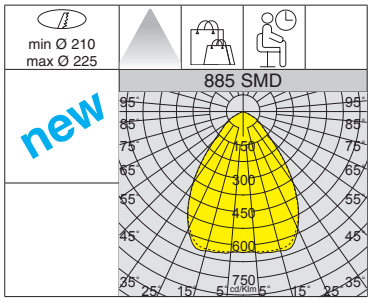
DIP SWITCH SETTING		
		LUMEN OUTPUT (tq= 25 °C)
I out	W tot	K - ølm - CRI
350	12	4000K - 1540lm - CRI 80
400	14	4000K - 1754lm - CRI 80
450	16	4000K - 1965lm - CRI 80
500	***18***	*4000K - 2156lm - CRI 80*
550	19,5	4000K - 2335lm - CRI 80
600	22	4000K - 2636lm - CRI 80
650	23	4000K - 2736lm - CRI 80
700	25	4000K - 2954lm - CRI 80

885 Compact Dark 1 - DIP SWITCH - COB

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	I out	W tot	K - ølm - CRI
COB	white	1.10	156450-00	***500***	**18**	4000K - 2156lm - CRI 80







L80 B20 55.000h

RG0

U.V.

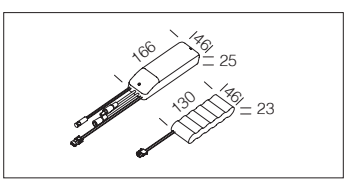
LOW FLICKER

LED: Power factor ≥0,92.
Luminous flux maintenance 80%: 55.000h (L80B20).
Photobiological safety class: Exempt group..

DIP SWITCH SETTING		
		LUMEN OUTPUT (tq= 25 °C)
I out	W tot	K - ølm - CRI
350	***10***	*4000K - 1653lm - CRI 80*
400	11,5	4000K - 1831lm - CRI 80
450	13	4000K - 2059lm - CRI 80
500	14,5	4000K - 2274lm - CRI 80
550	16	4000K - 2486lm - CRI 80
600	17,5	4000K - 2694lm - CRI 80
650	19	4000K - 2889lm - CRI 80
700	21	4000K - 3108lm - CRI 80

885 Compact Dark 2 - DIP SWITCH - SMD

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	I out	W tot	K - ølm - CRI
SMD	white	1.10	156460-00	***350***	**10**	4000K - 1653lm - CRI 80



acc. 600 EM power kit	
1h	986604-00
3h	986604-31
EM (emergency) lamp power kit complete with connectors.	



GENERAL CHARACTERISTICS

The lighting of transit areas (stairs, corridors, entrances) as well as workplaces (public buildings, offices, hotels and restaurants), must not be taken for granted for both functional and aesthetic reasons. If well-illuminated, the spaces open to the general public or residential environments convey a sense of safety and wellbeing. Robust and high-quality recessed spotlights, like the one of the Compact family by Disano, are the ideal solution: easy to fit into any space, they guarantee maximum efficiency and long life.

Housing: die cast aluminium complete with spring clips for recessed mounting.

Diffuser: high-temperature resistant thermoplastic material.

Coating: power-coated with a UV-resistant polyester epoxy pain.

LED: power factor ≥0,95.
Luminous flux maintenance 80%: 55.000h (L80B20).
Photobiological safety class: exempt group.

LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

OTHER INFORMATION

CRI 95

The right lighting and fixture play a vital role in facilitating sales. This is the reason why LED fixtures with a **CRI>90** are being requested. Therefore, the current trend is geared towards the manufacturing of more flexible fixtures, which also emit an excellent quality of light, while guaranteeing remarkable energy savings and lower maintenance costs.

The Colour Rendering Index (**CRI**) indicates how truthfully the artificial light source is able to reproduce the colours of objects. It varies from a range of **0 to 100**, where **0 represents the minimum** and **100 is the maximum**. Daylight is the best source of light from a physiological point of view because it contains the full colour spectrum. Therefore, a lamp with a high colour rendering index is very important to ensure the wellbeing and comfort of the occupants of a room and it is absolutely necessary in rooms where good visibility is required.

ECONOMIC BENEFITS



The economic benefits of the new technologies alone are not able to ensure efficiency without the combination of other important advantages. The most significant one concerns the quality of light. New lighting fixtures will make you live and work better. The picture shows how lighting quality is the result of a set of elements connected to visual perception. These elements include visual performance, associated with the level of lighting, glare limitation, visual comfort, which is determined by the correct distribution of light and by a good colour rendering and ambient lighting, which depends on the colour of the light source and on light beam direction. In other words, a good lighting system is one that ensures the right amount of light, without producing glare and where colours can be admired almost as if they were viewed under natural light.

UPON REQUEST

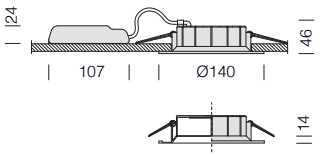
Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

DIMM DIG

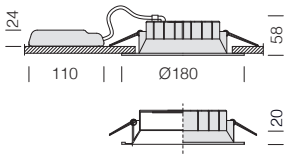
Version **CLD D-D (DALI)** wiring with **subcode -0041:** thanks to pre-programmed settings or a software programme, this type of wiring allows accurate light emission dimming.

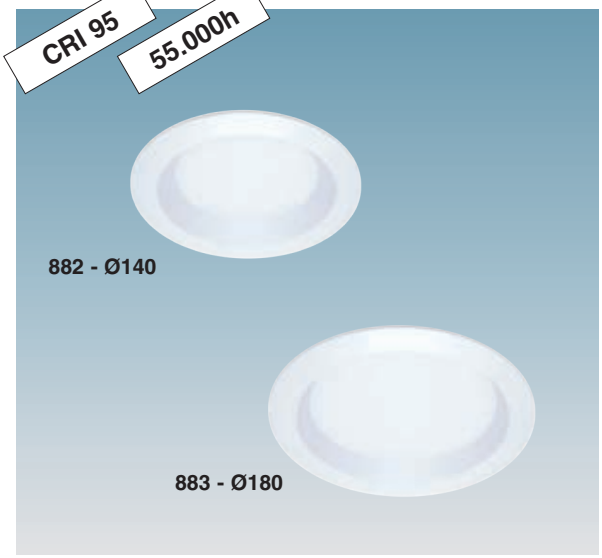
v.a. IP20 IK07
v.l. IP44 IK07

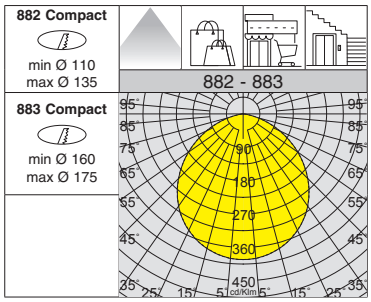
882 Compact



883 Compact







L80 B20 55.000h
RG0
U.V.
LOW FLICKER
3000K
4000K

Upon request version with:
• **CLD D-D (DALI)** wiring with **sub-code -0041.**

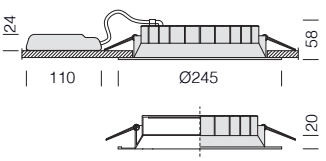
882 Compact - Ø140

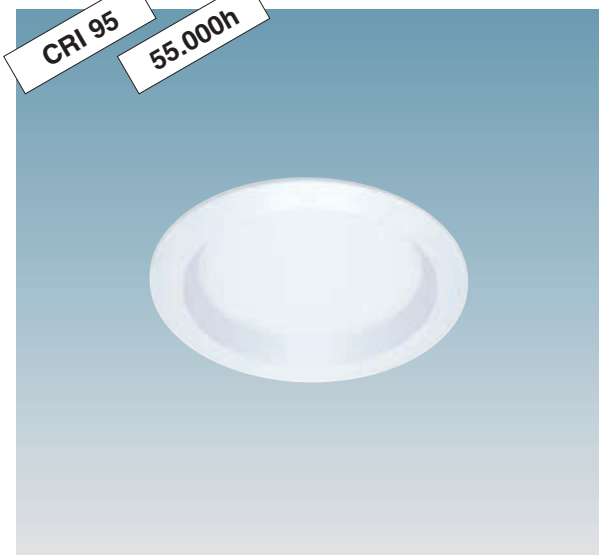
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	white	0.25	156405-00	**11**	4000K - 1279lm - **CRI 95**
			156405-39		3000K - 1216lm - **CRI 95**

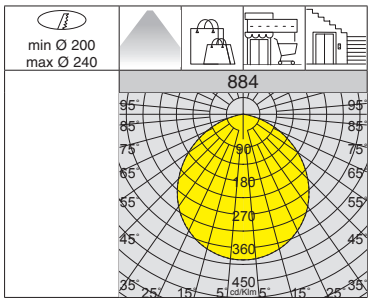
883 Compact - Ø180

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	white	0.40	156415-00	**14**	4000K - 1777lm - **CRI 95**
			156415-39		3000K - 1688lm - **CRI 95**
LED	white	0.40	156416-00	**19**	4000K - 2182lm - **CRI 95**
			156416-39		3000K - 2073lm - **CRI 95**

v.a. IP20 IK07
v.l. IP44 IK07







L80 B20 55.000h
RG0
U.V.
LOW FLICKER
3000K
4000K

Upon request version with:
• **CLD D-D (DALI)** wiring with **sub-code -0041.**

884 Compact - Ø245

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	white	0.60	156424-00	**19**	4000K - 2316lm - **CRI 95**
			156424-39		3000K - 2200lm - **CRI 95**
LED	white	0.60	156425-00	**25**	4000K - 3245lm - **CRI 95**
			156425-39		3000K - 3063lm - **CRI 95**
LED	white	0.60	156427-00	**29**	4000K - 3665lm - **CRI 95**
			156427-39		3000K - 3482lm - **CRI 95**

acc. 590 wire spring adapters

998115-00

Wire spring adapters to increase the supporting surface. 2-pc set.



Health Dark - URG<19



GENERAL CHARACTERISTICS

Housing: fixed donwlight in die cast aluminium.

Lens: in PMMA lens with high efficiency output and very low glare rate.

Dark light optics: in anti-glare metalized plastic material.

Equipment: equipped with galvanised steel support brackets, with housing for springs for attachment to the false ceilings.

UGR glare index: UGR<19 (in any situation). - EN 12464.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 50.000h (L80B20).



Downlights are equipped with silicone rubber gasket

L80 B20 50.000h

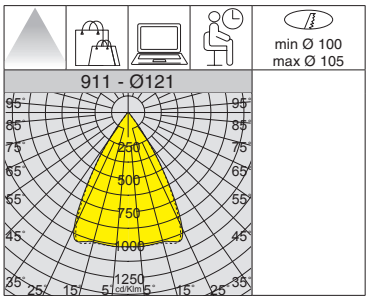
RG0

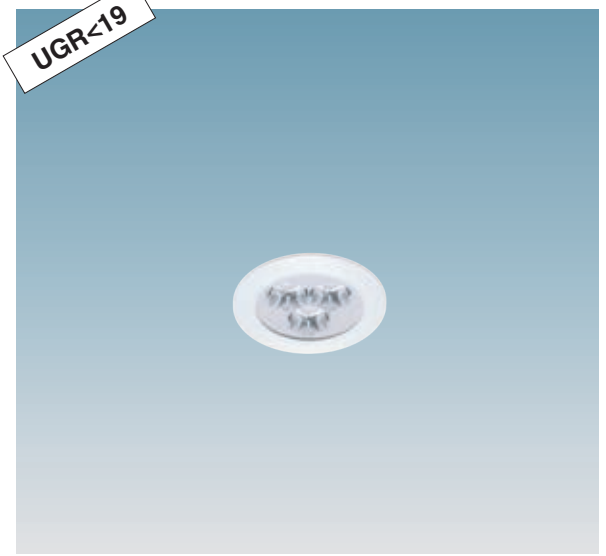
U.V.

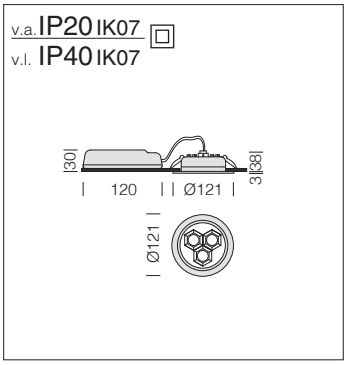
DARK 65% 500 LIGHT

UGR <19

LOW FLICKER

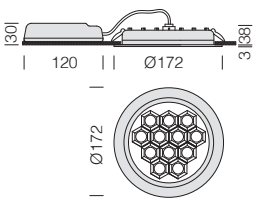




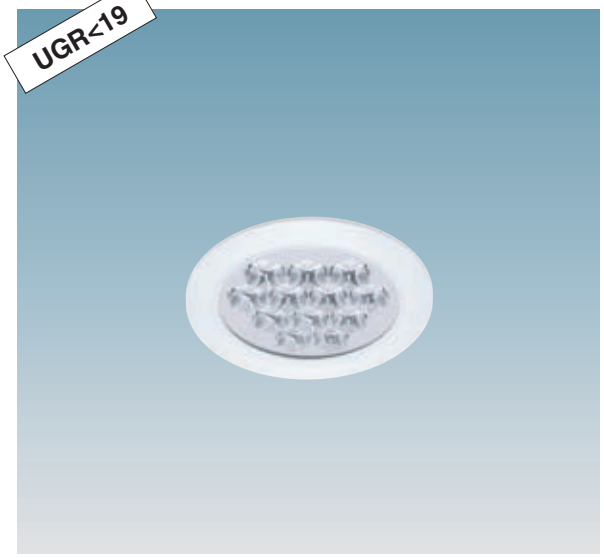


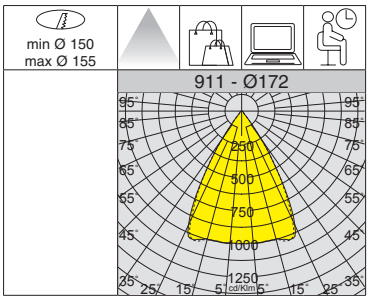
911 Health Dark - Ø121						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	W tot	K - ølm - CRI
LED	white	0.20	121	156474-00	**8**	4000K - 1000lm - CRI 80

v.a. IP20 IK07
v.l. IP40 IK07



UGR<19







Upon request: version equipped with transparent diffuser with IP44 protection degree.

L80 B20 50.000h

RG0

U.V.

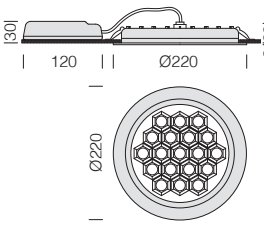
DARK 65% 500 LIGHT

UGR <19

LOW FLICKER

911 Health Dark - Ø172						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	W tot	K - ølm - CRI
LED	white	0.40	172	156476-00	**26**	4000K - 3200lm - CRI 80

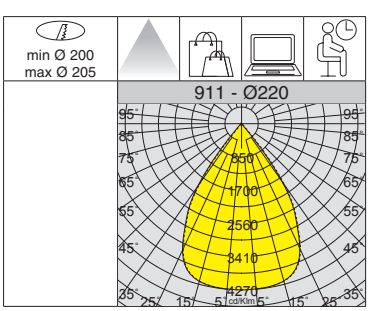
v.a. IP20 IK07
v.l. IP40 IK07

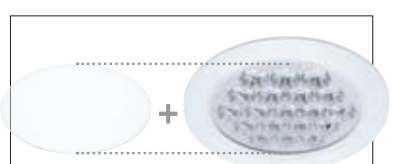


UGR<19

DALI







Upon request: version equipped with transparent diffuser with IP44 protection degree.

L80 B20 50.000h

RG0

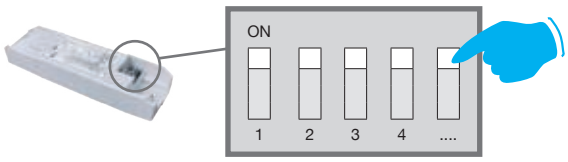
U.V.

DARK 65% 500 LIGHT

UGR <19

LOW FLICKER

911 Health Dark - Ø220							
		CLD			CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	W tot	K - ølm - CRI
LED	white	0.60	220	156475-00	156475-0041	**26**	4000K - 3200lm - CRI 80



ADAPT THE CURRENT TO ACHIEVE OPTIMAL LUMINOUS FLUX

DIP SWITCH SETTING: the fixture comes with a *DIP SWITCH* driver for **THE SETTING OF THE OUTPUT CURRENT**. In this way you, can **ENSURE THE BEST LUMINOUS FLUX** for any lighting design.

The possibility to choose the correct drive current for LEDs will allow you to have the right power under specific design conditions. Using a lower current will improve the efficiency of fixtures and therefore increase energy savings, whilst a higher current will result in a higher light flux so that you can reduce the number of fixtures.



L80 B20 50.000h

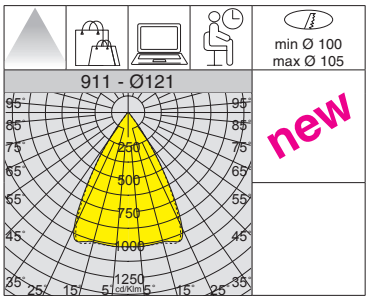
RG0

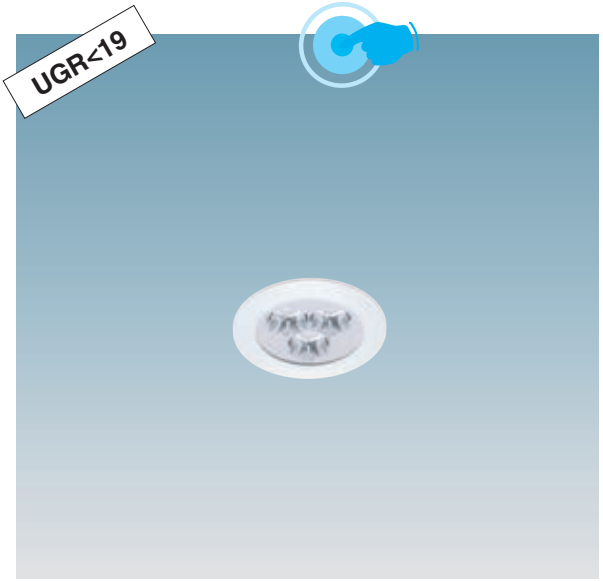
U.V.

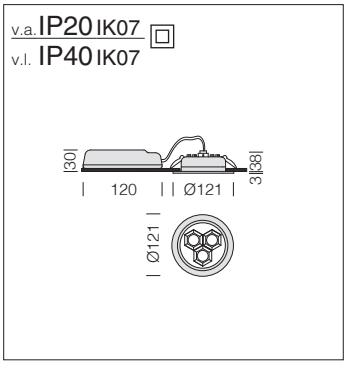
DARK 65% 500 LIGHT

UGR <19

LOW FLICKER



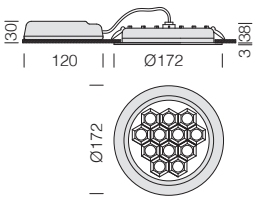




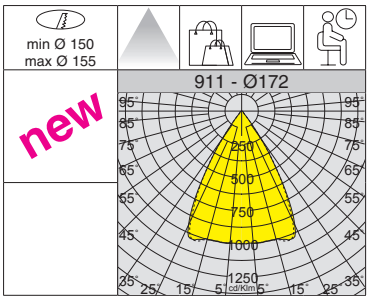
911 Health Dark - Ø121 - DIP SWITCH							
		CLD					LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	I out	W tot	K - ølm - CRI
LED	white	0.20	121	156472-00	***250***	**10**	4000K - **1195lm** - CRI 80

DIP SWITCH SETTING		
		LUMEN OUTPUT (tq= 25 °C)
I out	W tot	K - ølm - CRI
250	***10***	*4000K - 1195lm - CRI 80*
300	**12**	4000K - 1380lm - CRI 80
350	**14**	4000K - 1555lm - CRI 80

v.a. IP20 IK07
v.l. IP40 IK07







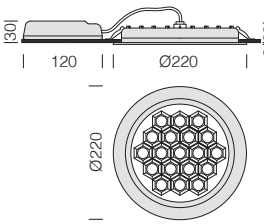
L80 B20 50.000h
RG0
U.V.
DARK 65% < 500 LIGHT cd
UGR <19
LOW FLICKER

911 Health Dark - Ø172 - DIP SWITCH

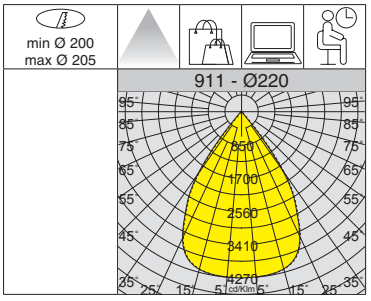
		CLD					LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	I out	W tot	K - ølm - CRI
LED	white	0.40	172	156473-00	***500***	**19**	4000K - **2490lm** - CRI 80

DIP SWITCH SETTING	
	LUMEN OUTPUT (tq= 25 °C)
I out	W tot	K - ølm - CRI
350	13	4000K - 1795lm - CRI 80
500	***19***	*4000K - 2490lm - CRI 80*
600	22	4000K - 2915lm - CRI 80

v.a. IP20 IK07
v.l. IP40 IK07







L80 B20 50.000h
RG0
U.V.
DARK 65% < 500 LIGHT cd
UGR <19
LOW FLICKER

911 Health Dark - Ø220 - DIP SWITCH

		CLD					LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	I out	W tot	K - ølm - CRI
LED	white	0.60	220	156477-00	***800***	**30**	4000K - 3740lm - CRI 80

DIP SWITCH SETTING	
	LUMEN OUTPUT (tq= 25 °C)
I out	W tot	K - ølm - CRI
600	22	4000K - 2900lm - CRI 80
700	26	4000K - 3315lm - CRI 80
800	***30***	*4000K - 3740lm - CRI 80*
900	33	4000K - 4150lm - CRI 80
950	35	4000K - 4340lm - CRI 80

Fixtures - for clean rooms and aseptic environments

Disano presents a range of lighting fixtures designed to meet the special needs of clean rooms where the control of bacterial contamination is important. In response to the specific requirements of this sector, the installation of dedicated luminaires is fundamental.

Aseptic hospital rooms, operation theatres, laboratories and corridors are all spaces where a high level of safety and a screened light for an improved visual comfort are required.



The disinfection of **aseptic processing environments** is difficult to achieve and “clean rooms” do not stay clean for long, as harmful bacteria repopulate the space very quickly.

At the customer’s specific request, Disano can provide a solution that continuously disinfects the environment and reinforces the efforts to prevent the spreading of infections.
It is a ceiling lamp that incorporates a combination of white LEDs and 405nm LEDs capable of keeping the environment continuously disinfected. The 405nm light source can be managed with a separated control circuit. The light emitted will not harm patients or surfaces and can be used in environments like:

- Swimming pools
- Hospitals
- Kitchens
- Lifts
- Dental clinics
- Bathrooms









GENERAL CHARACTERISTICS

Housing: fixed donwlight in die cast aluminium.

Screen: in anti-glare matt plastic material.

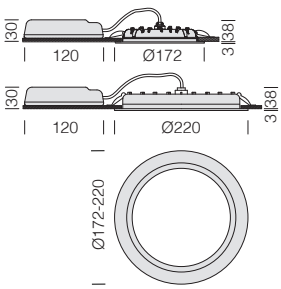
Coating: epoxy polyester powder coating resistant to UV rays.

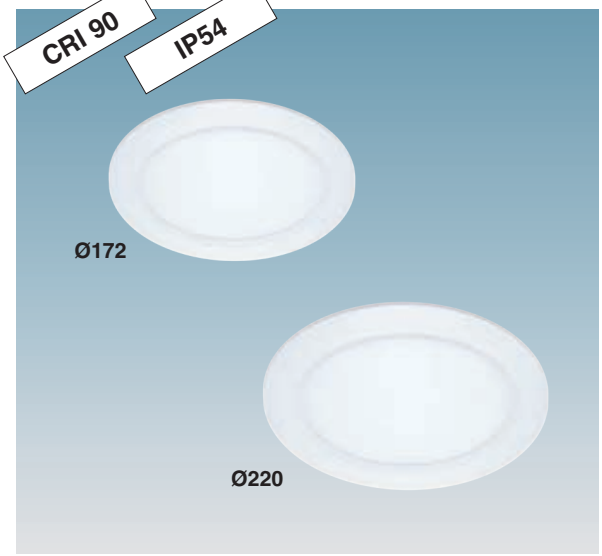
Equipment: equipped with galvanised steel support brackets, with housing for springs for attachment to the false ceilings.

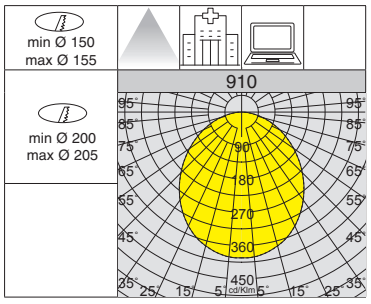
LED: power factor ≥0.9.
Luminous flux maintenance 80%: 50.000h (L80B20).



v.a. IP20 IK07
v.l. IP54 IK07









L80 B20 50.000h

RG0

U.V.

LOW FLICKER

3000K

4000K

910 Health						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	W tot	K - ølm - CRI
LED	white	0.50	172	156471-00	**16**	4000K - 1700lm - **CRI 90**
				156471-39		3000K - 1581lm - **CRI 90**
LED	white	0.60	220	156470-00	**22**	4000K - 2640lm - **CRI 90**
				156470-39		3000K - 2455lm - **CRI 90**



GENERAL CHARACTERISTICS

Housing: pressed steel with anodized extruded aluminium frame.

Diffuser: protective 4-mm thick tempered glass.

Dark light louvre: double parabolic louvres, lengthwise and crosswise in high-gloss, in anodised 2mm thick matt aluminium. Anti-glare and anti-iridescence, very low luminance.

Coating: white epoxy-polyester powder, UV stabilized for aseptic environments.

Equipment: supplied with frame and gasket.

Installation: unsuitable for mounting in non-inspectionable false ceilings.

LED: Power factor ≥0.9.
Luminous flux maintenance 80%: 50.000h (L80B20).

L80 B20 50.000h

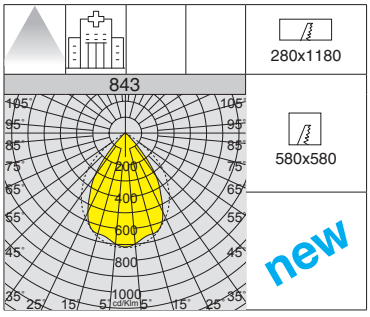
RG0

+30 C° -25

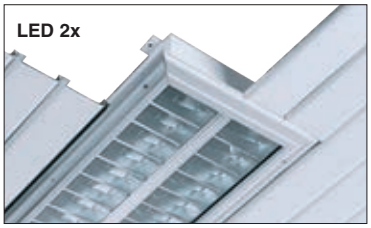
U.V.

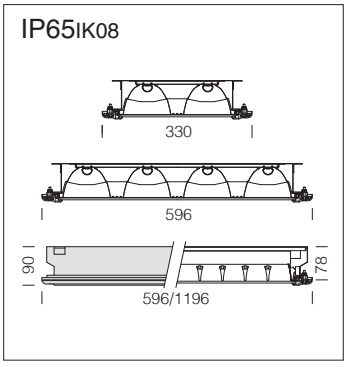
DARK 65%<500 LIGHT

UGR <19





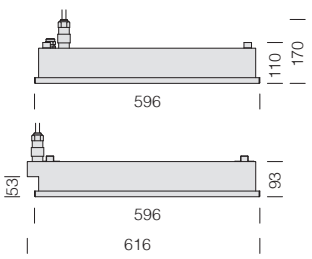




843 Ermetica - matt louvre + glass

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED 2x	anodis.	11.00	1196	152081-00	**48**	4000K - 3985lm - **CRI 90**
LED 4x		10.00	596	152080-00	**38**	4000K - 2944lm - **CRI 90**

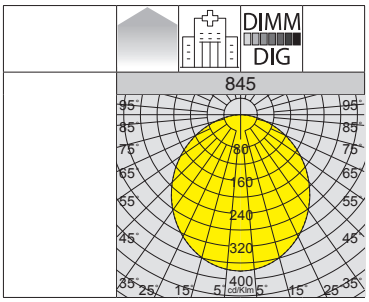
IP65IK06



Housing: in sheet steel, contact mounting on the cross T structure.

LED: luminous flux maintenance 80%; 50.000h (L80B20).
Power factor ≥0.95.





L80 B20 50.000h

RG0

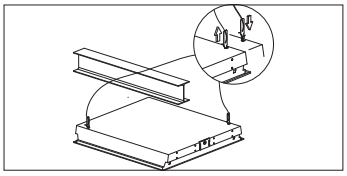
LOW FLICKER



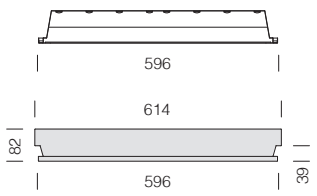
Equipment: complete with insulation connector for quick installation with **no need to open the fixture.**

845 Comfort Panel - IP65 - for aseptic environments						
		CLD		CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W	K - ølm - CRI
LED	white	6.90	150221-00	150221-0041	**35**	4000K - 3663lm - CRI 80

acc. 320 safety cord
998004-00
Steel safety cord.

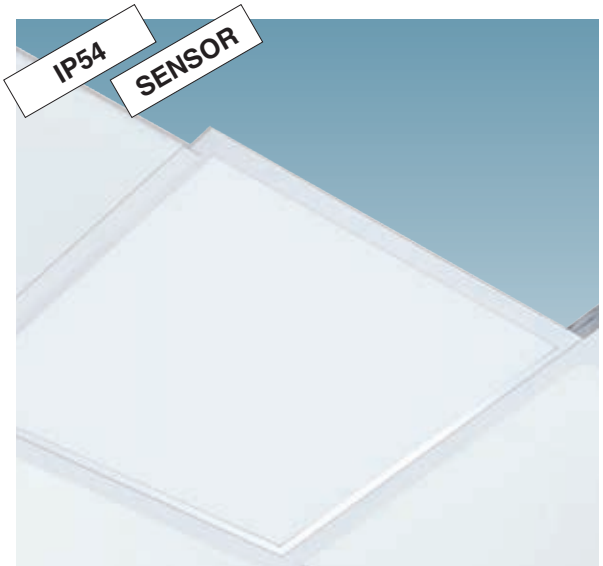


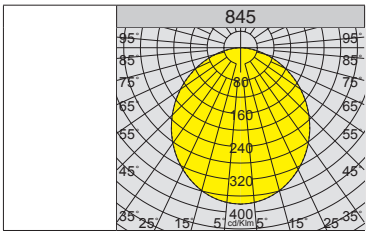
v.a.IP20IK06
v.l. IP54IK06



Housing: in sheet steel, contact mounting on the cross T structure.

LED: luminous flux maintenance 80%; 50.000h (L80B20).
Power factor ≥0.95.





L80 B20 50.000h

RG0

EM

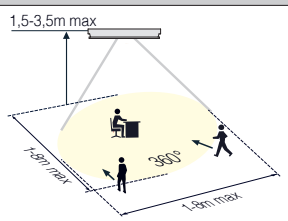
LOW FLICKER

Built-in RADAR SENSOR (sub-code -19 at an extra price): is an automatic sensor that immediately sense the presence of people's movements and anyone walking past. When there is movement within the sensor's detection range, the light will remain ON. When no further movement is detected, the light will switch OFF after a pre-set time.



Comfort Panel is available in Tunable White and HCL version (For more info, go to www.disano.it).

845 Comfort Panel							
		CLD		CLD E	CLD (radar sensor)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	code	W tot	K - ølm 150mA - CRI
LED	white	3.00	150220-00	150220-07 (60 min.)	150220-19	**35**	4000K - 3663lm - CRI 80

RADAR SENSOR ON-OFF - TECHNICAL SPECIFICATIONS					
Power source	220-240V AC - 50/60 Hz	**Installing height**	ceiling: 1,5-3,5 m		**Default settings:** **Detection distance: 8m** **Ambient light: 2000lux** **Hold time: 6 min**
High frequency	5,8GHz CW Radar, ISM band - 0,2 - <10 mW	**Rated Load (resistive)**	1200 W		
Detection area	ceiling: 360°	**Rated Load (inductive)**	300 W		
Detection distance (adjustable)	ceiling: Ø 1-8 m	**Power consumption**	<0,9 W		**N.B.: contact our customer service for setups other than the ones suggested.**
Detection motion speed	0,6-1-1,5 m/s	**Hold time (choice)**	min: 10sec (± 3 sec.) max: 12min (±1 min.)		



GENERAL CHARACTERISTICS

The Disanlens ceiling fixture is the ideal solution to ensure maximum visual comfort in places like **classrooms** and offices that require optimal lighting distribution.

Housing: in pre-coated and pre-galvanized sheet; ABS white thread ends with vandal-proof closure system.

Diffuser: in polycarbonate with micro-prismatic finish surface to control lighting distribution.

Equipment: complete with inlet cable gland and spacers to mount the fixture to the ceiling or wall..

LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.9.
Photobiological safety class: exempt group.

OTHER CHARACTERISTICS

End caps with drop-out prevention/ vandal-proof screws.



DIMM DIG

Standard version **CLD D-D (DALI)** wiring with **subcode -0041:** thanks to pre-programmed settings or a software programme, this type of wiring allows accurate light emission dimming.

OTHER INFORMATION

UGR <19

The UGR (unified glare rating) is an international unified measure developed by the CIE (Commission International de l'Eclairage) to assess the direct glare generated by a lighting system. The European standard regulating the lighting of indoor work places (**UNI-EN 12464-1**) recommends a specific UGR value for different applications ranging between **10 and 30**; **the lower the UGR value, the lower the glare**. The exact value of this index differs by project type because it depends on the position of the luminaires, room characteristics (dimensions, reflections) and on the point of observation of viewers.

LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

UPON REQUEST

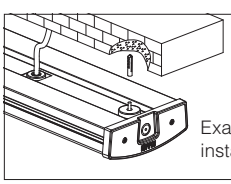
EM

EM version subcode -07: only for fixtures in lengths from 1158 mm to 1440 mm.

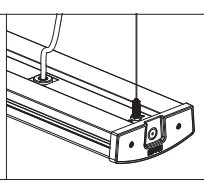
*IP43IK06: **on request** version for ceiling installation.

Built-in RADAR SENSOR (sub-code -19 at an extra price): is an automatic sensor that immediately sense the presence of people's movements and anyone walking past. When there is movement within the sensor's detection range, the light will remain ON. When no further movement is detected, the light will switch OFF after a pre-set time.

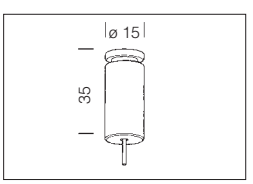
INSTALLATION AND ACCESSORIES



Example ceiling installation.

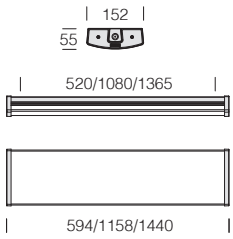


Example of suspended installation with simple suspension acc. 2518.

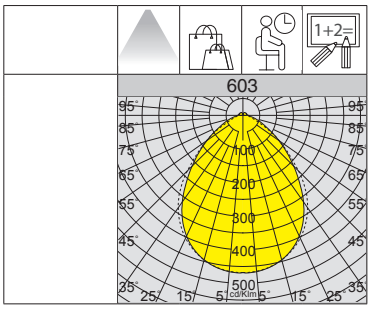


acc. 2518 simple suspension	
galvanized	994019-00
Suspension supplied with steel wire, 1.75 m long with millimetric adjustment. Max load: 20 kg.	

*IP40IK06





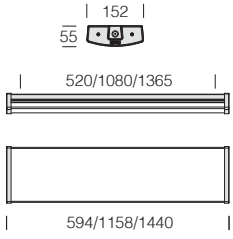


L80 B20 50.000h
RG0
LOW FLICKER
DIMM DIG
UGR <19

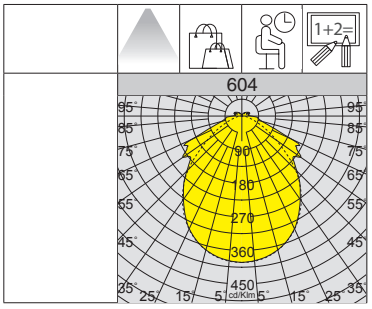
603 Disanlens - UGR<19

			CLD		CLD (radar sensor)	CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	L	weight	code	code	code	W tot	K - ølm - CRI
LED	white	594 mm	1.50	115520-00	115520-19	115520-0041	**12**	4000K - 1500lm - CRI 80
		1158 mm	2.80	115521-00	115521-19	115521-0041	**23**	4000K - 3000lm - CRI 80
		1440 mm	2.90	115522-00	115522-19	115522-0041	**37**	4000K - 4753lm - CRI 80

*IP40IK06







L80 B20 50.000h
RG0
LOW FLICKER

604 Disanlens

			CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	L	weight	code	W tot	K - ølm - CRI
LED	white	594 mm	1.50	115532-00	**12**	4000K - 1513lm - CRI 80
		1158 mm	2.80	115534-00	**23**	4000K - 3026lm - CRI 80
		1440 mm	2.90	115535-00	**37**	4000K - 4795lm - CRI 80



GENERAL CHARACTERISTICS

Housing: in sheet steel, pressed in one piece.

Reflector: in steel, white, UV-stabilised.

Diffuser: in clear polycarbonate, microprismatic inside, anti-dazzle, vandal resistant and V2 self-extinguishing, UV-stabilised, smooth outside, dustproof.

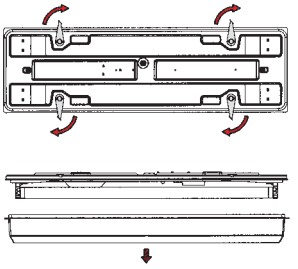
Coating: acrylic anionic electrocoating, white, UV stabilised, upon phosphate treatment.

OTHER CHARACTERISTICS

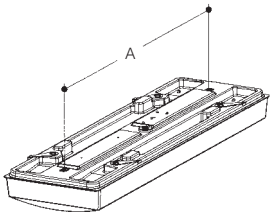
The fixture is made with first-choice polycarbonate stabilised against UV light. It has been treated to eliminate glare without affecting performance. Polycarbonate with excellent diffusion coefficient and lighting transmission.

INSTALLATION

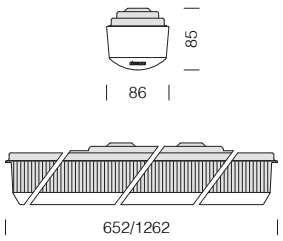
Ceiling fixture length:
1x10= 86 x 652
2x10= 200 x 665
1x16= 86 x1262
2x16= 200 x1273
2x24= 200 x1573



Spacing for ceiling mounting (A):
1x10= 400 mm
2x10= 550 mm
1x16= 740 mm
2x16= 1080 mm
2x24= 1080 mm



IP40 IK08



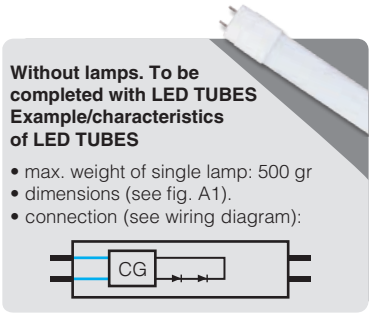
As standard, it comes with lamp holder with G13 connector; it can be installed directly of LED lamp (230VAC).





RG0



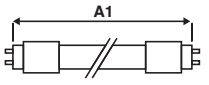


Without lamps. To be completed with LED TUBES Example/characteristics of LED TUBES

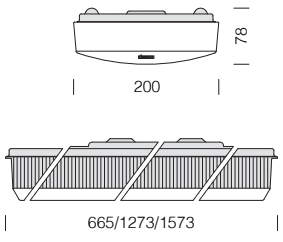
- max. weight of single lamp: 500 gr
- dimensions (see fig. A1).
- connection (see wiring diagram):

601 Disanlens - polycarbonate diffuser

		CLD S			
LED	colour	weight	L	code	W max
LED 1x	white	1.50	652	115570-03	**1x10**
		2.00	1262	115571-03	**1x16**

LED lamp dimensions	
L (mm)	
A1 = 590mm	
A1 = 1200mm	

IP40 IK08



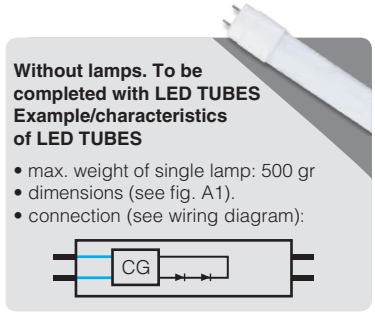
As standard, it comes with lamp holder with G13 connector; it can be installed directly of LED lamp (230VAC).





RG0



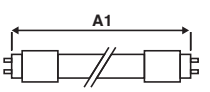


Without lamps. To be completed with LED TUBES Example/characteristics of LED TUBES

- max. weight of single lamp: 500 gr
- dimensions (see fig. A1).
- connection (see wiring diagram):

601 Disanlens - polycarbonate diffuser

		CLD S			
LED	colour	weight	L	code	W max
LED 2x	white	2.10	665	115572-03	**2x10**
		4.00	1273	115573-03	**2x16**
		5.30	1573	115574-03	**2x24**

LED lamp dimensions	
L (mm)	
A1 = 590mm	
A1 = 1200mm	
A1 = 1500mm	



GENERAL CHARACTERISTICS

Housing: in extruded aluminium with closing ends.

Diffuser: in shatter-proof, self-extinguishing and UV-stabilised V2 polycarbonate. Smooth and dust-proof on the outside, and multiple grooves on the inside to increase light distribution.

Coating: smooth, white powder coating.

Equipment: silicone rubber gasket; outer screws in stainless steel.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 50.000h (L80B20).
Photobiological safety class: exempt group.

OTHER CHARACTERISTICS

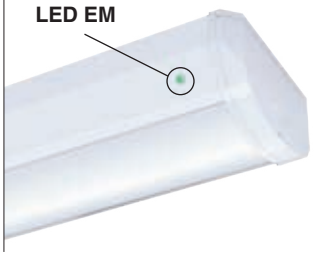
LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

EM

EM: subcode -07

LED EM



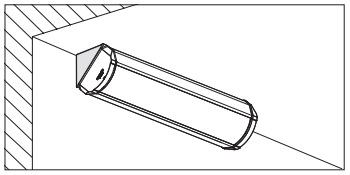
UPON REQUEST

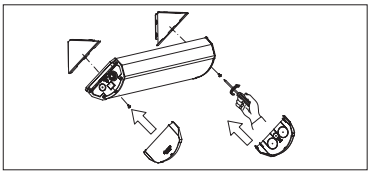
Built-in RADAR SENSOR (sub-code -19): is an automatic sensor that immediately sense the presence of people's movements and anyone walking past. When there is movement within the sensor's detection range, the light will remain ON. When no further movement is detected, the light will switch OFF after a pre-set time.

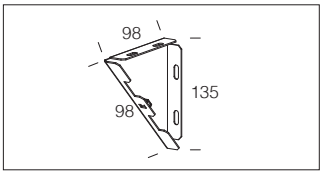


Suitable for mounting in continuous line with **sub-code -0072**.

INSTALLATION AND ACCESSORIES

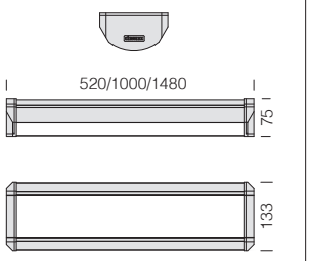


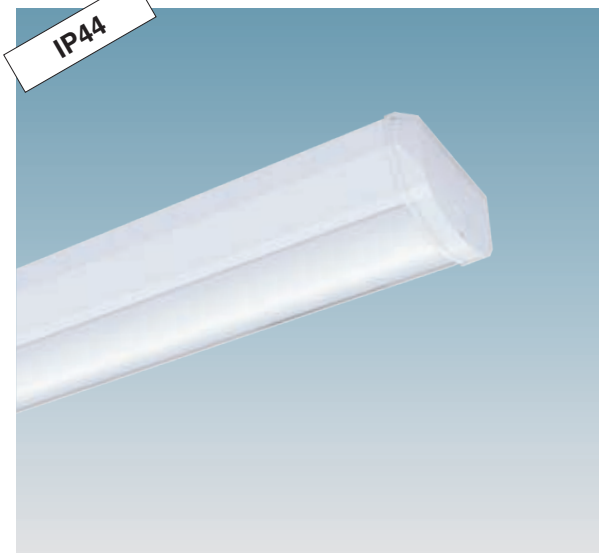


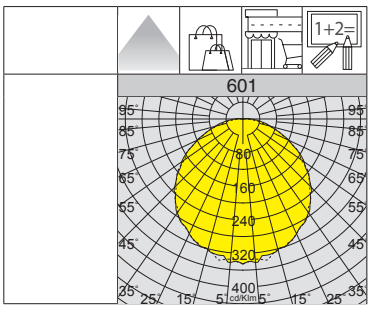


acc. 588 bracket
993971-00
Bracket for wall mounting. 2-pc set.

IP44IK06







L80 B20 50.000h

RG0

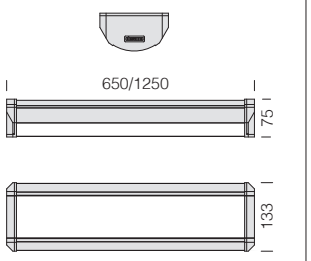
EM

U.V.

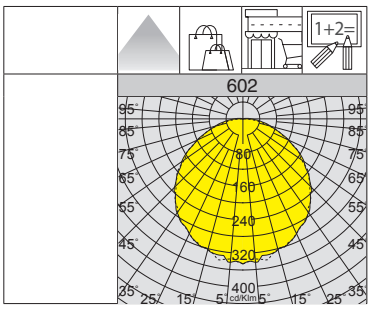
LOW FLICKER

601 Disanlens							
			CLD		CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	L	weight	code	code	W tot	K - ølm - CRI
LED	white	520 mm	1.50	115594-00	115594-07	**15**	4000K - 1947lm - CRI 80
		1000 mm	2.70	115595-00	115595-07	**29**	4000K - 3894lm - CRI 80
		1480 mm	3.90	115596-00	115596-07	**43**	4000K - 5517lm - CRI 80
Upon request version with built-in radar sensor **(subcode -19)**.							

IP20IK06







L80 B20 50.000h

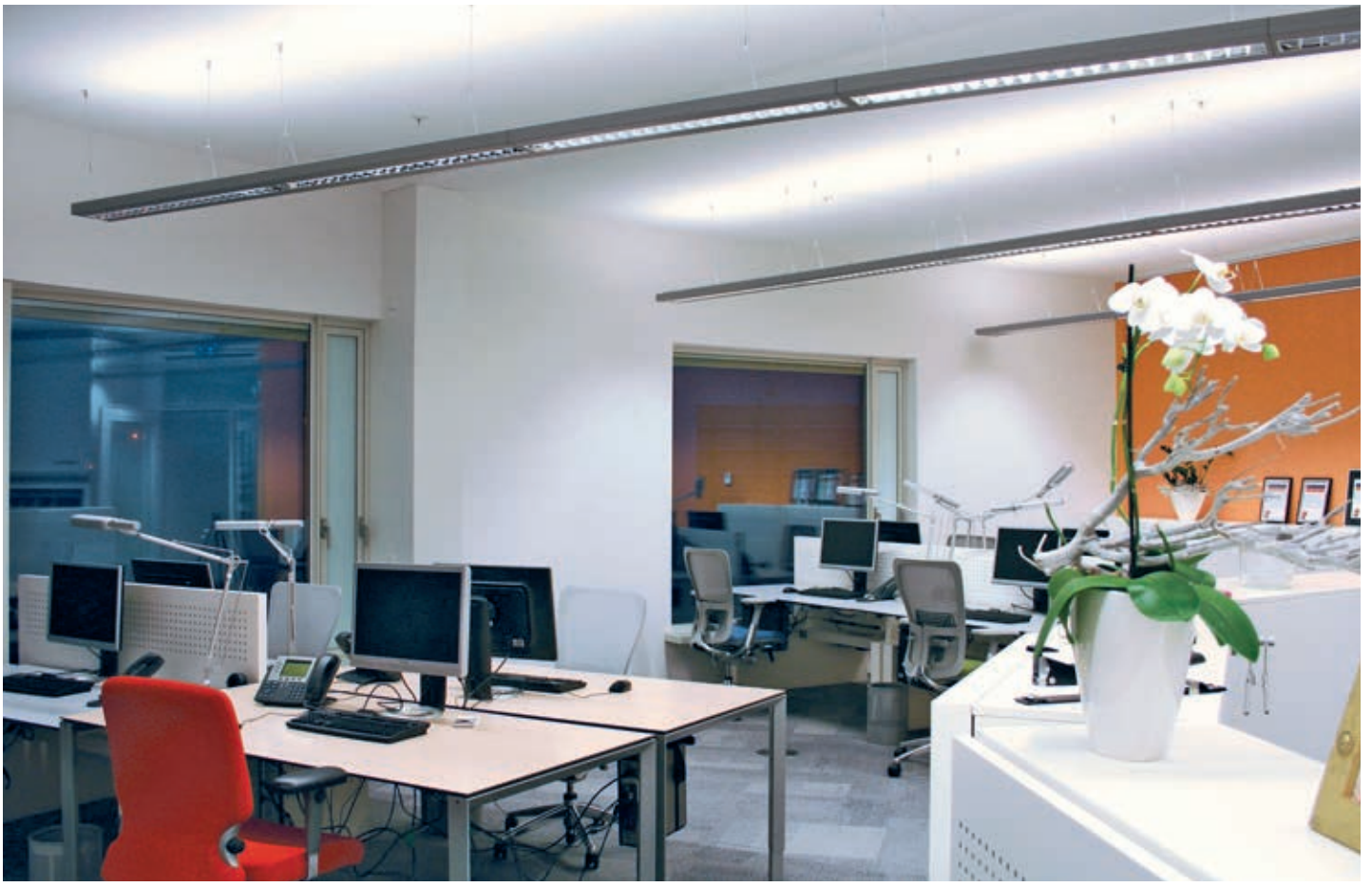
RG0

EM

U.V.

LOW FLICKER

602 Disanlens							
			CLD		CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	L	weight	code	code	W tot	K - ølm - CRI
LED	white	600 mm	1.50	115597-00	115597-07	**15**	4000K - 1720m - CRI 80
		1200 mm	2.70	115598-00	115598-07	**30**	4000K - 3440m - CRI 80
Upon request version with built-in radar sensor **(subcode -19)**.							



GENERAL CHARACTERISTICS

Housing: extruded aluminium with die-cast end caps.

Dark light optics: double parabolic louvres, in high-gloss plated aluminium 99.99. Anti-glare and anti-iridescence, very low luminance. PVD treatment to increase light efficiency.

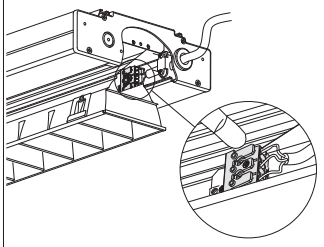
Coating: UV-stabilized polyester resin powder coating.

Standard supply: the snap-on optic unit remains attached by safety cords.

LED: power factor: 0,95
Luminous flux maintenance 80% 50.000h (L80B20).
Photobiological safety class: exempt group.

OTHER CHARACTERISTICS





Quick connection for easy and rapid installation and maintenance.

OTHER INFORMATION

UGR <19

The UGR (unified glare rating) is an international unified measure developed by the CIE (Commission International de l'Eclairage) to assess the direct glare generated by a lighting system. The European standard regulating the lighting of indoor work places (**UNI-EN 12464-1**) recommends a specific UGR value for different applications ranging between **10 and 30**; **the lower the UGR value, the lower the glare**. The exact value of this index differs by project type because it depends on the position of the luminaires, room characteristics (dimensions, reflections) and on the point of observation of viewers.

LOW FLICKER

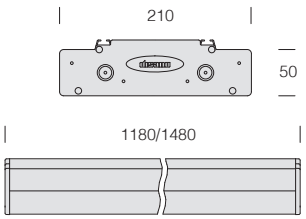
Product with a very low flicker; uniform light for greater eye protection.

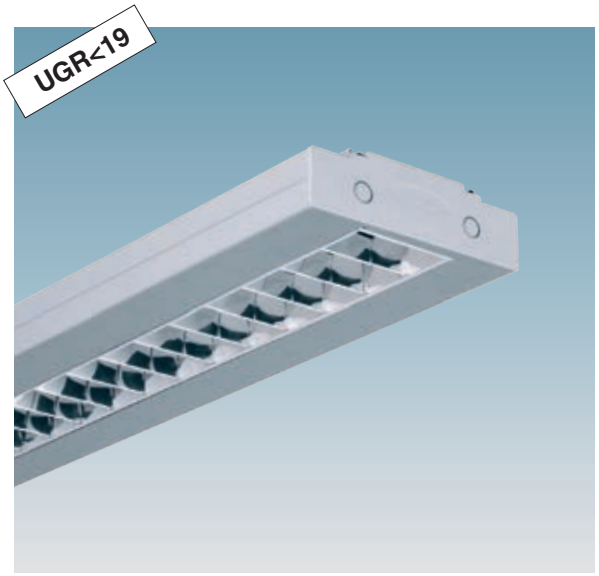
ECONOMIC BENEFITS

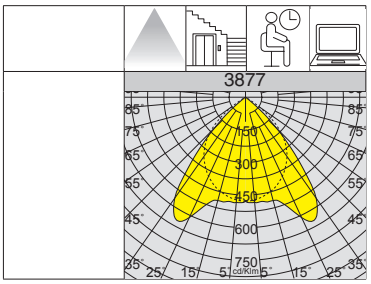


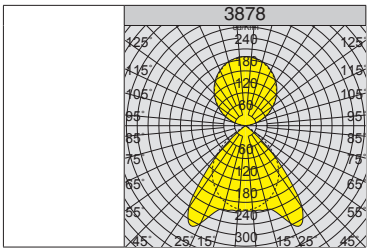
The economic benefits of the new technologies alone are not able to ensure efficiency without the combination of other important advantages. The most significant one concerns the quality of light. New lighting fixtures will make you live and work better. The picture shows how lighting quality is the result of a set of elements connected to visual perception. These elements include visual performance, associated with the level of lighting, glare limitation, visual comfort, which is determined by the correct distribution of light and by a good colour rendering and ambient lighting, which depends on the colour of the light source and on light beam direction. In other words, a good lighting system is one that ensures the right amount of light, without producing glare and where colours can be admired almost as if they were viewed under natural light.

IP20IK07









L80 B20 50.000h

RG0

DARK 65°< 500 LIGHT cd

U.V.

LOW FLICKER

UGR <19

3877 Channel - direct light					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	white	5.00	145170-00	27	4000K - 2681lm - CRI 80
	s. silver		145171-00		
LED	white	5.00	145172-00	34	4000K - 3352lm - CRI 80
	s. silver		145173-00		

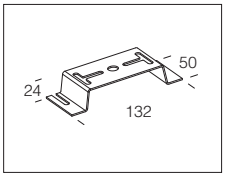
3878 Channel - direct/indirect light					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	white	5.00	145180-00	53	4000K - 5554lm - CRI 80
	s. silver		145181-00		
LED	white	5.00	145182-00	67	4000K - 6943lm - CRI 80
	s. silver		145183-00		

ACCESSORIES

acc. 376 ceiling mounting unit

galvanized	145151-00

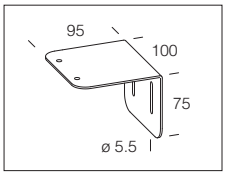
For direct ceiling installation. Only for equipment with direct light. **2 per pack.**



acc. 2291 wall mounting unit

galvanized	143998-00

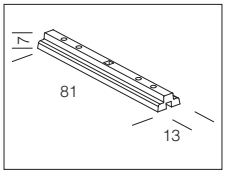
Galvanized sheet steel brackets. To install the lighting fixture directly onto wall surfaces. **2 per pack.**



acc. 2290 linear joint

zama	143997-00

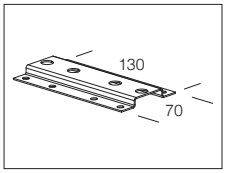
2 per pack.



acc. 2292 reinforcement plate joint

m. silver	143999-00

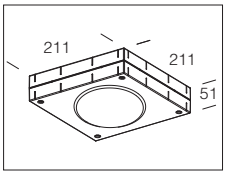
To be used as a steel reinforcement in a continuous line. Be used for the row with 3 suspensions every 2 ceiling lights.



acc. 397 simple cube

s. silver	145098-00
white	145099-00

In die-cast aluminium. To be used with “L”, “T” or “X” joints.

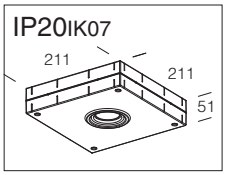


acc. 3875 cube with spotlight

LED	s. silver.	145106-00
	white	145107-00

In die-cast aluminium. To be used with “L”, “T” or “X” joints.

IP20IK07

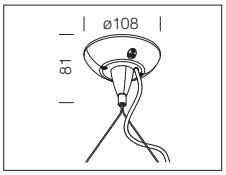


acc. 2513 suspension

m. silver	993917-00

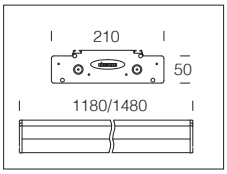
acc. 2514 powered suspension - 3 poles

m. silver	Max load: 20 Kg - Cm 175	993919-00



acc. 395 “S1” module

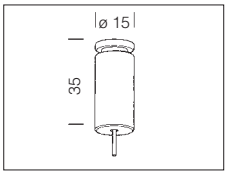
s. silver	1180	145081-00
white		145090-00
s. silver	1480	145082-00
white		145091-00



acc. 2518 simple suspension

galvanized	994019-00

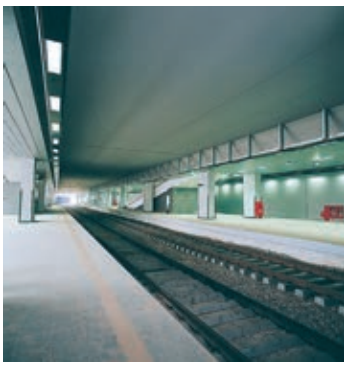
Suspension supplied with steel wire, 1.75 m long with millimetric adjustment. Max load: 20 kg.




1 NON STOP
2 PLACENTIAS
07'00"









GENERAL CHARACTERISTICS

Frame and covers: in power-coated extruded aluminium, UV resistant with stabilised pre-treatment (L=4m max).

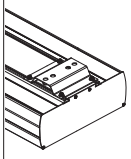
Lighting fixture: in coated metal plate with diffuser holder in power-coated extruded aluminium, UV resistant with stabilised pre-treatment.

Reflector: in pre-anodised aluminium.

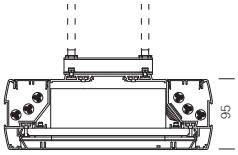
Diffuser: in tempered glass, 5 mm thick, internally sandblasted against direct glare.

Standard ceiling supply: bearing channel, 3 metres long, that can hold two ceiling fixtures. To be completed with end caps as needed. This product enables endless solutions that can be **developed based on design requirements.**

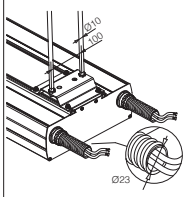
LOAD-BEARING CHANNEL SUITABLE FOR LIGHTING IN UNDERGROUND TRANSPORT SYSTEMS, AIRPORTS, RAILWAY STATIONS, LARGE AREAS, ETC. TO DEVELOP ON PLAN.



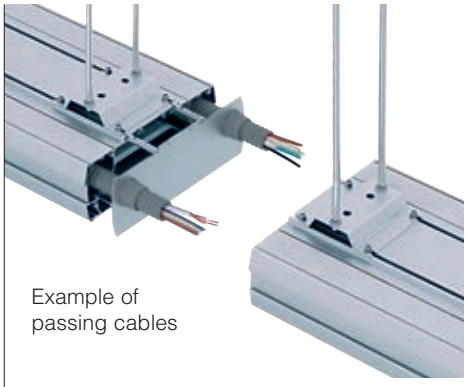
Ceiling installation



Suspension installation



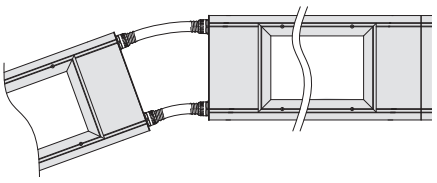
These fixtures are load-bearing modules, containing appropriate compartments for the installation of wired broadcasting, electric, telephone cables...



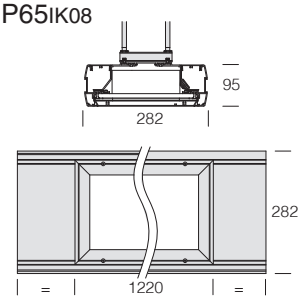
Example of passing cables



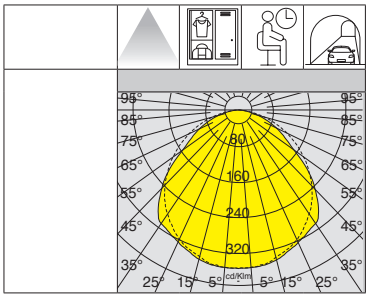
L = the module's length is according to customer's request.
Note: in part "S", option to install loudspeakers or different accessories.



IP40IK08
IP65IK08













Cometa			
			LED (tj= 25 °C)
LED	colour	W	K - ølm 116mA - CRI
LED	silver	**56**	4000K - 5600lm - CRI≥80



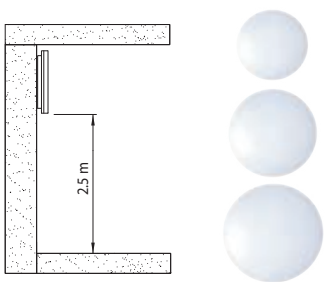




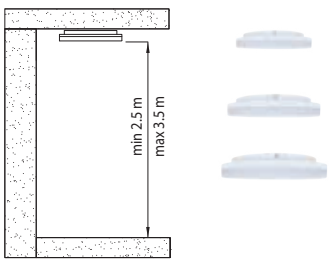
Upon request: Oblò 2.0 with shielded diffuser that minimizes direct glare and creates amazing light effects.

GENERAL CHARACTERISTICS

Housing: vandal-resistant, self-extinguishing polycarbonate.
Diffuser: In clear polycarbonate, anti-dazzle, vandal resistant.
LED: power factor >0.9.
Luminous flux maintenance 80%: 33.000h (L80B20).



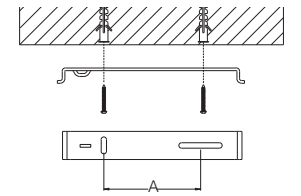
Wall installation.

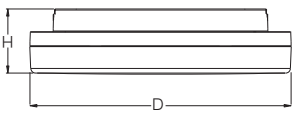


Ceiling installation.

OTHER CHARACTERISTICS





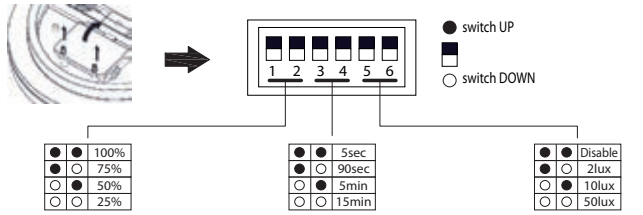


D	H	A
220mm	55mm	76±14mm
280mm	55mm	80±14mm
330mm	55mm	90±20mm

Equipment: supplied with bracket for ceiling/wall installation.

OTHER INFORMATION

Built-in RADAR SENSOR (sub-code -19): is an automatic sensor that immediately sense the presence of people's movements and anyone walking past. When there is movement within the sensor's detection range, the light will remain ON. When no further movement is detected, the light will switch OFF after a pre-set time.

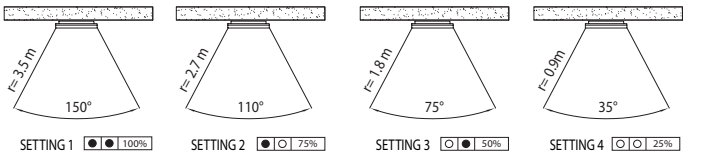


DETECTION AREA: is the area scanned by the sensor. It can be adjusted for specific applications by combining DIP switches.

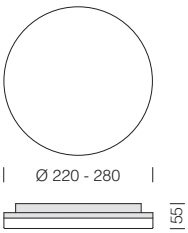
HOLD-TIME: is the period of time the light will stay ON after the sensor has been triggered.

DAYLIGHT THRESHOLD: Daylight sensor takes priority over the motion sensor. Set threshold according to specific needs. Disable it to allow motion detection only.

Examples of possible detection area setups (150°-110°-75°-35°) and related detection distances (r=3.5m-2.7m-1.8m-0.9m)

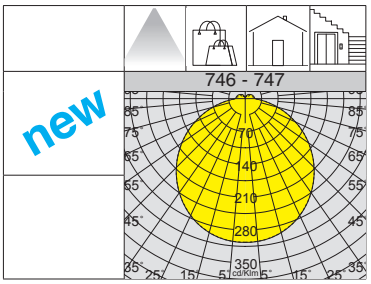


IP65 IK07



Upon request version with:
• emergency wiring with centralized power supply **CLD EC** with **sub-code -0050.**





L80 B20 33.000h

RG0

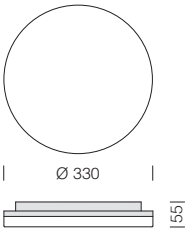
3000K

4000K

746 - Oblò 2.0 - Ø220						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø mm	code	W tot	K - ølm - CRI
LED	white	0.60	220	112626-00	**15**	4000K - 1444lm - CRI 83
				112626-39		3000K - 1328lm - CRI 83

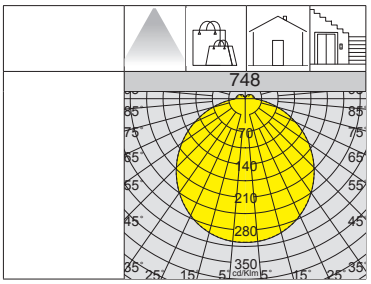
747 - Oblò 2.0 - Ø280							
		CLD			CLD sensor (ON-OFF)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø mm	code	code	W tot	K - ølm - CRI
LED	white	0.80	280	112636-00	112636-19	**16**	4000K - 1930lm - CRI 83
				112636-39	112636-1928		3000K - 1774lm - CRI 83

IP65 IK07



Upon request version with:
• emergency wiring with centralized power supply **CLD EC** with **sub-code -0050.**





L80 B20 33.000h

RG0

3000K

4000K

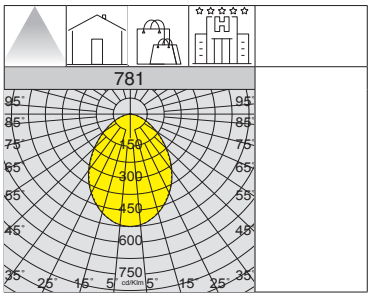
748 - Oblò 2.0 - Ø330							
		CLD			CLD sensor (ON-OFF)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø mm	code	code	W tot	K - ølm - CRI
LED	white	1.00	330	112646-00	112646-19	**24**	4000K - 2780lm - CRI 83
				112646-39	112646-1928		3000K - 2555lm - CRI 83

L80 B20 80.000h

RG0

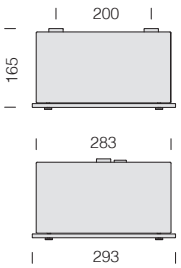
U.V.

DIMM





IP40IK04



GENERAL CHARACTERISTICS

Housing: in sheet steel.

Diffuser: glass.

Coating: with white acrylic powder, colour white, UV-stabilized, upon phosphate treatment.

LED: luminous flux maintenance 80%: 80.000h (L80B20).
Power factor >0,9.

781 Compact					
		CLD D (IGBT)			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	white	3.60	156301-00	**14**	4000K - 1262lm - CRI≥80

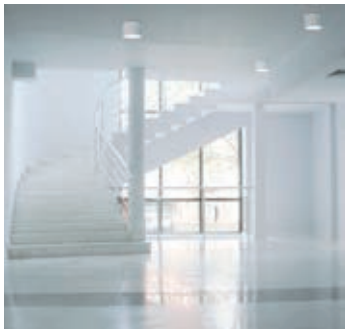
781 Compact - with SENSOR					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	white	3.60	156301-19	**21**	4000K - 1262lm - CRI≥80
Version with **built-in sensor** for presence detection and gradual luminosity control.					

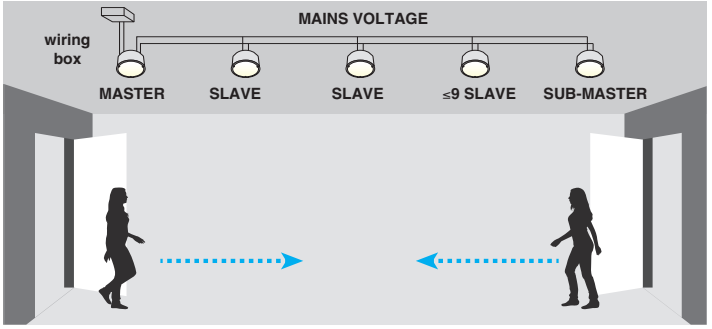
Built-in RADAR SENSOR (sub-code -19): is an automatic sensor that immediately sense the presence of people's movements and anyone walking past. When there is movement within the sensor's detection range, the light will remain ON. When no further movement is detected, the light will switch OFF after a pre-set time.

781 Compact - MASTER					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	white	3.60	156301-0024	**21**	4000K - 1262lm - CRI≥80
Always use with art. 781 in the SLAVE version (with subcode **0096**) to control up to 10 luminaires.					

781 Compact - SLAVE					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	white	3.60	156301-0096	**21**	4000K - 1262lm - CRI≥80

FEATURES MASTER/SLAVE:
Master/Slave interface: to control up to max. 11 fixtures (tot. power 230W).
Example of standard installation:
1 MASTER + 10 SLAVES
Example of mixed installation:
2 MASTERS (one of which serves as the SUB-MASTER) + 9 SLAVES
(Note: this type of installation can accept 1 MASTER and up to max. 3 SUB-MASTERS)

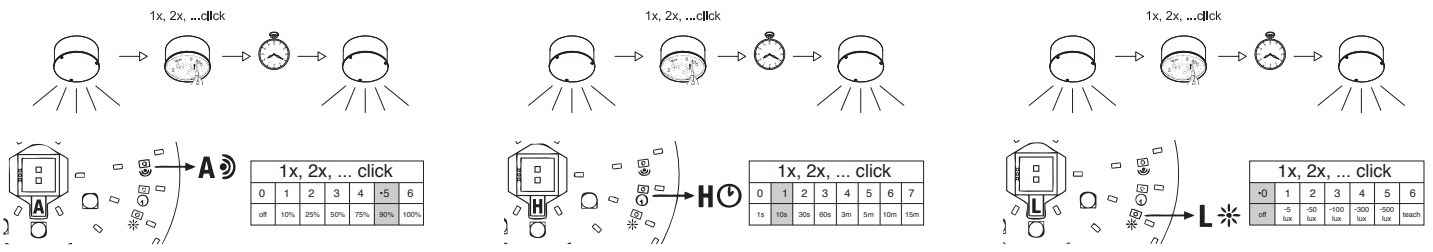




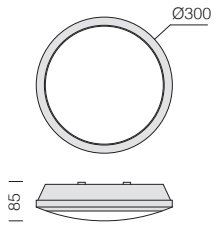
ADVANTAGES:
- High reliability
- Easy to use
- Built-in power supply
- High energy efficiency

APPLICATIONS:
- Corridors, stairs, entrances
- Public spaces: hotels and restaurants
- Public buildings and offices
- Service areas: garages and warehouses

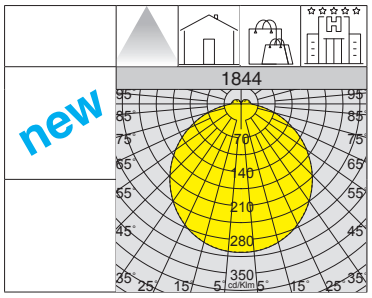
Sensor sensitivity, timer and twilight switch can be adjusted via touch buttons.



IP65IK08







L80 B10 50.000h

RG0

U.V.

EM

Upon request: versions available in different colours and surface finishes to coordinate with any architectural design.



CORTEN RAL 8015 GREY RAL 8015 SILVER RAL 9006

GENERAL CHARACTERISTICS

Housing: vandal resistant, self-extinguishing, UV-stabilised anti-yellowing polycarbonate and and external finishing ring in ABS.

Diffuser: vandal resistant, self-extinguishing, UV-stabilised anti-glare polycarbonate; dustproof.

LED: luminous flux maintenance 80%: 50.000h (L80B10).
Power factor: ≥0,9.

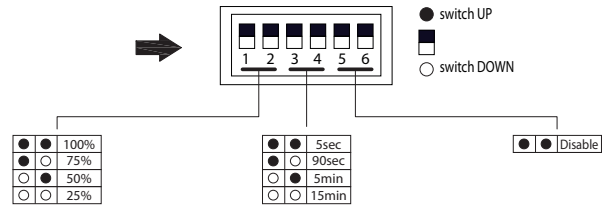
1844 Globo 2.0

		CLD		CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	white	0.90	427249-00	427249-07	14	4000K - **2100lm** - CRI 83
			427249-39	427249-0728		3000K - **1953lm** - CRI 83

Built-in RADAR SENSOR (sub-code -19): is an automatic sensor that immediately sense the presence of people's movements and anyone walking past. When there is movement within the sensor's detection range, the light will remain ON. When no further movement is detected, the light will switch OFF after a pre-set time.

1844 Globo 2.0 - with SENSOR

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	white	0.90	427249-19	14	4000K - **2100lm** - CRI 83
Version with **built-in sensor** for presence detection and gradual luminosity control.					



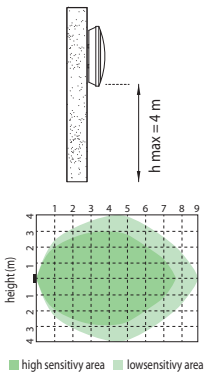
DETECTION AREA: is the area scanned by the sensor. It can be adjusted for specific applications by combining DIP switches.

HOLD-TIME: is the period of time the light will stay ON after the sensor has been triggered.

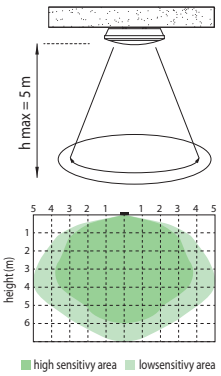
DAYLIGHT THRESHOLD: Disable, motion detection only.



Wall installation.



Ceiling installation.



Factory settings: Detection distance: 8m - Hold time: 5sec			
Power	220-240V AC 50/60 Hz	**Mounting height**	wall: 4m ceiling: 5 m
Frequency	5,8GHz CW Radar, ISM band - 0,2 - <10 mW	**Nominal load**	800 W (resistive) 400 W (inductive)
Detection area	ceiling: 30°-150°	**Energy consumption**	<0,5 W
Detection distance (adjustable)	ceiling: Ø 1-8 m	**Hold Time (adjustable)**	5s, 90s, 5min., 15min.





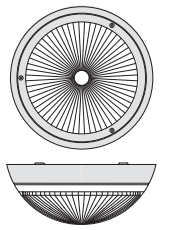
As standard, designed to fit LED lamp with E27 connector.





1544 Globo			
		CLD S	
LED	colour	weight	code
LED (LAMP E27)	grey	0.70	427246-00

IP65IK08

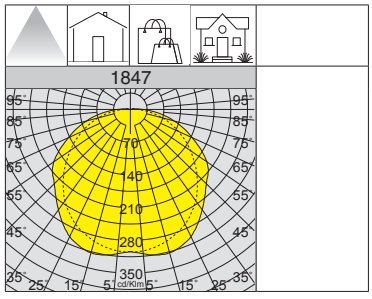


GENERAL CHARACTERISTICS

Housing: vandal resistant, self-extinguishing, UV-stabilised.

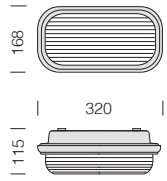
Diffuser: vandal resistant, V2 self-extinguishing, UV-stabilised clear polycarbonate, dust-proof outside.







IP65IK08



GENERAL CHARACTERISTICS

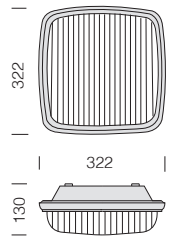
Housing: vandal resistant, self-extinguishing, UV-stabilised anti-yellowing polycarbonate.

Diffuser: vandal resistant, V2 self-extinguishing, UV-stabilised anti-glare polycarbonate.

LED: power factor: ≥0,85.
Luminous flux maintenance 80%: 50.000h (L80B20).

1847 Orma						
		CLD		CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	grey	1.50	427542-00	427542-07	**9**	4000K - 954lm - CRI≥80

IP65IK08









L80 B20 50.000h

RG0

EM

GENERAL CHARACTERISTICS

Housing: vandal resistant, self-extinguishing, UV-stabilised anti-yellowing polycarbonate.

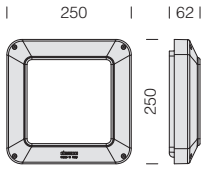
Diffuser: vandal resistant, V2 self-extinguishing, UV-stabilised anti-glare polycarbonate, dust-proof outside.

LED: power factor: ≥0,85.
Luminous flux maintenance 80%: 50.000h (L80B20).

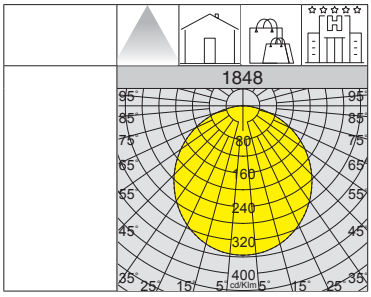
1845 Cubo

		CLD		CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	grigio	1.50	427445-00	427445-07	**9**	4000K - 954lm - CRI≥80

IP65IK06









L80 B20 50.000h

RG0

U.V.

EM

GENERAL CHARACTERISTICS

Housing: In die-cast aluminium.

Diffuser: in opal methacrylate anti-glare polycarbonate; dustproof.

LED: power factor: ≥0,92.
Luminous flux maintenance 80%: 50.000h (L80B20).

UNI EN ISO 9227 Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

1848 Riquadro - luxury

		CLD		CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	s. silver	3.00	427552-00	427552-09	**9**	4000K - 1032lm - CRI 80



GENERAL CHARACTERISTICS

Housing: in extruded aluminium with ABS end caps.

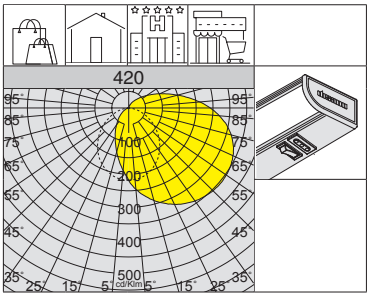
Diffuser: in opal polycarbonate, fluted inside, smooth on the outside, dust-proof, UV stabilized.

LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0,9.

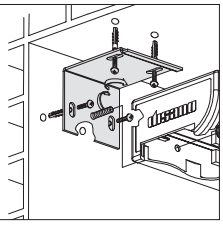
L80 B20 50.000h

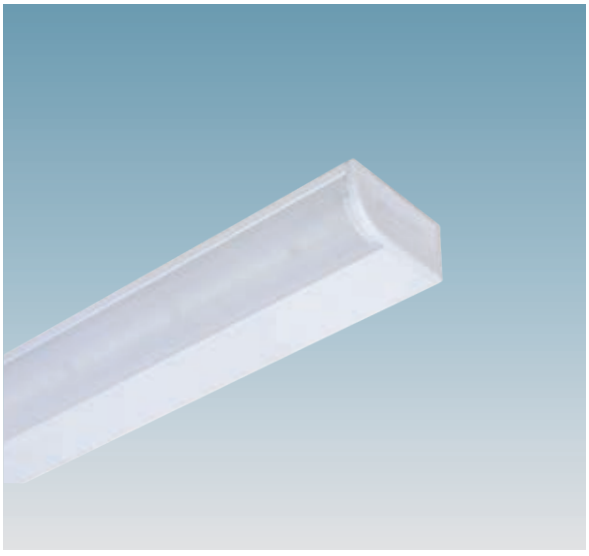
RG0

U.V.

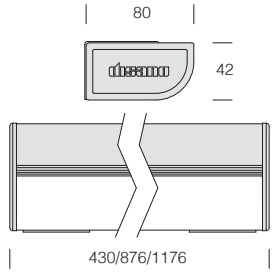


Supplied with brackets for wall or ceiling mounting.





IP43IK08

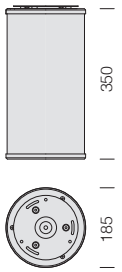


420 Rigo

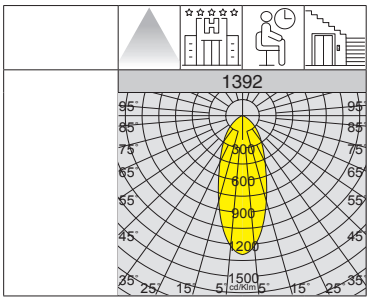
			CLD		CLD with switch	CLD with socket & switch		LUMEN OUTPUT (tq= 25 °C)
LED	colour	L	weight	code	code	code	W tot	K - ølm - CRI
LED	white	430 mm	1.50	214565-00	214565-54	214565-92	**8**	4000K - 833lm - CRI≥80
		876 mm	2.00	214566-00	214566-54	214566-92	**18**	4000K - 1906lm - CRI≥80
		1176 mm	2.50	214567-00	214567-54	214567-92	**28**	4000K - 2858lm - CRI≥80

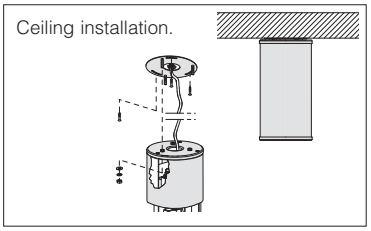
The lighting fixtures equipped with switch and/or socket have an IP20 protection rate.

IP65IK08









L80 B20 50.000h

RG0

U.V.

GENERAL CHARACTERISTICS

Housing: die-cast aluminium.

Reflector: 99.85 aluminium, oxidised and polished.

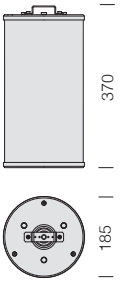
Diffuser: tempered glass, 4 mm thick, shock and heat resistant.

LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0,9.

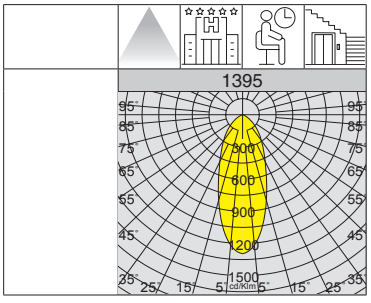
1392 Cilindro 4 - ceiling

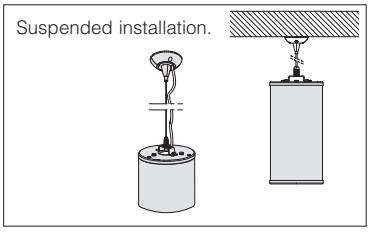
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	grey 9007	6.90	420435-00	**28**	4000K - 1764lm - 25° - **CRI 90**

IP65IK08









L80 B20 50.000h

RG0

U.V.

GENERAL CHARACTERISTICS

Housing: die-cast aluminium.

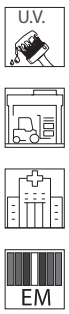
Reflector: 99.85 aluminium, oxidised and polished.

Diffuser: tempered glass, 4 mm thick, shock and heat resistant.

LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0,9.

1395 Cilindro 4 - suspension

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	couleur	weight	code	W tot	K - ølm - CRI
COB	grey 9007	6.90	420436-00	**28**	4000K - 1764lm - 25° - **CRI 90**



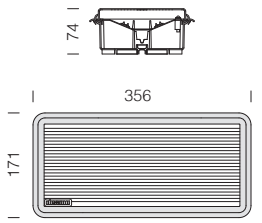




LED: Power factor: ≥0,92.
Luminous flux maintenance 80%: 50.000h (L80B20).



IP65 IK08



GENERAL CHARACTERISTICS

Housing: vandal-resistant, self-extinguishing, UV-stabilized, anti-yellowing grey polycarbonate.

Diffuser: vandal resistant, V2 self-extinguishing, UV-stabilise, anti-glare frosted inside; smooth.

S.E. Emergency (Only emergency): in the event of a black-out the one lamp connected to the back-up circuit ignites, thus avoiding the inconvenience caused by a sudden absence of all light.
Emergency run time: 60/180 minutes. When power is restored, the battery recharges automatically in 12 hours.

S.A. Emergency (Maintained): in the event of a black-out the one lamp connected to the back-up circuit stays on, thus avoiding the inconvenience caused by a sudden absence of all light. When power is restored, the battery recharges automatically in 12 hours.

616 Safety 1h S.E.

		CLD CEM-L		*Auto self-test		LUMEN OUTPUT (tq= 25 °C)	
LED	colour	weight	code	code	autonomy	W tot	K - ølm - CRI
LED	grey	1.00	112535-00	112535-0066	**1h**	**2**	4000K - 139lm - CRI 80

617 Safety 1h S.A.

		CLD CEM-L		*Auto self-test		LUMEN OUTPUT (tq= 25 °C)	
LED	colour	weight	code	code	autonomy	W tot	K - ølm - CRI
LED	grey	1.00	112545-00	112545-0066	**1h**	**8**	4000K - 677lm - CRI 80

618 Safety 3h S.E.

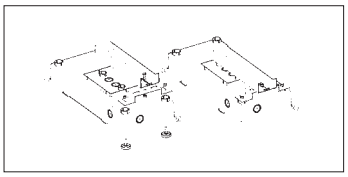
		CLD CEM-L		*Auto self-test		LUMEN OUTPUT (tq= 25 °C)	
LED	colour	weight	code	code	autonomy	W tot	K - ølm - CRI
LED	grey	1.00	112565-00	112565-0066	**3h**	**2**	4000K - 139lm - CRI 80

619 Safety 3h S.A.

		CLD CEM-L		*Auto self-test		LUMEN OUTPUT (tq= 25 °C)	
LED	colour	weight	code	code	autonomy	W tot	K - ølm - CRI
LED	grey	1.00	112575-00	112575-0066	**3h**	**8**	4000K - 677lm - CRI 80

***Auto self-test** (see chapter *Lighting management systems*).

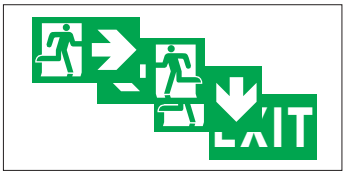
ACCESSORIES AND EXAMPLE OF INSTALLATION



acc. 338 bracket for track

	995226-00

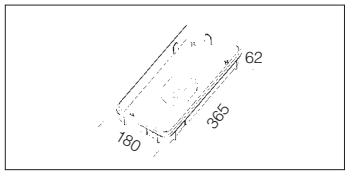
Made of steel. To be used to install art. 616/617/618/619.



acc. 323 labels art. 616/7/8/9

right out	995220-00
left out	995221-00
down out	995222-00
exit	995224-00

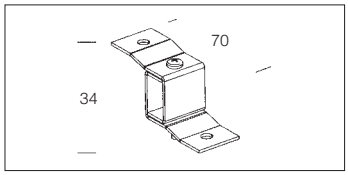
Self-adhesive pictograms available and visible up to 35 m. UNI EN1838



acc. 321 outer shell

black	995210-00

Made in polycarbonate. For recessed installation art. 616/617/618/619.

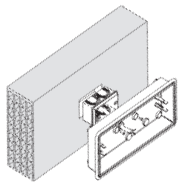


acc. 325 shook/panel bracket

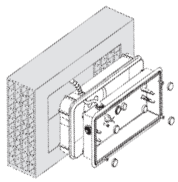
	995225-00

To be used to attach art. 616/617/618/619 to panels or shooks. 2pcs. for pack.

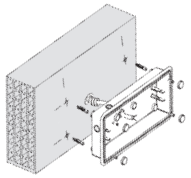
Example of installation art. 616/617/618/619



Recessed box installation

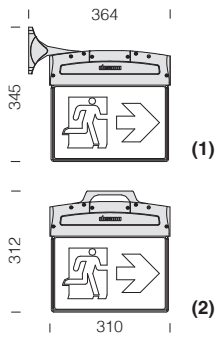


Recessed installation



Wall installation

IP40IK07







U.V.

EM

GENERAL CHARACTERISTICS

Housing: in plastic material.

Diffuser: in transparent plexiglass.

Equipment: supplied with accessories for wall, ceiling or suspended installation.

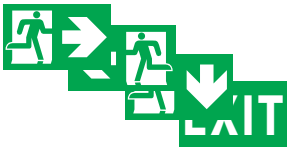
Version: emergency run time: 60/180 minutes. When power is restored, the battery recharges automatically in 12/24h hours.

620 Safety Flag S.A.

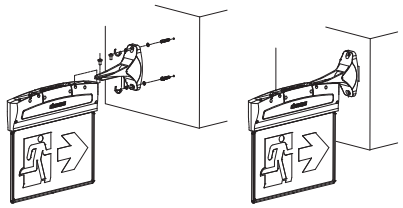
		CLD CEM-L			LED (tj= 25 °C)
LED	colour	weight	code	autonomy	K - CRI
LED	white	1.00	112581-00	**1h**	6000K - CRI>80
			112582-00	**3h**	6000K - CRI>80

ACCESSORIES AND EXAMPLE OF INSTALLATION

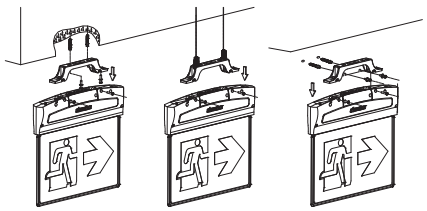
acc. 470 labels for art. 620	
right out	995133-00
left out	995134-00
down out	995135-00
exit	995136-00
Self-adhesive pictograms available and visible up to 37 m. UNI EN1838.	



Example of installation art. 620



Wall installation.



Ceiling or suspended installation





OTTIMA



Ottima p. 68

HYDRO - THEMA

HIGH PERFORMANCE
FS



ICE/HT
HYDRO STYLE



THEMA



MONEY SAVING



Hydro p. 72
high performance p. 74
high performance FS p. 75
ICE/HT p. 76
STYLE p. 77
Thema p. 78
money saving p. 80

ECHO

ENERGY SAVING
3000K - 6500K



HIGH PERFORMANCE
PARKING - FS



RADAR SENSOR
stepDIM



3000K - 6500K
DESIGNED TO FIT LED TUBES



Echo p. 82
energy saving p. 84
3000K/6500K p. 85
parking p. 86
high performance p. 87
FS p. 88
radar sensor stepDIM p. 90
HE - high efficiency p. 92
for LED tubes p. 93

FORMA - STEEL





HE



HT



Forma p. 94

ATEX

ECHO



FORMA



ASTRO

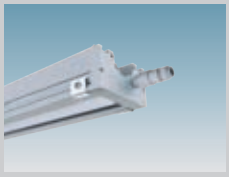


ASTRO



Atex p. 100
Echo p. 102
Forma p. 103
Astro p. 104

RADON
HORTICULTURE



See chapter Horticolture p. 548



GENERAL CHARACTERISTICS

Housing: injection moulded, in grey polycarbonate, shatter-proof, UV-stabilised, highly resistant to mechanical impacts thanks to the reinforced structure with internal ribbing.

Diffuser: transparent polycarbonate injection-moulded diffuser with grooves and internal opaque satin finish for greater lighting diffusion, V2 self-extinguished, UV stabilised, outer smooth finish for easy cleaning and to maximize lighting efficiency. Closure with clamps and stainless steel safety screws.

Reflector: in galvanised steel, previously stone-enamelled with UV-stabilised polyester resin. Clamping device manufactured directly onto the housing.

Standard supply: eco-friendly and anti-aging expanded polyurethane injected gasket. The fixing brackets for ceiling and suspension mounting are in stainless steel.

For installations with direct exposure to sunlight, we recommend using Forma LED.

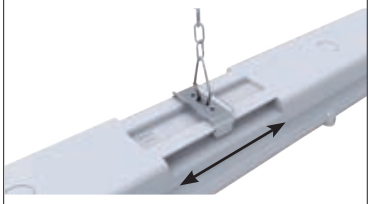
LED: power factor: ≥0,95.

Luminous flux maintenance		
971 high performance	25-34-39-48-53W	L80B20 - 120.000h
	57-61-65 W	L80B20 - 100.000h
974 energy saving		L80B20 - 80.000h

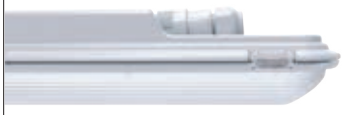
OTHER CHARACTERISTICS



Greater performance
The fixture is made with first-choice polycarbonate stabilised against UV light. It has been treated to eliminate glare without affecting performance. Polycarbonate with excellent diffusion coefficient and lighting transmission.



The stainless steel bracket supplied as standard allows easy and safe installation of the lighting fixture onto the ceiling/wall (with the possibility to adjust the mounting space). **The standard spring loop** allows quick connection to any chain suspension system.



Socket-plug connector. The fixture is secured to the fixing brackets through quick connectors.

OTHER INFORMATION



Self-extinguishing
U.L.94 is a widely accepted USA flammability standard that classifies plastics according to how they burn. The **OTTIMA** fixture is made of **V2** self-extinguishing plastic material: burning stops within **25 seconds**.

Glow wire test
Glow wire tested at 850°C.

ALL LIGHT: no glare. The special surface finish of the diffuser allows light to escape, creating an "all light" effect. The fluted diffuser spreads light evenly without leaving dark areas.



LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

UPON REQUEST

Built-in RADAR SENSOR (sub-code -19): is an automatic sensor that immediately sense the presence of people's movements and anyone walking past

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

1-10V +EM With **1-10V dimmable electronic gear + emergency: subcode -94.**

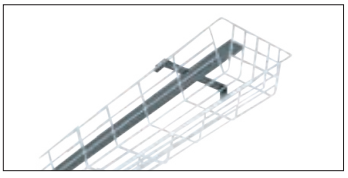
EM EC Version **CLD EC** wiring with **subcode -0050:** permanently mounted fixture, operating in AC/DC mode, with centralized emergency device, not incorporated into the fixture.

ACCESSORIES AND INSTALLATION

acc. 978 wall bracket	
galvanized	998078-00
Made of galvanized steel. For installation of Ottima LED fixtures on walls.	



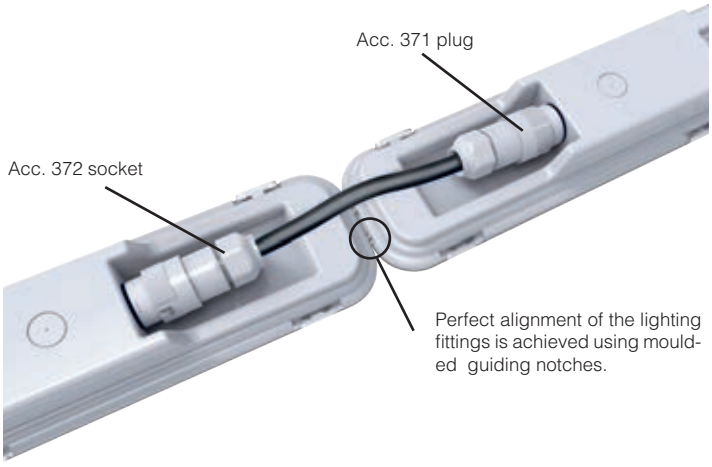
acc. 975 protection guard	
1600mm	165565-00
White plastic-coated steel rod. To be installed directly on the ceiling.	



acc. 6036 universal conn.	
galvanised	132987-00
Made of galvanized steel. To install non-corrosive fixtures on track art. 6000.	



Continuous row with special body
For the installation in continuous row, order the special body with subcode **-0072**; as standard, it is supplied complete with acc. 371 (plug) and acc. 372 (socket). Extra price.
Note: the last fixture of the row must be of the standard type.





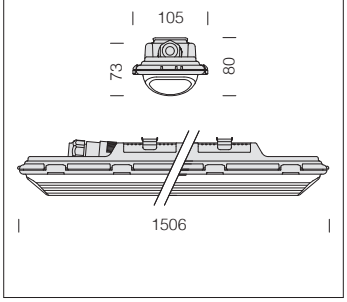
Energy saving: the comparison shows how OTTIMA can save more energy compared to conventional florescent lamps and meet applicable standards. We recommend using LED technology to save energy in environments where lights stay on for a long time.

Fixture	room (m)	LUX	Qtx	P tot W	Energy saving
Ottima - 7400lm (RELAMPING)	40x20x3,5	388	50	1950	**65%**
Ottima - 7400lm (NEW SYSTEM)	40x20x3,5	315	40	1560	**72%**
2X58W CEL	40x20x3,5	324	50	5500	-

Fixture	room (m)	LUX	Qtx	P tot W	Energy saving
Ottima - 7700lm (RELAMPING)	40x20x3,5	404	50	2200	**60%**
Ottima - 7700lm (NEW SYSTEM)	40x20x3,5	328	40	1760	**68%**
2X58W CEL	40x20x3,5	324	50	5500	-

Fixture	room (m)	LUX	Qtx	P tot W	Energy saving
Ottima - 9555lm (RELAMPING)	60x40x6	302	95	5415	**63%**
2X80W CEL	60x40x6	335	95	14820	-

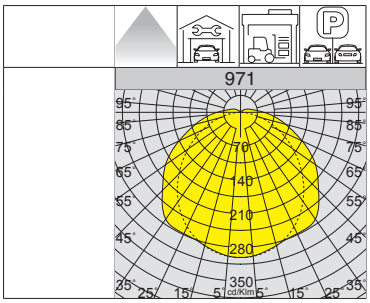
IP66IK08



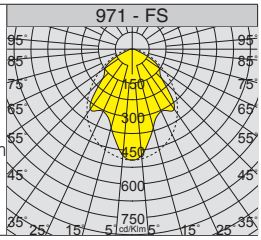
LED: power factor: ≥0,95.
25-34-39-48-53W = luminous flux maintenance 80%: 120.000h (L80B20).

***57-61-65W** = luminous flux maintenance 80%: 100.000h (L80B20).





Upon request: available narrow beam version.



L80 B20 120.000h

+40 C° -30

EM

DIMM DIG

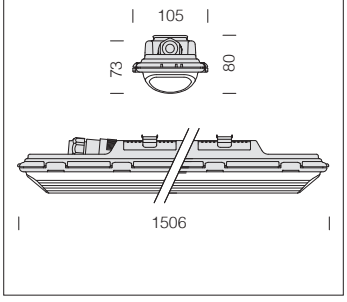
NO

LOW FLICKER

WATER-PROOF

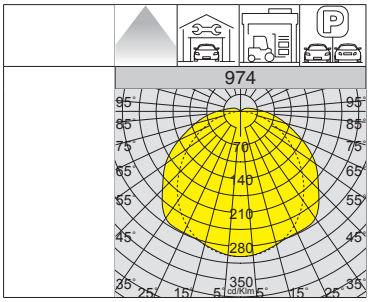
971 Ottima							
		CLD		CLD E	CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	code	W tot	K - ølm - CRI
LED	grey	2,00	164770-00	164770-07	164770-0041	**25**	4000K - 4302lm - CRI≥80
			164777-00	164777-07	164777-0041	**34**	4000K - 6300lm - CRI≥80
			164771-00	164771-07	164771-0041	**39**	4000K - 7400lm - CRI≥80
			164772-00	164772-07	164772-0041	**48**	4000K - 8438lm - CRI≥80
			164773-00	164773-07	164773-0041	**53**	4000K - 9017lm - CRI≥80
			*164774-00	164774-07	164774-0041	**57**	4000K - 9555lm - CRI≥80
			*164775-00	164775-07	164775-0041	**61**	4000K - 10041lm - CRI≥80
			*164776-00	164776-07	164776-0041	**65**	4000K - 10600lm - CRI≥80

IP66IK08



LED: power factor: ≥0,95.
Luminous flux maintenance 80%: 80.000h (L80B20).





L80 B20 80.000h

+40 C° -30

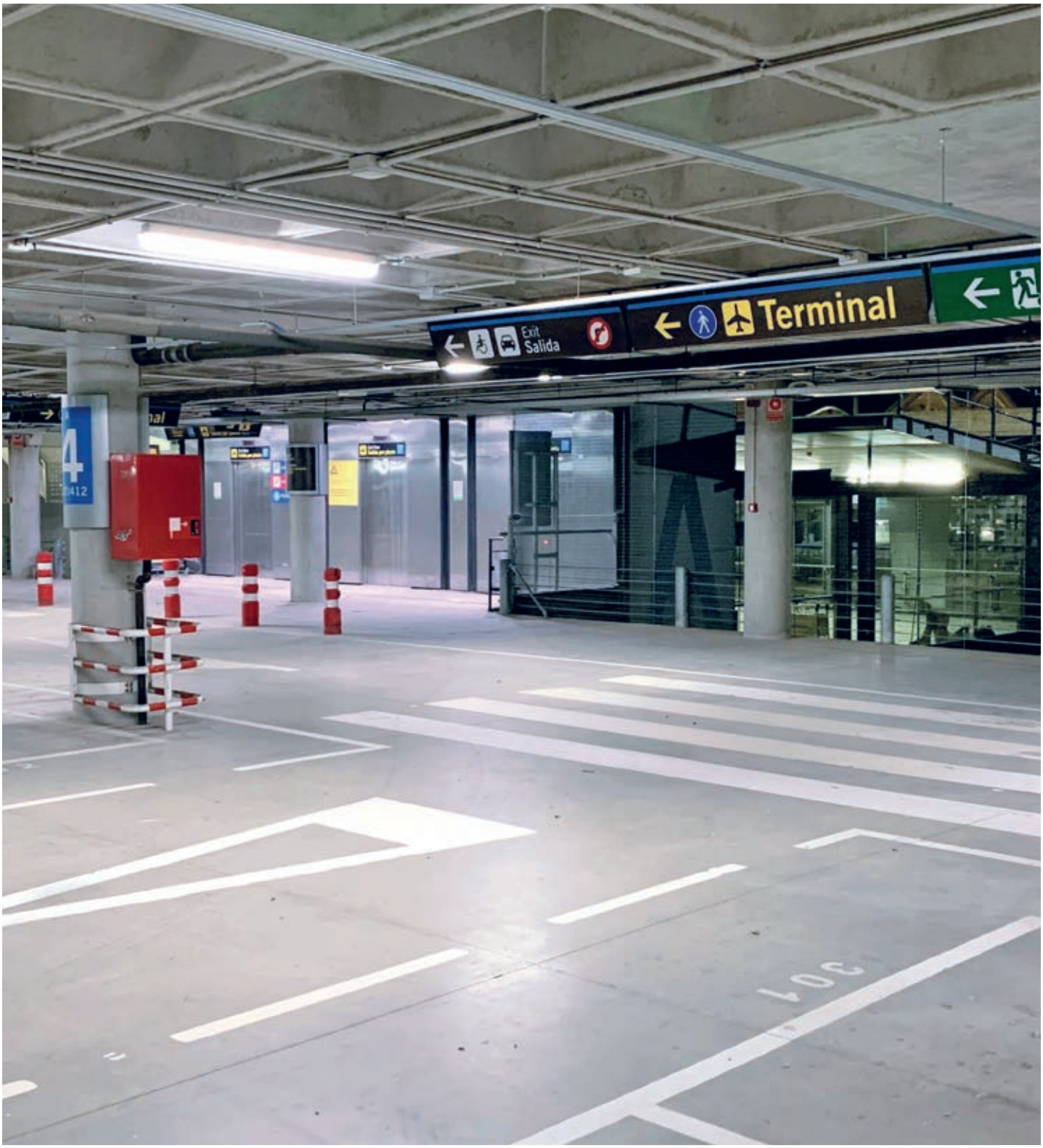
EM

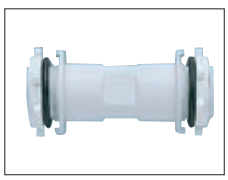
DIMM DIG

NO

LOW FLICKER

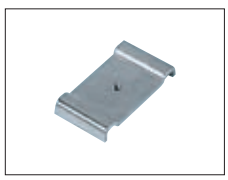
974 Ottima							
		CLD		CLD E	CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	code	W tot	K - ølm - CRI
LED	grey	2,00	164785-00	164785-07	164785-0041	**44**	4000K - 7700lm - CRI≥80
			164787-00	164787-07	164787-0041	**56**	4000K - 9100lm - CRI≥80





acc. 938 junction sleeve	
grey	998073-00

Polycarbonate, for jointing and transit of power supply cables (internal Ø 13 mm) between lighting fixtures (max distance 30 m). **2 per pack.**



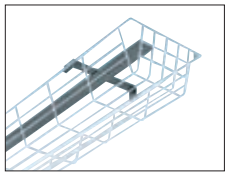
acc. 6036 universal conn.	
galvanised	132987-00

Made of galvanized steel. To install non-corrosive fixtures on track art. 6000.



acc. 978 wall bracket	
galvanized	998078-00

Made of galvanized steel. For installation of Hydro LED fixtures on walls.



acc. 975 protection guard		
white	**1300mm**	165564-00

White plastic-coated steel rod. To be installed directly on the ceiling.

GENERAL CHARACTERISTICS

Housing: injection moulded, in grey polycarbonate, shatter-proof, UV-stabilised, highly resistant to mechanical impacts thanks to the reinforced structure with internal ribbing.

Diffuser: injected moulded in polycarbonate with internal ribbing for greater lighting control, in V2 self-extinguishing, UV-stabilised material; its smooth outer finish makes cleaning easier and increases lighting efficiency. Equipped with stainless steel screw clamping.

Reflector: in galvanised steel, previously stone-enamelled with UV-stabilised polyester resin. Clamping device manufactured directly onto the housing.

Standard supply: eco-friendly and anti-aging expanded polyurethane injected gasket. The fixing brackets for ceiling and suspension mounting are in stainless steel. Socket-plug connector. The fixture is secured to the fixing brackets through quick connectors.

For installations with direct exposure to sunlight, we recommend using Forma LED.

LED: power factor: ≥0,95.

Luminous flux maintenance	
Hydro money saving	L80B20 - 50.000h
Hydro high performance	L80B20 - 80.000h
Thema	L80B50 - 50.000h

Photobiological safety class: exempt group.
Ambient temperature: -30°C to + 40°C.

OTHER CHARACTERISTICS



Greater performance
The fixture is made with first-choice polycarbonate stabilised against UV light. It has been treated to eliminate glare without affecting performance. Polycarbonate with excellent diffusion coefficient and lighting transmission.



Standard stainless steel mounting bracket enables quick and easy installation of the fixture to ceiling surfaces.

Standard spring loop allows quick connection to any chain suspension system.



Perfect alignment of the lighting fittings is achieved using moulded guiding notches.



STAINLESS steel safety screw-type clamping. It can be opened to replace the batteries as needed. Injected gasket in anti-aging and eco-friendly material.

OTHER INFORMATION



Self-extinguishing
U.L.94 is a widely accepted USA flammability standard that classifies plastics according to how they burn. The **HYDRO/THEMA** fixture is made of **V2** self-extinguishing plastic material: burning stops within **25 seconds**.

Glow wire test
Glow wire tested at 850°C.

ALL LIGHT: no glare
The special surface finish of the diffuser allows light to escape, creating an "all light" effect. The fluted diffuser spreads light evenly without leaving dark areas.



LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

UPON REQUEST

Built-in RADAR SENSOR (sub-code -19): is an automatic sensor that immediately sense the presence of people's movements and anyone walking past

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

1-10V +EM

With **1-10V dimmable electronic gear + emergency: subcode -94.**

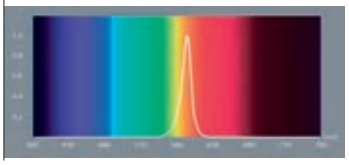
EM EC

Version **CLD EC** wiring with **subcode -0050:** permanently mounted fixture, operating in AC/DC mode, with centralized emergency device, not incorporated into the fixture.

AMBER LED

Version with special **AMBER colour LED** sources for wine processing and storage facilities. **Note:** when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

AMBER LED light spectrum with no blue or violet wavelengths.

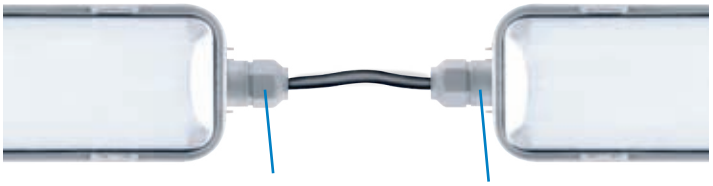


ACCESSORIES AND INSTALLATION

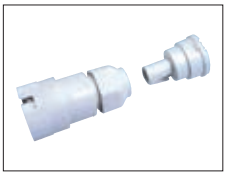
Continuous line alignment: continuous electric line connection: a through-line wiring arrangement and socket/plug type connectors from the first of the last lighting fitting is required for this type of installation. (Lighting fitting supplied Upon request **sub-code -0072** at an extra price).

Installation with cable and lighting fitting with sub-code -0072: continuous electric line connection using acc. 371 plug and acc. 372 socket, with the lighting fittings with **sub-code 0072** at an extra price.





acc. 370 connector for ø20 tube	
grey	998040-00
For use with acc. 371-372 tube connector installation. **10 per pack.**	



acc. 371 quick connector plug		
3P	grey	998041-00
5P	grey	998045-00
Always to be used for continuous line with wire. Cable gland with inlet cable 16A min. ø 9 max ø12 mm. **10 per pack.**		



acc. 372 quick connector socket		
3P	grey	998042-00
5P	grey	998046-00
Always to be used for continuous line with wire. Cable gland with inlet cable 16A min. ø 9 max ø12 mm. **10 per pack.**		



L80 B20 80.000h

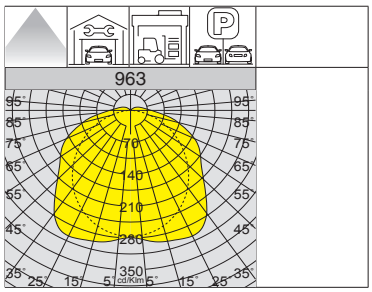
+40 C° -30

EM

DIMM DIG

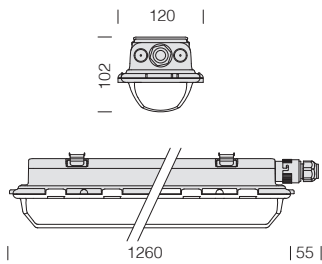
NO

LOW FLICKER





IP66 IK08



LED: power factor: ≥0,95.
Luminous flux maintenance 80%: 80.000h (L80B20).

This product is compliant with the **Premium LED** L90 – 36,000h USA standard.

963 Hydro - LED						
		CLD		CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	grey	1,80	164762-00	164762-07	**20**	4000K - 3028lm - CRI≥80
			164764-00	164764-07	**34**	4000K - 5547lm - CRI≥80

963 Hydro - LED					
		CLD D-D (DALI)			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey	1,80	164764-0041	**34**	4000K - 5547lm - CRI≥80

Upon request:
- with radar sensor for **ON-OFF fixtures: subcode -19** (with default setting);
- with pass-through wiring for **continuous line mounting: subcode -0072;**
- with **1-10V dimmable electronic gear + emergency: subcode -94;**
- with emergency wiring with centralized power supply: **sub-code -0050.**

(the ceiling lamps are supplied with a single power outlet capable of managing both standard power mode and emergency-EM mode)

L80 B20 80.000h

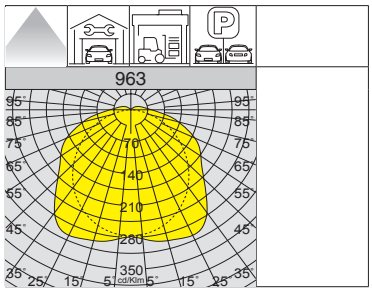
+40 C° -30

EM

DIMM DIG

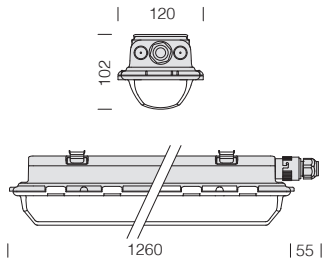
NO

LOW FLICKER





IP66 IK08



LED: power factor: ≥0,95.
Luminous flux maintenance 80%: 80.000h (L80B20).

This product is compliant with the **Premium LED** L90 – 36,000h USA standard.

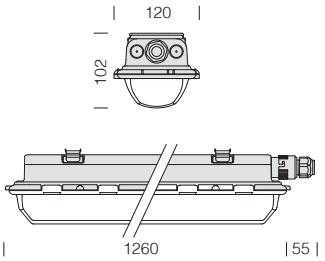
963 Hydro - LED						
		CLD		CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	grey	1,80	164763-00	164763-07	**27**	4000K - 3749lm - CRI≥80
			164765-00	164765-07	**47**	4000K - 7766lm - CRI≥80
			164766-00	164766-07	**56**	4000K - 9020lm - CRI≥80

963 Hydro - LED					
		CLD D-D (DALI)			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey	1,80	164765-0041	**47**	4000K - 7766lm - CRI≥80
			164766-0041	**56**	4000K - 9020lm - CRI≥80

Upon request:
- with radar sensor for **ON-OFF fixtures: subcode -19** (with default setting);
- with pass-through wiring for **continuous line mounting: subcode -0072;**
- with **1-10V dimmable electronic gear + emergency: subcode -94;**
- with emergency wiring with centralized power supply: **sub-code -0050.**

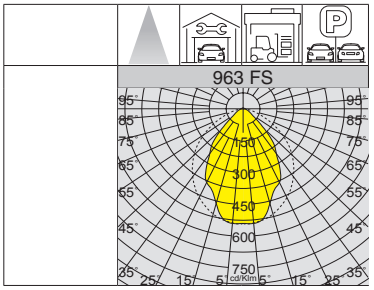
(the ceiling lamps are supplied with a single power outlet capable of managing both standard power mode and emergency-EM mode)

IP66IK08



LED: power factor: ≥0,95.
Luminous flux maintenance 80%: 80.000h (L80B20).





L80 B20 80.000h

+40 C° -30

NO

LOW FLICKER

WATER-PROOF

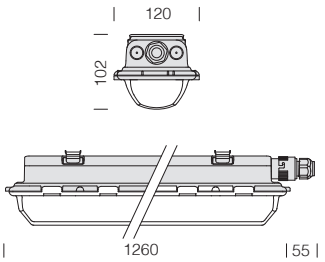
This product is compliant with the **Premium LED** L90 – 36,000h USA standard.

963 Hydro FS - narrow beam - LED					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey	1,80	164764-22	**34**	4000K - 5215lm - CRI≥80

Upon request:
- with pass-through wiring for **continuous line mounting: subcode -0072;**
- with **1-10V dimmable electronic gear + emergency: subcode -94;**
- with emergency wiring with centralized power supply: **sub-code -0050.**

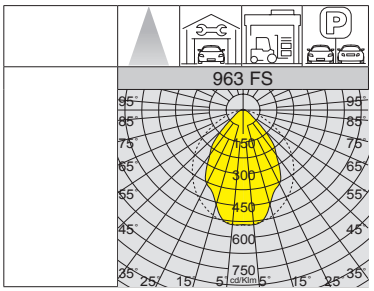
(the ceiling lamps are supplied with a single power outlet capable of managing both standard power mode and emergency-EM mode)

IP66IK08



LED: power factor: ≥0,95.
Luminous flux maintenance 80%: 80.000h (L80B20).





L80 B20 80.000h

+40 C° -30

NO

LOW FLICKER

This product is compliant with the **Premium LED** L90 – 36,000h USA standard.

963 Hydro FS - narrow beam - LED					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey	1,80	164765-22	**47**	4000K - 7531lm - CRI≥80

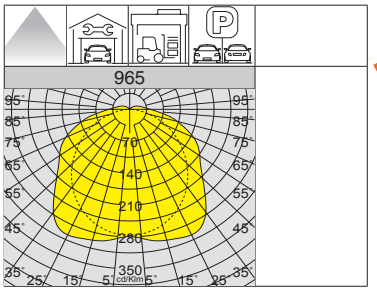
Upon request:
- with pass-through wiring for **continuous line mounting: subcode -0072;**
- with **1-10V dimmable electronic gear + emergency: subcode -94;**
- with emergency wiring with centralized power supply: **sub-code -0050.**

(the ceiling lamps are supplied with a single power outlet capable of managing both standard power mode and emergency-EM mode)





L80 B20 80.000h



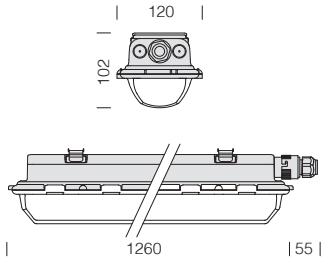
+55 C° -40

NO

LOW FLICKER



IP66IK08



LED: power factor: ≥0,95. Luminous flux maintenance 80%: 80.000h (L80B20).

Version ideal for environments where temperatures reach **-40°÷ +55 °C**.

This product is compliant with the **Premium LED** L90 – 36,000h USA standard.

965 Hydro ICE/HT - high/low temperature - LED					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey	1,80	164780-00	**31**	4000K - 4992lm - CRI≥80
			164781-00	**42**	4000K - 6989lm - CRI≥80

Upon request:
- with pass-through wiring for **continuous line mounting: subcode -0072;**
- with emergency wiring with centralized power supply: **sub-code -0050.**

(the ceiling lamps are supplied with a single power outlet capable of managing both standard power mode and emergency-EM mode; for EM version please contact our customer service)

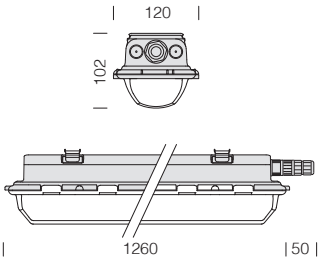
Chemical	Appearance
Acetic acid (5%)	A
Acetone	I
Ammonium hydroxide (sp. gr. 0.90)	A
Ammonium hydroxide (10%)	A
Blasocut Kombi (5% in water)	A
Castrol SYNTILO 9913 (5% in water)	A
Detergent sollution (0.025%)	A
Diesel Fuel	A
Dimethyl formamide	I
Distilled water	A
Ethanolamine (5%)	A
Ethyl alcohol (50%)	A
Ethyl alcohol (95%)	A
Hydrochloric acid 10%	A
Isopropanol	A
Lipid solution (2%)	A
Methyl alcohol	A
Olive oil	A
Soap solution (1%)	A
Sodium hypochlorite (5%)	A
Sodium chloride solution (10%)	A
Sodium hydroxide solution (10%)	A
Sulfuric acid 10%	A
Toluene	I

CODE	Comment
A	resistant
I	non resistant

972 Hydro STYLE: special version for rooms with a high concentration of chemical products, gas and vapours, such as warehouses, chemical plants, food processing plants or covered external areas (breeding farms). In these fixtures, **the housing and the transparent shield** are made in a special material capable of resisting to **chemical agents** (*ammonia, alkaline solutions, soap, alcohol and oil detergents - see table*).



IP66IK07

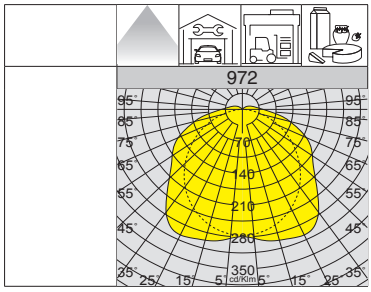


LED: power factor: ≥0,95. Luminous flux maintenance 80%: 50.000h (L80B20).

This lighting fixture meets the global standards of the International Food Safety (**IFS**), the British Retail Consortium (**BRC**) and the **HACCP** Directive regarding the safety of the lighting systems in the **FOOD INDUSTRY**.

In any case, it will be necessary to contact appointed designers and Disano's consultancy office to check the compatibility of materials with the food products processed and in all industrial environments where sanitizing systems are installed.







L80 B20 50.000h

+35 °C -20

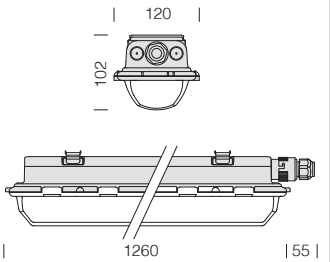
NO

LOW FLICKER

972 Hydro STYLE - LED					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	transparent	1,80	164790-00	31	4000K - 5547lm - CRI≥80
			164791-00	47	4000K - 7766lm - CRI≥80
Body and diffuser: in copolyester having superior light transmittance, resistant in environments containing high levels of ammonia and detergents.					

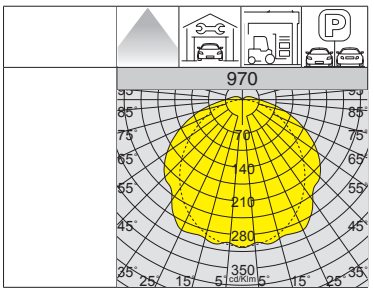


IP66 IK08



LED: Power factor: ≥0,95.
Luminous flux maintenance 80%: 50.000h (L80B50).





L80 B50 50.000h

+40 C° -30

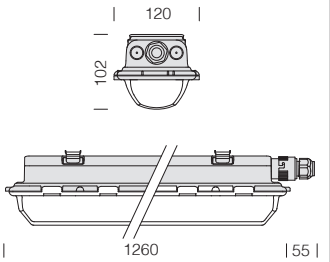
NO

970 Thema - LED						
		CLD		CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	grey	1,80	164731-00	164731-07	**19**	4000K - 2670lm - CRI≥80
			164734-00	164734-07	**34**	4000K - 4328lm - CRI≥80

Upon request:
- with radar sensor for **ON-OFF fixtures: subcode -19** (with default setting);
- with pass-through wiring for **continuous line mounting: subcode -0072;**
- with emergency wiring with centralized power supply: **sub-code -0050.**

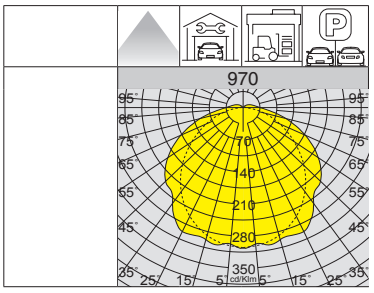
(the ceiling lamps are supplied with a single power outlet capable of managing both standard power mode and emergency-EM mode)

IP66 IK08



LED: Power factor: ≥0,95.
Luminous flux maintenance 80%: 50.000h (L80B50).





L80 B50 50.000h

+40 C° -30

NO

970 Thema - LED						
		CLD		CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	grey	1,80	164732-00	164732-07	**25**	4000K - 3442lm - CRI≥80
			164735-00	164735-07	**49**	4000K - 6384lm - CRI≥80

Upon request:
- with radar sensor for **ON-OFF fixtures: subcode -19** (with default setting);
- with pass-through wiring for **continuous line mounting: subcode -0072;**
- with emergency wiring with centralized power supply: **sub-code -0050.**

(the ceiling lamps are supplied with a single power outlet capable of managing both standard power mode and emergency-EM mode)

GENERAL CHARACTERISTICS

Housing: injection moulded, in grey polycarbonate, shatter-proof, UV-stabilised, highly resistant to mechanical impacts thanks to the reinforced structure with internal ribbing.

Diffuser: injected moulded in polycarbonate with internal ribbing for greater lighting control, in V2 self-extinguishing, UV-stabilised material; its smooth outer finish makes cleaning easier and increases lighting efficiency. Equipped with stainless steel screw clamping.

Reflector: in galvanised steel, previously stone-enamelled with UV-stabilised polyester resin. Clamping device manufactured directly onto the housing.

Standard supply: eco-friendly and anti-aging expanded polyurethane injected gasket. The fixing brackets for ceiling and suspension mounting are in stainless steel. Quick connector for rigid cable. The fixture is secured to the fixing brackets through quick connectors.

For installations with direct exposure to sunlight, we recommend using Forma LED.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

OTHER CHARACTERISTICS



Greater performance
The fixture is made with first-choice polycarbonate stabilised against UV light. It has been treated to eliminate glare without affecting performance. Polycarbonate with excellent diffusion coefficient and lighting transmission.



Standard stainless steel mounting bracket enables quick and easy installation of the fixture to ceiling surfaces.

Standard spring loop allows quick connection to any chain suspension system.



STAINLESS steel safety screw-type clamping. It can be opened to replace the batteries as needed. Injected gasket in anti-aging and eco-friendly material.

QUICK CONNECTOR



Fast installation: it takes ONLY 55 sec. The quick connector supplied with the product allows installing the fixture directly to the electrical box in the ceiling. With just a few simple steps, you will mount this ceiling fixture without opening the unit, saving time and installation labour costs.

ALL LIGHT: no glare
The special surface finish of the diffuser allows light to escape, creating an "all light" effect. The fluted diffuser spreads light evenly without leaving dark areas.



OTHER INFORMATION



Self-extinguishing
U.L.94 is a widely accepted USA flammability standard that classifies plastics according to how they burn. The **HYDRO** fixture is made of **V2** self-extinguishing plastic material: burning stops within **25 seconds**.

Glow wire test
Glow wire tested at 850°C.

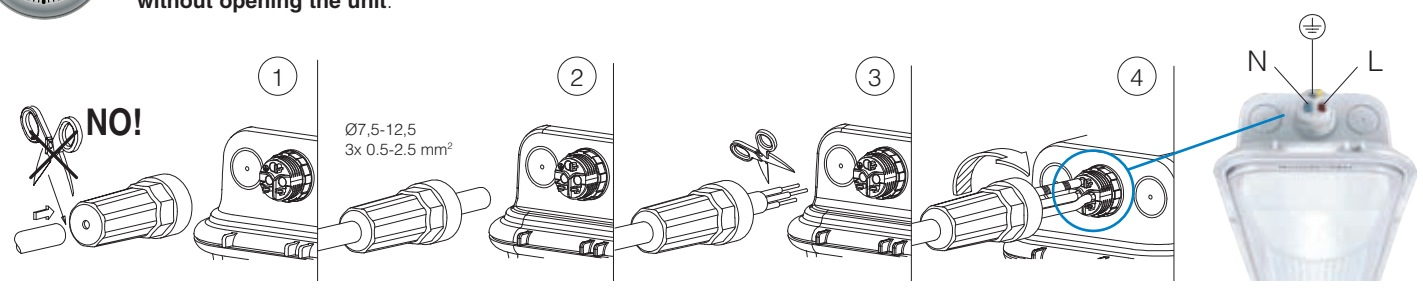
UPON REQUEST

Built-in RADAR SENSOR (sub-code -19): is an automatic sensor that immediately sense the presence of people's movements and anyone walking past

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

CONNECTION TO THE QUICK CONNECTOR

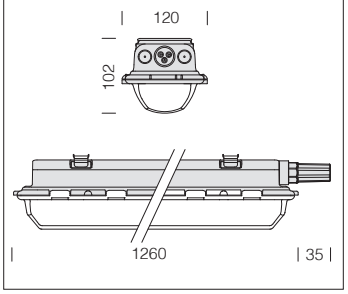
The ceiling fixture comes with a quick connector to connect the unit to the electrical box **easily** and **safely** in **only 55 seconds** and **without opening the unit**.



Example of installation with cable and fixture with pass-through wiring for continuous line modules: subcode -0072.

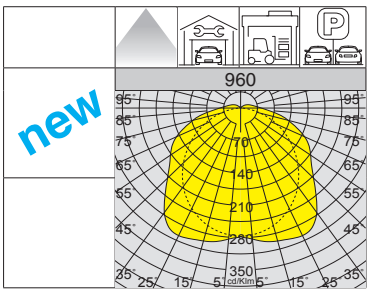


*IP66IK08



LED: power factor: ≥0,95. Luminous flux maintenance 80%: 50.000h (L80B20).





L80 B20 50.000h

+40 C° -30

NO

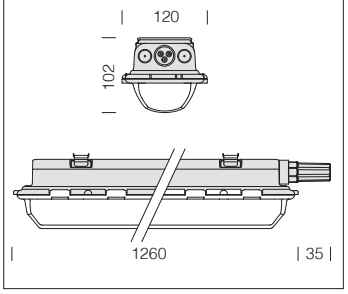
LOW FLICKER

960 Hydro - LED					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey	1,80	164751-00	**20**	4000K - 2672lm - CRI≥80

960 Hydro - LED					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey	1,80	164752-00	**27**	4000K - 3219lm - CRI≥80

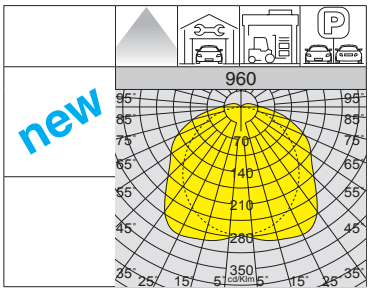
Upon request:
- with radar sensor for **ON-OFF fixtures: subcode -19** (with default setting);
- with pass-through wiring for **continuous line mounting: subcode -0072;**
- with emergency wiring with centralized power supply: **sub-code -0050.** (the ceiling lamps are supplied with a single power outlet capable of managing both standard power mode and emergency-EM mode)

*IP66IK08



LED: power factor: ≥0,95. Luminous flux maintenance 80%: 50.000h (L80B20).





L80 B20 50.000h

+40 C° -30

NO

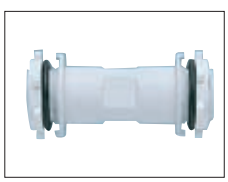
LOW FLICKER

960 Hydro - LED					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey	1,80	164754-00	**34**	4000K - 5194lm - CRI≥80

960 Hydro - LED					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey	1,80	164755-00	**47**	4000K - 6886lm - CRI≥80

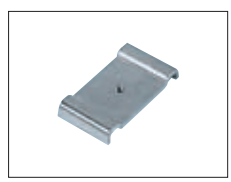
Upon request:
- with radar sensor for **ON-OFF fixtures: subcode -19** (with default setting);
- with pass-through wiring for **continuous line mounting: subcode -0072;**
- with emergency wiring with centralized power supply: **sub-code -0050.** (the ceiling lamps are supplied with a single power outlet capable of managing both standard power mode and emergency-EM mode)





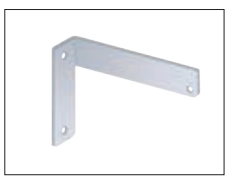
acc. 938 junction sleeve	
grey	998073-00

Polycarbonate, for jointing and transit of power supply cables (internal Ø 13 mm) between lighting fixtures (max distance 30 m). **2 per pack.**



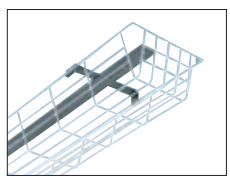
acc. 6036 universal conn.	
galvanised	132987-00

Made of galvanized steel. To install non-corrosive fixtures on track art. 6000.



acc. 978 wall bracket	
galvanized	998078-00

Made of galvanized steel. For installation of Echo LED fixtures on walls.



acc. 975 protection guard		
white	**1300mm**	165564-00
white	**1600mm**	165565-00

White plastic-coated steel rod. To be installed directly on the ceiling.

GENERAL CHARACTERISTICS

Housing: injection moulded, vandal resistant, UV stabilised RAL 7035 grey polycarbonate, high mechanical resistance thanks to the stiffening ribs inside the structure.

Diffuser: injection moulded V2 self-extinguishing , UV stabilised clear polycarbonate, prismatic inside for better light control. The smooth outside finishing facilitates cleaning, essential to ensure maximum lighting efficiency at all times.

Reflector: in galvanised steel, previously stove-enamelled with UV-stabilised polyester resin.

Equipment: plug connector.

Efficiency, energy saving and security
Isolation class I.
Quick connection with plug and socket, no need to open the fixture.

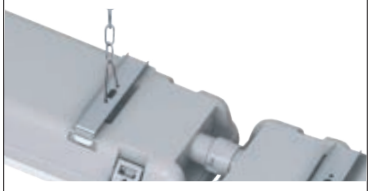
Material compatible with food industry environments.
Mounting is also possible at low or very low temperatures (instant start and no flux decay).
For applications with direct exposure to sunlight, we recommend using Forma LED.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).
Photobiological safety class: exempt group.
Allowable ambient temperature : -30°C to + 40°C.

OTHER CHARACTERISTICS



Greater performance
The fixture is made with first-choice polycarbonate stabilised against UV light. It has been treated to eliminate glare without affecting performance. Polycarbonate with excellent diffusion coefficient and lighting transmission.



Standard stainless steel mounting bracket enables quick and easy installation of the fixture to ceiling surfaces.

Standard spring loop allows quick connection to any chain suspension system.



LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

OTHER INFORMATION



Self-extinguishing
U.L.94 is a widely accepted USA flammability standard that classifies plastics according to how they burn. The **ECHO** fixture is made of **V2** self-extinguishing plastic material: burning stops within **25 seconds**.

Glow wire test
Glow wire tested at 850°C.

ALL LIGHT: no glare
The special surface finish of the diffuser allows light to escape, creating an “all light” effect. The fluted diffuser spreads light evenly without leaving dark areas.



Water-proof lighting fitting upon request with stainless steel latches (**690mm - 1300mm - 1600mm**) to be ordered using **sub-code -0077** at an extra price.

UPON REQUEST

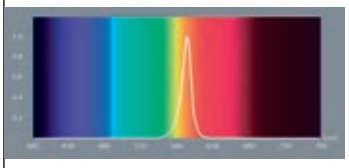
Built-in RADAR SENSOR (sub-code -19): is an automatic sensor that immediately sense the presence of people’s movements and anyone walking past

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

AMBER LED

Version with special **AMBER colour LED** sources for wine processing and storage facilities. **Note:** when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

AMBER LED light spectrum with no blue or violet wavelengths.



Luminaire compliant with the requirements of the qualification protocol issued by the Comité Champagne for amber lighting fixtures used for the storage of bottles.



ACCESSORIES AND INSTALLATION

Continuous line alignment: perfect alignment of the lighting fittings is achieved using moulded guiding notches. Continuous electric line connection: a through-line wiring arrangement and socket/plug type connectors from the first of the last lighting fitting is required for this type of installation. (Lighting fitting supplied Upon request **sub-code -0072** at an extra price).



Lighting fitting art. 927-957-958

Lighting fitting with sub-code 0072.
Warning: the last light fitting must be of the standard type

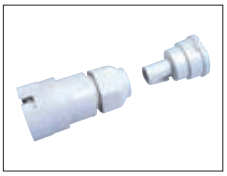
Installation with cable and lighting fitting with sub-code -0072: continuous electric line connection using acc. 371 plug and acc. 372 socket, with the lighting fittings with sub-code -0072 at an extra price.



Acc. 372 socket

Acc. 371 plug

acc. 370 connector for ø20 tube	
grey	998040-00
For use with acc. 371-372 tube connector installation. **10 per pack.**	



acc. 371 quick connector plug		
3P	grey	998041-00
5P	grey	998045-00
Always to be used for continuous line with wire. Cable gland with inlet cable 16A min. ø 9 max ø12 mm. **10 per pack.**		



acc. 372 quick connector socket		
3P	grey	998042-00
5P	grey	998046-00
Always to be used for continuous line with wire. Cable gland with inlet cable 16A min. ø 9 max ø12 mm. **10 per pack.**		



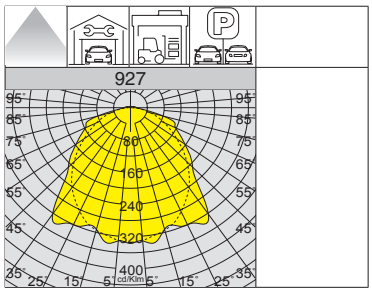
L80 B20 80.000h

+40 C° -30

EM

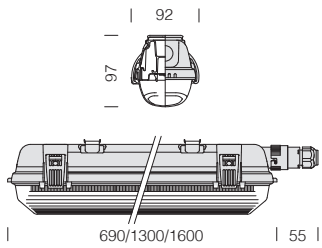
NO

LOW FLICKER





IP66 IK08



LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

927 Echo - single LED module							
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED	grey	1.00	690	164700-00		**11**	4000K - 1593lm - CRI≥80
		2.00	1300	164701-00	164701-07	**19**	4000K - 2870lm - CRI≥80
		3.00	1600	164702-00	164702-07	**24**	4000K - 3830lm - CRI≥80

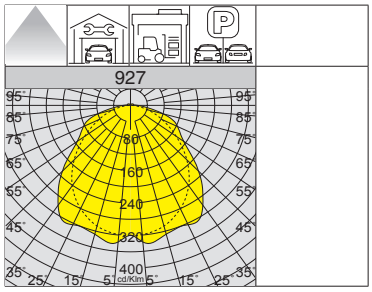
L80 B20 80.000h

+40 C° -30

EM

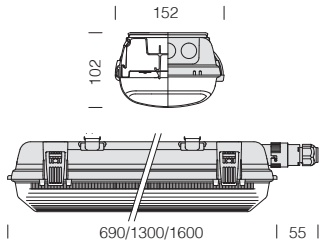
NO

LOW FLICKER





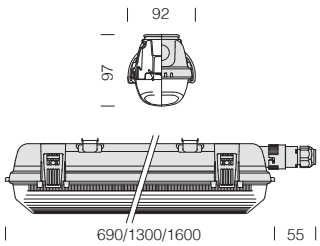
IP66 IK08



LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

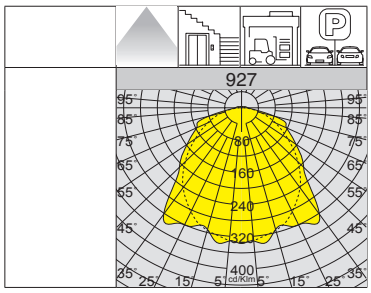
927 Echo - twin LED module							
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED	grey	1.30	690	164703-00	164703-07	**21**	4000K - 3195lm - CRI≥80
		2.30	1300	164704-00	164704-07	**38**	4000K - 5752lm - CRI≥80
		3.30	1600	164705-00	164705-07	**50**	4000K - 7671lm - CRI≥80

IP66 IK08



LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).





L80 B20 80.000h

+40 C° -30

EM

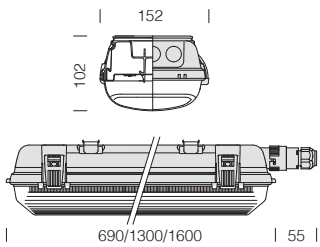
NO

LOW FLICKER

927 Echo - 3000K/6500K single LED module							
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED	grey	1.00	690	164700-39		**11**	3000K - 1441lm - CRI≥80
		2.00	1300	164701-39		**20**	3000K - 2595lm - CRI≥80
		3.00	1600	164702-39		**26**	3000K - 3461lm - CRI≥80
LED	grey	1.00	690	164700-0083		**11**	6500K - 1547lm - CRI≥80
		2.00	1300	164701-0083	164701-0783	**20**	6500K - 2788lm - CRI≥80
		3.00	1600	164702-0083	164702-0783	**26**	6500K - 3718lm - CRI≥80

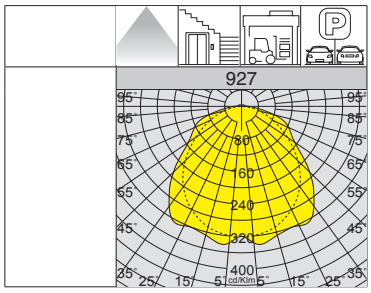
Upon request Built-in RADAR SENSOR (sub-code -19 at an extra price): an electronic device that immediately detects any presence entering its range. When the sensor reads motion inside its range, lights will stay on. When it no longer senses motion and based on the lighting level in its range, the sensor will turn off the lights after a pre-programmed time.

IP66 IK08



LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).





L80 B20 80.000h

+40 C° -30

EM

NO

LOW FLICKER

927 Echo - 3000K/6500K twin LED module							
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED	grey	1.30	690	164703-39		**22**	3000K - 2887lm - CRI≥80
		2.30	1300	164704-39		**39**	3000K - 5199lm - CRI≥80
		3.30	1600	164705-39		**52**	3000K - 6933lm - CRI≥80
LED	grey	1.30	690	164703-0083	164703-0783	**22**	6500K - 3102lm - CRI≥80
		2.30	1300	164704-0083	164704-0783	**39**	6500K - 5585lm - CRI≥80
		3.30	1600	164705-0083	164705-0783	**52**	6500K - 7448lm - CRI≥80

Upon request Built-in RADAR SENSOR (sub-code -19 at an extra price): an electronic device that immediately detects any presence entering its range. When the sensor reads motion inside its range, lights will stay on. When it no longer senses motion and based on the lighting level in its range, the sensor will turn off the lights after a pre-programmed time.

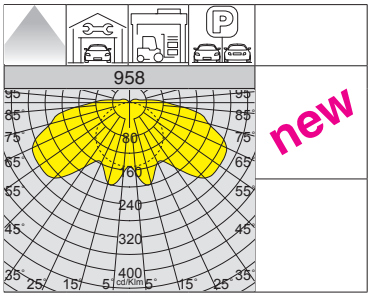


L80 B20 80.000h

+40 C° -30

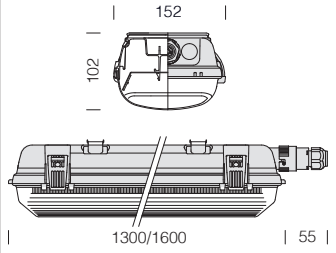
NO

LOW FLICKER





IP66IK08



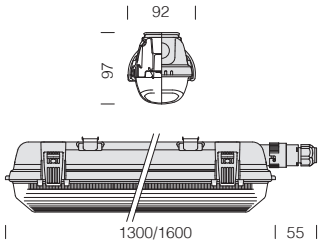
LED: power factor: ≥0,9. Luminous flux maintenance 80%: 80.000h (L80B20).

Version with **wide beam reflector**, ideal in environments with low ceiling heights (eg indoor car parks).

958 Echo PARKING - twin LED module						
		CLD				LUMEN USCENTI (tq= 25 °C)
LED	colour	weight	L	codice	W tot	K - ølm - CRI
LED	grey	2.30	1300	164550-00	**36**	4000K - **4800lm** - CRI 80
		3.30	1600	164551-00	**54**	4000K - **7500lm** - CRI 80
				164552-00	**69**	4000K - **9000lm** - CRI 80

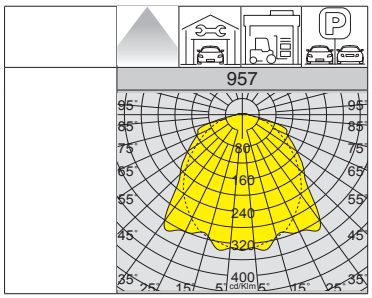
Upon request (at an extra price): with emergency wiring with centralized power supply: **sub-code -0050.** (the ceiling lamps are supplied with a single power outlet capable of managing both standard power mode and emergency-EM mode).

IP66 IK08



LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).





L80 B20 80.000h

+40 C° -30

EM

NO

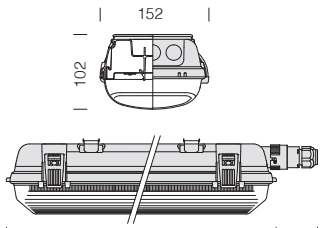
LOW FLICKER

WATER-PROOF

957 Echo - single LED module							
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED	grey	2.00	1300	164711-00	164711-07	**22**	4000K - 3350lm - CRI≥80
		3.00	1600	164712-00	164712-07	**28**	4000K - 4468lm - CRI≥80

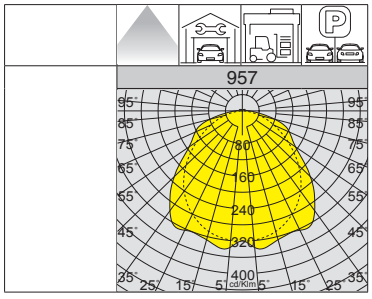
Upon request Built-in RADAR SENSOR (sub-code -19 at an extra price): an electronic device that immediately detects any presence entering its range. When the sensor reads motion inside its range, lights will stay on. When it no longer senses motion and based on the lighting level in its range, the sensor will turn off the lights after a pre-programmed time.

IP66 IK08



LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).





L80 B20 80.000h

+40 C° -30

EM

NO

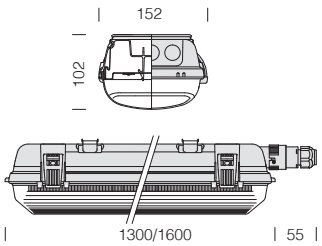
LOW FLICKER

957 Echo - twin LED module							
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED	grey	2.30	1300	164714-00	164714-07	**44**	4000K - 6711lm - CRI≥80
		3.30	1600	164715-00	164715-07	**59**	4000K - 9330lm - CRI≥80
				164717-00	164717-07	**69**	4000K - 9877lm - CRI≥80

Upon request Built-in RADAR SENSOR (sub-code -19 at an extra price): an electronic device that immediately detects any presence entering its range. When the sensor reads motion inside its range, lights will stay on. When it no longer senses motion and based on the lighting level in its range, the sensor will turn off the lights after a pre-programmed time.

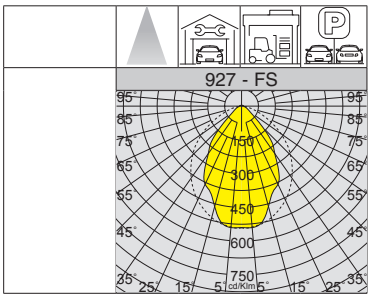


IP66 IK08



LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).





L80 B20 80.000h

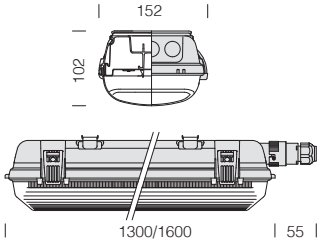
+40 °C -30

NO

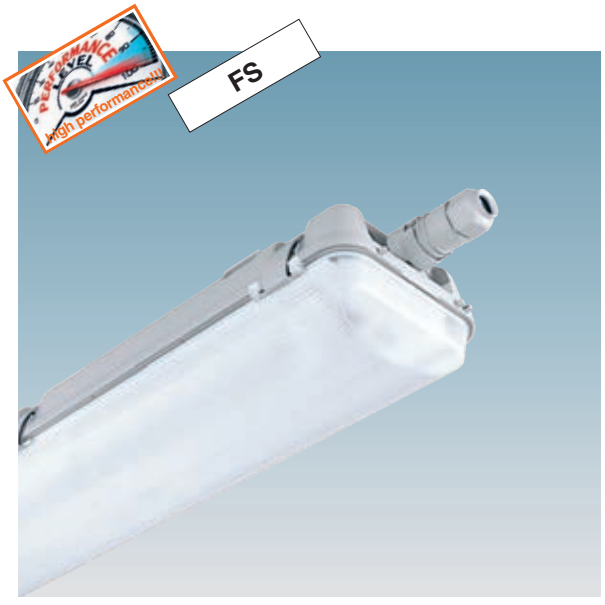
LOW FLICKER

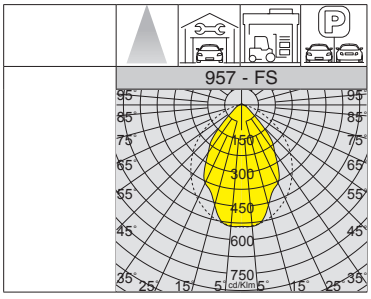
927 Echo FS - narrow beam - twin LED module						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	grey	2.30	1300	164704-22	**38**	4000K - 5196lm - CRI≥80
		3.30	1600	164705-22	**50**	4000K - 6930lm - CRI≥80

IP66 IK08



LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).





L80 B20 80.000h

+40 °C -30

NO

LOW FLICKER

957 Echo FS - narrow beam - twin LED module						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	grey	2.30	1300	164714-22	**44**	4000K - 6062lm - CRI≥80
		3.30	1600	164715-22	**59**	4000K - 8083lm - CRI≥80

For more details on versions and features, please read cap. "Lighting management systems and recommendations"



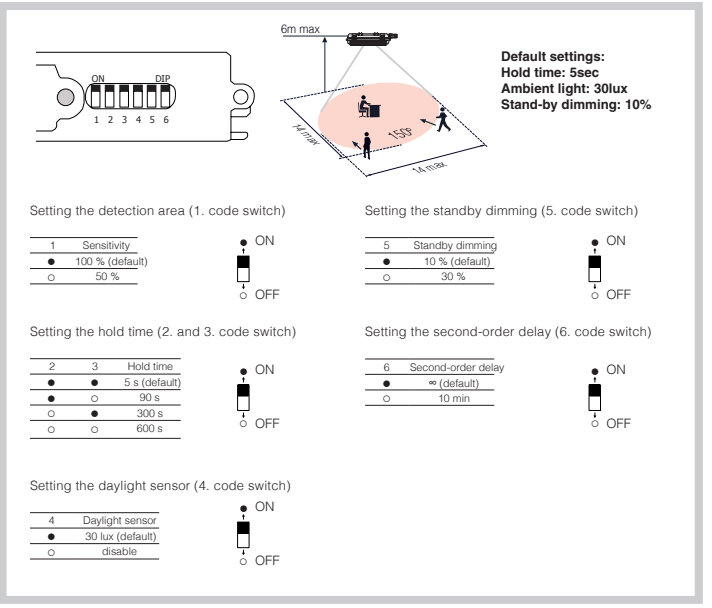
RADAR SENSOR stepDIM - FEATURES AND CONNECTIONS

RADAR SENSOR stepDIM integrato (sottocodice -19): an electronic device that immediately detects any presence entering its range. When the sensor reads motion inside its range, lights will stay on. When it no longer senses motion and based on the lighting level in its range (switch 4) the sensor will either dim lights after a standby time (switch 2-3) according to the defined step (switch 5) or turn them off after a pre-programmed time (switch 6).

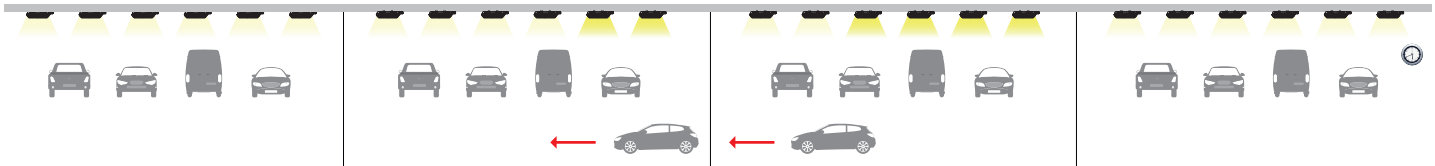
Sensor operation:

- When the sensor detects the presence of daylight, lights will go off within 20 seconds. At that point, the system will start monitoring the sensor's light sensitivity for a period of 10 minutes. If the sensor continues to detect the presence of daylight within that time, it will confirm the daylight mode and lights will stay off.
- When night turns to day, there must always be a 10-minute period in which the light sensitivity threshold is monitored before the daylight mode is confirmed. On the other hand, when day turns to night, the system will take only 3 seconds to enable the night mode.
- When the 6 DIP-switch is off, the output signal is 10% or 30%, and if no motion is detected within 10 minutes, the output signal will switch to 0% (lights off).

SPECIFICHE TECNICHE RADAR SENSOR stepDIM			
Power source	220-240V AC - 50/60 Hz	**Mounting height**	ceiling: 6 m
Frequency	5,8GHz CW Radar, band - 0,2 mW	**Energy consumption**	<0,5 W
Detection area	ceiling/wall: 150°	**Hold time (adjustable)**	min: 5sec (default) max: 600sec
Detection area sensitivity	min: 100% (default) max: 50%	**Ambient light (adjustable)**	30 lux (default) disable
Detection distance (adjustable)	ceiling: Ø 14 m - h: 3 m	**Stand-by dimming (adjustable)**	min: 10% (default) max: 30%
Detection motion speed	0,5-1-1,5 m/s	**Second-order delay (adjustable)**	min: ∞ (default) max: 10min



EXAMPLE OF HOW THE 2-step DIMMING WORKS



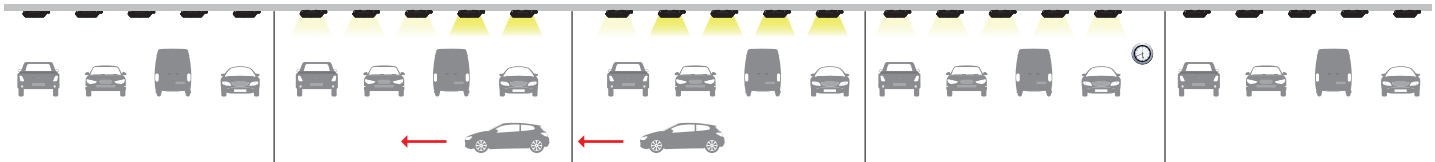
Lights stay on at a pre-programmed level (10% or 30%) when no motion is detected.

As soon as the sensor detects motion, it will change the lights to their full brightness (100%).

Lights will stay on at their full brightness for a previously set hold time (5sec/60sec/3min/5min).

When motion is no longer detected and the hold time has elapsed, the sensor will dim the lights to the previously set brightness (10% or 30%).

EXAMPLE OF HOW THE SECOND-ORDER DELAY WORKS



Lights stay off when no motion is detected.

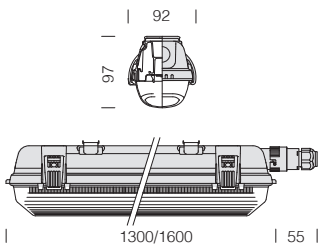
As soon as the sensor detects motion, it will change the lights to their full brightness (100%).

Lights will stay on at their full brightness for a previously set hold time (5sec/60sec/3min/5min).

When motion is no longer detected and the hold time has elapsed, the sensor will dim the lights to the previously set brightness (10% or 30).

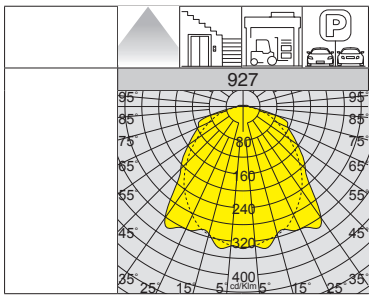
The sensor will turn the lights off after 10 minutes.

IP66IK08



LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).





L80 B20 80.000h

+40 C° -30

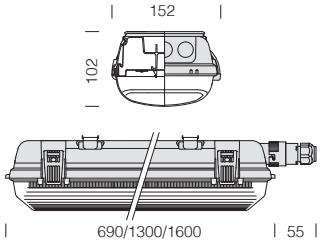
NO

LOW FLICKER

WATER-PROOF

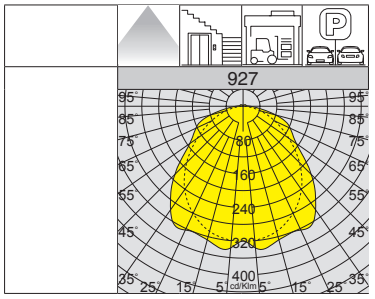
927 Echo - single LED module - RADAR SENSOR						
		CLD radar sensor (stepDIM)				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	grey	2.00	1300	164701-19	**19**	4000K - 2870lm - CRI≥80
		3.00	1600	164702-19	**24**	4000K - 3830lm - CRI≥80

IP66IK08



LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).





L80 B20 80.000h

+40 C° -30

NO

LOW FLICKER

927 Echo - twin LED module - RADAR SENSOR						
		CLD radar sensor (stepDIM)				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	grey	1.30	690	164703-19	**21**	4000K - 3195lm - CRI≥80
		2.30	1300	164704-19	**38**	4000K - 5752lm - CRI≥80
		3.30	1600	164705-19	**50**	4000K - 7671lm - CRI≥80



L80 B20 80.000h

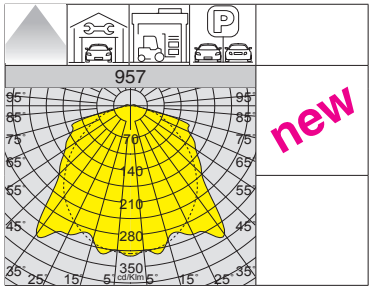
+40 C° -30

EM

DIMM DIG

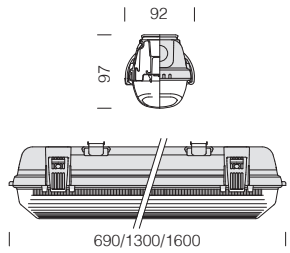
NO

LOW FLICKER





*IP66IK08



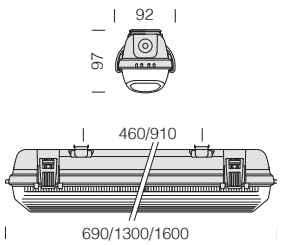
LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

957 Echo HE - single LED module								
		CLD			CLD E	CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	code	W tot	K - ølm - CRI
LED	grey	1.00	690	164733-00			**11**	4000K - **1640lm** - CRI≥80
		2.00	1300	164737-00	164737-07	164737-0041	**22**	4000K - **3450lm** - CRI≥80
		2.00	1300	164730-00	164730-07	164730-0041	**39**	4000K - **6231lm** - CRI≥80
		3.00	1600	164736-00	164736-07	164736-0041	**51**	4000K - **7946lm** - CRI≥80
The luminaire can be opened to allow connection to the terminal.								

957 Echo HE - single LED module						
		CLD				LUMEN USCENTI (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	grey	2.00	1300	164748-00	**34**	4000K - **4800lm** - CRI≥80
		3.00	1600	164749-00	**46**	4000K - **6600lm** - CRI≥80
The luminaire can be opened to allow connection to the terminal.						

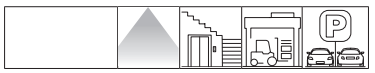
LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 50.000h (L80B20).

IP66 IK08



As standard, it comes with lamp holder with G13 connector; it can be installed directly of LED lamp (230Vac).

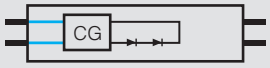








Example/characteristics of LED TUBES
- max. weight of single lamp: 500 gr
- dimensions (see fig. A1).
- connection (see wiring diagram):



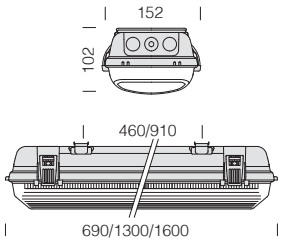
921 Echo - LED 1X

		CLD S			
LED	colour	weight	L	code	W max
LED	grey	1.00	690	164530-03	**10**
		2.00	1300	164531-03	**16**
		3.00	1600	164532-03	**24**

LED lamp dimensions

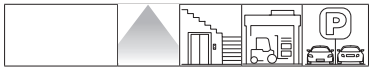
L (mm)	
A1 = 590mm	A1
A1 = 1200mm	
A1 = 1500mm	

IP66 IK08



As standard, it comes with lamp holder with G13 connector; it can be installed directly of LED lamp (230Vac).

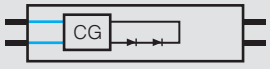








Example/characteristics of LED TUBES
- max. weight of single lamp: 500 gr
- dimensions (see fig. A1).
- connection (see wiring diagram):



921 Echo - LED 2X

		CLD S			
LED	colour	weight	L	code	W max
LED	grey	1.00	690	164533-03	**2x10**
		2.00	1300	164534-03	**2x16**
		3.00	1600	164535-03	**2x24**

LED lamp dimensions

L (mm)	
A1 = 590mm	A1
A1 = 1200mm	
A1 = 1500mm	



GENERAL CHARACTERISTICS

Housing: made of pressed steel, drawn in a single piece for high mechanical resistance. Supplied with frame.

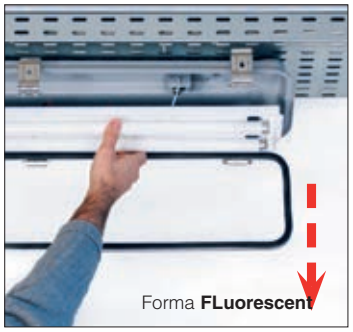
Coating: polyester powder.

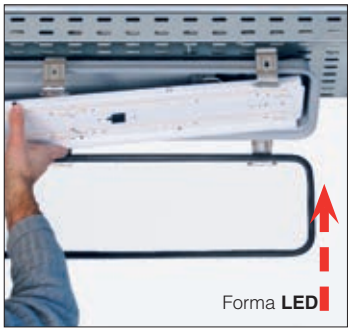
Upon request: emergency unit.

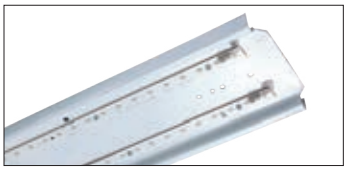
LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 50.000h (L80B20).
Photobiological safety class: Exempt group.
Allowable ambient temperature : -25°C to + 40°C.
Colour temperature: upon request 3000K and 6000K.

We recommend using this version for applications with direct exposure to sunlight.

REPLACE FORMA FL TUBES WITH DISANO LEDS!





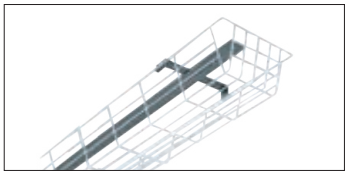


LED:
- Power factor: ≥0,9
- Colour rendering index: ≥ 80
- Luminous flux maintenance 80%: 50.000h (L80B20)
- Colour temperature: 4000K. Upon request 3000K and 6000K

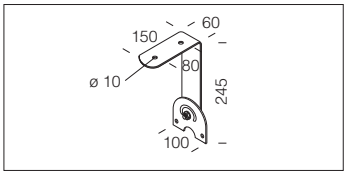
LED Reflector				
		CLD		LED (tj= 25 °C)
LED	L	code	W	K - ølm - CRI
LED	1293	162445-16	**42**	4000K - 7060lm - CRI≥80
LED	1593	162446-16	**56**	4000K - 9400lm - CRI≥80

The LED reflector for direct replacement of the fluorescent tubes in the Forma product. Keep your steel ceiling fixture and save up to 50% !

ACCESSORIES AND INSTALLATION

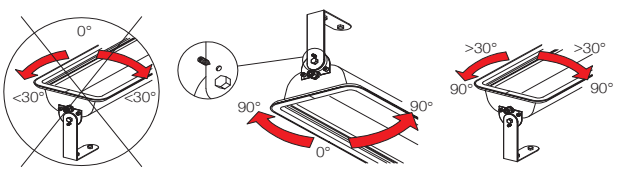


acc. 975 protection guard	
white	165566-00
white	165567-00
White plastic-coated steel rod. To be installed directly on the ceiling.	

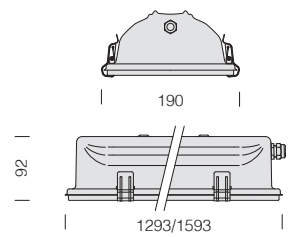


acc. 996 adjustable bracket	
stainless s.	166670-00
Made of stainless steel. To allow suspension mounting and rotation. **2 per pack.**	

N.B. installation of fixtures providing indirect light with flat glass is not recommended for exterior application.



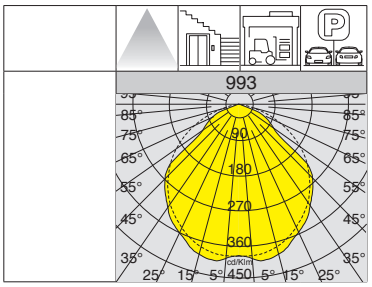
IP65IK08



Diffuser: impact-resistant transparent tempered glass.

Standard supply: silicone rubber gasket. M20 nickel-plated brass cable gland. Locking system in stainless steel.





L80 B20 50.000h
U.V.
+40 C° -25
EM
LOW FLICKER

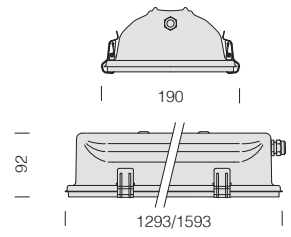
WATER-PROOF

993 Forma - with transparent glass

		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	code	W tot	K - ølm - CRI
LED	s. silver	7.20	1293	162457-00	162457-07	**36**	4000K - 4688lm - CRI≥80
				162447-00	162447-07	**50**	4000K - 6000lm - CRI≥80
LED	s. silver	9.00	1593	162448-00	162448-07	**61**	4000K - 8082lm - CRI≥80
				162458-00	162458-07	**71**	4000K - 9264lm - CRI≥80

Version prepared for installation of acc. 996 (use sub-code -0074 to order this accessory and purchase bracket acc. 996).

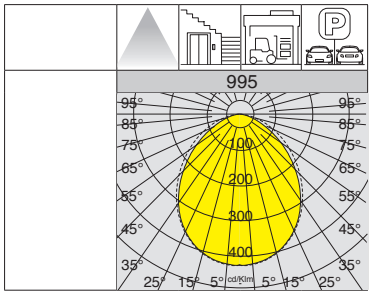
IP65IK08



Diffuser: impact-resistant and etched tempered glass.

Standard supply: silicone rubber gasket. M20 nickel-plated brass cable gland. Locking system in stainless steel.





L80 B20 50.000h
U.V.
+40 C° -25
LOW FLICKER

995 Forma - with etched glass

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	s. silver	7.20	1293	162455-00	**36**	4000K - 4378lm - CRI≥80
				162445-00	**50**	4000K - 5635lm - CRI≥80
LED	s. silver	9.00	1593	162446-00	**61**	4000K - 7547lm - CRI≥80
				162456-00	**71**	4000K - 8650lm - CRI≥80

Version prepared for installation of acc. 996 (use sub-code -0074 to order this accessory and purchase bracket acc. 996).

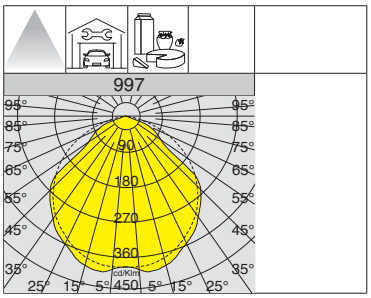
L80 B20 50.000h

U.V.

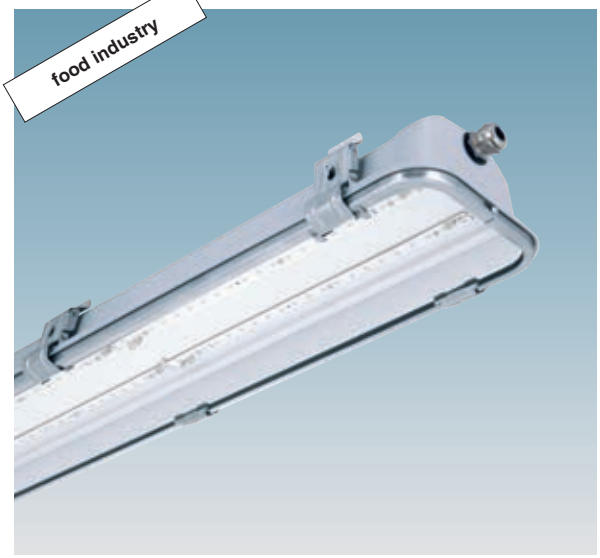
+40 C° -25

NO

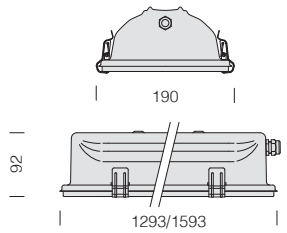
LOW FLICKER







IP65 IK08



Diffuser: Injection moulded, in V2 self-extinguishing, UV stabilized, clear polycarbonate, **ideal for the food industry.**

Upon request: version with diffuser in special polycarbonate material, ideal for the food industry with special processing methods.

Standard supply: silicone rubber gasket. M20 nickel-plated brass cable gland. Locking system in stainless steel.

997 Forma - with polycarbonate diffuser

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	s. silver	7.20	1293	162400-00	**36**	4000K - 4773lm - CRI≥80
				162401-00	**50**	4000K - 5950lm - CRI≥80
LED	s. silver	9.00	1593	162402-00	**61**	4000K - 7977lm - CRI≥80
				162403-00	**71**	4000K - 9143lm - CRI≥80

Version prepared for installation of acc. 996 (use sub-code -0074 to order this accessory and purchase bracket acc. 996).

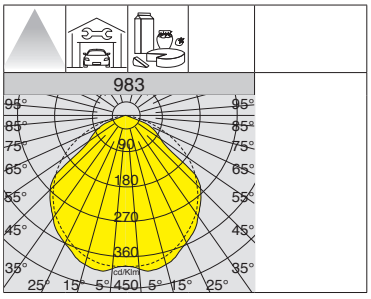
L80 B20 50.000h

U.V.

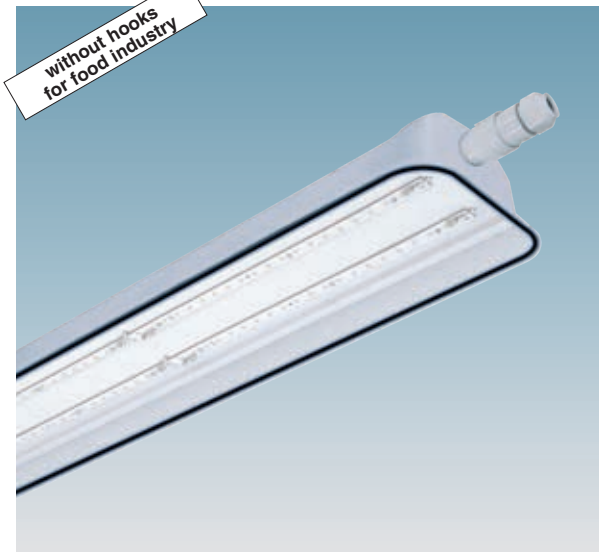
+40 C° -25

NO

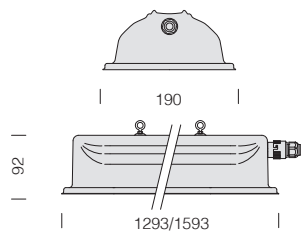
LOW FLICKER







IP66 IK08



Diffuser: Injection moulded, in V2 self-extinguishing, UV stabilized, clear polycarbonate. **Ideal for the food industry.**

Standard supply: silicone rubber gasket. Plug connector for quick installation.

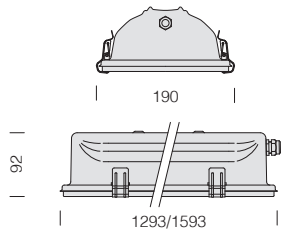
For emergency version use art. 993.

983 Forma - without hooks - with polycarbonate diffuser

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	s. silver	7.20	1293	162465-00	**36**	4000K - 4773lm - CRI≥80
				162466-00	**50**	4000K - 5960lm - CRI≥80
LED	s. silver	9.00	1593	162467-00	**61**	4000K - 7977lm - CRI≥80
				162468-00	**71**	4000K - 9143lm - CRI≥80

It can be mounted as a suspended lamp with the dedicated eyelets. Please order the special version with mounting brackets to mount the fixture to the ceiling/wall (acc. 996).

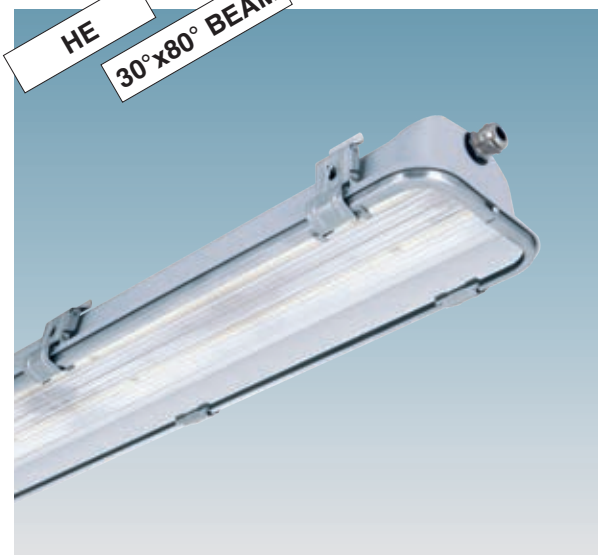
IP65IK08

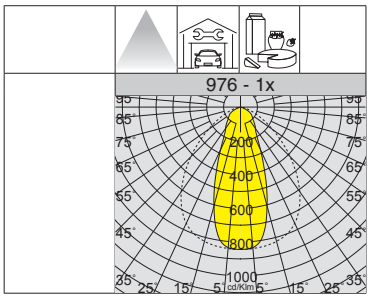


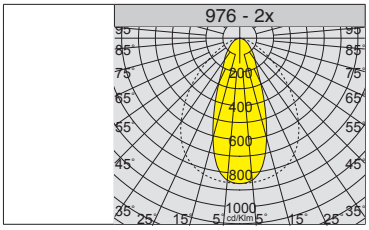
Diffuser: impact-resistant transparent tempered glass.

Optics: high-efficiency lenses in PMMA for luminous flux control, capable of withstanding high temperatures and UV rays.

Standard supply: silicone rubber gasket. M20 nickel-plated brass cable gland. Locking system in stainless steel.





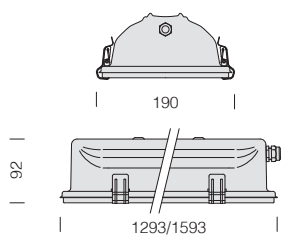


976 Forma HE - 30°x80° elliptic - with transparent glass

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	s. silver	7.20	1293	162430-00	**46**	4000K - 5854lm - CRI≥80
				162432-00	**90**	4000K - 11400lm - CRI≥80
LED	s. silver	9.00	1593	162431-00	**56**	4000K - 7318lm - CRI≥80
				162433-00	**110**	4000K - 14251lm - CRI≥80

Version prepared for installation of acc. 996 (use sub-code -0074 to order this accessory and purchase bracket acc. 996).

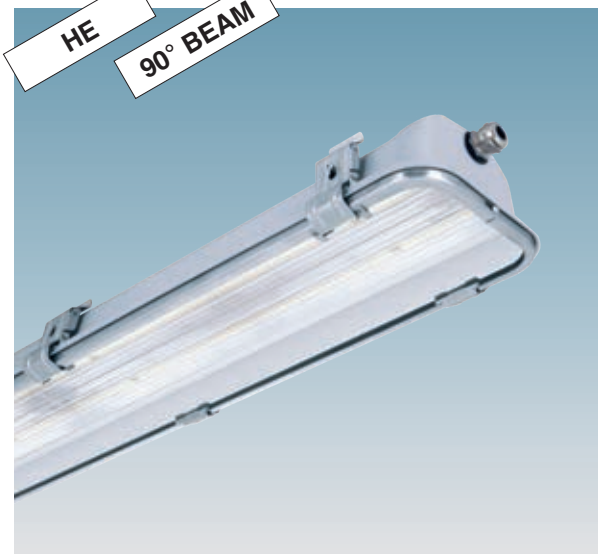
IP65IK08

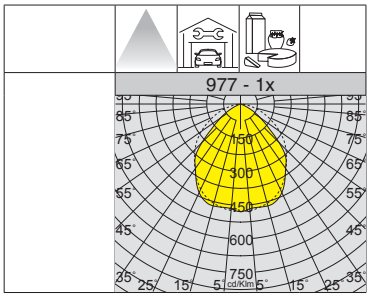


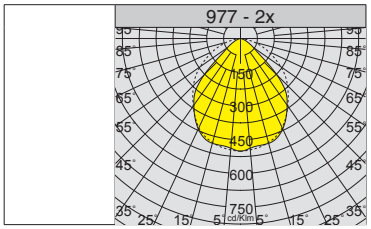
Diffuser: impact-resistant transparent tempered glass.

Optics: high-efficiency lenses in PMMA for luminous flux control, capable of withstanding high temperatures and UV rays.

Standard supply: silicone rubber gasket. M20 nickel-plated brass cable gland. Locking system in stainless steel.





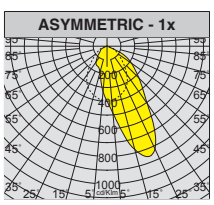


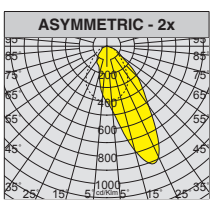
977 Forma HE - 90° wide-beam - with transparent glass

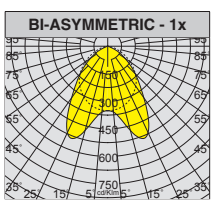
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	s. silver	7.20	1293	162470-00	**46**	4000K - 5984lm - CRI≥80
				162472-00	**90**	4000K - 11507lm - CRI≥80
LED	s. silver	9.00	1593	162471-00	**56**	4000K - 7481lm - CRI≥80
				162473-00	**110**	4000K - 14384lm - CRI≥80

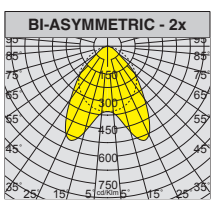
Version prepared for installation of acc. 996 (use sub-code -0074 to order this accessory and purchase bracket acc. 996).

Upon request available **Forma HE** with other photometric distributions:







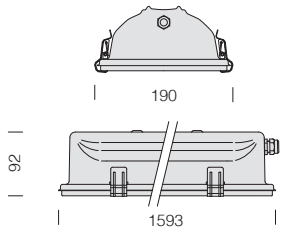


WATER-PROOF

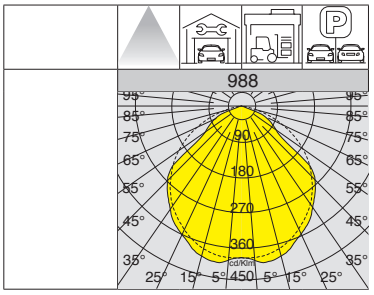




IP65IK08







L80 B20 50.000h

U.V.

+55 °C -40

LOW FLICKER

Diffuser: impact-resistant transparent tempered glass.

HT version ideal for environments where temperatures reach max **+55 °C**.

Standard supply: silicone rubber gasket. M20 nickel-plated brass cable gland. Locking system in stainless steel.

988 Forma HT - high temperature - with transparent glass						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	s. silver	9.00	1593	162485-00	**55**	4000K - 7274lm - CRI≥80
				162486-00	**64**	4000K - 8337lm - CRI≥80
Version prepared for installation of acc. 996 (use sub-code -0074 to order this accessory and purchase bracket acc. 996).						

DIRECTIVE 94/9/CE (ATEX= ATMOSPHERE EXPLOSIVE) OF THE EUROPEAN PARLIAMENT AND COUNCIL (MARCH 23, 1994): IMPACT ON LIGHTING FIXTURES

APPLICATION: can be installed outdoors or indoors, in industrial areas, cantilever roofs, environments at risk of fire, and in any other premise compatibly with the fumes and atmospheric or chemical agents which affect the use of plastic materials: check compatibility with corrosive agents.

APPLICATION OF RELEVANT REGULATION:

• Directive 94/9/CE (ATEX) was enforced and made compulsory on 30 June 2003. Back in January 1998 the CEI 64-2 regulation was replaced for the classification of hazardous areas and for the construction of electrical equipment suitable for potentially explosive atmospheres containing GAS (C1 and C3 environments).

• The directive applies to electrical and non-electrical products used in explosive atmospheres. The following are excluded from this directive:
- medical equipment used in medical environments;
- protection equipment and systems, when the risk of explosion is exclusively due to the presence of explosive substances;
- equipment suitable for domestic use, not suitable for commercial areas where the atmosphere is rarely explosive and can only become so in case of a gas leak;
- individual safety devices, as per directive 89/689/CEE;
- sea-going ships and mobile offshore units;
- means of transport (vehicles and related trailers); however, vehicles used in potentially explosive areas are not excluded;
- weapons, ammunition and war material.

• Equipment suitable for AD/FT systems became obsolete in July 2003. Therefore, this identification will be deleted from new classification and construction regulations for explosion-prone environments.

• The new classification of explosion-prone areas identifies hazardous environments where the atmosphere contains gas substances (vapours or mists) with ZONE 0, ZONE 1, ZONE 2. Hazardous environments containing explosive substances and combustible powders are referred to as ZONE 20, ZONE 21, ZONE 22.

ZONA 0 = an area where the atmosphere is constantly filled with explosive gas over long periods of time.

ZONE 1 = an area where lighting fixtures can operate in an explosive gas-filled atmosphere.

ZONE 2 = an area where an explosive gas-filled atmosphere is not allowed when a lighting fixture is operating normaly. An explosion-prone atmosphere is a rare occurrence and only lasts for a very short period of time.

ZONE 20 = an area where the atmosphere is filled with combustible powders either permanently or over long periods of time, or frequently.

ZONE 21 = an area where the atmosphere occasionally contains combustible powders when the lighting fixture is operating normally.

ZONE 22 = an area where the atmosphere is unlikely to be filled with combustible powders when the lighting fixture is operating normally. An explosion-prone atmosphere is a rare occurrence and only lasts for a very short period of time.

• a notified Organization should be in charge of prototype certification and product control, which are compulsory requirements for ZONE 0, 1, 20 and 21 as regards electrical equipment. In-house manufacturing checks and the creation of a technical file confirming product compliance (attachment II of 94/9/Ce) are required for ZONE 2 and 22, and should be guaranteed for the entire production line (attachment VIII of 94/9/Ce).

• zone 2 and 22 represent the largest areas as regards hazardous environments.

• “Former AD/FT” products can be installed in hazardous areas 2 and 22, provided basic safety requirements are complied with. Electrical systems used in zone 2 should be designed using the “n” protection system, according to regulation EC 60079-15, while the electrical systems developed for zone 22 should be designed according to regulations EN 60079-31



Equipment level protection (EPL)

ZONE	EPL
0	"Ga"
1	"Ga" o "Gb"
2	"Ga", "Gb" o "Gc"
20	"Da"
21	"Da" o "Db"
22	"Da", "Db" o "Dc"

Hazardous places according to Legislative Decree 233/03

Business	Places
chemical and petrochemical industry	gas-fuelled heating plants with P>35Kw
pharmaceutics industry	garages, repair shops, body shops
metal processing	fuel distribution
food industry (storage and processing of cereals, flour and sugar)	bread baking ovens
processing of wood	places where painting processes occur
fabric and spinning industry	distilleries, production of alcoholic beverages

ELECTRICAL SYSTEMS FOR AREAS CONTAINING EXPLOSIVE GAS:	
Ex =	Electrical system built and tested for utilization in an atmosphere filled with explosive gasses.
nA =	The electrical system does not produce sparks when operating normally.
II =	Electrical system suitable for areas with a potentially explosive atmosphere, different from mines, with firedamp.
Gc =	Enhanced protection level
T4 =	Maximum internal or external surface temperature; classification according to regulation cei en 60079-0 table 2
IP66 =	Housing entirely protected against dust and the water jets

ELECTRICAL SYSTEMS FOR AREAS CONTAINING EXPLOSIVE POWDERS:	
Ex =	Electrical system built and tested for utilization in an atmosphere containing powders.
IIIC	Electrical equipment for premises with potentially explosive atmospheres due to the presence of combustible dust, other than mines with the presence of firedamp
Dc	Enhanced protection level
tc	Protection against explosive atmospheres due to the presence of dust where the electrical equipment is equipped with an enclosure
22 =	Permitted hazardous area.
IP6X =	Housing entirely protected against dust
T 135°C =	Maximum temperature in a dust-free environment

SELECTION OF ELECTRICAL SYSTEMS IN RELATION TO HAZARDOUS AREAS

HAZARDOUS AREA	CLASSIFICATION	EPL	PROTECTIONS PERMITTED
ATMOSPHERE CONTAINING GAS	**0**	**Ga**	"ia" Intrinsic safety "ma" Encapsulation Two independent EPLs "Gb"
	1	**Gb**	"d" Explosion proof "e" Increased safety "ib" Intrinsic safety "m" "mb" Encapsulation "o" Oil immersion "p, px, py" Pressurisation "q" Powder filling Field bus intrinsically safe concept (FISCO) Optical radiation safety
	2	**Gc**	"ic" Intrinsic safety "mc" Encapsulation "n, nA" Non sparking "nR" Restricted breathing "nL" Energy limitation "nC" Sparking device and components "pz" Pressurisation Field bus non-incendive concept Optical radiation safety
ATMOSPHERE CONTAINING GAS	**20**	**Da**	"Da" "Id" Intrinsic safety "md" Encapsulation "tD" Protection by enclosure
	21	**Db**	"iD" Intrinsic safety "mD" Encapsulation "tD" Protection by enclosure "pD" Pressurisation
	22	**Dc**	"iD" Intrinsic safety "mD" Encapsulation "tD" Protection by enclosure "pD" Pressurisation

RELEVANT REGULATIONS

Directive 94/9/CE entrusts conformed European regulations with the task of setting out basic technical requirements to guarantee safety in explosion-prone areas, replacing contrasting national and European regulations belonging to the same sector.

IEC 60079-0	Electrical systems for potentially explosive atmospheres GENERAL REGULATIONS
IEC 60079-15	Electrical systems for potentially explosive atmospheres. PROTECTION METHOD "n"
IEC 60079-10-1	Explosive atmospheres Classification of hazardous locations. Explosive atmospheres due to the presence of gas
IEC 60079-14	Explosive atmospheres Design, selection and installation of electrical equipment
IEC 60079-10-2	Explosive atmospheres Classification of hazardous locations. Explosive atmospheres due to the presence of dust
IEC 60079-31	Explosive atmospheres Fixtures with protection by "t" enclosure for use in the presence of combustible dust
IEC 60079-28	Explosive atmospheres Protection of equipment and transmission systems using optical radiation



GENERAL CHARACTERISTICS

Housing: injection moulded, vandal resistant, UV stabilised RAL 7035 grey polycarbonate, high mechanical resistance thanks to the stiffening ribs inside the structure.

Diffuser: injection moulded V2 self-extinguishing , UV stabilised clear polycarbonate, prismatic inside for better light control. The smooth outside finishing facilitates cleaning, essential to ensure maximum lighting efficiency at all times.

Reflector: in galvanised steel, previously stove-enamelled with UV-stabilised polyester resin.

Equipment: cable gland.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).
Photobiological safety class: exempt group.

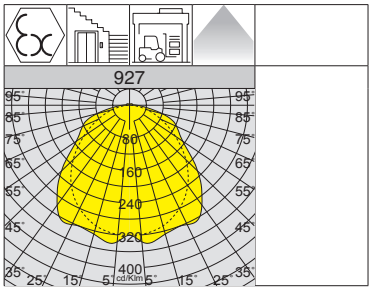
927 ATEX	
Protection against explosions	Ⓔx II 3G Ex nA OP IS IIC T4 IP65 Gc
Allowed dangerous area	Zone 2
Allowed room temperature	-20°C ÷ +40°C
Degree of protection	IP66
Installation	ceiling - suspension
Casing mechanical resistance	IK08
Reference regulations	EN 60079-0; EN 60079-15; EN 60079-28

L80 B20 80.000h

+40 C° -20

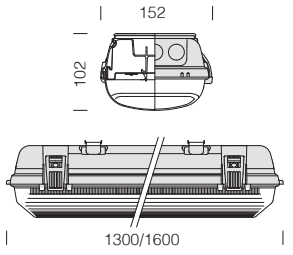
NO

LOW FLICKER





IP66IK08



927 Echo ATEX						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	grey	2.30	1300	164797-00	**45**	4000K - 6000lm - CRI≥80
		3.30	1600	164798-00	**65**	4000K - 9264lm - CRI≥80

GENERAL CHARACTERISTICS

Housing: made of pressed steel, drawn in a single piece for high mechanical resistance. Supplied with frame.

Diffuser: impact-resistant transparent tempered glass.

Coating: polyester powder.

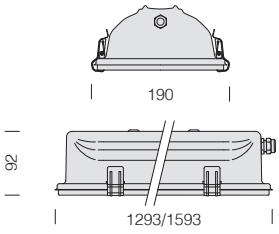
Standard supply: silicone rubber gasket. M20 nickel-plated brass cable gland. Locking system in stainless steel.

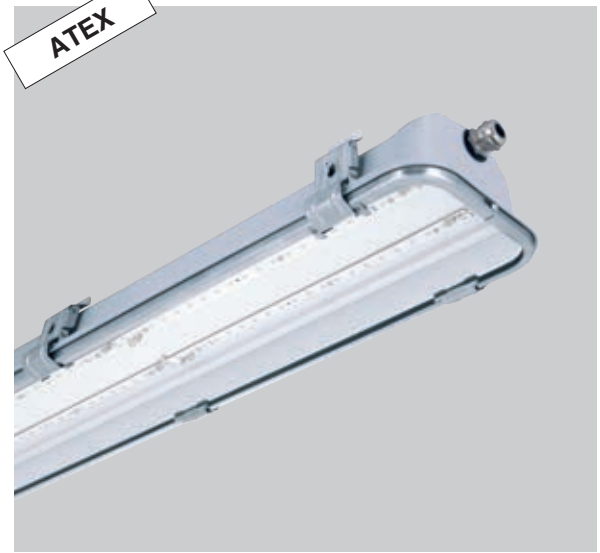
LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).
Photobiological safety class: exempt group.

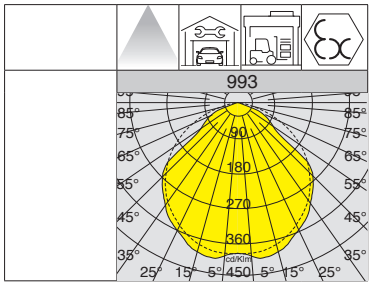


993 ATEX	
Protection against explosions	II 3G Ex nA OP IS IIC T4 IP65 Gc II 3D Ex tc IIIC T135°C IP65 Dc
Allowed dangerous area	Zone 2; Zone 22
Allowed room temperature	-20°C ÷ +40°C
Degree of protection	IP65
Installation	ceiling - suspension
Casing mechanical resistance	IK08
Reference regulations	EN 60079-0; EN 60079-15; EN 60079-31; EN 60079-28

IP65IK08









993 Forma ATEX - with transparent glass						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI
LED	s. silver	7.20	1293	162495-00	**45**	4000K - 6000lm - CRI≥80
		9.00	1593	162496-00	**65**	4000K - 9264lm - CRI≥80
Version prepared for installation of acc. 996 (use sub-code -0074 to order this accessory and purchase bracket acc. 996).						



GENERAL CHARACTERISTICS

Housing/Frame: in die-cast aluminium with cooling fins integrated into the cover and designed with a very small surface exposed to wind.

Diffuser: tempered glass, 4 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001).

Optics : in high-performance metallic V0 polycarbonate with micro-faceted finish.

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Standard supply: temperature control inside the device with automatic resetting. Complete with quick watertight connecter for line connection.

LED: power factor: ≥0,95.
Luminous flux maintenance 90%: 80.000h (L90B10).
Luminous flux maintenance 90%: 100.000h (L90B10).

1789 ATEX	
Protection against explosions	II 3G Ex nA OP IS IIC T4 IP66 Gc II 3D Ex tc IIIC T135°C IP66 Dc
Allowed dangerous area	Zone 2; Zone 22
Allowed room temperature	-20°C ÷ +40°C
Degree of protection	IP66
Installation	suspension
Casing mechanical resistance	IK08
Reference regulations	EN 60079-0; EN 60079-15; EN 60079-31; EN 60079-28
Certifications	CE, AR19ATEX036 (TYPE EXAMINATION CERTIFICATE)

L90 B10 80.000h

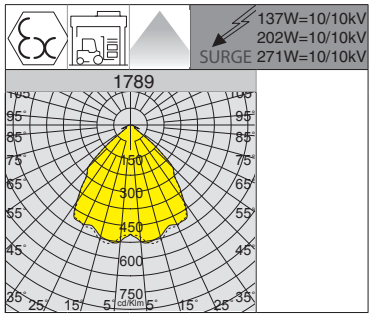
L90 B10 100.000h

RG0 Ethr

+40 C° -20

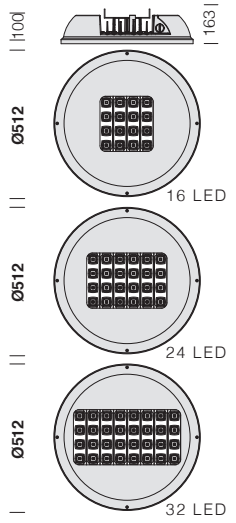
U.V.

LOW FLICKER





IP66IK08



1789 Astro ATEX - UGR<25 - wide beam						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	W	K - ølm - CRI
LED	grey	11.50	512	330296-00	**137**	4000K - 14856lm - CRI 80
	graphite			330297-00		
LED	grey	11.90	512	330290-00	**202**	4000K - 22298lm - CRI 80
	graphite			330293-00		
LED *	grey	12.20	512	330291-00	**271**	4000K - 29730lm - CRI 80
	graphite			330294-00		

GENERAL CHARACTERISTICS

Housing/Frame: in die-cast aluminium with cooling fins integrated into the cover and designed with a very small surface exposed to wind.

Diffuser: tempered glass, 4 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001).

Optics: made of PMMA with high temperature resistance and UV rays.

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

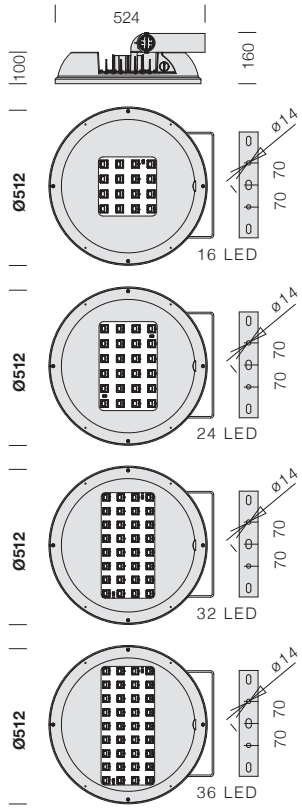
Standard supply: automatic temperature control inside the device with automatic resetting. Complete with mounting bracket and graduated scale goniometer which allows for accurate pointing. The fixture is equipped with anti-condensation valve for air recirculation and IP68 connector for line connection with **no need to open the fixture.**

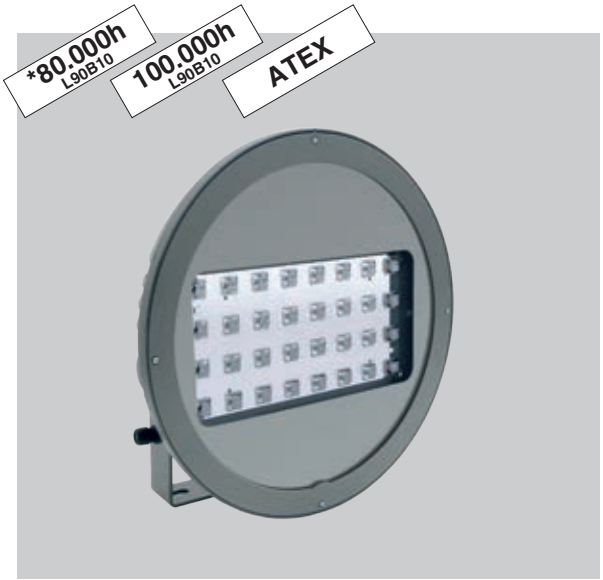
LED: power factor: ≥0,95.
Luminous flux maintenance 90%: 80.000h (L90B10).
Luminous flux maintenance 90%: 100.000h (L90B10).

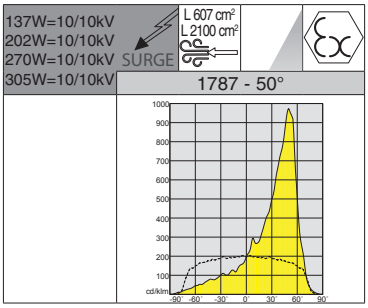


1787 ATEX	
Protection against explosions	II 3G Ex nA OP IS IIC T4 IP66 Gc II 3D Ex tc IIIC T135°C IP66 Dc
Allowed dangerous area	Zone 2; Zone 22
Allowed room temperature	-20°C ÷ +40°C
Degree of protection	IP66
Installation	wall - ceiling - ground
Casing mechanical resistance	IK08
Reference regulations	EN 60079-0; EN 60079-15; EN 60079-31; EN 60079-28
Certifications	CE, AR19ATEX036 (TYPE EXAMINATION CERTIFICATE)

IP66IK08







L90 B10 80.000h

L90 B10 100.000h

RGO Ethr

+40 C° -20

180°

LOW FLICKER

1787 Astro ATEX - asymmetric 50°

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	W tot	K - ølm 700mA - CRI - degrees
LED	grey	14.00	512	330189-00	**137**	4000K - 12976lm - CRI 70 - 50°
	graphite			330188-00		
LED	grey	14.00	512	330184-00	**202**	4000K - 19465lm - CRI 70 - 50°
	graphite			330183-00		
LED *	grey	14.00	512	330185-00	**270**	4000K - 25954lm - CRI 70 - 50°
	graphite			330186-00		
LED *	grey	14.00	512	330181-00	**305**	4000K - 29198lm - CRI 70 - 50°
	graphite			330182-00		

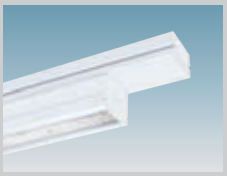
* **32-36 LED** version with luminous flux maintenance 90%: 80.000h (L90B10).


45000

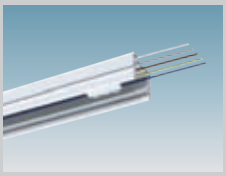
TECHNO SYSTEM HE



TECHNO SYSTEM



POWER TRACK



SETTING LAYOUT



Techno System intro p. 108
Techno System HE p. 110
Techno System CRI 90 p. 114
Techno System FOOD p. 118
Power track + acc. p. 120
Setting layout p. 122

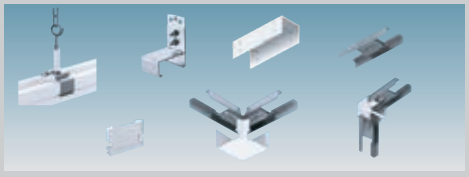
RAPID SYSTEM 1X



RAPID SYSTEM 2X



TRACK ACCESSORIES



Rapid System p. 124
Accessories for power track and track p. 126

SATURNO Ø320



SATURNO - ELLIPTICAL BEAM



SATURNO Ø370



SATURNO Ø370



Saturno p. 128

ASTRO HE



UGR<22/25

ASTRO HP



UGR<22/25

ASTRO - SENSOR



ASTRO HT - UGR<22/25



Astro p. 140

DISCO - UGR<22



ARGON



GHOST



Disco p. 152
Argon p. 154
Ghost p. 155



GENERAL CHARACTERISTICS

Techno System comes in a wide range of optics with different sets of LED sources. This allows the lamp to fit any system and obtain the best lighting output with the greatest energy efficiency; available with a **standard length** of 1421 mm and 575/857/1139/1703/2267/3395 mm **upon request.** Equipped with latest generation, high efficiency LED CRI 80 HE and **CRI 90** LED sources, Thanks to the dedicated support box, the system can fit Fosnova spotlights from the **Focus and Vision 2.0** range and from the **Safety Flag** emergency series, or with a presence and light **sensor**.

Housing: in rolled galvanized steel, pre-coated with polyester resin, UV-stabilised, with rounded edges and ABS ends.

Optics: it comes in two separate versions:
- one with **optics lens in PMMA** and different light distributions, including 90° symmetric, 25° asymmetric, 25° bi-asymmetric, 30°x80° elliptic, UGR<22 and 60° wide-beam curves
- one with **semi-spherical diffuser** and wide-beam light distribution.

Equipment: 3-pole insulator block with phase selection (**5-pole** insulator block for the **EM**ergency and **DALI DIMM**able versions).
Supplied with external clamping system to hook the fixture directly to the cable track to combine with **5/7/11** pole track with the relevant phase selection.

LED characteristics:
power factor: ≥0.95.
Luminous flux maintenance:
(L90B10): 30000h.
(L85B10): 50000h.
(L75B10): 80000h.
Photobiological risk class: exempt group.
Ambient temperature: -10°C to + 40°C.

OTHER CHARACTERISTICS



The fixture can be easily and, above all, safely hooked to the track with the clips thanks to the mechanical safety locking system. With its simple, modern design Techno System blends perfectly into any space



Mechanical safety lock to mount the lighting fixture directly to the track



Plug insulator block mounted directly onto the fixture's body

DIMM DIG Standard version **CLD D-D (DALI)** wiring with **subcode -0041:** thanks to pre-programmed settings or a software programme, this type of wiring allows accurate light emission dimming.

EM **EM: subcode -07**

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

OTHER INFORMATION

Quality: is built with accurately selected materials and electronic components to ensure amazing light levels and high precision optics as well as greater design flexibility, making the new Techno System a sector leading product.

Flexible: includes versions with high precision optics, making it the most complete solution for fulfilling the diverse needs of new lighting systems as well as for the relamping of existing installations.

Cost-effective: uses latest generation LED technology to produce light with unprecedented energy efficiency to notably reduce running costs and ensure quick payback.

Versatile: is the most complete solution to meet the diverse lighting needs of industrial and retail spaces; you can create continuous rows of light that can be easily adjusted to any interior architecture thanks to its spigot couplings.

Quick and easy: can be mounted in very few seconds; the lamp body can be hooked directly to the 6001 power track.

Low maintenance: features long-lasting LED sources, closed optics and a linear design that were specifically studied to minimize maintenance and cleaning needs to reduce running costs, while ensuring great light efficiency.

UPON REQUEST

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

EM EC Version **CLD EC** wiring with **subcode -0050:** permanently mounted fixture, operating in AC/DC mode, with centralized emergency device, not incorporated into the fixture.

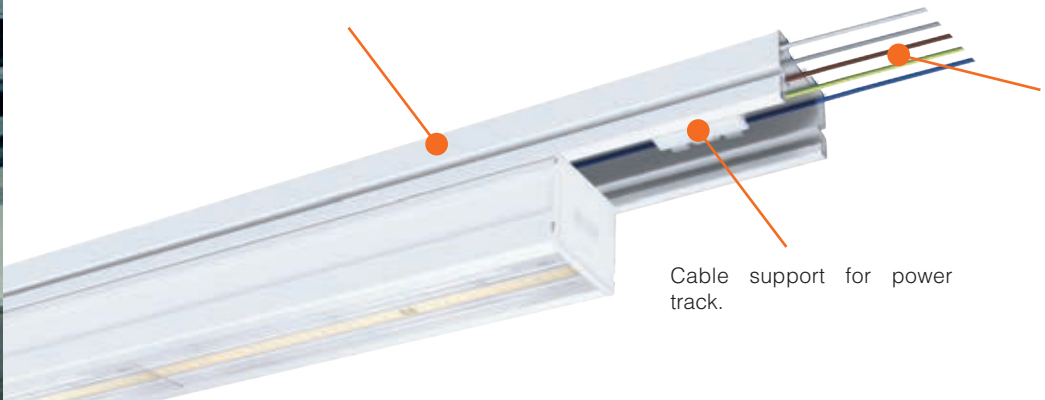
3000K 6500K FOOD **3000K-6500K** versions and products fitting special LED sources for the **FOOD** sector (*Red Meat, Marbled Meat, Fish, Bread &, Pastries and Produce*).

TECHNO SYSTEM FIXTURES WITH SUBCODE -42



Versions complete with upper cover (to be ordered separately with subcode -42) designed to mount the fixture directly to the ceiling.

Power track art. 6001: designed for the rapid mounting of **Techno System** fixtures. The power track can be installed using the dedicated accessory for suspension with cable or chain; thanks to spigot couplings, you can easily create continuous rows of light to meet diverse lighting and structural needs. The fixture and the track are easily locked together with the external clamping system for simple, safe and easy mounting, without the use of tools.

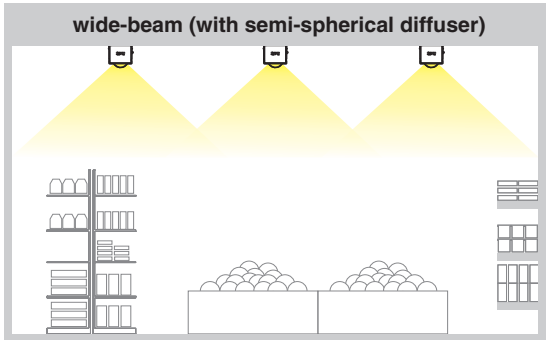


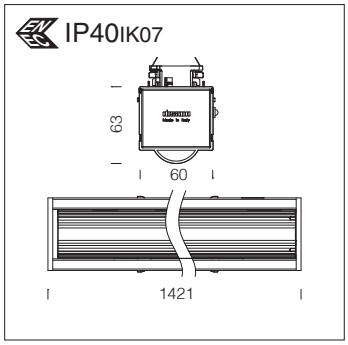
Cable support for power track.

The power track is designed to house **5-pole** or **7-pole** terminal block (the latter to be used for the **EM**ergency or **DIMM**able **DALI** versions) or **11-pole** blocks (the latter to be used for the **EM**ergency and **DIMM**able **DALI** versions).

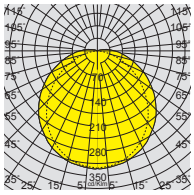






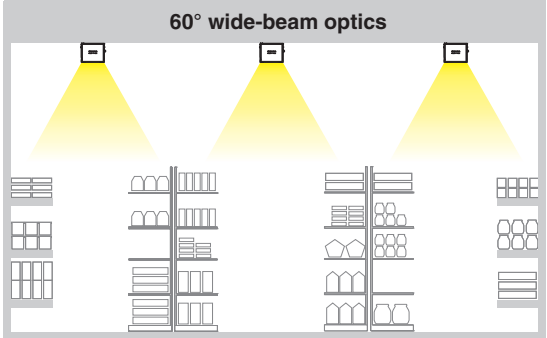


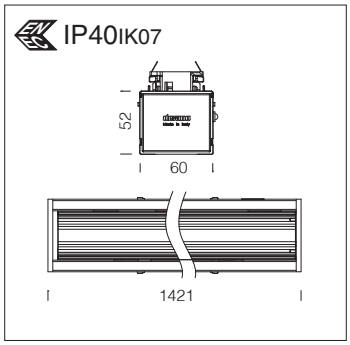
Versions with wide-beam distribution
Fixtures with wide-beam lighting distributions are suited for illuminating shelves in supermarkets or for aisles displaying fresh fruits and vegetables or generally any area that requires constant and uniform lighting.

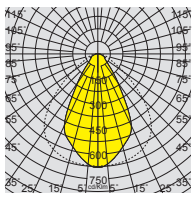


6616 Techno System HE					
			CLD		LUMEN OUTPUT (tq= 25 °C)
LED	weight	L		W tot	K - ølm - CRI
LED	1.80	1421	133054-00	**29**	4000K - 4272lm - CRI 80
			133055-00	**58**	4000K - 8546lm - CRI 80
Available **EM** (**sub-code -07**) and **DIMM DALI** (**sub-code -0041**) versions.					





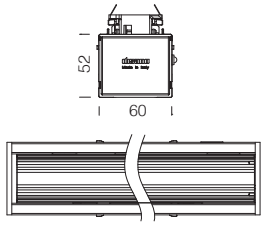




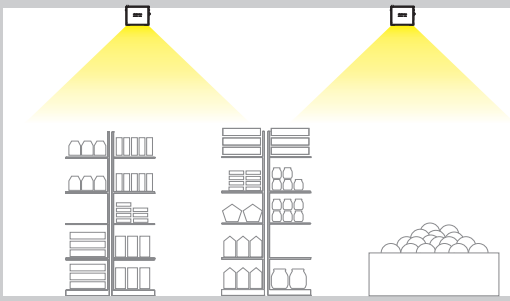
6615 Techno System HE					
			CLD		LUMEN OUTPUT (tq= 25 °C)
LED	weight	L	code	W tot	K - ølm - CRI
LED	1.80	1421	133044-00	**29**	4000K - 4424lm - CRI 80
			133045-00	**58**	4000K - 8849lm - CRI 80
Available **EM** (**sub-code -07**) and **DIMM DALI** (**sub-code -0041**) versions.					



IP40IK07



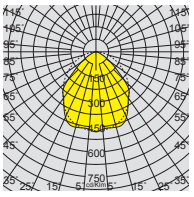
90° symmetric optics



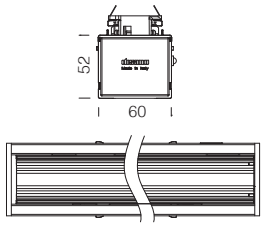
HE



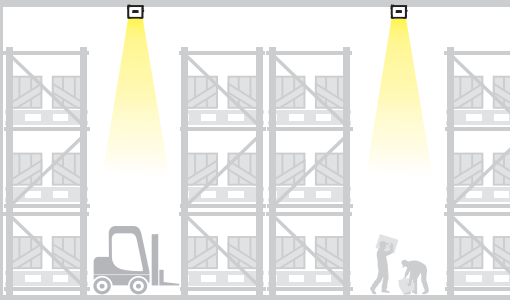
6611 Techno System HE					
			CLD		LUMEN OUTPUT (tq= 25 °C)
LED	weight	L	code	W tot	K - ølm - CRI
LED	1.80	1421	133005-00	**29**	4000K - 4419lm - CRI 80
			133006-00	**58**	4000K - 8838lm - CRI 80
Available **EM** (**sub-code -07**) and **DIMM DALI** (**sub-code -0041**) versions.					



IP40IK07



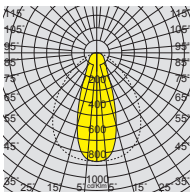
30°x80° elliptic optics



HE



6614 Techno System HE					
			CLD		LUMEN OUTPUT (tq= 25 °C)
LED	weight	L	code	W tot	K - ølm - CRI
LED	1.80	1421	133034-00	**29**	4000K - 4396lm - CRI 80
			133035-00	**58**	4000K - 8793lm - CRI 80
Available **EM** (**sub-code -07**) and **DIMM DALI** (**sub-code -0041**) versions.					



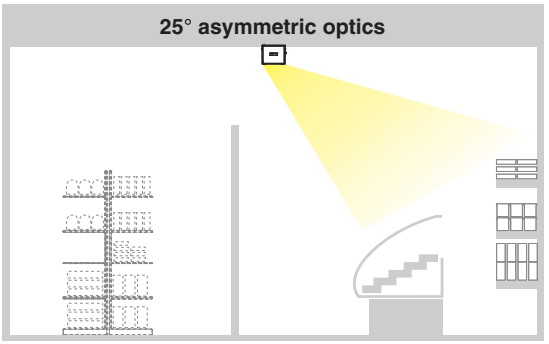
30°x80° elliptic optics
suited for illuminating retail stores with tall shelves, where light must spread out evenly and efficiently.



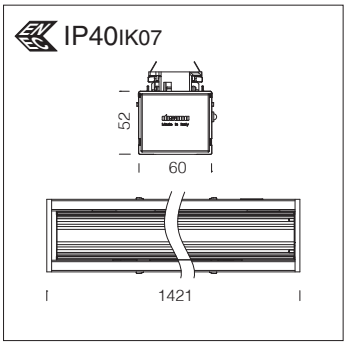
HE



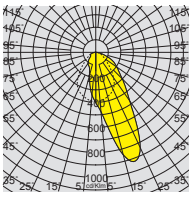
25° asymmetric optics



IP40 IK07



25° asymmetric optics photometric distribution is studied for the furniture of retail areas where shelves are arranged laterally.

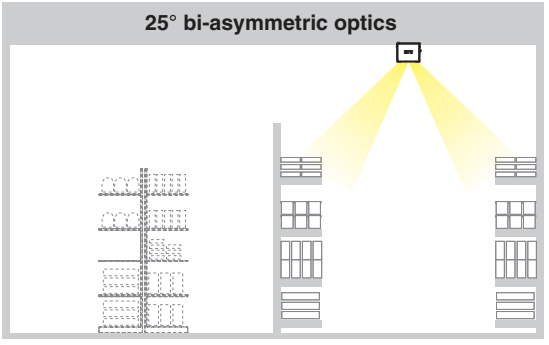


6612 Techno System HE					
			CLD		LUMEN OUTPUT (tq= 25 °C)
LED	weight	L	code	W tot	K - ølm - CRI
LED	1.80	1421	133014-00	**29**	4000K - 4095lm - CRI 80
			133015-00	**58**	4000K - 8191lm - CRI 80
Available **EM** (**sub-code -07**) and **DIMM DALI** (**sub-code -0041**) versions.					

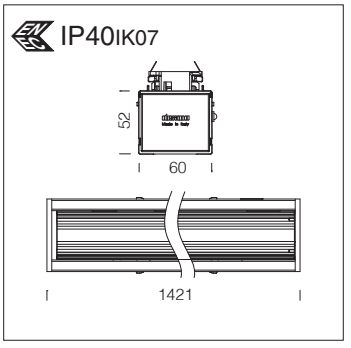
HE



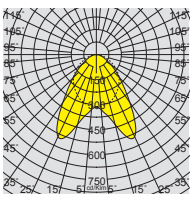
25° bi-asymmetric optics



IP40 IK07



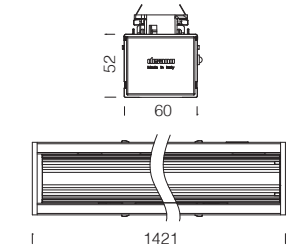
25° bi-asymmetric optics perfect for retail spaces where the lighting system must produce accent lighting on shelves and on the wares, while the lighting in the aisles is more general.



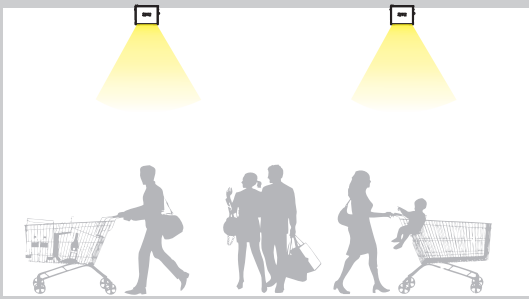
6613 Techno System HE					
			CLD		LUMEN OUTPUT (tq= 25 °C)
LED	weight	L	code	W tot	K - ølm - CRI
LED	1.80	1421	133024-00	**29**	4000K - 4543lm - CRI 80
			133025-00	**58**	4000K - 9086lm - CRI 80
Available **EM** (**sub-code -07**) and **DIMM DALI** (**sub-code -0041**) versions.					



IP40IK07



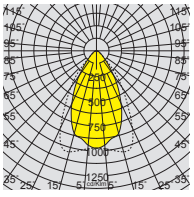
UGR optics





6606 Techno System HE - UGR

		CLD	CLD E	CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	L	code	code	code	W tot	K - ølm - CRI
LED	1421	133062-60	133062-6007	133062-6041	**33**	4000K - 4591lm - CRI 80
LED *		133063-60	133063-6007	133063-6041	**65**	4000K - 9242lm - CRI 80



The UGR (unified glare rating) is an international unified measure developed by the CIE (Commission International de l'Eclairage) to assess the direct glare generated by a lighting system. The European standard regulating the lighting of indoor work places (**UNI-EN 12464-1**) recommends a specific UGR value for different applications ranging between **10 and 30**; **the lower the UGR value, the lower the glare**. The exact value of this index differs by project type because it depends on the position of the luminaires, room characteristics (dimensions, reflections) and on the point of observation of viewers.

Classification of UGR values by applications

UGR	≤ 16	Very demanding applications (technical drawings)
	≤ 19	Offices and schools (reading, business meetings, computer work)
	≤ 22	Industrial applications, craftsmen
	≤ 25	Transit areas
	> 28	High glare

Below are some examples of industrial environments requiring the installation of fixtures with **UGR<22** in compliance with standard **UNI-EN 12464-1**:

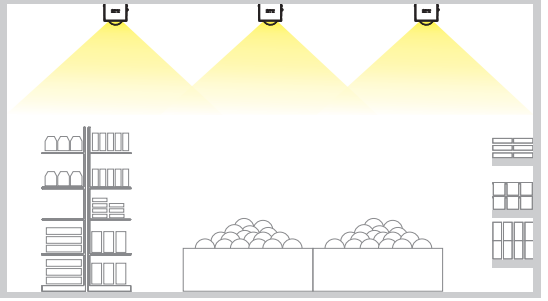
- General areas inside buildings – storage areas
- Industrial and manufacturing activities
- Chemical and pharmaceutical industry
- Mechanical, electronic and electro-technical industry
- Paper mills



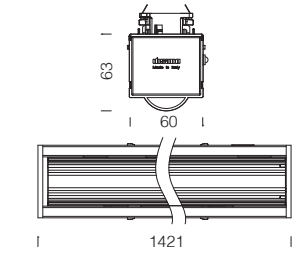
CRI 90

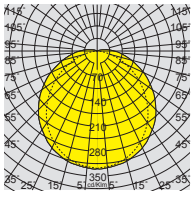


wide-beam (with semi-spherical diffuser)



IP40 IK07



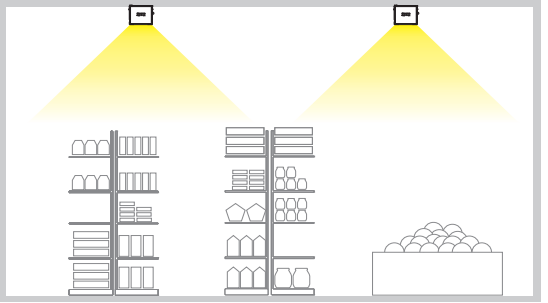


6605 Techno System						
		CLD	CLD E	CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	L	code	code	code	W tot	K - ølm - CRI
LED	1421	133052-00	133052-07	133052-0041	**34**	4000K - 3415lm - **CRI 90**
		133053-00	133053-07	133053-0041	**68**	4000K - 6831lm - **CRI 90**

CRI 90



90° symmetric optics



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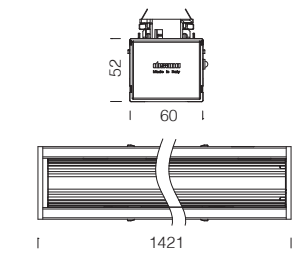
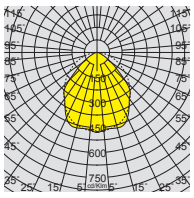
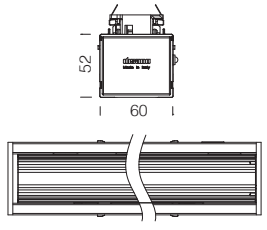




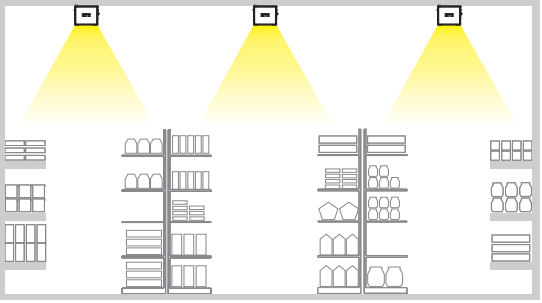
6600 Techno System						
		CLD	CLD E	CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	L	code	code	code	W tot	K - ølm - CRI
LED	1421	133002-00	133002-07	133002-0041	**34**	4000K - 3532lm - **CRI 90**
		133003-00	133003-07	133003-0041	**68**	4000K - 7065lm - **CRI 90**



IP40IK07



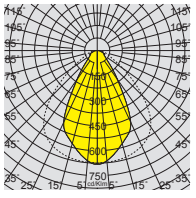
60° wide-beam optics



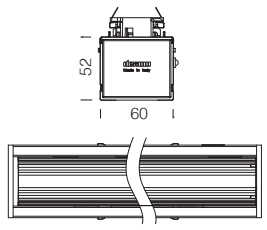
CRI 90



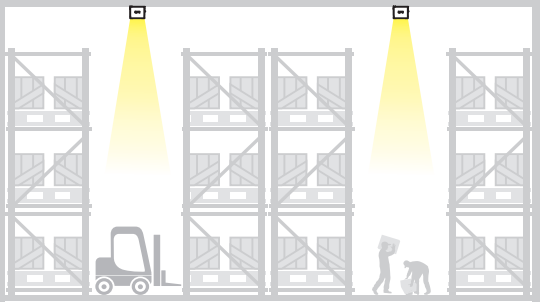
6604 Techno System						
		CLD	CLD E	CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	L	code	code	code	W tot	K - ølm - CRI
LED	1421	133042-00	133042-07	133042-0041	**34**	4000K - 3536lm - **CRI 90**
		133043-00	133043-07	133043-0041	**68**	4000K - 7073lm - **CRI 90**



IP40IK07



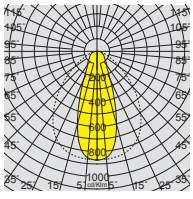
30°x80° elliptic optics



CRI 90



6603 Techno System						
		CLD	CLD E	CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	L	code	code	code	W tot	K - ølm - CRI
LED	1421	133032-00	133032-07	133032-0041	**34**	4000K - 3514lm - **CRI 90**
		133033-00	133033-07	133033-0041	**68**	4000K - 7029lm - **CRI 90**

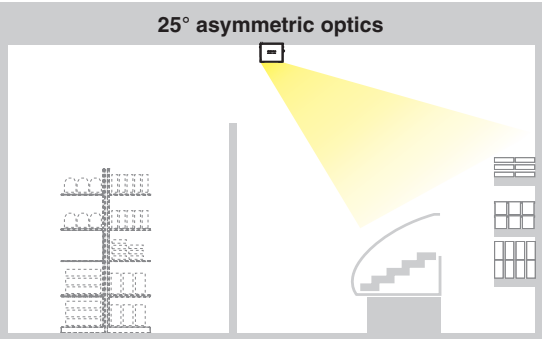




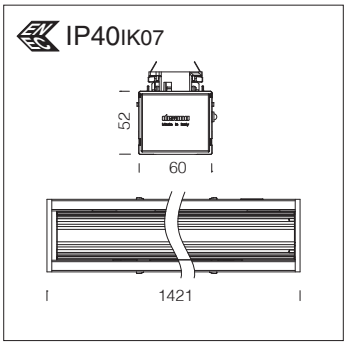
CRI 90

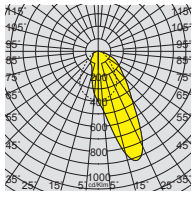


25° asymmetric optics



IP40IK07



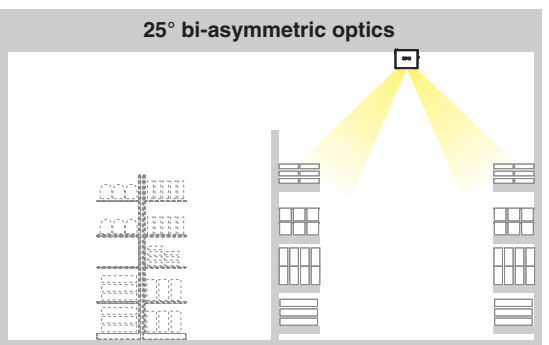


6601 Techno System						
		CLD	CLD E	CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	L	code	code	code	W tot	K - ølm - CRI
LED	1421	133012-00	133012-07	133012-0041	**34**	4000K - 3273lm - **CRI 90**
		133013-00	133013-07	133013-0041	**68**	4000K - 6547lm - **CRI 90**

CRI 90



25° bi-asymmetric optics



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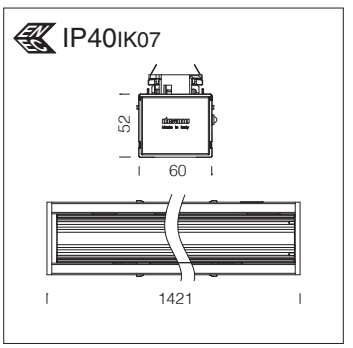
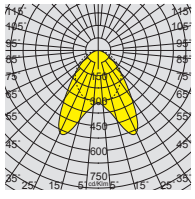
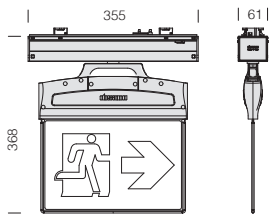




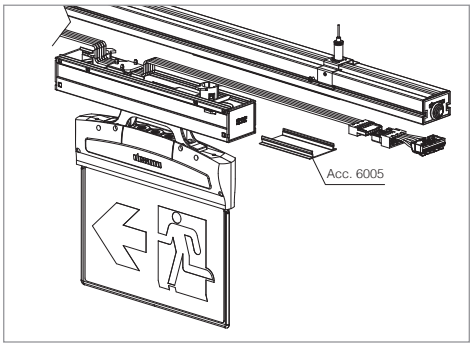
6602 Techno System						
		CLD	CLD E	CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	L	code	code	code	W tot	K - ølm - CRI
LED	1421	133022-00	133022-07	133022-0041	**34**	4000K - 3631lm - **CRI 90**
		133023-00	133023-07	133023-0041	**68**	4000K - 7263lm - **CRI 90**

IP40IK07 ▣



EM 1/3H





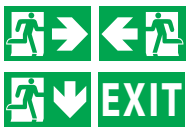
Housing: in white plastic material.

Reflector: in transparent plexiglass.

Versions:
emergency run time: 60/180 minutes. When power is restored, the battery recharges automatically in 12/24h hours.

6610 Safety Flag S.A.				
		CLD CEM-L		LED (tj= 25 °C)
LED	colour	weight	code	**autonomy** - K - CRI
LED	white	1.00	133100-00	**1h** - 6000K - CRI>80
			133101-00	**3h** - 6000K - CRI>80
Version for Techno System.				

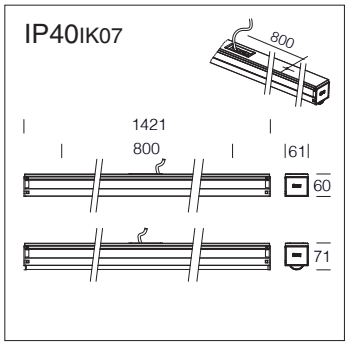
acc. 470 labels - Self-adhesive pictograms available and visible up to 37 m. UNI EN1838



acc. 470 labels	
right out	995133-00
left out	995134-00
down out	995135-00
exit	995136-00

TECHNO SYSTEM LED DIRECTLY MOUNTED TO THE CEILING

IP40IK07



All versions of the **Techno System** LED series with subcode **-42** are equipped with a special upper cover for the direct mounting to the ceiling; this allows the installation of the ceiling lamp without using the cable track.

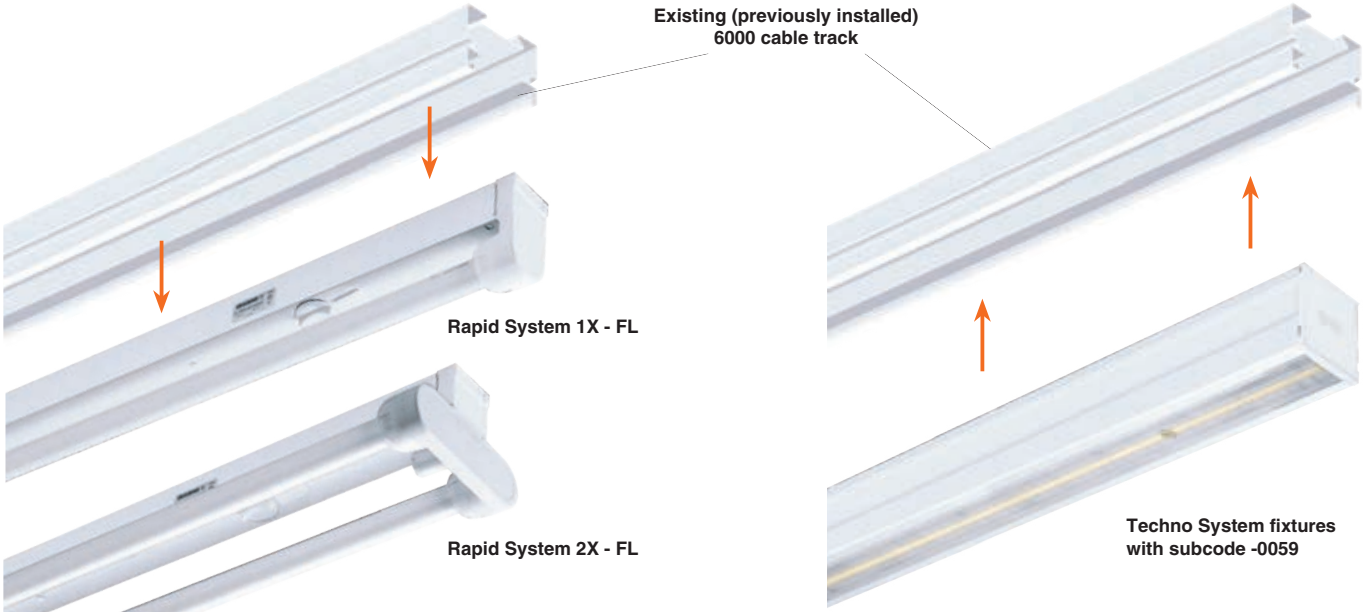


Techno System fixtures with subcode -42



REPLACE YOUR RAPID SYSTEM FL FIXTURES WITH THE NEW TECHNO SYSTEM LED

All **Techno System LED** fixtures with **subcode -0059** are designed to directly replace Rapid System FL ceiling lamps. The special mounting clip will make relamping quick and easy. For application on existing art. 6000 power tracks with the presence of through-cables, we recommend using acc. 6030 as a cable holder or cable clip.




DELICATESSEN
xtra deals

GENERAL CHARACTERISTICS

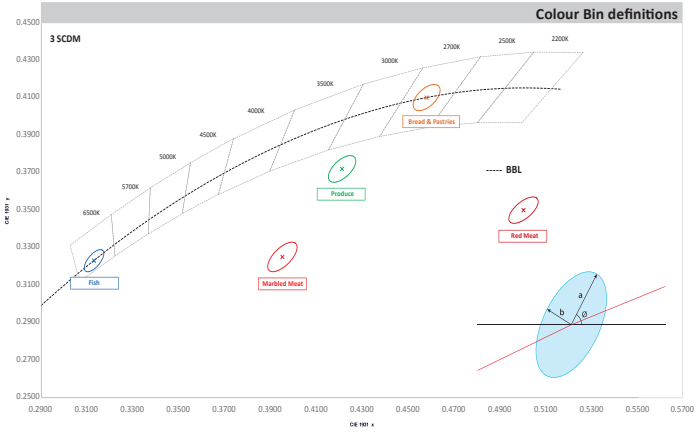
Highlighting the freshness, colours and appearance of the foods on display is fundamental to improve the shopping experience and increase the customer's purchase intention. The **LED** sources especially designed for the **FOOD** sector are the best solution to effectively illuminate the foods on display, such as: **MEAT, FISH, FRUIT, VEGETABLES, CHEESE, BREAD AND PASTRY.**

The range of products presented for the FOOD retailing sector ensures incredible results for any type of food product. Bright, lively and brilliant colours are guaranteed by LED lights combined with high colour renderings and dedicated colour spectrums.
This result is also achieved with high performance optics to further improve energy-efficiency and reduce consumption. LEDs are manufactured to have a low impact on the environment and ensure the correct energy classification of lighting fixtures.

LED technology offers over 50,000 hours of practically maintenance-free operation; furthermore LED sources are well suited to ensure food safety, because they do not emit infrared and ultraviolet radiations that have negative and degenerative effects on the food, accelerating the decay of the organoleptic properties of the product.

CATEGORY		FEATURES
	**Meat and meat products**	Enhancing the red colour of meat adds a fresher look to the products.
	**Bread and bakery**	Warm light enhances the gold hue of bakery products.
	**Cheese and dairy products**	White light is also suitable for fresh cheese and attracts buyers.
	**Fruit and vegetables**	Bright white light enhances the colour of fresh vegetables, while warm colours make fruit look more attractive.
	**Fish and shellfish**	Cold white light reflecting on the ice is perfect for fresh fish, adding to it the appearance of fish just out of the water.

Bins are colour delimitations of the LED source. New generation products like **FOOD LED** have a colour group area and an innovative position on the virtual white curve (BBL). Slightly higher costs mean increased lighting quality, more saleable wares and greater visual comfort.



PRODUCT	COLOUR SPACE	CENTER POINT [1] (cx, cy)	MAJOR AXIS, a	MINOR AXIS, b	ELLIPSE ROTATION ANGLE, θ
Produce	Single 3-step MacAdam ellipse	(0.4210, 0.3720)	0.00834	0.00408	53.20°
Red Meat	Single 3-step MacAdam ellipse	(0.5000, 0.3500)	0.00862	0.00397	49.30°
Marbled Meat	Single 3-step MacAdam ellipse	(0.3950, 0.3250)	0.00939	0.00402	53.70°
Fish	Single 3-step MacAdam ellipse	(0.3130, 0.3230)	0.00669	0.00285	58.60°
Bread & Pastries	Single 3-step MacAdam ellipse	(0.4578, 0.4101)	0.00810	0.00420	53.70°

Graphic representation of BINNING: choice of LEDs to use in relation to their colour temperature.

UPON REQUEST

Versions with special LEDs for the **FOOD** industry (*Red Meat, Marbled Meat, Fish, Bread &, Pastries and Produce*).



MEAT
subcode -00000036





BREAD - CHEESE
subcode -00000034

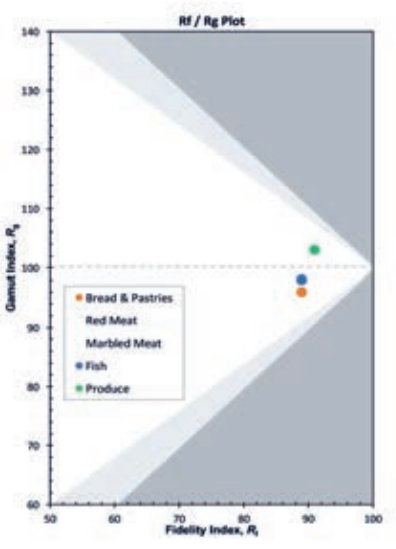


FRUIT - VEGETABLE
subcode -00000035



FISH
subcode -00000037

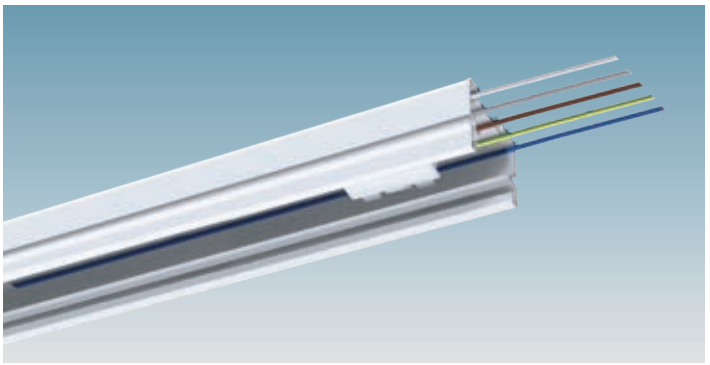




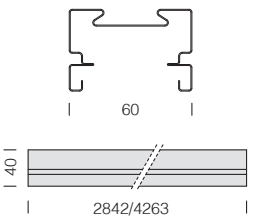
Measure

Fidelity Index - Rf: analogous to CIE Ra (CRI). Characterizes the average color shift of the 99 CES to characterize the overall level of similarity between the test source and reference illuminant. Values range from 0 to 100.
Gamut Index - Rg: compares the area enclosed by the average chromaticity coordinates in each of 16 hue bins to characterize the average saturation level of the test source compared to the reference illuminant. A neutral score is 100, with values greater than 100 indicating an increase in saturation and values less than 100 indicating a decrease in saturation. The range in values grows as fidelity decreases.
Rf and Rg form a complimentary two-measure system, which can be plotted to visually illustrate the tradeoff between fidelity and saturation. The blue points represent real sources, with the shaded areas approximating combinations that are not possible for sources on the blackbody locus (light gray) or not classified as white light (dark gray).

Track housing: painted rolled steel with rounded edges for hand safety and galvanized steel previously stove-enamelled with a UV-stabilised, anti-yellowing white polyester resin applied after phosphate treatment; supplied with cable 1,5 mm².



IP40 IK08

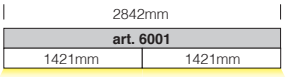


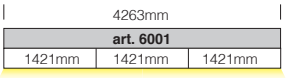
The **power track 6001** is available in two standard lengths, 2842 mm and 4263 m. These lengths correspond exactly to the length of 2 or 3 linear luminaires, so basically the track is made to be used with 2 or 3 connectors depending on the length chosen.

6001 power track - for continuous line

			S	
size	colour	conductors	weight	code
2842	white	**5-pole**	3.25	132960-00
		7-pole		132961-00
		11-pole		13296146011138
4263	white	**5-pole**	4.70	132965-00
		7-pole		132966-00
		11-pole		13296600010923

Designed to allow the quick continuous line mounting of luminaires of the Techno System series.



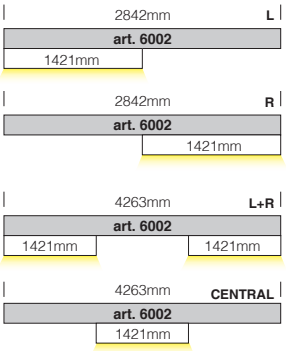


The **power track 6002** is designed to be used with a lower number of connectors (1 or 2) for applications where continuous line mounting is not required. It will ensure aesthetic uniformity (due to the absence of unused connectors) and increase savings.

6002 power track - non-continuous line

			S		
size	colour	conductors	weight	**1 connector (L)** code	**1 connector (R)** code
2842 1 connector	white	**5-pole**	3.25	13296046000200	13296046002265
		7-pole		13296100002265	13296100002021
		11-pole		13296100002266	13296100002267
				2 connectors (L+R) code	**1 connector (CENTRAL)** code
4263 1/2 connectors	white	**5-pole**	4.70	13296546000199	13296546002265
		7-pole		13296600002022	13296600002023
		11-pole		13296600002025	13296600002268

Designed to allow the quick non-continuous line mounting of luminaires of the Techno System series.



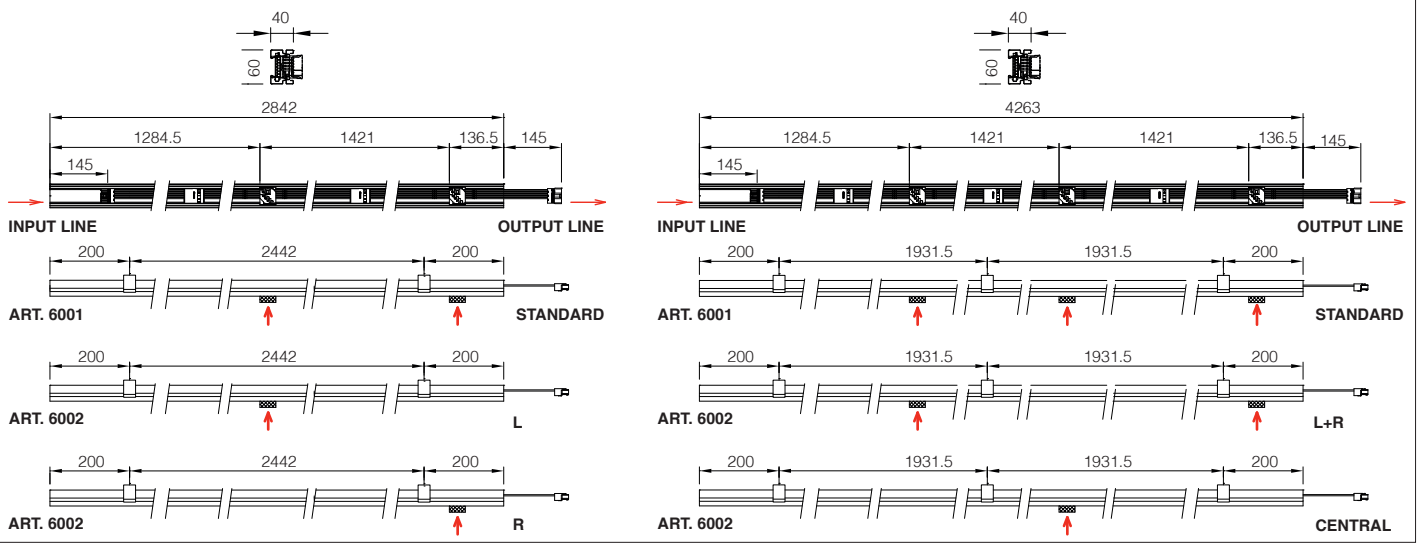
The **power track 6003** is made to be used without any fixed connector. In this case luminaires are mounted with accessory 6620 (mobile disconnector), by positioning any number of luminaires anywhere along the track. Further lengths and special configurations can be ordered after verification upon the buyer's request.

6003 power track - without connector

			S	
size	colour	conductors	weight	code
2842	white	**5-pole**	3.25	132970-00
		7-pole		132971-00
		11-pole		132972-00
4263	white	**5-pole**	4.70	132975-00
		7-pole		132976-00
		11-pole		132977-00

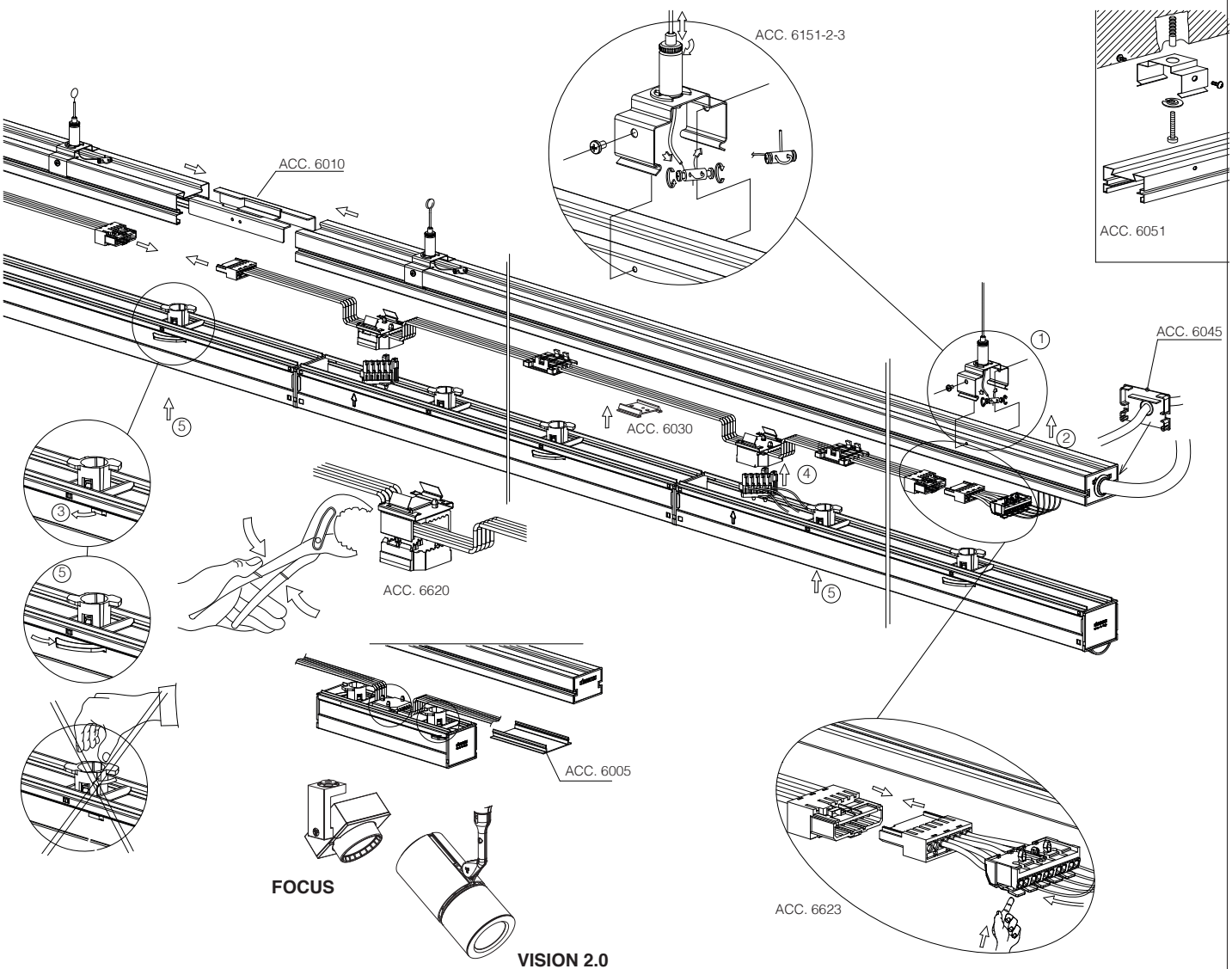
Designed to allow the mounting of luminaires of the Techno System series anywhere along the track. Purchase acc. 6620 separately.

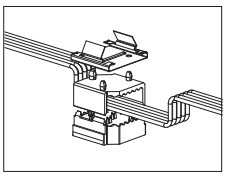
Detail of fixed connector position with power track 6001 or 6002



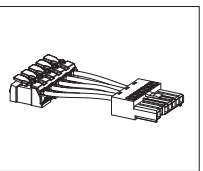
Frame structure for the creation of continuous row of Techno System fixtures or in combination with other products (see table). Simple and quick mounting as a ceiling or a suspension fixture thanks to the wide range of accessories. The power track is designed to house **5-pole** or **7-pole** terminal block (the latter to be used for the **EM**ergency or **DIMM**able **DALI** versions) or **11-pole** blocks (the latter to be used for the **EM**ergency and **DIMM**able **DALI** versions) with rapid connectors.

Mounting Techno System fixture on power track art. 6001 - 6002 - 6003

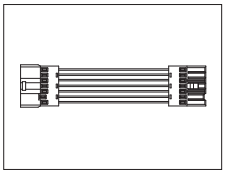




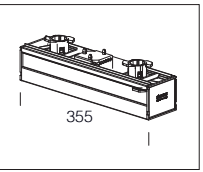
acc. 6620 insulator block		
white	5-pole	994030-00
white	7-pole	994031-00
white	11-pole	994031-00001185
To mount an extra lamp to power track art. 6001-6002-6003.		



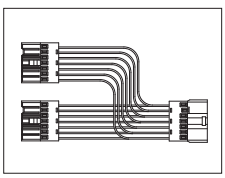
acc. 6623 power supply		
white	5-pole	994036-00
white	7-pole	994037-00
white	11-pole	994037-46001136
Always use for track power supply. Allowed lead cross-section 2.5 sqmm.		



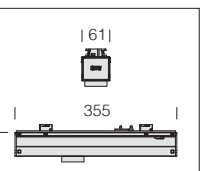
acc. 6621 electric joint		
white	5-pole	994032-00
white	7-pole	994033-00
white	11-pole	994033-46001135
To be used as a angle, cross drop-counterdrop joint to electrical connect 2 tracks art. 6001-6002-6003. Recommended for use in combination with acc. 6015/6025/6070.		



acc. 6624 insulator block cover		
white	5-pole	994038-00
white	7-pole	994039-00
white	11-pole	994044-00
To cover not used insulator block.		



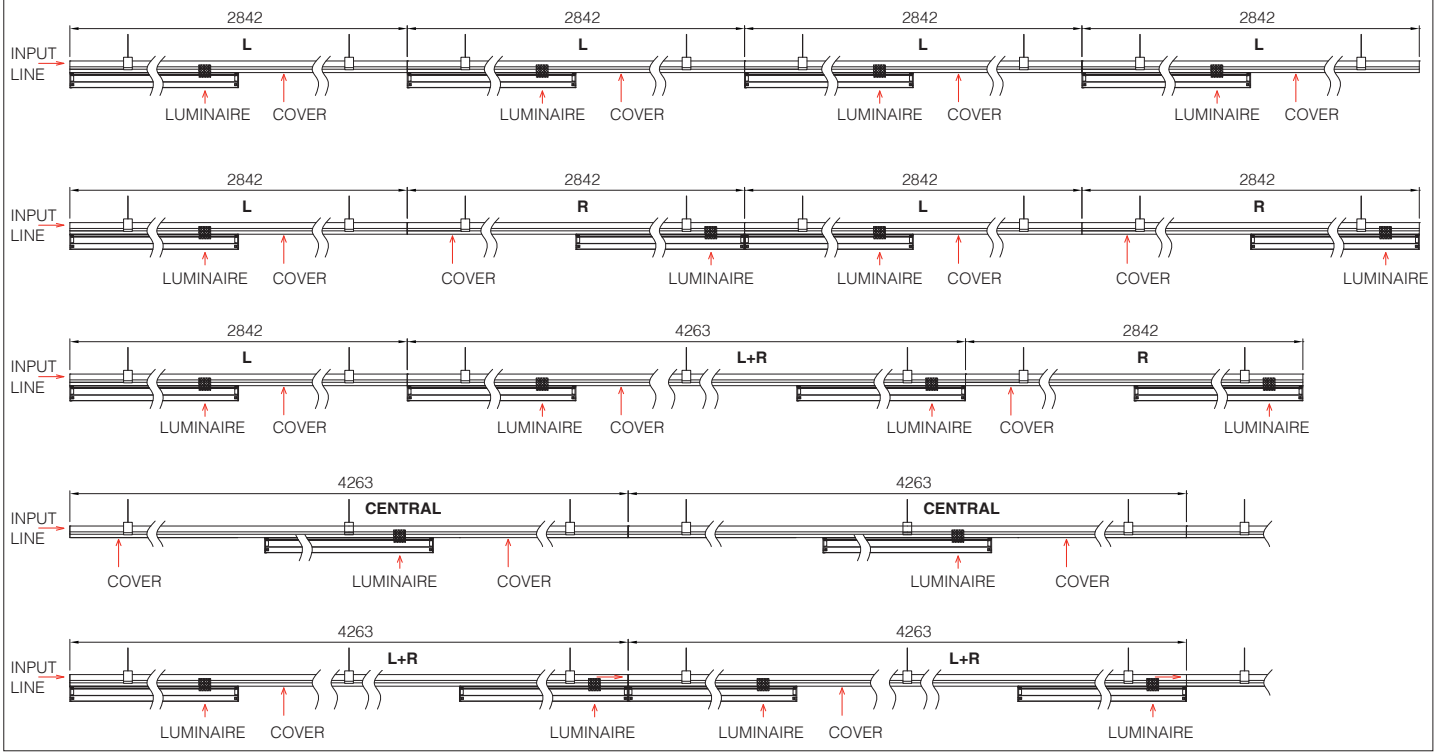
acc. 6622 T electric joint		
white	5-pole	994034-00
white	7-pole	994035-00
white	11-pole	994042-00
To be used as a T joint to electrical connect 3 tracks art. 6001-6002-6003. Recommended for use in combination with acc. 6020.		



acc. 6625 presence and light sensor *	
white	994046-00
Complete with automatic sensor that immediately sense the presence of people's movements and anyone walking past. When there is movement within the sensor's detection range, the light will remain ON. When no further movement is detected, the light will switch OFF after a pre-set time.	

** For more info, see chapter Lighting management systems and recommendations*

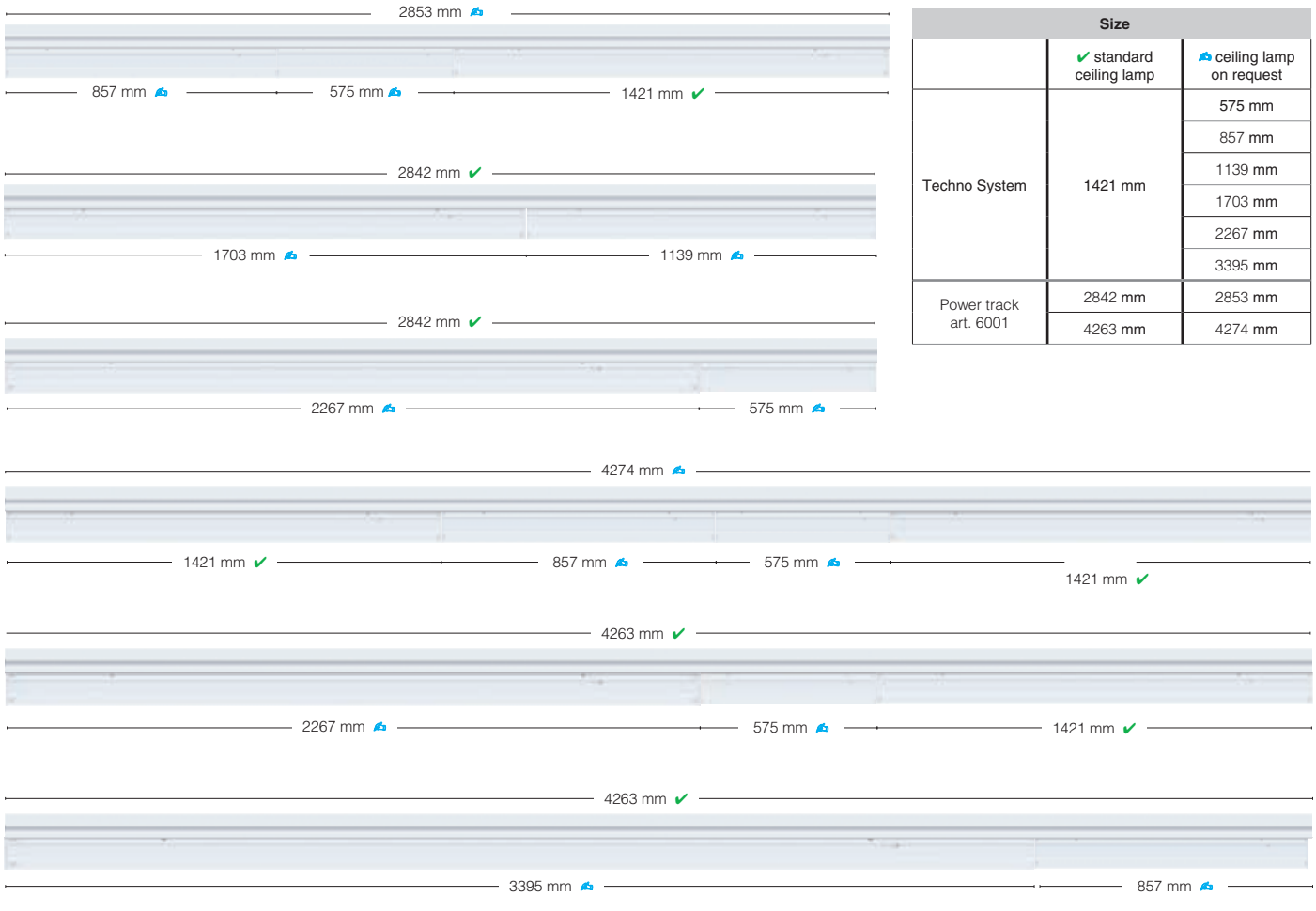
Possible combinations to obtain **“NOT CONTINUOUS LIGHT”** solutions with cable tracks in the standard version (2842 mm and 4263 mm) and in the ceiling lamp version (standard 1421 mm versions).



Overview of the possible combinations to obtain **“ALL LIGHT” solutions** with cable tracks in the standard version (2842 mm and 4263 mm) and in the ceiling lamp version (both standard 1421 mm version and custom size version).

✔ = standard version of Techno System cable track or ceiling lamp

= custom version of Techno System cable track or ceiling lamp

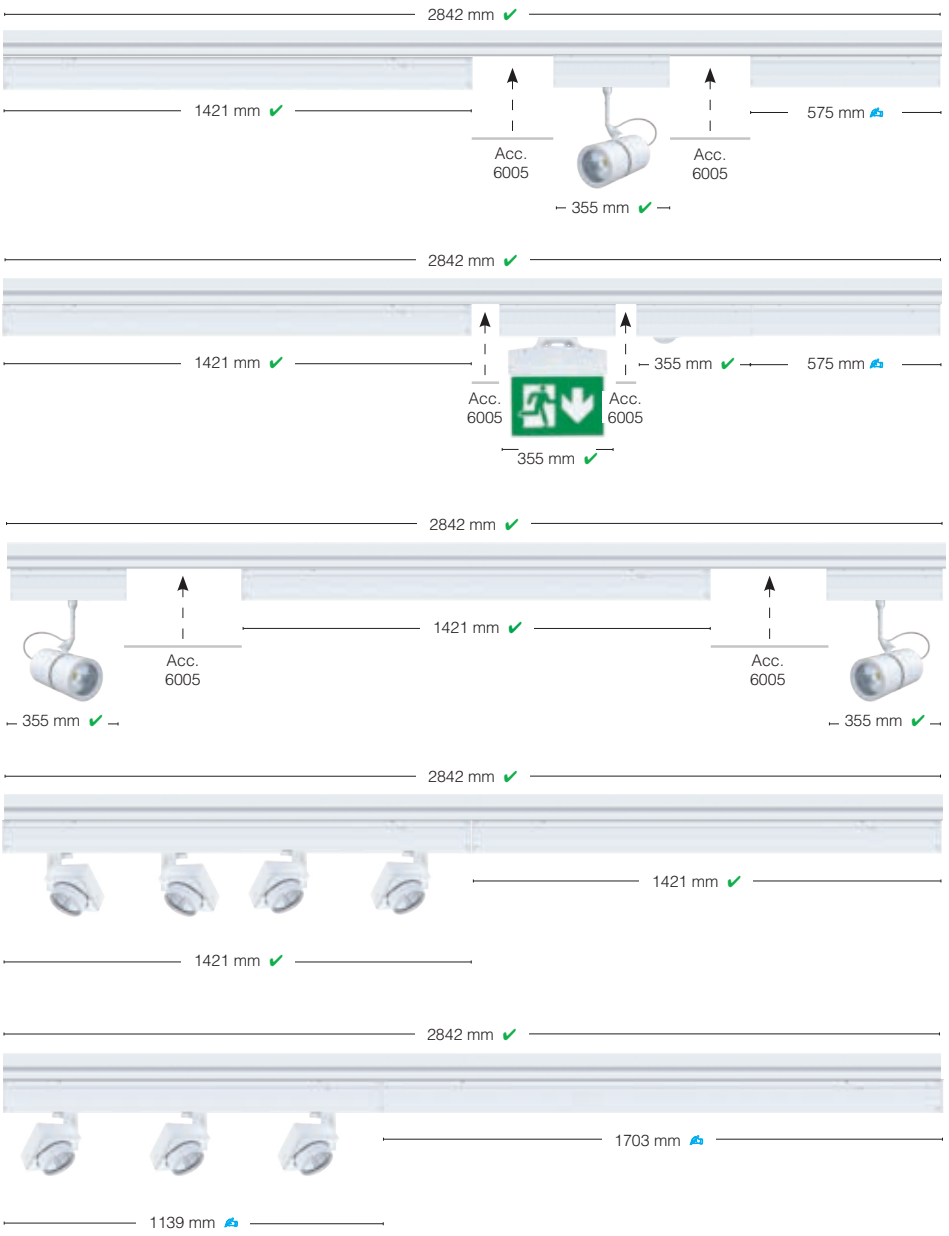


Size		
	✔ standard ceiling lamp	ceiling lamp on request
Techno System	1421 mm	575 mm
		857 mm
		1139 mm
		1703 mm
		2267 mm
		3395 mm
Power track art. 6001	2842 mm	2853 mm
	4263 mm	4274 mm



The following compositions require all the parts left exposed by the fixtures to be covered with Acc. 6005 that can be easily cut out to the desired size.

Thanks to the dedicated support box, the system can fit Fosnova spotlights from the **Focus** (up to 26W-2700lm) **and Vision 2.0** (up to 53W-5500lm).



Absorbed power (W tot= LED+driver) with reference to the lengths of the ceiling lamps:

✔ standard: 1421 mm

upon request: 575 mm - 857 mm - 1139 mm - 1703 mm - 2267 mm

mm	Art.	W tot	
		STANDARD	HE
1421 mm standard ✔	6600 - 6611 HE	34 W	29 W
		68 W	58 W
	6601 - 6612 HE	34 W	29 W
		68 W	58 W
	6602 - 6613 HE	34 W	29 W
		68 W	58 W
	6603 - 6614 HE	34 W	29 W
		68 W	58 W
	6604 - 6615 HE	34 W	29 W
		68 W	58 W
	6605 - 6616 HE	34 W	29 W
		68 W	58 W
	6606 HE	33 W	-
		65 W	-
575 mm	6600 - 6611 HE	13 W	11 W
		27 W	23 W
	6601 - 6612 HE	13 W	11 W
		27 W	23 W
	6602 - 6613 HE	13 W	11 W
		27 W	23 W
	6603 - 6614 HE	13 W	11 W
		27 W	23 W
	6604 - 6615 HE	13 W	11 W
		27 W	23 W
	6605 - 6616 HE	13 W	11 W
		27 W	23 W
857 mm	6600 - 6611 HE	20 W	17 W
		41 W	35 W
	6601 - 6612 HE	20 W	17 W
		41 W	35 W
	6602 - 6613 HE	20 W	17 W
		41 W	35 W
	6603 - 6614 HE	20 W	17 W
		41 W	35 W
	6604 - 6615 HE	20 W	17 W
		41 W	35 W
	6605 - 6616 HE	20 W	17 W
		41 W	35 W
1139 mm	6600 - 6611 HE	27 W	23 W
		54 W	46 W
	6601 - 6612 HE	27 W	23 W
		54 W	46 W
	6602 - 6613 HE	27 W	23 W
		54 W	46 W
	6603 - 6614 HE	27 W	23 W
		54 W	46 W
	6604 - 6615 HE	27 W	23 W
		54 W	46 W
	6605 - 6616 HE	27 W	23 W
		54 W	46 W
1703 mm	6600 - 6611 HE	41 W	35 W
		81 W	70 W
	6601 - 6612 HE	41 W	35 W
		81 W	70 W
	6602 - 6613 HE	41 W	35 W
		81 W	70 W
	6603 - 6614 HE	41 W	35 W
		81 W	70 W
	6604 - 6615 HE	41 W	35 W
		81 W	70 W
	6605 - 6616 HE	41 W	35 W
		81 W	70 W
2267 mm	6600 - 6611 HE	54 W	46 W
		108 W	92 W
	6601 - 6612 HE	54 W	46 W
		108 W	92 W
	6602 - 6613 HE	54 W	46 W
		108 W	92 W
	6603 - 6614 HE	54 W	46 W
		108 W	92 W
	6604 - 6615 HE	54 W	46 W
		108 W	92 W
	6605 - 6616 HE	54 W	46 W
		108 W	92 W
3395 mm	6600 - 6611 HE	81 W	69 W
		162 W	138 W
	6601 - 6612 HE	81 W	69 W
		162 W	138 W
	6602 - 6613 HE	81 W	69 W
		162 W	138 W
	6603 - 6614 HE	81 W	69 W
		162 W	138 W
	6604 - 6615 HE	81 W	69 W
		162 W	138 W
	6605 - 6616 HE	81 W	69 W
		162 W	138 W



GENERAL CHARACTERISTICS

Fixture housing: galvanized steel previously stove-enamelled with UV-stabilised white polyester resin; rounded edges to prevent cutting; polycarbonate end caps.

Standard supply: nylon fastening pawl.

LED module: support in natural anodized extruded aluminium. Micro-fluted diffuser in methacrylate.

Upon request: 3000K versions, DIMM 1-10V and DALI.

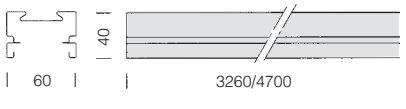
LED: power factor ≥0.95.
Luminous flux maintenance 80%: 80.000h (L80B20).
Photobiological safety class: exempt group.



The LED tubes can be rotated to adjust light and therefore optimise the performance of optic accessories.

RAPID SYSTEM ACCESSORIES

IP40IK08

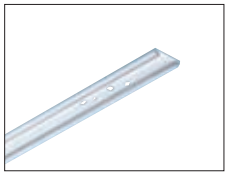


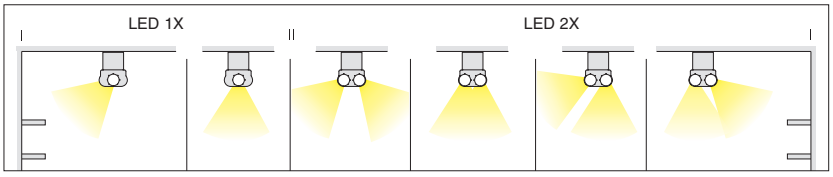
Provision for cable management



For application on existing art. 6000 power tracks with the presence of through-cables, we recommend using acc. 6030 as a cable holder or cable clip.

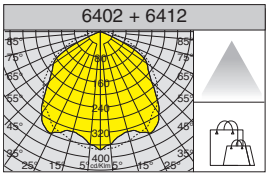
6000 Rapid system - track			
			S
length	colour	weight	code
3260	white	3.25	132900-00
4700	white	4.70	132923-00
Designed to be quickly attached to the Rapid System series luminaires.			

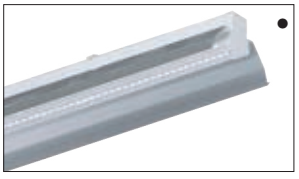


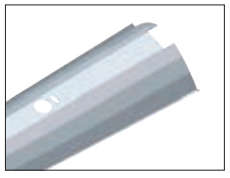


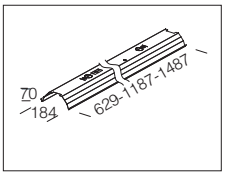
acc. 6405 upper cover	
1x/2x - 628mm	237603-46
1x - 1186mm	237617-00
1x - 1486mm	237613-00
2x - 1186mm	237624-00
2x - 1486mm	237625-00
White steel. For ceiling mounting.	

6402 + 6412



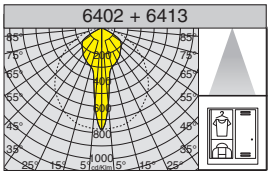


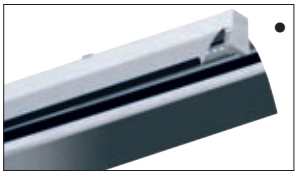


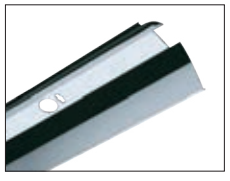


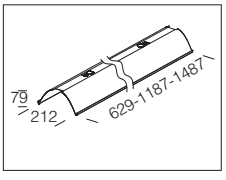
acc. 6412 wide-beam	
L=629	237729-00
L=1187	237730-00
L=1487	237731-00
Polished matt gloss aluminium 99.85, anodized 2µ.	

6402 + 6413



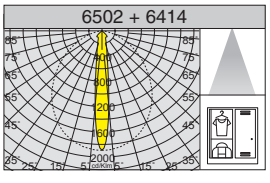






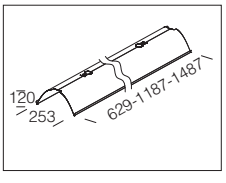
acc. 6413 narrow-beam one/lamp	
L=629	237732-00
L=1187	237733-00
L=1487	237736-00
Polished high-gloss aluminium 99.85, anodised 2µ.	

6502 + 6414



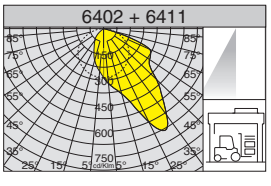




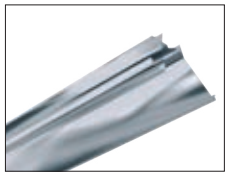


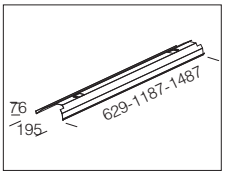
acc. 6414 narrow-beam two-lamp	
L=629	237766-00
L=1187	237764-00
L=1487	237765-00
Polished high-gloss aluminium 99.85, anodised 2µ.	

6402 + 6411





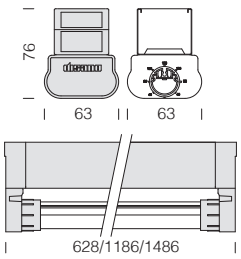




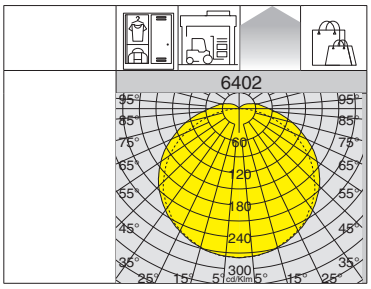
acc. 6411 asymetric reflector	
L=629	237623-00
L=1187	237619-00
L=1487	237622-00
Polished high-gloss aluminium 99.85, anodised 2µ.	

• = application examples

IP40IK07









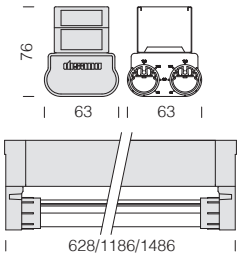
RGO U.V. EM

SUSPENSION

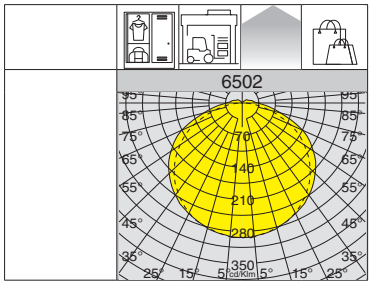
6402 Rapid System - LED 1x

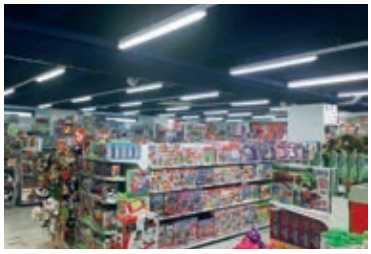
		CLD			CLD E				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	weight	L	code	W tot	K - ølm - CRI
LED 1x	white	1.10	628	237521-00				**14**	4000K - 1795lm - CRI≥80
		1.30	1186	237522-00	1.80	1186	237522-07	**28**	4000K - 3592lm - CRI≥80
		1.50	1486	237523-00	2.00	1486	237523-07	**34**	4000K - 4493lm - CRI≥80

IP40IK07







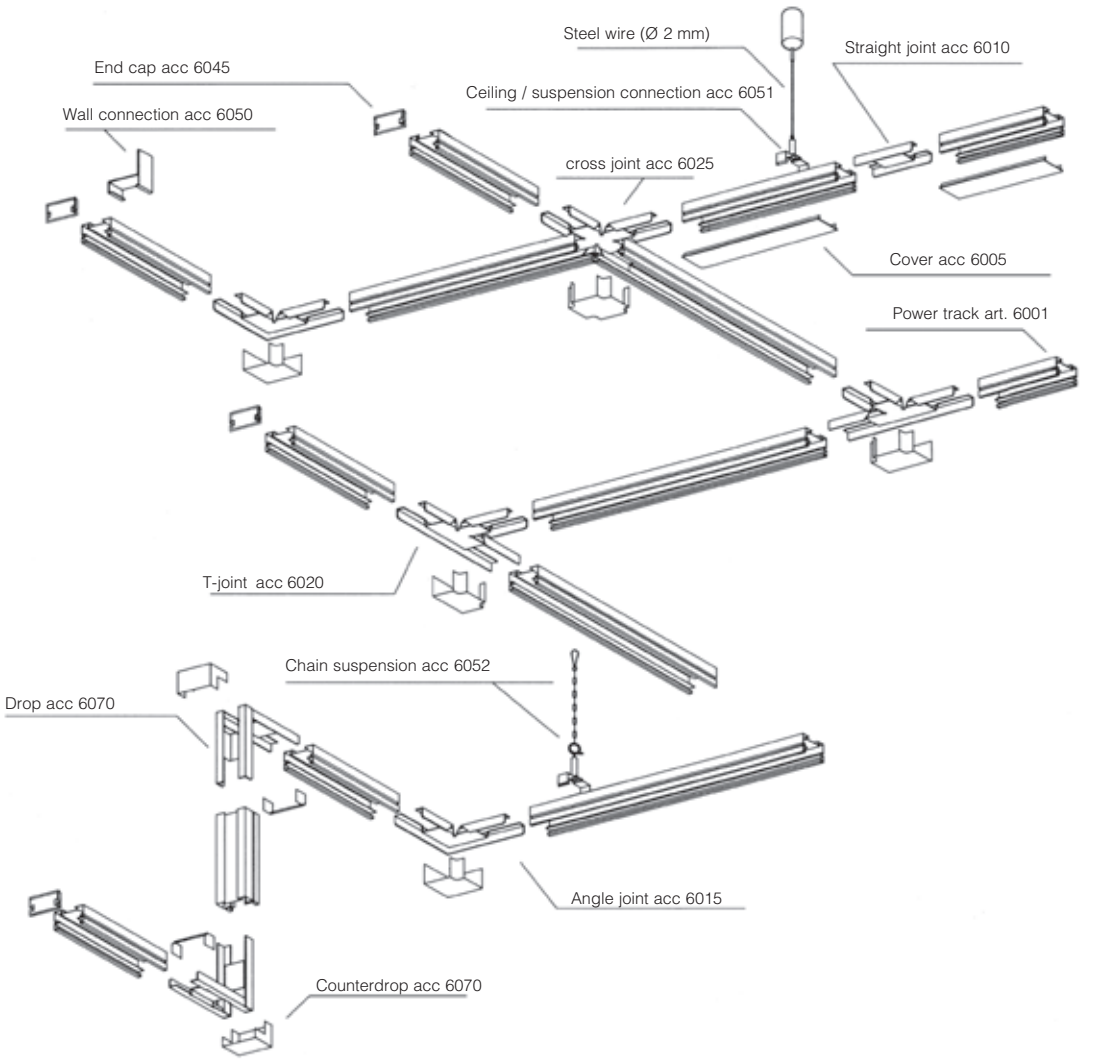


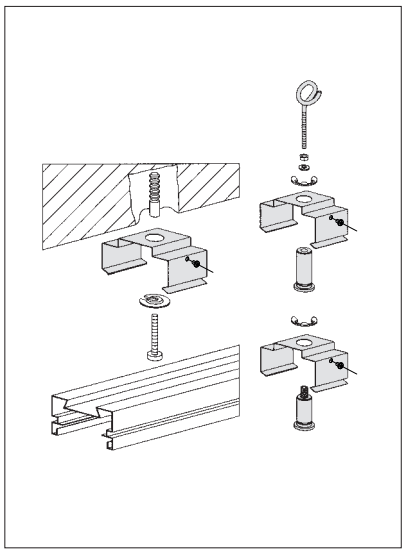
RGO U.V. EM

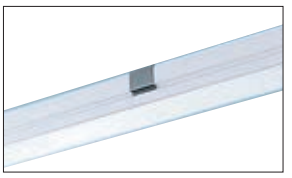
6502 Rapid System - LED 2x

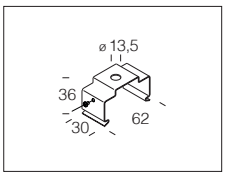
		CLD			CLD E				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	weight	L	code	W tot	K - ølm - CRI
LED 2x	white	1.10	628	237541-00				**28**	4000K - 3496lm - CRI≥80
		1.30	1186	237542-00	1.80	1186	237542-07	**56**	4000K - 6694lm - CRI≥80
		1.50	1486	237543-00	2.00	1486	237543-07	**68**	4000K - 8743lm - CRI≥80

ACCESSORY FOR SUSPENSION MOUNTING





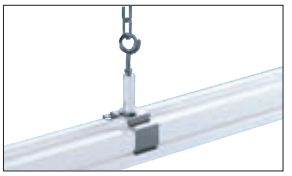


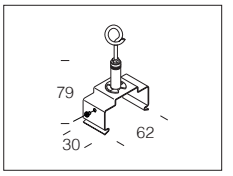


acc. 6051 ceiling / suspension connection

stainless steel	132927-00

In steel. For direct ceiling mounting or suspension with rods. At least 2 pcs. per track.

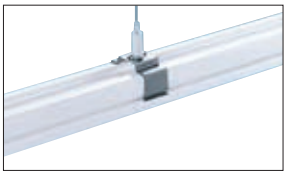


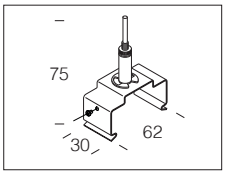


acc. 6052 chain suspension

stainless steel	132928-00

In steel. For chain suspension. With track connection acc 6051. At least 2 pcs. per track.

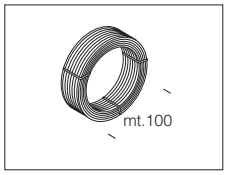




acc. 6053 wire suspension

stainless steel	132929-00

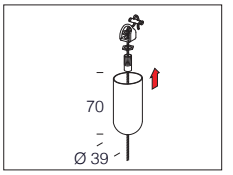
In steel. For suspension with wire. With millimetric adjustment. Complete with acc 6051. Max load: 30 kg.



acc. 6512 wire

steel	132930-00

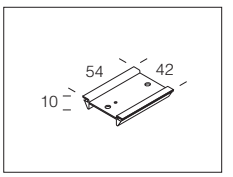
Steel wire. To be used when installation requires a longer wire than the one supplied with acc. 6510.



acc. 6510 suspension

white	993914-00

Suspension supplied with Ø 2 mm steel wire, 1.5 m long. Max load: 30 kg. To suspend acc 6018.



acc. 6030 support-wire clip

white	132906-00

Support, for snap-on fastening on track art. 6000. To be used as wire clip.

MECHANICAL ACCESSORIES AND JOINTS

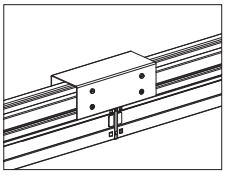


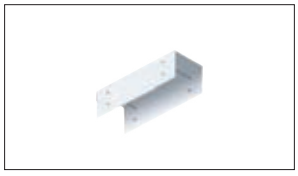


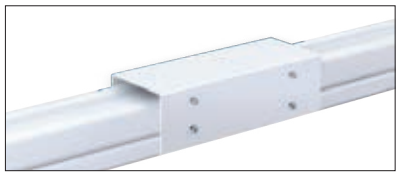
acc. 6011 safety coupling

white	132907-00

Made of galvanized steel. We recommend using this coupling accessory when mounting the lamp near the joint of track 6001-6002-6003 to obtain greater mechanical safety.



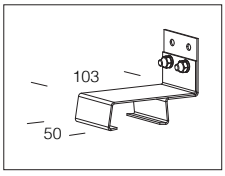




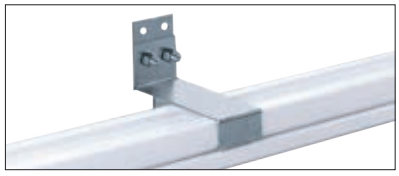
acc. 6050 wall bracket

galvanized	132911-00

Zinc-plated steel bracket. For wall mounting of track art. 6001-6002-6003. 2 per pack.



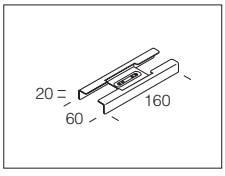


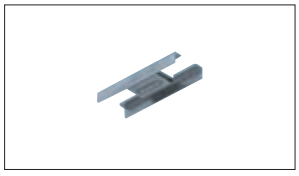


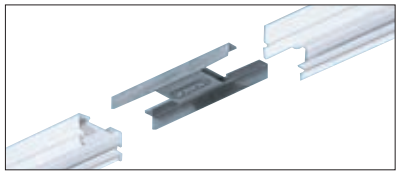
acc. 6010 straight joint

	132902-00

Made of galvanized steel. For alignment of 2 tracks art. 6001-6002-6003. To be used in combination with acc. 6621.



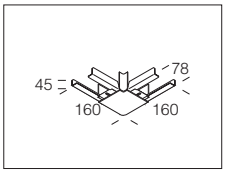


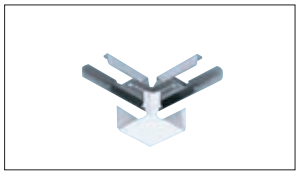


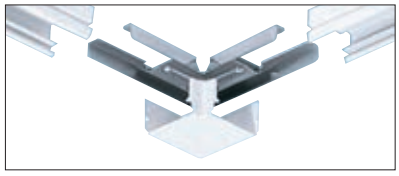
acc. 6015 angle joint

white	132903-00

Made of galvanized steel with a white thermoplastic material cover. For “L”- jointing of 2 tracks art. 6001-6002-6003. To be used in combination with acc. 6621.



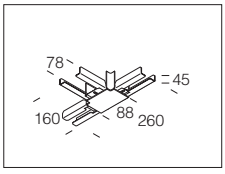


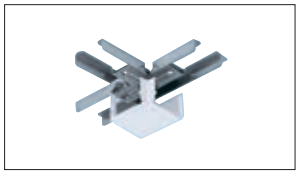


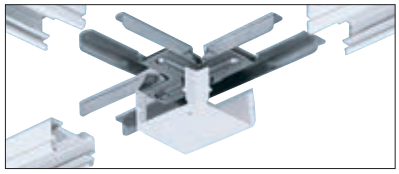
acc. 6020 T joint

white	132904-00

Made of galvanized steel with a white thermoplastic material cover. For jointing of 3 tracks art. 6001-6002-6003. To be used in combination with acc. 6622.



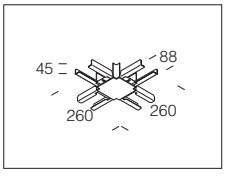


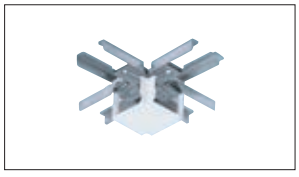


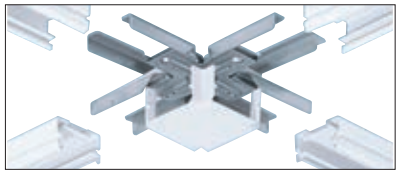
acc. 6025 cross joint

white	132905-00

Made of galvanized steel with a white thermoplastic material cover. For the jointing of 2/3/4 tracks art. 6001-6002-6003. To be used in combination with acc. 6621.



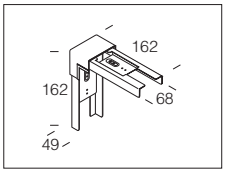


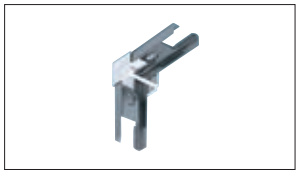


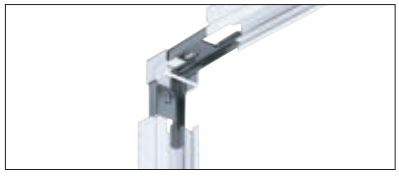
acc. 6070 drop-counterdrop

white	132914-00

Zinc plated steel joint with white thermoplastic material cover. To change the installation level of track art. 6001-6002-6003. To be used in combination with acc. 6621.



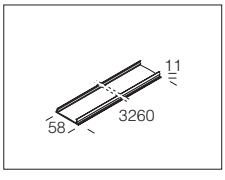


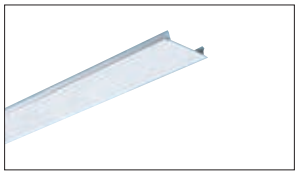


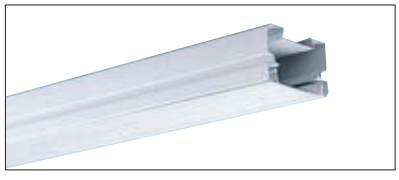
acc. 6005 cover

white	132901-00

V0 self-extinguishing PVC. To cover track art. 6001-6002-6003.



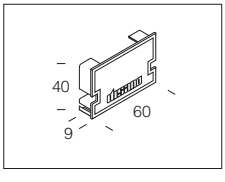


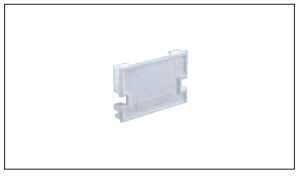


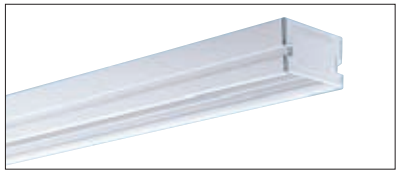
acc. 6045 end cap

white	132909-00

Made of white thermoplastic material. Used to close the end section of track art. 6001-6002-6003.








RENAULT TRUCKS
RENAULT TRUCKS

GENERAL CHARACTERISTICS

Housing: in die-cast aluminium with cooling fins. Black nylon enclosure for versions with diameters of 370mm and power supply of up to 151W.

Optics: made of PMMA with high temperature resistance and UV rays.

Diffuser: art. 2882/83/84/88 4mm thick tempered glass, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001).

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Equipment: The fixture is equipped with air recirculation valve and insulation connector for quick installation with **no need to open the fixture;** silicone rubber gasket; external screws and bolts in stainless steel.

SURGE

Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

Upon request: for **Class II** fixtures, protection up to 10KV.

OTHER CHARACTERISTICS



The heat dissipation system was designed to allow LED operation at adequate temperatures and guarantee excellent performance/efficiency and long life.



Versions available with built-in presence/light sensor with ON-OFF function, dimmable (0-10V, 1-10V or DALI) or for ZHAGA socket.

LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

OTHER INFORMATION



One attachment point: the versions with 370 mm diameter come with dedicated accessories for suspension mounting. They are supplied with two steel cables (L= 25cm) having clamping ring for mounting the fixture from one point of attachment.



Two attachment points: option to suspend the fixture from two points of attachment using the two cables supplied with the product (suited for elliptical lamp versions).

EM

EM: subcode -07

UPON REQUEST



Installation on busbar: for versions with a diameter of Ø 370 mm, the fixture can be suspended from two attachment points by means of threaded bar (L = 200 mm) and hook to be purchased separately.

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

DIMM DIG

Version **CLD D-D (DALI)** wiring with **subcode -0041.**

EM EC

Version with emergency wiring with centralized power supply **CLD EC (subcode -0050).**

AMBER LED

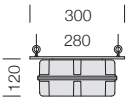
Version with **AMBER LED 2200K** with subcode **-73**
Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

Luminous flux maintenance Power factor ≥0.95		Wattage (tot.)	Allowed ambient temperature (min.°C ÷ max.°C)
80%	80.000h (L80B10) *(art. 2882-2883-2884-2888)*	64W	Ta = -20°C ÷ +45°C
		108W	Ta = -20°C ÷ +40°C
		151W	Ta = -20°C ÷ +35°C
80%	80.000h (L80B10) *(art. 2885 HE)*	69W	Ta = -20°C ÷ +45°C
		87W	Ta = -20°C ÷ +45°C
		89W	Ta = -20°C ÷ +45°C
		100W	Ta = -20°C ÷ +50°C
		129W	Ta = -20°C ÷ +40°C
		139W	Ta = -20°C ÷ +40°C
80%	80.000h (L80B10) *(art. 2885 HP)*	140W	Ta = -40°C ÷ +40°C
		186W	Ta = -40°C ÷ +45°C
		220W	Ta = -40°C ÷ +45°C
80%	80.000h (L80B10) *(art. 2895 HT)*	100W	Ta = -40°C ÷ +60°C
		139W	Ta = -40°C ÷ +55°C
90%	40.000h (L90B10)	Ta = -20°C ÷ +35°C	

The table below shows the values for standard versions. For further information (expected life, temperatures) and/or for special versions, please contact our customer service.

ACCESSORIES

acc. 1175 Box
997651-00
997654-00
To be used when purchasing Saturno EM version, with sub-code –07. *997654-00 to be used for 151W/220W versions.





disano

Saturno - skirt





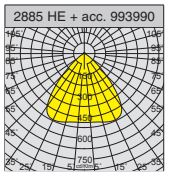


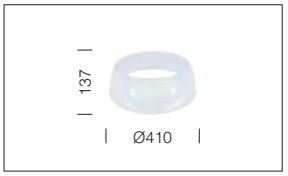
Saturno is the perfect alternative to get the best performance levels without wasting energy in environments where high power outputs are not needed. The reflector is built with carefully selected materials to last in time and designed to allow improved light control. In particular, the version with the opal or clear **Skirt** accessory is ideal to reduce direct glare and ensure a rating of **UGR<22**.

The **coloured** versions of the **Skirt** accessory are particularly suited to be combined with Saturno in the elegant white colour for interiors; ideal to be used as an aesthetic and decorating finishing element for the lighting systems of shopping centres or showrooms.

SKIRT FOR SATURNO Ø320

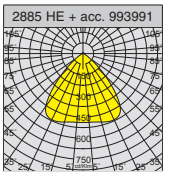






acc. 539 Skirt for Saturno Ø320	
opal	993990-00
In polycarbonate, internally grooved and anti-UV.	

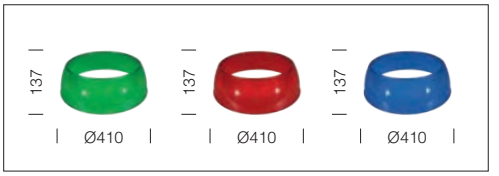






acc. 539 Skirt for Saturno Ø320	
transparent	993991-00
In polycarbonate, internally grooved and anti-UV.	

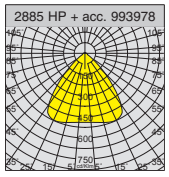


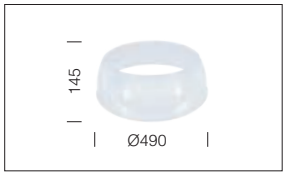


acc. 539 Skirt for Saturno Ø320	
green	993992-00
red	993993-00
blue	993994-00
In polycarbonate, internally grooved and anti-UV.	

SKIRT FOR SATURNO Ø370

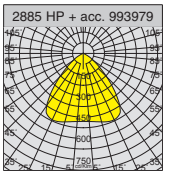






acc. 540 Skirt for Saturno Ø370	
opal	993978-00
In polycarbonate, internally grooved and anti-UV.	

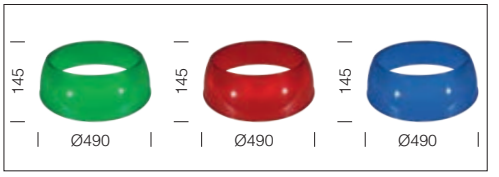






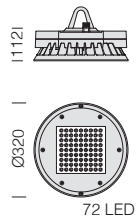
acc. 540 Skirt for Saturno Ø370	
transparent	993979-00
In polycarbonate, internally grooved and anti-UV.	





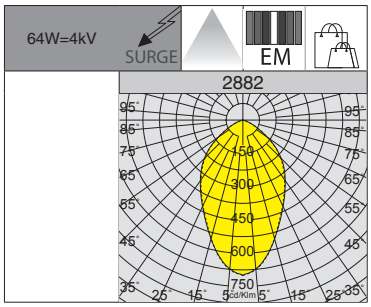
acc. 540 Skirt for Saturno Ø370	
green	993985-00
red	993986-00
blue	993987-00
In polycarbonate, internally grooved and anti-UV.	

IP66IK08



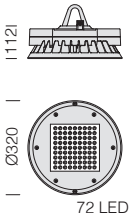
LED: power factor ≥0.95.
Luminous flux maintenance 80%: 80.000h (L80B10).





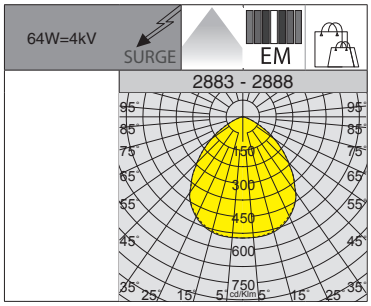
2882 Saturno Ø320 - narrow beam							
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	W tot	K - ølm - CRI
LED	graphite	6.80	320	330730-00	330730-07	**64**	4000K - 8427lm - CRI 80
Emergency version: acc.1175 (997651-00) to be purchased separately.							

IP66IK08



LED: power factor ≥0.95.
Luminous flux maintenance 80%: 80.000h (L80B10).

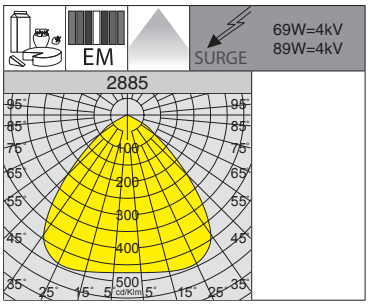




2883 Saturno - wide beam							
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	W tot	K - ølm - CRI
LED	graphite	6.80	320	330740-00	330740-07	**64**	4000K - 8435lm - CRI 80
Emergency version: acc.1175 (997651-00) to be purchased separately.							

2888 Saturno Ø320 white - wide beam							
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	W tot	K - ølm - CRI
LED	white	6.80	320	330743-00	330743-07	**64**	4000K - 8435lm - CRI 80
Emergency version: acc.1175 (997651-00) to be purchased separately.							







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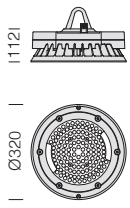


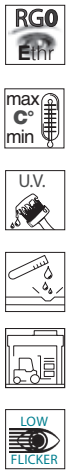
Diffuser: in clear polycarbonate, LEDs with protective lenses.

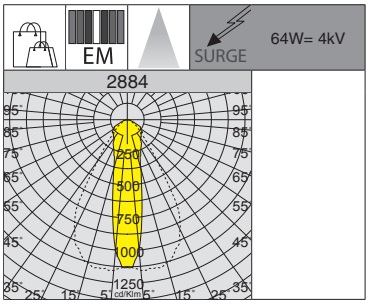
LED: power factor ≥0.95.
Luminous flux maintenance 80%: 80.000h (L80B10).

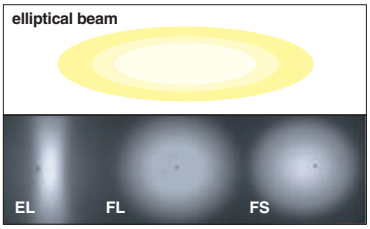
2885 Saturno Ø320 HE - high efficiency - wide beam

		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	W tot	K - ølm - CRI
LED	graphite	5.10	320	330755-00	330755-07	**69**	4000K - 10263lm - CRI 80
				330754-00	330754-07	**89**	4000K - 12670lm - CRI 80

Emergency version: acc.1175 (997651-00) to be purchased separately.









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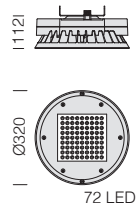


LED: power factor ≥0.95.
Luminous flux maintenance 80%: 80.000h (L80B10).

2884 Saturno Ø320 - elliptical beam

		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	W tot	K - ølm - CRI
LED	graphite	5.60	320	330760-00	330760-07	**64**	4000K - 7846lm - CRI 80

Emergency version: acc.1175 (997651-00) to be purchased separately.

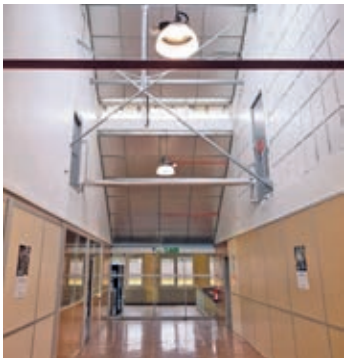
Presence sensor - ON/OFF

Upon request with sub-code -19: Saturno with easy-to-use, safe and convenient **stand-alone** presence sensor; available in the 1/10V version (with sub-code -1219).



TECHNICAL SPECIFICATIONS	
Power source	220-240 Vac - 50/60Hz
High frequency	5.8GHz±75MHz, ISM wave band, <0.5mW
Detection angle	ceiling: 360° - wall: 150°
Detection area	8 max (choice)
Detection motion speed	0.5~3m/s
Installing height	ceiling: 3-15 m max.
Power consumption	≤0.5W (standby), <1W (operation)
IP degree	IP65
Technology	PIR
Operating temperature (sensor)	-35 ... +70 °C
Hold time (choice)	5s / 30s / 90s / 3min / 20min / 30min
Ambient light (choice)	5lux / 15lux / 30lux / 50lux /100lux / 150lux / Disable

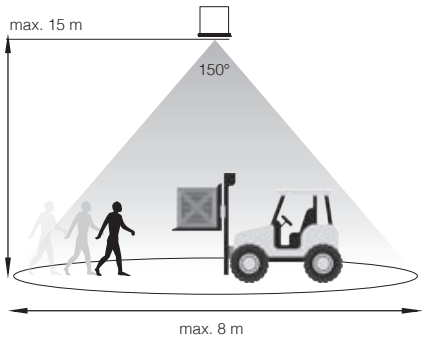
Remote control (cod. **81420019**) to be purchased separately to change parameters after installation, without opening the fixture



External motion sensor with twilight function (radar sensor with PIR technology)

SCAN AREA: can be reduced by selecting the relevant combination on the remote control to set sensor data for each application.

HOLD TIME: refers to the amount of time the lamp stays on at 100% of the light level after no motion is detected.



Presence and light sensor - DIMM DALI

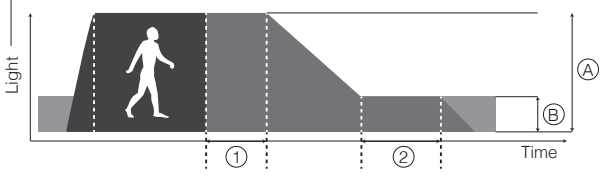
Upon request with sub-code -0061: Saturno DALI version with easy-to-use, safe and convenient automatic presence and light sensor.



TECHNICAL SPECIFICATIONS		
Rated supply voltage	220-240 Vac - 50/60Hz	
Power consumption	2 W	
Output, stand-by	0,5 W	
Operating temperature (sensor)	0 ... +60 °C	
IP degree	IP65	
Time delay (regolabile)	min: 30sec - max: 60min	
Technology	PIR	
Max. installation height	16m	
Light detection angle	13 °	
Motion detection angle	high	low
	72°	60°
Momentary-action switch input for on/off switching and dimming		

All functions can be set by request or with the (optional cod. **81420022**) remote control

Lights can be dimmed from 100% to 1% (with the option to go completely OFF)

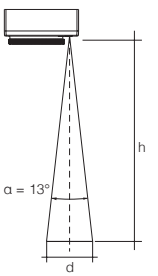


Time can be set from 30 sec. to 60 min.

Default Parameter Motion Detector

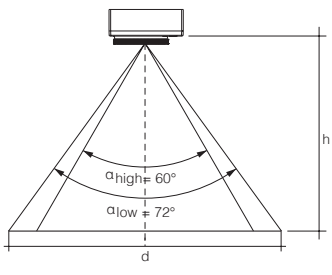
A	light-level
1	time delay
B	sec. level
2	if vacant

Light level recognition area



h *	d
8 m	1.8 m
10 m	2.3 m
12 m	2.7 m
14 m	3.2 m
16 m	3.7 m

Presence / motion detection



h *	Zoom	d
8 m	low	12.0 m
9 m	low	13.5m
10 m	low	15.0 m
11 m	low	16.5 m
12 m	low	18.0 m
12 m	high	14.0 m
13 m	high	15.2m
14 m	high	16.4 m
15 m	high	17.6 m
16 m	high	18.8 m







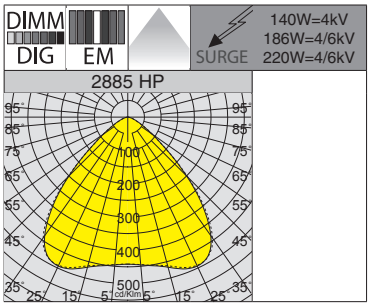




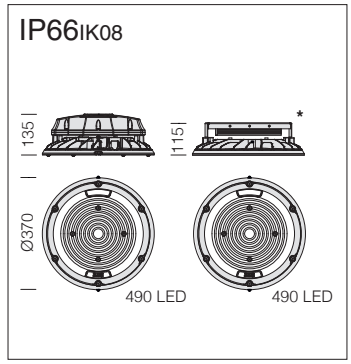












Diffuser: in clear polycarbonate, LEDs with protective lenses.

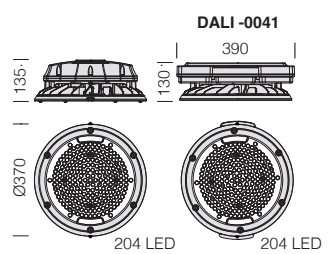
LED: power factor ≥0.95.
Luminous flux maintenance 80%: 80.000h (L80B10).

2885 Saturno Ø370 HP - high performance

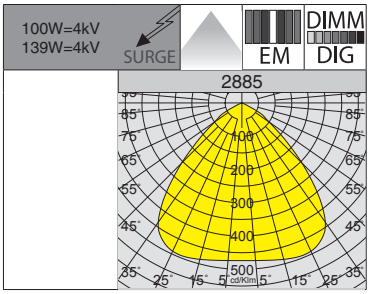
		CLD			CLD E	CLD D-D		LUMEN USCENTI (tq= 25 °C)
LED	colour	weight	Ø	code	code	code	W tot	K - ølm - CRI
LED	graphite	5.00	370	330772-00	330772-07	330772-0041	**140**	4000K - 24480lm - CRI 80
				330773-00	330773-07	330773-0041	***186**	4000K - 29500lm - CRI 80
				330774-00	330774-07	330774-0041	***220**	4000K - 32500lm - CRI 80

Emergency version: acc.1175 (997651-00) to be purchased separately; for 330774-07 acc.1175 (997654-00).
Standard: Saturno with emergency wiring with centralized power supply (**sub-code -0050)**.

IP66IK08







Diffuser: in clear polycarbonate, LEDs with protective lenses.

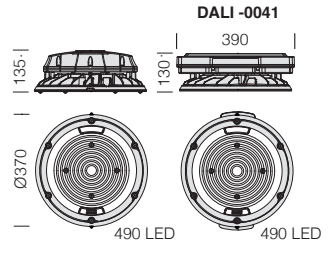
LED: power factor ≥0.95. Luminous flux maintenance 80%: 80.000h (L80B10).

2885 Saturno Ø370 HE - high efficiency - wide beam

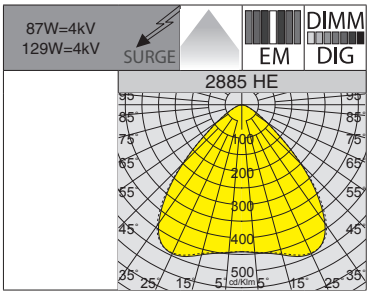
		CLD			CLD E	CLD D-D		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	code	W tot	K - ølm - CRI
LED *	graphite	5.00	370	330776-00	330776-07	330776-0041	**100**	4000K - 16317lm - CRI 80
				330778-00	330778-07	330778-0041	**139**	4000K - 20765lm - CRI 80

Emergency version: acc.1175 (997651-00) to be purchased separately.
Standard: Saturno with emergency wiring with centralized power supply (**sub-code -0050**).

IP66IK08







Diffuser: in clear polycarbonate, LEDs with protective lenses.

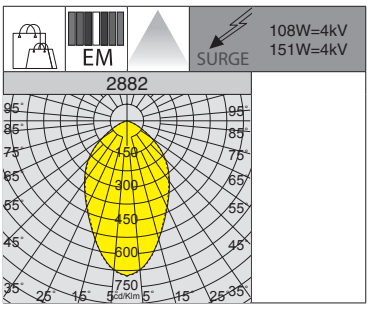
LED: power factor ≥0.95. Luminous flux maintenance 80%: 80.000h (L80B10).

2885 Saturno Ø370 HE - high efficiency

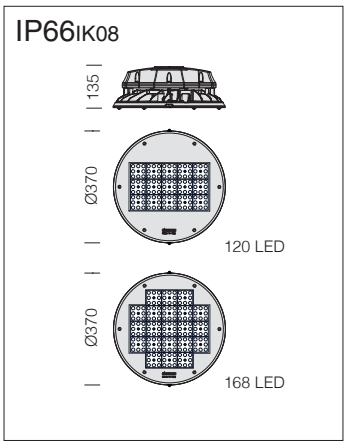
		CLD			CLD E	CLD D-D		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	code	W tot	K - ølm - CRI
LED	graphite	5.00	370	330775-00	330775-07	330775-0041	**87**	4000K - 16340lm - CRI 80
				330777-00	330777-07	330777-0041	**129**	4000K - 22024lm - CRI 80

Emergency version: acc.1175 (997651-00) to be purchased separately.
Standard: Saturno with emergency wiring with centralized power supply (**sub-code -0050**).





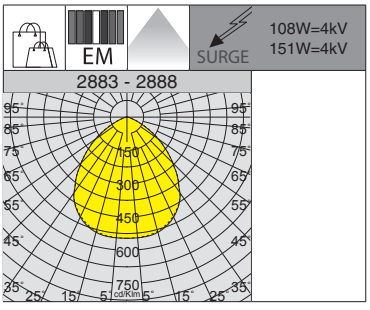




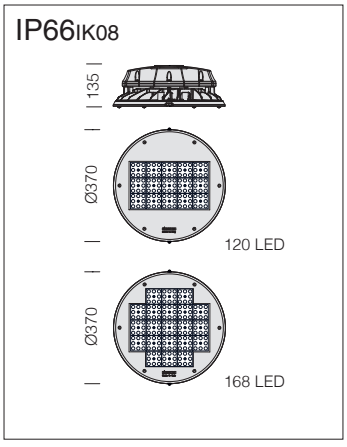
LED: power factor ≥0.95.
Luminous flux maintenance 80%: 80.000h (L80B10).

2882 Saturno Ø370 - narrow beam							
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	W tot	K - ølm - CRI
LED	graphite	5.00	370	330733-00	330733-07	**108**	4000K - 14045lm - CRI 80
				330734-00	330734-07	**151**	4000K - 19664lm - CRI 80
Emergency version: acc.1175 (997651-00) to be purchased separately; for 330734-07 acc.1175 (997654-00).							







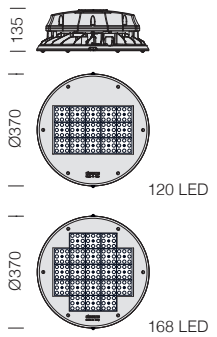


LED: power factor ≥0.95.
Luminous flux maintenance 80%: 80.000h (L80B10).

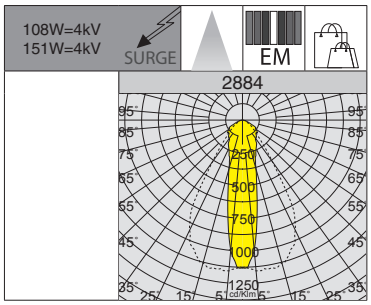
2883 Saturno Ø370 - wide beam							
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	W tot	K - ølm - CRI
LED	graphite	5.00	370	330748-00	330748-07	**108**	4000K - 14058lm - CRI 80
				330749-00	330749-07	**151**	4000K - 19638lm - CRI 80
Emergency version: acc.1175 (997651-00) to be purchased separately; for 330749-07 acc.1175 (997654-00).							

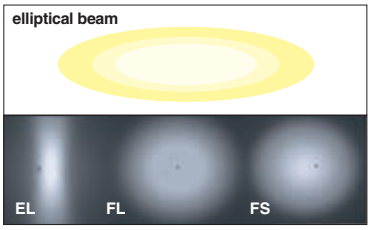
2888 Saturno Ø370 white - wide beam							
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	W tot	K - ølm - CRI
LED	white	5.00	370	330746-00	330746-07	**108**	4000K - 14058lm - CRI 80
				330747-00	330747-07	**151**	4000K - 19638lm - CRI 80
Emergency version: acc.1175 (997651-00) to be purchased separately; for 330747-07 acc.1175 (997654-00).							

IP66IK08





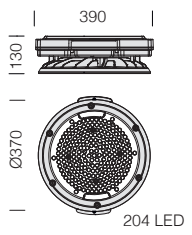




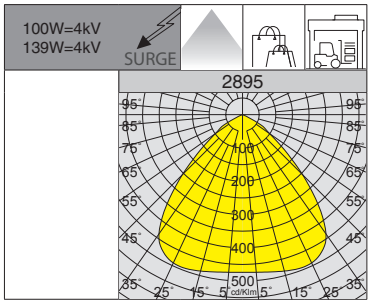
LED: power factor ≥0.95.
Luminous flux maintenance 80%: 80.000h (L80B10).

2884 Saturno Ø370 - elliptical beam							
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	W tot	K - ølm - CRI
LED	graphite	5.00	370	330763-00	330763-07	**108**	4000K - 13078lm - CRI 80
				330764-00	330764-07	**151**	4000K - 18311lm - CRI 80
Emergency version: acc.1175 (997651-00) to be purchased separately; for 330764-07 acc.1175 (997654-00).							

IP66IK08







Diffuser: in clear polycarbonate, LEDs with protective lenses.

LED: power factor ≥0.95.
Luminous flux maintenance 80%: 80.000h (L80B10).

HT version ideal for environments where temperatures reach max **+60 °C.**

2895 Saturno Ø370 HT - high temperature						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	W tot	K - ølm - CRI
LED	graphite	6.00	370	330792-00	**100**	4000K - 16137lm - CRI 80
				330793-00	**139**	4000K - 20765lm - CRI 80

Saturno 2885-2895 Ø370 with sensor

SENSOR STAND-ALONE



Sensor integrated inside the fixture

Presence and light sensor - STAND-ALONE

Upon request with subcode -1219: Saturno comes with **stand-alone** presence and light sensor with 0-10V control

TECHNICAL CHARACTERISTICS	
Mains voltage	220-240 Vac - 50/60Hz
Frequency	5.8GHz±75MHz
Detection angle	ceiling: 360°
Detection area	8-14m max (adjustable)
Installation height	ceiling: 12 m (≤ 15 m max.)
Energy consumption	≤ 0.5W (stand-by)
Technology	Microwave
Sensor operating temperature	-20 ... +70 °C

(Optional cod. **81420143**) remote control to change parameters after installation, without opening the fixture



If the sensor does not detect motion, lights stay on constant for a pre-set time.



As soon as the sensor detects motion in the scan area, lights will automatically increase to 100%.



If no motion is detected after a certain amount of time, the sensor will dim back to the set level.

PARAMETERS SETTINGS WITH REMOTE CONTROL	
Technology	Remote control (optional)
Detection area	100% / 75% / 50% / 25%
Motion detection speed	0,5~1,5m/s
Hold time (adjustable)	5s / 30s / 1min/ 3min / 5min / 10min / 20min / 30min
Ambient light (adjustable)	2lux / 10lux /30lux / 50lux / 80lux / 120lux / OFF
Stand-by dimming level (adjustable)	10% / 20% / 30% / 50%

ZHAGA SOCKET



Saturno with Zagha Socket

Upon request with subcode -0054: Saturno designed to accept **Zhaga Socket.**

Thanks to the **Zhaga socket**, the end user can easily install any type of wireless controller (to be purchased separately) turning the fixture into a **SMART** fixture and therefore capable of being managed with the most common lighting control systems available on the market.
This type of solution is ideal in industrial environments where lights need to adjust constantly to maintain the desired lighting levels based on the amount of daylight inside.



Main characteristics of the **Zhaga socket**:
- Standard interface for all wireless networks
- 24V power, not prone to spikes/overvoltage
- Simple and fast installation of wireless controller
- Ready network: the initial wireless installation and successive update through a wireless network controller
- Quick and simple management of the wireless controller

The socket provides electrical and mechanical connection between the sensor and the fixture necessary to manage industrial lights effectively and efficiently.

Advantages:

- Easy tool-free mounting. The module is attached and secured with a bayonet clamp
- Compact dimensions for greater design flexibility
- The special (push-in) contacts reduce logistics problems arising from the need to use cables with various lengths for different lighting fixtures
- Single built-in seal that protects both the fixture and the modules, minimizing mounting times.

EXAMPLE OF REQUEST: TECHNICAL CHARACTERISTICS	
Mains voltage	220-240 Vac - 50/60Hz
Frequency	5.8GHz±75MHz
Detection angle	ceiling: 360°
Detection area	8m max. (adjustable)
Installation height	ceiling: 15 m max.
Energy consumption	≤ 0.3W (standby)
Operating temperature (sensor)	-35 ... +70 °C



Exemple with Zhaga Socket (subcode -0054) and sensor

PARAMETERS SETTINGS	
Detection area	25% / 50% /75% /100%
Stand-by time	0s /10s/ 1min / 3min / 5min / 10min / 30min / +∞
Ambient light (adjustable)	Threshold :5lux /15lux / 30lux / 50lux /100lux /150lux / Disable Priority: ON/OFF (5lux / 15lux / 30Lux / 50lux) / 150lux 100lux / 200lux 150lux / 300lux
Hold Time (adjustable)	5s / 30s /1min / 3min / 5min / 10min / 20min / 30min
Stand-by dimming level	10% / 20% / 30% / 50%

Presence sensor - ON/OFF

Upon request with sub-code -19: Saturno with easy-to-use, safe and convenient **stand-alone** presence sensor; available in the 1/10V version (with sub-code -1219).



TECHNICAL SPECIFICATIONS	
Power source	220-240 Vac - 50/60Hz
High frequency	5.8GHz±75MHz, ISM wave band, <0.5mW
Detection angle	ceiling: 360° - wall: 150°
Detection area	8 max (choice)
Detection motion speed	0.5~3m/s
Installing height	ceiling: 3-15 m max.
Power consumption	≤0.5W (standby), <1W (operation)
IP degree	IP65
Technology	PIR
Operating temperature (sensor)	-35 ... +70 °C
Hold time (choice)	5s / 30s / 90s / 3min / 20min / 30min
Ambient light (choice)	5lux / 15lux / 30lux / 50lux /100lux / 150lux / Disable

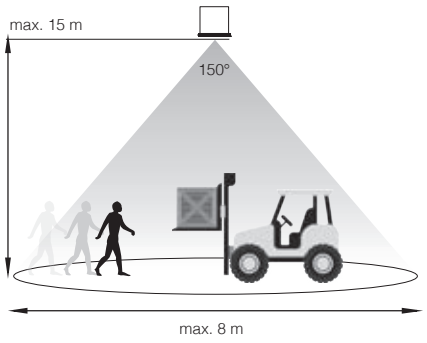
Remote control (cod. **81420019**) to be purchased separately to change parameters after installation, without opening the fixture



External motion sensor with twilight function (radar sensor with PIR technology)

SCAN AREA: can be reduced by selecting the relevant combination on the remote control to set sensor data for each application.

HOLD TIME: refers to the amount of time the lamp stays on at 100% of the light level after no motion is detected.



Presence and light sensor - DIMM DALI

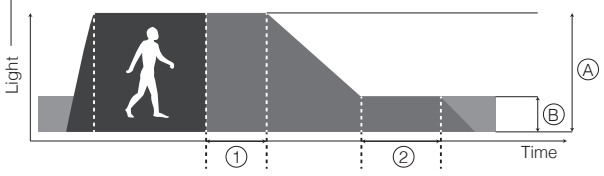
Upon request with sub-code -0061: Saturno DALI version with easy-to-use, safe and convenient automatic presence and light sensor.



TECHNICAL SPECIFICATIONS		
Rated supply voltage	220-240 Vac - 50/60Hz	
Power consumption	2 W	
Output, stand-by	0,5 W	
Operating temperature (sensor)	0 ... +60 °C	
IP degree	IP65	
Time delay (regolabile)	min: 30sec - max: 60min	
Technology	PIR	
Max. installation height	16m	
Light detection angle	13 °	
Motion detection angle	high	low
	72°	60°
Momentary-action switch input for on/off switching and dimming		

All functions can be set by request or with the (optional cod. **81420022**) remote control

Lights can be dimmed from 100% to 1% (with the option to go completely OFF)

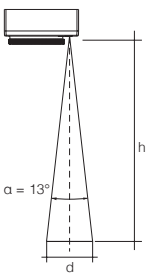


Time can be set from 30 sec. to 60 min.

Default Parameter Motion Detector

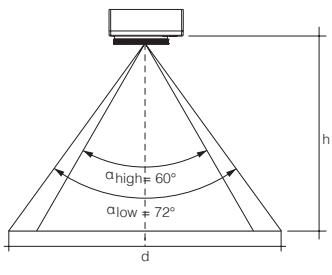
A	light-level
1	time delay
B	sec. level
2	if vacant

Light level recognition area



h *	d
8 m	1.8 m
10 m	2.3 m
12 m	2.7 m
14 m	3.2 m
16 m	3.7 m

Presence / motion detection



h *	Zoom	d
8 m	low	12.0 m
9 m	low	13.5m
10 m	low	15.0 m
11 m	low	16.5 m
12 m	low	18.0 m
12 m	high	14.0 m
13 m	high	15.2m
14 m	high	16.4 m
15 m	high	17.6m
16 m	high	18.8 m


ADR

GENERAL CHARACTERISTICS

Housing/Frame: in die-cast aluminium with cooling fins integrated into the cover and designed with a very small surface exposed to wind.

Diffuser: tempered glass, 4 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001).

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Standard supply: temperature control inside the device with automatic resetting. Complete with quick watertight connecter for line connection.

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.

It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

Upon request: for **Class II** fixtures, protection up to 10KV.

OTHER CHARACTERISTICS



Astro has all the qualities of the new LED technology. With a functional and highly recognisable design, it is also very versatile thanks to multiple versions with different optics featuring narrow-beam, wide-beam or elliptical lenses for great design flexibility.



The versions with **UGR<22**, **UGR<25** and **elliptical lenses** come with the fixing bracket to allow a perfect mounting as a suspended fixture. Chains and/or supporting rods are to be ordered separately.

OTHER INFORMATION

UGR <22 UGR <25 **The UGR** (unified glare rating) is an international unified measure developed by the CIE (Commission International de l'Eclairage) to assess the direct glare generated by a lighting system. The European standard regulating the lighting of indoor work places (**UNI-EN 12464-1**) recommends a specific UGR value for different applications ranging between **10 and 30**; **the lower the UGR value, the lower the glare**. The exact value of this index differs by project type because it depends on the position of the luminaires, room characteristics (dimensions, reflections) and on the point of observation of viewers.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

DIMM DIG Standard version **CLD D-D (DALI)** wiring with **subcode -0041:** thanks to pre-programmed settings or a software programme, this type of wiring allows accurate light emission dimming.

EM **EM: subcode -07**

UPON REQUEST

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

EM EC Version **CLD EC** wiring with **subcode -0050:** permanently mounted fixture, operating in AC/DC mode, with centralized emergency device, not incorporated into the fixture.

Ideal version for spaces with a high concentration of particular volatile chemicals around the luminaires (see chemical compatibility table in chapter *legend and Info*).

Astro HP: 30° version (sub-code **-22**).

LED 6500K Version with **LED 6500K** with subcode **-0083.**

Luminous flux maintenance Power factor ≥0.95		Wattage (tot.)	Allowed ambient temperature (min.°C ÷ max.°C)
90%	100.000h (L90B10) *(art. 1788-1789)*	101W	Ta = -40°C ÷ +45°C
		135W	Ta = -40°C ÷ +45°C
		203W	Ta = -40°C ÷ +40°C
		235W	Ta = -40°C ÷ +40°C
		251W	Ta = -40°C ÷ +40°C
90%	100.000h (L90B10) *(art. 2783 HP-2784 HP)*	109W	Ta = -25°C ÷ +45°C
		139W	Ta = -25°C ÷ +40°C
		177W	Ta = -25°C ÷ +45°C
		258W	Ta = -25°C ÷ +40°C
90%	100.000h (L90B10) *(art. 2790 HE)*	124W	Ta = -25°C ÷ +50°C
		151W	Ta = -25°C ÷ +45°C
		195W	Ta = -25°C ÷ +45°C
90%	100.000h (L90B10) *(art. 2791 HT - 2793 HT)*	111W	Ta = -40°C ÷ +70°C
		128W	Ta = -40°C ÷ +65°C
		168W	Ta = -40°C ÷ +65°C

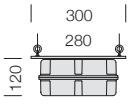
The table below shows the values for standard versions. For further information (expected life, temperatures) and/or for special versions, please contact our customer service.

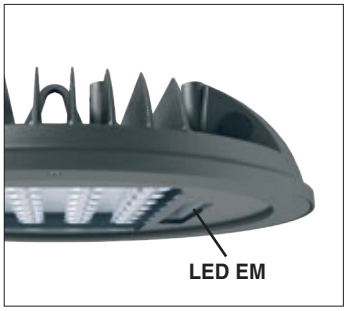
ACCESSORIES

acc. 1175 EM box

997651-00

To be used when purchasing Astro EM version, with sub-code –07.

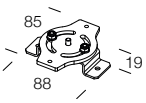




acc. 533 adjustable connector

993975-00

Adjustable connector - 120°







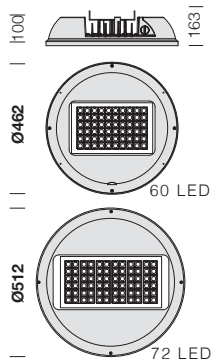
The UGR (unified glare rating) is an international unified measure developed by the CIE (Commission International de l'Eclairage) to assess the direct glare generated by a lighting system. The European standard regulating the lighting of indoor work places (**UNI-EN 12464-1**) recommends a specific UGR value for different applications ranging between **10 and 30**; **the lower the UGR value, the lower the glare**. The exact value of this index differs by project type because it depends on the position of the luminaires, room characteristics (dimensions, reflections) and on the point of observation of viewers.

Classification of UGR values by applications		
UGR	≤ 16	Very demanding applications (technical drawings)
	≤ 19	Offices and schools (reading, business meetings, computer work)
	≤ 22	Industrial applications, craftsmen
	≤ 25	Transit areas
	> 28	High glare

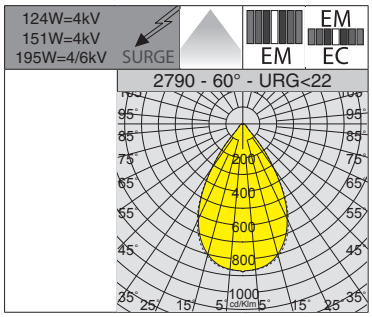
Below are some examples of industrial environments requiring the installation of fixtures with UGR<22 in compliance with standard **UNI-EN 12464-1**:

- General areas inside buildings – storage areas
- Industrial and manufacturing activities
- Chemical and pharmaceutical industry
- Mechanical, electronic and electro-technical industry
- Paper mills

IP66IK08







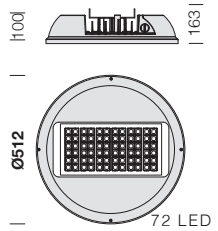
Optics: in PMMA, highly resistant to temperature and UV radiation.

2790 Astro HE - 60° - UGR<22 - high efficiency

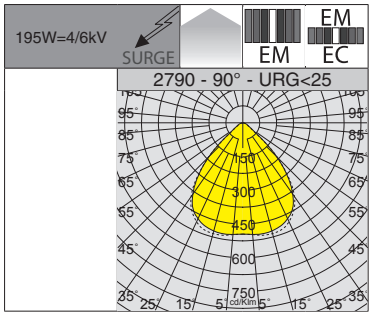
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	W tot	K - ølm - CRI - degrees
LED	graphite	8.30	462	330137-00	330137-07	**124**	4000K - 18135lm - CRI 80 - 60°
				330138-00	330138-07	**151**	4000K - 22236lm - CRI 80 - 60°
LED	graphite	9.80	512	330139-00	330139-07	**195**	4000K - 27488lm - CRI 80 - 60°

Emergency version: acc. 1175 (997651-00) to be purchased separately.
Upon request: Astro with emergency wiring with centralized power supply **(sub-code -0050).**

IP66IK08







Optics: in PMMA, highly resistant to temperature and UV radiation.

2790 Astro HE - 90° - UGR<25 - high efficiency

		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	W tot	K - ølm - CRI - degrees
LED	graphite	9.80	512	330149-00	330149-07	**195**	4000K - 27185lm - CRI 80 - 90°

Emergency version: acc. 1175 (997651-00) to be purchased separately.
Upon request: Astro with emergency wiring with centralized power supply **(sub-code -0050).**



The UGR (unified glare rating) is an international unified measure developed by the CIE (Commission International de l'Eclairage) to assess the direct glare generated by a lighting system. The European standard regulating the lighting of indoor work places (**UNI-EN 12464-1**) recommends a specific UGR value for different applications ranging between **10 and 30**; **the lower the UGR value, the lower the glare**. The exact value of this index differs by project type because it depends on the position of the luminaires, room characteristics (dimensions, reflections) and on the point of observation of viewers.

Classification of UGR values by applications		
UGR	≤ 16	Very demanding applications (technical drawings)
	≤ 19	Offices and schools (reading, business meetings, computer work)
	≤ 22	Industrial applications, craftsmen
	≤ 25	Transit areas
	> 28	High glare

Below are some examples of industrial environments requiring the installation of fixtures with UGR<22 in compliance with standard **UNI-EN 12464-1**:
- General areas inside buildings – storage areas
- Industrial and manufacturing activities
- Chemical and pharmaceutical industry
- Mechanical, electronic and electro-technical industry
- Paper mills

RG0 Ethr

max C° min

U.V.

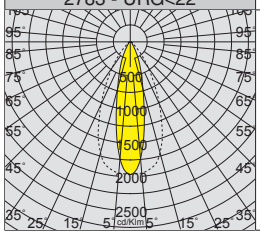
LOW FLICKER

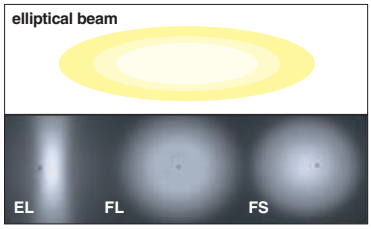
EM EC EM

SURGE

109W=4kV
139W=4kV
177W=4kV
258W=4/6kV

2783 - URG<22

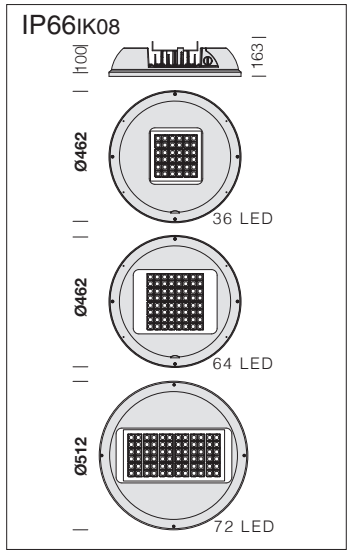




UGR<22 ELLIPTICAL 100.000h L90B10

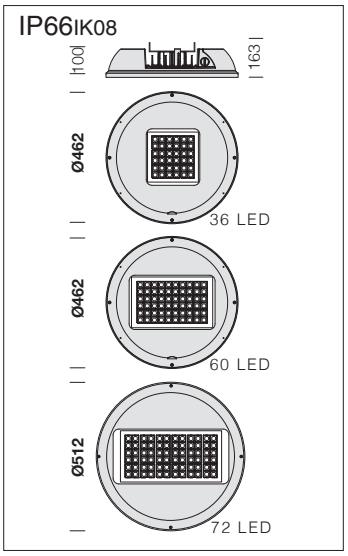


IP66 IK08

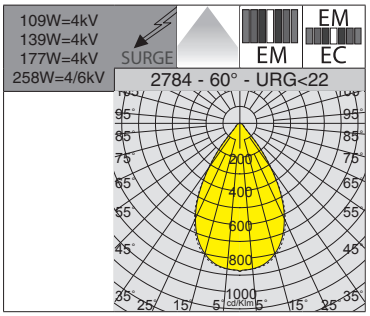


2783 Astro HP - elliptical beam - UGR<22 - high performance							
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	W tot	K - ølm - CRI
LED	graphite	8.30	462	330270-00	330270-07	**109**	4000K - 14844lm - CRI 80
				330271-00	330271-07	**139**	4000K - 18083lm - CRI 80
				330272-00	330272-07	**177**	4000K - 23982lm - CRI 80
LED	graphite	9.80	512	330273-00	330273-07	**258**	4000K - 33764lm - CRI 80
Emergency version: acc. 1175 (997651-00) to be purchased separately. **Upon request:** Astro with emergency wiring with centralized power supply **(sub-code -0050).**							

Optics: in PMMA, highly resistant to temperature and UV radiation.









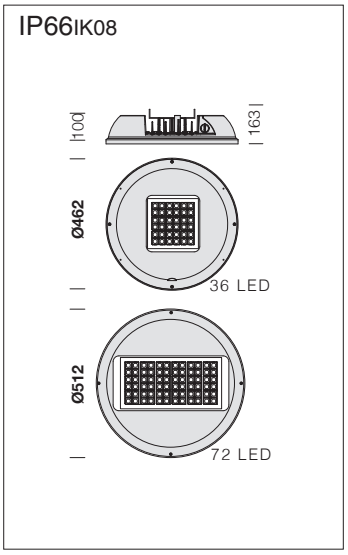
Optics: in PMMA, highly resistant to temperature and UV radiation.

Upon request: 30° version (sub-code **-22**).

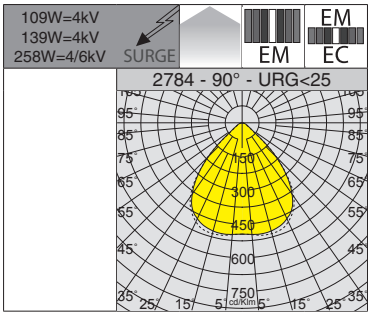
2784 Astro HP - 60° - UGR<22 - high performance

		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	W tot	K - ølm - CRI - degrees
LED	graphite	8.30	462	330131-00	330131-07	**109**	4000K - 15131lm - CRI 80 - 60°
				330136-00	330136-07	**139**	4000K - 17816lm - CRI 80 - 60°
				330133-00	330133-07	**177**	4000K - 23236lm - CRI 80 - 60°
LED	graphite	9.80	512	330135-00	330135-07	**258**	4000K - 34987lm - CRI 80 - 60°

Emergency version: acc. 1175 (997651-00) to be purchased separately.
Upon request: Astro with emergency wiring with centralized power supply **(sub-code -0050).**









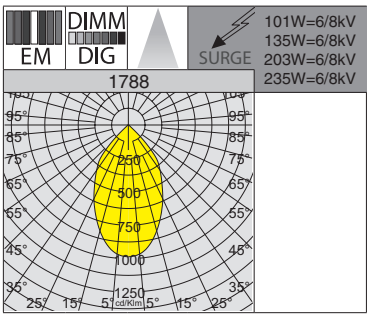
Optics: in PMMA, highly resistant to temperature and UV radiation.

Upon request: 30° version (sub-code **-22**).

2784 Astro HP - 90° - UGR<25 - high performance

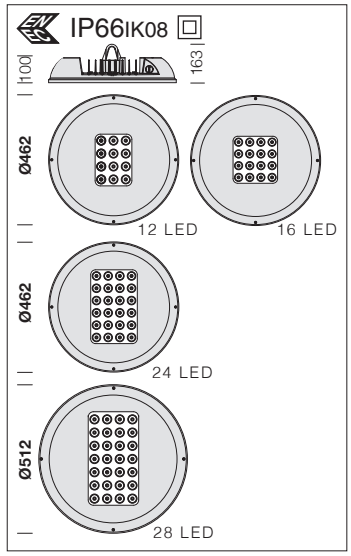
		CLD			CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	W tot	K - ølm - CRI - degrees
LED	graphite	8.30	462	330178-00	330178-07	**109**	4000K - 14949lm - CRI 80 - 90°
				330179-00	330179-07	**139**	4000K - 17602lm - CRI 80 - 90°
LED	graphite	9.80	512	330148-00	330148-07	**258**	4000K - 34601lm - CRI 80 - 90°

Emergency version: acc. 1175 (997651-00) to be purchased separately.
Upon request: Astro with emergency wiring with centralized power supply **(sub-code -0050).**



Optics : made of PMMA with high temperature resistance and UV rays.

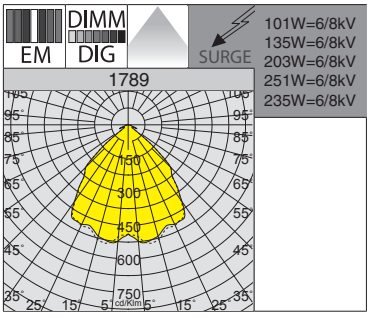




1788 Astro - narrow beam

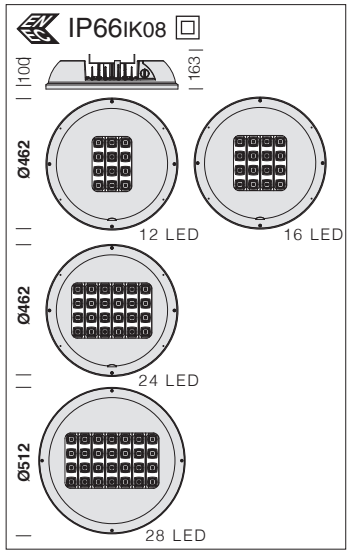
		CLD			CLD E	CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	code	W tot	K - ølm - CRI
LED	grey	9.50	462	330086-00	330086-07	330086-0041	**101**	4000K - 10534lm - CRI 80
	graphite			330087-00	330087-07	330087-0041		
LED	grey	9.50	462	330080-00	330080-07	330080-0041	**135**	4000K - 14046lm - CRI 80
	graphite			330083-00	330083-07	330083-0041		
LED	grey	10.00	462	330081-00	330081-07	330081-0041	**203**	4000K - 21069lm - CRI 80
	graphite			330084-00	330084-07	330084-0041		
LED	grey	10.50	512	330082-00	330082-07	330082-0041	**235**	4000K - 26424lm - CRI 80
	graphite			330085-00	330085-07	330085-0041		

Emergency version: acc. 1175 (997651-00) to be purchased separately.
Upon request: Astro with emergency wiring with centralized power supply **(sub-code -0050).**



Optics : in high-performance metallic V0 polycarbonate with micro-faceted finish.
Emergency version: acc. 1175 (997651-00) to be purchased separately.
Upon request: Astro with emergency wiring with centralized power supply **(sub-code -0050).**





1789 Astro - UGR<25 - wide beam

		CLD			CLD E	CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	code	W tot	K - ølm - CRI
LED	grey	9.00	462	330096-00	330096-07	330096-0041	**101**	4000K - 11149lm - CRI 80
	graphite			330097-00	330097-07	330097-0041		
LED	grey	9.00	462	330090-00	330090-07	330090-0041	**135**	4000K - 14865lm - CRI 80
	graphite			330093-00	330093-07	330093-0041		
LED	grey	10.20	462	330091-00	330091-07	330091-0041	**203**	4000K - 22298lm - CRI 80
	graphite			330094-00	330094-07	330094-0041		
LED	grey	10.50	512	330092-00	330092-07	330092-0041	**235**	4000K - 26013lm - CRI 80
	graphite			330095-00	330095-07	330095-0041		

		CLD D-D (DALI)			CLD D-DE		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	code	W tot	K - ølm - CRI
LED	grey	9.50	462	330088-00	330088-07	**251**	4000K - 25987lm - CRI 80
	graphite			330089-00	330089-07		

Presence sensors - ON/OFF

Upon request with sub-code -19: Astro with easy-to-use, safe and convenient **stand-alone** presence sensor; available in the 1/10V version (with sub-code -1219).



TECHNICAL SPECIFICATIONS	
Power source	220-240 Vac - 50/60Hz
High frequency	5.8GHz±75MHz, ISM wave band, <0.5mW
Detection angle	ceiling: 360° - wall: 150°
Detection area	8 max (choice)
Detection motion speed	0.5~3m/s
Installing height	ceiling: 3-15 m max.
Power consumption	≤0.5W (standby), <1W (operation)
IP degree	IP65
Technology	Microwave
Operating temperature (sensor)	-35 ... +70 °C
Hold time (choice)	5s / 30s / 90s / 3min / 20min / 30min
Ambient light (choice)	5lux / 15lux / 30lux / 50lux /100lux / 150lux / Disable

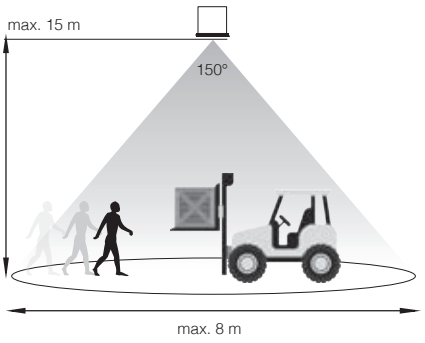
Remote control (cod. **81420019**) to be purchased separately to change parameters after installation, without opening the fixture



External motion sensor with twilight function (radar sensor with PIR technology)

SCAN AREA: can be reduced by selecting the relevant combination on the remote control to set sensor data for each application.

HOLD TIME: refers to the amount of time the lamp stays on at 100% of the light level after no motion is detected.



Presence and light sensors - DIMM DALI

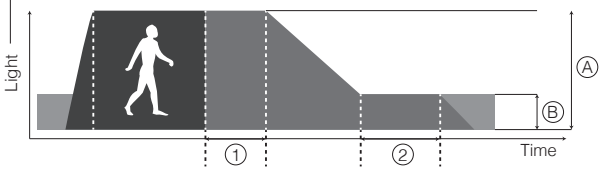
Upon request with sub-code -0061: Astro DALI version with easy-to-use, safe and convenient automatic presence and light sensor.



TECHNICAL SPECIFICATIONS		
Rated supply voltage	220-240 Vac - 50/60Hz	
Power consumption	2 W	
Output, stand-by	0,5 W	
Operating temperature (sensor)	0 ... +60 °C	
IP degree	IP65	
Time delay (regolabile)	min: 30sec - max: 60min	
Technology	PIR	
Max. installation height	16m	
Light detection angle	13 °	
Motion detection angle	high	low
	72°	60°
Momentary-action switch input for on/off switching and dimming		

All functions can be set by request or with the (optional cod. **81420022**) remote control

Lights can be dimmed from 100% to 1% (with the option to go completely OFF)

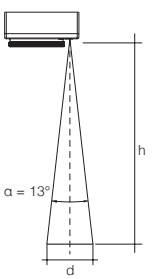


Time can be set from 30 sec. to 60 min.

Default Parameter Motion Detector

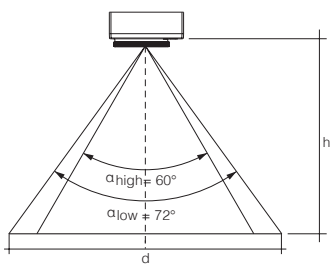
A	light-level
1	time delay
B	sec. level
2	if vacant

Light level recognition area



h *	d
8 m	1.8 m
10 m	2.3 m
12 m	2.7 m
14 m	3.2 m
16 m	3.7 m

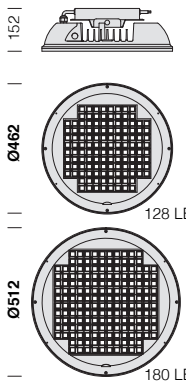
Presence / motion detection



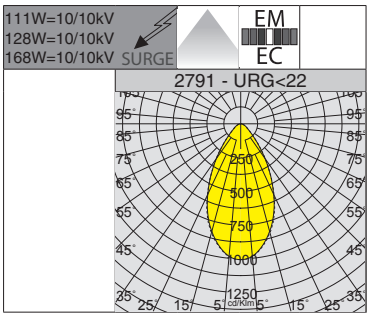
h *	Zoom	d
8 m	low	12.0 m
9 m	low	13.5 m
10 m	low	15.0 m
11 m	low	16.5 m
12 m	low	18.0 m
12 m	high	14.0 m
13 m	high	15.2 m
14 m	high	16.4 m
15 m	high	17.6 m
16 m	high	18.8 m


1

IP66 IK08







Optics: in PMMA, highly resistant to temperature and UV radiation.

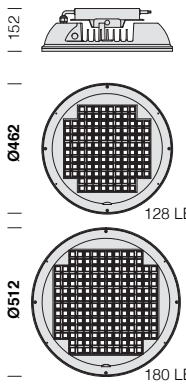
HT version ideal for environments where temperatures reach max **+70 °C.**

2791 Astro HT - UGR<22 - high temperature

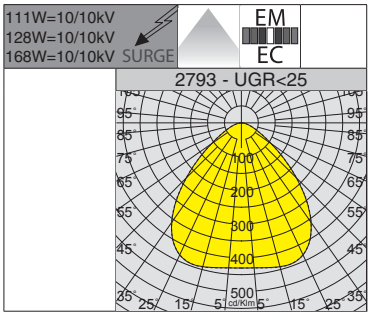
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	codice	W tot	K - ølm - CRI
LED	graphite	9.80	462	330280-00	**111**	4000K - 17517lm - CRI 80
				330281-00	**128**	4000K - 19661lm - CRI 80
LED	graphite	12.20	512	330282-00	**168**	4000K - 26203lm - CRI 80

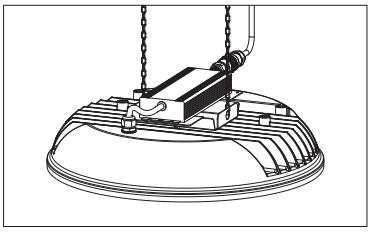
Upon request: Astro with emergency wiring with centralized power supply **(sub-code -0050).**

IP66 IK08









Optics: in PMMA, highly resistant to temperature and UV radiation.

HT version ideal for environments where temperatures reach max **+70 °C.**

2793 Astro HT - UGR<25 - high temperature

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	codice	W tot	K - ølm - CRI
LED	graphite	9.90	462	330190-00	**111**	4000K - 17037lm - CRI 80
				330191-00	**128**	4000K - 19108lm - CRI 80
LED	graphite	12.30	512	330192-00	**168**	4000K - 25551lm - CRI 80

Upon request: Astro with emergency wiring with centralized power supply **(sub-code -0050).**

Equipment level protection (EPL)

ZONE	EPL
0	“Ga”
1	“Ga” o “Gb”
2	“Ga”, “Gb” o “Gc”
20	“Da”
21	“Da” o “Db”
22	“Da”, “Db” o “Dc”

Hazardous places according to Legislative Decree 233/03

Business	Places
chemical and petrochemical industry	gas-fuelled heating plants with P>35Kw
pharmaceutics industry	garages, repair shops, body shops
metal processing	fuel distribution
food industry (storage and processing of cereals, flour and sugar)	bread baking ovens
processing of wood	places where painting processes occur
fabric and spinning industry	distilleries, production of alcoholic beverages

ELECTRICAL SYSTEMS FOR AREAS CONTAINING EXPLOSIVE GAS:	
Ex =	Electrical system built and tested for utilization in an atmosphere filled with explosive gasses.
nA =	The electrical system does not produce sparks when operating normally.
II =	Electrical system suitable for areas with a potentially explosive atmosphere, different from mines, with firedamp.
Gc =	Enhanced protection level
T4 =	Maximum internal or external surface temperature; classification according to regulation cei en 60079-0 table 2
IP66 =	Housing entirely protected against dust and the water jets

ELECTRICAL SYSTEMS FOR AREAS CONTAINING EXPLOSIVE POWDERS:	
Ex =	Electrical system built and tested for utilization in an atmosphere containing powders.
IIIC	Electrical equipment for premises with potentially explosive atmospheres due to the presence of combustible dust, other than mines with the presence of firedamp
Dc	Enhanced protection level
tc	Protection against explosive atmospheres due to the presence of dust where the electrical equipment is equipped with an enclosure
22 =	Permitted hazardous area.
IP6X =	Housing entirely protected against dust
T 135°C =	Maximum temperature in a dust-free environment

SELECTION OF ELECTRICAL SYSTEMS IN RELATION TO HAZARDOUS AREAS

HAZARDOUS AREA	CLASSIFICATION	EPL	PROTECTIONS PERMITTED
ATMOSPHERE CONTAINING GAS	**0**	**Ga**	“ia” Intrinsic safety “ma” Encapsulation Two independent EPLs “Gb”
	1	**Gb**	“d” Explosion proof “e” Increased safety “ib” Intrinsic safety “m” “mb” Encapsulation “o” Oil immersion “p, px, py” Pressurisation “q” Powder filling Field bus intrinsically safe concept (FISCO) Optical radiation safety
	2	**Gc**	“ic” Intrinsic safety “mc” Encapsulation “n, nA” Non sparking “nR” Restricted breathing “nL” Energy limitation “nC” Sparking device and components “pz” Pressurisation Field bus non-incendive concept Optical radiation safety
ATMOSPHERE CONTAINING GAS	**20**	**Da**	“Da” “Id” Intrinsic safety “md” Encapsulation “tD” Protection by enclosure
	21	**Db**	“iD” Intrinsic safety “mD” Encapsulation “tD” Protection by enclosure “pD” Pressurisation
	22	**Dc**	“iD” Intrinsic safety “mD” Encapsulation “tD” Protection by enclosure “pD” Pressurisation

RELEVANT REGULATIONS

Directive 94/9/CE entrusts conformed European regulations with the task of setting out basic technical requirements to guarantee safety in explosion-prone areas, replacing contrasting national and European regulations belonging to the same sector.

IEC 60079-0	Electrical systems for potentially explosive atmospheres GENERAL REGULATIONS
IEC 60079-15	Electrical systems for potentially explosive atmospheres. PROTECTION METHOD “n”
IEC 60079-10-1	Explosive atmospheres Classification of hazardous locations. Explosive atmospheres due to the presence of gas
IEC 60079-14	Explosive atmospheres Design, selection and installation of electrical equipment
IEC 60079-10-2	Explosive atmospheres Classification of hazardous locations. Explosive atmospheres due to the presence of dust
IEC 60079-31	Explosive atmospheres Fixtures with protection by “t” enclosure for use in the presence of combustible dust
IEC 60079-28	Explosive atmospheres Protection of equipment and transmission systems using optical radiation

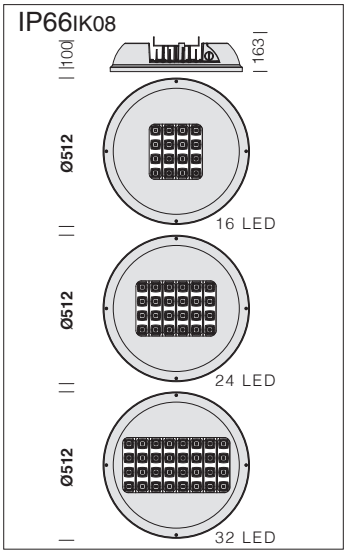




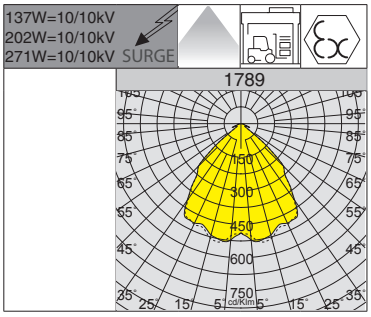




1789 ATEX	
Protection against explosions	II 3G Ex nA OP IS IIC T4 IP66 Gc II 3D Ex tc IIIC T135°C IP66 Dc
Allowed dangerous area	Zone 2; Zone 22
Allowed room temperature	-20°C ÷ +40°C
Degree of protection	IP66
Installation	suspension
Casing mechanical resistance	IK08
Reference regulations	EN 60079-0; EN 60079-15; EN 60079-31; EN 60079-28
Certifications	CE, AR19ATEX036 (TYPE EXAMINATION CERTIFICATE)









Optics : in high-performance metallic V0 polycarbonate with micro-faceted finish.

1789 Astro ATEX - UGR<25 - wide beam						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	W	K - ølm - CRI
LED	grey	11.50	512	330296-00	**137**	4000K - 14856lm - CRI 80
	graphite			330297-00		
LED	grey	11.90	512	330290-00	**202**	4000K - 22298lm - CRI 80
	graphite			330293-00		
LED *	grey	12.20	512	330291-00	**271**	4000K - 29730lm - CRI 80
	graphite			330294-00		



GENERAL CHARACTERISTICS

Housing and frame: pressed in die-cast aluminium and designed with a very small surface exposed to wind. Cooling fins are integrated into the cover.

Optics: made of PMMA with high temperature resistance and UV rays. Flow recovery in V0 polycarbonate, metallized high yield. Group risk-free according to EN62471.

Diffuser: in plexiglass.

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

Standard supply: supplied with double insulation switch. Automatic temperature control device.
In the event of an unexpected LED temperature rise caused by particular weather conditions or a LED failure, the system will reduce the luminous flux to lower the working temperature and guarantee proper operation. Equipped with an air-circulation valve.

OTHER CHARACTERISTICS

SURGE

Electronic safety device to protect the LED module and the related ballast compliant with EN 61547. It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.



Standard version equipped with connector and wire for suspension installation.
The heat dissipation system was designed to allow LED operation at adequate temperatures and guarantee excellent performance/efficiency and long life.

OTHER INFORMATION



UGR <22

The UGR (unified glare rating) is an international unified measure developed by the CIE (Commission International de l'Eclairage) to assess the direct glare generated by a lighting system. The European standard regulating the lighting of indoor work places (**UNI-EN 12464-1**) recommends a specific UGR value for different applications ranging between **10 and 30**; **the lower the UGR value, the lower the glare**. The exact value of this index differs by project type because it depends on the position of the luminaires, room characteristics (dimensions, reflections) and on the point of observation of viewers.

LOW FLICKER

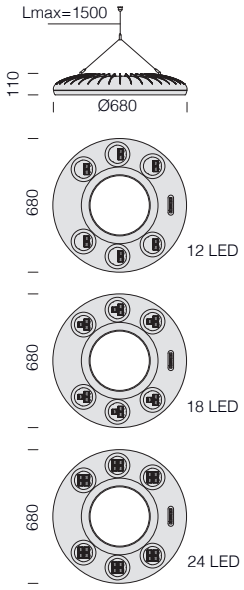
Product with a very low flicker; uniform light for greater eye protection.

UPON REQUEST

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

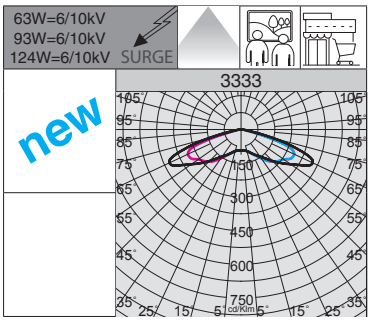
The fixture can be equipped with several light dimmers:
- 1-10V (dimmable from 20% to 100%) or DALI dimmable driver
- power line carrier (PLC) remote control
- wireless control system

IP66 IK08



LED: power factor ≥0,9
Luminous flux maintenance 80%: 80.000h (L80B10).



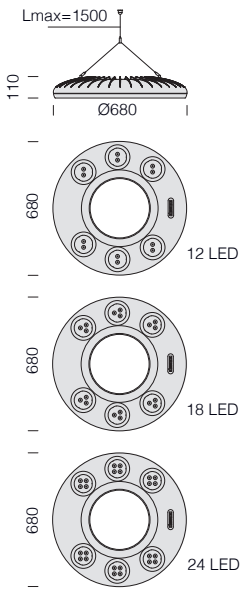


RG0 Emr · +40 C° -30 · U.V. · LOW FLICKER

3333 Disco 4					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 430mA - CRI
LED	grey 9007	10.00	330030-00	63	4000K - **8184lm** - CRI 80
			330031-00	93	4000K - **12276lm** - CRI 80
		11.20	330032-00	124	4000K - **16368lm** - CRI 80
Upon request: possibility to choose different lighting point management systems (see page XX-XXI).					

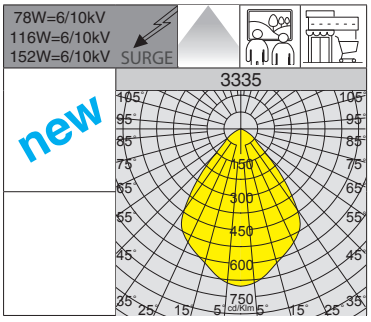
	Power supply	n.LED	W	ølm
Upon request	530mA	12	**78**	9822lm
		18	**116**	14732lm
		24	**152**	19642lm

IP66 IK08



LED: power factor ≥0,9
Luminous flux maintenance 80%: 80.000h (L80B10).





RG0 Emr · +40 C° -30 · U.V. · LOW FLICKER

3335 Disco 6 - wide beam					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 530mA - CRI
LED	grey 9007	10.00	330033-00	78	4000K - **9822lm** - CRI 80
			330034-00	116	4000K - **14732lm** - CRI 80
		11.20	330035-00	152	4000K - **19642lm** - CRI 80
Upon request: possibility to choose different lighting point management systems (see page XX-XXI).					

	Power supply	n.LED	W	ølm
Upon request	430mA	12	**63**	8184lm
		18	**93**	12276lm
		24	**124**	16368lm



GENERAL CHARACTERISTICS

Housing: die-cast aluminium with wide cooling fins.

Reflector: pressed prismatic aluminium, anodised (3µ) and polished for higher luminous efficiency.

Diffuser: 5 mm thick, thermal shock and impact resistant protective tempered glass and vandal resistant.

Standard supply: complete with IP67 airtight connector for mains connection.

Upon request: DIMM DALI and 1-10V versions.

LED: power factor ≥0,95.
Luminous flux maintenance 80%: 50.000h (L80B20).

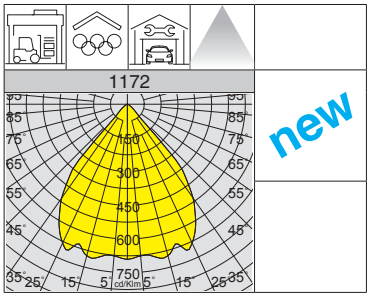
RG0 Ethr

+30 C° -20

U.V.

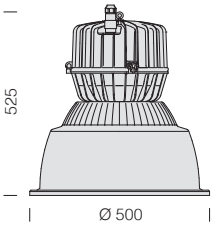
4000K

5000K





IP65 IK08

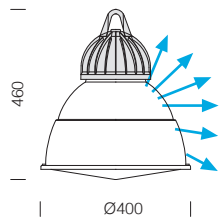


1172 Argon					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	s. silver	9.00	322652-00	115	5000K - **14200lm** - CRI>70
			322653-00		4000K - **13500lm** - CRI>80

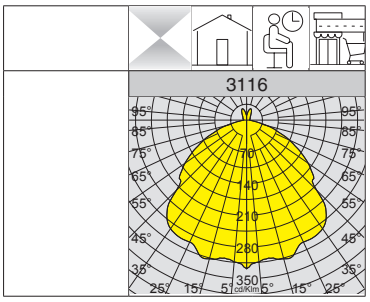


acc. 1122 protection guard	
0.60	321012-00
Black plastic-coated steel rod protection guard. Screw mounting.	

IP43IK08







RGO Ethr

U.V.

GENERAL CHARACTERISTICS

Housing: in die-cast aluminium, with wide cooling fins.

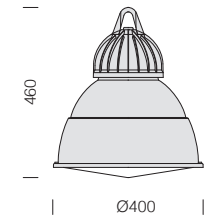
Diffuser: all in clear polycarbonate with anti-glare silking. Prismatic faceting inside for better light control.

LED: power factor ≥0,95. Luminous flux maintenance 80%: 50.000h (L80B20).

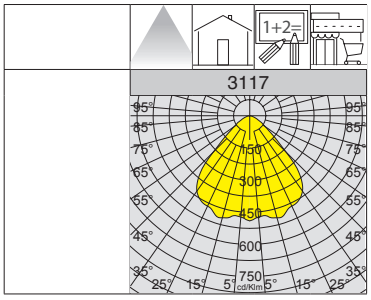
3116 Ghost - prismatic diffuser

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	s. silver	4.00	322928-00	**28**	4000K - 2661lm - **CRI 90**
			322929-00	**38**	4000K - 3697lm - **CRI 90**

IP43IK08







RGO Ethr

U.V.

GENERAL CHARACTERISTICS

Housing: in die-cast aluminium, with wide cooling fins.

Diffuser: all in clear polycarbonate with anti-glare silking. Prismatic faceting inside for better light control. Smooth dust-proof and impact resistant finish outside, vandal-resistant and V2 self-extinguishing, UV-stabilised with a non-scratch and finger mark-proof.

LED: power factor ≥0,95. Luminous flux maintenance 80%: 50.000h (L80B20).

3117 Ghost - painted diffuser

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	s. silver	4.00	323128-00	**28**	4000K - 2040lm - **CRI 90**
			323129-00	**38**	4000K - 2900lm - **CRI 90**



CRIPTO

MICRO



SMALL



MEDIUM



BIG



CRIPTO

MICRO RODIO



MINI RODIO



RODIO





CROMO





SATURNO





ASTRO





RADON







FORUM







SICURA



MODOLED



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LAS MEJORES HISTORIAS
SIEMPRE EMPIEZAN CON
UN MONTADITO
100 MONTADITOS

GENERAL CHARACTERISTICS

Housing: in die-cast aluminium with cooling fins.

Diffuser: tempered glass, 4 mm thick, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001).

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Standard Supply: complete with galvanised and coated bracket, Cripto small with electrical cable (L = 1m). Cripto medium/big with double insulation switch.

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.
Upon request: protection up to 10KV (Cripto small,medium,big).

OTHER CHARACTERISTICS



The heat dissipation system was designed and manufactured to allow LED operation at adequate temperatures and guarantee excellent performance/efficiency and long life.



Complete with protractor scale. Aiming visor for precise aiming of the floodlight.

OTHER INFORMATION



Precision optics that allow broad design flexibility guaranteeing high levels of light quality.

AMBER COB Version with **AMBER COB LED 2200K** with subcode **-73**
Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

UPON REQUEST

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

UNI EN ISO 9227 Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

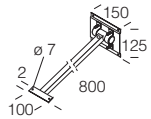
DIMM 1-10V Version **CLD D (1/10V)** wiring with **subcode -12.**



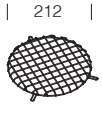
Upon request **Cripto big** supplied with a separate gear box for additional module of remote control system.



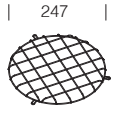
ACCESSORIES



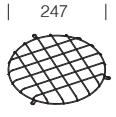
acc. 41 adjustable-angle arm	
graphite	995506-00
white	995508-00
Adjustable-angle arm galvanized steel. For Cripto micro.	



acc. 306 protection guard	
black	145515-00
Plastic-coated steel rod. For protection against impact of Cripto medium (except COB version).	



acc. 306 protection guard	
black	145516-00
Plastic-coated steel rod. For protection against impact of Cripto big with 12-25 LED (except COB version).	



acc. 306 protection guard	
black	145517-00
Plastic-coated steel rod. For protection against impact of Cripto big with 16 LED (except COB version).	



Built-in RADAR SENSOR (sub-code -19 at an extra price): is an automatic sensor that immediately sense the presence of people's movements and anyone walking past. When there is movement within the sensor's detection range, the light will remain ON. When no further movement is detected, the light will switch OFF after a pre-set time.

FACTORY SETTINGS	
Power supply	220-240V AC 50/60 Hz
Frequency	5,8GHz CW Radar ISM band - 0,2 - <10 mW
Detection area	ceiling: 360°
Detection distance	ceiling: Ø 4 m
Motion detection speed	0,6-1-1,5 m/s
Mounting height	ceiling: 1,5-3,5 m
Energy consumption	<0,9 W
Hold time	6 min
Ambient light	135 Lux
N.B.: factory settings cannot be changed; contact the manufacturer for different settings.	

RG0 Ethr

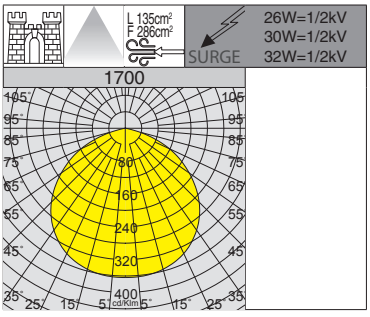
+40 C° -20

U.V.

LOW FLICKER

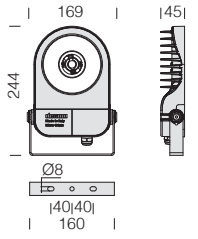
3000K

4000K





IP66IK08



Reflector: in pre-anodised aluminium.

LED: power factor: ≥0,92. Luminous flux maintenance 80%: 50.000h (L80B20).

Equipment: complete with electrical cable for mains connection L=0,6m.

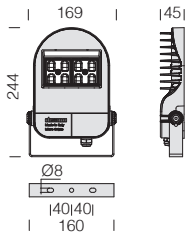
Upon request version with:
• **CLD D-D (DALI)** wiring with **sub-code -0041.**

1700 Cripto micro - COB

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	graphite	1.10	412960-00	**26**	4000K - 3023lm - **CRI 90**
	white		412963-00		
COB	graphite	1.10	412960-39	**26**	3000K - 2811lm - **CRI 90**
	white		412963-39		
COB	graphite	1.10	412962-00	**32**	4000K - 3755lm - **CRI 90**
	white		412964-00		
COB	graphite	1.10	412962-39	**32**	3000K - 3492lm - **CRI 90**
	white		412964-39		
230V					K - ølm 230V - CRI
COB *	graphite	1.10	412962-19	**30**	4000K - 2661lm - CRI 80
	white		412964-19		

***** 230V version with **built-in radar sensor**.

IP66IK08



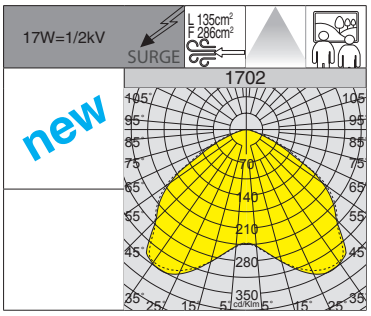
Optics: in high efficiency PMMA.

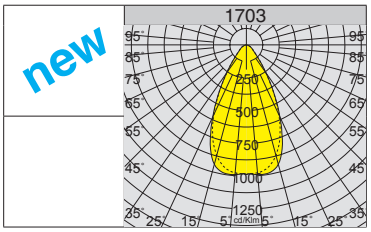
LED: power factor: ≥0,92. Luminous flux maintenance 80%: 90.000h (L80B20).

Equipment: complete with electrical cable for mains connection L=0,6m.

Upon request version with:
• **CLD D-D (DALI)** wiring with **subcode -0041.**







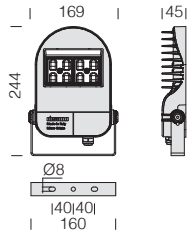
1702 Cripto micro - symmetric wide beam

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	1.10	412975-00	**17**	4000K - 2010lm - CRI 80
	white		412976-00		
LED	graphite	1.10	412975-39	**17**	3000K - **1869lm** - CRI 80
	white		412976-39		

1703 Cripto micro - symmetric narrow beam

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	1.10	412980-00	**17**	4000K - 2049lm - CRI 80
	white		412981-00		
LED	graphite	1.10	412980-39	**17**	3000K - **1906lm** - CRI 80
	white		412981-39		

IP66IK08



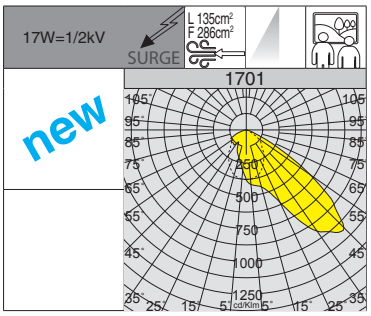
Optics: in high efficiency PMMA.

LED: power factor: ≥0,92. Luminous flux maintenance 80%: 90.000h (L80B20).

Equipment: complete with electrical cable for mains connection L=0,6m.

Upon request version with:
• **CLD D-D (DALI)** wiring with **subcode -0041.**





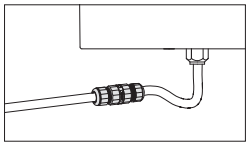
1701 Cripto micro - asymmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	1.10	412970-00	**17**	4000K - 2063lm - CRI 80
	white		412971-00		
LED	graphite	1.10	412970-39	**17**	3000K - **1919lm** - CRI 80
	white		412971-39		

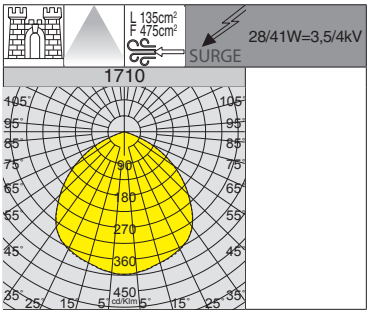
acc. 339 Connector (3-pole)

993854-00

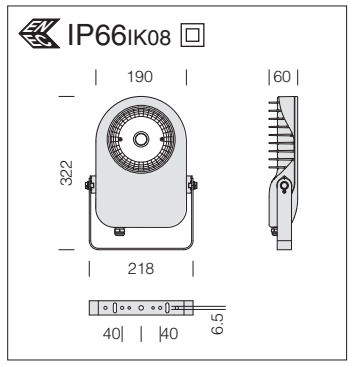
To be used for mains connection of Cripto micro.



FLOODLIGHTS







Reflector: in pre-anodised aluminium.

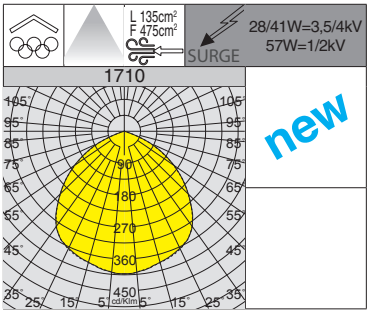
LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 50.000h (L80B20).

Equipment: complete with electrical cable for mains connection.

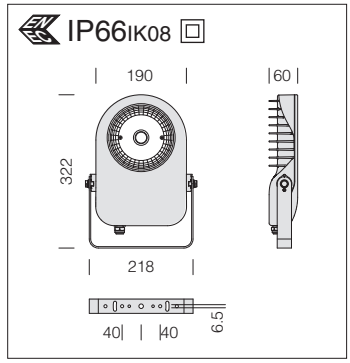
Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

1710 Cripto small AMBER - wide beam

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB AMBER	graphite	2.20	413000-73	**28**	2200K - 3264lm - **AMBER**
	grey 9006		413001-73		
	white		413002-73		
	anthracite		413003-73		
COB AMBER	graphite	2.20	413050-73	**41**	2200K - 4453lm - **AMBER**
	grey 9006		413051-73		
	white		413054-73		
	anthracite		413056-73		







Reflector: in pre-anodised aluminium.

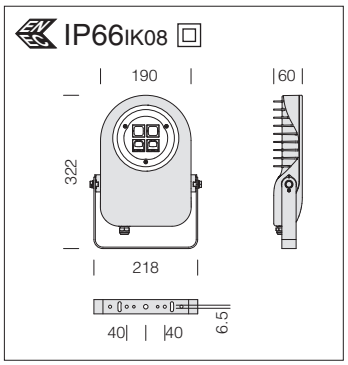
LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 50.000h (L80B20).

Equipment: complete with electrical cable for mains connection.

Upon request: 3000K (subcode -39)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
28	3000K - 2838lm
41	3000K - 4178lm
57	3000K - 5601lm

1710 Cripto small - wide beam

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	graphite	2.20	413000-00	**28**	4000K - **3052lm** - **CRI 90**
	grey 9006		413001-00		
	white		413002-00		
	anthracite		413003-00		
COB	graphite	2.20	413050-00	**41**	4000K - **4493lm** - **CRI 90**
	grey 9006		413051-00		
	white		413054-00		
	anthracite		413056-00		
COB	graphite	2.20	413052-00	**57**	4000K - **6023lm** - **CRI 90**
	grey 9006		413053-00		
	white		413055-00		
	anthracite		413057-00		

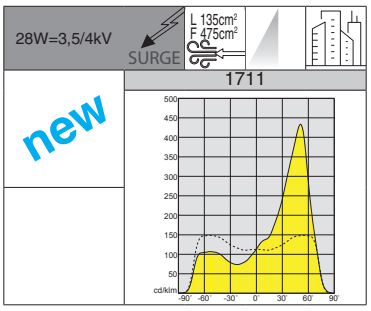


Optics: in PMMA, highly resistant to temperature and UV radiation. Flow recovery in V0 polycarbonate.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B10).

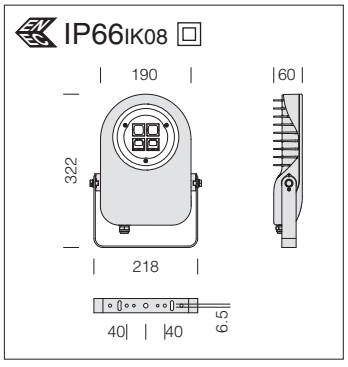
Equipment: complete with electrical cable for mains connection.





1711 Cripto small - asymmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	2.20	413010-00	28	4000K - **3570lm** - CRI 80
	grey 9006		413011-00		
	anthracite		413012-00		
LED	graphite	2.20	413010-39	28	3000K - **3320lm** - CRI 80
	grey 9006		413011-39		
	anthracite		413012-39		

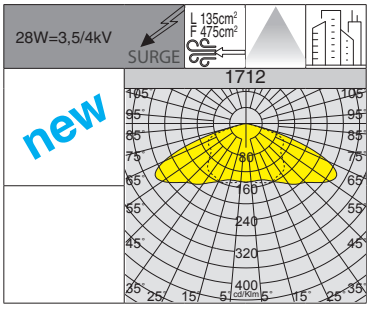


Optics: in PMMA, highly resistant to temperature and UV radiation. Flow recovery in V0 polycarbonate.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B10).

Equipment: complete with electrical cable for mains connection.





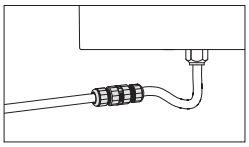
1712 Cripto small - symmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	2.20	413020-00	28	4000K - **3537lm** - CRI 80
	grey 9006		413021-00		
	anthracite		413022-00		
LED	graphite	2.20	413020-39	28	3000K - **3289lm** - CRI 80
	grey 9006		413021-39		
	anthracite		413022-39		

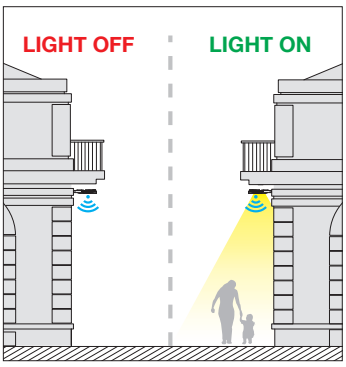
acc. 339 Connector

993836-00

To be used for mains connection of Cripto small.







Built-in RADAR SENSOR (sub-code -19 at an extra price): is an automatic sensor that immediately sense the presence of people's movements and anyone walking past. When there is movement within the sensor's detection range, the light will remain ON. When no further movement is detected, the light will switch OFF after a pre-set time.











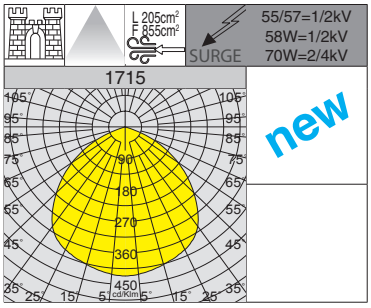






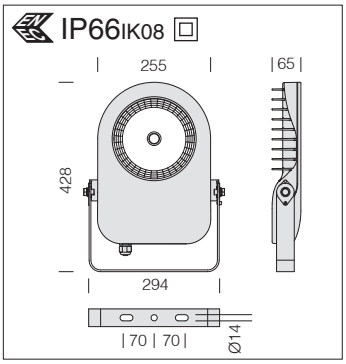












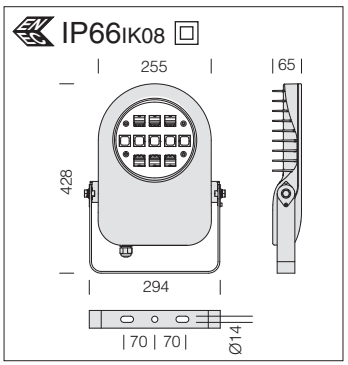
Reflector: in pre-anodised aluminium.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 50.000h (L80B20).

Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

1715 Cripto medium - wide beam

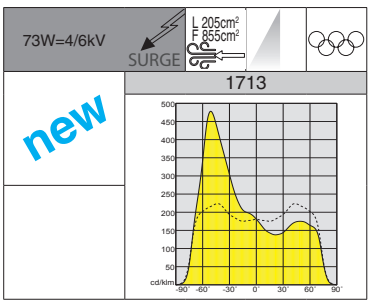
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	couleur	weight	code	W tot	K - ølm - CRI
COB	graphite	4.00	413062-00	55	4000K - **7674lm** - CRI 80
	grey 9006		413063-00		
	graphite	4.00	413062-39		3000K - **7137lm** - CRI 80
	grey 9006		413063-39		
COB	graphite	4.00	413060-00	57	4000K - **6145lm** - **CRI 90**
	grey 9006		413061-00		
	graphite	4.00	413060-39		3000K - **5715lm** - **CRI 90**
	grey 9006		413061-39		
COB AMBER	graphite	4.00	413060-73	58	2200K - 6149lm - **AMBER**
	grey 9006		413061-73		
COB	graphite	4.00	413064-00	70	4000K - **10702lm** - CRI 80
	grey 9006		413065-00		
	graphite	4.00	413064-39		3000K - **9953lm** - CRI 80
	grey 9006		413065-39		



Optics: in PMMA, highly resistant to temperature and UV radiation. Flow recovery in V0 polycarbonate.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B10).



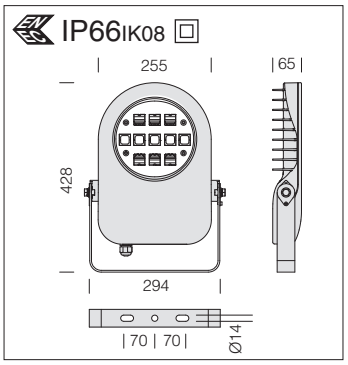


1713 Cripto medium - asymmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.90	413030-00	73	4000K - **9188lm** - CRI 80
	grey 9006		413031-00		
LED	graphite	4.90	413030-39	73	3000K - **8545lm** - CRI 80
	grey 9006		413031-39		

Example	Power supply	W tot	K	ølm
upon request	350mA	**46**	**4000K**	5847lm

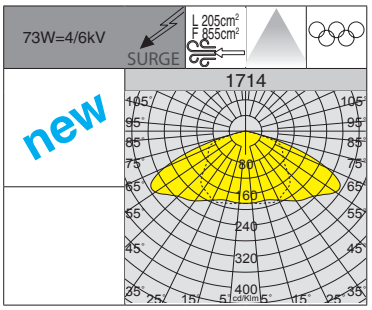
W tot	K	ølm
46	**3000K**	5438lm



Optics: in PMMA, highly resistant to temperature and UV radiation. Flow recovery in V0 polycarbonate.

LED: Power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B10).



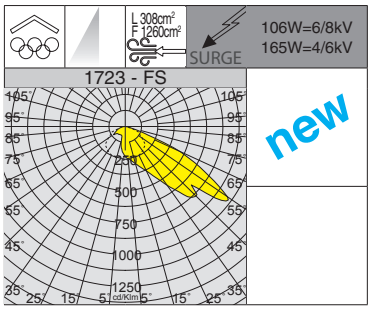


1714 Cripto medium - symmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.90	413040-00	73	4000K - **9661lm** - CRI 80
	grey 9006		413041-00		
LED	graphite	4.90	413040-39	73	3000K - **8985lm** - CRI 80
	grey 9006		413041-39		

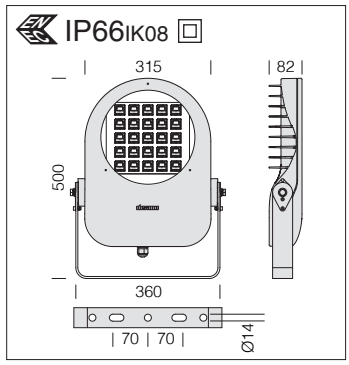
Example	Power supply	W tot	K	ølm
upon request	350mA	**46**	**4000K**	6148lm

W tot	K	ølm
46	**3000K**	5718lm









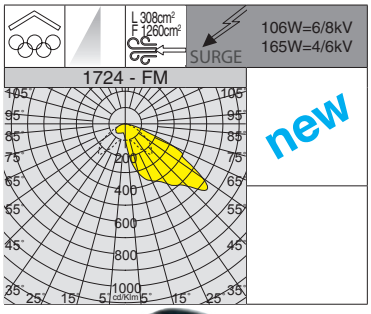
Optics: in PMMA, highly resistant to temperature and UV radiation. Flow recovery in V0 polycarbonate.

LED: power factor: ≥0,9. Luminous flux maintenance 80%: 80.000h (L80B10).

Installation is recommended in places where the ambient temperature is:
max 40° C - outdoor
max 30° C – indoor

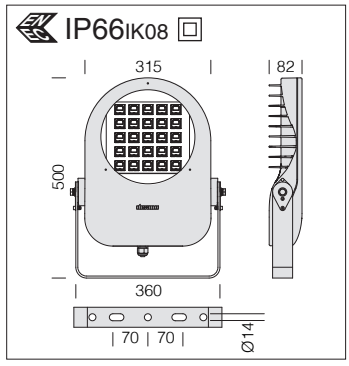
1723 Cripto big - asymmetric - FS

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	7.50	413070-00	106	4000K - **13161lm** - CRI 80
	grey 9006		413074-00		
LED	graphite	7.50	413070-39	106	3000K - **12240lm** - CRI 80
	grey 9006		413074-39		
LED	graphite	8.00	413071-00	165	4000K - **20565lm** - CRI 80
	grey 9006		413075-00		
LED	graphite	8.00	413071-39	165	3000K - **19125lm** - CRI 80
	grey 9006		413075-39		









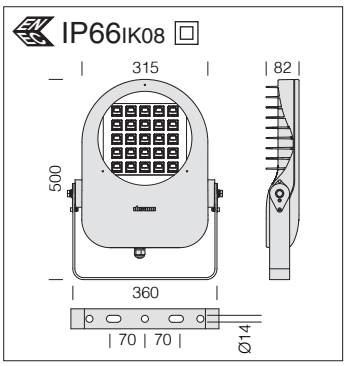
Optics: in PMMA, highly resistant to temperature and UV radiation. Flow recovery in V0 polycarbonate.

LED: power factor: ≥0,9. Luminous flux maintenance 80%: 80.000h (L80B10).

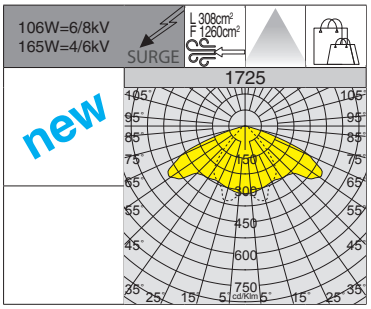
Installation is recommended in places where the ambient temperature is:
max 40° C - outdoor
max 30° C – indoor

1724 Cripto big - asymmetric - FL

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	7.50	413080-00	106	4000K - **13724lm** - CRI 80
	grey 9006		413084-00		
LED	graphite	7.50	413080-39	106	3000K - **12763lm** - CRI 80
	grey 9006		413084-39		
LED	graphite	8.00	413081-00	165	4000K - **21444lm** - CRI 80
	grey 9006		413085-00		
LED	graphite	8.00	413081-39	165	3000K - **19943lm** - CRI 80
	grey 9006		413085-39		









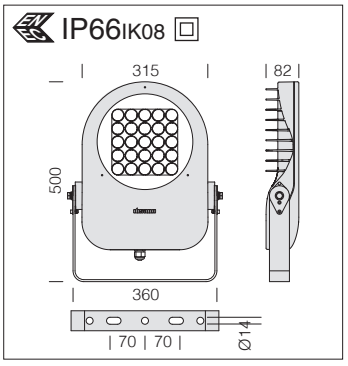
Optics: in PMMA, highly resistant to temperature and UV radiation. Flow recovery in V0 polycarbonate.

LED: power factor: ≥0,9. Luminous flux maintenance 80%: 80.000h (L80B10).

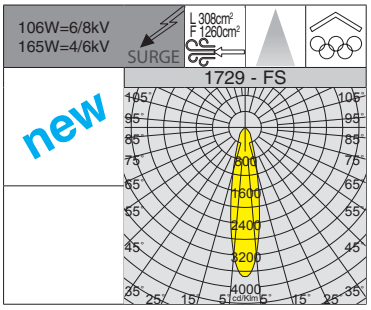
Installation is recommended in places where the ambient temperature is:
max 40° C - outdoor
max 30° C – indoor

1725 Cripto big - symmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	7.50	413090-00	106	4000K - **14053lm** - CRI 80
	grey 9006		413094-00		
LED	graphite	7.50	413090-39	106	3000K - **13069lm** - CRI 80
	grey 9006		413094-39		
LED	graphite	8.00	413091-00	165	4000K - **21916lm** - CRI 80
	grey 9006		413095-00		
LED	graphite	8.00	413091-39	165	3000K - **20382lm** - CRI 80
	grey 9006		413095-39		









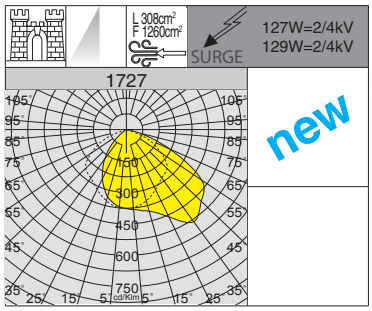
Optics: in PMMA, highly resistant to temperature and UV radiation. Flow recovery in V0 polycarbonate.

LED: power factor: ≥0,9. Luminous flux maintenance 80%: 80.000h (L80B10).

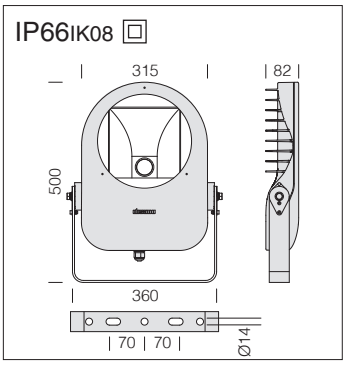
Installation is recommended in places where the ambient temperature is:
max 40° C - outdoor
max 30° C – indoor

1729 Cripto big - symmetric 20° - FS

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	7.50	413170-00	106	4000K - **15177lm** - CRI 80
	grey 9006		413174-00		
LED	graphite	7.50	413170-39	106	3000K - **14115lm** - CRI 80
	grey 9006		413174-39		
LED	graphite	8.00	413171-00	165	4000K - **23803lm** - CRI 80
	grey 9006		413175-00		
LED	graphite	8.00	413171-39	165	3000K - **22137lm** - CRI 80
	grey 9006		413175-39		







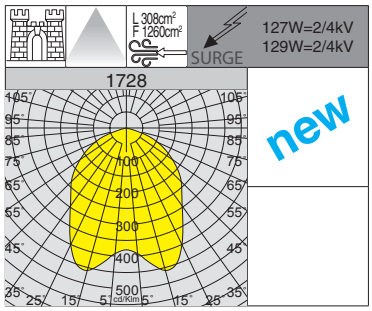
Reflector: asymmetric and faceted, made from aluminium 99.98.

LED: power factor: ≥0,92. Luminous flux maintenance 80%: 50.000h (L80B20).

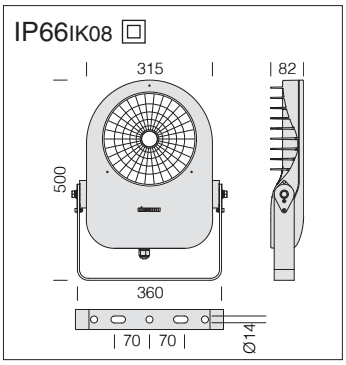
Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

1727 Cripto big - asymmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	graphite	6.00	413150-00	**129**	4000K - **14649lm** - CRI 80
	grey 9006		413152-00		
COB	graphite	6.00	413150-39	**129**	3000K - **13267lm** - CRI 80
	grey 9006		413152-39		
COB AMBER	graphite	6.00	413150-73	**127**	2200K - 14266lm - **AMBER**
	grey 9006		413152-73		







Reflector: in pre-anodized aluminium.

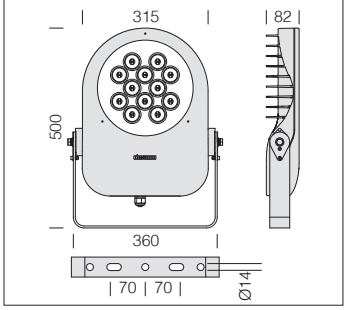
LED: power factor: ≥0,92. Luminous flux maintenance 80%: 50.000h (L80B20).

Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

1728 Cripto big - wide beam

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	graphite	6.00	413160-00	**129**	4000K - **14136lm** - CRI 80
	grey 9006		413162-00		
COB	graphite	6.00	413160-39	**129**	3000K - **13146lm** - CRI 80
	grey 9006		413162-39		
COB AMBER	graphite	6.00	413160-73	**127**	2200K - 13767lm - **AMBER**
	grey 9006		413162-73		

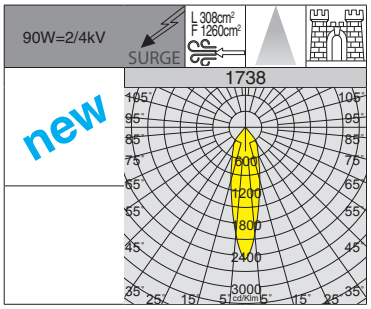
IP66 IK08



Optics: in high-performance metallic V2 polycarbonate with micro-faceted finish.

LED: power factor: ≥0,92.
Luminous flux maintenance 80%: 80.000h (L80B10).



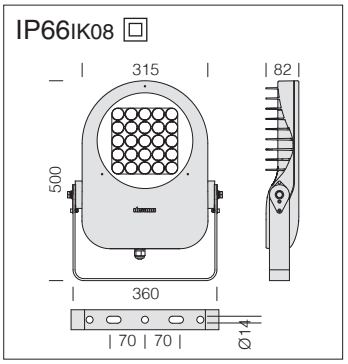




1738 Cripto big - 24°

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	7.50	413180-00	**90**	4000K - 6511lm - CRI 80
	grey 9006		413181-00		
LED	graphite	7.50	413180-39	**90**	3000K - **6055lm** - CRI 80
	grey 9006		413181-39		

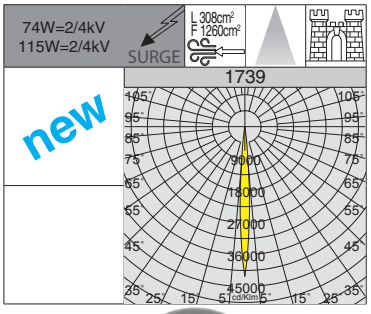
IP66 IK08



Optics: made of PMMA with high temperature resistance and UV rays.

LED: power factor: ≥0,92.
Luminous flux maintenance 80%: 80.000h (L80B10).







1739 Cripto big - 7°

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	7.50	413190-00	**74**	4000K - 5872lm - CRI 80
	grey 9006		413191-00		
LED	graphite	7.50	413190-39	**74**	3000K - **5461lm** - CRI 80
	grey 9006		413191-39		
LED	graphite	8.00	413192-00	**115**	4000K - 9176lm - CRI 80
	grey 9006		413193-00		
LED	graphite	8.00	413192-39	**115**	3000K - **8534lm** - CRI 80
	grey 9006		413193-39		


GOBIERNO MILITAR
EXPOSICIÓN TEMPORAL

GENERAL CHARACTERISTICS

Housing: in die-cast aluminium with cooling fins.

Diffuser: 4mm thick tempered glass, resistant to thermal shocks and impacts.

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Equipment: complete with galvanised and coated bracket; silicone rubber gasket; external screws and bolts in stainless steel; complete with electrical cable for mains connection **Mini Rodio**, with knife switch supplied to interrupt the line during maintenance.

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.

It works in two modes:

- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

On request: protection up to 10KV.

OTHER CHARACTERISTICS



The heat dissipation system was designed and manufactured to allow LED operation at adequate temperatures and guarantee excellent performance/efficiency and long life.



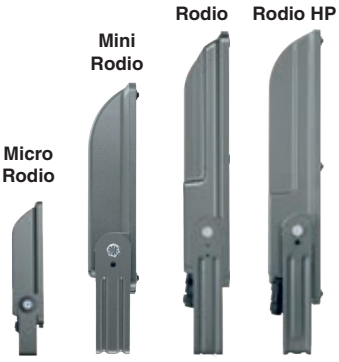
Precision optics that allow broad design flexibility guaranteeing high levels of light quality.

OTHER INFORMATION

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

The fixture's design is configured to minimise wind exposure surfaces:

Micro Rodio = L:86cm² F:278cm²
Mini Rodio = L:242cm² F:807cm²
Rodio = L:390cm² F:1420cm²
Rodio HP = L:455cm² F:1529cm²



Registered Design DM/100271 The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs.

UPON REQUEST

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

UNI EN ISO 9227 Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

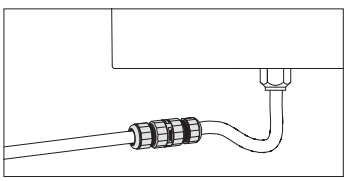
DIMM DIG Version **CLD D-D (DALI)** wiring with **subcode -0041:** thanks to pre-programmed settings or a software programme, this type of wiring allows accurate light emission dimming.

AMBER LED Version with **AMBER LED 2200K** with subcode **-73**

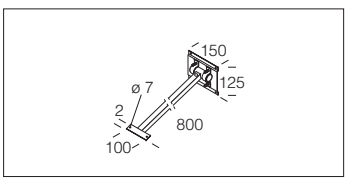
Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.



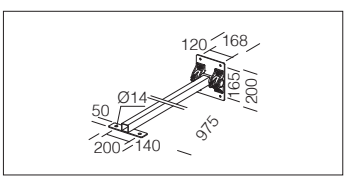
ACCESSORIES



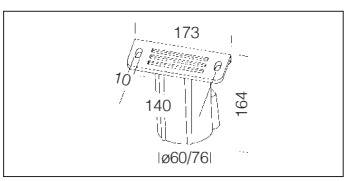
acc. 339 Connector (3-pole)
993854-00
To be used for mains connection of Micro Rodio



acc. 41 adjustable-angle arm	
graphite	995506-00
white	995508-00
anthracite	995509-00
Adjustable-angle arm galvanized steel. For Micro Rodio.	



acc. 42 adjustable-angle arm	
graphite	995504-00
Adjustable-angle arm galvanized steel. For Mini Rodio.	



acc. 333 Ø60 pole mounting	
graphite	997915-00
acc. 334 Ø76 pole mounting	
graphite	997916-00
Made of aluminium. To be used to apply Mini Rodio on a ø 60/76 pole.	



Built-in RADAR SENSOR (sub-code -19 at an extra price): is an automatic sensor that immediately sense the presence of people's movements and anyone walking past. When there is movement within the sensor's detection range, the light will remain ON. When no further movement is detected, the light will switch OFF after a pre-set time.

FACTORY SETTINGS	
Power supply	220-240V AC 50/60 Hz
Frequency	5,8GHz CW Radar ISM band - 0,2 - <10 mW
Detection area	ceiling: 360°
Detection distance	ceiling: Ø 4 m
Motion detection speed	0,6-1-1,5 m/s
Mounting height	ceiling: 1,5-3,5 m
Energy consumption	<0,9 W
Hold time	6 min
Ambient light	135 Lux
N.B.: factory settings cannot be changed; contact the manufacturer for different settings.	

RG0 Ethr

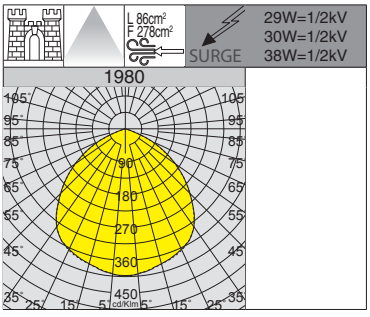
+40 C° -20

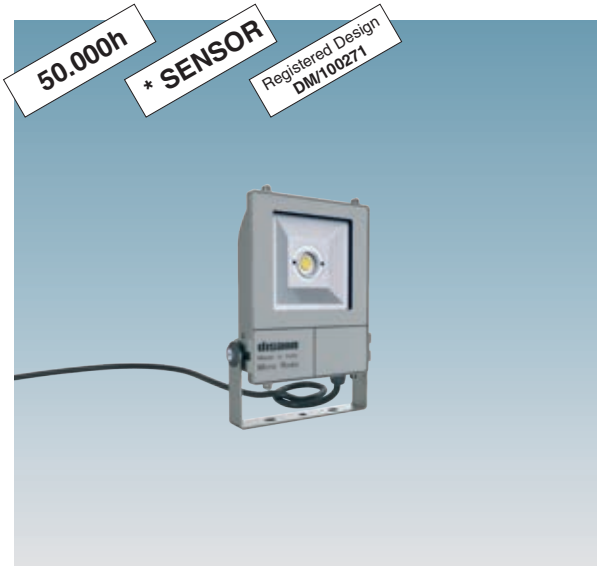
U.V.

LOW FLICKER

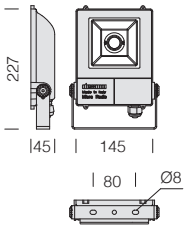
3000K

4000K





IP66IK08



Reflector: in anodized 99.85 aluminium.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 50.000h (L80B20).

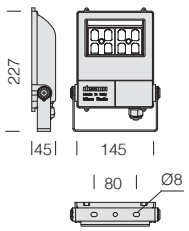
Equipment: complete with electrical cable for mains connection L=0,6m.

On request version with:
- **LED AMBER 2200K** with subcode **-73.**
- double insulation class with subcode **-14.**
- **CLD D-D (DALI)** wiring with **subcode -0041.**

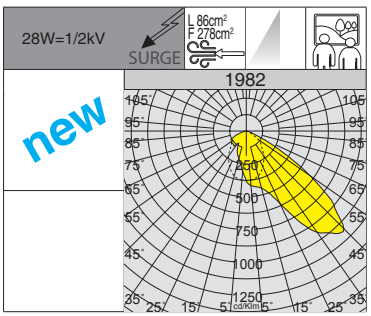
***** 230V version with **built-in radar sensor**.

1980 Micro Rodio - COB					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	graphite	1.10	414860-00	**29**	4000K - 2483lm - **CRI 90**
	white		414861-00		
	anthracite		414862-00		
COB	graphite	1.10	414860-39	**29**	3000K - 2309lm - **CRI 90**
	white		414861-39		
	anthracite		414862-39		
COB	graphite	1.10	414865-00	**38**	4000K - 3023lm - **CRI 90**
	white		414866-00		
	anthracite		414867-00		
COB	graphite	1.10	414865-39	**38**	3000K - 2811lm - **CRI 90**
	white		414866-39		
	anthracite		414867-39		
230V					K - ølm 230V - CRI
COB *	graphite	1.10	414863-19	**30**	4000K - 2661lm - CRI 80
	white		414864-19		
	anthracite		414867-19		

IP66IK08







Optics: in high efficiency PMMA.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 50.000h (L80B20).

Equipment: complete with electrical cable for mains connection L=0,6m.

On request version with:
• double insulation class with subcode **-14.**
• **CLD D-D (DALI)** wiring with **subcode -0041.**

1982 Micro Rodio - asymmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	1.10	414870-00	**28**	4000K - 3118lm - CRI 80
	white		414871-00		
	anthracite		414872-00		
LED	graphite	1.10	414870-39	**28**	3000K - **2900lm** - CRI 80
	white		414871-39		
	anthracite		414872-39		

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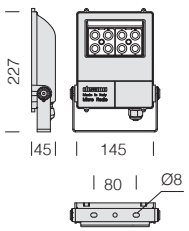
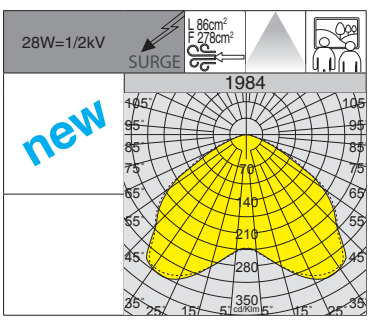
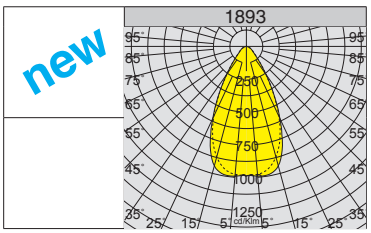








Optics: in high efficiency PMMA.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 50.000h (L80B20).

Equipment: complete with electrical cable for mains connection L=0,6m.

On request version with:
• double insulation class with subcode **-14.**
• **CLD D-D (DALI)** wiring with **subcode -0041.**

1984 Micro Rodio - symmetric wide beam

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	1.10	414890-00	**28**	4000K - 3056m - CRI 80
	white		414891-00		
	anthracite		414892-00		
LED	graphite	1.10	414890-39	**28**	3000K - **2842lm** - CRI 80
	white		414891-39		
	anthracite		414892-39		

1983 Micro Rodio - symmetric narrow beam

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	1.10	414880-00	**28**	4000K - 3097lm - CRI 80
	white		414881-00		
	anthracite		414882-00		
LED	graphite	1.10	414880-39	**28**	4000K - **2880lm** - CRI 80
	white		414881-39		
	anthracite		414882-39		



RG0 Ethr

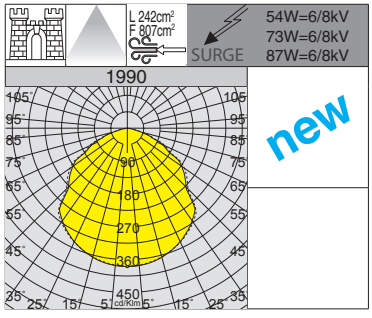
+40 C° -20

U.V.

LOW FLICKER

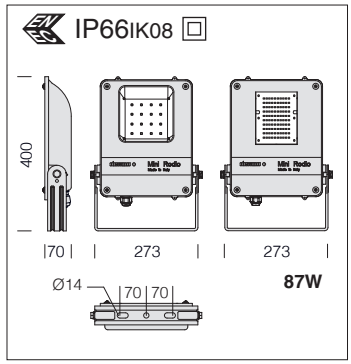
3000K

4000K









LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

Equipment: complete with electrical cable for mains connection L=0,6m.

1990 Mini Rodio - symmetric wide beam					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	414900-00	**54**	4000K - **7679lm** - CRI 80
			414900-39		3000K - **7141lm** - CRI 80
LED	graphite	4.50	414901-00	**73**	4000K - **9440lm** - CRI 80
			414901-39		3000K - **8779lm** - CRI 80
LED*	graphite	4.50	414902-00	**87**	4000K - **9512lm** - CRI 80
			414902-39		3000K - **8846lm** - CRI 80
* CLASS INSULUTION I version.					

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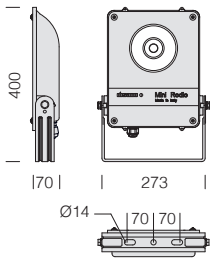
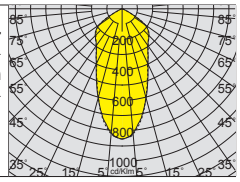


Reflector: in pressed 99.85 aluminium, anodically oxidized and polished.

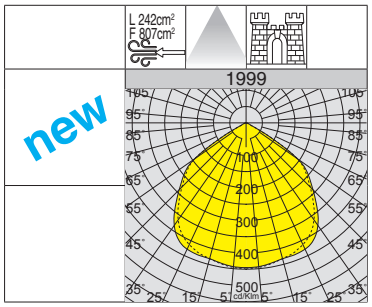
LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 50.000h (L80B20).

Equipment: complete with electrical cable for mains connection L=0,6m.

Upon request: narrow beam version (sub-code **-22**).





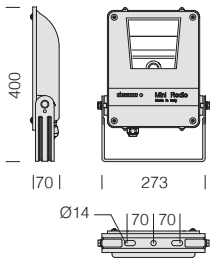




RG0 Ethr
+40 C° -20
U.V.
3000K
4000K
5700K

1999 Mini Rodio - COB symmetric					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	graphite	4.50	414840-00	39	4000K - 6134lm - CRI 80
			414840-39		3000K - 5827lm - CRI 80
			414840-0035		5700K - 6134lm - CRI 80
COB	graphite	4.50	414841-00	54	4000K - 7717lm - CRI 80
			414841-39		3000K - 7331lm - CRI 80
			414841-0035		5700K - 7717lm - CRI 80
COB	graphite	4.50	414842-00	66	4000K - 9086lm - CRI 80
			414842-39		3000K - 8170lm - CRI 80
			414842-0035		5700K - 9086lm - CRI 80
COB	graphite	4.50	414843-00	73	4000K - 11086lm - CRI 80
			414843-39		3000K - 10310lm - CRI 80
			414843-0035		5700K - 11086lm - CRI 80

IP66IK08

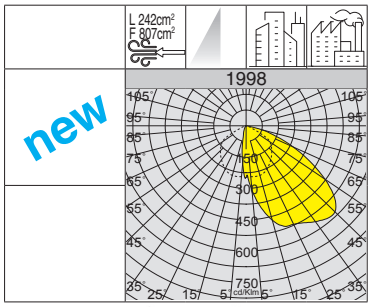


Reflector: in high-grade 99,99 aluminium with PVD treatment.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 50.000h (L80B20).

Equipment: complete with electrical cable for mains connection L=0,6m.



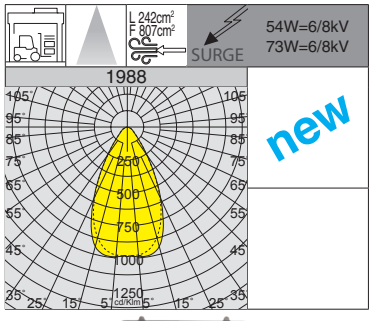




RG0 Ethr
+40 C° -20
U.V.
3000K
4000K
5700K

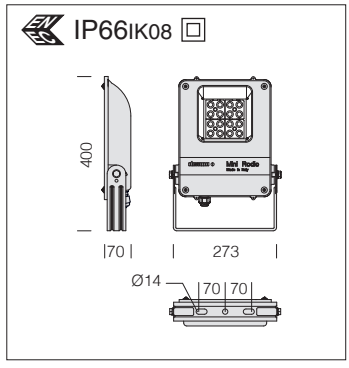
1998 Mini Rodio - COB asymmetric					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	graphite	4.50	414850-00	39	4000K - 5717lm - CRI 80
			414850-39		3000K - 5429lm - CRI 80
			414850-0035		5700K - 5717lm - CRI 80
COB	graphite	4.50	414851-00	54	4000K - 7171lm - CRI 80
			414851-39		3000K - 6813lm - CRI 80
			414851-0035		5700K - 7171lm - CRI 80
COB	graphite	4.50	414852-00	66	4000K - 8226lm - CRI 80
			414852-39		3000K - 7733lm - CRI 80
			414852-0035		5700K - 8226lm - CRI 80
COB	graphite	4.50	414853-00	73	4000K - 9896lm - CRI 80
			414853-39		3000K - 9212lm - CRI 80
			414853-0035		5700K - 9896lm - CRI 80











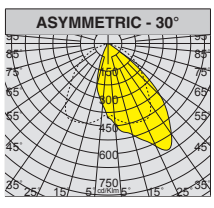
Optics: in high efficiency PMMA.

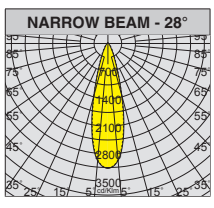
LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

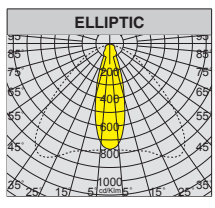
Equipment: complete with electrical cable for mains connection L=0,6m.

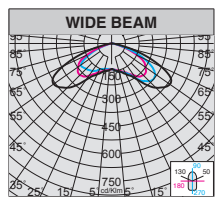
1988 Mini Rodio - symmetric narrow beam					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	414930-00	**54**	4000K - **8402lm** - CRI 80
			414930-39		3000K - **7814lm** - CRI 80
LED	graphite	4.50	414931-00	**73**	4000K - **10330lm** - CRI 80
			414931-39		3000K - **9607lm** - CRI 80

Upon request available **Mini Rodio** with other photometric distributions:

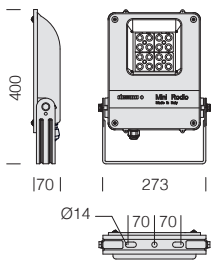




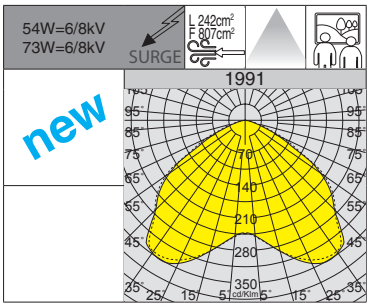




IP66 IK08









Optics: in high efficiency PMMA.

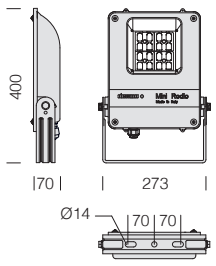
LED: power factor: ≥0,9. Luminous flux maintenance 80%: 80.000h (L80B20).

Equipment: complete with electrical cable for mains connection L=0,6m.

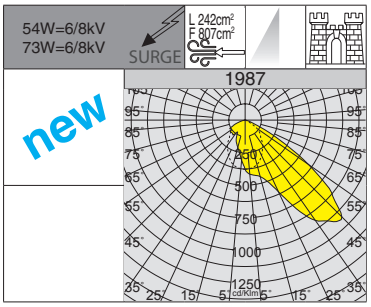
1991 Mini Rodio - symmetric wide beam

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	414940-00	**54**	4000K - **8292lm** - CRI 80
			414940-39		3000K - **7712lm** - CRI 80
LED	graphite	4.50	414941-00	**73**	4000K - **10194lm** - CRI 80
			414941-39		3000K - **9480lm** - CRI 80

IP66 IK08









Optics: in high efficiency PMMA.

LED: power factor: ≥0,9. Luminous flux maintenance 80%: 80.000h (L80B20).

Equipment: complete with electrical cable for mains connection L=0,6m.

1987 Mini Rodio - asymmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	414910-00	**54**	4000K - **8456lm** - CRI 80
			414910-39		3000K - **7864lm** - CRI 80
LED	graphite	4.50	414911-00	**73**	4000K - **10396lm** - CRI 80
			414911-39		3000K - **9668lm** - CRI 80


MUSEUM

GENERAL CHARACTERISTICS

Housing: in die-cast aluminium with cooling fins.

Diffuser: 5mm thick tempered glass, resistant to thermal shocks and impacts (UNI-EN 12150-1 : 2001).

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Equipment: complete with galvanised and coated bracket. Silicone rubber gasket; external screws and bolts in stainless steel; air recirculation valve. Airtight connector for quick installation with **no need to open the fixture.**

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.
On request: protection up to 10KV.

OTHER CHARACTERISTICS



The heat dissipation system was designed and manufactured to allow LED operation at adequate temperatures and guarantee excellent performance/efficiency and long life.



Precision optics that allow broad design flexibility guaranteeing high levels of light quality.

OTHER INFORMATION

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

Virtual midnight sub-code -30: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise).

ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request.*

RGBW DMX RDM Rodio is also available in the RGBW - DMX/RDM version (see chapter *Lighting management systems - DMX solution for LED RGBW*).

UPON REQUEST

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

UNI EN ISO 9227 Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

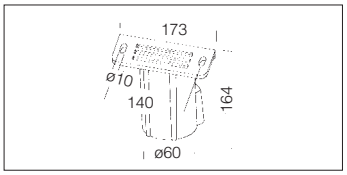
AMBER LED Version with **AMBER LED 2200K** with sub-code **-73:** lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.

Available special version with **AMBER colour LED** sources for wine processing and storage facilities. **Note:** when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

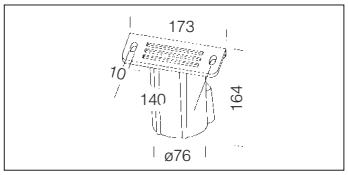




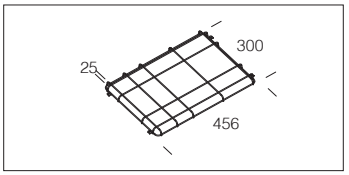
ACCESSORIES



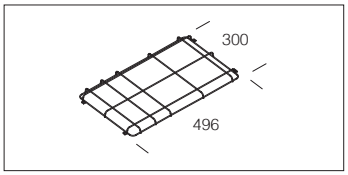
acc. 333 Ø60 pole mounting	
graphite	997915-00
Made of aluminium. To be used to apply the fixture on a ø 60 pole.	



acc. 334 Ø76 pole mounting	
graphite	997916-00
Made of aluminium. To be used to apply the fixture on a ø 76 pole.	

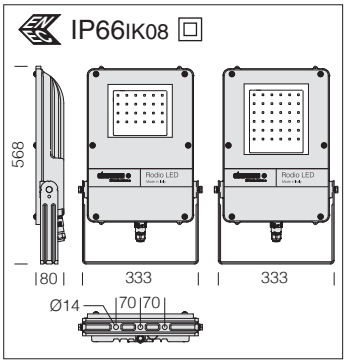


acc. 350 protection guard	
black	997925-00
Plastic-coated steel rod. For protection against impact.	



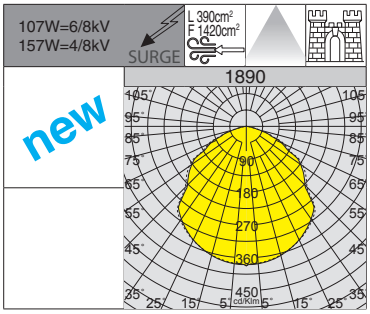
acc. 350 protection guard	
black	997928-00
Plastic-coated steel rod. For protection against impact of Rodio HP-HE.	

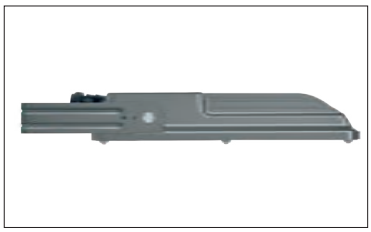




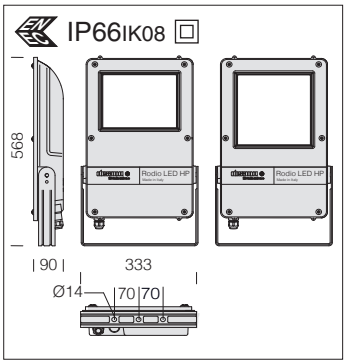
LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).





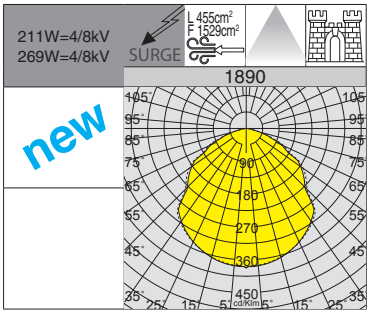


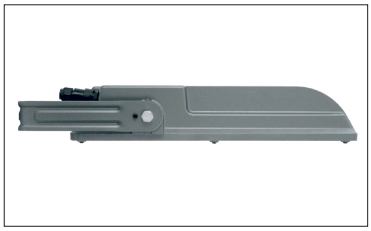
1890 Rodio - symmetric wide beam					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	6.30	414790-00	**107**	4000K - **14167lm** - CRI 80
			414790-39		3000K - **13175lm** - CRI 80
LED	graphite	6.30	414791-00	**157**	4000K - **21251lm** - CRI 80
			414791-39		3000K - **19763lm** - CRI 80



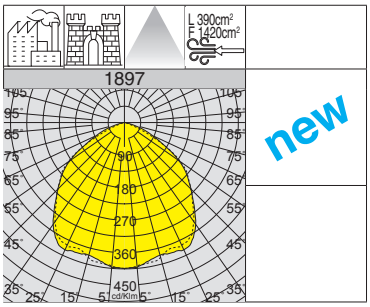
LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).





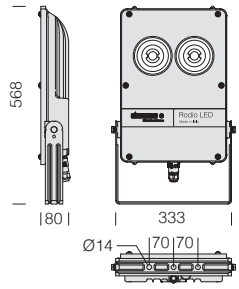


1890 Rodio HP - symmetric wide beam					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	8.00	414794-00	**211**	4000K - **27972lm** - CRI 80
			414794-39		3000K - **26014lm** - CRI 80
LED	graphite	9.60	414795-00	**269**	4000K - **38081lm** - CRI 80
			414795-39		3000K - **35415lm** - CRI 80





IP66IK08



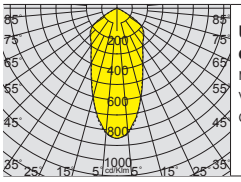
Reflector: in pressed 99.95 aluminium with PVD treatment, anodically oxidized and polished.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 50.000h (L80B20).

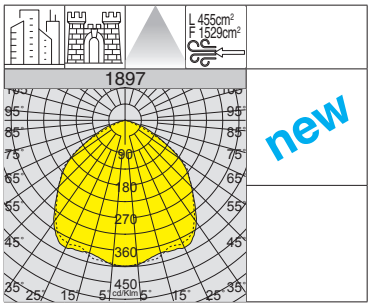
2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
79	2200K - 9497lm
114	2200K - 11889lm
196	2200K - 22455lm

1897 Rodio - COB symmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	graphite	6.20	414820-00	**79**	4000K - **11306lm** - CRI 80
			414820-39		3000K - **10741lm** - CRI 80
			414820-0035		5700K - **11306lm** - CRI 80
COB	graphite	6.20	414821-00	**103**	4000K - **14154lm** - CRI 80
			414821-39		3000K - **13447lm** - CRI 80
			414821-0035		5700K - **14154lm** - CRI 80
COB	graphite	6.20	414822-00	**129**	4000K - **18172lm** - CRI 80
			414822-39		3000K - **17082lm** - CRI 80
			414822-0035		5700K - **18172lm** - CRI 80
COB	graphite	6.20	414823-00	**196**	4000K - **26732lm** - CRI 80
			414823-0035		5700K - **26732lm** - CRI 80



Upon request: narrow beam version (sub-code **-22**).





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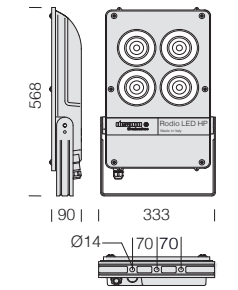


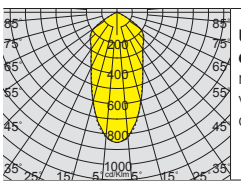
Reflector: in pressed 99.95 aluminium with PVD treatment, anodically oxidized and polished.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 50.000h (L80B20).

2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
220	2200K - 27508lm
328	2200K - 39713lm

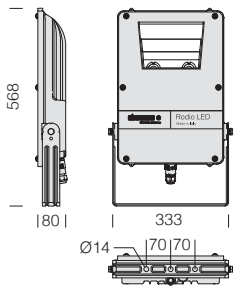
1897 Rodio HP - COB symmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	graphite	7.60	414825-00	**246**	4000K - **36386lm** - CRI 80
			414825-39		3000K - **33839lm** - CRI 80
			414825-0035		5700K - **36386lm** - CRI 80
COB	graphite	8.90	414826-00	**318**	4000K - **47277lm** - CRI 80
			414826-39		3000K - **43967lm** - CRI 80
			414826-0035		5700K - **47277lm** - CRI 80



Upon request: narrow beam version (sub-code **-22**).

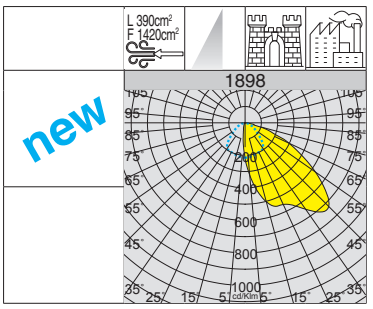
IP66IK08



Reflector: in high-grade 99,95 aluminium with PVD treatment.

LED: power factor: ≥0,9. Luminous flux maintenance 80%: 50.000h (L80B20).



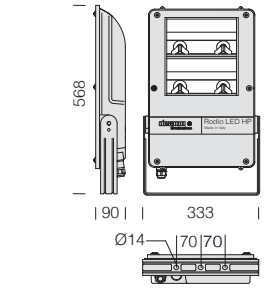


2200K - AMBER (sub-code -73)	
W tot	LUMEN OUTPUT (tq= 25 °C)
79	2200K - 8262lm
114	2200K - 10560lm
196	2200K - 20335lm

1898 Rodio - COB asymmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	graphite	6.20	414920-00	79	4000K - **9836lm** - CRI 80
			414920-39		3000K - **9344lm** - CRI 80
			414920-0035		5700K - **9836lm** - CRI 80
COB	graphite	6.20	414921-00	103	4000K - **12572lm** - CRI 80
			414921-39		3000K - **11944lm** - CRI 80
			414921-0035		5700K - **12572lm** - CRI 80
COB	graphite	6.20	414922-00	129	4000K - **16329lm** - CRI 80
			414922-39		3000K - **15349lm** - CRI 80
			414922-0035		5700K - **16329lm** - CRI 80
COB	graphite	6.20	414923-00	196	4000K - **24208lm** - CRI 80
			414923-0035		5700K - **24208lm** - CRI 80

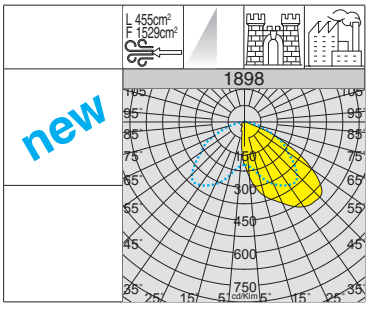
IP66IK08



Reflector: in high-grade 99,95 aluminium with PVD treatment.

LED: power factor: ≥0,9. Luminous flux maintenance 80%: 50.000h (L80B20).





2200K - AMBER (sub-code -73)	
W tot	LUMEN OUTPUT (tq= 25 °C)
220	2200K - 26323lm
328	2200K - 39206lm

1898 Rodio HP - COB asymmetric

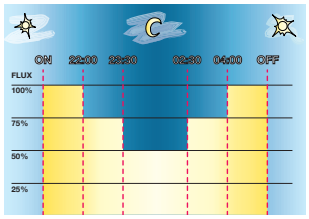
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	graphite	7.60	414925-00	246	4000K - **34819lm** - CRI 80
			414925-39		3000K - **32381lm** - CRI 80
			414925-0035		5700K - **34819lm** - CRI 80
COB	graphite	8.90	414926-00	318	4000K - **46674lm** - CRI 80
			414926-39		3000K - **43407lm** - CRI 80
			414926-0035		5700K - **46674lm** - CRI 80
COB	graphite	8.90	414927-00	318	4000K - **51342lm** - CRI 70
			414927-0035		5700K - **51342lm** - CRI 70



VIRTUAL MIDNIGHT

To increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The "virtual midnight" is the reference point for dimming lights according to the desired profile. The device is integrated in the LED driver and therefore does not require any modification to the system.

In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.

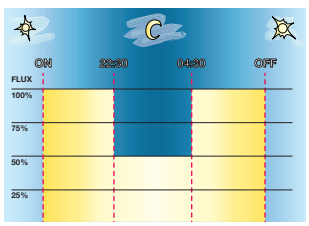


Factory settings	
Time	Flux
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

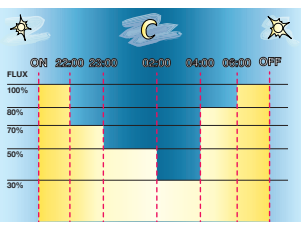
ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request.*

Virtual midnight in 2 steps subcode -31

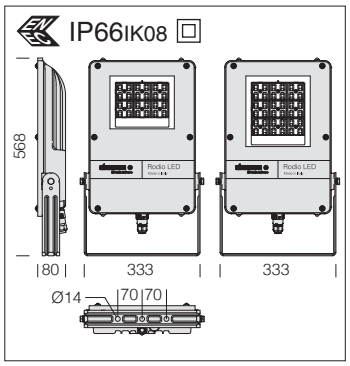


Settings upon request	
Time	Flux
on ÷ 22:30	100%
22:30 ÷ 04:30	50%
04:30 ÷ off	100%

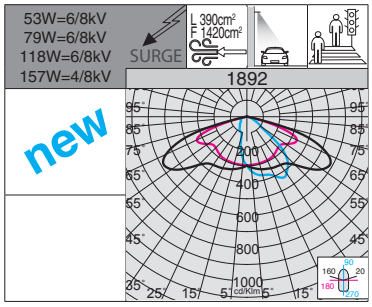
Virtual midnight in 5 steps subcode -32



Settings upon request	
Time	Flux
on ÷ 22:00	100%
22:00 ÷ 23:30	70%
23:00 ÷ 02:00	50%
02:00 ÷ 04:00	30%
04:00 ÷ 06:00	80%
06:00 ÷ off	100%







Optics: in high efficiency PMMA.

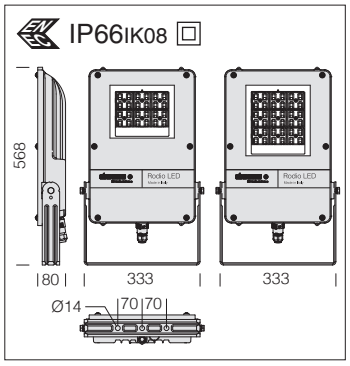
LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
53	2200K - 7017lm
79	2200K - 9402lm
118	2200K - 13768lm
157	2200K - 17193lm

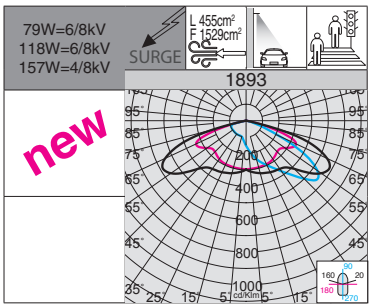
Upon request: special version (with *conformal coating* treatment with **subcode -38**) featuring high chemical resistance for environments with high chlorine content.

1892 Rodio - street optics

		CLD		CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	graphite	6.30	414774-00	414774-30	*** 53**	4000K - **7974lm** - CRI 80
			414774-39	414774-3028		3000K - **7614lm** - CRI 80
LED	graphite	6.30	414775-00	414775-30	**79**	4000K - **10684lm** - CRI 80
			414775-39	414775-3028		3000K - **9936lm** - CRI 80
LED	graphite	6.30	414776-00	414776-30	**118**	4000K - **15646lm** - CRI 80
			414776-39	414776-3028		3000K - **14551lm** - CRI 80
LED	graphite	6.30	414777-00	414777-30	**157**	4000K - **19538lm** - CRI 80
			414777-39	414777-3028		3000K - **18170lm** - CRI 80







Optics: in high efficiency PMMA.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

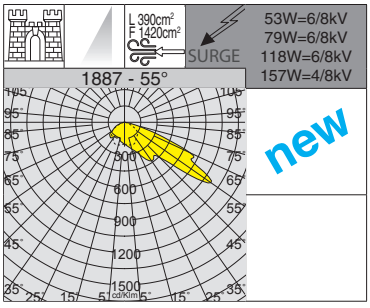
2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
79	2200K - 9402lm
118	2200K - 13768lm
157	2200K - 17193lm

Upon request: special version (with *conformal coating* treatment with **subcode -38**) featuring high chemical resistance for environments with high chlorine content.

1893 Rodio - street optics - large areas

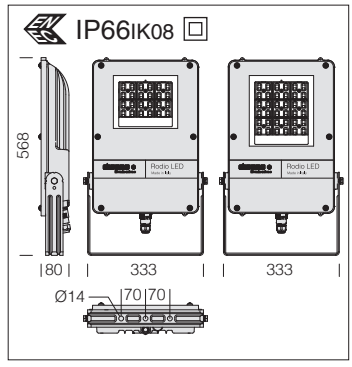
		CLD		CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	graphite	6.30	414763-00	414763-30	**79**	4000K - **10684lm** - CRI 80
			414763-39	414763-3028		3000K - **9936lm** - CRI 80
LED	graphite	6.30	414778-00	414778-30	**118**	4000K - **15646lm** - CRI 80
			414778-39	414778-3028		3000K - **14551lm** - CRI 80
LED	graphite	6.30	414779-00	414779-30	**157**	4000K - **19538lm** - CRI 80
			414779-39	414779-3028		3000K - **18170lm** - CRI 80





2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
53	2200K - 7743lm - 45°
79	2200K - 10374lm - 45°
119	2200K - 15147lm - 45°
	2200K - 15085lm - 55°
157	2200K - 18972lm - 45°
	2200K - 18500lm - 55°



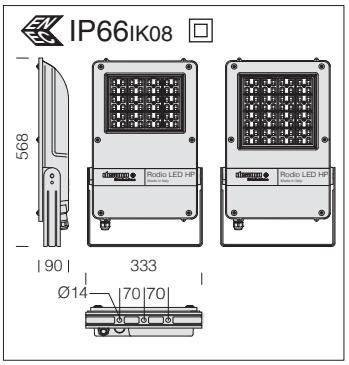


Optics: in high efficiency PMMA.

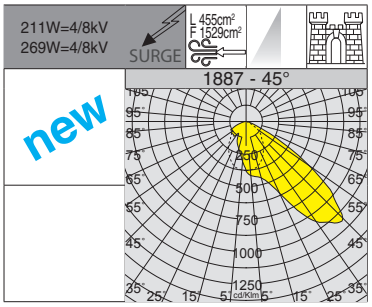
LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

Upon request: special version (with *conformal coating* treatment with **subcode -38**) featuring high chemical resistance for environments with high chlorine content.

1887 Rodio - asymmetric					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
LED	graphite	6.30	414754-00	* 53	4000K - **8799lm** - CRI 80 - 45°
			414754-39		3000K - **8183lm** - CRI 80 - 45°
LED	graphite	6.30	414755-00	79	4000K - **11789lm** - CRI 80 - 45°
			414755-39		3000K - **10964lm** - CRI 80 - 45°
LED	graphite	6.30	414756-00	118	4000K - **17213lm** - CRI 80 - 45°
			414756-39		3000K - **16009lm** - CRI 80 - 45°
LED	graphite	6.30	414752-00		4000K - **17142lm** - CRI 80 - 55°
			414752-39		3000K - **15942lm** - CRI 80 - 55°
LED	graphite	6.30	414757-00	157	4000K - **21559lm** - CRI 80 - 45°
			414757-39		3000K - **20050lm** - CRI 80 - 45°
LED	graphite	6.30	414753-00		4000K - **21023lm** - CRI 80 - 55°
			414753-39		3000K - **19551lm** - CRI 80 - 55°







Optics: in high efficiency PMMA.

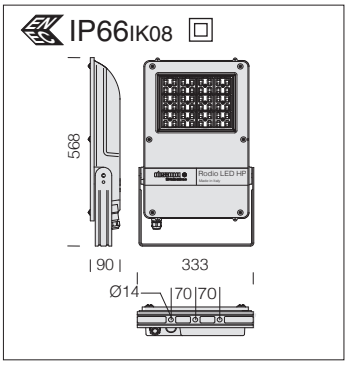
LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
211	2200K - 24235lm - 45°
	2200K - 24065lm - 55°
269	2200K - 32903lm - 45°
	2200K - 32086lm - 55°

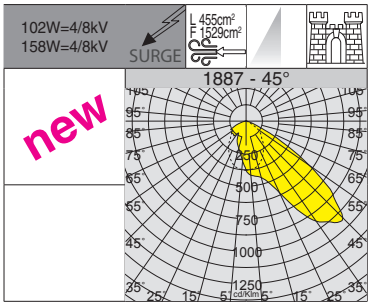
Upon request: special version (with *conformal coating* treatment with **subcode -38**) featuring high chemical resistance for environments with high chlorine content.

1887 Rodio HP - asymmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - gradi
LED	graphite	8.00	414758-00	**211**	4000K - **27540lm** - CRI 80 - 45°
			414758-39		3000K - **25612lm** - CRI 80 - 45°
LED	graphite	8.00	414761-00	**211**	4000K - **27346lm** - CRI 80 - 55°
			414761-39		3000K - **25432lm** - CRI 80 - 55°
LED	graphite	9.60	414759-00	**269**	4000K - **37390lm** - CRI 80 - 45°
			414759-39		3000K - **34773lm** - CRI 80 - 45°
LED	graphite	9.60	414762-00	**269**	4000K - **36461lm** - CRI 80 - 55°
			414762-39		3000K - **33909lm** - CRI 80 - 55°







Optics: in high efficiency PMMA.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

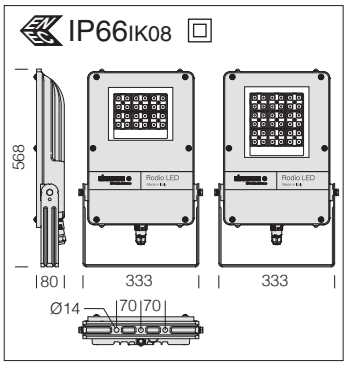
2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
102	2200K - 14898lm - 45°
	2200K - 14793lm - 55°
158	2200K - 21429lm - 45°
	2200K - 21328lm - 55°

Upon request: special version (with *conformal coating* treatment with **subcode -38**) featuring high chemical resistance for environments with high chlorine content.

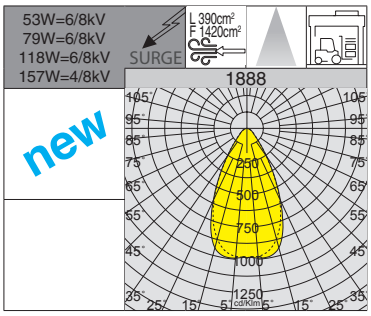
1887 Rodio HE - asymmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
LED	graphite	8.00	414740-00	**102**	4000K - **16930lm** - CRI 80 - 45°
			414740-39		3000K - **15745lm** - CRI 80 - 45°
LED	graphite	8.00	414741-00	**102**	4000K - **16810lm** - CRI 80 - 55°
			414741-39		3000K - **15633lm** - CRI 80 - 55°
LED	graphite	8.00	414742-00	**158**	4000K - **24350lm** - CRI 80 - 45°
			414742-39		3000K - **22646lm** - CRI 80 - 45°
LED	graphite	8.00	414743-00	**158**	4000K - **24236lm** - CRI 80 - 55°
			414743-39		3000K - **22539lm** - CRI 80 - 55°


TRUMP WORLD







Optics: in high efficiency PMMA.

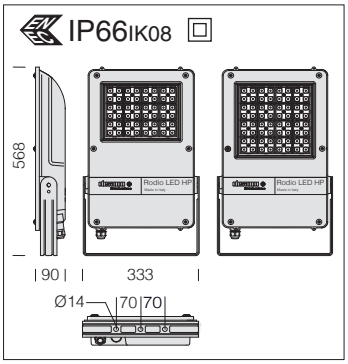
LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
53	2200K - 7693lm
79	2200K - 10309lm
118	2200K - 15051lm
157	2200K - 18850lm

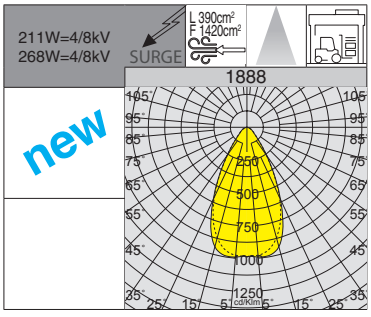
Upon request: special version (with *conformal coating* treatment with **subcode -38**) featuring high chemical resistance for environments with high chlorine content.

1888 Rodio - symmetric narrow beam - FS

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	6.30	414764-00	*** 53**	4000K - **8742lm** - CRI 80
			414764-39		3000K - **8130lm** - CRI 80
LED	graphite	6.30	414765-00	**79**	4000K - **11715lm** - CRI 80
			414765-39		3000K - **10895lm** - CRI 80
LED	graphite	6.30	414766-00	**118**	4000K - **17103lm** - CRI 80
			414766-39		3000K - **15906lm** - CRI 80
LED	graphite	6.30	414767-00	**157**	4000K - **21421lm** - CRI 80
			414767-39		3000K - **19922lm** - CRI 80







Optics: in high efficiency PMMA.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

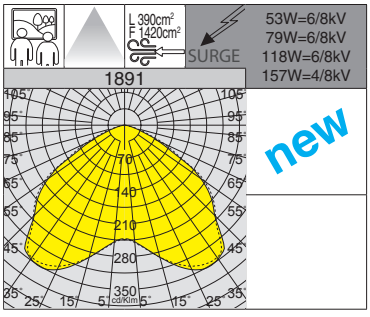
2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
211	2200K - 24045lm
269	2200K - 33449lm

Upon request: special version (with *conformal coating* treatment with **subcode -38**) featuring high chemical resistance for environments with high chlorine content.

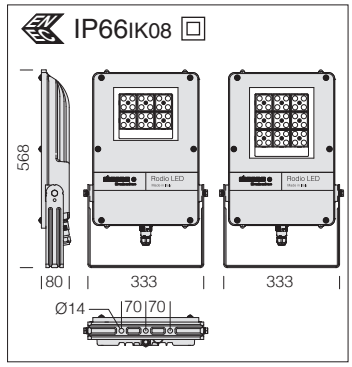
1888 Rodio HP - symmetric narrow beam - FS

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	8.00	414768-00	**211**	4000K - **27324lm** - CRI 80
			414768-39		3000K - **25411lm** - CRI 80
LED	graphite	9.60	414769-00	**269**	4000K - **38010lm** - CRI 80
			414769-39		3000K - **35349lm** - CRI 80









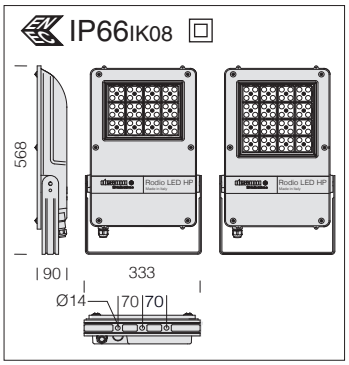
2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
53	2200K - 7592m
79	2200K - 10174lm
118	2200K - 14855lm
157	2200K - 18603lm

Optics: in high efficiency PMMA.

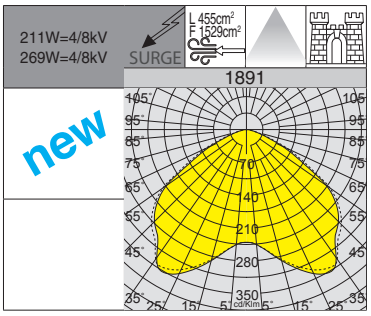
LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

Upon request: special version (with *conformal coating* treatment with **subcode -38**) featuring high chemical resistance for environments with high chlorine content.

1891 Rodio - symmetric wide beam					
		CLD			**LUMEN OUTPUT (tq= 25 °C)**
LED	colour	weight	code	**W tot**	K - ølm - CRI
LED	graphite	6.30	414784-00	*** 53**	4000K - **8627lm** - CRI 80
			414784-39		3000K - **8023lm** - CRI 80
LED	graphite	6.30	414785-00	**79**	4000K - **11561lm** - CRI 80
			414785-39		3000K - **10752lm** - CRI 80
LED	graphite	6.30	414786-00	**118**	4000K - **16881lm** - CRI 80
			414786-39		3000K - **15699lm** - CRI 80
LED	graphite	6.30	414787-00	**157**	4000K - **21140lm** - CRI 80
			414787-39		3000K - **19660lm** - CRI 80







Optics: in high efficiency PMMA.

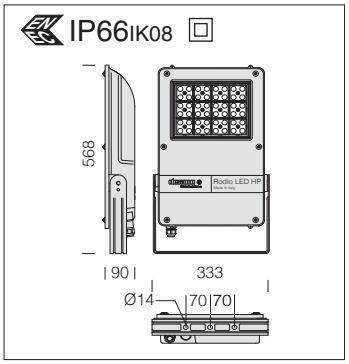
LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
211	2200K - 24606lm
269	2200K - 32856lm

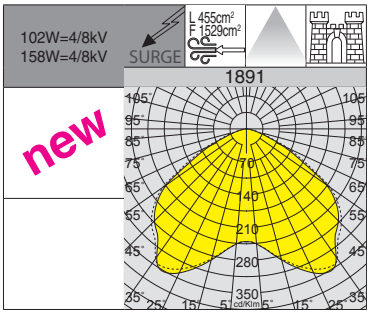
Upon request: special version (with *conformal coating* treatment with **subcode -38**) featuring high chemical resistance for environments with high chlorine content.

1891 Rodio HP - symmetric wide beam

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	8.00	414788-00	**211**	4000K - **27961lm** - CRI 80
			414788-39		3000K - **26003lm** - CRI 80
LED	graphite	9.60	414789-00	**269**	4000K - **37336lm** - CRI 80
			414789-39		3000K - **34722lm** - CRI 80







Optics: in high efficiency PMMA.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
102	2200K - 15118lm
158	2200K - 22985lm

Upon request: special version (with *conformal coating* treatment with **subcode -38**) featuring high chemical resistance for environments with high chlorine content.

1891 Rodio HE - symmetric wide beam

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	8.00	414737-00	**102**	4000K - **17180lm** - CRI 80
			414737-39		3000K - **15977lm** - CRI 80
LED	graphite	8.00	414738-00	**158**	4000K - **24715lm** - CRI 80
			414738-39		3000K - **22985lm** - CRI 80


PRAHA
HLAVNÍ NÁDRAŽÍ

GENERAL CHARACTERISTICS

Housing: in die-cast aluminium, EN-AB 47100 alloy and designed with a very small surface exposed to wind. Cooling fins integrated in the cover. Once removed, the cover allows accessing the electric gear compartment.

Optics: high-performance, anti-yellowing PMMA secondary lenses.

Diffuser: extra-clear, tempered glass, 4 mm thick, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001).

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Standard supply: complete with galvanised and coated bracket with graduated scale goniometer which allows for accurate pointing; external screws and bolts in stainless steel; air recirculation valve. Airtight connector for quick installation with **no need to open the fixture.**

OTHER CHARACTERISTICS

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547. It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

On request: protection up to 10KV.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

Registered Design DM/100271 The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs.

OTHER INFORMATION



The heat dissipation system was designed and manufactured to allow LED operation at adequate temperatures and guarantee excellent performance/efficiency and long life.



Precision optics that allow broad design flexibility guaranteeing high levels of light quality.

UPON REQUEST

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

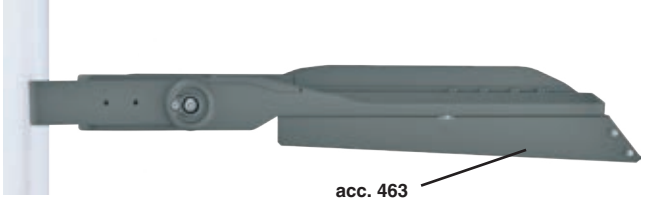
UNI EN ISO 9227 Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

DIMM DIG Version **CLD D-D (DALI)** wiring with **subcode -0041:** thanks to pre-programmed settings or a software programme, this type of wiring allows accurate light emission dimming.

LED 5700K Availlabrle version with
- LED **5700K - CRI 90** with **subcode -0034.**
- LED **5700K - CRI 70** with**subcode -0035.**

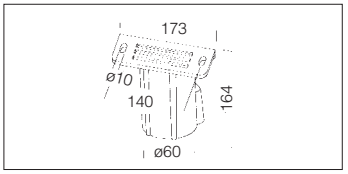
Luminous flux maintenance Power factor ≥0.92		Wattage W tot	Allowed ambient temperature		
			Ta min	Ta INDOOR max	Ta OUTDOOR max
80%	100.000h (L80B10)	410W	-40°C	40°C	50°C
90%	50.000h (L90B10)				
80%	100.000h (L80B10)	590W	-40°C	35°C	45°C
90%	50.000h (L90B10)				

The table below shows the values for standard versions. For further information (expected life, temperatures) and/or for special versions, please contact our customer service.





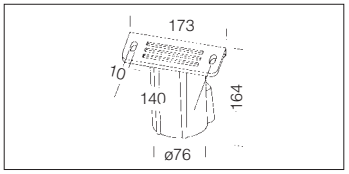
ACCESSORIES



acc. 333 Ø60 pole mounting

graphite	997915-00

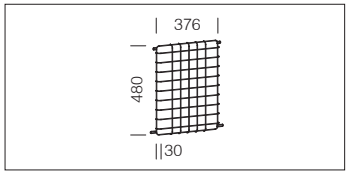
Made of aluminium. To be used to apply the fixture on a ø 60 pole.



acc. 334 Ø76 pole mounting

graphite	997916-00

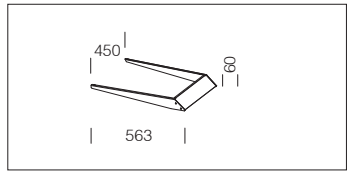
Made of aluminium. To be used to apply the fixture on a ø 76 pole.



acc. 462 protection guard

black	997933-00

Plastic-coated steel rod. For protection against impact.

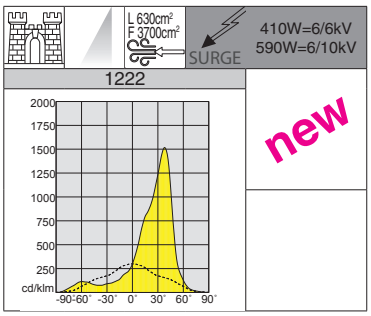


acc. 463 conveyor

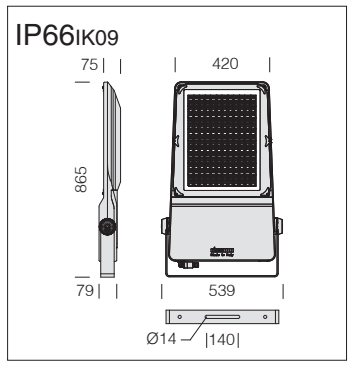
graphite	997934-00

To be used for conveying the light beam in a single direction.

RG0 Ethr
max C° min
U.V.
0° 180°
LOW FLICKER
3000K
4000K







Upon request:		
LED	5700K - CRI 70	**(subcode -0035)**
LED	5700K - **CRI 90**	**(subcode -0034)**

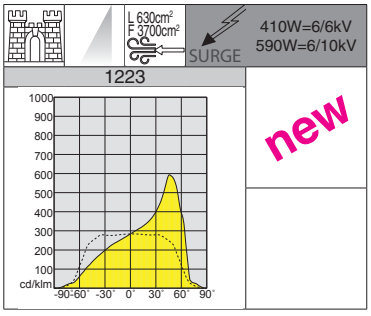
LED: power factor ≥0,92. Luminous flux maintenance:	
80%	100.000h (L80B10)
90%	50.000h (L90B10)

Upon request version with:
• **CLD D-D (DALI)** wiring with **sub-code -0041.**

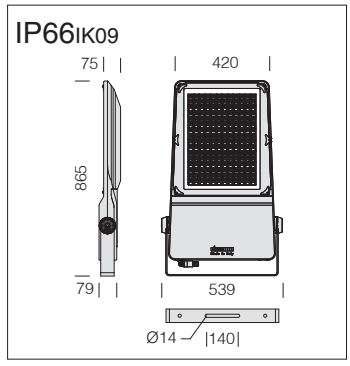
1222 Cromo - asymmetric 38°

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
LED	graphite	18.00	411070-00	410	4000K - **55187lm** - CRI 70 - 38°
			411070-39		3000K - **51324lm** - CRI 70 - 38°
LED	graphite	19.00	411071-00	590	4000K - **74694lm** - CRI 70 - 38°
			411071-39		3000K - **69465lm** - CRI 70 - 38°

RG0 Ethr
max C° min
U.V.
0° 180°
LOW FLICKER
3000K
4000K







Upon request:		
LED	5700K - CRI 70	**(subcode -0035)**
LED	5700K - **CRI 90**	**(subcode -0034)**

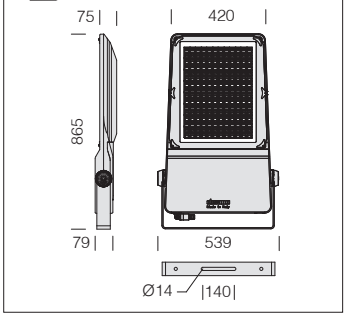
LED: power factor ≥0,92. Luminous flux maintenance:	
80%	100.000h (L80B10)
90%	50.000h (L90B10)

Upon request version with:
• **CLD D-D (DALI)** wiring with **sub-code -0041.**

1223 Cromo - asymmetric 45°

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
LED	graphite	18.00	411080-00	410	4000K - **57855lm** - CRI 70 - 45°
			411080-39		3000K - **53805lm** - CRI 70 - 45°
LED	graphite	19.00	411081-00	590	4000K - **78305lm** - CRI 70 - 45°
			411081-39		3000K - **72824lm** - CRI 70 - 45°

IP66IK09



LED: power factor ≥0,92. Luminous flux maintenance:	
80%	100.000h (L80B10)
90%	50.000h (L90B10)

Upon request version with:
• **CLD D-D (DALI)** wiring with **sub-code -0041.**

100.000h

55° BEAM

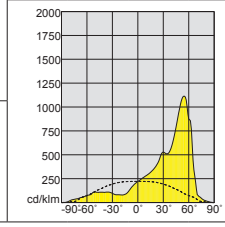
Registered Design DM/100271



410W=6/6kV
590W=6/10kV
SURGE
L 630cm²
F 3700cm²

new

1224

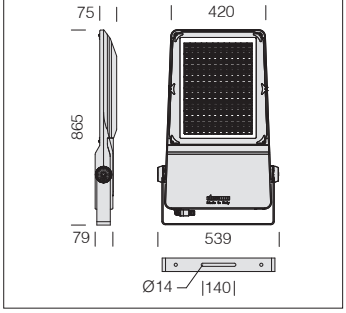


Upon request:		
LED	5700K - CRI 70	**(subcode -0035)**
LED	5700K - **CRI 90**	**(subcode -0034)**

1224 Cromo - asymmetric 55°

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
LED	graphite	18.00	411000-00	**410**	4000K - **55648lm** - CRI 70 - 55°
			411000-39		3000K - **51753lm** - CRI 70 - 55°
LED	graphite	19.00	411001-00	**590**	4000K - **75318lm** - CRI 70 - 55°
			411001-39		3000K - **70046lm** - CRI 70 - 55°

IP66IK09



LED: power factor ≥0,92. Luminous flux maintenance:	
80%	100.000h (L80B10)
90%	50.000h (L90B10)

Upon request version with:
• **CLD D-D (DALI)** wiring with **sub-code -0041.**

100.000h

60° BEAM

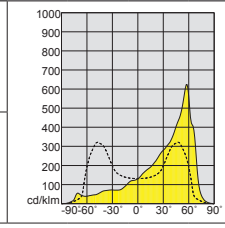
Registered Design DM/100271



410W=6/6kV
590W=6/10kV
SURGE
L 630cm²
F 3700cm²

new

1225



Upon request:		
LED	5700K - CRI 70	**(subcode -0035)**
LED	5700K - **CRI 90**	**(subcode -0034)**

1225 Cromo - asymmetric 60°

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
LED	graphite	18.00	411010-00	**410**	4000K - **56171lm** - CRI 70 - 60°
			411010-39		3000K - **52239lm** - CRI 70 - 60°
LED	graphite	19.00	411011-00	**590**	4000K - **76027lm** - CRI 70 - 60°
			411011-39		3000K - **70705lm** - CRI 70 - 60°



RG0 Ethr

max C° min

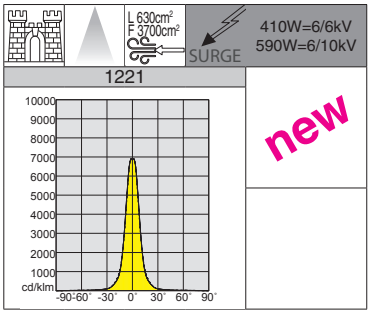
U.V.

0° 180°

LOW FLICKER

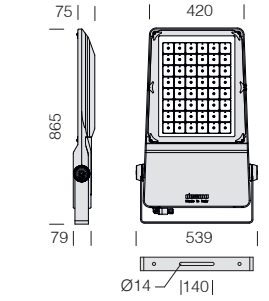
3000K

4000K





IP66 IK09



Upon request:		
LED	5700K - CRI 70	**(subcode -0035)**
LED	5700K - **CRI 90**	**(subcode -0034)**

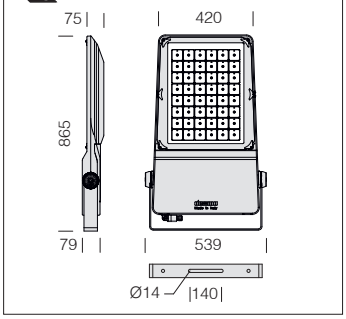
LED: power factor ≥0,92. Luminous flux maintenance:	
80%	100.000h (L80B10)
90%	50.000h (L90B10)

Upon request version with:
• **CLD D-D (DALI)** wiring with **sub-code -0041.**

1221 Cromo - symmetric "FS"

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
LED	graphite	18.00	411090-00	410	4000K - **61865lm** - CRI 70 - 18°
			411090-39		3000K - **57562lm** - CRI 70 - 18°
LED	graphite	19.00	411091-00	590	4000K - **83773lm** - CRI 70 - 18°
			411091-39		3000K - **77909lm** - CRI 70 - 18°

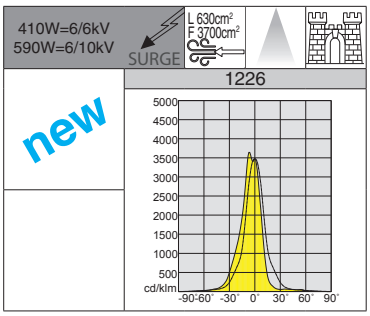
IP66IK09



LED: power factor ≥0,92. Luminous flux maintenance:	
80%	100.000h (L80B10)
90%	50.000h (L90B10)

Upon request version with:
• **CLD D-D (DALI)** wiring with **sub-code -0041.**



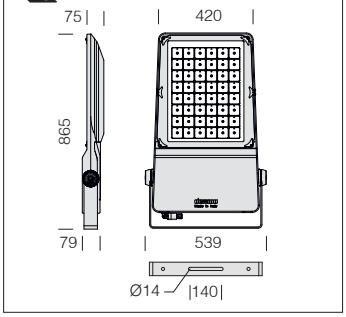


Upon request:		
LED	5700K - CRI 70	**(subcode -0035)**
LED	5700K - **CRI 90**	**(subcode -0034)**

1226 Cromo - symmetric "MS"

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
LED	graphite	18.00	411020-00	**410**	4000K - **60772lm** - CRI 70 - 24°
			411020-39		3000K - **56518lm** - CRI 70 - 24°
LED	graphite	19.00	411021-00	**590**	4000K - **82253lm** - CRI 70 - 24°
			411021-39		3000K - **76495lm** - CRI 70 - 24°

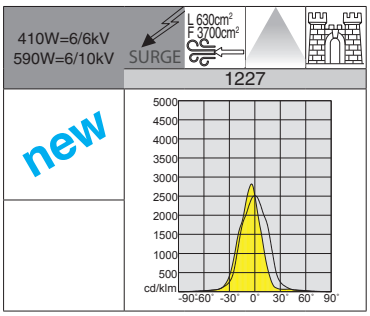
IP66IK09



LED: power factor ≥0,92. Luminous flux maintenance:	
80%	100.000h (L80B10)
90%	50.000h (L90B10)

Upon request version with:
• **CLD D-D (DALI)** wiring with **sub-code -0041.**





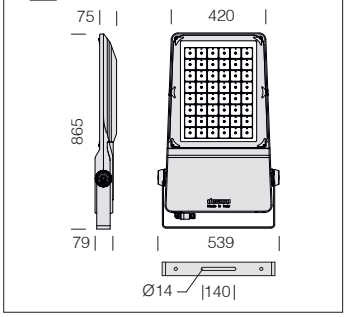
Upon request:		
LED	5700K - CRI 70	**(subcode -0035)**
LED	5700K - **CRI 90**	**(subcode -0034)**

1227 Cromo - symmetric "M"

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
LED	graphite	18.00	411030-00	**410**	4000K - **60743lm** - CRI 70 - 40°
			411030-39		3000K - **56491lm** - CRI 70 - 40°
LED	graphite	19.00	411031-00	**590**	4000K - **82214lm** - CRI 70 - 40°
			411031-39		3000K - **82039lm** - CRI 70 - 40°


MAERSK

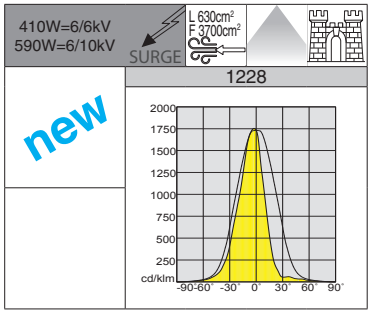
IP66IK09



LED: power factor ≥0,92. Luminous flux maintenance:	
80%	100.000h (L80B10)
90%	50.000h (L90B10)

Upon request version with:
• **CLD D-D (DALI)** wiring with **sub-code -0041.**



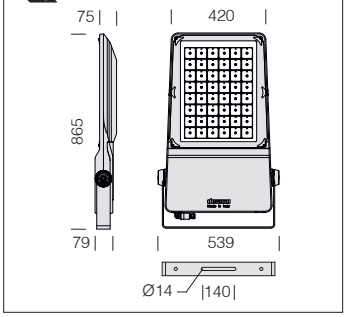


Upon request:		
LED	5700K - CRI 70	**(subcode -0035)**
LED	5700K - **CRI 90**	**(subcode -0034)**

1228 Cromo - symmetric "W"

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
LED	graphite	18.00	411050-00	**410**	4000K - **60249lm** - CRI 70 - 52°
			411050-39		3000K - **56032lm** - CRI 70 - 52°
LED	graphite	19.00	411051-00	**590**	4000K - **81546lm** - CRI 70 - 52°
			411051-39		3000K - **75838lm** - CRI 70 - 52°

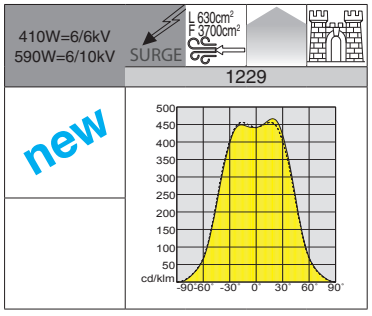
IP66IK09



LED: power factor ≥0,92. Luminous flux maintenance:	
80%	100.000h (L80B10)
90%	50.000h (L90B10)

Upon request version with:
• **CLD D-D (DALI)** wiring with **sub-code -0041.**





Upon request:		
LED	5700K - CRI 70	**(subcode -0035)**
LED	5700K - **CRI 90**	**(subcode -0034)**

1229 Cromo - symmetric "XW"

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
LED	graphite	18.00	411060-00	**410**	4000K - **56936lm** - CRI 70 - 90°
			411060-39		3000K - **52950lm** - CRI 70 - 90°
LED	graphite	19.00	411061-00	**590**	4000K - **77062lm** - CRI 70 - 90°
			411061-39		3000K - **71668lm** - CRI 70 - 90°


RENAULT
TEST DRIVE
Renault CAPTUR

GENERAL CHARACTERISTICS

Housing: in die-cast aluminium with cooling fins. Black nylon enclosure for versions with diameters of 370mm and power supply of up to 151W

Diffuser: 4mm thick tempered glass, resistant to thermal shocks and impacts (UNI-EN 12150-1 : 2001).

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

On request: protection up to 10KV.

OTHER CHARACTERISTICS



Standard supply: mounting bracket and graduated scale goniometer which allows for accurate pointing. Silicone rubber gasket; external screws and bolts in stainless steel; air recirculation valve and insulation connector.



The heat dissipation system was designed and manufactured to allow LED operation at adequate temperatures and guarantee excellent performance/efficiency and long life.

OTHER INFORMATION



The modularity of the optical system, the solutions used for the electronic circuit design, make the Saturno a highly flexible product, capable of guaranteeing huge application advantages in several situations.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.



Energy saving: Saturno can save more energy compared to conventional discharge lamps and meet applicable standards. We recommend using LED technology to save energy in environments where lights stay on for a long time.

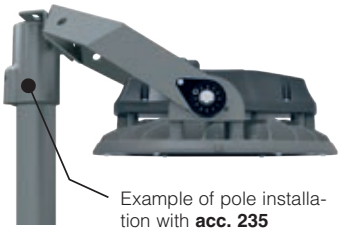
UPON REQUEST

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

UNI EN ISO 9227 Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

DIMM DIG Version **CLD D-D (DALI)** wiring with **sub-code -0041:** thanks to pre-programmed settings or a software programme, this type of wiring allows accurate light emission dimming.

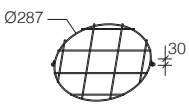
Versions with different photometric distributions (see chapter *Suspension)*



Example of pole installation with **acc. 235**

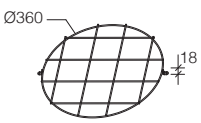


ACCESSORIES



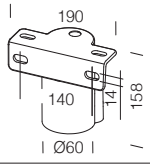
For Saturno Ø320.

acc. 26 protection guard
995697-00
Graphite plastic-coated steel rod protection guard. Screw mounting.

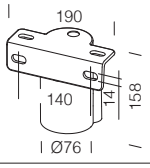


For Saturno Ø370.

acc. 26 protection guard
995698-00
Graphite plastic-coated steel rod protection guard. Screw mounting.



acc. 235 Ø60 pole mounting	
graphite	997927-00
Made of aluminium. To be used to apply the fixture on a ø 60 pole.	



acc. 236 Ø76 pole mounting	
graphite	997926-00
Made of aluminium. To be used to apply the fixture on a ø 76 pole.	



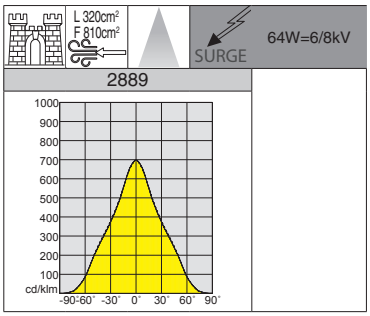




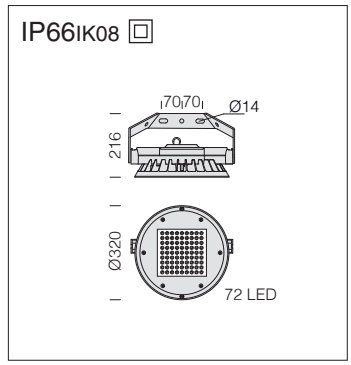










LED: luminous flux maintenance 80%: 80.000h (L80B10).
Power factor ≥0.95.

2889 Saturno Ø320 - narrow beam						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	W tot	K - ølm - CRI
LED	graphite	8.60	320	330870-00	**64**	4000K - 8427lm - CRI 80



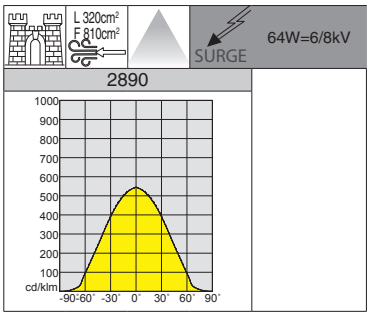




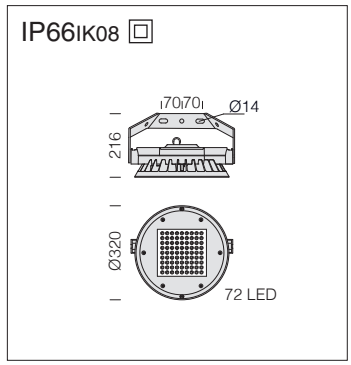






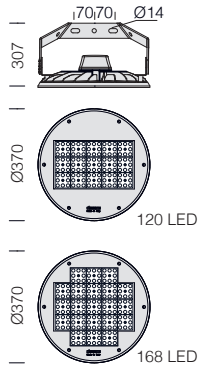




LED: luminous flux maintenance 80%: 80.000h (L80B10).
Power factor ≥0.95.

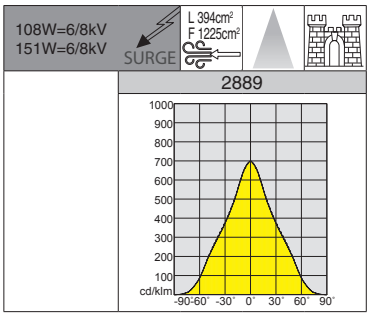
2890 Saturno Ø320 - wide beam						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	W tot	K - ølm - CRI
LED	graphite	8.60	320	330890-00	**64**	4000K - 8435lm - CRI 80

IP66 IK08



LED: luminous flux maintenance 80%: 80.000h (L80B10).
Power factor ≥0.95.

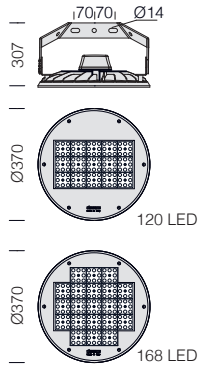




2889 Saturno Ø370 - narrow beam

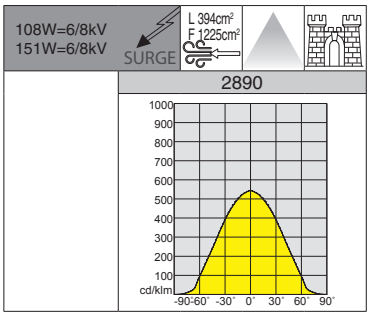
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	W tot	K - ølm - CRI
LED	graphite	7.00	370	330873-00	**108**	4000K - 14045lm - CRI 80
				330874-00	**151**	4000K - 19664lm - CRI 80

IP66 IK08



LED: luminous flux maintenance 80%: 80.000h (L80B10).
Power factor ≥0.95.





2890 Saturno Ø370 - wide beam

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	W tot	K - ølm - CRI
LED	graphite	7.00	370	330887-00	**108**	4000K - 14058lm - CRI 80
				330888-00	**151**	4000K - 19638lm - CRI 80



GENERAL CHARACTERISTICS

Housing/Frame: in die-cast aluminium with cooling fins integrated into the cover and designed with a very small surface exposed to wind.

Optics: made of PMMA with high temperature resistance and UV rays.

Diffuser: tempered glass, 4 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001).

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Standard supply: automatic temperature control inside the device with automatic resetting (except for versions with separate gear box).

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.
On request: protection up to 10KV.

OTHER CHARACTERISTICS

LED: power factor ≥0.95.

Luminous flux maintenance		
90%	100.000h (L90B10)	12-16-24-28 LED
90%	80.000h (L90B10)	32-36 LED

Luminous flux maintenance Astro HP-HE		
90%	100.000h (L90B10)	36-60-72 LED



Complete with mounting bracket and graduated scale goniometer which allows for accurate pointing. The fixture is equipped with anti-condensation valve for air recirculation and IP68 connector for line connection with **no need to open the fixture.**

The heat dissipation system was designed and manufactured to allow LED operation at adequate temperatures and guarantee excellent performance/efficiency and long life.

OTHER INFORMATION

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

ATEX version**:** fixtures can be installed outdoors or indoors, in industrial areas, cantilever roofs, environments at risk of fire, and in any other premise compatibly with the fumes and atmospheric or chemical agents which affect the use of plastic materials: check compatibility with corrosive agents.

UPON REQUEST

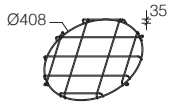
Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

UNI EN ISO 9227 Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

LED 5700K Availlabrle version with **LED 5700K - CRI 90** with**subcode -0034.**



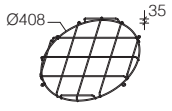
ACCESSORIES



acc. 24 protection guard

995776-00

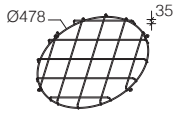
Graphite plastic-coated steel rod protection guard. Screw mounting. For Astro 12 LED.



acc. 24 protection guard

995773-00

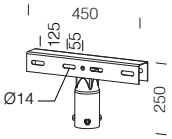
Graphite plastic-coated steel rod protection guard. Screw mounting. For Astro 16-24 LED and HP/HE 36-60 LED.



acc. 24 protection guard

995771-00

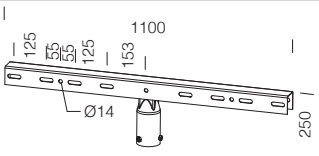
Graphite plastic-coated steel rod protection guard. Screw mounting. For Astro 28-32-36 and HP/HE 72 LED.



acc. 59 pole bracket

galvan.	997900-00

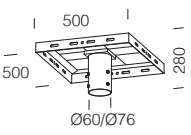
Bracket for pole mounting 1 or 2 end-to-end floodlights. For Ø 60/76 mm poles.



acc. 60 pole bracket

galvan.	997901-00

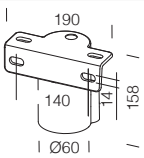
Bracket for pole mounting 2 or 4 end-to-end exterior floodlights. For Ø 60/76 mm poles.



acc. 164 pole bracket

galvan.	998097-00

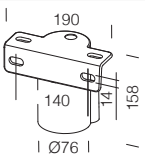
Made in galvanized steel. To be used to apply on a pole until 4 fixture Ø 60/76 mm.



acc. 235 ø60 pole mounting

graphite	997927-00

Made of aluminium. To be used to apply the fixture on a ø 60 pole.



acc. 236 ø76 pole mounting

graphite	997926-00

Made of aluminium. To be used to apply the fixture on a ø 76 pole.



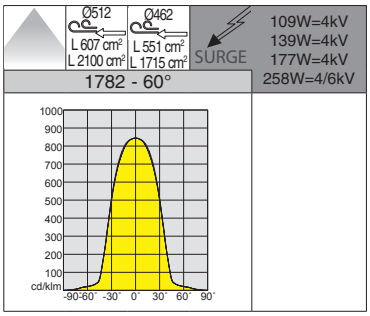


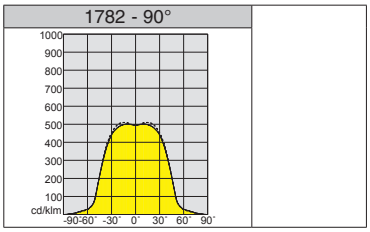




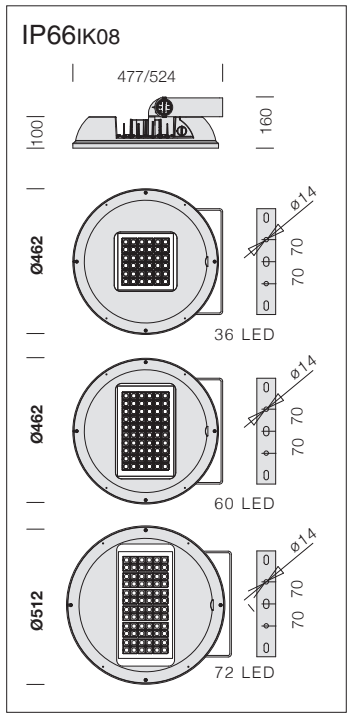










1782 Astro HP - high performance

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	W tot	K - ølm - CRI - degrees
LED	graphite	13.80	462	320000-00	**109**	4000K - 15131lm - CRI 80 - 60°
				320001-00	**139**	4000K - 17816lm - CRI 80 - 60°
				320002-00	**177**	4000K - 23236lm - CRI 80 - 60°
LED	graphite	14.00	512	320003-00	**258**	4000K - 34987lm - CRI 80 - 60°
LED	graphite	14.00	512	320004-00	**258**	4000K - 33295lm - CRI 80 - 30°
				320005-00		4000K - 34601lm - CRI 80 - 90°

LED: luminous flux maintenance 90%: 100.000h (L90B10).
Power factor ≥0.95.



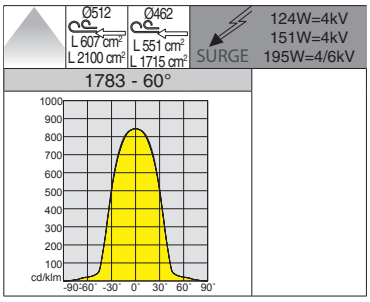


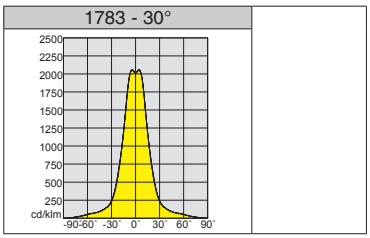




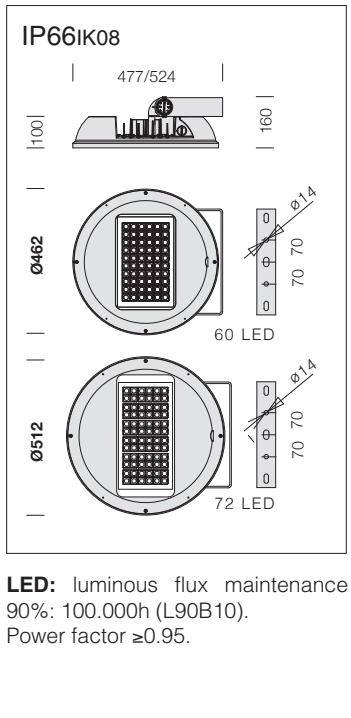










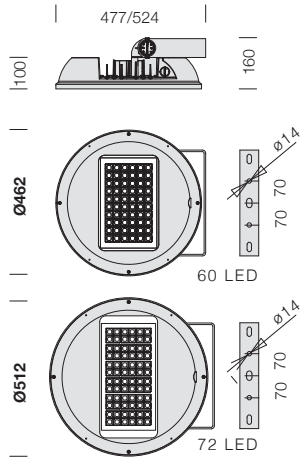
1783 Astro HE - high efficiency

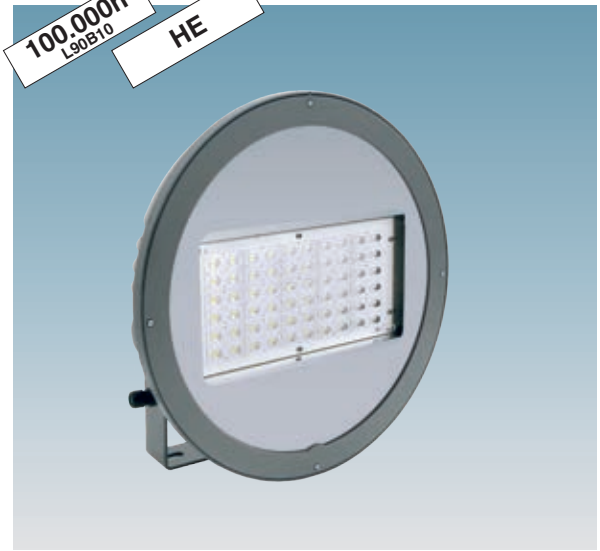
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	W tot	K - ølm - CRI - degrees
LED	graphite	13.80	462	320010-00	**124**	4000K - 18135lm - CRI 80 - 60°
				320011-00	**151**	4000K - 22236lm - CRI 80 - 60°
LED	graphite	14.00	512	320012-00	**195**	4000K - 27488lm - CRI 80 - 60°
LED	graphite	14.00	512	320014-00	**195**	4000K - 26159lm - CRI 80 - 30°
				320015-00		4000K - 27195lm - CRI 80 - 90°

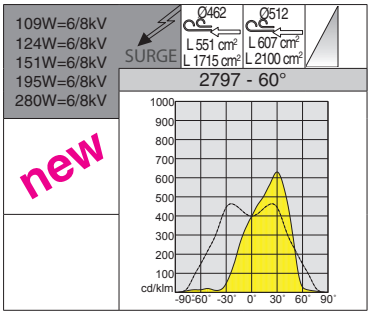
LED: luminous flux maintenance 90%: 100.000h (L90B10).
Power factor ≥0.95.



IP66IK08







LED: luminous flux maintenance 90%: 100.000h (L90B10).
Power factor ≥0.95.

2797 Astro HE 60°- asymmetric - high efficiency

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	W tot	K - ølm - CRI - degrees
LED	graphite	13.80	462	320030-00	**109**	4000K - **13784lm** - CRI 70 - 60°
				320031-00	**124**	4000K - **17684lm** - CRI 70 - 60°
				320032-00	**151**	4000K - **20924lm** - CRI 70 - 60°
LED	graphite	14.00	512	320033-00	**195**	4000K - **24553lm** - CRI 70 - 30°
				320034-00	**280**	4000K - **32446lm** - CRI 70 - 60°

Equipment level protection (EPL)

ZONE	EPL
0	“Ga”
1	“Ga” o “Gb”
2	“Ga”, “Gb” o “Gc”
20	“Da”
21	“Da” o “Db”
22	“Da”, “Db” o “Dc”

Hazardous places according to Legislative Decree 233/03

Business	Places
chemical and petrochemical industry	gas-fuelled heating plants with P>35Kw
pharmaceutics industry	garages, repair shops, body shops
metal processing	fuel distribution
food industry (storage and processing of cereals, flour and sugar)	bread baking ovens
processing of wood	places where painting processes occur
fabric and spinning industry	distilleries, production of alcoholic beverages

ELECTRICAL SYSTEMS FOR AREAS CONTAINING EXPLOSIVE GAS:	
Ex =	Electrical system built and tested for utilization in an atmosphere filled with explosive gasses.
nA =	The electrical system does not produce sparks when operating normally.
II =	Electrical system suitable for areas with a potentially explosive atmosphere, different from mines, with firedamp.
Gc =	Enhanced protection level
T4 =	Maximum internal or external surface temperature; classification according to regulation cei en 60079-0 table 2
IP66 =	Housing entirely protected against dust and the water jets

ELECTRICAL SYSTEMS FOR AREAS CONTAINING EXPLOSIVE POWDERS:	
Ex =	Electrical system built and tested for utilization in an atmosphere containing powders.
IIIC	Electrical equipment for premises with potentially explosive atmospheres due to the presence of combustible dust, other than mines with the presence of firedamp
Dc	Enhanced protection level
tc	Protection against explosive atmospheres due to the presence of dust where the electrical equipment is equipped with an enclosure
22 =	Permitted hazardous area.
IP6X =	Housing entirely protected against dust
T 135°C =	Maximum temperature in a dust-free environment

SELECTION OF ELECTRICAL SYSTEMS IN RELATION TO HAZARDOUS AREAS

HAZARDOUS AREA	CLASSIFICATION	EPL	PROTECTIONS PERMITTED
ATMOSPHERE CONTAINING GAS	**0**	**Ga**	“ia” Intrinsic safety “ma” Encapsulation Two independent EPLs “Gb”
	1	**Gb**	“d” Explosion proof “e” Increased safety “ib” Intrinsic safety “m” “mb” Encapsulation “o” Oil immersion “p, px, py” Pressurisation “q” Powder filling Field bus intrinsically safe concept (FISCO) Optical radiation safety
	2	**Gc**	“ic” Intrinsic safety “mc” Encapsulation “n, nA” Non sparking “nR” Restricted breathing “nL” Energy limitation “nC” Sparking device and components “pz” Pressurisation Field bus non-incendive concept Optical radiation safety
ATMOSPHERE CONTAINING GAS	**20**	**Da**	“Da” “Id” Intrinsic safety “md” Encapsulation “tD” Protection by enclosure
	21	**Db**	“iD” Intrinsic safety “mD” Encapsulation “tD” Protection by enclosure “pD” Pressurisation
	22	**Dc**	“iD” Intrinsic safety “mD” Encapsulation “tD” Protection by enclosure “pD” Pressurisation

RELEVANT REGULATIONS

Directive 94/9/CE entrusts conformed European regulations with the task of setting out basic technical requirements to guarantee safety in explosion-prone areas, replacing contrasting national and European regulations belonging to the same sector.

IEC 60079-0	Electrical systems for potentially explosive atmospheres GENERAL REGULATIONS
IEC 60079-15	Electrical systems for potentially explosive atmospheres. PROTECTION METHOD “n”
IEC 60079-10-1	Explosive atmospheres Classification of hazardous locations. Explosive atmospheres due to the presence of gas
IEC 60079-14	Explosive atmospheres Design, selection and installation of electrical equipment
IEC 60079-10-2	Explosive atmospheres Classification of hazardous locations. Explosive atmospheres due to the presence of dust
IEC 60079-31	Explosive atmospheres Fixtures with protection by “t” enclosure for use in the presence of combustible dust
IEC 60079-28	Explosive atmospheres Protection of equipment and transmission systems using optical radiation



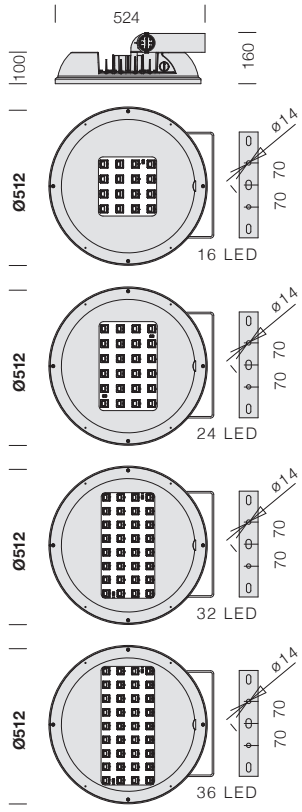


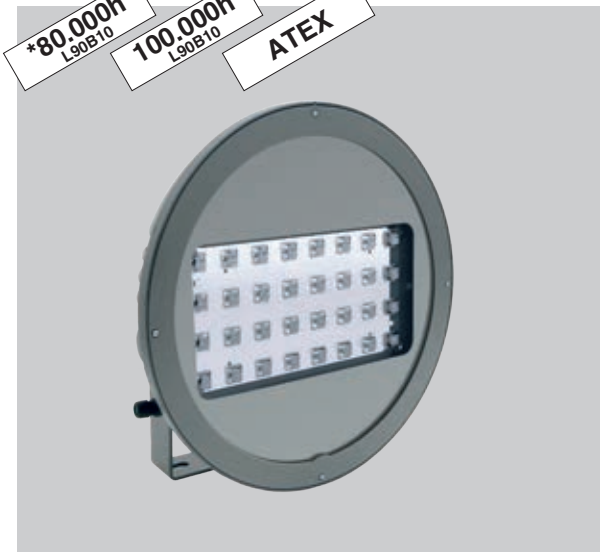


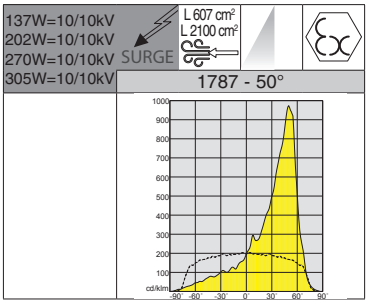


1787 ATEX	
Protection against explosions	II 3G Ex nA OP IS IIC T4 IP66 Gc II 3D Ex tc IIIC T135°C IP66 Dc
Allowed dangerous area	Zone 2; Zone 22
Allowed room temperature	-20°C ÷ +40°C
Degree of protection	IP66
Installation	wall - ceiling - ground
Casing mechanical resistance	IK08
Reference regulations	EN 60079-0; EN 60079-15; EN 60079-31; EN 60079-28
Certifications	CE, AR19ATEX036 (TYPE EXAMINATION CERTIFICATE)

IP66IK08







RG0 Ethr

+40 C° -20

180°

LOW FLICKER

1787 Astro ATEX - asymmetric 50°

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	Ø	code	W tot	K - ølm 700mA - CRI - degrees
LED	grey	14.00	512	330189-00	**137**	4000K - 12976lm - CRI 70 - 50°
	graphite			330188-00		
LED	grey	14.00	512	330184-00	**202**	4000K - 19465lm - CRI 70 - 50°
	graphite			330183-00		
LED *	grey	14.00	512	330185-00	**270**	4000K - 25954lm - CRI 70 - 50°
	graphite			330186-00		
LED *	grey	14.00	512	330181-00	**305**	4000K - 29198lm - CRI 70 - 50°
	graphite			330182-00		

* **32-36 LED** version with luminous flux maintenance 90%: 80.000h (L90B10).



GENERAL CHARACTERISTICS

Housing: in extruded aluminium with terminal ends in die-cast aluminium.

Reflector: in matt aluminium, high efficiency and anti-glare.

Diffuser: 4 mm thick temperate glass resistant to thermal shock and impacts (UNI EN 12150-1 : 2001).

Coating: the standard powder coating consists of a first metal surface pre-treatment stage of UV-stabilised, corrosion and salt resistant polyester powder coating

Equipment: complete with galvanised and coated bracket. Silicone rubber gasket; external screws and bolts in stainless steel; air recirculation valve. Airtight connector for quick installation with **no need to open the fixture.**

Wiring: 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.

LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

OTHER CHARACTERISTICS

SURGE

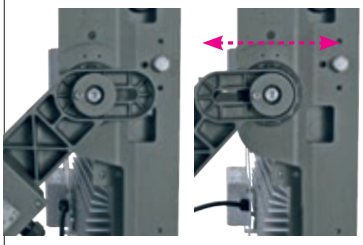
Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

On request: protection up to 10KV.



Structure 2/3 LED modules : in painted steel with bracket for spotlight mounting.

OTHER INFORMATION



HP version with bracket in diecast aluminium made to move along the horizontal axis to give greater light pointing freedom.



Junction box for terminals in diecast aluminium on the support bracket

UPON REQUEST

Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

UNI EN ISO 9227

Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

DIMM 1-10V

Version **CLD D (1/10V)** wiring with **subcode -12.**

DIMM DIG

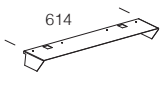
Version **CLD D-D (DALI)** wiring with **subcode -0041:** thanks to pre-programmed settings or a software programme, this type of wiring allows accurate light emission dimming.

Luminous flux maintenance Power factor ≥0.95		Wattage W tot	Allowed ambient temperature		
			Ta min	Ta INDOOR max	Ta OUTDOOR max
80%	50.000h (L80B20) *(art. 2150 HE)*	278W	-40°C	30°C	40°C
		380W	-40°C	30°C	40°C
		408W	-40°C	30°C	40°C
80%	50.000h (L80B20) *(art. 2151 HE)*	484W	-40°C	30°C	40°C
		556W	-40°C	30°C	40°C
80%	50.000h (L80B20) *(art. 2152 HE)*	278W	-40°C	35°C	45°C
		346W	-40°C	35°C	45°C
80%	50.000h (L80B20) *(art. 2153 HE)*	484W	-40°C	35°C	45°C
		556W	-40°C	35°C	45°C
80%	50.000h (L80B20) *(art. 2155 HP-2156 HP)*	272W	-40°C	30°C	40°C
		409W	-40°C	30°C	40°C
		544W	-40°C	30°C	40°C
80%	50.000h (L80B20) *(art. 2157 HP-2158 HP)*	295W	-40°C	35°C	45°C
		409W	-40°C	35°C	45°C
		590W	-40°C	35°C	45°C
80%	50.000h (L80B20) *(art. 2168 HP-2169 HP)*	816W	-40°C	35°C	45°C
		885W	-40°C	35°C	45°C

The table below shows the values for standard versions. For further information (expected life, temperatures) and/or for special versions, please contact our customer service.



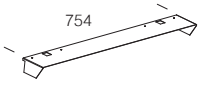
ACCESSORIES RADON



acc. 384 conveyor

4/8/12 COB	995794-00

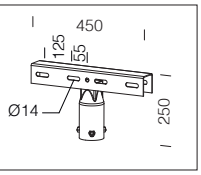
In aluminium, graphite. To be used for conveying the light beam in a single direction.



acc. 384 conveyor

6 COB	995795-00

In aluminium, graphite. To be used for conveying the light beam in a single direction.

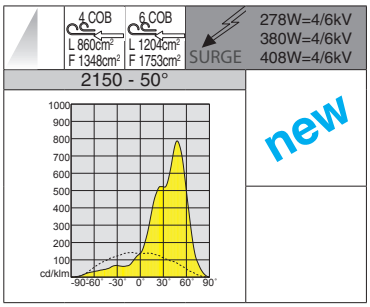


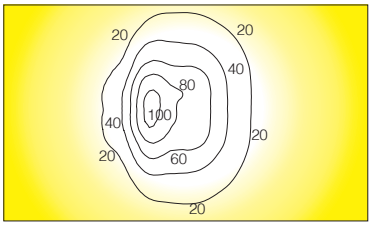
acc. 59
pole bracket

galvan.	997900-00

Bracket for pole mounting 1 or 2 end-to-end floodlights. For Ø 60/76 mm poles.

RG0 Ethr | max C° min | U.V. | LOW FLICKER | 3000K | 4000K







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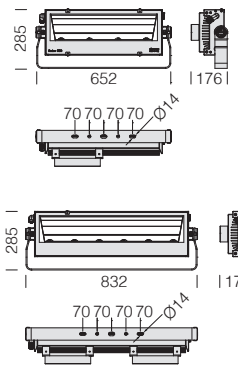


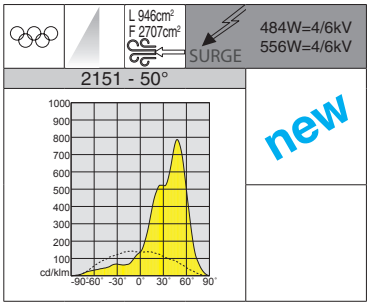
LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.95.

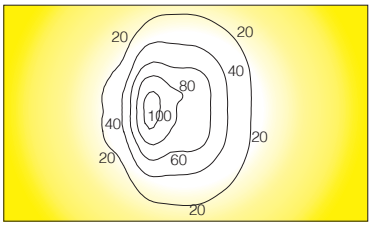
2150 Radon HE - 1 LED MODULE - asymmetric

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI - degrees
COB	graphite	11.50	652	413300-00	**278**	4000K - 41040lm - CRI≥70 - 50°
				413300-39		3000K - **38167lm** - CRI≥70 - 50°
COB	graphite	16.00	832	413301-00	**380**	4000K - 55230lm - CRI≥70 - 50°
				413301-39		3000K - **51364lm** - CRI≥70 - 50°
COB	graphite	16.00	832	413302-00	**408**	4000K - 60715lm - CRI≥70 - 50°
				413302-39		3000K - **56465lm** - CRI≥70 - 50°

Upon request: (subcode -0035)	
LED	5700K - CRI 70

RG0 Ethr | max C° min | U.V. | LOW FLICKER | 3000K | 4000K







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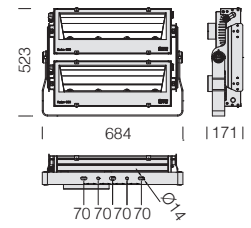


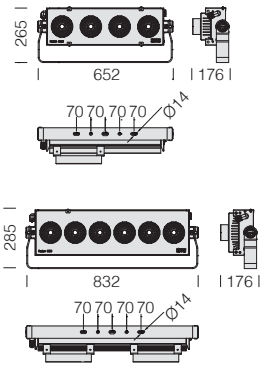
LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.95.

2151 Radon HE - 2 LED MODULES - asymmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
COB	graphite	22.50	413310-00	**484**	4000K - 71132lm - CRI≥70 - 50°
			413310-39		3000K - **66153lm** - CRI≥70 - 50°
COB	graphite	22.50	413311-00	**556**	4000K - 82500lm - CRI≥70 - 50°
			413311-39		3000K - **76725lm** - CRI≥70 - 50°

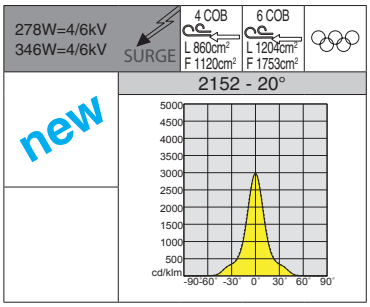
Upon request: (subcode -0035)	
LED	5700K - CRI 70

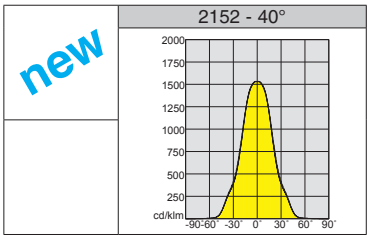
IP66IK08



LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.95.





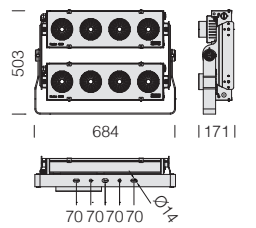


Upon request: (subcode -0035)	
LED	5700K - CRI 70

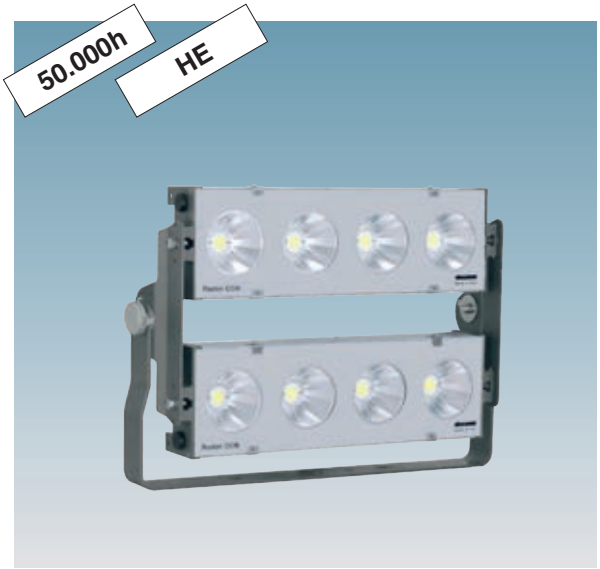
2152 Radon HE - 1 LED MODULE - symmetric

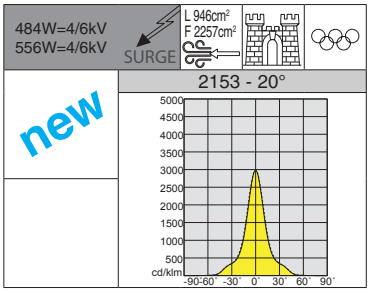
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI - degrees
COB	graphite	9.50	652	413320-00	278	4000K - 43660lm - CRI≥70 - 20°
				413320-39		3000K - **40604lm** - CRI≥70 - 20°
				413321-00		4000K - 43778lm - CRI≥70 - 40°
				413321-39		3000K - **40714lm** - CRI≥70 - 40°
				413322-00		4000K - 43540lm - CRI≥70 - 60°
				413322-39		3000K - **40492lm** - CRI≥70 - 60°
COB	graphite	16.00	832	413323-00	346	4000K - 54194lm - CRI≥70 - 20°
				413323-39		3000K - **50400lm** - CRI≥70 - 20°
				413324-00		4000K - 54304lm - CRI≥70 - 40°
				413324-39		3000K - **50503lm** - CRI≥70 - 40°
				413325-00		4000K - 54064lm - CRI≥70 - 60°
				413325-39		3000K - **50280lm** - CRI≥70 - 60°

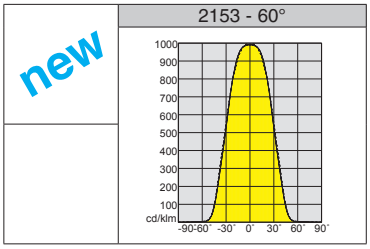
IP66IK08



LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.95.



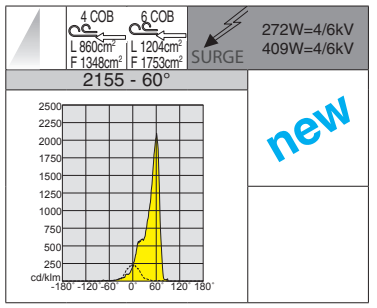


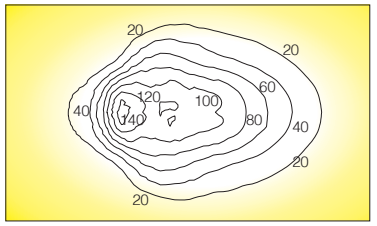


Upon request: (subcode -0035)	
LED	5700K - CRI 70

2153 Radon HE - 2 LED MODULES - symmetric

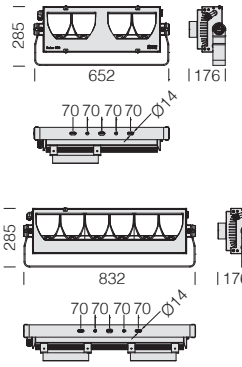
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
COB	graphite	19.00	413330-00	484	4000K - 73791lm - CRI≥70 - 20°
			413330-39		3000K - **68626lm** - CRI≥70 - 20°
			413331-00		4000K - 74011lm - CRI≥70 - 40°
			413331-39		3000K - **68830lm** - CRI≥70 - 40°
			413332-00		4000K - 73451lm - CRI≥70 - 60°
			413332-39		3000K - **68309lm** - CRI≥70 - 60°
COB	graphite	19.00	413333-00	556	4000K - 85630lm - CRI≥70 - 20°
			413333-39		3000K - **79636lm** - CRI≥70 - 20°
			413334-00		4000K - 85840lm - CRI≥70 - 40°
			413334-39		3000K - **79831lm** - CRI≥70 - 40°
			413335-00		4000K - 85280lm - CRI≥70 - 60°
			413335-39		3000K - **79310lm** - CRI≥70 - 60°







IP66 IK08

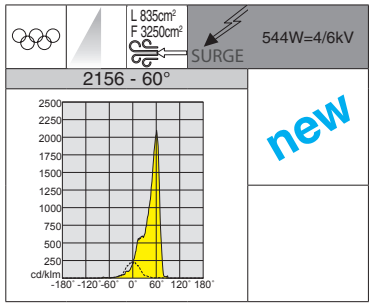


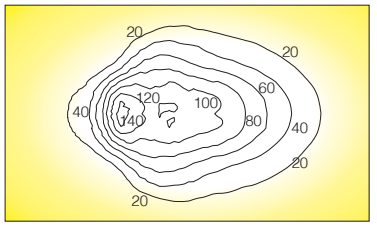
LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.95.

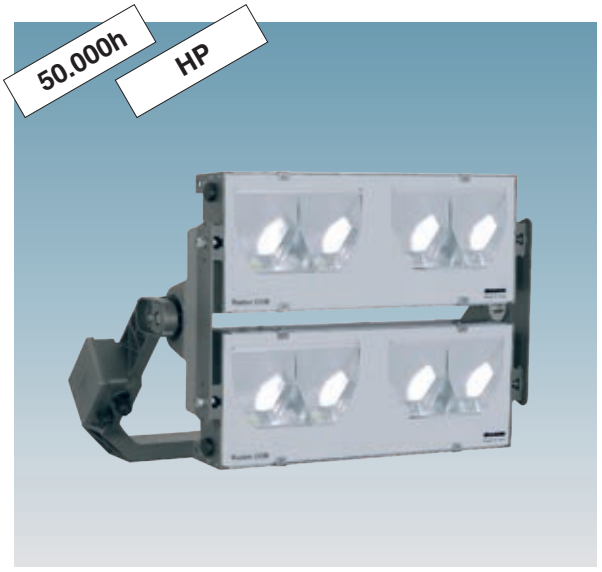
2155 Radon HP - 1 LED MODULE - asymmetric

		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI - degrees
COB	graphite	11.50	652	413390-00	**272**	4000K - 41280lm - CRI≥70 - 60°
				413390-39		3000K - **38390lm** - CRI≥70 - 60°
COB	graphite	16.00	832	413391-00	**409**	4000K - 64254lm - CRI≥70 - 60°
				413391-39		3000K - **59756lm** - CRI≥70 - 60°

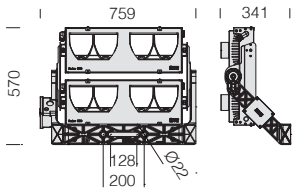
Upon request: (subcode -0035)	
LED	5700K - CRI 70







IP66 IK08



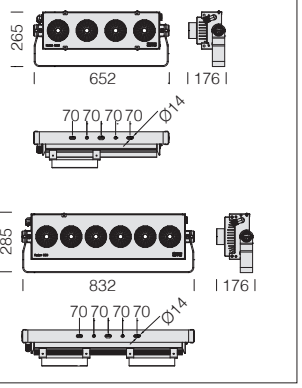
LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.95.

2156 Radon HP - 2 LED MODULES - asymmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
COB	graphite	24.00	413360-00	**544**	4000K - 82560lm - CRI≥70 - 60°
			413360-39		3000K - **76781lm** - CRI≥70 - 60°

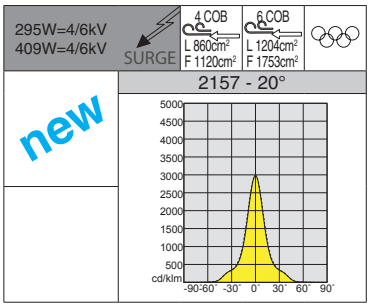
Upon request: (subcode -0035)	
LED	5700K - CRI 70

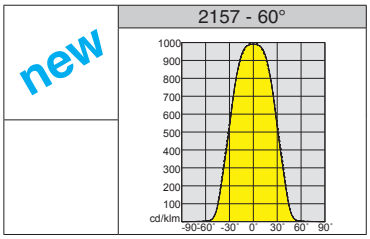
IP66 IK08



LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.95.







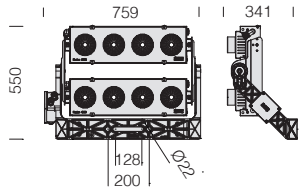
RGO Ethr · max C° min · U.V. · LOW FLICKER · 3000K · 4000K

Upon request: (subcode -0035)	
LED	5700K - CRI 70

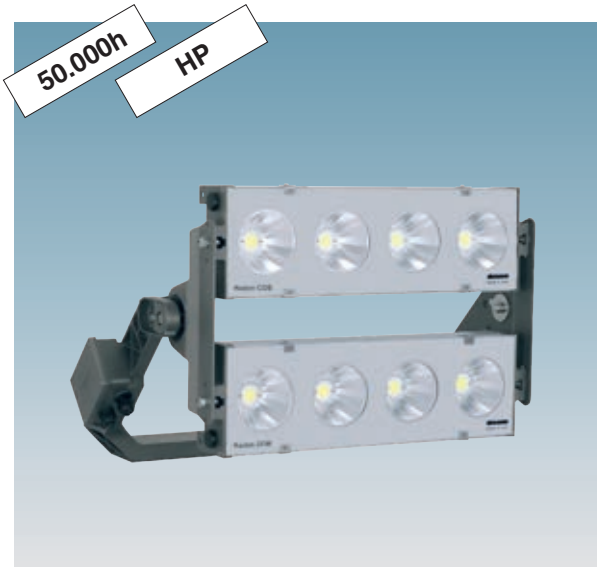
2157 Radon HP - 1 LED MODULE - symmetric

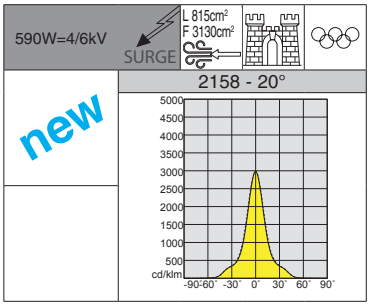
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	L	code	W tot	K - ølm - CRI - degrees
COB	graphite	9.50	652	413370-00	295	4000K - 47170lm - CRI≥70 - 20°
				413370-39		3000K - **43868lm** - CRI≥70 - 20°
				413371-00		4000K - 47283lm - CRI≥70 - 40°
				413371-39		3000K - **43973lm** - CRI≥70 - 40°
				413372-00		4000K - 47050lm - CRI≥70 - 60°
				413372-39		3000K - **43757lm** - CRI≥70 - 60°
COB	graphite	16.00	832	413373-00	409	4000K - 66510lm - CRI≥70 - 20°
				413373-39		3000K - **61854lm** - CRI≥70 - 20°
				413374-00		4000K - 66621lm - CRI≥70 - 40°
				413374-39		3000K - **61958lm** - CRI≥70 - 40°
				413375-00		4000K - 66341lm - CRI≥70 - 60°
				413375-39		3000K - **61697lm** - CRI≥70 - 60°

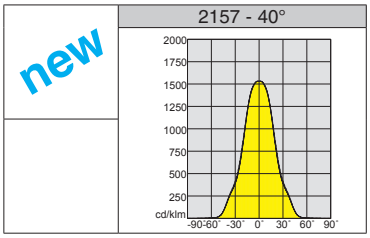
IP66 IK08



LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.95.







RGO Ethr · max C° min · U.V. · LOW FLICKER · 3000K · 4000K

Upon request: (subcode -0035)	
LED	5700K - CRI 70

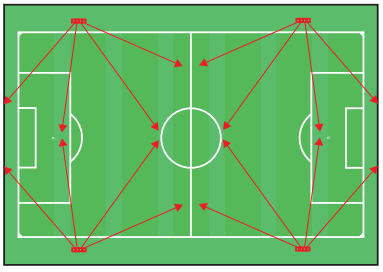
2158 Radon HP - 2 LED MODULES - symmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
COB	graphite	20.00	413480-00	590	4000K - 94547lm - CRI≥70 - 20°
			413480-39		3000K - **87929lm** - CRI≥70 - 20°
			413481-00		4000K - 94567lm - CRI≥70 - 40°
			413481-39		3000K - **87947lm** - CRI≥70 - 40°
			413482-00		4000K - 94020lm - CRI≥70 - 60°
			413482-39		3000K - **87439lm** - CRI≥70 - 60°



DESIGN EXAMPLE

Design examples with Radon HP 3 LED modules



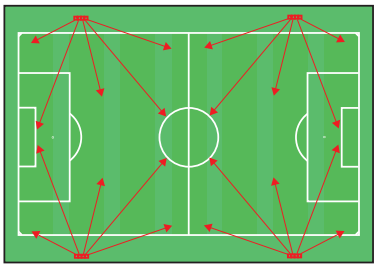
Field dimensions:
- Length: 100.00 m
- Width: 60.00 m
- Pole height: 18m

Quantity	Product	Φ [lm]	P [W]
16	art. 2168 - Radon HP - **asymmetric** 60° - 12 LED COB	123894	816.0

Tot.: 13.0

Luminance:

Type	E_m [lx]	E_{min} [lx]	E_{max} [lx]	U0	E_{min} / E_{max}	camera
horizontal	224	135	450	0.60	0.30	-



Field dimensions:
- Length: 105.00 m
- Width: 65.00 m
- Pole height: 20m

Quantity	Product	Φ [lm]	P [W]
16	art. 2169 - Radon HP - **symmetric** 20° - 12 LED COB	141888	885
4	art. 2169 - Radon HP - **symmetric** 40° - 12 LED COB	141890	885
4	art. 2169 - Radon HP - **symmetric** 60° - 12 LED COB	141026	885

Tot.: 21.2

Luminance:

Type	E_m [lx]	E_{min} [lx]	E_{max} [lx]	U0	E_{min} / E_{max}	camera
horizontal	234	167	316	0.71	0.53	-

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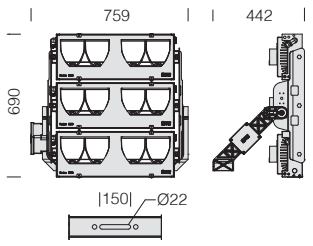
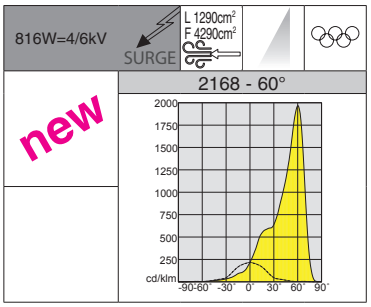
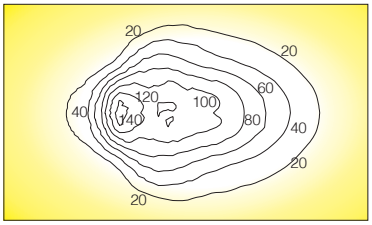


LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.95.





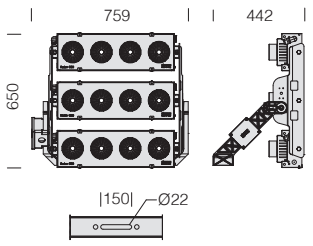


RGO Ethr · max C° min · U.V. · LOW FLICKER · 3000K · 4000K · 5700K

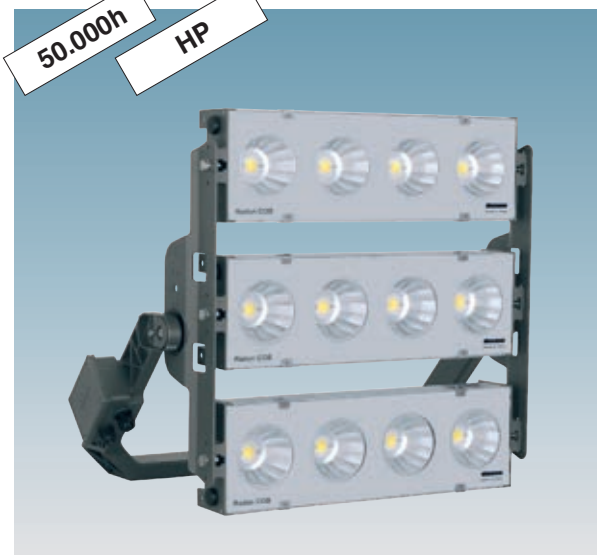
2168 Radon HP - 3 LED MODULES - asymmetric

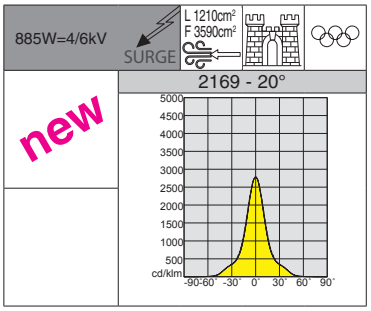
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
COB	graphite	31.00	413470-00	816	4000K - **123894lm** - CRI≥70 - 60°
			413470-39		3000K - **115221lm** - CRI≥70 - 60°
			413470-0035		5700K - **123894lm** - CRI≥70 - 60°

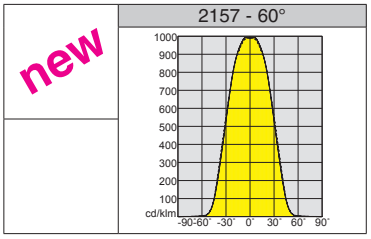
IP66IK08



LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.95.







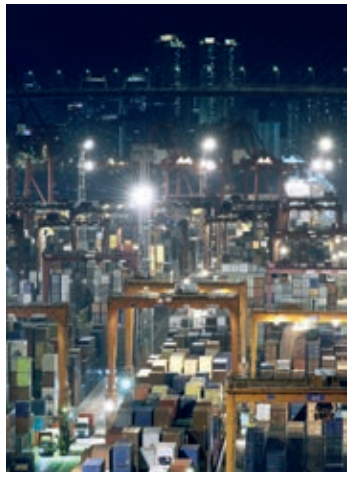
RGO Ethr · max C° min · U.V. · LOW FLICKER · 3000K · 4000K · 5700K

2169 Radon HP - 3 LED MODULES - symmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
COB	graphite	29.00	413490-00	885	4000K - **141888lm** - CRI≥70 - 20°
			413490-39		3000K - **131956lm** - CRI≥70 - 20°
			413490-0035		5700K - **141888lm** - CRI≥70 - 20°
			413491-00		4000K - **141890lm** - CRI≥70 - 40°
			413491-39		3000K - **131958lm** - CRI≥70 - 40°
			413491-0035		5700K - **141890lm** - CRI≥70 - 40°
			413492-00		4000K - **141026lm** - CRI≥70 - 60°
			413492-39		3000K - **131154lm** - CRI≥70 - 60°
			413492-0035		5700K - **141026lm** - CRI≥70 - 60°

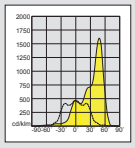




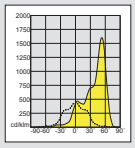


Flexibility - The optical system compromising modules that can be adjusted into 8 positions (with a 5° tilt angle) provides different asymmetric angles for the best lighting solutions without tilting the spotlight.

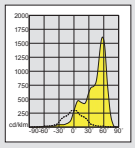
POSITION: **P0 - Tilt 50°**



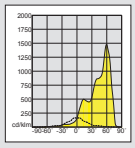
POSITION: **P1 - Tilt 55°**



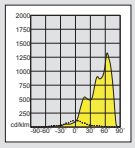
POSITION: **P2 - Tilt 60°**



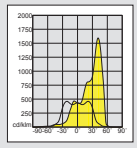
POSITION: **P3 - Tilt 65°**



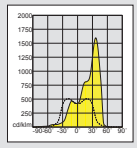
POSITION: **P4 - Tilt 70°**



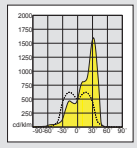
POSITION: **P5 - Tilt 45°**



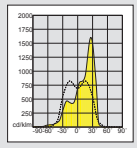
POSITION: **P6 - Tilt 40°**



POSITION: **P7 - Tilt 35°**



POSITION: **P8 - Tilt 30°**



Luminous flux maintenance Power factor ≥0.95		Wattage (tot.)	Allowed ambient temperature (min.°C ÷ max.°C)
Forum 1 HE *(art. 2177-2188-2189)*			
80%	**90.000h (L80B10)**	**368W**	**Ta = -30°C ÷ +40°C**
90%	**50.000h (L90B10)**		
Forum 1 *(art. 2180-2181-2182-2183-2184-2185-2186-2187)*			
70%	**190.000h (L70B20)@700mA**	**256W**	**Ta = -40°C ÷ +45°C**
70%	**160.000h (L70B20)@1050mA**	**397W**	**Ta = -40°C ÷ +45°C**
70%	**145.000h (L70B20)@1200mA**	**442W**	**Ta = -40°C ÷ +40°C**
80%	**120.000h (L80B10)@700mA**	**256W**	**Ta = -40°C ÷ +45°C**
80%	**100.000h (L80B10)@1050mA**	**397W**	**Ta = -40°C ÷ +45°C**
80%	**90.000h (L80B10)@1200mA**	**442W**	**Ta = -40°C ÷ +40°C**

Luminous flux maintenance Power factor ≥0.95		Wattage (W)	Allowed ambient temperature (min.°C ÷ max.°C)
Forum 2 HE *(art. 2198-21999-2200)*			
80%	**90.000h (L80B10)**	**736W**	**Ta = -30°C ÷ +40°C**
90%	**50.000h (L90B10)**		
Forum 2 *(art. 2190-2191-2192-2193-2194-2195-2196-2197)*			
70%	**190.000h (L70B20)@700mA**	**475W**	**Ta = -30°C ÷ +40°C**
70%	**160.000h (L70B20)@1050mA**	**735W**	**Ta = -30°C ÷ +40°C**
70%	**145.000h (L70B20)@1200mA**	**846W**	**Ta = -30°C ÷ +40°C**
80%	**120.000h (L80B10)@700mA**	**475W**	**Ta = -30°C ÷ +40°C**
80%	**100.000h (L80B10)@1050mA**	**735W**	**Ta = -30°C ÷ +40°C**
80%	**90.000h (L80B10)@1200mA**	**846W**	**Ta = -30°C ÷ +40°C**

The table below shows the values for standard versions. For further information (expected life, temperatures) and/or for special versions, please contact our customer service.

GENERAL CHARACTERISTICS

Housing/Frame: in die-cast aluminium with cooling fins.

Optics: made of V0 polycarbonate, metallized high yield.

Diffuser: extra-clear, tempered glass, 4 mm thick, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001).

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Standard Supply: complete with galvanised and coated bracket. Single LED module version, equipped with IP66 airtight connector for mains connection. With dedicated electronic device to protect the LED module.

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is installed on a metal pole.

Products compliant with ball impact resistance test standard DIN 18032-3: 2018

Registered Design DM/100271 The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs.

OTHER CHARACTERISTICS

The family of Forum LED floodlights includes versions with narrow, symmetric and asymmetric beam optics with different highly efficient LED sources.
A truly complete range of products offering the best performance to meet all outdoor lighting needs for:

- Buildings and façades

- Industrial zones, harbour areas, train stations and loading/unloading bays

- Public or private infrastructure, airports, metro stations, car parks and transit zones

- Stadiums or indoor and outdoor multi-sport facilities (tennis court, basketball court, swimming pool, velodrome, hockey rink, volleyball court, etc...).

• Easy and safe to install, Forum LED is equipped with special devices for perfect pointing and positioning stability.

• The careful selection of the materials and electronic components ensures full safety during operation, guaranteeing total resistance to impacts and accidental collisions, thermal shocks and weather agents.

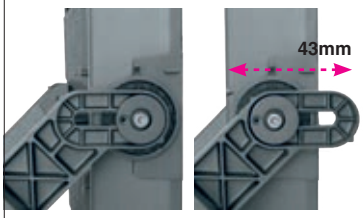
• The shape of the body allows obtaining diverse combinations of power, lumen and luminous beams; in fact, it is available in versions with single, double or triple modules, with asymmetric light distribution, narrow beam or symmetric beams.

• Precision optics that allow broad design flexibility guaranteeing high levels of light quality, eliminating flicker during TV broadcasting.

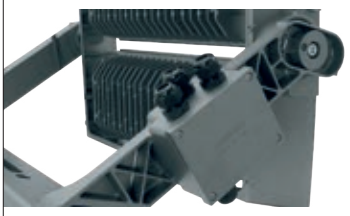
OTHER INFORMATION



Structure 2 LED modules : in die-cast aluminium with bracket for spotlight mounting. It also allows pointing the individual module at an angle of +/- 20° to its horizontal axis.



Luminaire bracket in die-cast aluminium made to move 43 mm along the horizontal axis to give greater light pointing freedom.



Junction box for terminals in die-cast aluminium on the support bracket

UPON REQUEST

The fixture can be equipped with several light dimmers:
- 1-10V (dimmable from 20% to 100%) or DALI dimmable driver
- power line carrier (PLC) remote control
- wireless control system

UNI EN ISO 9227 Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

Stand for spotlights' pointer system.
Available with set for floodlight aiming



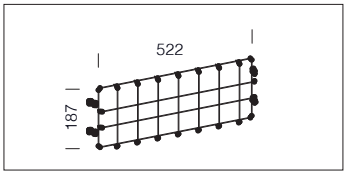
Available 1 module version with:

LED	4000K - CRI 80	700/1050/1200mA
LED	4000K - **CRI 90**	700/1050/1200mA
LED	5700K - CRI 70	700/1050/1200mA
LED	5700K - CRI 80	700/1050/1200mA
LED	5700K - **CRI 90**	700/1050/1200mA

Available 2 modules version with:

separate driver	DALI	700/1050/1200mA
	DMX/RMD	700/1050/1200mA

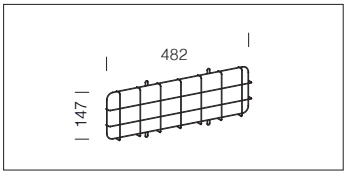
ACCESSORIES FOR FORUM 1/2 MODULES



acc. 25 protection guard

black	997930-00

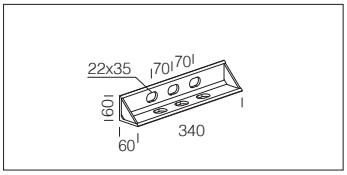
Plastic-coated steel rod. For protection against impact. For Forum art. 2180-2181-2182-2183-2184-2185-HE.



acc. 26 protection guard

black	997931-00

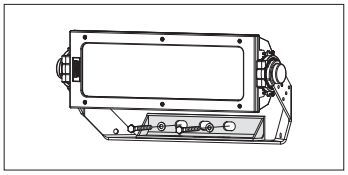
Plastic-coated steel rod. For protection against impact. For Forum art. 2186-2187.



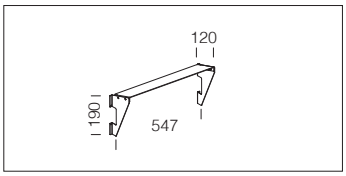
acc. 345 wall bracket

graphite	995772-00

To be used to install Forum 1 LED module directly onto wall surfaces.



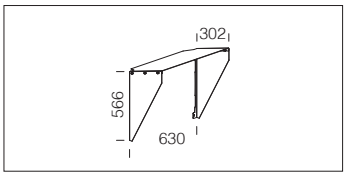
To install Forum 1 LED module to the wall, use acc. 345 and fasten the screws directly to the bracket supplied with the lamp.



acc. 482 1 module conveyor

graphite	995788-00

In aluminium. To be used for conveying the light beam in a single direction.

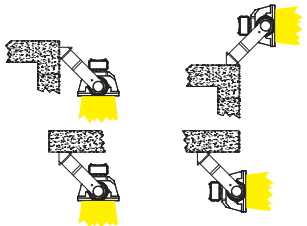


acc. 482 2 modules conveyor

graphite	995785-00

In aluminium. To be used for conveying the light beam in a single direction.

Example installation with special bracket option for Forum 1 LED module.





On request: Forum 1 LED module comes with a galvanized and coated bracket with right angle base plate to install the projector on both sides.



Infrastructure ... loading areas, stations and airports

Train stations, airports and large transit areas are regarded as “landmarks”, i.e. well defined signs of a city’s ambition and desire for renovation. This is why the design of major infrastructure is being entrusted to world-famed architects. Lighting should meet functional requirements and also enhance the challenging solutions chosen by the designers.

Lighting becomes an integral part of these public works, turning into structural elements giving them extraordinary visibility during the evenings. This new approach also applies to small train stations and roads, where proper lighting can increase safety, efficiency and energy savings and improve aesthetics.

Energy saving: the comparison shows how Forum HE can save more energy compared to conventional discharge lamps and meet applicable standards. We recommend using LED technology to save energy in environments where lights stay on for a long time.

Fixture	Kelvin - CRI	Dimensions (m)	H	LUX	Qtx	P tot W	Energy saving
Forum HE	4000K - CRI 70	92,2x66,7	25	≥40	16	5888	**43%**
SAP 600W	2000K - CRI 20	92,2x66,7	25	≥40	16	10256	
Forum HE	4000K - CRI 70	92,2x66,7	25	≥40	16	5888	**66%**
SAP 1000W	2000K - CRI 20	92,2x66,7	25	≥40	16	16800	

RG0 Ethr

U.V.

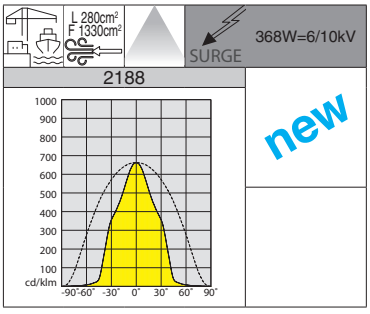
max C° min

0° 180°

LOW FLICKER

3000K

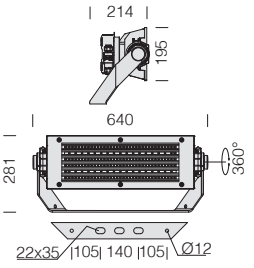
4000K



The ideal version for large spaces (squares, stations, airports, etc.)



IP66IK08



LED: power factor ≥0,92. Luminous flux maintenance:	
80%	90.000h (L80B10)
90%	50.000h (L90B10)

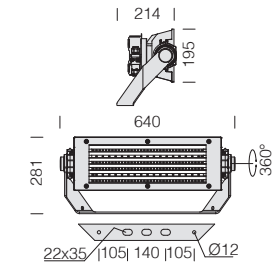
Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

Wiring (1 LED module) : 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.

2188 Forum HE - 1 LED MODULE - symmetric - high efficiency

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	15.00	412690-00	**368**	4000K - 57641lm - CRI 70
			412690-39		3000K - **53606lm** - CRI 70

IP66IK08

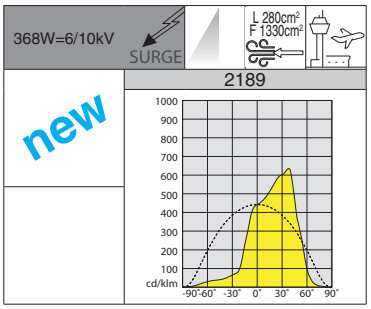


LED: power factor ≥0,92. Luminous flux maintenance:	
80%	90.000h (L80B10)
90%	50.000h (L90B10)

Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

Wiring (1 LED module) : 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.



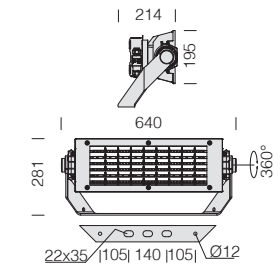


The ideal version for large spaces (squares, stations, airports, etc.)

2189 Forum HE - 1 LED MODULE - asymmetric - high efficiency

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	15.00	412695-00	**368**	4000K - 58362lm - CRI 70
			412695-39		3000K - **54276lm** - CRI 70

IP66IK08

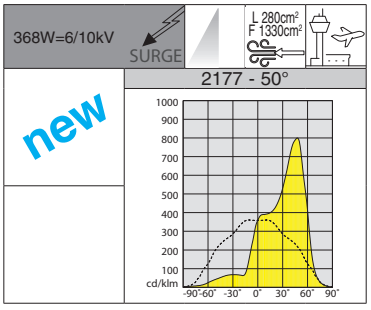


LED: power factor ≥0,92. Luminous flux maintenance:	
80%	90.000h (L80B10)
90%	50.000h (L90B10)

Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

Wiring (1 LED module) : 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.





The ideal version for large spaces (squares, stations, airports, etc.)

2177 Forum HE - 1 LED MODULE - 50° asymmetric - high efficiency

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	15.00	412698-00	**368**	4000K - 55829lm - CRI 70
			412698-39		3000K - **51921lm** - CRI 70



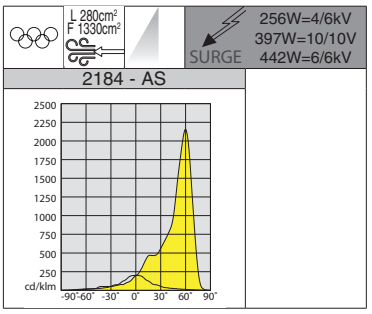






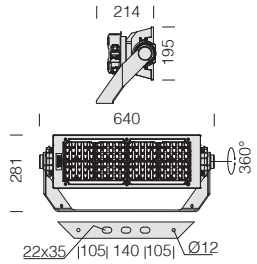






IP66 IK08



Upon request available version with:		
LED	4000K - CRI 80	700/1050/1200mA
LED	4000K - **CRI 90**	700/1050/1200mA
LED	5700K - CRI 70	700/1050/1200mA
LED	5700K - CRI 80	700/1050/1200mA
LED	5700K - **CRI 90**	700/1050/1200mA

LED: power factor ≥0,92. Luminous flux maintenance:		
70%	190.000h (L70B20)	700mA
70%	160.000h (L70B20)	1050mA
70%	145.000h (L70B20)	1200mA
80%	120.000h (L80B10)	700mA
80%	100.000h (L80B10)	1050mA
80%	90.000h (L80B10)	1200mA

2184 Forum - 1 LED MODULE - asymmetric 60° - "AS"

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	15.00	412653-00	**256**	4000K - 29200lm - CRI 70
					K - ølm 1050mA - CRI
LED	graphite	15.00	412654-00	**397**	4000K - 39031lm - CRI 70
					K - ølm 1200mA - CRI
LED	graphite	15.00	412655-00	**442**	4000K - 43136lm - CRI 70

Wiring (1 LED module) : 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.



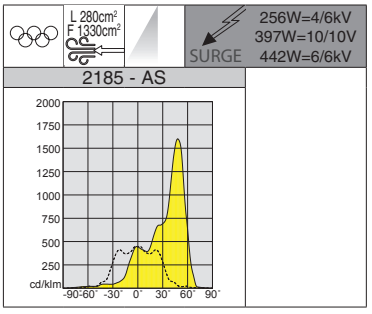






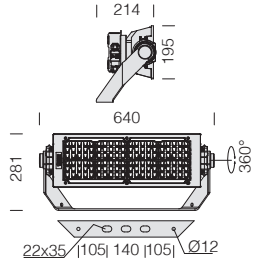






IP66 IK08



Upon request available version with:		
LED	4000K - CRI 80	700/1050/1200mA
LED	4000K - **CRI 90**	700/1050/1200mA
LED	5700K - CRI 70	700/1050/1200mA
LED	5700K - CRI 80	700/1050/1200mA
LED	5700K - **CRI 90**	700/1050/1200mA

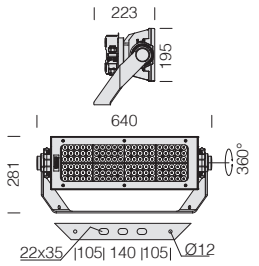
LED: power factor ≥0,92. Luminous flux maintenance:		
70%	190.000h (L70B20)	700mA
70%	160.000h (L70B20)	1050mA
70%	145.000h (L70B20)	1200mA
80%	120.000h (L80B10)	700mA
80%	100.000h (L80B10)	1050mA
80%	90.000h (L80B10)	1200mA

2185 Forum - 1 LED MODULE - asymmetric - "AS"

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	15.00	412650-00	**256**	4000K - 31178lm - CRI 70
					K - ølm 1050mA - CRI
LED	graphite	15.00	412651-00	**397**	4000K - 41432lm - CRI 70
					K - ølm 1200mA - CRI
LED	graphite	15.00	412652-00	**442**	4000K - 45552lm - CRI 70

Wiring (1 LED module) : 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.

IP66IK08

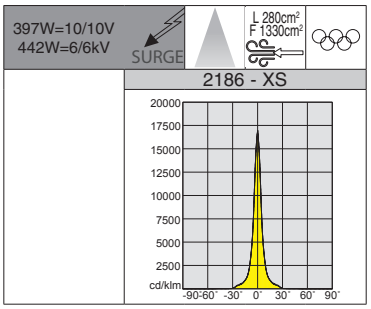


LED: power factor ≥0,92. Luminous flux maintenance:		
70%	160.000h (L70B20)	1050mA
70%	145.000h (L70B20)	1200mA
80%	100.000h (L80B10)	1050mA
80%	90.000h (L80B10)	1200mA

Wiring (1 LED module) : 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.

Registered Design **DM/100271**





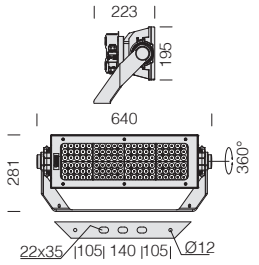
Upon request available version with:		
LED	4000K - CRI 80	1050/1200mA
LED	4000K - **CRI 90**	1050/1200mA
LED	5700K - CRI 70	1050/1200mA
LED	5700K - CRI 80	1050/1200mA
LED	5700K - **CRI 90**	1050/1200mA

2186 Forum - 1 LED MODULE - narrow beam - "XS"

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 1050mA - CRI
LED	graphite	15.00	412661-00	**397**	4000K - 42291lm - CRI 70
					K - ølm 1200mA - CRI
LED	graphite	15.00	412662-00	**442**	4000K - 46739lm - CRI 70

RG0 Ethr · U.V. · max C° min · 0° 180° · LOW FLICKER

IP66IK08

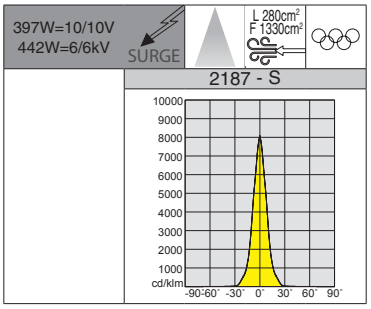


LED: power factor ≥0,92. Luminous flux maintenance:		
70%	160.000h (L70B20)	1050mA
70%	145.000h (L70B20)	1200mA
80%	100.000h (L80B10)	1050mA
80%	90.000h (L80B10)	1200mA

Wiring (1 LED module) : 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.

Registered Design **DM/100271**





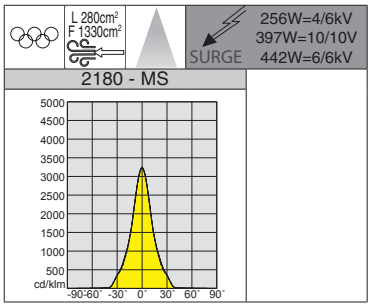
Upon request available version with:		
LED	4000K - CRI 80	1050/1200mA
LED	4000K - **CRI 90**	1050/1200mA
LED	5700K - CRI 70	1050/1200mA
LED	5700K - CRI 80	1050/1200mA
LED	5700K - **CRI 90**	1050/1200mA

2187 Forum - 1 LED MODULE - narrow beam - "S"

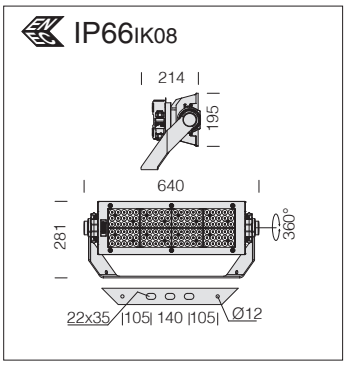
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 1050mA - CRI
LED	graphite	15.00	412671-00	**397**	4000K - 38797lm - CRI 70
					K - ølm 1200mA - CRI
LED	graphite	15.00	412672-00	**442**	4000K - 42877lm - CRI 70

RG1 · U.V. · max C° min · 0° 180° · LOW FLICKER

RG1 U.V. max C° min 0° 180° LOW FLICKER







Upon request available version with:		
LED	4000K - CRI 80	700/1050/1200mA
LED	4000K - **CRI 90**	700/1050/1200mA
LED	5700K - CRI 70	700/1050/1200mA
LED	5700K - CRI 80	700/1050/1200mA
LED	5700K - **CRI 90**	700/1050/1200mA

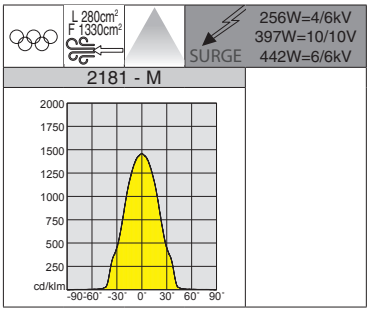
LED: power factor ≥0,92. Luminous flux maintenance:		
70%	190.000h (L70B20)	700mA
70%	160.000h (L70B20)	1050mA
70%	145.000h (L70B20)	1200mA
80%	120.000h (L80B10)	700mA
80%	100.000h (L80B10)	1050mA
80%	90.000h (L80B10)	1200mA

2180 Forum - 1 LED MODULE - symmetric - "MS"

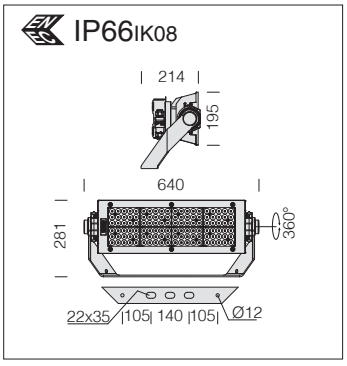
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	15.00	412600-00	**256**	4000K - 33958lm - CRI 70
					K - ølm 1050mA - CRI
LED	graphite	15.00	412601-00	**397**	4000K - 45391lm - CRI 70
					K - ølm 1200mA - CRI
LED	graphite	15.00	412602-00	**442**	4000K - 50165lm - CRI 70

Wiring (1 LED module) : 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.

RG0 Ethr U.V. max C° min 0° 180° LOW FLICKER







Upon request available version with:		
LED	4000K - CRI 80	700/1050/1200mA
LED	4000K - **CRI 90**	700/1050/1200mA
LED	5700K - CRI 70	700/1050/1200mA
LED	5700K - CRI 80	700/1050/1200mA
LED	5700K - **CRI 90**	700/1050/1200mA

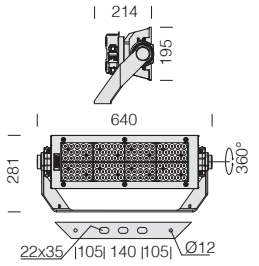
LED: power factor ≥0,92. Luminous flux maintenance:		
70%	190.000h (L70B20)	700mA
70%	160.000h (L70B20)	1050mA
70%	145.000h (L70B20)	1200mA
80%	120.000h (L80B10)	700mA
80%	100.000h (L80B10)	1050mA
80%	90.000h (L80B10)	1200mA

2181 Forum - 1 LED MODULE - symmetric - "M"

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	15.00	412610-00	**256**	4000K - 28993lm - CRI 70
					K - ølm 1050mA - CRI
LED	graphite	15.00	412611-00	**397**	4000K - 38755lm - CRI 70
					K - ølm 1200mA - CRI
LED	graphite	15.00	412612-00	**442**	4000K - 42830lm - CRI 70

Wiring (1 LED module) : 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.

IP66 IK08



LED: power factor ≥0,92. Luminous flux maintenance:		
70%	190.000h (L70B20)	700mA
70%	160.000h (L70B20)	1050mA
70%	145.000h (L70B20)	1200mA
80%	120.000h (L80B10)	700mA
80%	100.000h (L80B10)	1050mA
80%	90.000h (L80B10)	1200mA

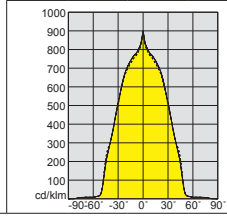
Wiring (1 LED module) : 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.

Registered Design **DM/100271**



256W=4/6kV
397W=10/10V
442W=6/6kV
SURGE
L 280cm²
F 1330cm²

2182 - W

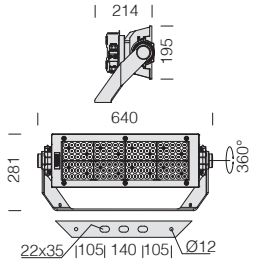


Upon request available version with:		
LED	4000K - CRI 80	700/1050/1200mA
LED	4000K - **CRI 90**	700/1050/1200mA
LED	5700K - CRI 70	700/1050/1200mA
LED	5700K - CRI 80	700/1050/1200mA
LED	5700K - **CRI 90**	700/1050/1200mA

2182 Forum - 1 LED MODULE - symmetric - "W"

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	15.00	412620-00	**256**	4000K - 32306lm - CRI 70
					K - ølm 1050mA - CRI
LED	graphite	15.00	412621-00	**397**	4000K - 43182lm - CRI 70
					K - ølm 1200mA - CRI
LED	graphite	15.00	412622-00	**442**	4000K - 47723lm - CRI 70

IP66 IK08



LED: power factor ≥0,92. Luminous flux maintenance:		
70%	190.000h (L70B20)	700mA
70%	160.000h (L70B20)	1050mA
70%	145.000h (L70B20)	1200mA
80%	120.000h (L80B10)	700mA
80%	100.000h (L80B10)	1050mA
80%	90.000h (L80B10)	1200mA

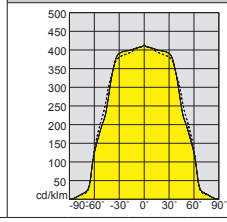
Wiring (1 LED module) : 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.

Registered Design **DM/100271**



256W=4/6kV
397W=10/10V
442W=6/6kV
SURGE
L 280cm²
F 1330cm²

2183 - XW



Upon request available version with:		
LED	4000K - CRI 80	700/1050/1200mA
LED	4000K - **CRI 90**	700/1050/1200mA
LED	5700K - CRI 70	700/1050/1200mA
LED	5700K - CRI 80	700/1050/1200mA
LED	5700K - **CRI 90**	700/1050/1200mA

2183 Forum - 1 LED MODULE - symmetric - "XW"

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	15.00	412630-00	**256**	4000K - 33841lm - CRI 70
					K - ølm 1050mA - CRI
LED	graphite	15.00	412631-00	**397**	4000K - 45235lm - CRI 70
					K - ølm 1200mA - CRI
LED	graphite	15.00	412632-00	**442**	4000K - 49992lm - CRI 70



Infrastructure ... loading areas, stations and airports

Train stations, airports and large transit areas are regarded as “landmarks”, i.e. well defined signs of a city’s ambition and desire for renovation. This is why the design of major infrastructure is being entrusted to world-famed architects. Lighting should meet functional requirements and also enhance the challenging solutions chosen by the designers.

Lighting becomes an integral part of these public works, turning into structural elements giving them extraordinary visibility during the evenings. This new approach also applies to small train stations and roads, where proper lighting can increase safety, efficiency and energy savings and improve aesthetics.

Energy saving: Forum HE can save more energy compared to conventional discharge lamps and meet applicable standards. We recommend using LED technology to save energy in environments where lights stay on for a long time.

RG0 Ethr

U.V.

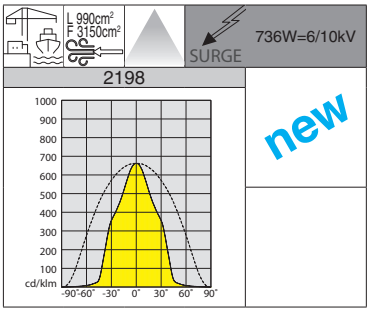
max C° min

0° 180°

LOW FLICKER

3000K

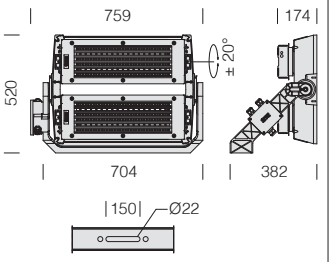
4000K



The ideal version for large spaces (squares, stations, airports, etc.)



IP66IK08



LED: power factor ≥0,92. Luminous flux maintenance:	
80%	90.000h (L80B10)
90%	50.000h (L90B10)

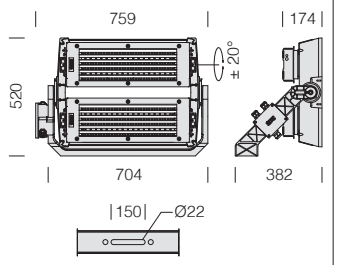
Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

Wiring (2 LED module) : 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.

2198 Forum HE - 2 LED MODULES - symmetric - high efficiency

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	27.00	412691-00	**736**	4000K - 115282lm - CRI 70
			412691-39		3000K - **107212lm** - CRI 70

IP66IK08

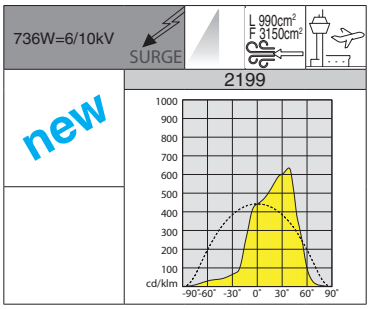


LED: power factor ≥0,92. Luminous flux maintenance:	
80%	90.000h (L80B10)
90%	50.000h (L90B10)

Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

Wiring (2 LED module) : 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.



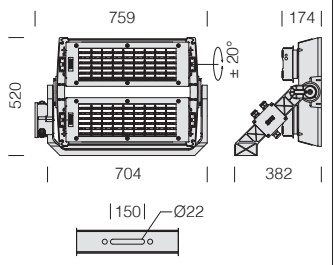


The ideal version for large spaces (squares, stations, airports, etc.)

2199 Forum HE - 2 LED MODULES - asymmetric - high efficiency

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	27.00	412696-00	**736**	4000K - 116724lm - CRI 70
			412696-39		3000K - **108553lm** - CRI 70

IP66IK08

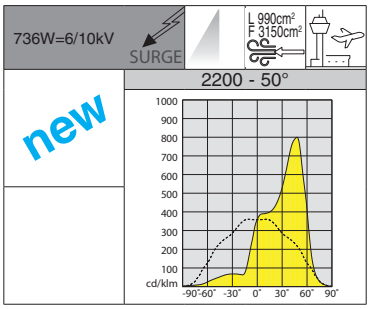


LED: power factor ≥0,92. Luminous flux maintenance:	
80%	90.000h (L80B10)
90%	50.000h (L90B10)

Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

Wiring (2 LED module) : 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.



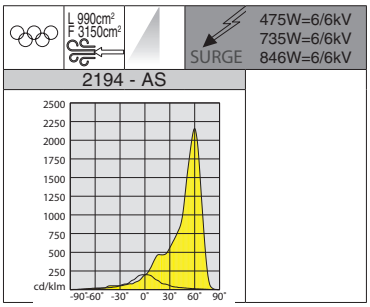


The ideal version for large spaces (squares, stations, airports, etc.)

2200 Forum HE - 2 LED MODULES - 50° asymmetric - high efficiency

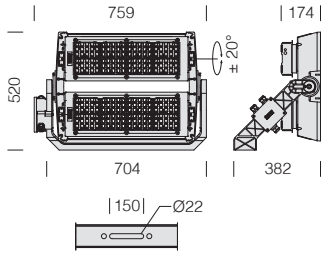
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	27.00	412697-00	**736**	4000K - 111658lm - CRI 70
			412697-39		3000K - **103842lm** - CRI 70

RG0 Ethr · U.V. · max C° min · 0° 180° · LOW FLICKER





IP66 IK08



Upon request available version with:		
separate driver	DALI	700/1050/1200mA
	DMX/RMD	700/1050/1200mA

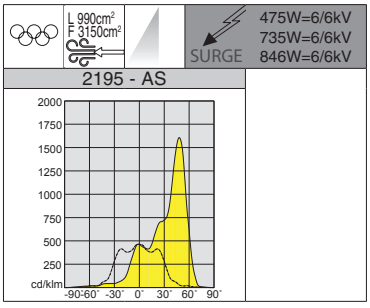
LED: power factor ≥0,92. Luminous flux maintenance:		
70%	190.000h (L70B20)	700mA
70%	160.000h (L70B20)	1050mA
70%	145.000h (L70B20)	1200mA
80%	120.000h (L80B10)	700mA
80%	100.000h (L80B10)	1050mA
80%	90.000h (L80B10)	1200mA

Wiring (2 LED module) 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.

2194 Forum - 2 LED MODULES - asymmetric 60° - "AS"

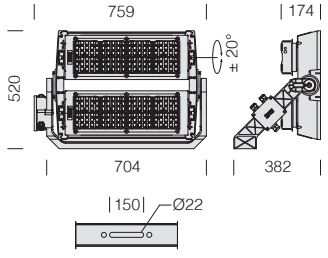
		CLD			LED (tj= 85 °C)
LED	colour	weight	code	W	K - ølm 700mA - CRI
LED	graphite	27.00	412766-00	**475**	4000K - 81408lm - CRI 70
			412766-60		4000K - 71760lm - CRI 80
			412766-0035		5700K - 81408lm - CRI 70
			412766-0034		5700K - 65620lm - **CRI 90**
					K - ølm 1050mA - CRI
LED	graphite	27.00	412767-00	**735**	4000K - 113376lm - CRI 70
			412767-60		4000K - 100080lm - CRI 80
			412767-0035		5700K - 113376lm - CRI 70
			412767-0034		5700K - 93360lm - **CRI 90**
					K - ølm 1200mA - CRI
LED	graphite	27.00	412768-00	**846**	4000K - 125304lm - CRI 70

RG0 Ethr · U.V. · max C° min · 0° 180° · LOW FLICKER





IP66 IK08



Upon request available version with:		
separate driver	DALI	700/1050/1200mA
	DMX/RMD	700/1050/1200mA

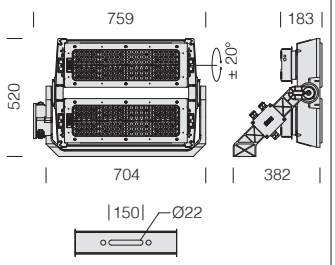
LED: power factor ≥0,92. Luminous flux maintenance:		
70%	190.000h (L70B20)	700mA
70%	160.000h (L70B20)	1050mA
70%	145.000h (L70B20)	1200mA
80%	120.000h (L80B10)	700mA
80%	100.000h (L80B10)	1050mA
80%	90.000h (L80B10)	1200mA

Wiring (2 LED module) 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.

2195 Forum - 2 LED MODULES - asymmetric - "AS"

		CLD			LED (tj= 85 °C)
LED	colour	weight	code	W	K - ølm 700mA - CRI
LED	graphite	27.00	412760-00	**475**	4000K - 81408lm - CRI 70
			412760-60		4000K - 71760lm - CRI 80
			412760-0035		5700K - 81408lm - CRI 70
			412760-0034		5700K - 65620lm - **CRI 90**
					K - ølm 1050mA - CRI
LED	graphite	27.00	412763-00	**735**	4000K - 113376lm - CRI 70
			412763-60		4000K - 100080lm - CRI 80
			412763-0035		5700K - 113376lm - CRI 70
			412763-0034		5700K - 93360lm - **CRI 90**
					K - ølm 1200mA - CRI
LED	graphite	27.00	412765-00	**846**	4000K - 125304lm - CRI 70

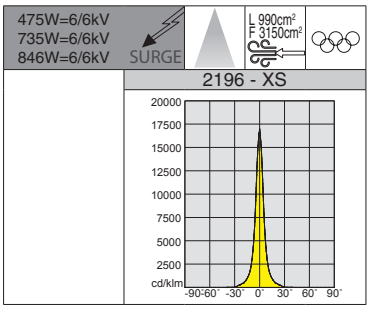
IP66IK08



LED: power factor ≥0,92. Luminous flux maintenance:		
70%	190.000h (L70B20)	700mA
70%	160.000h (L70B20)	1050mA
70%	145.000h (L70B20)	1200mA
80%	120.000h (L80B10)	700mA
80%	100.000h (L80B10)	1050mA
80%	90.000h (L80B10)	1200mA

Wiring (2 LED module) 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.



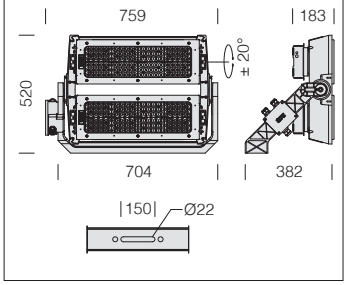


Upon request available version with:		
separate driver	DALI	700/1050/1200mA
	DMX/RMD	700/1050/1200mA

2196 Forum - 2 LED MODULES - narrow beam - "XS"

		CLD			LED (tj= 85 °C)
LED	colour	weight	code	W	K - ølm 700mA - CRI
LED	graphite	27.00	412770-00	**475**	4000K - 81408lm - CRI 70
			412770-60		4000K - 71760lm - CRI 80
			412770-0035		5700K - 81408lm - CRI 70
			412770-0034		5700K - 65620lm - **CRI 90**
					K - ølm 1050mA - CRI
LED	graphite	27.00	412771-00	**735**	4000K - 113376lm - CRI 70
			412771-60		4000K - 100080lm - CRI 80
			412771-0035		5700K - 113376lm - CRI 70
			412771-0034		5700K - 93360lm - **CRI 90**
					K - ølm 1200mA - CRI
LED	graphite	27.00	412772-00	**846**	4000K - 125304lm - CRI 70

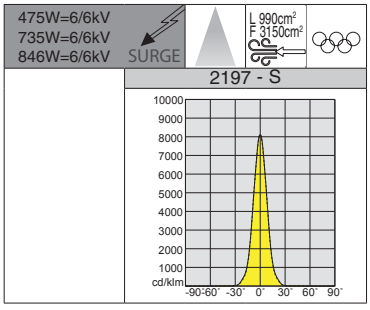
IP66IK08



LED: power factor ≥0,92. Luminous flux maintenance:		
70%	190.000h (L70B20)	700mA
70%	160.000h (L70B20)	1050mA
70%	145.000h (L70B20)	1200mA
80%	120.000h (L80B10)	700mA
80%	100.000h (L80B10)	1050mA
80%	90.000h (L80B10)	1200mA

Wiring (2 LED module) 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.

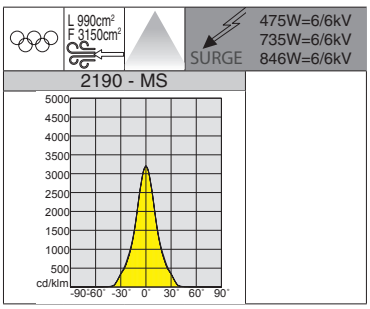




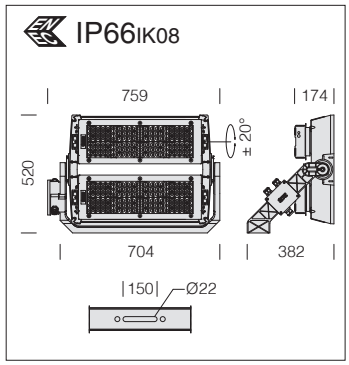
Upon request available version with:		
separate driver	DALI	700/1050/1200mA
	DMX/RMD	700/1050/1200mA

2197 Forum - 2 LED MODULES - narrow beam - "S"

		CLD			LED (tj= 85 °C)
LED	colour	weight	code	W	K - ølm 700mA - CRI
LED	graphite	27.00	412780-00	**475**	4000K - 81408lm - CRI 70
			412780-60		4000K - 71760lm - CRI 80
			412780-0035		5700K - 81408lm - CRI 70
			412780-0034		5700K - 65620lm - **CRI 90**
					K - ølm 1050mA - CRI
LED	graphite	27.00	412781-00	**735**	4000K - 113376lm - CRI 70
			412781-60		4000K - 100080lm - CRI 80
			412781-0035		5700K - 113376lm - CRI 70
			412781-0034		5700K - 93360lm - **CRI 90**
					K - ølm 1200mA - CRI
LED	graphite	27.00	412782-00	**846**	4000K - 125304lm - CRI 70







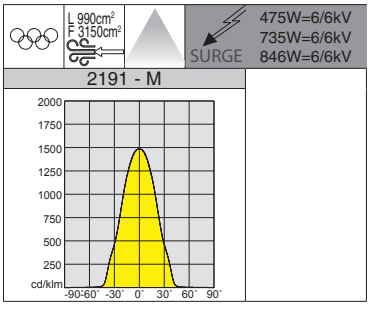
Upon request available version with:		
separate driver	DALI	700/1050/1200mA
	DMX/RMD	700/1050/1200mA

LED: power factor ≥0,92. Luminous flux maintenance:		
70%	190.000h (L70B20)	700mA
70%	160.000h (L70B20)	1050mA
70%	145.000h (L70B20)	1200mA
80%	120.000h (L80B10)	700mA
80%	100.000h (L80B10)	1050mA
80%	90.000h (L80B10)	1200mA

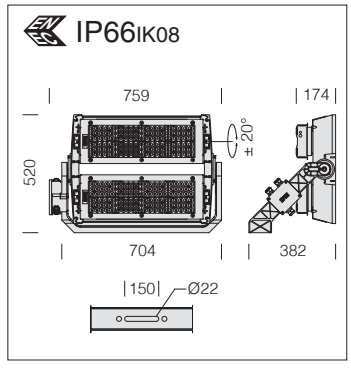
Wiring (2 LED module) 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.

2190 Forum - 2 LED MODULES - symmetric - "MS"

		CLD			LED (tj= 85 °C)
LED	colour	weight	code	W	K - ølm 700mA - CRI
LED	graphite	27.00	412891-00	**475**	4000K - 81408lm - CRI 70
			412891-60		4000K - 71760lm - CRI 80
			412891-0035		5700K - 81408lm - CRI 70
			412891-0034		5700K - 65620lm - **CRI 90**
					K - ølm 1050mA - CRI
LED	graphite	27.00	412890-00	**735**	4000K - 113376lm - CRI 70
			412890-60		4000K - 100080lm - CRI 80
			412890-0035		5700K - 113376lm - CRI 70
			412890-0034		5700K - 93360lm - **CRI 90**
					K - ølm 1200mA - CRI
LED	graphite	27.00	412892-00	**846**	4000K - 125304lm - CRI 70







Upon request available version with:		
separate driver	DALI	700/1050/1200mA
	DMX/RMD	700/1050/1200mA

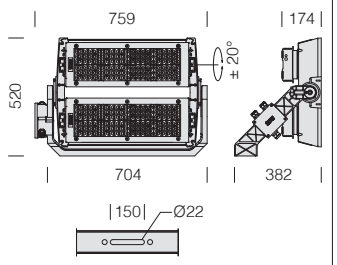
LED: power factor ≥0,92. Luminous flux maintenance:		
70%	190.000h (L70B20)	700mA
70%	160.000h (L70B20)	1050mA
70%	145.000h (L70B20)	1200mA
80%	120.000h (L80B10)	700mA
80%	100.000h (L80B10)	1050mA
80%	90.000h (L80B10)	1200mA

Wiring (2 LED module) 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.

2191 Forum - 2 LED MODULES - symmetric - "M"

		CLD			LED (tj= 85 °C)
LED	colour	weight	code	W	K - ølm 700mA - CRI
LED	graphite	27.00	412750-00	**475**	4000K - 81408lm - CRI 70
			412750-60		4000K - 71760lm - CRI 80
			412750-0035		5700K - 81408lm - CRI 70
			412750-0034		5700K - 65620lm - **CRI 90**
					K - ølm 1050mA - CRI
LED	graphite	27.00	412751-00	**735**	4000K - 113376lm - CRI 70
			412751-60		4000K - 100080lm - CRI 80
			412751-0035		5700K - 113376lm - CRI 70
			412751-0034		5700K - 93360lm - **CRI 90**
					K - ølm 1200mA - CRI
LED	graphite	27.00	412753-00	**846**	4000K - 125304lm - CRI 70

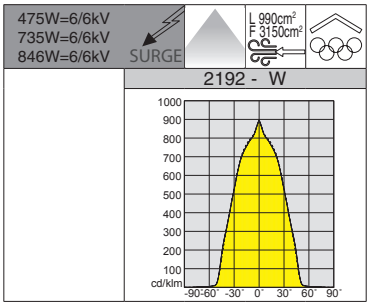
IP66IK08



LED: power factor ≥0,92. Luminous flux maintenance:		
70%	190.000h (L70B20)	700mA
70%	160.000h (L70B20)	1050mA
70%	145.000h (L70B20)	1200mA
80%	120.000h (L80B10)	700mA
80%	100.000h (L80B10)	1050mA
80%	90.000h (L80B10)	1200mA

Wiring (2 LED module) 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.



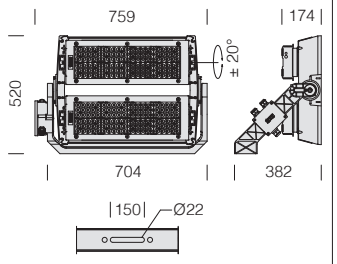


Upon request available version with:		
separate driver	DALI	700/1050/1200mA
	DMX/RMD	700/1050/1200mA

2192 Forum - 2 LED MODULES - symmetric - "W"

		CLD			LED (tj= 85 °C)
LED	colour	weight	code	W	K - ølm 700mA - CRI
LED	graphite	27.00	412790-00	**475**	4000K - 81408lm - CRI 70
			412790-60		4000K - 71760lm - CRI 80
			412790-0035		5700K - 81408lm - CRI 70
			412790-0034		5700K - 65620lm - **CRI 90**
					K - ølm 1050mA - CRI
LED	graphite	27.00	412791-00	**735**	4000K - 113376lm - CRI 70
			412791-60		4000K - 100080lm - CRI 80
			412791-0035		5700K - 113376lm - CRI 70
			412791-0034		5700K - 93360lm - **CRI 90**
					K - ølm 1200mA - CRI
LED	graphite	27.00	412792-00	**846**	4000K - 125304lm - CRI 70

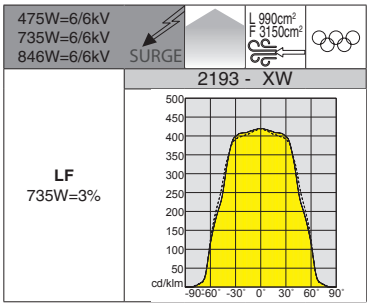
IP66IK08



LED: power factor ≥0,92. Luminous flux maintenance:		
70%	190.000h (L70B20)	700mA
70%	160.000h (L70B20)	1050mA
70%	145.000h (L70B20)	1200mA
80%	120.000h (L80B10)	700mA
80%	100.000h (L80B10)	1050mA
80%	90.000h (L80B10)	1200mA

Wiring (2 LED module) 220-240V 50/60Hz power supply; with IP66 driver applied to the fixture.

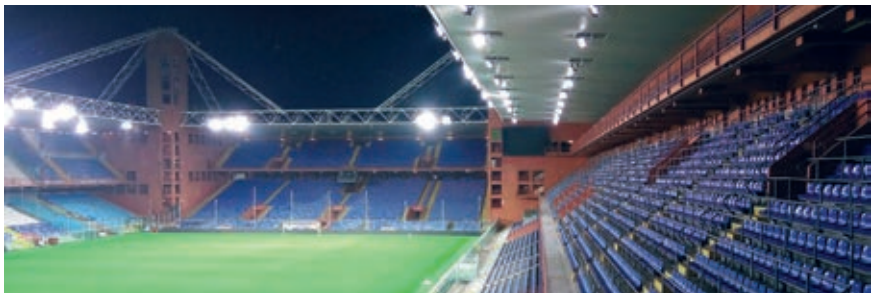




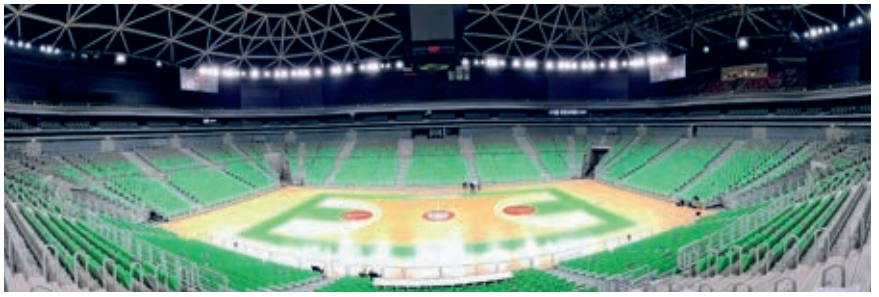
Upon request available version with:		
separate driver	DALI	700/1050/1200mA
	DMX/RMD	700/1050/1200mA

2193 Forum - 2 LED MODULES - symmetric - "XW"

		CLD			LED (tj= 85 °C)
LED	colour	weight	code	W	K - ølm 700mA - CRI
LED	graphite	27.00	412681-00	**475**	4000K - 81408lm - CRI 70
			412681-60		4000K - 71760lm - CRI 80
			412681-0035		5700K - 81408lm - CRI 70
			412681-0034		5700K - 65620lm - **CRI 90**
					K - ølm 1050mA - CRI
LED	graphite	27.00	412680-00	**735**	4000K - 113376lm - CRI 70
			412680-60		4000K - 100080lm - CRI 80
			412680-0035		5700K - 113376lm - CRI 70
			412680-0034		5700K - 93360lm - **CRI 90**
					K - ølm 1200mA - CRI
LED	graphite	27.00	412682-00	**846**	4000K - 125304lm - CRI 70











A modern stadium is a concentration of emotions and technology:
light stability is a fundamental requirement for good quality TV resolution. Modern stadiums are a concentration of emotions and technology. Sport facilities are now multi-purpose structures, designed to host different types of events and built according to new environmentally friendly criteria, attracting an ever larger audience.

Guidelines for TV broadcasts with LED lighting systems
During a broadcast it is not uncommon to perceive an annoying flicker especially during slow motion. This flicker is distracting and should be eliminated where possible. The circumstances that produce the flicker vary upon the frequency modulation, voltage and camera frame rate. The table below provides a general rule of flicker factor values produced by various lighting systems. A flicker factor of less than 5% will generally not cause problems for slow motion replays at up to 150 frames per second. A lighting system with a flicker factor of less than 5% will eliminate the perceived flicker at most frame rates per second used within the sports television industry. The acceptable level of flicker factor (FF) is indicated in the Illuminance Category Tables.



Flicker Factor Reference Table

Type of Illuminance System	FF value (guide only)
Daylight	0 %
LED Luminaires: % of flicker depend upon the type of LED power supply	<3 %
Discharge lamps with high frequency ballasts	<4 %
Discharge lamps with 3-phase magnetic ballasts for uniform light	8-20 %
Discharge lamps with single-phase magnetic ballasts	30-50 %

TLCI (*Television Lighting Consistency Index*)
In addition to the CRI index, the high colour rendering version of Forum LED is ranked in terms of TLCI index in order to comply
with HD television standards owing to its growing use in the television broadcasting environment.

TLCI levels greater than 90 indicate a light source suited for television use that will limit post-production time and labour costs.

TLCI LEVELS

85~100	Errors are so small that a colourist would not consider correcting them
75~85	A colourist would probably want to correct the colour performance, but could easily get an acceptable result
50~75	A colourist would certainly want to correct the errors, and could probably achieve an acceptable result, but it would take significant time to get there
25~50	The colour rendering is poor, and a good colourist would be needed to improve it, but the results would not be to broadcast standard
0~25	The colour rendering is bad, and a colourist would struggle for a long time to improve it, and even then, the results may not be acceptable for broadcast

GENERAL CHARACTERISTICS

Housing/Frame: in die-cast aluminium with cooling fins.

Optics: made of V0 polycarbonate, metallized high yield.

Diffuser: extra-clear, tempered glass, 4 mm thick, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001).

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Wiring (3 LED module): separate driver; 400V power supply for retrofitting exiting systems is available upon request.

Standard Supply: complete with galvanised and coated bracket. Equipped with temperature control device and dedicated electronic device to protect the LED module.

Products compliant with ball impact resistance test standard DIN 18032-3: 2018

Registered Design DM/100271 The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

OTHER CHARACTERISTICS

The family of Forum LED floodlights includes versions with narrow, symmetric and asymmetric beam optics with different highly efficient LED sources.
A truly complete range of products offering the best performance to meet all outdoor lighting needs for:

- Buildings and façades

- Industrial zones, harbour areas, train stations and loading/unloading bays

- Public or private infrastructure, airports, metro stations, car parks and transit zones

- Stadiums or indoor and outdoor multi-sport facilities (tennis court, basketball court, swimming pool, velodrome, hockey rink, volleyball court, etc...).

• Easy and safe to install, Forum LED is equipped with special devices for perfect pointing and positioning stability.

• The careful selection of the materials and electronic components ensures full safety during operation, guaranteeing total resistance to impacts and accidental collisions, thermal shocks and weather agents.

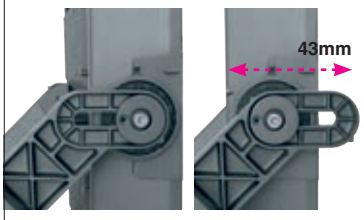
• The shape of the body allows obtaining diverse combinations of power, lumen and luminous beams; in fact, it is available in versions with single, double or triple modules, with asymmetric light distribution, narrow beam or symmetric beams.

• Precision optics that allow broad design flexibility guaranteeing high levels of light quality, eliminating flicker during TV broadcasting.

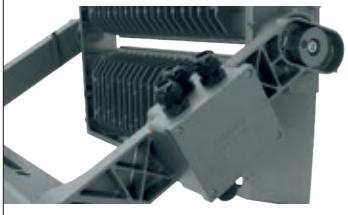
OTHER INFORMATION



Structure 3 LED modules : in die-cast aluminium with bracket for spotlight mounting. It also allows pointing the individual module at an angle of +/- 20° to its horizontal axis.



Luminaire bracket in die-cast aluminium made to move 43 mm along the horizontal axis to give greater light pointing freedom.



Junction box for terminals in die-cast aluminium on the support bracket

UPON REQUEST

The fixture can be equipped with several light dimmers:
- 1-10V (dimmable from 20% to 100%) or DALI dimmable driver
- power line carrier (PLC) remote control
- wireless control system

UNI EN ISO 9227 Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

Stand for spotlights' pointer system. Available with set for floodlight aiming



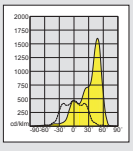
Available version with:

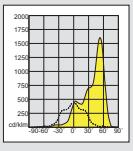
LED	4000K - CRI 80	700/1200/1300mA

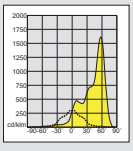
Upon request Forum 3 modules can be equipped with

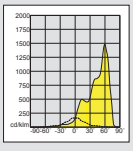
a driver featuring protection level **IP66** based on the type of installation	ON/OFF	700/1200/1300mA
	DALI	700/1200/1300mA
	DMX/RMD	700/1200/1300mA

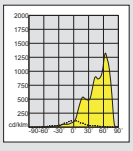
Flexibility - The optical system compromising modules that can be adjusted into 8 positions (with a 5° tilt angle) provides different asymmetric angles for the best lighting solutions without tilting the spotlight.

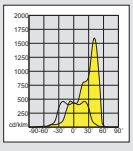
POSITION: **P0 - Tilt 50°**


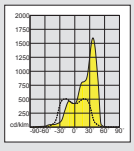
POSITION: **P1 - Tilt 55°**


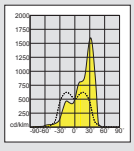
POSITION: **P2 - Tilt 60°**


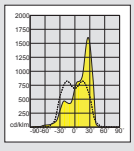
POSITION: **P3 - Tilt 65°**


POSITION: **P4 - Tilt 70°**


POSITION: **P5 - Tilt 45°**


POSITION: **P6 - Tilt 40°**


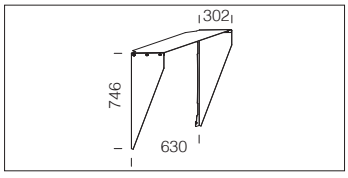
POSITION: **P7 - Tilt 35°**


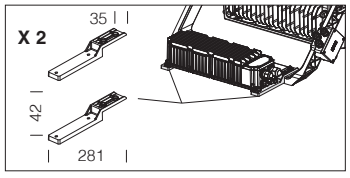
POSITION: **P8 - Tilt 30°**


Luminous flux maintenance Power factor ≥0.95		Wattage (W)	Allowed ambient temperature (min.°C ÷ max.°C)
Forum 3 *(art. 3192-3194-3195-3196-3198-3230-3231-3232)*			
70%	145.000h (L70B20)@1200mA	1223W	Ta = -40°C ÷ +40°C
70%	135.000h (L70B20)@1300mA	1333W	Ta = -40°C ÷ +30°C
80%	90.000h (L80B10)@1200mA	1223W	Ta = -40°C ÷ +40°C
80%	85.000h (L80B10)@1300mA	1333W	Ta = -40°C ÷ +30°C

The table below shows the values for standard versions. For further information (expected life, temperatures) and/or for special versions, please contact our customer service.

ACCESSORIES FOR FORUM 3 MODULES





acc. 482 3 modules conveyor

graphite	995786-00

In aluminium. To be used for conveying the light beam in a single direction.

acc. 198 driver support brackets

graphite	995789-00

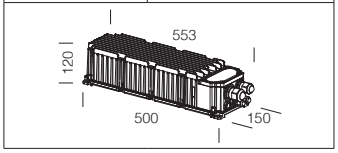
In steel. To be used for installing the Type 2-3-4-5 driver directly on the bracket in 3-module versions.

On request, Forum 3 can be equipped with a driver with a protection class of IP66 depending on the type of installation.

IP66 DRIVER characteristics (for Forum 3 modules)				
DRIVER IP66 versions	**TYPE 2 - IP66 (DALI)**	**TYPE 3 - IP66 (DMX/RDM)**	**TYPE 4 - IP66 (ON-OFF/DALI)**	**TYPE 5 - IP66 (DMX/RDM)**
Input power	220-400VAC	220-400VAC	220-400VAC	220-400VAC
Power frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Power factor	0,98 (full load)	0,98 (full load)	> 0,95 (full load)	> 0,95 (full load)
Efficiency	96% (full load)	96% (full load)	> 95% (full load)	> 95% (full load)
Total harmonic distortion	6% (220-240V) - 12% (400V)	6% (220-240V) - 12% (400V)	< 20% (198-400V)	< 20% (198-400V)
Operating ambient temperature	-40°C ÷ +45°C	-40°C ÷ +45°C	-40°C ÷ +50°C	-40°C ÷ +50°C
IP protection class	IP66	IP66	IP66	IP66
Enclosure mechanical resistance	IK08	IK08	IK08	IK08
Output power	700÷1400mA$_{DC}$	700÷1400mA$_{DC}$	500÷1400mA$_{DC}$	500÷1400mA$_{DC}$
Dimming protocol	DALI 2	DMX/RDM	DALI 2	DMX/RDM
Dimming level	0,4 ÷100%	0,4 ÷100%	0,4 ÷100%	0,4 ÷100%
Flicker up to 1000Hz (Typ.)	1%	1%	1%	1%
LED temperature control module	Present	Present	Present	Present
Surge protection level	10/10kV	10/10kV	10/10kV	10/10kV
Enclosure material	Die-cast aluminium with surface coating	Die-cast aluminium with surface coating	Die-cast aluminium with surface coating	Die-cast aluminium with surface coating
Life expectancy	50.000h @ Tamb Max	50.000h @ Tamb Max	50.000h @ Tamb Max	50.000h @ Tamb Max
Certifications	CE+ENEC	CE+ENEC	CE+ENEC	CE+ENEC

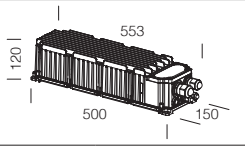
TYPE 2 - DALI

Type 2 - Driver IP66 - DALI	
6.10 Kg	220-400VAC-50/60Hz
1200mA	cod. 99767300411041
1300mA	cod. 99767308411041



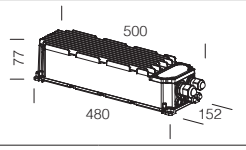
TYPE 3 - DMX/RDM

Type 3 - Driver IP66 DMX/RDM	
6.10 Kg	220-400VAC-50/60Hz
1200mA	cod. 99767300001041
1300mA	cod. 99767300301041



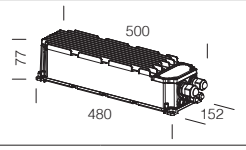
TYPE 4 - ON-OFF/DALI

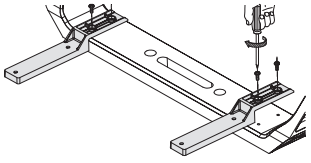
Type 4 - Driver IP66 - ON-OFF/DALI	
5.60 Kg	220-400VAC-50/60Hz
1200mA	cod. 997676-00
1300mA	cod. 99767600001041

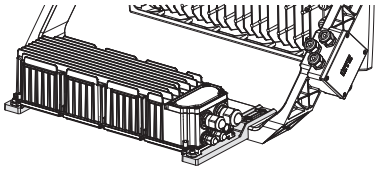


TYPE 5 - DMX/RDM

Type 5 - Driver IP66 DMX/RDM	
5.60 Kg	220-400VAC-50/60Hz
1200mA	cod. 997677-00
1300mA	cod. 99767700001041







Use the support brackets acc. 198 to screw the Type 2-3-4-5 driver directly to the bracket supplied with 3-module Forum.

Temperature control device
Our products are equipped with an automatic temperature control device. In the event of an unexpected temperature rise caused by anomalous weather conditions, the system will reduce the drive current, guaranteeing proper operation.



Surge protector
Every year, lighting managers are called to face the numerous damages caused by lightning and overcurrents.
To protect lighting installations from surge, i.e. the rapid increase in voltage between parts of opposite polarities and/or the ground, Disano has equipped its luminaires with an EN 61547 compliant surge protector, capable of protecting the LED module and their related driver from voltage spikes.
Switching processes/changing the load on the power line

It operates in two modes:

- differential mode: surge between power conductors, between the phase conductor to the neutral conductor. Substantially, between phase (L) and neutral (N) no substantial surges are present because voltage peaks are suppressed by other equipment connected to the power line; as a consequence a lower surge protector is sufficient.

- common mode: surge between power conductors, L/N, to the ground or the body of the luminaire if it is classified in class II (i.e. it is installed on a metal pole). Overvoltage in the common mode are generated by lightning strikes and may reach very high levels.

All versions of Forum LED are or can be equipped with **DALI** dimmable drivers. **DALI** protocol enables the dimming control of light, thanks to the vast range of control accessories and the full interoperability granted by the DALI logo present on the products. **DALI** protocol is recommended for functional dimming (energy saving, scene setting, remote control) and has a scalable architecture. Wireless dimming can be achieved with a **DALI** driver in order to add this function in traditional installations that have been converted to LED, without the need to install additional wiring

Forum LED can be equipped with **DMX** compatible drivers. **DMX** protocol is needed for dynamic light thanks to its immediate reaction time and virtually unlimited number of addresses. **DMX** can also be used in functional dimming using simple lighting controls in high-end sport installations. **DMX** allows all range of scenic effects, as well as the monitoring of each luminaire and ease of configuration thanks to the self-addressing **DXM/RDM** functions.

Management software: the software readily enables full control of the luminous design. This new software combines absolute control with user-friendliness, providing an overview of the colour changes, duration of fading and intervals in a visible and simple way. The scenographies can be downloaded from the central system to the local units and stored in an IP65 rated box (USB compatible) which can be installed externally to provide independent control of all the functions without requiring a computer. First of all it is necessary to configure single floodlights in the management software, which will identify the floodlights based on the address they have been assigned. The system enables all the characteristics of the light to be controlled (dimming, etc...). Furthermore, the system enables single scenes to be defined, and to programme the timing interval between one scene and the next and various effects such as fading.



Applications

• *Stadiums, arenas and sports facilities*

Proper lighting helps both the stadium audience and the viewers at home who are watching the event from TV to follow the show perfectly; stadiums, arenas and sports facilities turn into the ideal stage for any event.

• *Multi-purpose facilities*

Different lighting effects and setups can have a great visual impact for spectators at concerts or live shows... making it a guaranteed success.



Controller DMX



In combination with the management software, the **MA onPC command wing** is a portable 2,048 parameter control solution that can be used in nearly any location.

• *Real-time control for 2,048 parameters in combination with management software (up to 65,536 parameters as backup in the MA system)*
• *Expandable up to 4,096 parameter*
• *2 A/B faders (100mm)*
• *1 Level-Wheel*
• *Individually backlit and dimmable silent (clickless) keys*
• *Integrated universal power supply*
• *Light, handy & rock solid*
• *Ergonomic design*
• *Just connect via USB to any PC running software*



The **dot2 core** is a compact lighting console designed for small to medium sized productions with up to 4,096 control channels.
Intuitive operation is the core of the dot2 philosophy and with a comprehensive set of connectivity hardware on all console models, the dot2 range is suitable for most theatre, touring, corporate, television and education lighting environments.

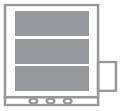
• *full programming section*
• *master playback section*
• *6 fader playbacks*
• *12 individual playback buttons*
• *Two built-in touch screens and support for one external touch screen ensure the dot2 core has the flexible hardware required for almost any kind of show.*



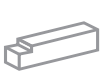
The **grandMA3 light** console is the top of its range. It provides the perfect combination of power and physical size. .The grandMA3 light console is suitable for the most demanding productions, making it probably the most versatile lighting console available.

• *Real-time control for up to 250,000 parameters per session in connection with grandMA3 processing units*
• *6 DMX outputs, 1 DMX input*
• *2 internal foldable monitor multi-touch screens*
• *2 internal letterbox multi-touch screens*
• *2 internal multi-touch command screens, 2 external multi-touch screens can be connected*
• *41 rotary RGB backlit encoders*
• *5 backlit dual encoders*
• *15 backlit motorized 60mm faders*
• *60 separate playbacks*
• *16 assignable x-keys*
• *integrated keyboard drawer*
• *built-in uninterruptible power supply (UPS)*
• *3 etherCON connectors, 6 USB connectors*
• *2 backlit motorized A/B faders 100mm*
• *Individually backlit and dimmable silent (clickless) keys*

SYSTEM ARCHITECTURE & COMPONENTS



FORUM: available with one, two, three LED modules, with symmetric, asymmetric and narrow light beam. The cutting-edge LED sources, with 5700K and CRI 90 colour rendering, are ideal for ensuring perfect TV images, even in HD resolution.



DRIVER DXM/RDM: to power the spotlights, in addition to controlling the light point *(ON/OFF, luminous flux dimming, etc.).*



DXM/RDM CONTROLLER: to control the DMX interface *(save light scenes and internal timers, ON/OFF/dimming/animation control).*

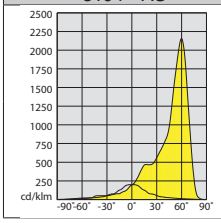


SOFTWARE: the console displayed on the monitor, allows the full control of the different spotlights, easily handling the desired light effects

RG1 U.V. max C° min 0° 180° LOW FLICKER

L 1040cm² F 4255cm² SURGE 6/10kV÷10/10KV SEE DRVER

3194 - AS



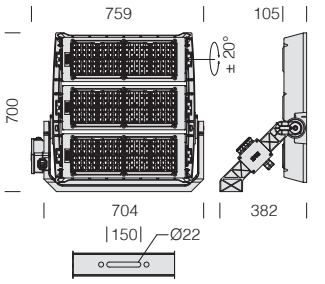
LF 1÷5% SEE DRVER

Upon request available version with:		
LED	4000K - CRI 80	1200mA

Upon request Forum 3 modules can be equipped with		
a driver featuring protection level **IP66** based on the type of installation	ON/OFF	1200mA
	DALI	1200mA
	DMX/RMD	1200mA



IP66IK08 Registered Design **DM/100271**



LED: power factor ≥0,92. Luminous flux maintenance:		
70%	145.000h (L70B20)	1200mA
80%	90.000h (L80B10)	1200mA

Wiring (3 LED module): separate driver; 400V power supply for retrofitting exiting systems is available upon request.

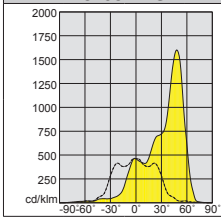
3194 Forum - 3 LED MODULES - asymmetric 60° - "AS"

		CLD S+L			LED (tj= 85 °C)
LED	colour	weight	code	W	K - ølm 1200mA - CRI
LED	graphite	28.00	412824-00	**1223**	4000K - 206316lm - CRI 70
			412824-0034		5700K - 169170lm - **CRI 90**

RG1 U.V. max C° min 0° 180° LOW FLICKER

L 1040cm² F 4255cm² SURGE 6/10kV÷10/10KV SEE DRVER

3195 - AS



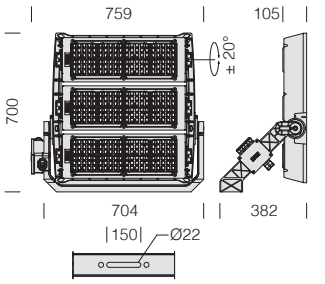
LF 1÷5% SEE DRVER

Upon request available version with:		
LED	4000K - CRI 80	1200mA

Upon request Forum 3 modules can be equipped with		
a driver featuring protection level **IP66** based on the type of installation	ON/OFF	1200mA
	DALI	1200mA
	DMX/RMD	1200mA



IP66IK08 Registered Design **DM/100271**

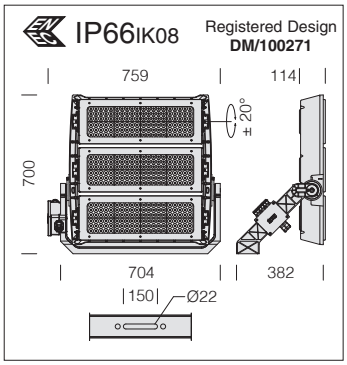


LED: power factor ≥0,92. Luminous flux maintenance:		
70%	145.000h (L70B20)	1200mA
80%	90.000h (L80B10)	1200mA

Wiring (3 LED module): separate driver; 400V power supply for retrofitting exiting systems is available upon request.

3195 Forum - 3 LED MODULES - asymmetric - "AS"

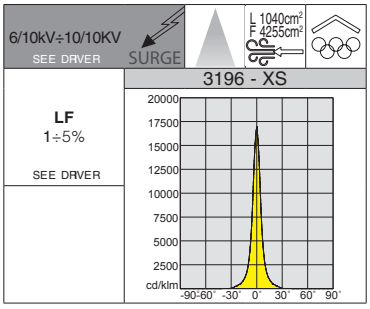
		CLD S+L			LED (tj= 85 °C)
LED	colour	weight	code	W	K - ølm 1200mA - CRI
LED	graphite	28.00	412820-00	**1223**	4000K - 206316lm - CRI 70
			412820-0034		5700K - 169170lm - **CRI 90**



LED: power factor ≥0,92. Luminous flux maintenance:		
70%	145.000h (L70B20)	1200mA
70%	135.000h (L70B20)	1300mA
80%	90.000h (L80B10)	1200mA
80%	85.000h (L80B10)	1300mA

Wiring (3 LED module): separate driver; 400V power supply for retrofitting exiting systems is available upon request.



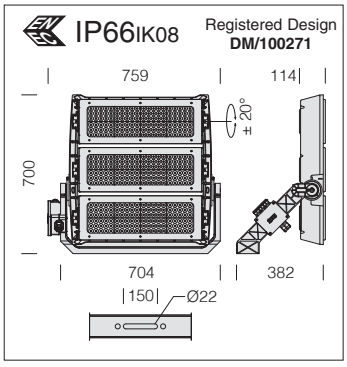


On request available version with:		
LED	4000K - CRI 80	1200/1300mA

Upon request Forum 3 modules can be equipped with		
a driver featuring protection level **IP66** based on the type of installation	ON/OFF	1200/1300mA
	DALI	1200/1300mA
	DMX/RMD	1200/1300mA

3196 Forum - 3 LED MODULES - narrow beam - "XS"

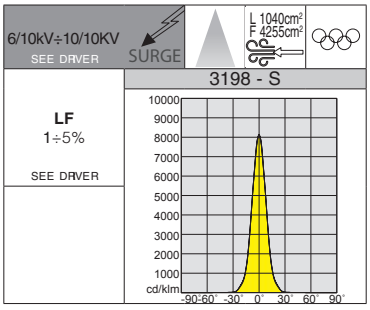
		CLD S+L			LED (tj= 85 °C)
LED	colour	weight	code	W	K - ølm 1200mA - CRI
LED	graphite	28.00	412800-00	**1223**	4000K - 206316lm - CRI 70
			412800-0034		5700K - 169170lm - **CRI 90**
					K - ølm 1300mA - CRI
LED	graphite	28.00	412802-00	**1333**	4000K - 220572lm - CRI 70
			412802-0034		5700K - 180870lm - **CRI 90**



LED: power factor ≥0,92. Luminous flux maintenance:		
70%	145.000h (L70B20)	1200mA
70%	135.000h (L70B20)	1300mA
80%	90.000h (L80B10)	1200mA
80%	85.000h (L80B10)	1300mA

Wiring (3 LED module): separate driver; 400V power supply for retrofitting exiting systems is available upon request.





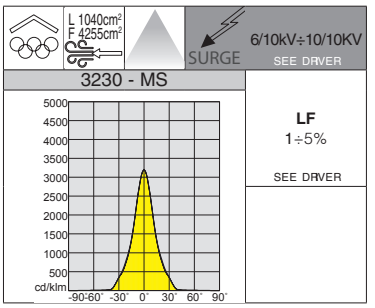
On request available version with:		
LED	4000K - CRI 80	1200/1300mA

Upon request Forum 3 modules can be equipped with		
a driver featuring protection level **IP66** based on the type of installation	ON/OFF	1200/1300mA
	DALI	1200/1300mA
	DMX/RMD	1200/1300mA

3198 Forum - 3 LED MODULES - narrow beam - "S"

		CLD S+L			LED (tj= 85 °C)
LED	colour	weight	code	W	K - ølm 1200mA - CRI
LED	graphite	28.00	412810-00	**1223**	4000K - 206316lm - CRI 70
			412810-0034		5700K - 169170lm - **CRI 90**
					K - ølm 1300mA - CRI
LED	graphite	28.00	412812-00	**1333**	4000K - 220572lm - CRI 70
			412812-0034		5700K - 180870lm - **CRI 90**

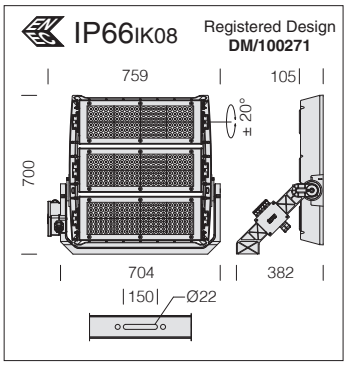
RG0 Ethr · U.V. · max C° min · 0° 180° · LOW FLICKER



On request available version with:		
LED	4000K - CRI 80	1200/1300mA

Upon request Forum 3 modules can be equipped with		
	ON/OFF	1200/1300mA
	DALI	1200/1300mA
	DMX/RMD	1200/1300mA





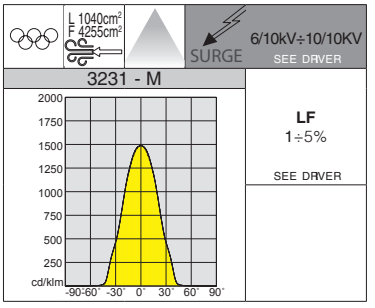
LED: power factor ≥0,92. Luminous flux maintenance:		
70%	145.000h (L70B20)	1200mA
70%	135.000h (L70B20)	1300mA
80%	90.000h (L80B10)	1200mA
80%	85.000h (L80B10)	1300mA

Wiring (3 LED module): separate driver; 400V power supply for retrofitting exiting systems is available upon request.

3230 Forum - 3 LED MODULES - symmetric - "MS"

		CLD S+L			LED (tj= 85 °C)
LED	colour	weight	code	W	K - ølm 1200mA - CRI
LED	graphite	28.00	412840-00	**1223**	4000K - 206316lm - CRI 70
			412840-0034		5700K - 169170lm - **CRI 90**
					K - ølm 1300mA - CRI
LED	graphite	28.00	412842-00	**1333**	4000K - 220572lm - CRI 70
			412842-0034		5700K - 180870lm - **CRI 90**

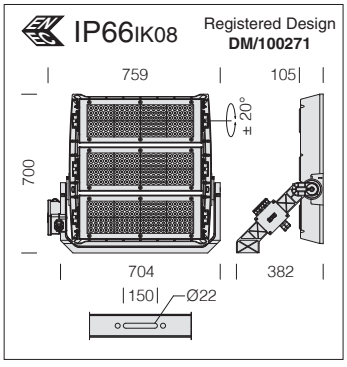
RG0 Ethr · U.V. · max C° min · 0° 180° · LOW FLICKER



On request available version with:		
LED	4000K - CRI 80	1200/1300mA

Upon request Forum 3 modules can be equipped with		
a driver featuring protection level **IP66** based on the type of installation	ON/OFF	1200/1300mA
	DALI	1200/1300mA
	DMX/RMD	1200/1300mA



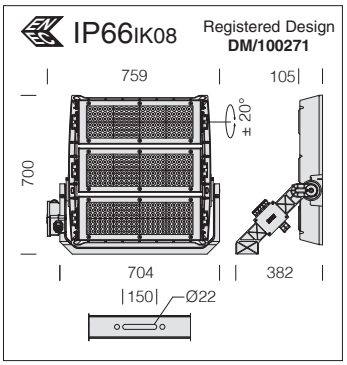


LED: power factor ≥0,92. Luminous flux maintenance:		
70%	145.000h (L70B20)	1200mA
70%	135.000h (L70B20)	1300mA
80%	90.000h (L80B10)	1200mA
80%	85.000h (L80B10)	1300mA

Wiring (3 LED module): separate driver; 400V power supply for retrofitting exiting systems is available upon request.

3231 Forum - 3 LED MODULES - symmetric - "M"

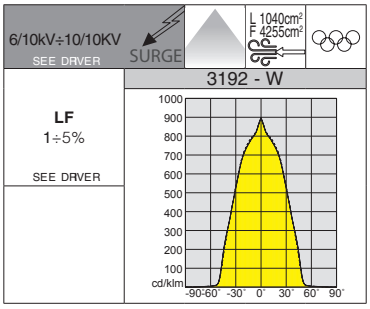
		CLD S+L			LED (tj= 85 °C)
LED	colour	weight	code	W	K - ølm 1200mA - CRI
LED	graphite	28.00	412870-00	**1223**	4000K - 206316lm - CRI 70
			412870-0034		5700K - 169170lm - **CRI 90**
					K - ølm 1300mA - CRI
LED	graphite	28.00	412872-00	**1333**	4000K - 220572lm - CRI 70
			412872-0034		5700K - 180870lm - **CRI 90**



LED: power factor ≥0,92. Luminous flux maintenance:		
70%	145.000h (L70B20)	1200mA
70%	135.000h (L70B20)	1300mA
80%	90.000h (L80B10)	1200mA
80%	85.000h (L80B10)	1300mA

Wiring (3 LED module): separate driver; 400V power supply for retrofitting exiting systems is available upon request.



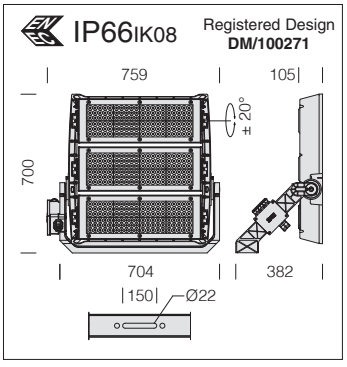


On request available version with:		
LED	4000K - CRI 80	1200/1300mA

Upon request Forum 3 modules can be equipped with		
a driver featuring protection level **IP66** based on the type of installation	ON/OFF	1200/1300mA
	DALI	1200/1300mA
	DMX/RMD	1200/1300mA

3192 Forum - 3 LED MODULES - symmetric - "W"

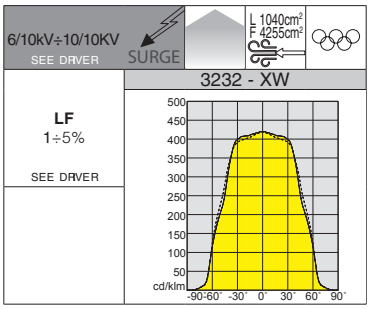
		CLD S+L			LED (tj= 85 °C)
LED	colour	weight	code	W	K - ølm 1200mA - CRI
LED	graphite	28.00	412830-00	**1223**	4000K - 206316lm - CRI 70
			412830-0034		5700K - 169170lm - **CRI 90**
					K - ølm 1300mA - CRI
LED	graphite	28.00	412832-00	**1333**	4000K - 220572lm - CRI 70
			412832-0034		5700K - 180870lm - **CRI 90**



LED: power factor ≥0,92. Luminous flux maintenance:		
70%	145.000h (L70B20)	1200mA
70%	135.000h (L70B20)	1300mA
80%	90.000h (L80B10)	1200mA
80%	85.000h (L80B10)	1300mA

Wiring (3 LED module): separate driver; 400V power supply for retrofitting exiting systems is available upon request.





On request available version with:		
LED	4000K - CRI 80	1200/1300mA

Upon request Forum 3 modules can be equipped with		
a driver featuring protection level **IP66** based on the type of installation	ON/OFF	1200/1300mA
	DALI	1200/1300mA
	DMX/RMD	1200/1300mA

3232 Forum - 3 LED MODULES - symmetric - "XW"

		CLD S+L			LED (tj= 85 °C)
LED	colour	weight	code	W	K - ølm 1200mA - CRI
LED	graphite	28.00	412880-00	**1223**	4000K - 206316lm - CRI 70
			412880-0034		5700K - 169170lm - **CRI 90**
					K - ølm 1300mA - CRI
LED	graphite	28.00	412882-00	**1333**	4000K - 220572lm - CRI 70
			412882-0034		5700K - 180870lm - **CRI 90**



GENERAL CHARACTERISTICS

Housing: complete with graphite aluminium frame with die-cast aluminium end caps.

Diffuser: 8 mm clear and tempered glass, resistant to thermal shock (UNI-EN 12150-1 : 2001).

Optics: system made in high performance PMMA, resistant to high temperatures and UV radiation. Flux recovery system in polycarbonate.

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

UNI EN ISO 9227 **Upon request:** for marine environments (seafront) in compliance with UNI EN ISO 9227.

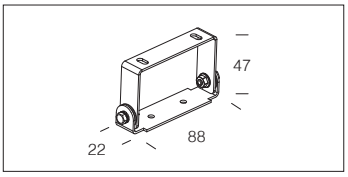
Equipment: complete with IP68 airtight connector and electrical cable (1mt) for mains connection.

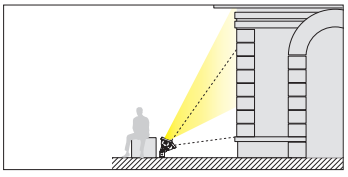


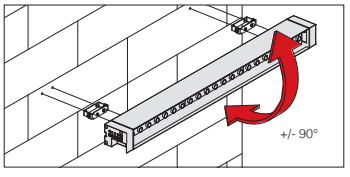
RGBW DMX RDM Sicura is also available in the RGBW - DMX/RDM version (see chapter *Lighting management systems - DMX solution for LED RGBW*).

INSTALLATION AND ACCESSORIES

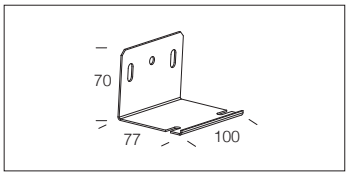
acc. 535 adjustable connection	
grey	993970-00
For direct ceiling installation. Capacity: 6 Kg. **2 for pack.**	

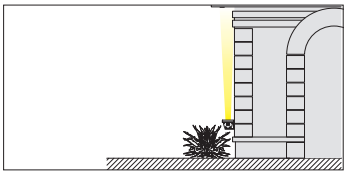


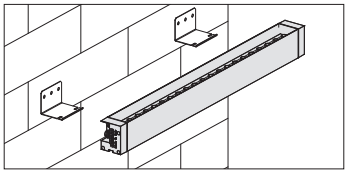




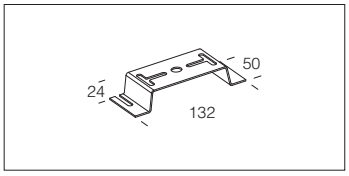
acc. 536 bracket	
grey	993972-00
To install Sicura permanently on walls. **2 for pack.**	

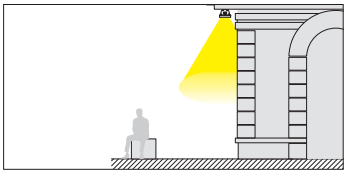


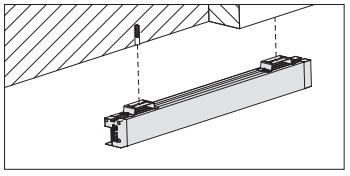




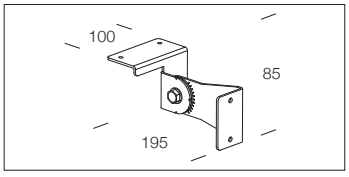
acc. 376 ceiling moun. unit	
galvanized	145151-00
For direct ceiling installation. Only for equipment with direct light. **2 for pack.**	

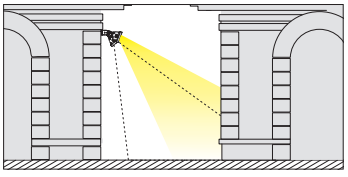


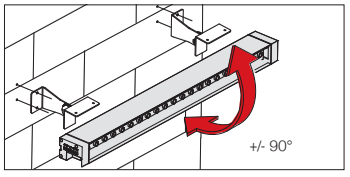




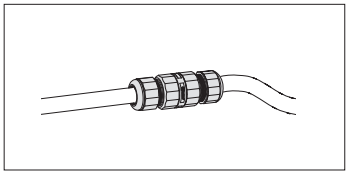
acc. 537 adjustable connection	
galvanized	993974-00
To install Sicura on walls or ceiling. To be used for continuous lines. **2 for pack.**	

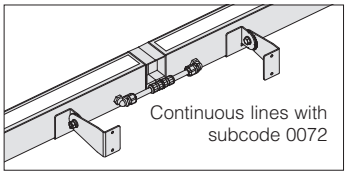






acc. 339 - Connector
993836-00
To be used for mains connection.





On request: continuous line alignment supplied with **sub-code 0072** (with surcharge).



RG0

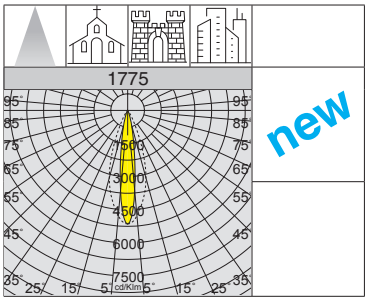
+40 C° -30

U.V.

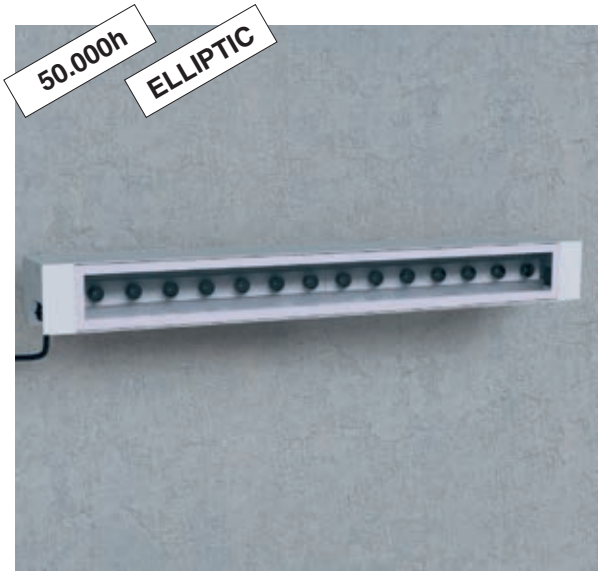
LOW FLICKER

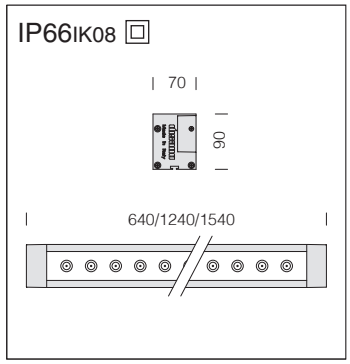
3000K

4000K



Upon request, it is possible to order SICURA with optics having photometric distributions that allow considerable design flexibility. Available with different SYMMETRIC, ASYMMETRIC or ELLIPTICAL beam angles, these fixtures are ideal for architectonic lighting applications.



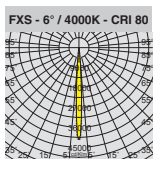


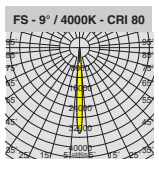
LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.9

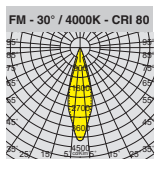
1775 Sicura - elliptic

			CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	L	weight	code	W tot	K - ølm - CRI
LED	grey	**640**	2.90	414236-00	**31**	4000K - 3148lm - CRI≥70
				414236-39		3000K - **2928lm** - CRI≥70
LED	grey	**1240**	5.60	414237-00	**61**	4000K - 6297lm - CRI≥70
				414237-39		3000K - **5856lm** - CRI≥70
LED	grey	**1540**	6.60	414238-00	**77**	4000K - 8096lm - CRI≥70
				414238-39		3000K - **7529lm** - CRI≥70

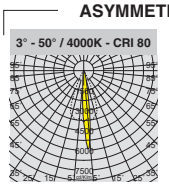
SYMMETRIC BEAM

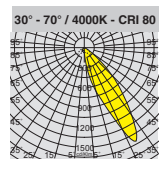




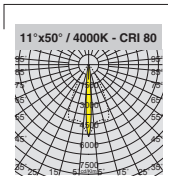


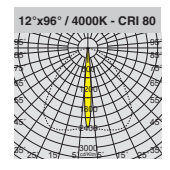
ASYMMETRIC BEAM

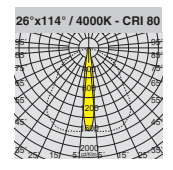




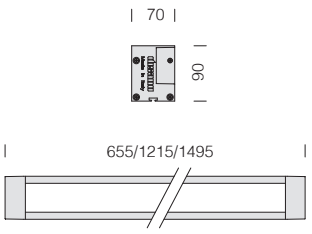
ELLIPTIC BEAM



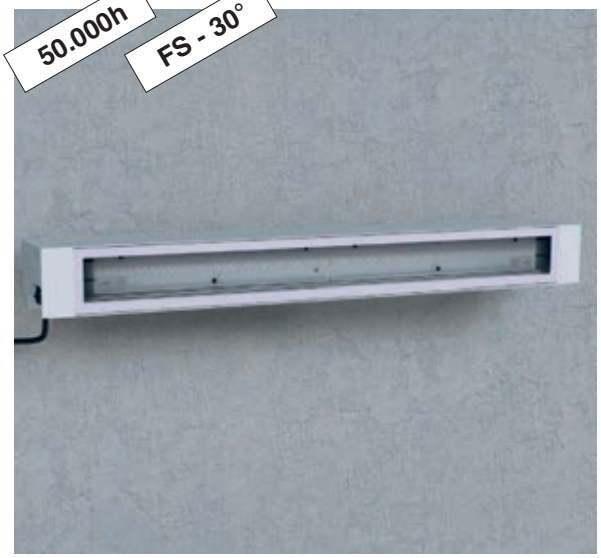


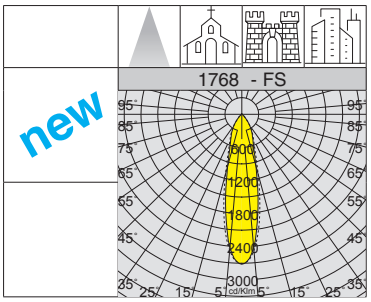


IP66 IK08



LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.9



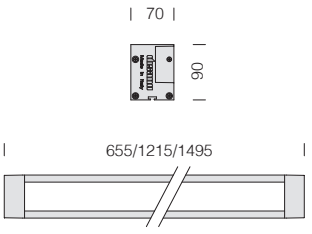


RG0 | +40 °C -30 | U.V. | LOW FLICKER | 3000K | 4000K

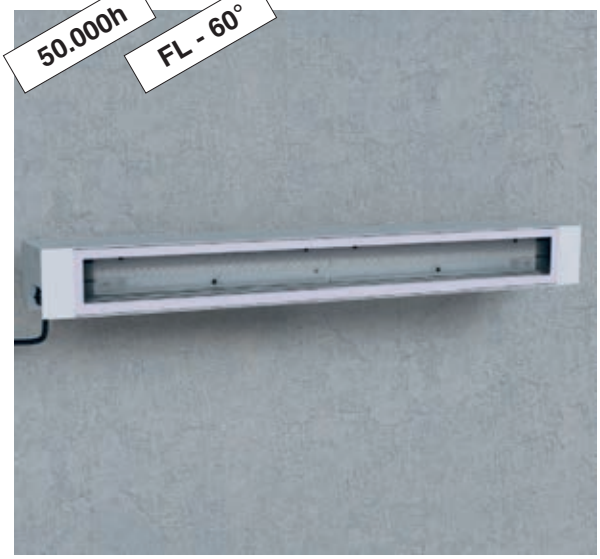
1768 Sicura FS - symmetric

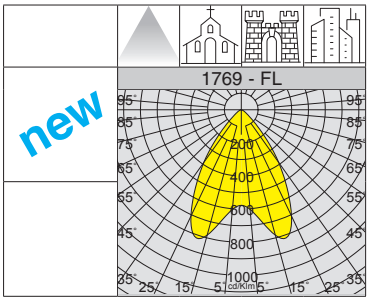
			CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	L	weight	code	W tot	K - ølm - CRI - degrees
LED	grey	**655**	2.90	414242-00	**22**	4000K - 2931lm - CRI≥80 - 30°
				414242-39		3000K - **2726lm** - CRI≥80 - 30°
LED	grey	**1215**	5.60	414243-00	**43**	4000K - 5865lm - CRI≥80 - 30°
				414243-39		3000K - **5454lm** - CRI≥80 - 30°
LED	grey	**1495**	6.60	414244-00	**54**	4000K - 7329lm - CRI≥80 - 30°
				414244-39		3000K - **6816lm** - CRI≥80 - 30°

IP66 IK08



LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.9





RG0 | +40 °C -30 | U.V. | LOW FLICKER | 3000K | 4000K

1769 Sicura FL - symmetric

			CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	L	weight	code	W tot	K - ølm - CRI - degrees
LED	grey	**655**	2.90	414262-00	**22**	4000K - 3136lm - CRI≥80 - 60°
				414262-39		3000K - **2916lm** - CRI≥80 - 60°
LED	grey	**1215**	5.60	414263-00	**43**	4000K - 6272lm - CRI≥80 - 60°
				414263-39		3000K - **5833lm** - CRI≥80 - 60°
LED	grey	**1495**	6.60	414264-00	**54**	4000K - 7840lm - CRI≥80 - 60°
				414264-39		3000K - **7291lm** - CRI≥80 - 60°



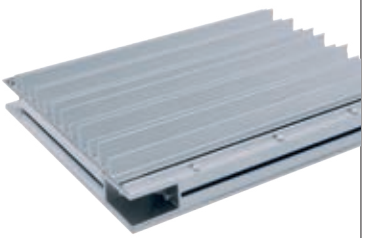
GENERAL CHARACTERISTICS

Housing: In extruded aluminum with built-in dissipator

Diffuser: clear, tempered glass, 4 mm thick, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001).

Optics: combined optical system made in high performance PMMA, resistant to high temperatures and UV radiation.

Heat sink: the heat dissipation system is specially designed and made to allow the operation of the LED lights with temperatures ensuring excellent performance/efficiency and durability.



LED: luminous flux maintenance 80%: >100.000h (L80B10).
Power factor ≥0.9.

OTHER CHARACTERISTICS

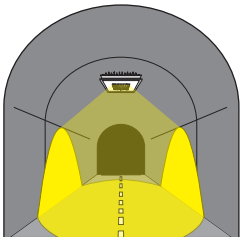
Standard supply: complete with knife switch and watertight IP67 connecter for line connection. Anti-condensation valve for air recirculation. Automatic temperature control inside the device with automatic resetting.

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

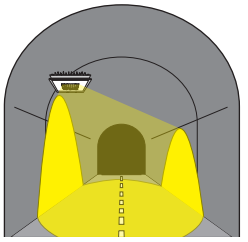
On request: protection up to 10KV.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

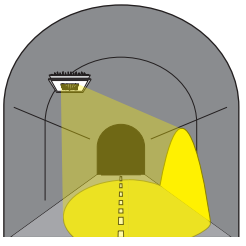
OTHER INFORMATION



3260



3262

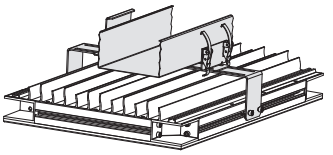


3263

UPON REQUEST

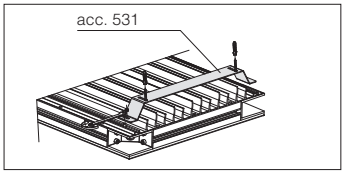
Possibility of centralized lighting point control or via **external** presence/lighting sensors (see chapter *Lighting management systems and recommendations*).

UNI EN ISO 9227 Coating for marine environments in compliance with UNI EN ISO 9227.



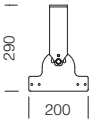
Fixing to the cable duct is possible only with the special version.

ACCESSORIES



acc. 531 fixed bracket	
Inox	998100-00

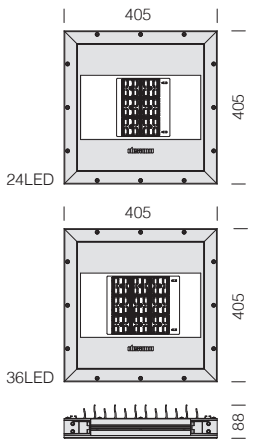
In stainless steel. Can be hanged at the ceiling. Contains 2 pieces.

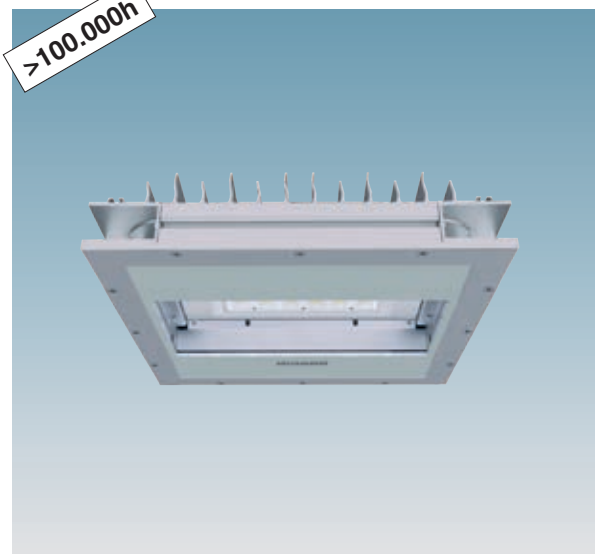


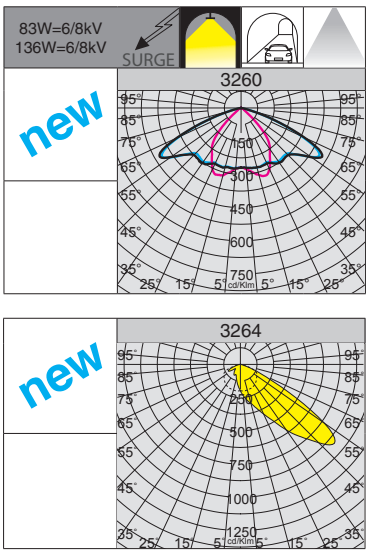
acc. 530 adjustable bracket	
Inox	998099-00

In stainless steel. Can be hanged and rotated. Can be ceiling or wall-mounted.

IP66IK08







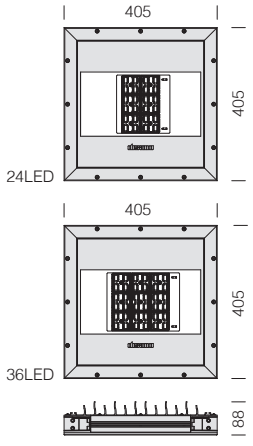
RG0 Ethr · +40 C° -30 · ZONA 1 · LOW FLICKER

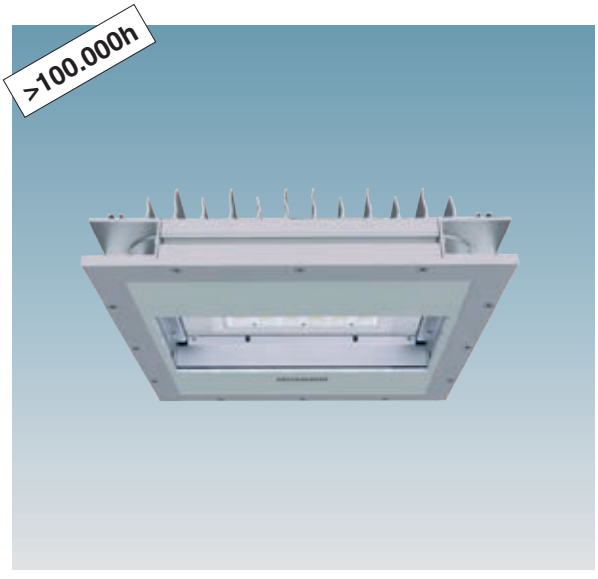
3260 Modoled					
		CLD CELL			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	oxy. nat.	9.80	330303-00	83	4000K - **10100lm** - CRI 80
			330304-00	136	4000K - **16200lm** - CRI 80

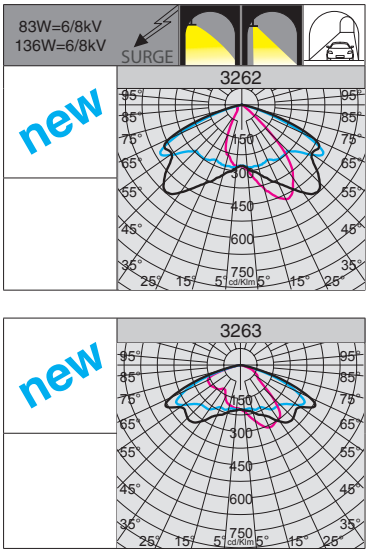
Counter-flow lighting: in the counter-flow lighting technique the light is aimed in the direction opposite to the flow of traffic. This helps observers to perceive the objects on the roadway as vividly highlighted against the background. Additionally, aiming the light mostly towards observers results in higher luminous efficacy on the roadway.

3264 Modoled - Counter-flow lighting					
		CLD CELL			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	oxy. nat.	9.80	330333-00	83	4000K - **10100lm** - CRI 80
			330334-00	136	4000K - **16200lm** - CRI 80

IP66IK08







RG0 Ethr · +40 C° -30 · ZONA 1 · LOW FLICKER

3262 Modoled - asymmetric					
		CLD CELL			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	oxy. nat.	9.80	330323-00	83	4000K - **10100lm** - CRI 80
			330324-00	136	4000K - **16200lm** - CRI 80

3263 Modoled - mixed					
		CLD CELL			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	oxy. nat.	9.80	330326-00	83	4000K - **10100lm** - CRI 80
			330327-00	136	4000K - **16200lm** - CRI 80



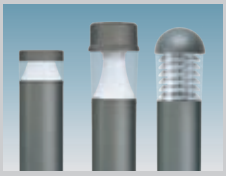
EXPO



PORTOFINO



FARO



BITTA



Expo p. 248
Portofino p. 250
Faro p. 260
Bitta p. 266

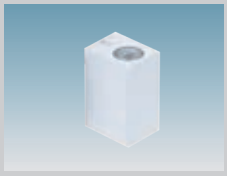
AMALFI



GLOBO



SQUARE



BRICK

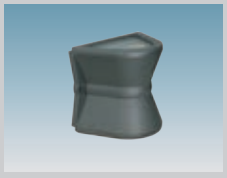


Amalfi p. 268
Globo p. 269
Square p. 270
Brick p. 272

MUSA



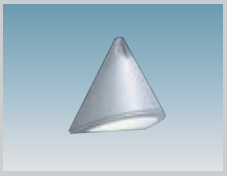
CLESSIDRA



CILINDRO

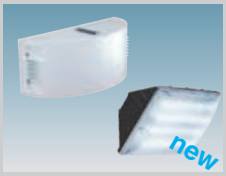


MERIDIANA



Musa p. 274
Clessidra p. 275
Cilindro/ Meridiana p. 276

ONDA - VEGA



NEW VEGA



GREEN - GARDEN



KOALA



Onda / Vega p. 277
New Vega p. 278
Green / Garden p. 279
Koala Big p. 280
Koala p. 281

SQUARE ADJUSTABLE



PODIO



ELFO



DAFNE



Square p. 282
Podio p. 284
Elfo p. 288
Dafne p. 290

STARLED



MICROFLOOR - MIDIFLOOR



MINIFLOOR



FLOOR



Starled p. 291
Microfloor p. 292
Midifloor p. 296
Minifloor p. 297
Floor p. 298

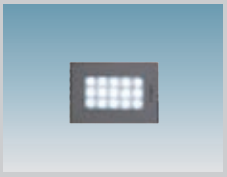
GROUND



WALL



STARLED



SPY



Ground p. 300
Wall p. 301
Starled p. 302
Spy p. 303

FONTE



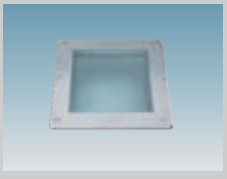
BOX



SICURA



MINIQUADRO



Fonte p. 304
Box p. 304
Sicura p. 308
Miniquadro p. 310



GENERAL CHARACTERISTICS

Optical compartment housing: in die-cast aluminium.

Column: in extruded aluminium.

Base: in die-cast aluminium with internal reinforcement ribs.

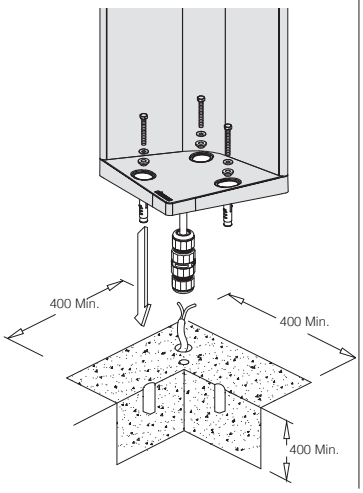
Diffuser: wide-beam, in opal methacrylate with internal micro-prismatic surface.

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

LED: power factor >0,9.
Luminous flux maintenance 70%: 50.000h (L70B50).

OTHER CHARACTERISTICS

Complete with IP67 watertight connector for line connection. Easy and quick to install.



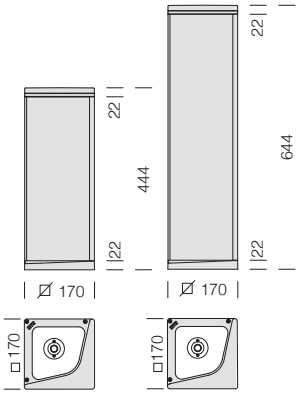
OTHER INFORMATION

Installation example



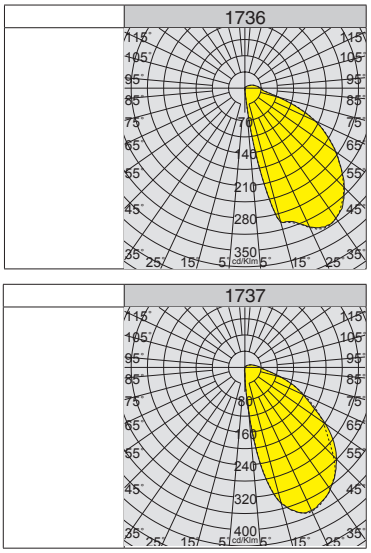


IP66 IK09









RG0 U.V. ZONA 1 ZONA 2 3000K 4000K

1736 Expo - short version

			CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	h	weight	code	W tot	K - ølm 230V - CRI
LED COB	graphite	**444**	2.50	511121-00	**10**	4000K - 391lm - **CRI 90**
				511121-39		3000K - 364lm - **CRI 90**

1737 Expo - tipo alto

			CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	h	weight	code	W tot	K - ølm 230V - CRI
LED COB	graphite	**644**	6.00	511124-00	**15**	4000K - 484lm - **CRI 90**
				511124-39		3000K - 450lm - **CRI 90**



GENERAL CHARACTERISTICS

Housing and cone: in die-cast aluminium.

Column: in extruded aluminium, cylindrical section.

Base column: in die-cast aluminium with internal reinforcement ribs.

Diffuser: in vandal-resistant V2 self-extinguishing polycarbonate, UV-stabilized.

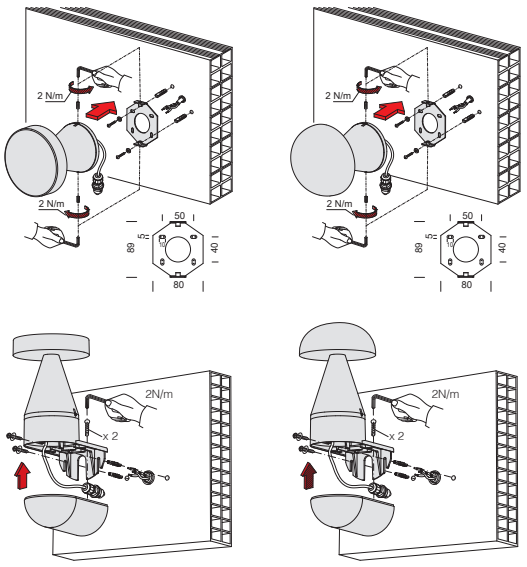
Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

Equipment: complete with IP67 watertight connector for line connection. Easy and quick to install.

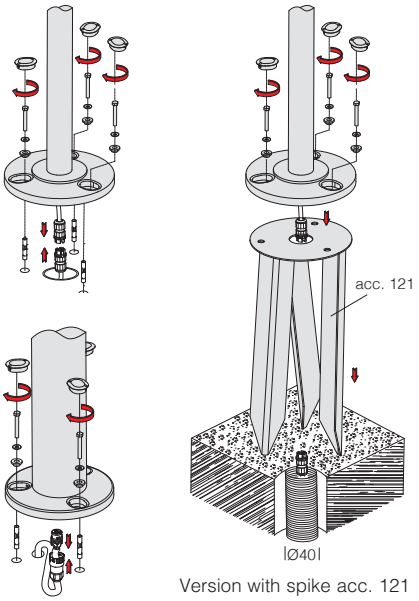
LED: luminous flux maintenance 70%: 50.000h (L70B50)
Power factor ≥0,9

OTHER CHARACTERISTICS

Wall versions: complete with plate for wall-mounting and IP67 watertight connector for line connection.



Floor versions: complete with base for floor-mounting and IP67 watertight connector for line connection.



Version with spike acc. 121



art. 1873



art. 1871



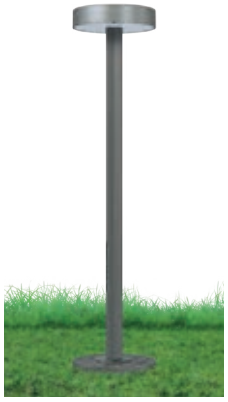
art. 1881



art. 1874



art. 1866



art. 1867



art. 1875



art. 1876



art. 1877



art. 1882

Upon request: corten version, with **sub-code 2191**.



art. 1878 corten



art. 1878



art. 1868



art. 1869



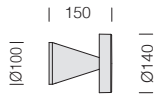
art. 1879



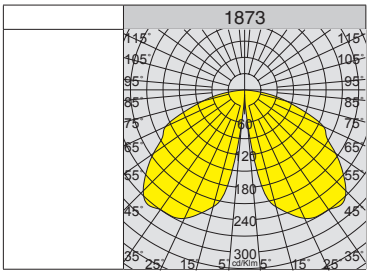
art. 1880

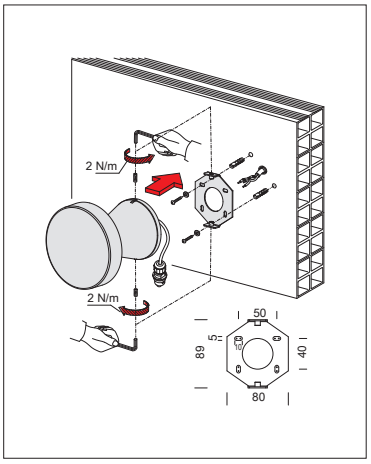


IP65 IK08





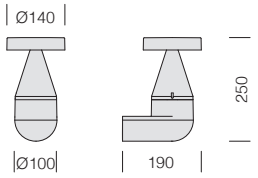




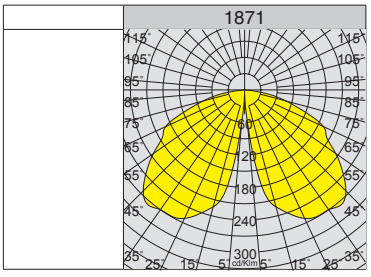
1873 Portofino - wall version

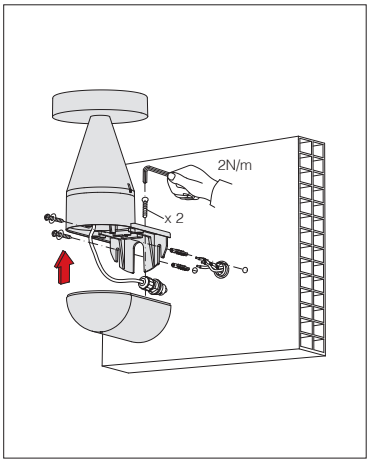
		CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	W tot	K - ølm (230V) - CRI
LED	graphite	0.80	511160-00	**10**	4000K - 801lm - CRI>80
			511160-39		3000K - 745lm - CRI>80
LED	white	0.80	511161-00	**10**	4000K - 801lm - CRI>80
			511161-39		3000K - 745lm - CRI>80

IP65 IK08





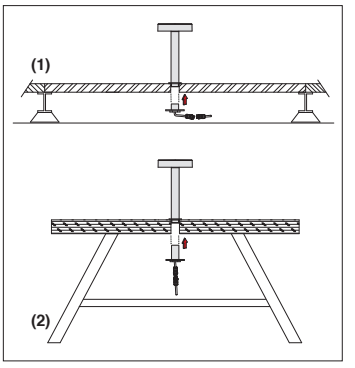




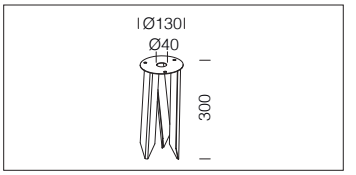
1871 Portofino - wall version

		CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	W tot	K - ølm (230V) - CRI
LED	graphite	1.80	511165-00	**10**	4000K - 801lm - CRI>80
			511165-39		3000K - 745lm - CRI>80
LED	white	1.80	511166-00	**10**	4000K - 801lm - CRI>80
			511166-39		3000K - 745lm - CRI>80





Upon request: Portofino slim with special connector, ideal for installation on floating floors (1) or to allow use as a table lamp (2).



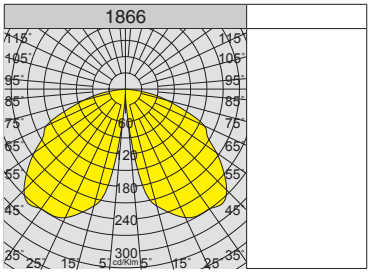
acc. 121 spike	
inox	991337-00
In AISI 304 stainless steel. For planting Portofino short verson into the ground.	

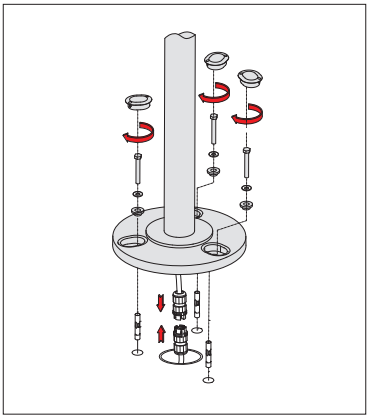
RG0

U.V.

3000K

4000K

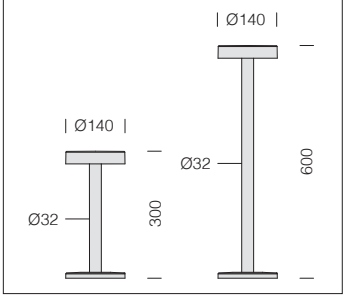








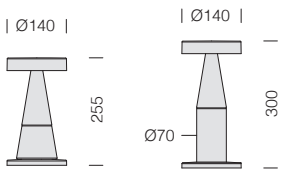
IP65IK08



1866 Portofino slim - short version					
		CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	W tot	K - ølm (230V) - CRI
LED	graphite	0.80	511142-00	10	4000K - 801lm - CRI>80
			511142-39		3000K - 745lm - CRI>80

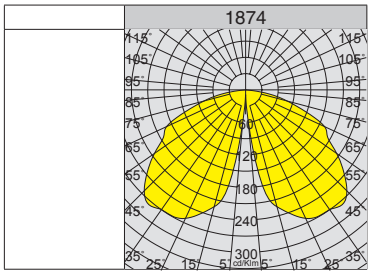
1867 Portofino slim - medium version					
		CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	W tot	K - ølm (230V) - CRI
LED	graphite	1.60	511152-00	10	4000K - 801lm - CRI>80
			511152-39		3000K - 745lm - CRI>80

IP65IK08





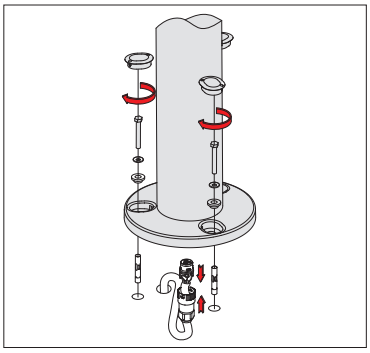






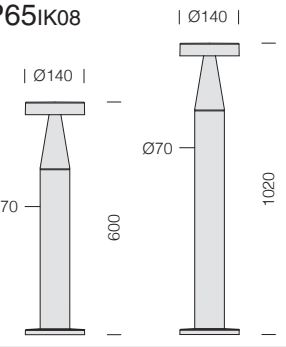
RGO U.V. ZONA 1 3000K 4000K

1881 Portofino - short version					
		CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	W tot	K - ølm (230V) - CRI
LED	graphite	1.20	511141-00	10	4000K - 801lm - CRI>80
			511141-39		3000K - 745lm - CRI>80
Upon request: corten version, with sub-code 2191.					

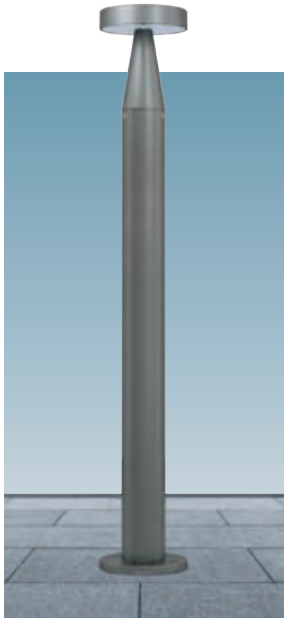


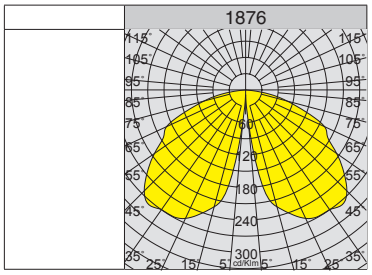
1874 Portofino - short version					
		CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	W tot	K - ølm (230V) - CRI
LED	graphite	1.20	511140-00	10	4000K - 801lm - CRI>80
			511140-39		3000K - 745lm - CRI>80
Upon request: corten version, with sub-code 2191.					

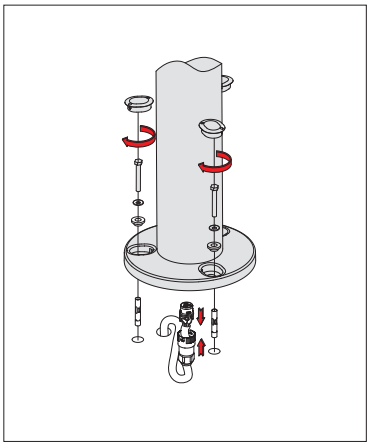
IP65IK08











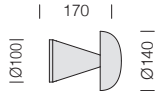
RGO U.V. ZONA 1 3000K 4000K

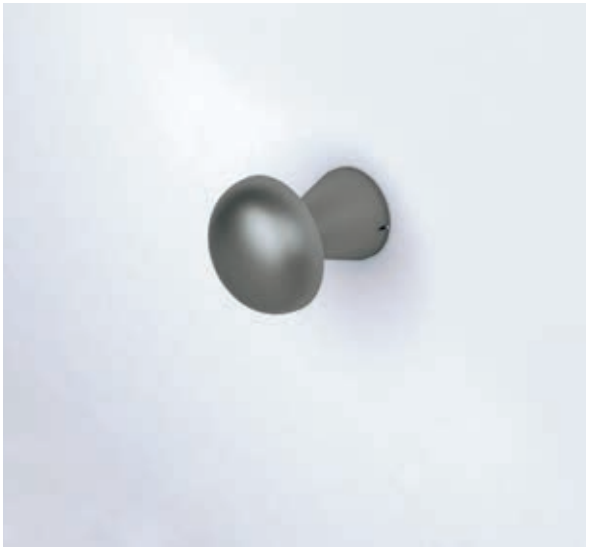
1875 Portofino - medium version					
		CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	W tot	K - ølm (230V) - CRI
LED	graphite	1.60	511150-00	10	4000K - 801lm - CRI>80
			511150-39		3000K - 745lm - CRI>80
Upon request: corten version, with sub-code 2191.					

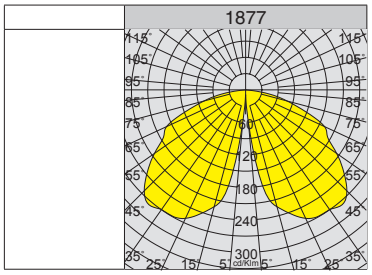
1876 Portofino - tall version					
		CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	W tot	K - ølm (230V) - CRI
LED	graphite	2.50	511155-00	18	4000K - 1360lm - CRI>80
			511155-39		3000K - 1270lm - CRI>80
Upon request: corten version, with sub-code 2191.					

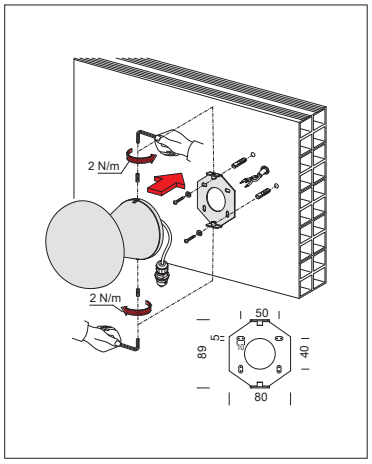


IP65IK08





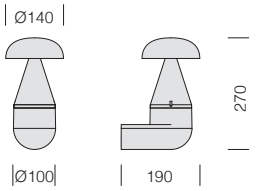




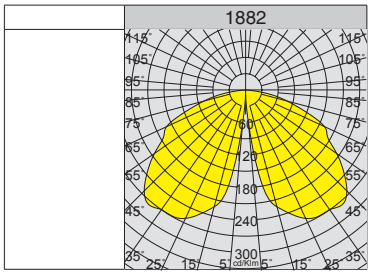
1877 Portofino - wall version

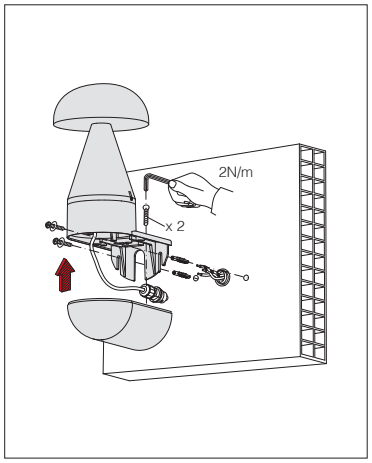
		CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	W tot	K - ølm (230V) - CRI
LED	graphite	0.90	511170-00	**10**	4000K - 801lm - CRI>80
			511170-39		3000K - 745lm - CRI>80
LED	white	0.90	511171-00	**10**	4000K - 801lm - CRI>80
			511171-39		3000K - 745lm - CRI>80

IP65IK08





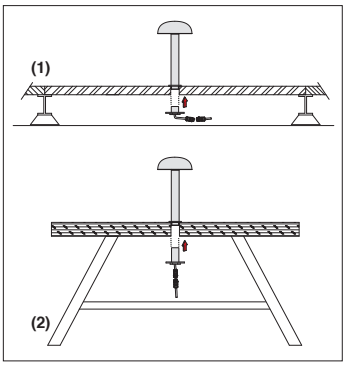




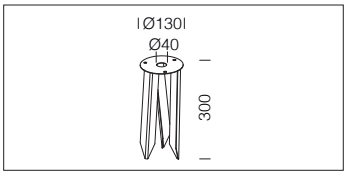
1882 Portofino - wall version

		CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	W tot	K - ølm (230V) - CRI
LED	graphite	1.80	511175-00	**10**	4000K - 801lm - CRI>80
			511175-39		3000K - 745lm - CRI>80
LED	white	1.80	511176-00	**10**	4000K - 801lm - CRI>80
			511176-39		3000K - 745lm - CRI>80





Upon request: Portofino slim with special connector, ideal for installation on floating floors (1) or to allow use as a table lamp (2).



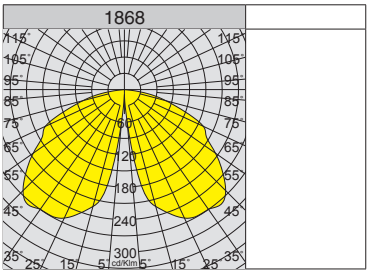
acc. 121 spike	
inox	991337-00
In AISI 304 stainless steel. For planting Portofino short verson into the ground.	

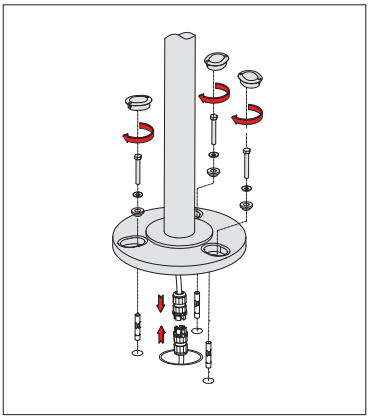
RGO

U.V.

3000K

4000K

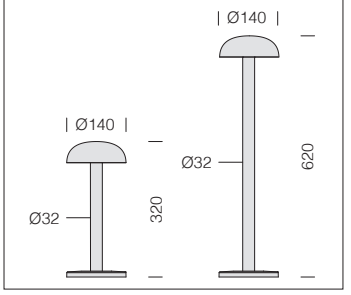








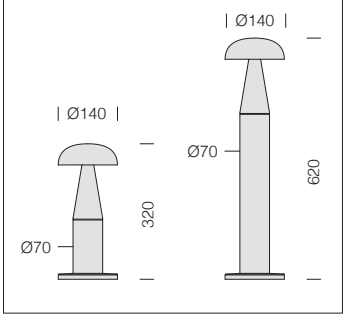
IP65IK08



1868 Portofino slim - short version					
		CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	W tot	K - ølm (230V) - CRI
LED	graphite	0.90	511182-00	10	4000K - 801lm - CRI>80
			511182-39		3000K - 745lm - CRI>80

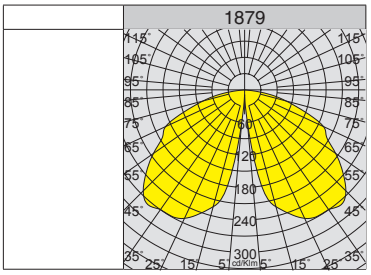
1869 Portofino slim - medium version					
		CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	W tot	K - ølm (230V) - CRI
LED	graphite	1.10	511192-00	10	4000K - 801lm - CRI>80
			511192-39		3000K - 745lm - CRI>80

IP65 IK08





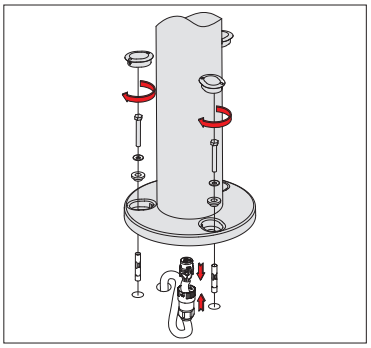






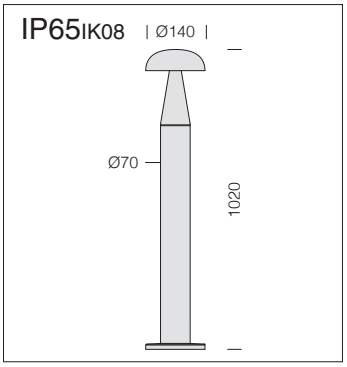
RGO U.V. ZONA 1 3000K 4000K

1878 Portofino - short version					
		CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	W tot	K - ølm (230V) - CRI
LED	graphite	1.30	511180-00	10	4000K - 801lm - CRI>80
			511180-39		3000K - 745lm - CRI>80
Upon request: corten version, with sub-code 2191.					

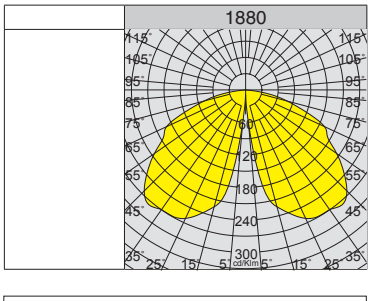


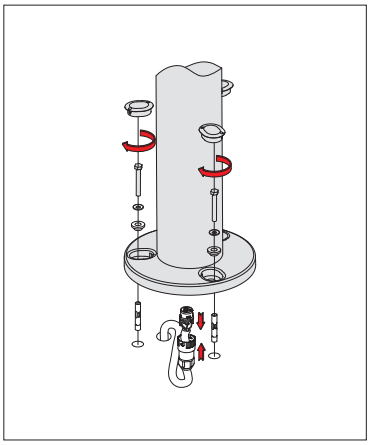
1879 Portofino - medium version					
		CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	W tot	K - ølm (230V) - CRI
LED	graphite	1.70	511190-00	10	4000K - 801lm - CRI>80
			511190-39		3000K - 745lm - CRI>80
Upon request: corten version, with sub-code 2191.					

IP65 IK08









RGO U.V. ZONA 1 3000K 4000K

1880 Portofino - tall version					
		CLD			LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	W tot	K - ølm (230V) - CRI
LED	graphite	2.60	511195-00	18	4000K - 1360lm - CRI>80
			511195-39		3000K - 1270lm - CRI>80
Upon request: corten version, with sub-code 2191.					



GENERAL CHARACTERISTICS

Housing: in extruded aluminium, cylindrical section.

Cap: made of die-cast aluminium.

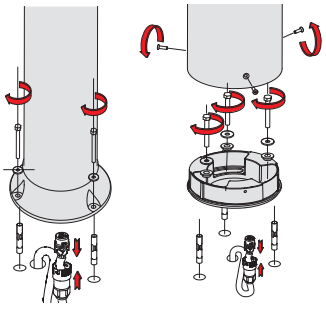
Diffuser: in polycarbonate, clear vandal resistant and V2 self-extinguishing, UV-stabilised.

Painting: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

LED: luminous flux maintenance 80%: 50.000h (L80B20).

OTHER CHARACTERISTICS

Complete wit base and anchor bolts to bury. Supplied with socket-pin connector for quick installation and air recycle valve.



UPON REQUEST

Corten version, with **sub-code 2191.**







art. 1796



art. 1799



art. 1533



art. 1238 art. 1232



art. 1797



art. 1798



art. 1531



art. 1239 art. 1230



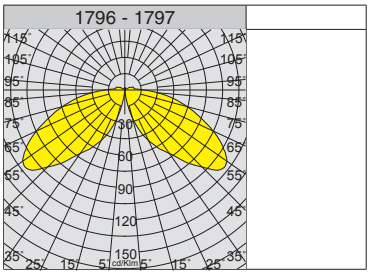
RG0

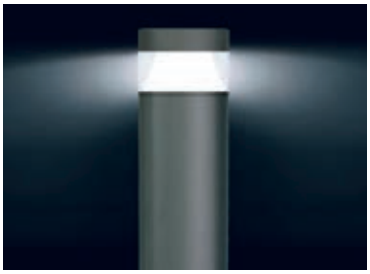
U.V.

ZONA 2

3000K

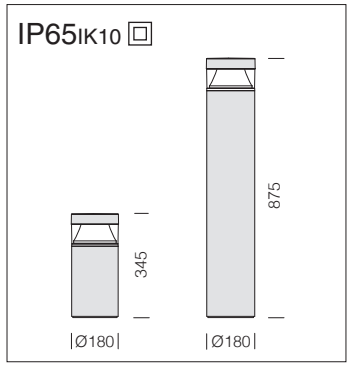
4000K

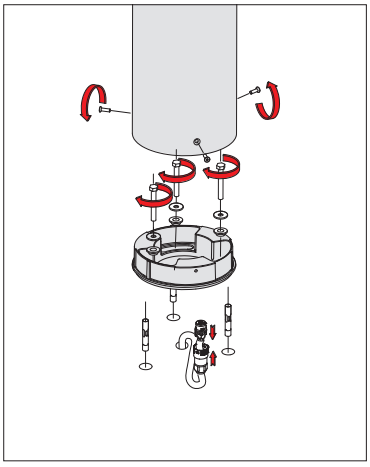












1796 Faro 5 - short version

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grafite	4.50	510620-00	7	4000K - 775lm - CRI 80
			510620-39		3000K - 720lm - CRI 80

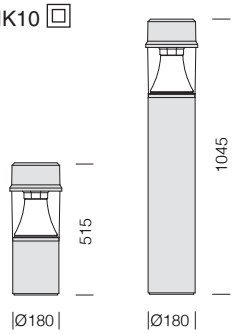
Upon request: corten version, with sub-code 2191.

1797 Faro 5 - tall version

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	6.80	510630-00	7	4000K - 775lm - CRI 80
			510630-39		3000K - 720lm - CRI 80
LED	graphite	6.80	510631-00	14	4000K - 1500lm - CRI 80
			510631-39		3000K - 1395lm - CRI 80
LED	graphite	6.80	510632-00	19	4000K - 2000lm - CRI 80
			510632-39		3000K - 1860lm - CRI 80

Upon request: corten version, with sub-code 2191.

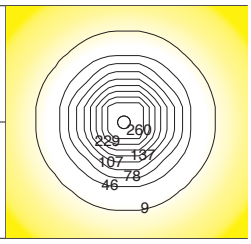
IP65IK10







Example of project with art. 1799 short version Area 5x5





RGO U.V. ZONA 2 3000K 4000K

1799 Faro 4 - short version

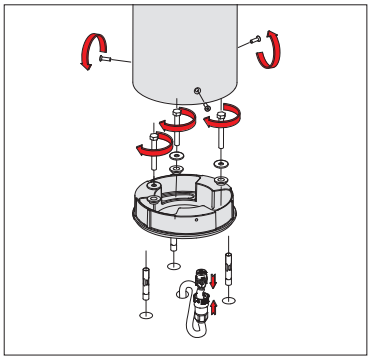
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.80	511015-00	9	4000K - 484lm - CRI>80
			511015-39		3000K - 450lm - CRI>80

Upon request: corten version, with sub-code 2191.

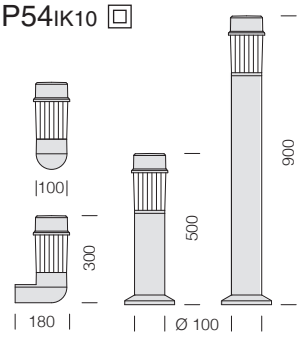
1798 Faro 4 - tall version

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	7.10	511025-00	9	4000K - 484lm - CRI>80
			511025-39		3000K - 450lm - CRI>80

Upon request: corten version, with sub-code 2191.



IP54IK10



Diffuser: in polycarbonate, clear frosted vandal resistant and V2 self-extinguishing, UV-stabilised.









RGO U.V. ZONA 2

1533 Faro 2 - short version

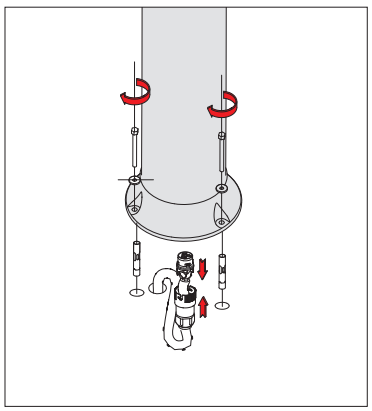
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	2,20	510260-00	8	4000K - 424lm - CRI 80
	corten		510260-2191		

1531 Faro 2 - tall version

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	2,90	510060-00	8	4000K - 424lm - CRI 80
	corten		510060-2191		

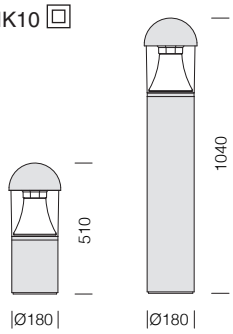
1533 Faro 2 - wall version

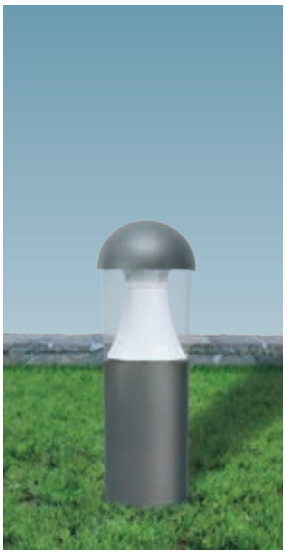
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	1.60	510460-00	8	4000K - 424lm - CRI 80
	corten		510460-2191		

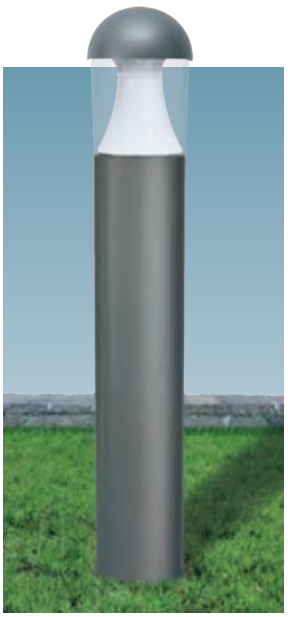




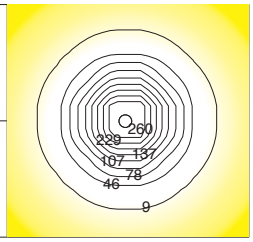
IP65 IK10







Example of project with Art. 1238 short version Area 5x5





RGO

U.V.

ZONA 2

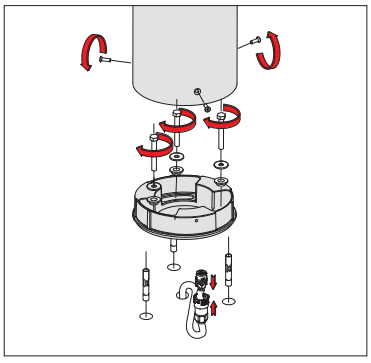
3000K

4000K

1238 Faro - short version

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.80	510600-00	**9**	4000K - 484lm - CRI>80
			510600-39		3000K - 450lm - CRI>80

Upon request: corten version, with sub-code 2191.

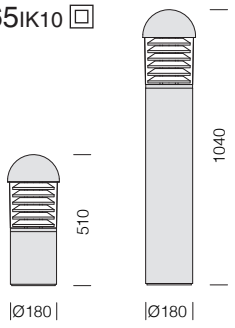


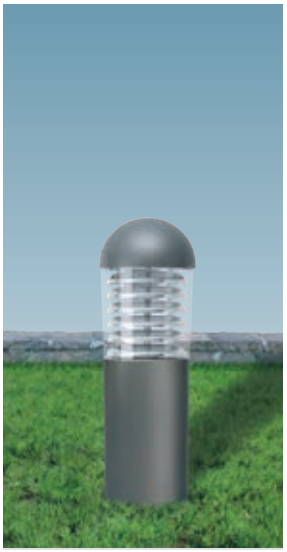
1239 Faro - tall version

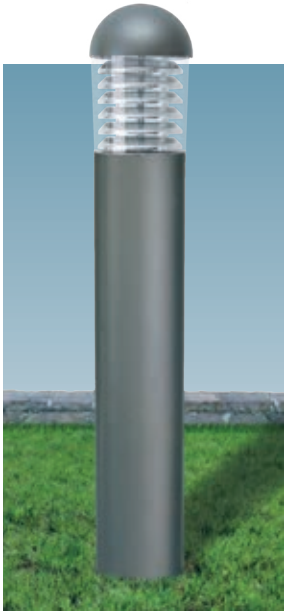
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	7.10	510610-00	**9**	4000K - 484lm - CRI>80
			510610-39		3000K - 450lm - CRI>80

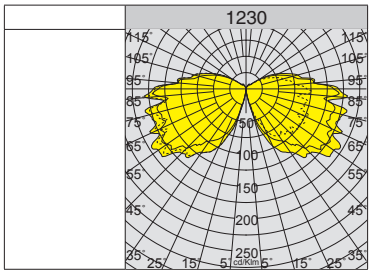
Upon request: corten version, with sub-code 2191.

IP65 IK10











RGO

U.V.

ZONA 1

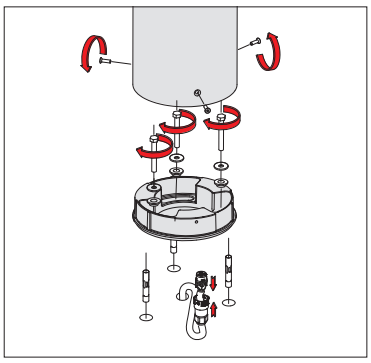
3000K

4000K

1232 Faro - short version

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	7.10	510006-00	**13**	4000K - 813lm - CRI>80
			510006-39		3000K - 756lm - CRI>80

Upon request: corten version, with sub-code 2191.



1230 Faro - tipo alto

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	7.10	510005-00	**13**	4000K - 813lm - CRI>80
			510005-39		3000K - 756lm - CRI>80

Upon request: corten version, with sub-code 2191.



GENERAL CHARACTERISTICS

Housing: in die-cast aluminium.

Base: in die-cast aluminium.

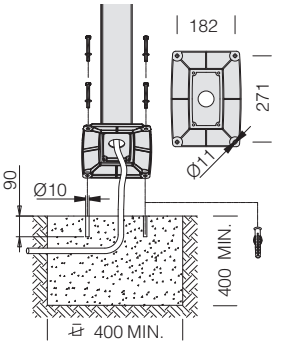
Column: in extruded aluminium.

Diffuser: in opal, V2 polycarbonate, shatterproof and self-extinguishing, UV-stabilised.

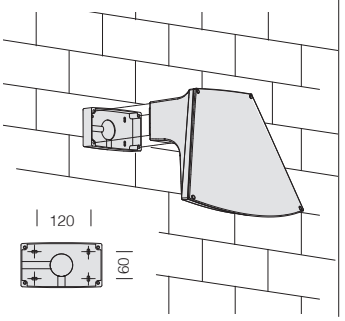
Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

OTHER INFORMATION

The column version is equipped with anchors and socket-plug connector for quick installation.



The wall version comes with mounting connection.



UPON REQUEST

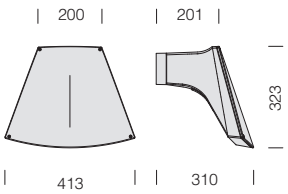
Corten version, with **sub-code 2191.**

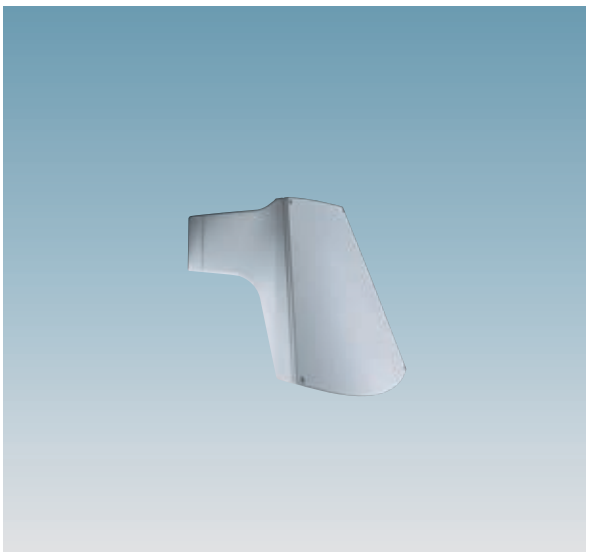


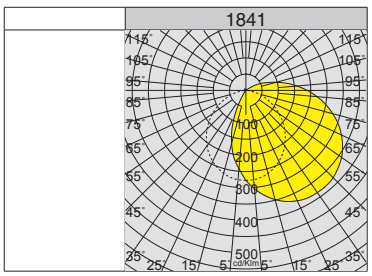




IP66IK08





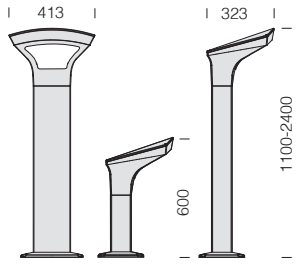




RG0 U.V. ZONA 1

1841 Bitta 2 wall version					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 110mA - CRI
LED	grey 9007	3,20	511440-00	11	4000K - 549lm - CRI 80
	graphite		511441-00		
	anthracite		511442-00		
	corten		511440-2191		

IP66IK08 ⧈







RG0 U.V. ZONA 2

1840 Bitta 1						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	h	W tot	K - ølm 110mA - CRI
LED	grey 9007	6.20	511430-00	600	11	4000K - 549lm - CRI 80
	graphite		511432-00			
	anthracite		511433-00			
	corten		511430-2191			
LED	grey 9007	8.20	511435-00	1100	11	4000K - 549lm - CRI 80
	graphite		511436-00			
	anthracite		511437-00			
	corten		511435-2191			

1849 Bitta 3						
		CLD				LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	h	W tot	K - ølm 350mA - CRI
LED	grey 9007	13.00	511443-00	2400	27	4000K - 2394lm - CRI 80
	graphite		511444-00			
	anthracite		511445-00			
	corten		511443-2191			



GENERAL CHARACTERISTICS

Cover: made of die-cast aluminium.

Pole connection: pressed in die-cast aluminium. Suited for poles with a diameter 60mm.

Diffuser: in vandal-resistant V2 self-extinguishing matt polycarbonate, UV-stabilized.

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Standard supply: supplied with socket-pin connector for quick installation.

LED: luminous flux maintenance 80% : 50.000h (L80B20).
Power factor 0.9.

COMPARISON: AMALFI LED - TRADITIONAL LAMPS		
LAMP	**WATTAGE**	**ENERGY SAVING**
ALO 70	70W	**80%**
FLC 23	23W	**40%**
MBF 50	50W	**72%**
AMALFI LED	**14W**	**-**

This product is an evolution of the classic street lamp, which has become obsolete and no longer compliant with existing lighting pollution regulations. **Amalfi** ensures optimal distribution of light without upward dispersion and offers the performance of energy-efficient LEDs with exent colour rendering; it is made to allow quick and easy installation. Thanks to the quality of the materials used and innovative LED-centric design, the Amalfi fixture is built to last.

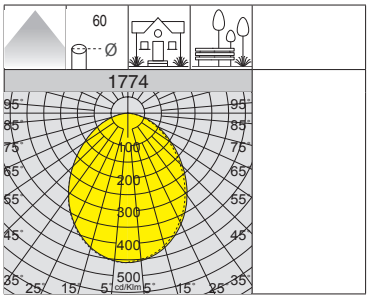
RG0

U.V.

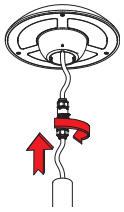
ZONA 1

3000K

4000K

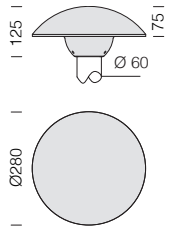


Its practical design makes it the ideal choice for the installation onto posts with 60mm in diameter and the supplied socket and plug set ensures quick and easy cabling.





IP65IK08



Upon request: LED 22W tot. (500mA) 4000K - 1200lm - CRI 80 version.

1774 Amalfi					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 350mA - CRI
LED	graphite	2.00	424241-00	**14**	4000K - 877lm - CRI 80
			424241-39		3000K - 816lm - CRI 80
LED	white	2.00	424242-00	**14**	4000K - 877lm - CRI 80
			424242-39		3000K - 816lm - CRI 80

GENERAL CHARACTERISTICS

Base: in die-cast aluminium.

Globe: in shatterproof and self-extinguishing V2 polycarbonate, UV-stabilised and anti-yellowing. Exent transparency for perfect light penetration.

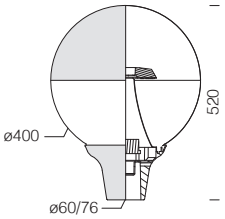
Central cone: in black painted aluminium against light pollution.

Equipment: safety diode to protect against voltage peaks compliant with EN 61547. With dedicated electronic device to protect the LED module. Complete with plug-socket for quick installation.

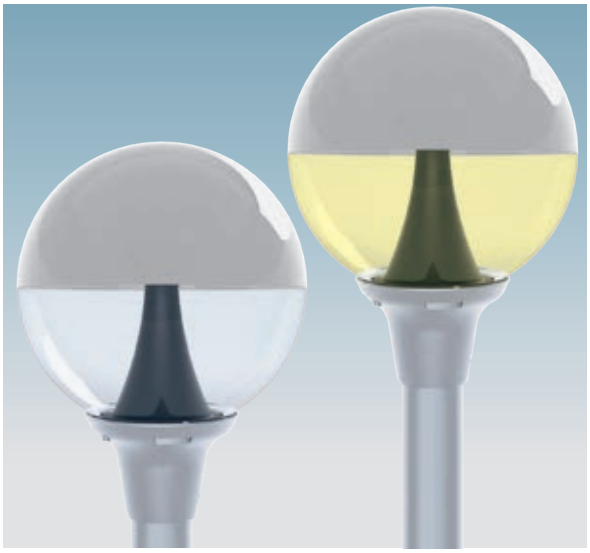
LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.9.

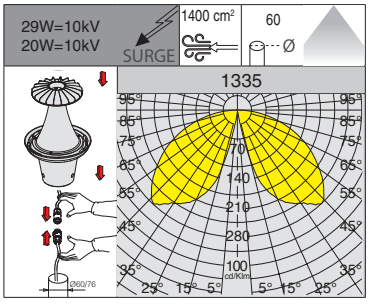


IP65 IK08



On reques: available 2200K/2700K versions.







RG0 U.V. ZONA 1 3000K 4000K

1335 Globo - anti-light pollution					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	silver	4,50	425600-00	**29**	4000K - 2119lm - CRI 80
			425600-39		3000K - 1971lm - CRI 80
LED	silver	4,50	425601-00	**20**	4000K - 1380m - CRI 80
			425601-39		3000K - 1283lm - CRI 80



GENERAL CHARACTERISTICS

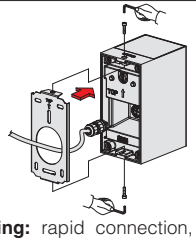
Housing: in die-cast aluminium.

Diffuser: in extra-clear tempered glass, 4 mm thick, thermal shock and impact resistant (UNI-EN 12150-1 : 2001).

Optics: in high-performance metallic V0 polycarbonate.

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.
Upon request: coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

LED: luminous flux maintenance 80%: 50.000h (L80B20)
Power factor ≥0.92



Mounting: rapid connection, the fixture does not need to be opened.

RG0 Ethr

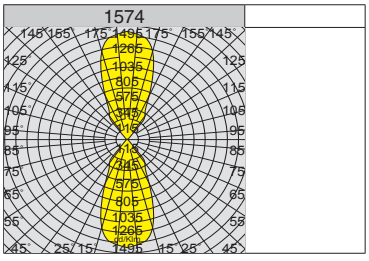
U.V.

UNI EN ISO 9227

2200K

3000K

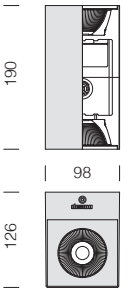
4000K







IP66IK07



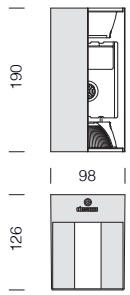
Standard supply: supplied with plate for wall installation and cable with with airtight connector for mains connection.

1574 Square - wall version - direct/indirect light

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 350mA - CRI
COB	white	2.50	420631-00	**29**	4000K - 2167lm - **CRI 90**
	graphite		420632-00		
COB	white	2.50	420634-00	**29**	3000K - 2015lm - **CRI 90**
	graphite		420635-00		
COB AMBER	white	2.50	420631-73	**26**	2200K - 3178lm - **AMBER**
	graphite		420632-73		

Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

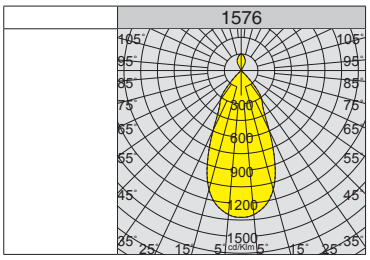
IP66IK07



Standard supply: supplied with plate for wall installation and cable with with airtight connector for mains connection.

CRI 90





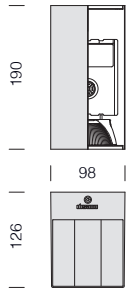


RGO Ethr · U.V. · UNI EN ISO 9227 · 3000K · 4000K

1576 Square - wall version - direct/indirect light with narrow beam

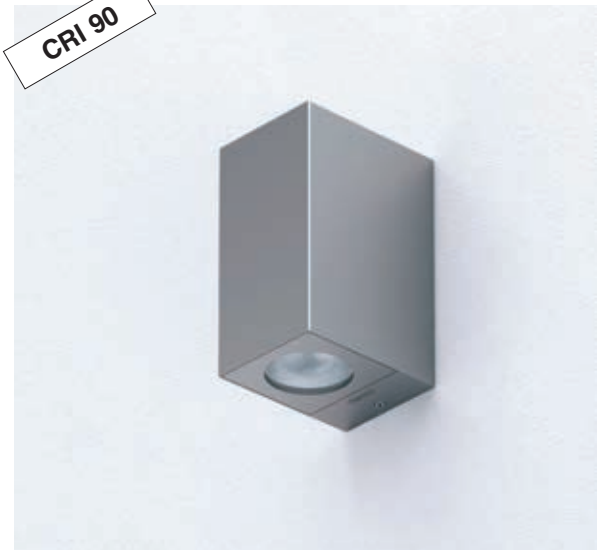
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 350mA - CRI
COB	white	2.50	420646-00	**16**	4000K - 1220lm - **CRI 90**
	graphite		420647-00		
COB	white	2.50	420648-00	**16**	3000K - 1135lm - **CRI 90**
	graphite		420649-00		
					K - ølm 700mA - CRI
COB	white	2.50	420641-00	**35**	4000K - 2900lm - **CRI 90**
	graphite		420642-00		
COB	white	2.50	420644-00	**35**	3000K - 2697lm - **CRI 90**
	graphite		420645-00		

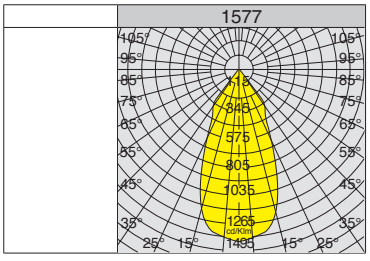
IP66IK07



Standard supply: supplied with plate for wall installation and cable with with airtight connector for mains connection.

CRI 90







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1577 Square - wall version - direct light

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 350mA - CRI
COB	white	2.50	420656-00	**15**	4000K - 1083lm - **CRI 90**
	graphite		420657-00		
COB	white	2.50	420658-00	**15**	3000K - 1007lm - **CRI 90**
	graphite		420659-00		
					K - ølm 700mA - CRI
COB	white	2.50	420651-00	**33**	4000K - 2800lm - **CRI 90**
	graphite		420652-00		
COB	white	2.50	420654-00	**33**	3000K - 2604lm - **CRI 90**
	graphite		420655-00		



GENERAL CHARACTERISTICS

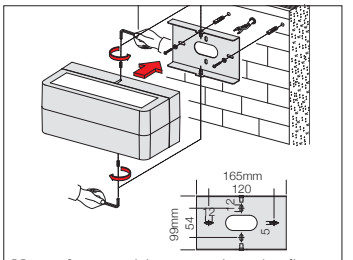
Housing: in die-cast aluminium.

Diffuser: in tempered glass, 4 mm thick, thermal shock and impact resistant(UNI-EN 12150-1 : 2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

Standard supply: supplied with plate for wall installation and cable with with IP67 airtight connector for mains connection.

LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.9



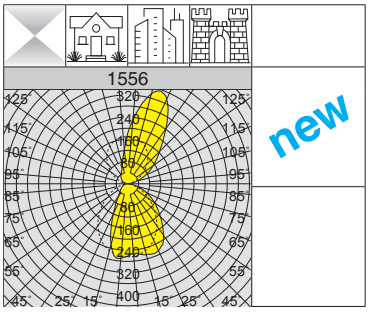
Mounting: rapid connection, the fixture does not need to be opened.

RG0

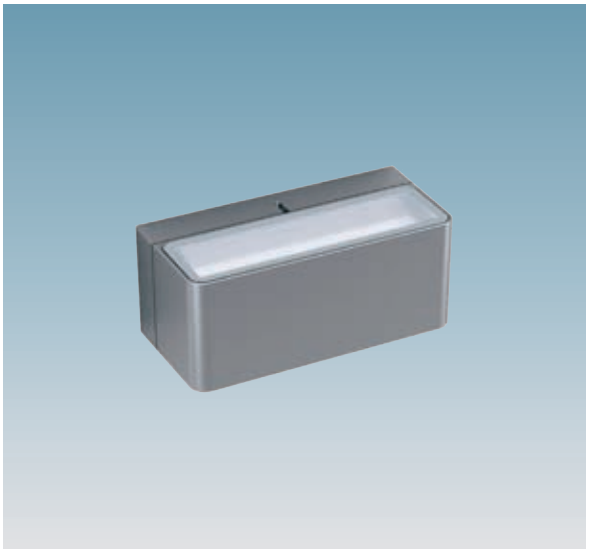
U.V.

3000K

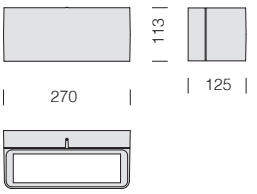
4000K

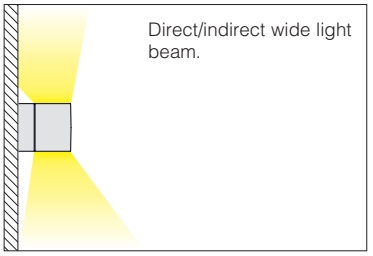






IP65IK07



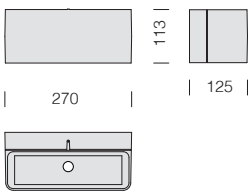


Direct/indirect wide light beam.

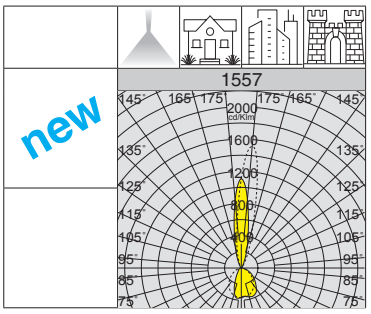
1556 Brick - direct/indirect light

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 500mA - CRI
LED	grey 9007	1.00	420600-00	**19**	3000K - 1440lm - CRI 80
	white		420601-00		
	graphite		420602-00		
LED	grey 9007	1.00	420600-68	**19**	4000K - **1541lm** - CRI 80
	white		420601-68		
	graphite		420602-68		

IP65IK07







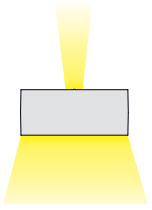


RGO U.V. 3000K 4000K

1557 Brick - direct/indirect light with narrow beam

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 500mA - CRI
LED	grey 9007	1.00	420610-00	**11**	3000K - 890lm - CRI 80
	white		420611-00		
	graphite		420612-00		
LED	grey 9007	1.00	420610-68	**11**	4000K - **952lm** - CRI 80
	white		420611-68		
	graphite		420612-68		

Direct/indirect light beam to the wall



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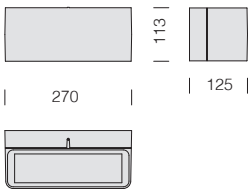
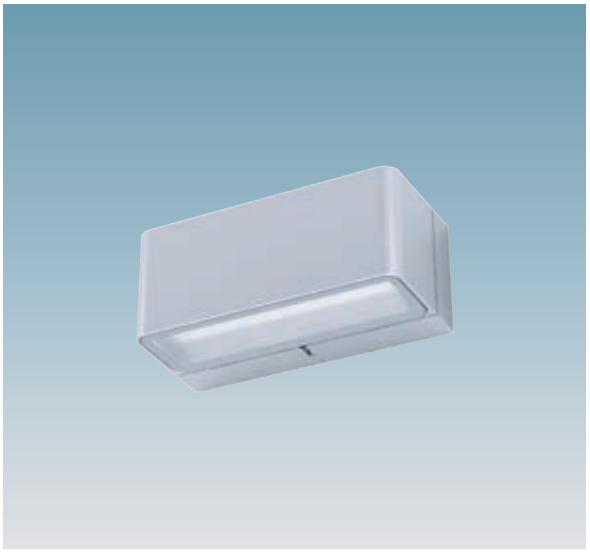
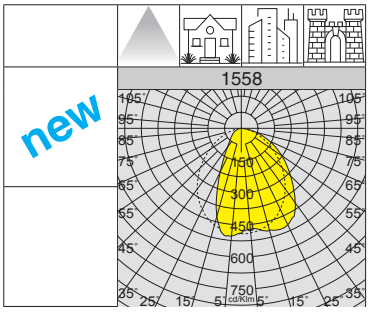






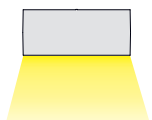


RGO U.V. 3000K 4000K

1558 Brick - direct light

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 500mA - CRI
LED	grey 9007	1.00	420620-00	**10**	3000K - 730lm - CRI 80
	white		420621-00		
	graphite		420622-00		
LED	grey 9007	1.00	420620-68	**10**	4000K - **781lm** - CRI 80
	white		420621-68		
	graphite		420622-68		

Direct light beam.



		CLD S	
LED	colour	weight	code
LED (LAMP E14)	grey 9007	1.00	420623-00
	white		420624-00
	graphite		420625-00

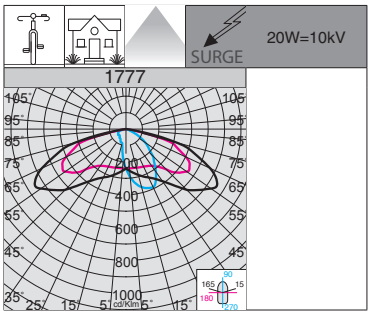
As standard, designed to fit LED lamp with E14 connector (max 5,5W - 470lm).



RG0 Ethr

U.V.

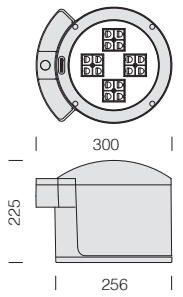
ZONA 1







IP65 IK08



GENERAL CHARACTERISTICS

Housing: die-cast aluminium.

Diffuser: resistant to thermal shock and impact 4 mm thick tempered glass (UNI-EN 12150-1 : 2001).

Standard supply: safety diode to protect against voltage peaks compliant with EN 61547. With dedicated electronic device to protect the LED module.

LED: luminous flux maintenance 80%: 80.000h (L80B20).
Power factor ≥0.9

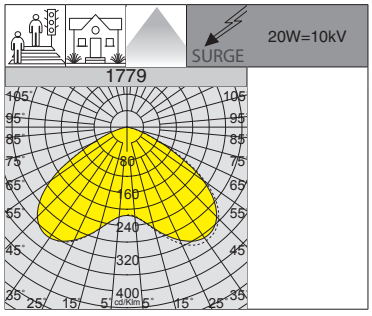
1777 Musa - pedestrian

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 210mA - CRI
LED	grey 9007+graphite	4.50	423547-00	**20**	4000K - 2850lm - CRI 70

RG0 Ethr

U.V.

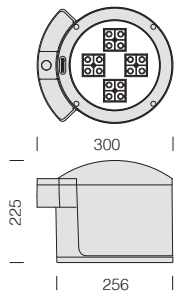
ZONA 1







IP65 IK08



GENERAL CHARACTERISTICS

Housing: die-cast aluminium.

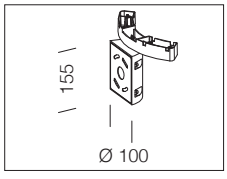
Diffuser: resistant to thermal shock and impact 4 mm thick tempered glass (UNI-EN 12150-1 : 2001).

Standard supply: safety diode to protect against voltage peaks compliant with EN 61547. With dedicated electronic device to protect the LED module.

LED: luminous flux maintenance 80%: 80.000h (L80B20).
Power factor ≥0.9

1779 Musa - wide beam

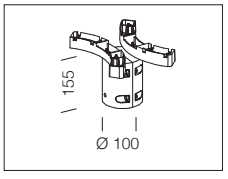
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 210mA - CRI
LED	grey 9007+graphite	4.50	423555-00	**20**	4000K - 3027lm - CRI 70



acc. 366
wall connection

graphite	998024

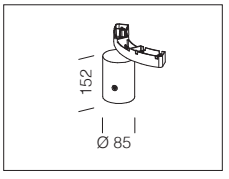
In die-cast aluminium. for wall mounting.



acc. 365
double pole connector

graphite	998022-00

In die-cast aluminium. For installation on a dia. 60 lighting pole in the two-lamp version.

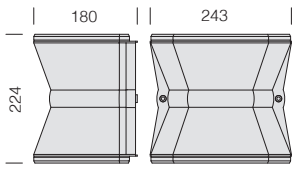


acc. 364
single pole connector

graphite	998020-00

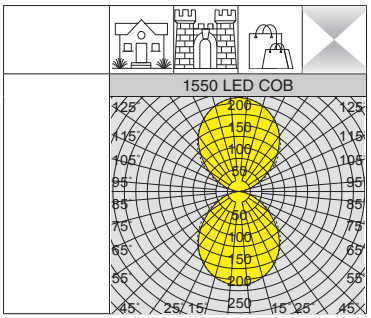
In die-cast aluminium. For installation on a dia. 60 lighting pole in the single lamp version.

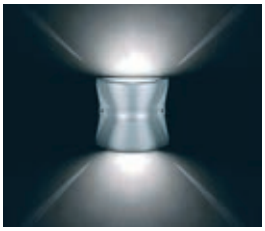
IP65IK07



CRI 90







RGO

U.V.

2700K

4000K

GENERAL CHARACTERISTICS

Housing: die-cast aluminium.

Diffuser: tempered shock and heat resistant glass (UNI-EN 12150-1 : 2001).

LED COB: luminous flux maintenance 70%: 50.000h (L70B50).

LED (LAMP E27): 15.000h.

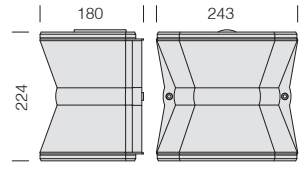
1550 Clessidra 4 - direct /indirect light

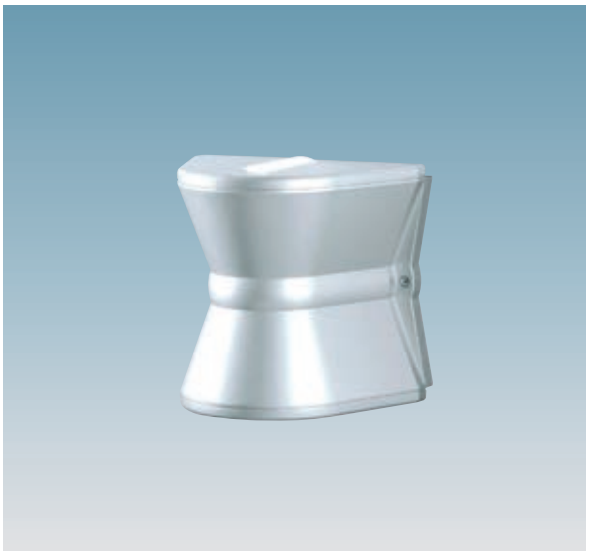
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	grey 9007	2.70	420590-00	**30**	4000K - 922lm - **CRI 90**
	graphite		420592-00		
	corten		420590-2191		
COB	grey 9007	2.70	420583-00	**15**	4000K - 555lm - **CRI 90**
	graphite		420584-00		
	corten		420583-2191		

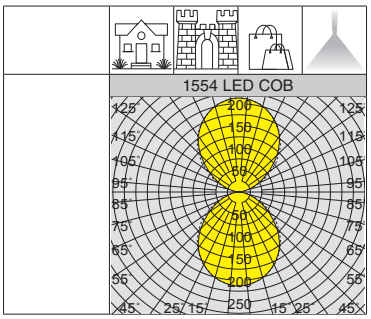
1547 Clessidra 4 - direct /indirect light

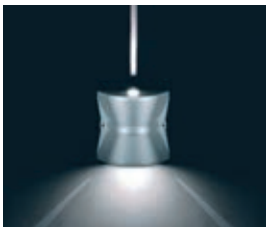
		CLD S+L			LED (tp= 25 °C)
LED	colour	weight	code	W tot	K - ølm 230V - CRI
LED (LAMP E27)	grey 9007	2.70	420561-00	**14**	2700K - 1600lm - CRI 80
	graphite		420562-00		

IP65IK07









RGO

U.V.

GENERAL CHARACTERISTICS

Housing: die-cast aluminium.

Diffuser: tempered shock and heat resistant glass (UNI-EN 12150-1 : 2001).

LED COB: luminous flux maintenance 70%: 50.000h (L70B50).

1554 Clessidra 5 - direct /indirect light

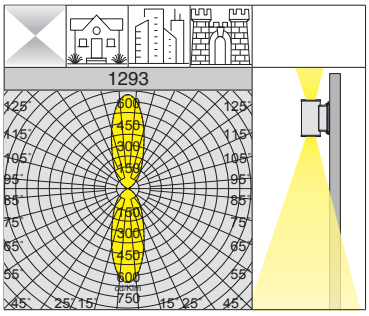
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	grey 9007	2.70	420598-00	**22**	4000K - 880lm - CRI 80
	graphite		420599-00		
	corten		420598-2191		
COB	grey 9007	2.70	420588-00	**12**	4000K - 562lm - CRI 80
	graphite		420589-00		
	corten		420588-2191		

RG0 Ethr

U.V.

2200K

4000K

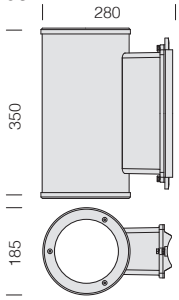


Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

Upon requst: corten versio, with subcode 2191.



IP65 IK08



GENERAL CHARACTERISTICS

Housing: die-cast aluminium.

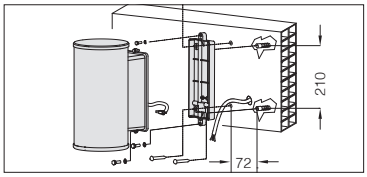
Diffuser: tempered glass, 4 mm thick, thermal shock and impact resistant (UNI-EN 12150-1 : 2001).

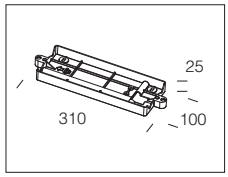
Standard supply: safety diode to protect against voltage peaks compliant with EN 61547. With dedicated electronic device to protect the LED module. Standard version **includes double switching.**

LED: luminous flux maintenance 70%: 50.000h (L70B50).
Power factor ≥0,9.

1293 Cilindro 4

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
COB	grey 9007	6.90	420410-00	**42**	4000K - 2663lm - FM+FM - **CRI 90**
			420427-00		4000K - 1897lm - FS+FM - **CRI 90**
COB AMBER	grey 9007	6.90	420410-73	**40**	2200K - 2096lm - FM+FM - **AMBER**



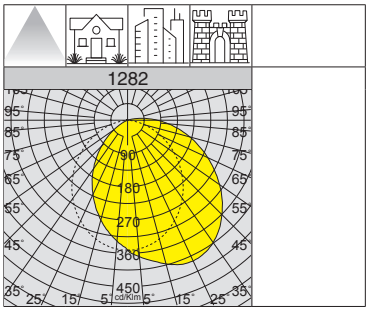


acc. 401 wall mounting	
grey	420450-00
corten	420450-2191
Wall mounting for Cilindro.	

RG0

U.V.

ZONA 2

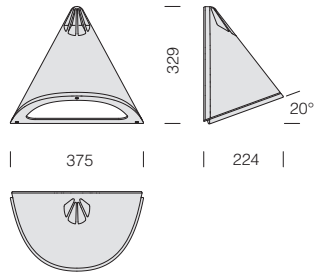


Upon request: chrome version.



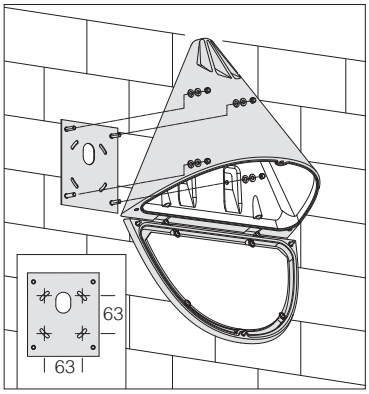


IP65 IK07



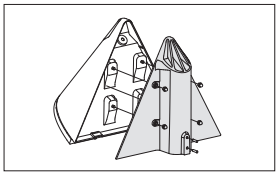
GENERAL CHARACTERISTICS

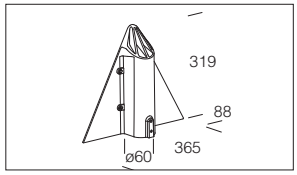
Housing/Frame: in die-cast aluminium. **Diffuser:** in tempered glass, thermal shock and impact resistant.
LED: luminous flux maintenance 70%: 50.000h (L70B20)
Power factor ≥0.9.



1282 Meridiana

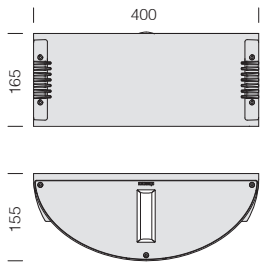
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey 9007	4.00	423095-00	**9**	4000K - 1119lm - CRI≥80
	graphite		423096-00		
LED	grey 9007	4.00	423097-00	**17**	4000K - 1990lm - CRI≥80
	graphite		423099-00		



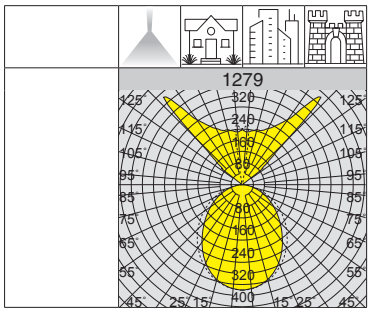


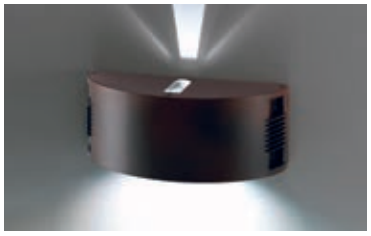
acc. 96 Pole connection Ø 60	
s. silver	991217-00
graphite	991218-00
In die-cast aluminium. To be used for fixing Meridiana on pole Ø 60.	

IP65IK07







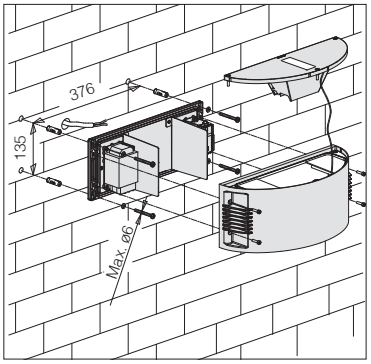


GENERAL CHARACTERISTICS

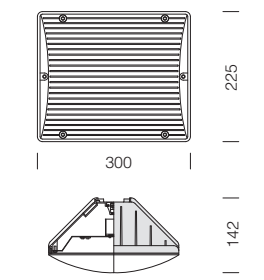
Housing/Frame: in die-cast aluminium. Diffuser: in tempered glass, 8 mm thick, thermal shock and impact resistant.
LED: luminous flux maintenance 80%: 80.000h (L80B20).
Power factor ≥0.9.

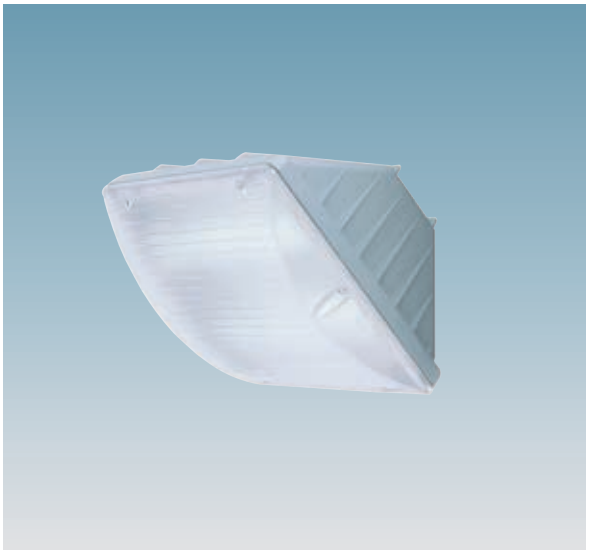
1279 Onda - direct/indirect light with lens

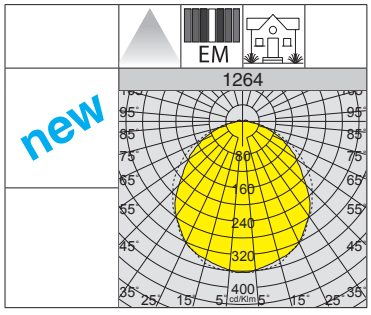
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	white	3.60	420322-00	**17**	4000K - 800lm - CRI≥80
LED	grey 9007	3.60	420324-00		
LED	graphite	3.60	420325-00		
LED	corten	3.60	420322-2191		



IP65IK08









GENERAL CHARACTERISTICS

Housing: in nylon UV-stabilised.
Reflector: hammered aluminium.
Diffuser: anti-glare, vandal resistant, V2 selfExtinguishing, UV-stabilised matt polycarbonate.

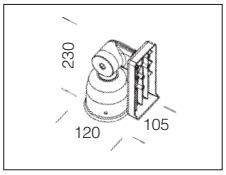
1264 Vega

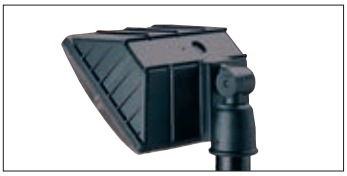
		CLD		CLD E		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	black	1.50	420665-00	420665-07	**20**	4000K - 1657lm - CRI 70
	grey		420666-00	420666-07		4000K - 1657lm - CRI 70
	black	1.50	420669-00		**25**	4000K - **3560lm** - CRI 70

acc. 1266 joint

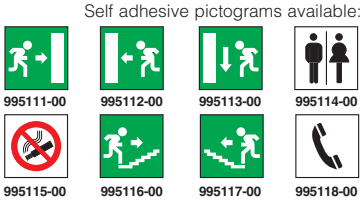
black	420915-00
grey	420916-00

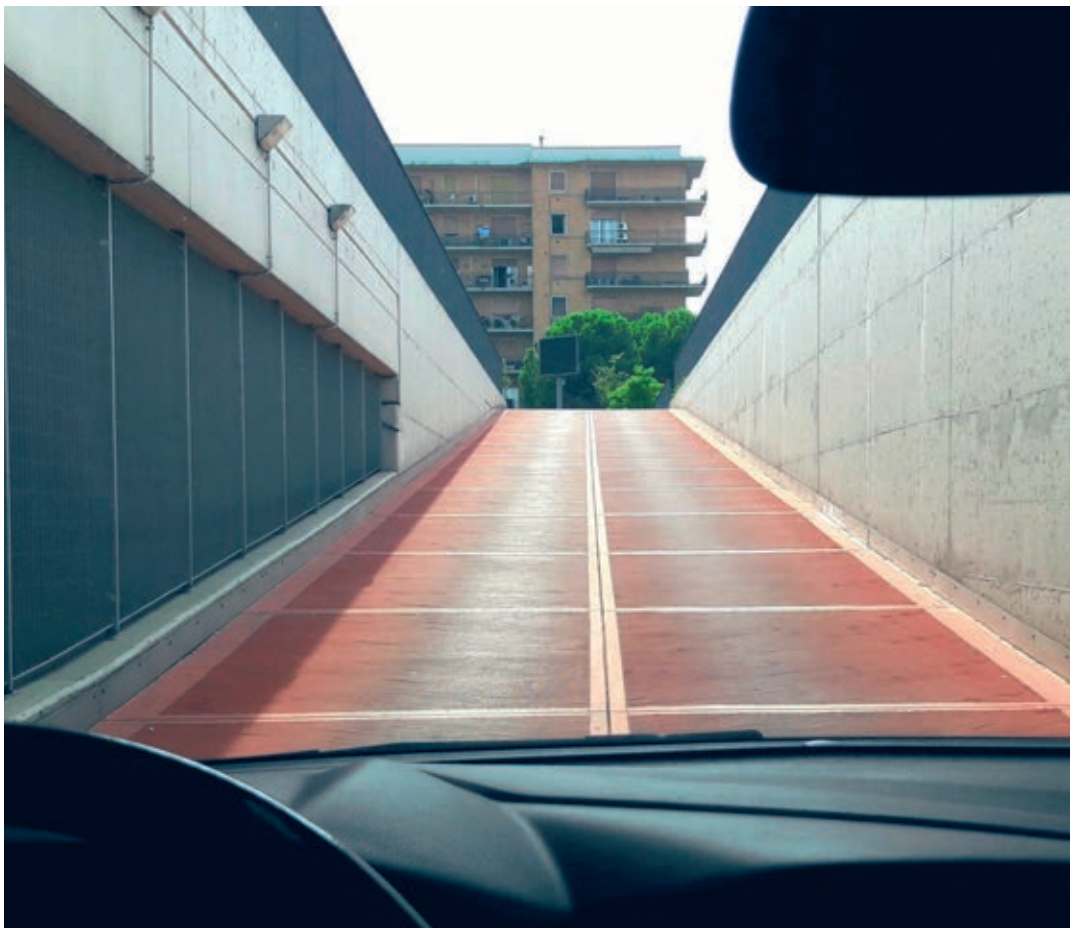
1-lamp adjustable support in nylon. For Ø 60 poles.





Self adhesive pictograms available:





GENERAL CHARACTERISTICS

Housing: shatter-proof, UV-stabilized thermoplastic material, RAL7045 grey colour.

Reflector: in aluminium.

Diffuser: in internally matt, anti-glare, shatter-proof and V2 selfExtinguishing, UV-stabilized polycarbonate.

Equipment: bowl sealing in black expanded EPDM; external screws in galvanized stainless steel and black O-rings. Complete with fixing plate.

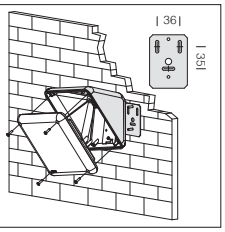
Mounting: wall or pole(ø 60).

LED: 230V version: luminous flux maintenance 70%: 50.000h (L70B50).
350mA version: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.9.

RGO

U.V.

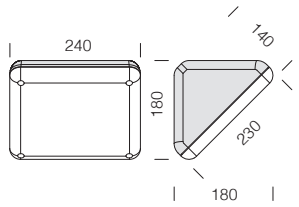
Wall mounting with bracket supplied as a standard feature.



ON-OFF Light sensor / presence (sub-code -19): is an automatic sensor that immediately sense the presence of people's movements and anyone walking past. When there is movement within the sensor's detection range, the light will remain ON. When no further movement is detected, the light will switch OFF after a pre-set time.



IP65IK08



new

1260 Vega

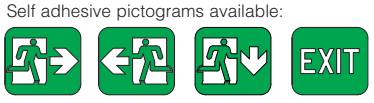
		CLD		CLD E	CLD (radar sensor)		LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	code	code	W tot	K - ølm 230V - CRI
LED	grey	1.30	420691-00	420691-07	420691-19	**17**	4000K - 2010lm - CRI 80

		CLD S	
230V	colour	weight	code
LED (LAMP E27)	grey	1.30	420690-00

As standard, designed to fit LED lamp with E27 connector.

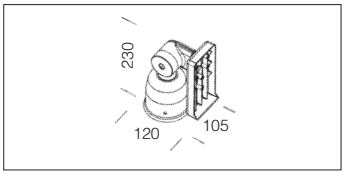


Self adhesive pictograms available:



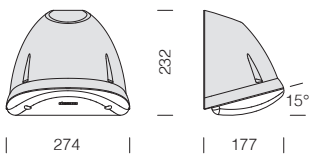
995140-00 **995141-00** **995142-00** **995143-00**





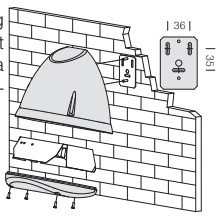
acc. 1266 joint	
grey	420917-00
1-lamp adjustable support in nylon. For Ø 60 poles.	

IP65IK08





Wall mounting with bracket supplied as a standard feature.





RGO U.V.

GENERAL CHARACTERISTICS

Housing: in fiberglass nylon, vandal resistant.

Reflector: anodically oxidised aluminium 99.85.

Diffuser: satin-finish polycarbonate, non-dazzle interior, shatterproof and selfExtinguishing V2, stabilised against UV rays.

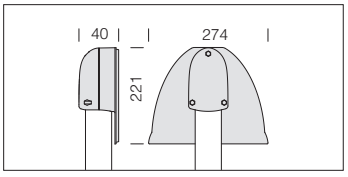
Mounting: wall or pole (ø 60).

1275 Green

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey	1.80	428605-00	**14**	4000K - 1300lm - CRI 80

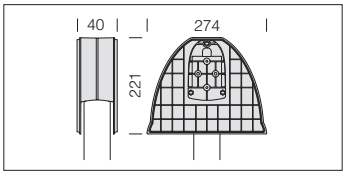
acc. 502 single Ø60 pole connection

grey	991260-00
Adapter for 1 Green attachment on Ø 60 pole.	

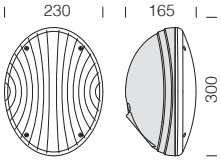


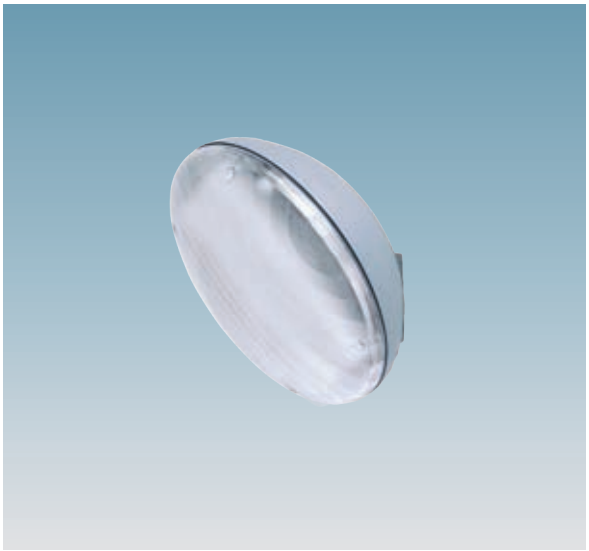
acc. 503 double Ø60 pole connection

grey	991261-00
Adapter for 2 Green attachment on Ø 60 pole.	

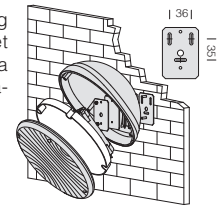


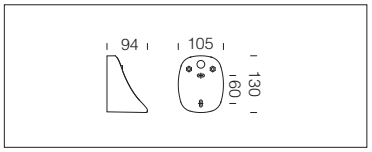
IP65IK08





Wall mounting with bracket supplied as a standard feature.





RGO U.V. new

GENERAL CHARACTERISTICS

Housing: in fibreglass nylon stabilised against UV rays.

Reflector: in matt aluminium.

Diffuser: satin-finish polycarbonate, non-dazzle interior, shatterproof and selfExtinguishing V2, stabilised against UV rays.

Mounting: wall or pole (ø 60).

1280 Garden

		CLD	
LED	colour	weight	code
LED (LAMP E27)	black	1.30	420845-00
	grey		420846-00

acc. 451 wall/ceiling attachment

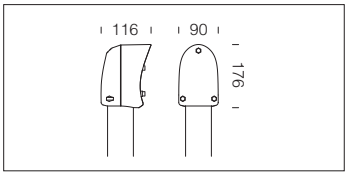
black	991250-00
grey	991251-00
Made of fibreglass nylon which enables Garden to be mounted directly on a wall/ceiling.	

As standard, designed to fit LED lamp with E27 connector.



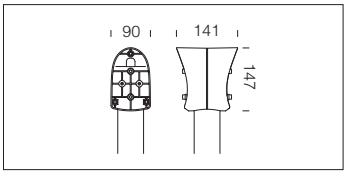
acc. 452 single pole connection

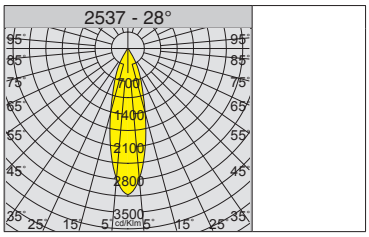
black	991252-00
grey	991253-00
Made of fibreglass nylon which enables Garden to be mounted on a ø6o pole.	



acc. 453 double pole connection

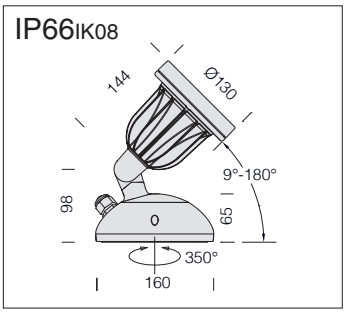
black	991254-00
grey	991255-00
Made of fibreglass nylon which enables two Garden to be mounted on a ø60 pole.	





3000K - CRI 90 (sub-code -39)			
W tot	ølm 700mA	W tot	ølm 1050mA
28	2690lm - 13°	42	3538lm - 13°
	2773lm - 28°		3650lm - 28°
	2769lm - 48°		3644lm - 48°
2200K - AMBER (sub-code -73)			
W tot	ølm 700mA	W tot	ølm 1050mA
28	2897lm - 13°	42	3810lm - 13°
	2987lm - 28°		3930lm - 28°
	2983lm - 48°		3924lm - 48°





GENERAL CHARACTERISTICS

Housing/frame/base: in die-cast aluminium; **standard coating with special surface treatment for marine environments** in compliance with UNI EN ISO 9227 regulation.

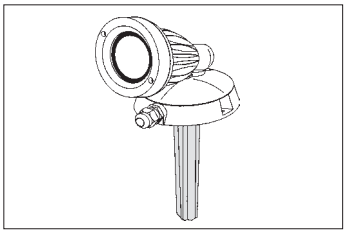
LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.92.

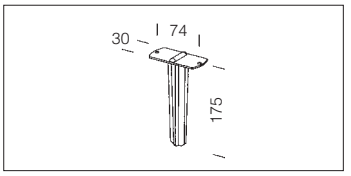
2537 Koala Big - with reflector

		CLD		CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI - degrees
COB	grey 9006	1.50	431880-00	431880-0041	**28**	4000K - 2832lm - **CRI 90** - 13°
			431882-00	431882-0041		4000K - 2920lm - **CRI 90** - 28°
			431883-00	431883-0041		4000K - 2916lm - **CRI 90** - 48°
COB	grey 9006	1.50	431884-00	431884-0041	**42**	4000K - 3725lm - **CRI 90** - 13°
			431885-00	431885-0041		4000K - 3842lm - **CRI 90** - 28°
			431886-00	431886-0041		4000K - 3836lm - **CRI 90** - 48°

ACCESSORIES KOALA - KOALA BIG

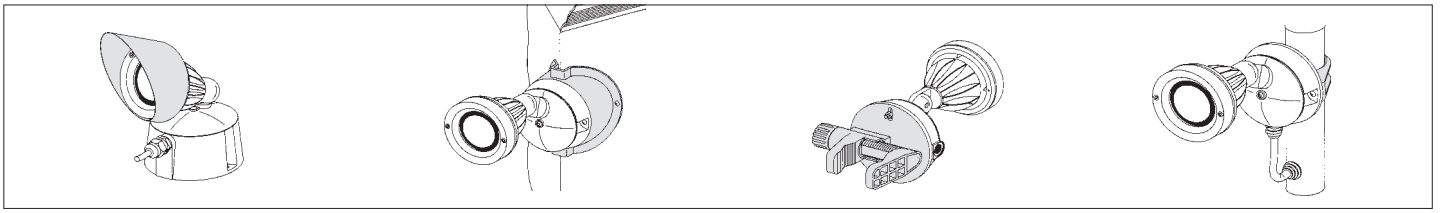


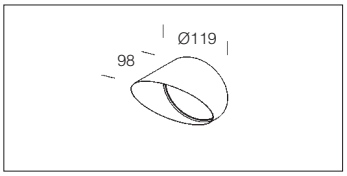


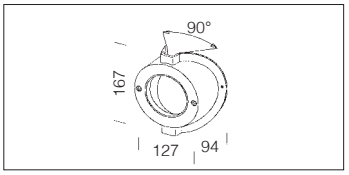


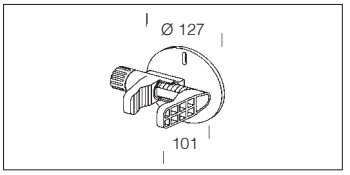
acc. 119 spike	
black	991335-00
In fiber glass nylon. For planting **Koala** and **Koala Big** into the ground.	

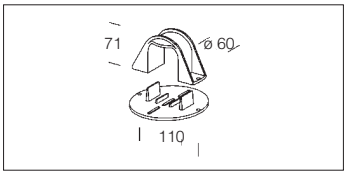
ACCESSORIES KOALA











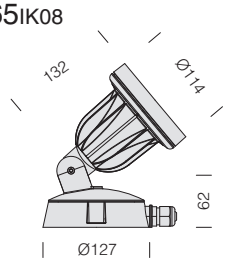
acc. 114 conveyor	
grey	991330-00
In aluminium. To direct the light beam in one direction. Only for art. Koala.	

acc. 116 corner support	
black	991332-00
In fibreglass nylon. To install Koala on a corner.	

acc. 118 clamp	
black	991334-00
In fiber glass nylon. Enables Koala to be installed on different surfaces without the need to fix it definitively. Clamp opening between 20mm (min) and 60mm (max).	

acc. 120 pole support	
black	991336-00
In fibreglass nylon. To apply Koala on any Ø 60 pole in any position.	

IP65 IK08

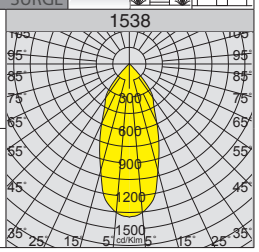


CRI 90



15W=1/2kV SURGE

new



RGO Ethr · U.V. · LOW FLICKER · 3000K · 4000K

Upon request: (subcode -0034)	
LED	5700K - **CRI 90**

GENERAL CHARACTERISTICS

Housing/frame/base: in die-cast aluminium; **standard coating with special surface treatment for marine environments** in compliance with UNI EN ISO 9227 regulation.

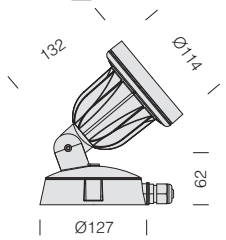
LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0,95.

1537 Koala - COB

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
COB	grey 9006	0.80	431828-00	**15**	3000K - 1195lm - **CRI 90** - 46°
	graphite		431829-00		
COB	grey 9006	0.80	431828-68	**15**	4000K - **1279lm** - **CRI 90** - 46°
	graphite		431829-68		

Upon request: corten version with sub-code -2191.

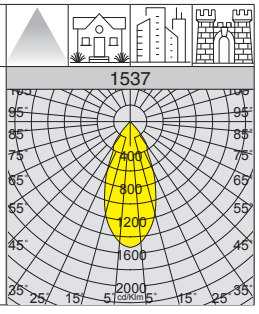
IP65 IK08 ⧈



LED SMD 6W = Gu10 (230V)

3000K





RGO Ethr · U.V.

GENERAL CHARACTERISTICS

Housing/frame/base: in die-cast aluminium; **standard coating with special surface treatment for marine environments** in compliance with UNI EN ISO 9227 regulation.

LED: luminous flux maintenance 70%: 25.000h (L70B50).
Power factor ≥0,95.

1537 Koala - ES

		CLD S+L		CLD D (IGBT)		LUMEN OUTPUT (tq= 25 °C)
230V	colour	weight	code	code	W tot	K - ølm 230V - CRI - degrees
SMD (GU10)	grey 9006	0.80	431815-00		**6**	3000K - 429lm - CRI 80 - 38°
	graphite		431824-00			
SMD (GU10)	grey 9006	0.80		431802-00	**7**	3000K - 429lm - CRI 80 - 38°
	graphite			431803-00		

Upon request: corten version with sub-code -2191.









GENERAL CHARACTERISTICS

Housing: in die-cast aluminium.

Reflector: in high-performance silver aluminium.

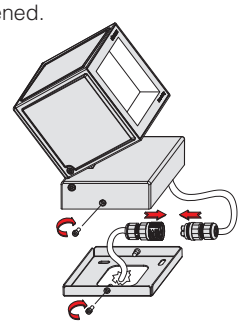
Diffuser: in extra-clear tempered glass, 4 mm thick, thermal shock and impact resistant (UNI-EN 12150-1 : 2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

LED: Luminous flux maintenance 80%: 50.000h (L80B20). Power factor ≥0.92

OTHER CHARACTERISTICS

Mounting: rapid connection, the fixture does not need to be opened.



Standard supply: supplied with plate for wall installation and cable with with IP68 airtight connector for mains connection.

UPON REQUEST

UNI EN ISO 9227 Coating for marine environments in compliance with UNI EN ISO 9227.

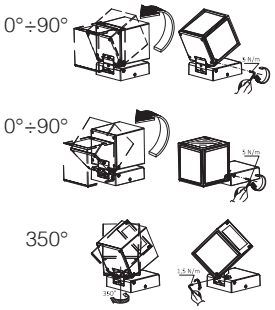
DIMM DIG Version **CLD D-D (DALI)** wiring with **subcode -0041:** thanks to pre-programmed settings or a software programme, this type of wiring allows accurate light emission dimming.

LED 3000K **LED 3000K - CRI 90 sub-code -39.**

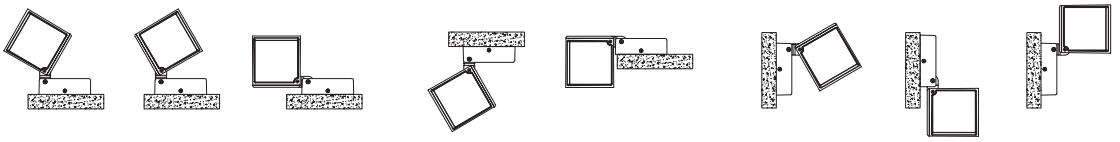




In the fully adjustable spotlight version, **Square** ensures the best functional and aesthetic results with minimized consumption. The solidity of the materials used, as well as its die-cast aluminium housing and a shock and heat resistant tempered glass diffuser, make this product also ideal for outdoor installation. **Easy-to-install**, it is not necessary to open the fixture, hence increasing the versatility of Square LED for illuminating façades with class and elegance.

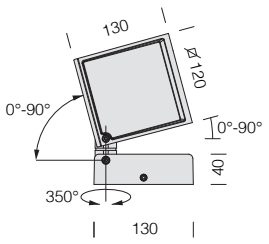


INSTALLATION EXAMPLES:



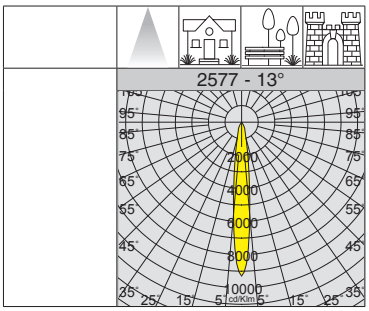
FLOOR **CEILING** **WALL**

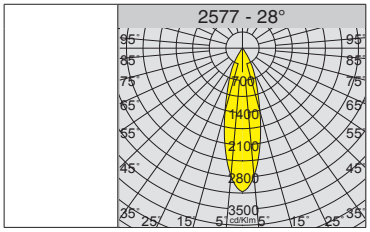
IP66IK08

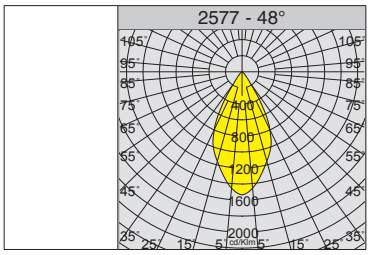


CRI 90





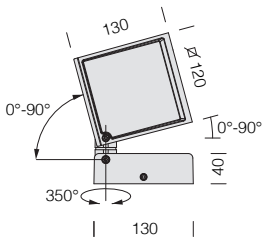




2577 Square - with reflector

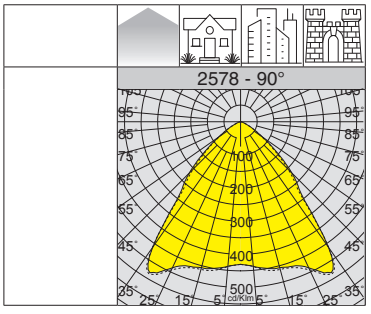
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 1050mA - CRI - degrees
COB	white	2.60	431864-00	**40**	4000K - 3021lm - **CRI 90** - 13°
	graphite		431865-00		
COB	white	2.60	431862-00	**40**	4000K - 3116lm - **CRI 90** - 28°
	graphite		431863-00		
COB	white	2.60	431860-00	**40**	4000K - 3111lm - **CRI 90** - 48°
	graphite		431861-00		

IP66IK08



CRI 90







2578 Square - with optic

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 1050mA - CRI - degrees
COB	white	2.60	431870-00	**40**	4000K - 3152lm - **CRI 90** - 90°
	graphite		431871-00		

Podio - design Alessandro Pedretti



GENERAL CHARACTERISTICS

Housing/frame: in die-cast aluminium with central articulated joint in die-cast aluminium.

Base: in die-cast aluminium.

Version with reflector: in high-performance silver aluminium.

Diffuser: in extra clear tempered glass, 4 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1 : 2001).

Graphite coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

Grey 9006/white coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

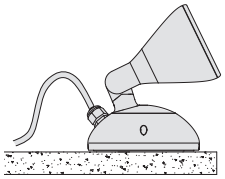
OTHER CHARACTERISTICS

Standard coating with special surface treatment for marine environments in compliance with UNI EN ISO 9227 regulation.

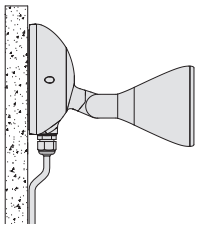
SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

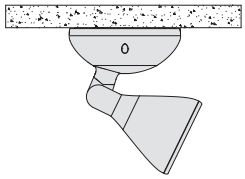
OTHER INFORMATION



art. 2565: ideal for ground installation.



art. 2567: ideal for wall mounting where the light point is distant from the fixture.



art. 2569: ideal for wall mounting where the light point is hidden.

UPON REQUEST

DIMM DIG Version **CLD D-D (DALI)** wiring with **subcode -0041:** thanks to pre-programmed settings or a software programme, this type of wiring allows accurate light emission dimming.

LED 3000K **LED 3000K - CRI 90 sub-code -39.**

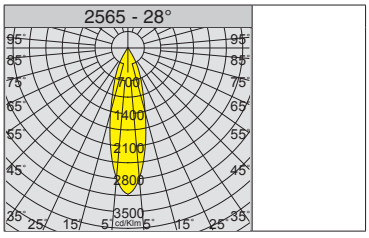
AMBER COB **AMBER COB 2200K subcode -73:** lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.

Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.





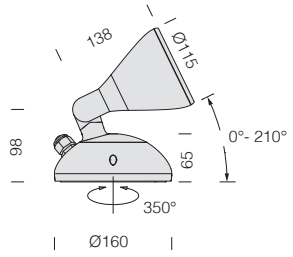




3000K - CRI 90 (sub-code -39)			
W tot	ølm 700mA	W tot	ølm 1050mA
28	2690lm - 13°	42	3538lm - 13°
	2773lm - 28°		3650lm - 28°
	2769lm - 48°		3644lm - 48°
2200K - AMBER (sub-code -73)			
W tot	ølm 700mA	W tot	ølm 1050mA
28	2897lm - 13°	42	3810lm - 13°
	2987lm - 28°		3930lm - 28°
	2983lm - 48°		3924lm - 48°



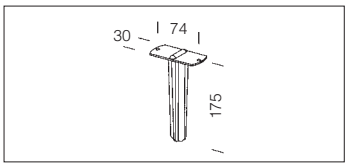
IP66IK08



LED: Luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.92.

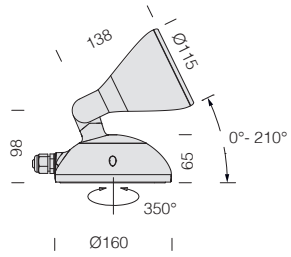
Upon request version with:
• **CLD D-D (DALI)** wiring with **sub-code -0041.**

Ideal for ground installation.



2565 Podio - with reflector					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI - degrees
COB	grey 9006	1.50	422510-00	**28**	4000K - 2832lm - **CRI 90** - 13°
	graphite		422511-00		
COB	grey 9006	1.50	422514-00	**28**	4000K - 2920lm - **CRI 90** - 28°
	graphite		422515-00		
COB	grey 9006	1.50	422518-00	**28**	4000K - 2916lm - **CRI 90** - 48°
	graphite		422519-00		
COB	grey 9006	1.50	422512-00	**42**	4000K - 3725lm - **CRI 90** - 13°
	graphite		422513-00		
COB	grey 9006	1.50	422516-00	**42**	4000K - 3842lm - **CRI 90** - 28°
	graphite		422517-00		
COB	grey 9006	1.50	422558-00	**42**	4000K - 3836lm - **CRI 90** - 48°
	graphite		422559-00		

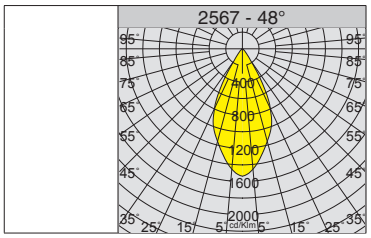
IP66IK08



LED: Luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.92.

Ideal for wall mounting where the light point is distant from the fixture.



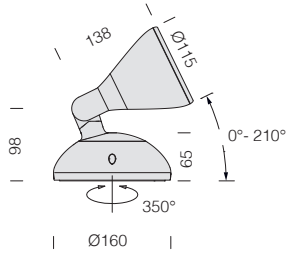


3000K - CRI 90 (sub-code -39)			
W tot	ølm 700mA	W tot	ølm 1050mA
28	2690lm - 13°	42	3538lm - 13°
	2773lm - 28°		3650lm - 28°
	2769lm - 48°		3644lm - 48°
2200K - AMBER (sub-code -73)			
W tot	ølm 700mA	W tot	ølm 1050mA
28	2897lm - 13°	42	3810lm - 13°
	2987lm - 28°		3930lm - 28°
	2983lm - 48°		3924lm - 48°

2567 Podio - with reflector

		CLD		CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	couleur	weight	code	code	W tot	K - ølm - CRI - degrees
COB	grey 9006	1.50	422540-00	422540-0041	28	4000K - 2832lm - **CRI 90** - 13°
	graphite		422541-00	422541-0041		
COB	grey 9006	1.50	422544-00	422544-0041	28	4000K - 2920lm - **CRI 90** - 28°
	graphite		422545-00	422545-0041		
COB	grey 9006	1.50	422548-00	422548-0041	28	4000K - 2916lm - **CRI 90** - 48°
	graphite		422549-00	422549-0041		
COB	grey 9006	1.50	422542-00	422542-0041	42	4000K - 3725lm - **CRI 90** - 13°
	graphite		422543-00	422543-0041		
COB	grey 9006	1.50	422546-00	422546-0041	42	4000K - 3842lm - **CRI 90** - 28°
	graphite		422547-00	422547-0041		
COB	grey 9006	1.50	422550-00	422550-0041	42	4000K - 3836lm - **CRI 90** - 48°
	graphite		422551-00	422551-0041		

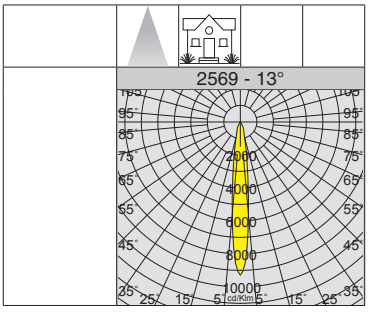
IP66IK08



LED: luminous flux maintenance 80%: 50.000h (L80B20).
Power factor ≥0.92.

Ideal for wall mounting where the light point is hidden.





3000K - CRI 90 (sub-code -39)			
W tot	ølm 700mA	W tot	ølm 1050mA
28	2690lm - 13°	42	3538lm - 13°
	2773lm - 28°		3650lm - 28°

2569 Podio - with reflector

		CLD		CLD D-D (DALI)		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI - degrees
COB	grey 9006	1.50	422570-00	422570-0041	28	4000K - 2832lm - **CRI 90** - 13°
	white		422571-00	422571-0041		
COB	grey 9006	1.50	422574-00	422574-0041	28	4000K - 2920lm - **CRI 90** - 28°
	white		422575-00	422575-0041		
COB	grey 9006	1.50	422572-00	422572-0041	42	4000K - 3725lm - **CRI 90** - 13°
	white		422573-00	422573-0041		
COB	grey 9006	1.50	422576-00	422576-0041	42	4000K - 3842lm - **CRI 90** - 28°
	white		422577-00	422577-0041		



GENERAL CHARACTERISTICS

Housing: die-cast aluminium with cooling fins.

Reflector: in high-performance silver aluminium.

Diffuser: tempered glass 4 mm thermal shock and impact resistant(UNI-EN 12150-1 : 2001).

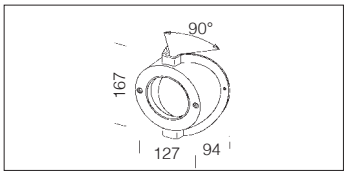
Standard Supply: electronic safety device to protect the LED module and the related ballast compliant with EN 61547.

LED: luminous flux maintenance 80%: 50.000h (L80B20)
Power factor ≥0.9

Upon request version with:
• **CLD D-D (DALI)** wiring with **sub-code -0041.**

Elfo is also available in the RGBW - DMX/RDM version (see chapter *Lighting management systems - DMX solution for LED RGBW*).

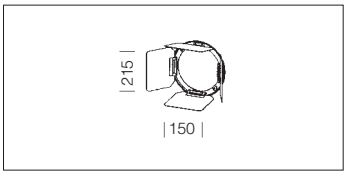
ACCESSORIES



acc. 116 corner support

black	991332-00

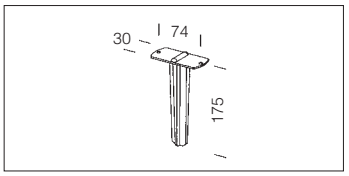
In fibreglass nylon. To install Elfo on a corner.



acc. 187 shutter

black	995747-00

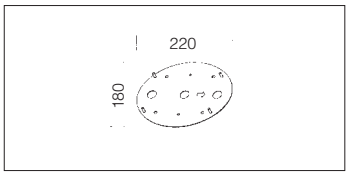
Made of powder-coated steel. To direct the light beam.



acc. 119 spike

black	991335-00

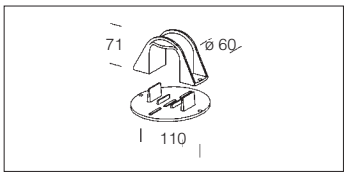
In fiber glass nylon. For planting Elfo into the ground.



acc. 188 plate

black	995748-00

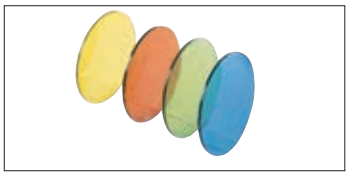
Made of steel. To be used with acc. 120 for pole installation.



acc. 120 pole support

black	991336-00

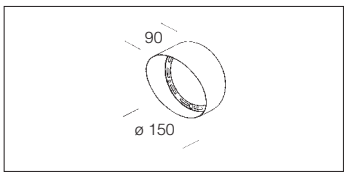
In fibreglass nylon. To apply Koala on any Ø 60 pole in any position.



acc. 189 coloured filter - FS

blue	995749-00
red	995750-00
green	995751-00
yellow	995752-00

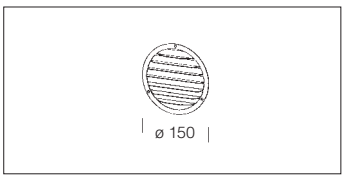
We recommend use with art. 1564.



acc. 186 conveyor

black	995746-00

Made of steel. Used for conveying the light beam in a single direction.

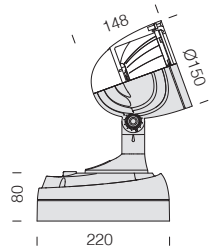


acc. 190 louvre

black	995753-00

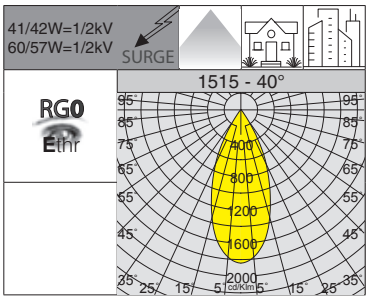
Made of steel. To reduce glare effects and direct the light beam.

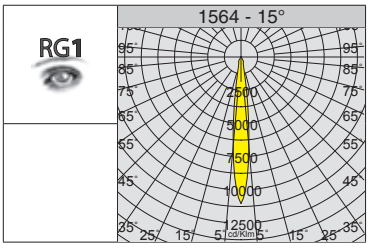
IP65 IK08



Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.







U.V.

0° 180°

2200K

4000K

LOW FLICKER

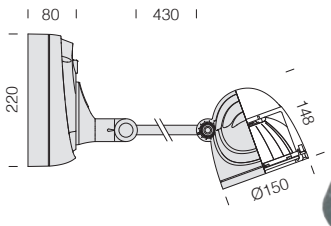
1515 Elfo - FL

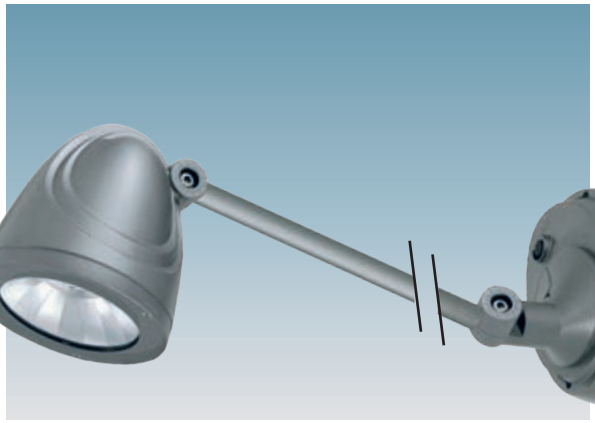
		CLD			LUMEN OUTPUT (tq= 25 °C)		
LED	colour	weight	code	W tot	K - ølm 700mA - CRI	K - ølm 1050mA - CRI	K - ølm 1400mA - CRI
COB	grey 9007	2.60	422392-00	**28**	4000K - 2140lm **CRI 90** - 40°		
	graphite		422393-00				
COB AMBER	grey 9007	2.60	422392-73	**28**	2200K - 2397lm **AMBER** - 40°		
	graphite		422393-73				
COB	grey 9007	2.60	422390-00	**41**		4000K - 3198lm **CRI 90** - 40°	
	graphite		422391-00				
COB AMBER	grey 9007	2.60	422390-73	**42**		2200K - 3710lm **AMBER** - 40°	
	graphite		422391-73				
COB	grey 9007	2.60	432836-00	**54**		4000K - 5300lm CRI 80 - 40°	
	graphite		432837-00				
COB AMBER	grey 9007	2.60	432836-73	**57**			2200K - 5200lm **AMBER** - 40°
	graphite		432837-73				

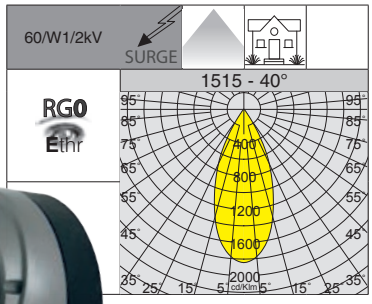
1564 Elfo - FS

		CLD			LUMEN OUTPUT (tq= 25 °C)		
LED	colour	weight	code	W tot	K - ølm 700mA - CRI	K - ølm 1050mA - CRI	K - ølm 1400mA - CRI
COB	grey 9007	2.60	422396-00	**28**	4000K - 2119lm **CRI 90** - 15°		
	graphite		422397-00				
COB AMBER	grey 9007	2.60	422396-73	**28**	2200K - 2373lm **AMBER** - 15°		
	graphite		422397-73				
COB	grey 9007	2.60	422394-00	**41**		4000K - 3531lm **CRI 90** - 15°	
	graphite		422395-00				
COB AMBER	grey 9007	2.60	422394-73	**42**		2200K - 4096lm **AMBER** - 15°	
	graphite		422395-73				
COB	grey 9007	2.60	432838-00	**54**		4000K - 5800lm CRI 80 - 15°	
	graphite		432839-00				
COB AMBER	grey 9007	2.60	432838-73	**57**			2200K - 5740lm **AMBER** - 15°
	graphite		432839-73				

IP65 IK08







U.V.

0° 180°

LOW FLICKER

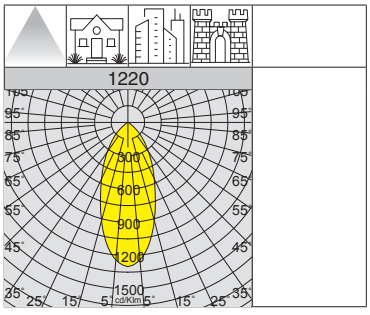
1523 Elfo - with adjustable arm

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 1050mA - CRI
COB	graphite	4.00	432835-00	**54**	4000K - 5300lm - CRI 80 - 40°



RG0 Ethr

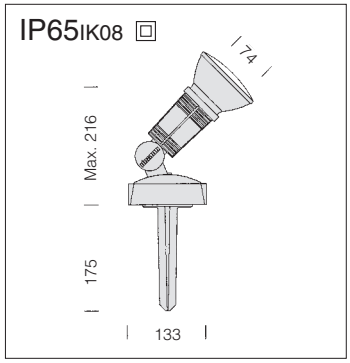
U.V.







IP65IK08



GENERAL CHARACTERISTICS

Housing/base: in fibreglass and self-extinguishing nylon.

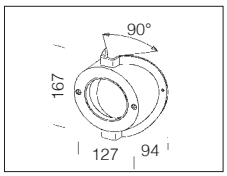
Equipment: supplied with base and ground-sinking spike. Standard supply includes 2 cable glands.

As standard, designed to fit LED PAR 38 lamp with E27 connector.

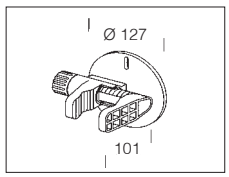


1220 Dafne - ES			
		CLD S	
LED	colour	weight	code
LED (LAMP PAR 38)	black	0.40	431801-00
Mains voltage operated without transformer.			

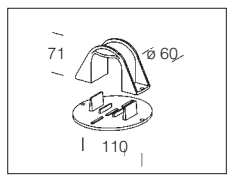
ACCESSORIES



acc. 116 corner support	
black	991332-00
In fibreglass nylon. To install Dafne on a corner.	



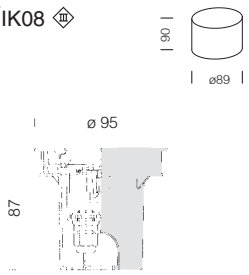
acc. 118 clamp	
black	991334-00
In fiber glass nylon. Enables Dafne to be installed on different surfaces without the need to fix it definitively. Clamp opening between 20mm (min) and 60mm (max).	



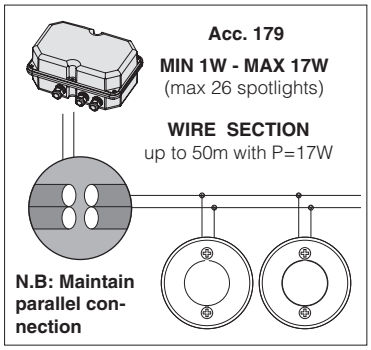
acc. 120 pole support	
black	991336-00
In fibreglass nylon. To apply Dafne on any Ø 60 pole in any position.	

disano

IP67 IK08







RG0 U.V. ø 80

GENERAL CHARACTERISTICS

Housing: vandal resistant fibre-glass nylon.

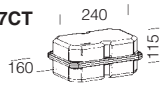
Frame: die-cast aluminium.

Diffuser: impact and thermal shock resistant tempered glass (UNI-EN 12150-1 : 2001).

1622 Starled - wall and floor version

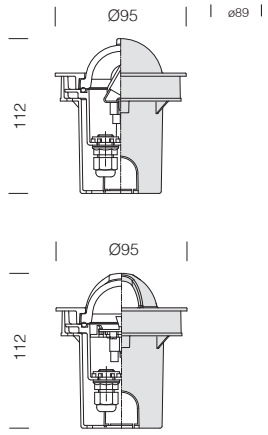
		CLD S+L		temperature and load					LED (tj= 25 °C)
24V	colour	weight	code	Max T. on glass ta 25°	max kg load	can be walked on	can bear vehicle loads	W	K - ølm 24V - CRI
LED	grey 9007	0.25	530690-00	30°	2000	OK	OK	**0,6**	4000K - 75lm - CRI≥80
	graphite		530691-00	30°	2000	OK	OK		

acc. 179 IP67CT



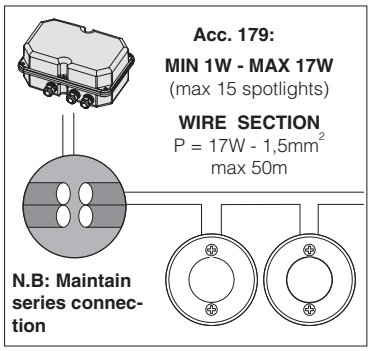
code	VOLTAGE in	VOLTAGE V_{DC} out	min. no. spotlight	max no. spotlight	W
997663-00	220-240V 50/60Hz	24V	1	26	17
Waterproof box containing the ballast.					

IP67 IK08



art. 1638







RG0 U.V. ø 80

GENERAL CHARACTERISTICS

Housing: vandal resistant fibre-glass nylon.

Frame: die-cast aluminium.

Diffuser: impact and thermal shock resistant tempered glass (UNI-EN 12150-1 : 2001).

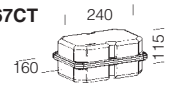
1637 Starled - wall eyelid screen version

		CLD S+L			LED (tj= 25 °C)
LED	colour	weight	code	W	K - ølm 350mA - CRI
LED	grey 9007	0.25	530770-00	**1**	4000K - 140lm - CRI 75
	graphite		530771-00		
	corten		530770-2191		

1638 Starled - wall/floor cross eyelid version

		CLD S+L		temperature and load					LED (tj= 25 °C)
LED	colour	weight	code	Max T. on glass ta 25°	max kg load	can be walked on	can bear vehicle loads	W	K - ølm 350mA - CRI
LED	grey 9007	0.16	530870-00	30°	2000	OK	OK	**1**	4000K - 140lm - CRI 75
	graphite		530871-00	30°	2000	OK	OK		

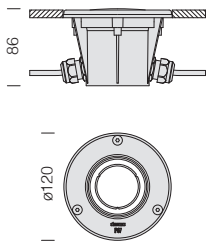
acc. 179 IP67CT



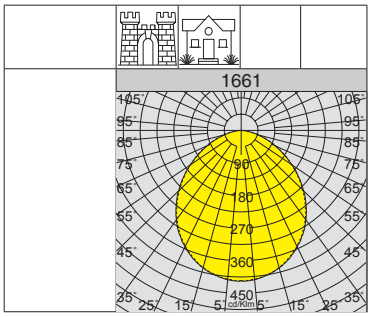
code	VOLTAGE in	CURRENT I_{DC} out	min. no. spotlig.	max no. spotlig.	W
997665-00	220-240V 50/60Hz	350mA	1	15	17
Waterproof box containing the ballast.					



IP67IK08









RG0

ø120

GENERAL CHARACTERISTICS

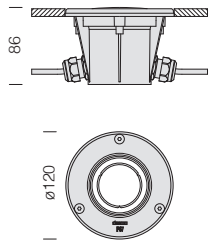
Housing: in fibreglass aluminium and stainless steel AISI 316L frame.

Diffuser: in tempered glass, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001).

1661 Microfloor - LED 230V

		CLD		temperature and load					LED (tj= 25 °C)
230V	colour	weight	code	Max T. on glass ta 25°	max kg load	can be walked on	can bear vehicle loads	W	K - ølm 230V
LED	s. steel	0.40	530816-00	30°	2000	OK	OK	1	4000K - 80lm - CRI 80

IP67IK08







RG0

ø120

GENERAL CHARACTERISTICS

Housing: in fibreglass aluminium and stainless steel AISI 316L frame.

Diffuser: in tempered glass, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001).

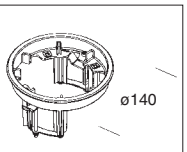
1670 Microfloor - LED - 230V

		CLD S+L		temperature and load					LED (tj= 25 °C)
230V	colour	weight	code	T. max ta 25°	max load kg	can be walked on	can bear v ehicle loads	W	K - lm - degrees - CRI
COB GU10 (230V)	s. steel	0.40	530710-00	35°	2.000	OK	OK	6	3000K - 600lm - 38° - CRI 80
Operating voltage 220-240V/50-60HZ, not require power supplies.									

acc. 314 - chassis

993926-00

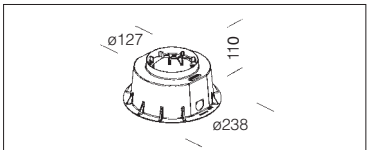
To install Microfloor on the wall or plasterboard false ceilings.



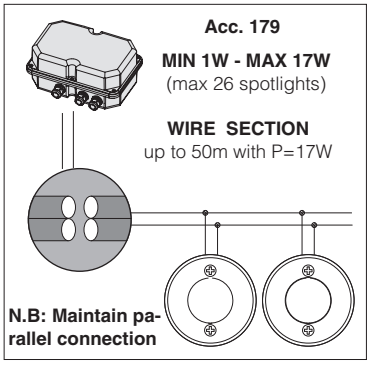
acc. 313 - outer shell

993925-00

To install Microfloor into the ground.

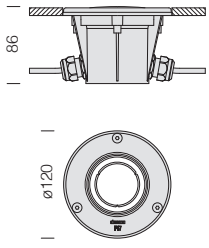








IP67 IK08



GENERAL CHARACTERISTICS

Housing: in fibreglass aluminium and stainless steel AISI 316L frame.

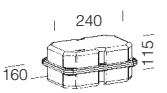
Diffuser: in tempered glass, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001).

1650 Microfloor									
		CLD S+L		temperature and load					LED (tj= 25 °C)
24V	colour	weight	code	T. max on glass ta 15°	max kg load	can be walked on	can bear vehicle loads	W	K - ølm 24V
LED	s. steel	0.40	530810-00	30°	2000	OK	OK	**0,6**	4000K - 75lm

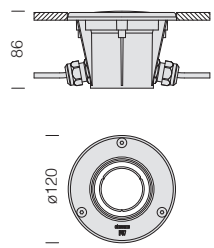
code	VOLTAGE in	VOLTAGE V_{DC} out	n. min spotlights	n. max spotlights	W
997663-00	220-240V 50/60Hz	24V	1	26	17
Waterproof box containing the ballast.					

997660-00	220-240V 50/60Hz	24V	1	26	17
Transformer, code 997660, **should be purchased if** the luminaire **is used without a watertight box.**					

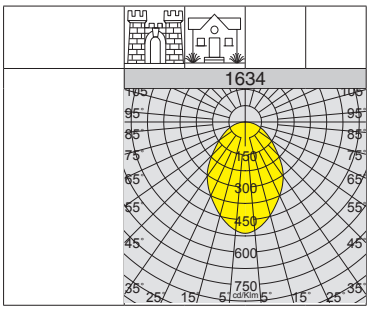
acc. 179
IP67CT



IP67 IK08







GENERAL CHARACTERISTICS

Housing: in fibreglass aluminium and stainless steel AISI 316L frame.

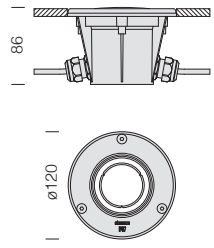
Diffuser: in tempered glass, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001).

1634 Microfloor - wide beam

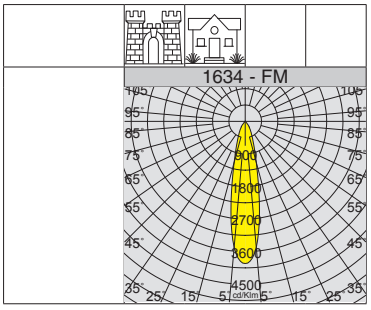
		CLD S+L		temperature and load					LED (tj= 25 °C)
LED	colour	weight	code	T. max on glass ta 25°	max kg load	can be walked on	can bear vehicle loads	W	K - ølm 350mA - degrees - CRI
LED	s. steel	0.40	530817-00	30°	2000	OK	OK	**3**	4000K - 520lm - 120° - CRI 80

LED: Luminous flux maintenance 70% 50000h (L70B50). Power factor ≥0.95.

IP67 IK08







GENERAL CHARACTERISTICS

Housing: in fibreglass aluminium and stainless steel AISI 316L frame.

Diffuser: in tempered glass, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001).

RGBW DMX RDM

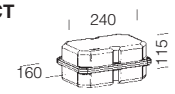
Microfloor is also available in the RGB Fullcolor version (see chapter *Lighting management systems - DMX solution for LED RGBW*).

1634 Microfloor - medium beam

		CLD S+L		temperature and load					LED (tj= 25 °C)
LED	colour	weight	code	T. max on glass ta 25°	max kg load	can be walked on	can bear vehicle loads	W	K - ølm - degrees - CRI
LED	s. steel	0.40	530815-00	40°	2000	OK	OK	**3,8**	4000K - 520lm - 25° - CRI 70

LED: Luminous flux maintenance 70% 50000h (L70B50). Power factor ≥0.95. **Upon request:** 39° - 57° beam angle.

acc. 179
IP67CT



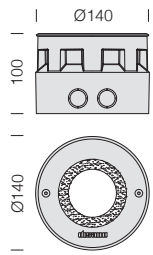
code	VOLTAGE in	CURRENT I_{DC} out	Microfloor art. 1634	min. no. spotlights	max no. spotlights
997665-00	220-240V 50/60Hz	350mA	530817-00	1	5
			530815-00	1	4



RGBW DMX RDM Midifloor is also available in the RGB Fullcolor version (see chapter *Lighting management systems - DMX solution for LED RGBW*).



IP67 IK10 **



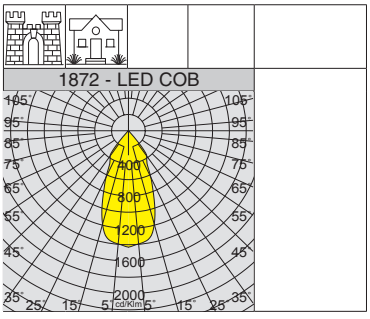
GENERAL CHARACTERISTICS

Housing: made in die-cast aluminum with stainless steel AISI 316L frame fibreglass nylon outer shell.
Diffuser: tempered shock and heat resistant glass (UNI-EN 12150-1 : 2001).

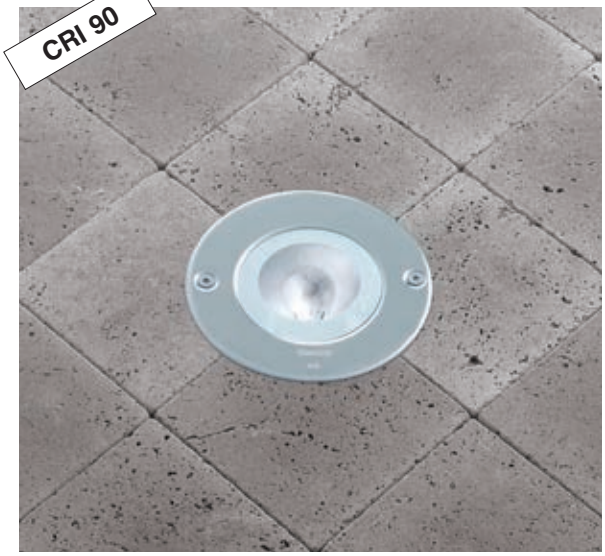
1872 Midifloor - adjustable

		CLD S+L		temperature and load					LED (tp= 25 °C)
LED	colour	weight	code	T. max on glass	max load kg	can be walked on	can bear vehicle loads (*)	W	K - ølm - degrees - CRI
COB GU10 (230V)	s. steel	0.50	530791-00	45°	3000	OK	OK	**6**	3000K - 600lm - 38° - CRI 80
LED **			530792-00	45°	3000	OK	OK	**4**	2700K - 120lm - 25° - CRI≥80

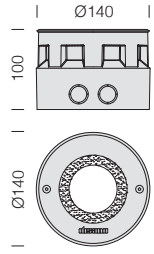
(*) drive-over fixture for **restricted traffic areas.**



CRI 90



IP67 IK10 **



GENERAL CHARACTERISTICS

Housing: made in die-cast aluminum with stainless steel AISI 316L frame fibreglass nylon outer shell.
Diffuser: tempered shock and heat resistant glass (UNI-EN 12150-1 : 2001).

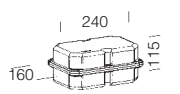
1872 Midifloor - COB

		CLD S+L		temperature and load					LED (tp= 25 °C)
LED	colour	weight	code	T. max on glass	max load kg	can be walked on	can bear vehicle loads (*)	W	K - ølm - degrees - CRI
COB **	s. steel	0.50	530793-00	40°	3000	OK	OK	**13**	3000K - 1600lm - 46° - **CRI 90**
530793-00: version does not adjustable.									

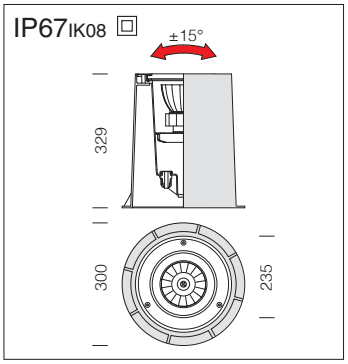
(*) drive-over fixture for **restricted traffic areas.**

code	VOLTAGE in	for aaricle	min. no. spotlig.	max no. spotlig.
997661-00	220-240V 50/60Hz	**530792-00**	1	7
997666-00	220-240V 50/60Hz	**530793-00**	1	3
Waterproof box containing the ballast.				

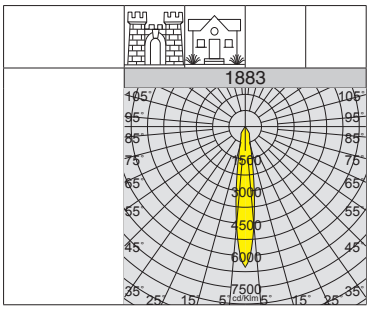
acc. 179
IP67CT











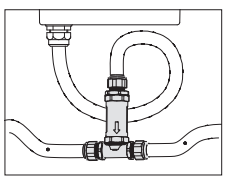
Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

GENERAL CHARACTERISTICS

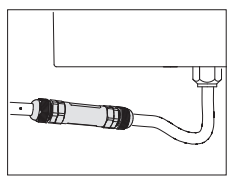
Housing: made in die-cast aluminum with stainless steel AISI 316L frame.
Diffuser: impact and thermal shock resistant tempered glass.
LED: luminous flux maintenance 80% 50.000h (L80B20).
Power factor ≥0.95.

1883 Minifloor - adjustable									
		CLD		temperature and load					LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	T. max on glass ta 15°	max load kg	can be walked on	can bear vehicle loads	W tot	K - ølm 350mA - degrees - CRI
COB	s. steel	5.10	530785-00	25°	2000	OK	OK	**15**	3000K - 1225lm - 15° - **CRI 90**
			530786-00	25°	2000	OK	OK		4000K - 1302lm - 15° - **CRI 90**
COB AMBER	s. steel	5.10	530785-73	25°	2000	OK	OK	**15**	2200K - 1493lm - 15° - **AMBER**

Upon request: version with **IP68** protection with gel watertight system at the bottom of the fixture (not suited for underwater installation) -0093.



acc. 399 - Conn. for continuous line
993837-00
Connector for solid line to be used with acc 369 for continuous lines.



acc. 369 - Connector
993838-00
To be used for continuous lines and to achieve waterproof connection.

RGO Ethr
ø300
2200K
3000K
4000K

GENERAL CHARACTERISTICS

Housing/Chassis: in die-cast aluminium.

Frame: in AISI 316L stainless steel.

Outer shell: in black nylon reinforced fibreglass.

Reflector: fixed and revolving with max. 0/+15° graduated brackets, in metalized polycarbonate.

Diffuser: 15 mm tempered glass, resistant to thermal shocks, impacts and static load.

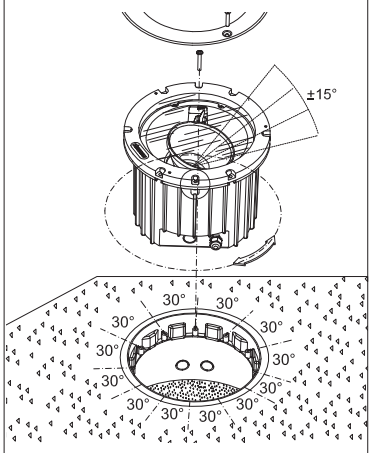
Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Equipment: silicone rubber seal and screws in anti-grip stainless steel.

LED: luminous flux maintenance 80% 50.000h (L80B20).
Power factor ≥0.95.

OTHER CHARACTERISTICS

Installation: the fixture was designed for the installation on the ground with an outer shell where it can be rotated by 30° step angle.



RGBW
DMX RDM

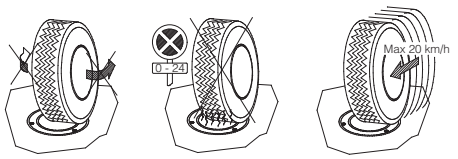
Floor is also available in the RGBW - DMX/RDM version (see chapter *Lighting management systems - DMX solution for LED RGBW*).

OTHER INFORMATION

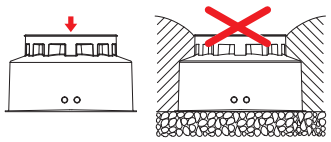
AMBER COB

COB AMBER 2200K subcode -73:
lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a “softer” impact on inhabited zones, especially in historic centres.

The luminaire can be walked on and can bear vehicle loads.



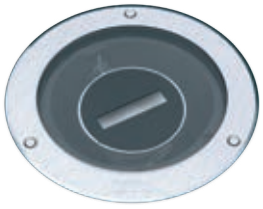
The masonry must be able to support a load of 4000 kg without strain. As the bottom is open to allow for draining, a gravel bed should be prepared at the time of installation. The electric gear is
inside the luminaire.



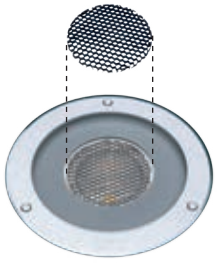
UPON REQUEST

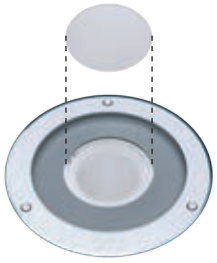
Light shaper for sharp, narrow beam light emissions, ideal for architectural lighting applications.

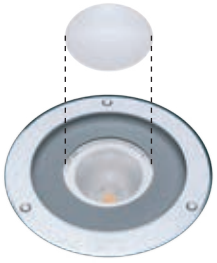


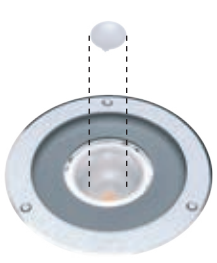


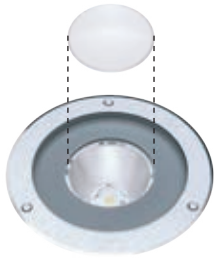
OPTICAL ACCESSORIES FOR FIXED AND ADJUSTABLE FLOOR SPOTLIGHT

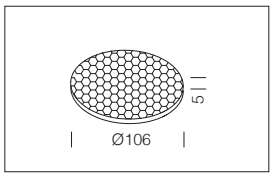


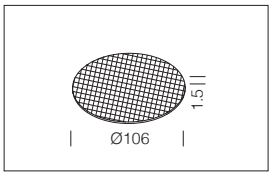


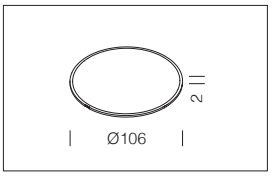


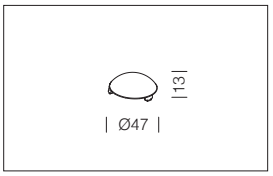


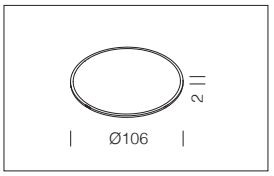




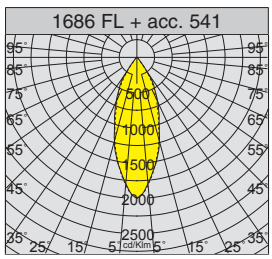


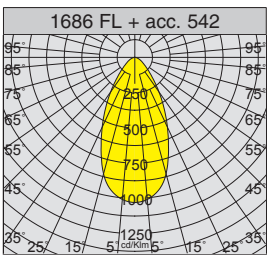


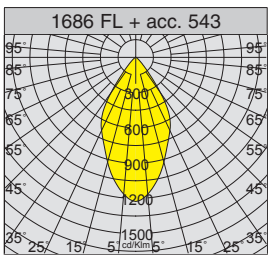


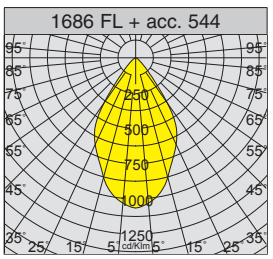


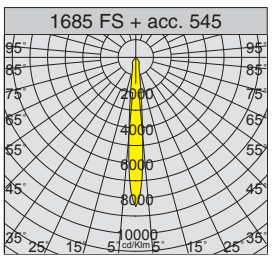
acc. 541	acc. 542	acc. 543	acc. 544	acc. 545
alveolar screen	prismatic slab	frosted slab	dome-shaped	clear slab
993980-00	993981-00	993982-00	993983-00	993984-00



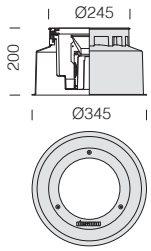






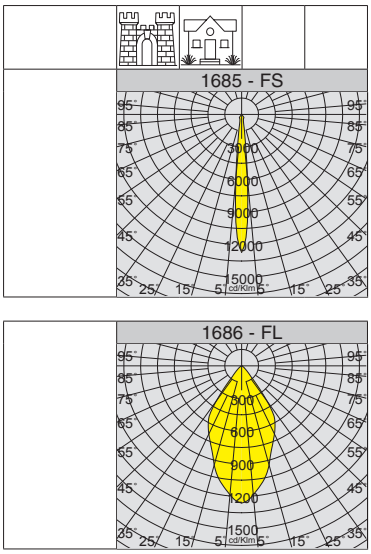


IP68IK10



Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.





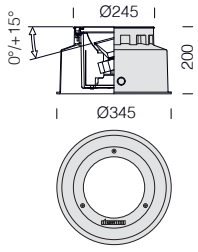
1685 Floor - fixed - FS

		CLD		temperature and load						LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	T. max on glass ta 25°	T. max on glass ta 15°	max load kg	can be walked on	can bear vehicle loads	W tot	K - ølm 700mA - degrees - CRI
COB	s. steel	4.40	530407-00	50°	40°	4000	OK	OK	28	4000K - 2029lm - 10° - **CRI 90**
COB AMBER			530407-73	50°	40°	4000	OK	OK		2200K - 2272lm - 10° - **AMBER**

1686 Floor - fixed - FL

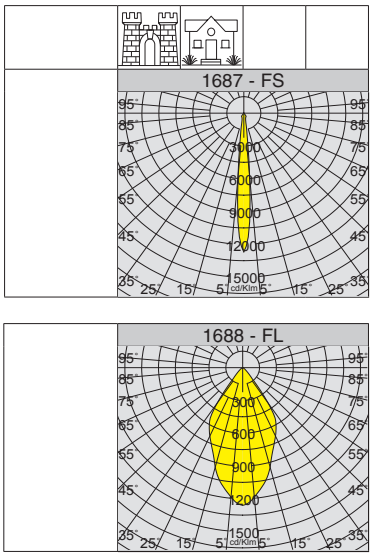
		CLD		temperature and load						LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	T. max on glass ta 25°	T. max on glass ta 15°	max load kg	can be walked on	can bear vehicle loads	W tot	K - ølm 700mA - degrees - CRI
COB	s. steel	4.40	530417-00	50°	40°	4000	OK	OK	28	4000K - 2113lm - 62° - **CRI 90**
COB AMBER			530417-73	50°	40°	4000	OK	OK		2200K - 2367lm - 62° - **AMBER**

IP68IK10



Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.





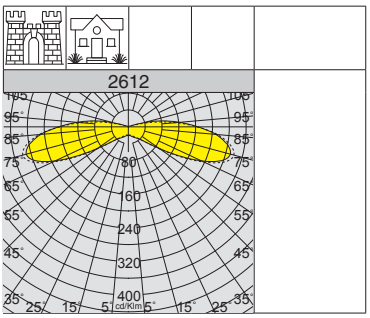
1687 Floor - adjustable - FS

		CLD		temperature and load						LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	T. max on glass ta 25°	T. max on glass ta 15°	max load kg	can be walked on	can bear vehicle loads	W tot	K - ølm 700mA - degrees - CRI
COB	s. steel	4.40	530427-00	50°	40°	4000	OK	OK	28	4000K - 2029lm - 10° - **CRI 90**
COB AMBER			530427-73	50°	40°	4000	OK	OK		2200K - 2272lm - 10° - **AMBER**

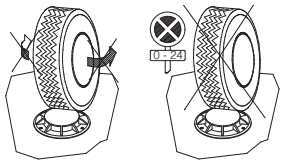
1688 Floor - adjustable - FL

		CLD		temperature and load						LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	T. max on glass ta 25°	T. max on glass ta 15°	max load kg	can be walked on	can bear vehicle loads	W tot	K - ølm 700mA - degrees - CRI
COB	s. steel	4.40	530437-00	50°	40°	4000	OK	OK	28	4000K - 2113lm - 62° - **CRI 90**
COB AMBER			530437-73	50°	40°	4000	OK	OK		2200K - 2367lm - 62° - **AMBER**

RG0 U.V.

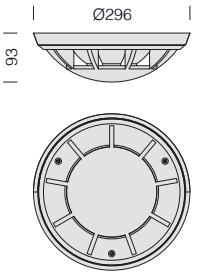


The luminaire can bear vehicle loads.





IP67 IK08



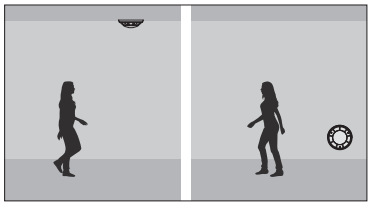
GENERAL CHARACTERISTICS

Housing: in die-cast aluminium.
Diffuser: in hemispherical glass, resistant to thermal shocks, impacts and loads (UNI-EN 12150-1 : 2001).
LED: luminous flux maintenance 70% 50.000h (L70B50).

2612 Ground - with convex screen and radial louvre frame

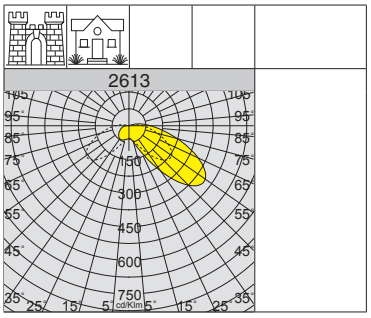
		CLD		temperature and load				LED (tp= 25 °C)
230V	colour	weight	code	T. max on glass ta 25°C	max load kg	can bear vehicle loads	W	K - ølm 230V - CRI
COB	graphite	2.50	530630-00	40°C	2000	OK	**15**	4000K - 1100lm - **CRI 90**

Equipment: cable gland in fiberglass nylon PG11 and provision for continuous line.

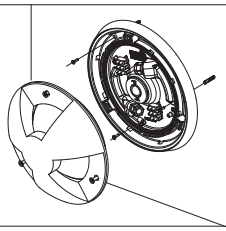


Example of ceiling/wall installation.

RG0 U.V.

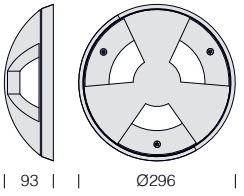


Wall version sequence installation.





IP67 IK08



GENERAL CHARACTERISTICS

Housing: in die-cast aluminium.
Diffuser: in hemispherical glass, resistant to thermal shocks, impacts and loads (UNI-EN 12150-1 : 2001).
LED: luminous flux maintenance 70% 50.000h (L70B50).

2613 Ground - with convex screen and frame for localized lighting

		CLD		temperature and load				LED (tp= 25 °C)
230V	colour	weight	code	T. max on glass ta 25°C	max load kg	can bear vehicle loads	W	K - ølm 230V - CRI
COB	graphite	2.50	530600-00	40°C	2000	OK	**15**	4000K - 1100lm - **CRI 90**

Equipment: cable gland in fiberglass nylon PG11 and provision for continuous line. Ideal for wall or ceiling mounting.

GENERAL CHARACTERISTICS

Frame: in AISI 316L stainless steel.

Reflector: in high-gloss aluminium.

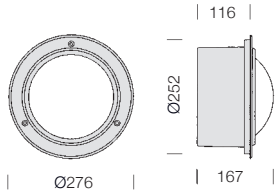
Diffuser: impact-resistant hemispherical glass

Standard supply: standard recess box.

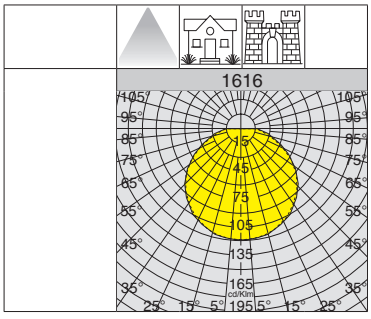
LED (LAMP E27): 15.000h.



IP65IK08







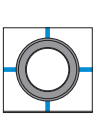
RG0

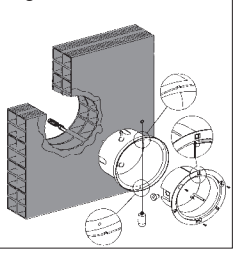
U.V.

ø252

2700K

Recessed mounting box, fitted for input of power supply tube on the bottom or from the sides, with references for proper positioning.



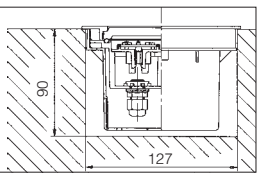


1616 Wall - with convex glass and stainless steel frame					
		CLD S+L			LED (tp= 25 °C)
LED	colour	weight	code	W	K - ølm - CRI
LED (LAMP E27)	inox	2.30	530680-00	**7**	2700K - 800lm - CRI 80
Ideal for ceiling mounting. Resistant to humid and salty environments.					



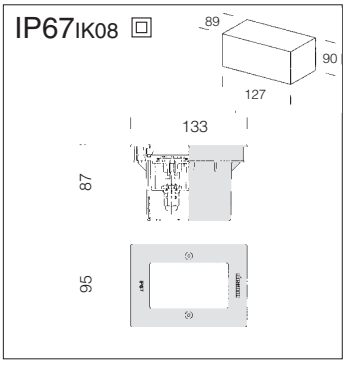


Recessed dimensions art. 1673





IP67 IK08



GENERAL CHARACTERISTICS

Housing: vandal resistant fibre-glass nylon.

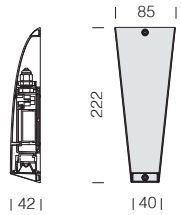
Frame: die-cast aluminium.

Diffuser: frosted glass, resistant to impact and thermal shock.

1673 Starled - LED 230V

		CLD		temperature and load					LED (tj= 25 °C)
230V	colour	weight	code	T. max on glass ta 15°	max kg load	can be walked on	can bear vehicle loads	W	K - ølm 230V - degrees - CRI
LED	graphite	0.41	530696-00	30°	2000Kg	OK	OK	**1**	4000K - 80lm - 120° - CRI≥80
	grey 9007		530697-00	30°	2000Kg	OK	OK		

IP65 IK08



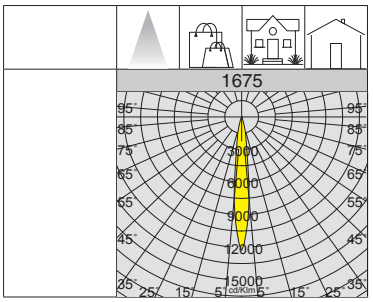
GENERAL CHARACTERISTICS

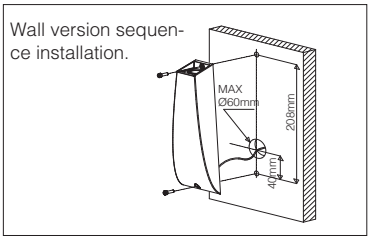
Housing: in die-cast aluminium.

Electric gear: supplied with inbuilt power supply.

LED: luminous flux maintenance 70%: 25.000h (L70B50).



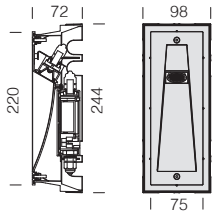




RG0 U.V. ZONA 1

1675 Spy					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm (350mA) - CRI - degrees
LED	grey 9007	0.50	530672-00	**2,5**	4000K - 150lm - CRI 80 - 10°
On request: corten version, with sub-code 2191.					

IP65 IK08



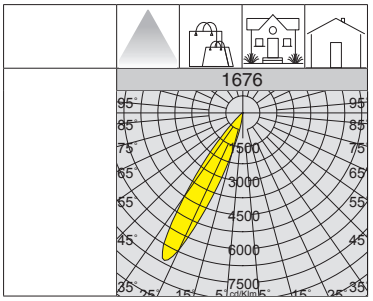
GENERAL CHARACTERISTICS

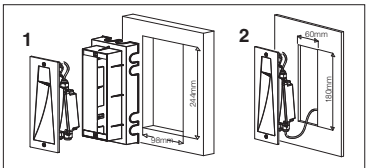
Housing: in die-cast aluminium.

Electric gear: supplied with inbuilt power supply.

LED: luminous flux maintenance 70%: 25.000h (L70B50).







1) Wall recessed sequence with box

2) Wall recessed sequence with no box

RG0 U.V. ZONA 1

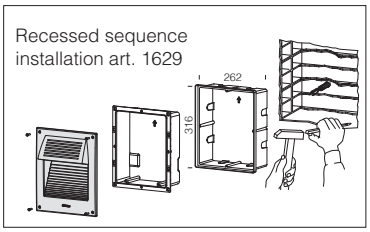
1676 Spy					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm (350mA) - CRI - degrees
LED	grey 9007	0.50	530683-00	**2,5**	4000K - 150lm - CRI 80 - 24°
On request: corten version, with sub-code 2191.					

U.V.

262x316

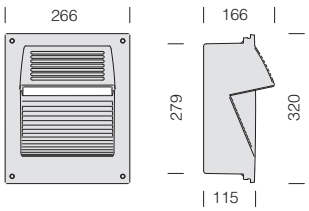
ZONA 1







IP65 IK06



GENERAL CHARACTERISTICS

Housing: in fibreglass nylon, UV stabilized.

Front frame: in die-cast aluminium.

Diffuser: in 4 mm thick tempered glass, resistant to impact and thermal shock (UNI-EN 12150-1 : 2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

Equipment: electric gear on removable gear tray for easy maintenance. IP68 quick connector for rapid connection to the line.

1624 Fonte - wall version (1)

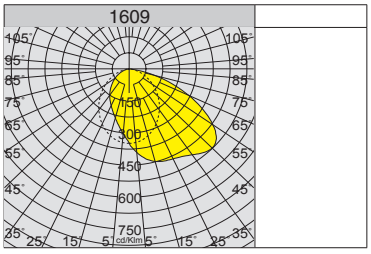
		CLD			LED (tj= 25 °C)
LED	colour	weight	code	W	K - ølm 116mA - CRI
LED	grey 9007	2.20	431745-00	**4,5**	4000K - 480lm - CRI≥80
	corten		431745-2191		

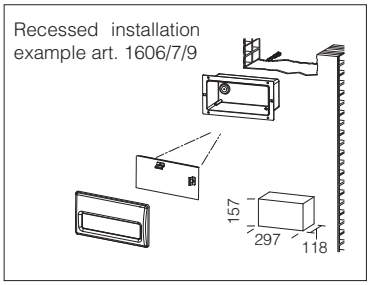
1629 Fonte - recessed (2)

		CLD			LED (tj= 25 °C)
LED	colour	weight	code	W	K - ølm 116mA - CRI
LED	grey 9007	2.20	431752-00	**4,5**	4000K - 480lm - CRI≥80
	corten		431752-2191		

297x157

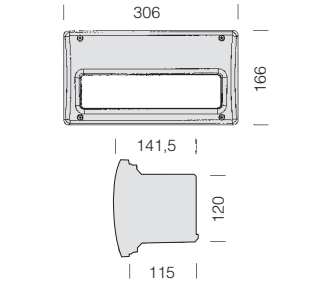
ZONA 1







IP66 IK08



GENERAL CHARACTERISTICS

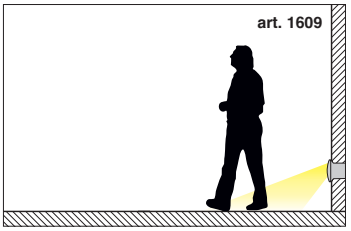
Housing: vandal resistant fibreglass grey colour RAL 7035 nylon.

Frame: stainless steel AISI 316.

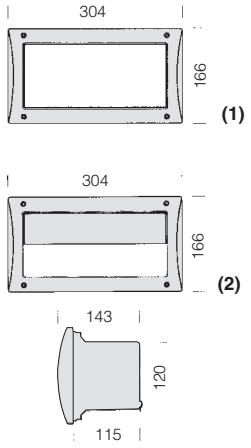
Diffuser: tempered glass.

1609 Box 1 - asymmetric screen eyelid

		CLD			LED (tj= 25 °C)
LED	colour	weight	code	W	K - ølm 116mA - CRI
LED	inox	1.70	431770-00	**4,5**	4000K - 480lm - CRI≥80

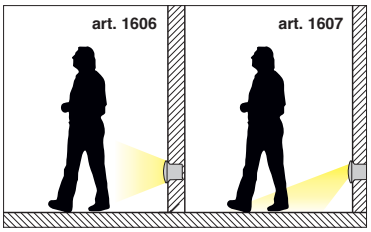


IP65IK08









U.V.

297x157

GENERAL CHARACTERISTICS

Housing: in f.g. nylon, RAL 7035 grey, shatterproof and UV-stabilised.

Frame: in thermoplastic material (designed for outdoor installation) UV-stabilized, in RAL 7045 grey

Reflector art. 1607: asymmetric; in scored aluminium.

Diffuser: in scored, matt-finished, V2 polycarbonate, shatterproof, self-extinguishing, UV-stabilised.

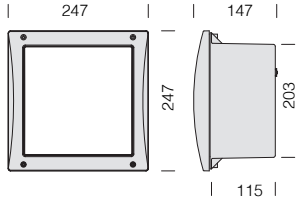
1606 Box (1)

		CLD			LED (tj= 25 °C)
LED	colour	weight	code	W	K - ølm 116mA - CRI
LED	grey	0.80	431635-00	**4,5**	4000K - 480lm - CRI≥80

1607 Box - asymmetric screen eyelid (2)

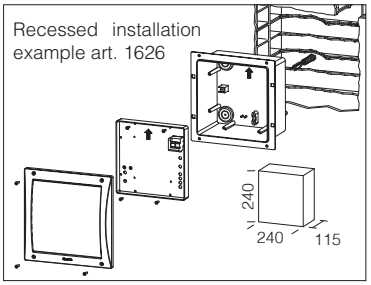
		CLD			LED (tj= 25 °C)
LED	colour	weight	code	W	K - ølm 116mA - CRI
LED	grey	1.00	431735-00	**4,5**	4000K - 480lm - CRI≥80

IP66IK08









U.V.

240x240

GENERAL CHARACTERISTICS

Housing: in f.g. nylon, RAL 7035 grey, shatterproof and UV-stabilised.

Frame: in thermoplastic material (designed for outdoor installation) UV-stabilized, in RAL 7045 grey

Diffuser: in scored, matt-finished, V2 polycarbonate, shatterproof, self-extinguishing, UV-stabilised.

1626 Box 2

		CLD S	
LED	colour	weight	code
LAMP E27 (MAX 10W)	grey	1.30	431640-00

As standard, designed to fit LED lamp with E27 connector.



RESIDENTIAL AMENITIES



U.V.

215x110

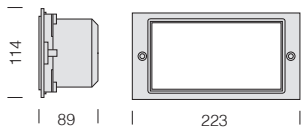
ZONA 1


art. 1206





IP54IK08



GENERAL CHARACTERISTICS

Housing: vandal resistant nylon, UV-stabilised.

Frame: die-cast aluminium.

Diffuser art. 1209: in glass.

Diffuser art. 1206: in opal plexiglass.

1209 Box - with diffuser					
		CLD			**LED (tj= 25 °C)**
230V	colour	weight	code	**W**	K - ølm 230V - CRI
LED	graphite	0.50	431002-00	**3**	4000K - 280lm - CRI 80

1206 Box - with opal diffuser			
		CLD S	
wattage	colour	weight	code
LED (LAMP E14)	graphite	0.50	431001-00

As standard, designed to fit LED lamp with E14 connector (max 5,5W - 470lm).



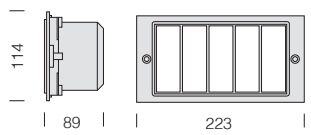


art. 1206 + acc. 995130-00

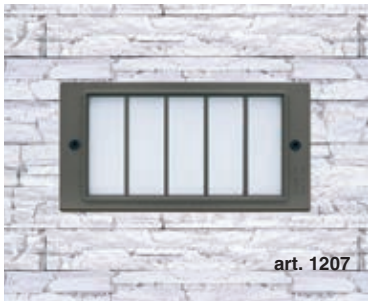
Self adhesive pictograms available:

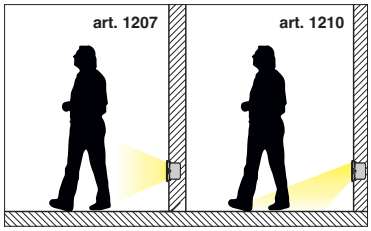
EXIT **995130-00**
WC **995132-00**

IP54IK08









U.V.

215x110

GENERAL CHARACTERISTICS

Housing: vandal resistant nylon, UV-stabilised.

Frame: die-cast aluminium.

Diffuser art. 1210: in glass.

Diffuser art. 1207: in opal plexiglass.

Standard supply: grid with louvres.

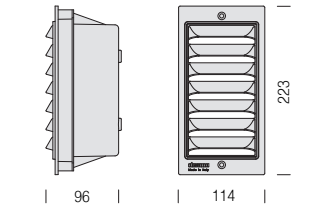
1210 Box - with vertical screen					
		CLD			LED (tj= 25 °C)
230V	colour	weight	code	W	K - ølm 230V - CRI
LED	graphite	0.50	431502-00	**3**	4000K - 280lm - CRI 80
Upon request, versions with coloured LEDs.					

1207 Box - opal with vertical screen			
		CLD S	
LED	colour	weight	code
LED (LAMP E14)	graphite	0.50	431501-00

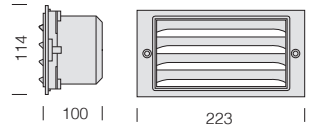
As standard, designed to fit LED lamp with E14 connector (max 5,5W - 470lm).



IP54IK08

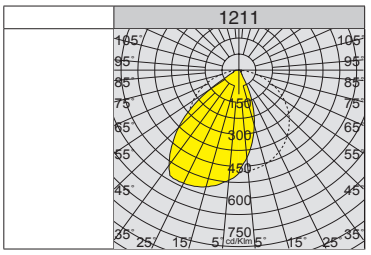


art. 1212



art. 1208-1211







U.V.

215x110

ZONA 1

GENERAL CHARACTERISTICS

Housing: vandal resistant nylon, UV-stabilised.

Frame: die-cast aluminium.

Diffuser art. 1211-1212: in glass.

Diffuser art. 1208: in opal plexiglass.

Standard supply: grid with louvres.

1212 Box - with vertical screen					
		CLD			LED (tj= 25 °C)
230V	colour	weight	code	W	K - ølm 230V - CRI
LED	graphite	0.50	431603-00	**3**	4000K - 280lm - CRI 80

1211 Box - with horizontal screen					
		CLD			LED (tj= 25 °C)
230V	colour	weight	code	W	K - ølm 230V - CRI
LED	graphite	0.50	431602-00	**3**	4000K - 280lm - CRI 80

1208 Box - opal with horizontal screen			
		CLD S	
LED	colour	weight	code
LED (LAMP E14)	graphite	0.50	431601-00

As standard, designed to fit LED lamp with E14 connector (max 5,5W - 470lm).





GENERAL CHARACTERISTICS

Housing: extruded aluminium suitable for continuous row.

Diffuser: in tempered glass, 8 mm thick, resistant to thermal shocks, impacts, and max 2000 kg loads (UNI-EN 12150-1 : 2001). Art. 1748 with sandblasted glass.

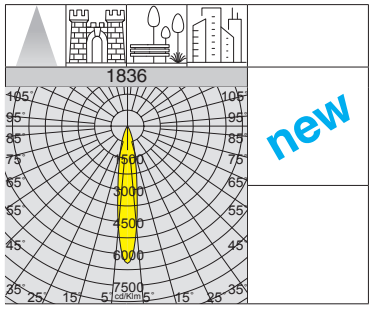
Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

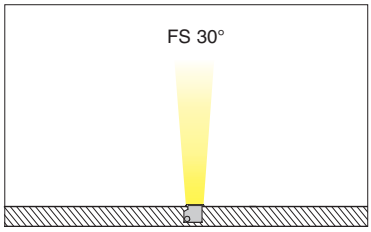
Equipment: complete with electrical cable for mains connection.

LED: luminous flux maintenance 80% 80.000h (L80B20).
Power factor ≥0.9.

RGBW DMX RDM Sicura is also available in the RGBW - DMX/RDM version (see chapter *Lighting management systems - DMX solution for LED RGBW*).

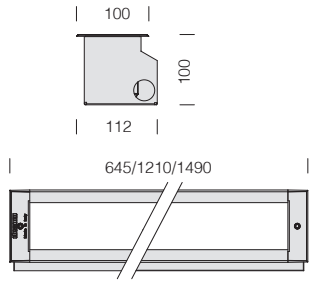
RG0





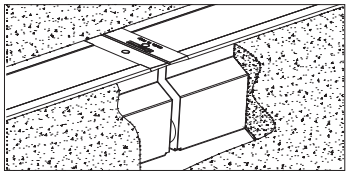


IP67 IK08

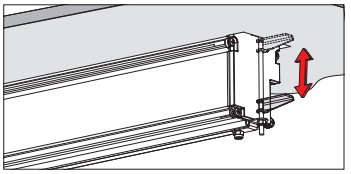


1836 Sicura FS - symmetric

			CLD		temperature and load						LUMEN OUTPUT (tq= 25 °C)
LED	colour	L	weight	code	T. max on glass ta 15°	T. max on glass ta 25°	max load kg	can be walked on	can bear vehicle load	W tot	K - ølm - CRI - degrees
LED	grey	**645**	5.20	414260-00	30°	40°	2000	OK	OK	**22**	4000K - 2952lm - CRI≥80 - 30°
				414260-39							3000K - **2745lm** - CRI≥80 - 30°
		1210	6.20	414261-00	30°	40°	2000	OK	OK	**43**	4000K - 5905lm - CRI≥80 - 30°
				414261-39							3000K - **5492lm** - CRI≥80 - 30°
		1490	7.20	414268-00	30°	40°	2000	OK	OK	**54**	4000K - 7381lm - CRI≥80 - 30°
				414268-39							3000K - **6864lm** - CRI≥80 - 30°

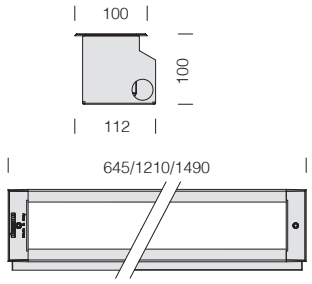


UPON REQUEST: IP68 connector for mains connection; accessory for continuous row.

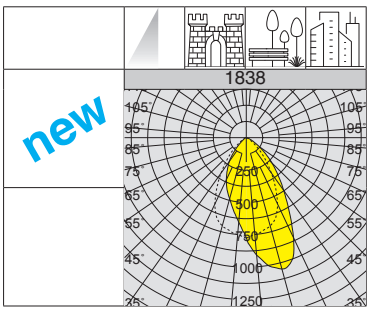


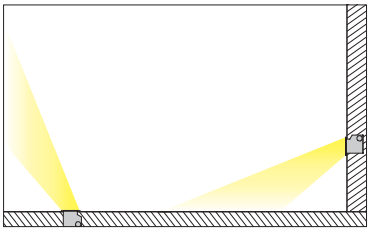
acc. 905 bracket	
s. steel	998013-00
Support for ceiling mounting. Packet containing 2 brackets.	

IP67 IK08







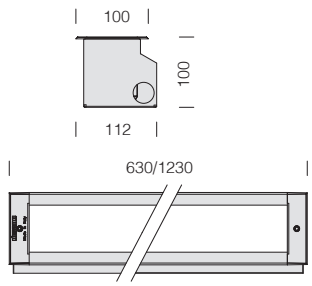


RG0

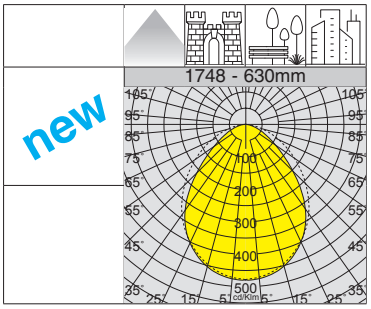
1838 Sicura - asymmetric - wall and floor version

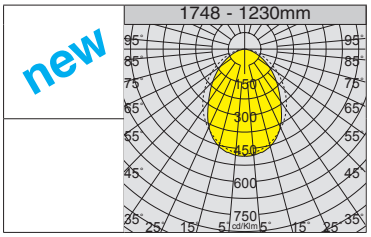
			CLD		temperature and load						LUMEN OUTPUT (tq= 25 °C)
LED	colour	L	weight	code	T. max on glass ta 15°	T. max on glass ta 25°	max load kg	can be walked on	can bear vehicle load	W tot	K - ølm - CRI
LED	grey	**645**	5.20	414280-00	30°	40°	2000	OK	OK	**22**	4000K - 2849lm - CRI≥80
				414280-39							3000K - **2650lm** - CRI≥80
		1210	6.20	414281-00	30°	40°	2000	OK	OK	**43**	4000K - 5699lm - CRI≥80
				414281-39							3000K - **5300lm** - CRI≥80
		1490	7.20	414282-00	30°	40°	2000	OK	OK	**54**	4000K - 7123lm - CRI≥80
				414282-39							3000K - **6624lm** - CRI≥80

IP67 IK08









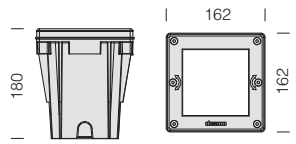
RG0

1748 Sicura - wide beam

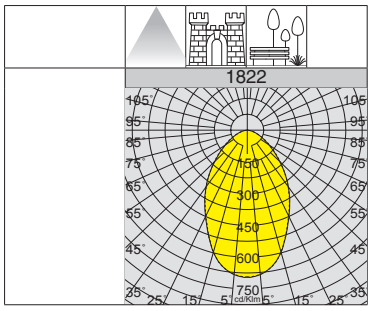
			CLD		temperature and load						LUMEN OUTPUT (tq= 25 °C)
LED	colour	L	weight	code	T. max on glass ta 15°	T. max on glass ta 25°	max load kg	can be walked on	can bear vehicle loads	W tot	K - ølm - CRI
LED	grey	**630**	5.20	414252-00	30°	40°	2000	OK	OK	**14**	4000K - 899lm - CRI≥80
				414252-39							3000K - **836lm** - CRI≥80
				414254-00	30°	40°	2000	OK	OK	**28**	4000K - 1800lm - CRI≥80
				414254-39							3000K - **1674lm** - CRI≥80
LED	grey	**1230**	7.20	414258-00	30°	40°	2000	OK	OK	**24**	4000K - 1576lm - CRI≥80
				414258-39							3000K - **1466lm** - CRI≥80
				414259-00	30°	40°	2000	OK	OK	**48**	4000K - 3261lm - CRI≥80
				414259-39							3000K - **3033lm** - CRI≥80



IP67IK09







RGO

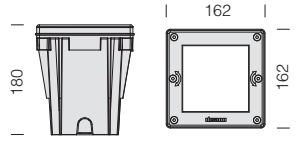
160x160

GENERAL CHARACTERISTICS

Housing: made of nylon.
Frame: in AISI 304 stainless steel.
Outer casing: nylon outer casing.
Diffuser: tempered glass, 12mm thick, resistant to thermal shock. and mechanical stress up to 2000 Kg.

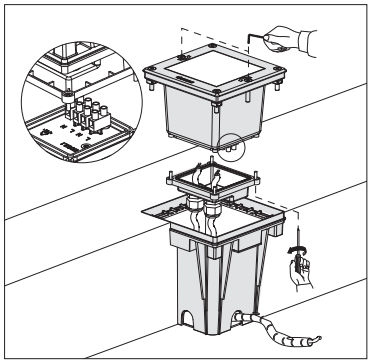
1822 Miniquadro										
		CLD		temperature and load						LED (tj= 25 °C)
230V	colour	weight	code	T. max on glass		max load	can be walked on	can bear vehicle loads	W	K - ølm 230V - CRI
				ta 25°	ta 15°					
LED	inox	1.70	530420-00	30°	20°	2000	OK	OK	**3**	4000K - 135lm - CRI 80

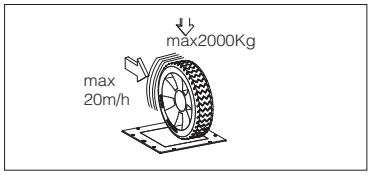
IP67IK09



LED: luminous flux maintenance 80% 50.000h (L80B20).





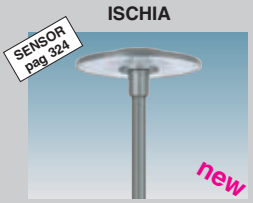


RGO

160x160

1823 - Miniquadro										
		CLD		temperature and load						LED (tj= 25 °C)
LED	colour	weight	code	T. max on glass		max load	can be walked on	can bear vehicle loads	W	K - ølm 300mA - CRI
				ta 25°	ta 15°					
COB	inox	1.70	530425-00	40°	30°	2000	OK	OK	**11**	4000K - 1400lm - **CRI 90**


adidas
Desigual







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Iseo p. 326
Como p. 330







Garda p. 334
Loto p. 342
Disco p. 348







Visconti 2.0 p. 350
Aura p. 358
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Vista p. 378
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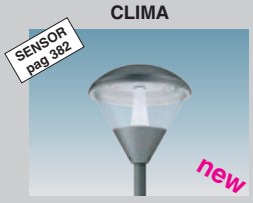





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GENERAL CHARACTERISTICS

Housing: pressed in die-cast aluminium.

Pole connection: pressed in die-cast aluminium. Suited for poles with a diameter 60 mm.

Diffuser: polycarbonate 2,5 mm thick, thermal shock and impact resistant (UNI-EN 12150-1: 2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

UNI EN ISO 9227 **Upon request:** coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

Standard supply: automatic temperature control inside the device with automatic resetting; dedicated electronic device to protect the LED module; Complete with quick connection and anti-condensation valve for air recirculation.

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.

OTHER CHARACTERISTICS

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

Registered Design DM/100271 The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs.

The ENEC Plus mark certifies that the LED luminaires are compliant and reliable in terms of safety and declared performance.

SPECIAL VERSION

Upon request (subcode -0026): version with diffuser with opal finish for greater lighting control; ideal for installation in residential areas, including condominium gardens and private parks and streets.



THE RANGE OF ISCHIA STREET LAMPS IS AVAILABLE IN THE FOLLOWING COLOUR TEMPERATURES:

2200K **2200K (subcode -73):** lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.

3000K 4000K **3000K - 4000K as standard:** lamps with 3000K-4000K white light, instead, is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

Upon request LED 4000K - CRI 80 versions with **sub-code -60.**

PRODUCT CODE STRUCTURE

The product code of the Ischia range consists of alphanumeric characters that indicate the product's technical features and is structured as follows:

standard code	equipment	current (I out)	optics type
424660	00	0280	RW

The type of optics is identified as follows:

RW: rotosymmetric wide beam optic
RM: rotosymmetric medium beam optic
SW: square wide beam optic
CA: cycle-pedestrian asymmetric optic
CS: cycle-pedestrian symmetric optic
AM: asymmetric medium beam optic
AW: asymmetric wide beam optic

BASIC PROG

BASIC PROG (BASIC CLD) AVAILABLE FUNCTIONS

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture

LIGHTING POINT MANAGEMENT OPTIONS ON REQUEST

possibility to choose different lighting point management systems according to the system's needs:

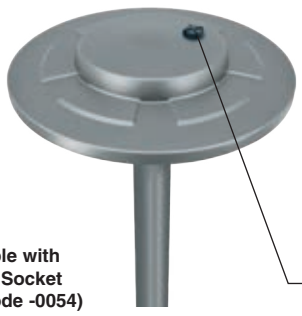
1-10V dimming ordered with **sub-code -12**	Adjustment range from 10%-100% with 1-10V
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps**. To increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The "virtual midnight" is the reference point for dimming lights according to the desired profile. The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.* ***ATTENTION:*** *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request.*

Factory settings

Time	Flux
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

PLC remote control ordered with **sub-code -0078**	Point-to-point and system management and diagnosis system

For more information see page XX-XXI



Exemple with Zhaga Socket (subcode -0054)

LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET: to monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	Mounted directly on the fixture's body, ideal for remote lighting management applications.
Zhaga Socket order with **subcode -0054** (complete with sealing cap)	

The Zhaga-D4i mark certifies the fixture's compliance with Zhaga Book 18 version 2 specifications for outdoor luminaires and DiiA's D4i specifications for intra-luminaire DALI interface.





Upon request (subcode -0026): version with diffuser with opal finish for greater lighting control; ideal for installation in residential areas, including condominium gardens and private parks and streets.

RG0 Ethr

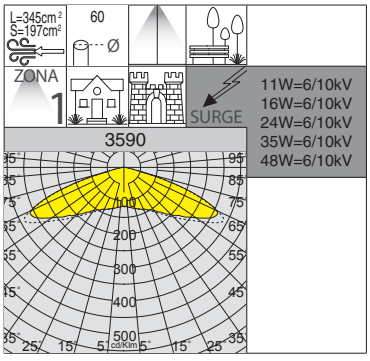
+50 C -30

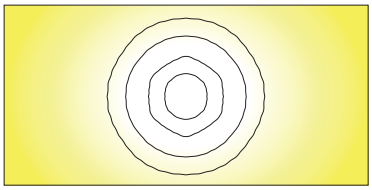
U.V.

LOW FLICKER

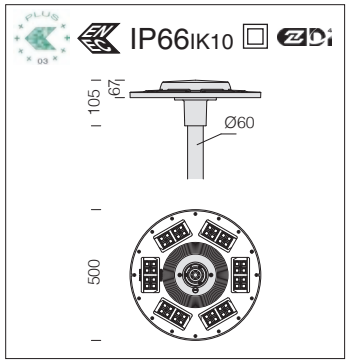
3000K

4000K









Optics: made of PMMA with high temperature resistance and UV rays.

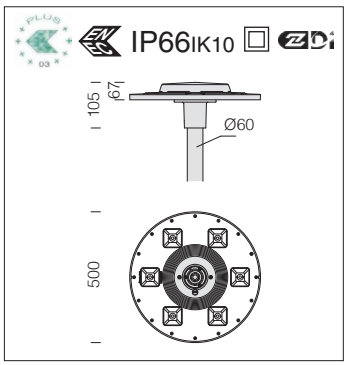
LED: power factor ≥0.9.
Luminous flux maintenance 80%: 80.000h (L80B20).

Other available versions		
code	W tot	K - ølm - CRI
424660-00-0280-RW	11	4000K - 1502lm - CRI 70
424660-39-0280-RW		3000K - 1427lm - CRI 70
424660-00-0440-RW	16	4000K - 2333lm - CRI 70
424660-39-0440-RW		3000K - 2216lm - CRI 70
424660-00-0320-RW	24	4000K - 3626lm - CRI 70
424660-39-0320-RW		3000K - 3445lm - CRI 70

Luminous flux setup: this can be done by programming the drive current values requested when ordering/purchasing the fixture

3590 Ischia - rotosymmetric wide beam RW					
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424660-00	35	4000K - 4624lm - CRI 70
			424660-39		3000K - 4393lm - CRI 70
LED	graphite	4.50	424661-00	48	4000K - 5874lm - CRI 70
			424661-39		3000K - 5580lm - CRI 70
Upon request: possibility to choose different lighting point management systems (see table on p. 315).					

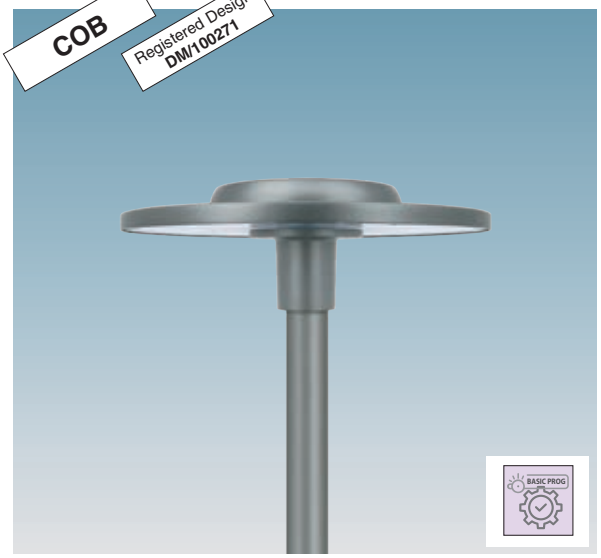
Upon request (sub-code -60)	
LED	4000K - CRI 80

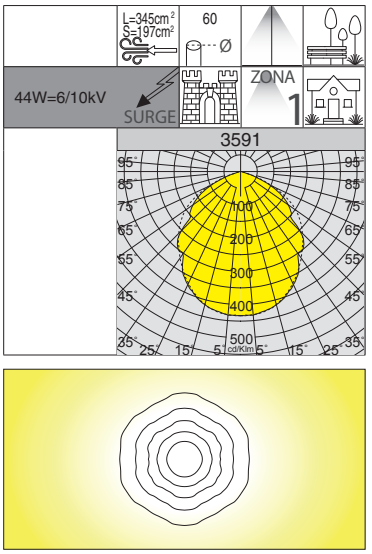


Reflector: in pre-anodised 99.85 aluminium.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 50.000h (L80B20).

Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

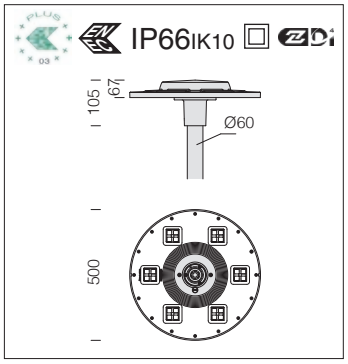




3591 Ischia - COB rotosymmetric medium beam RM

		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	graphite	4.50	424670-00	**44**	4000K - 5877lm - CRI 80
			424671-00		3000K - 5469lm - CRI 80
COB AMBER			424670-73		2200K - 5172lm - **AMBER**

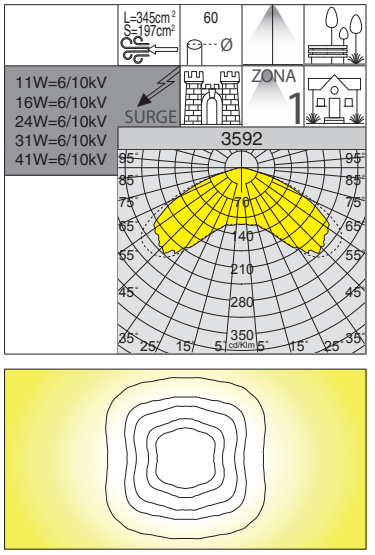
Upon request: possibility to choose different lighting point management systems (see table on p. 315).



Optics: made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 100.000h (L80B10).





3592 Ischia - square wide beam SW

		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424680-00	**31**	4000K - 4395lm - CRI 70
			424680-39		3000K - 4175lm - CRI 70
LED	graphite	4.50	424681-00	**41**	4000K - 5676lm - CRI 70
			424681-39		3000K - 5392lm - CRI 70

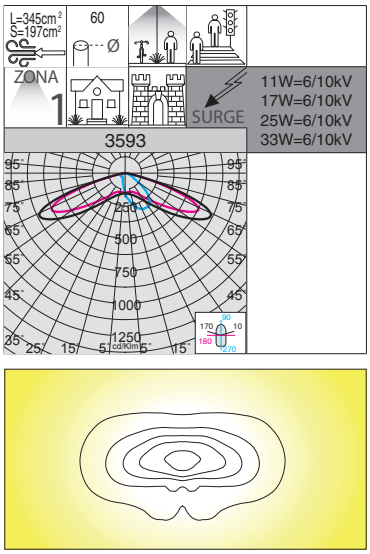
Upon request: possibility to choose different lighting point management systems (see table on p. 315).

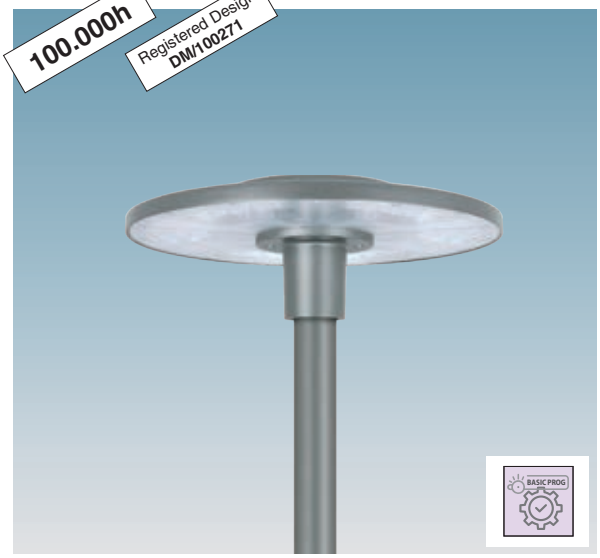
Upon request (sub-code -60)	
LED	4000K - CRI 80

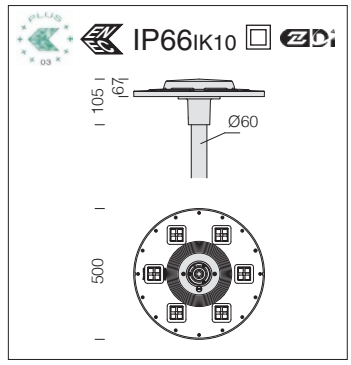
Other available versions		
code	W tot	K - ølm - CRI
424680-00-0280-SW	**11**	4000K - 1500lm - CRI 70
424680-39-0280-SW		3000K - 1425lm - CRI 70
424680-00-0440-SW	**16**	4000K - 2218lm - CRI 70
424680-39-0440-SW		3000K - 2107lm - CRI 70
424680-00-0320-SW	**24**	4000K - 3446lm - CRI 70
424680-39-0320-SW		3000K - 3274lm - CRI 70

Luminous flux setup: this can be done by programming the drive current values requested when ordering/purchasing the fixture









Optics: made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 100.000h (L80B10).

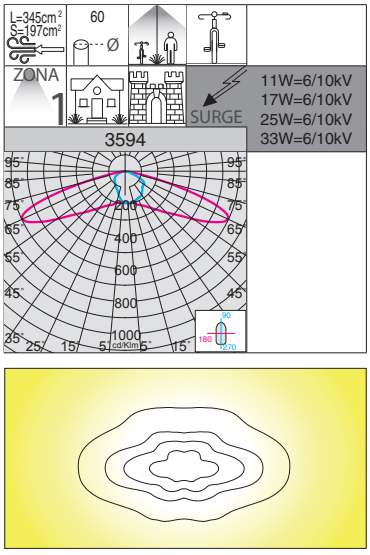
Other available versions		
code	W tot	K - ølm - CRI
424690-00-0480-CA	17	4000K - 2565lm - CRI 70
424690-39-0480-CA		3000K - 2437lm - CRI 70
424690-00-0340-CA	25	4000K - 3634lm - CRI 70
424690-39-0340-CA		3000K - 3452lm - CRI 70
424690-00-0450-CA	33	4000K - 4660lm - CRI 70
424690-39-0450-CA		3000K - 4427lm - CRI 70

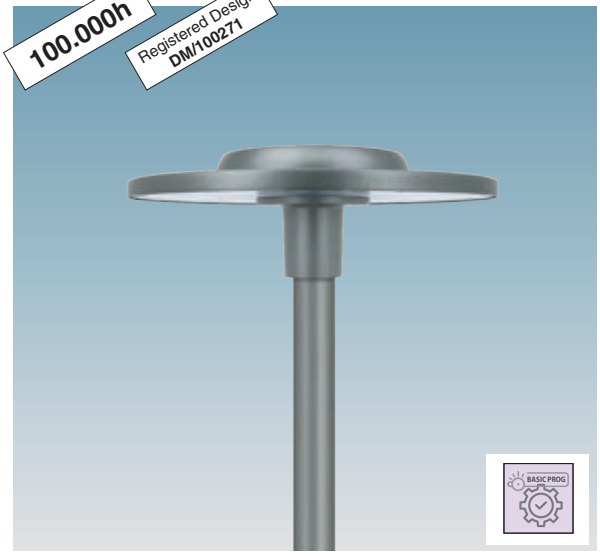
Luminous flux setup: this can be done by programming the drive current values requested when ordering/purchasing the fixture

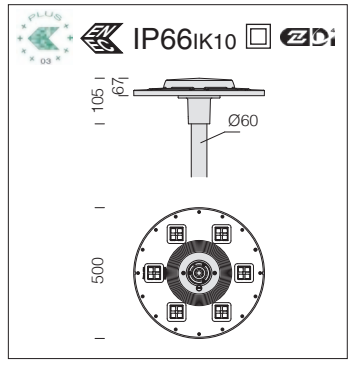
3593 Ischia - cycle-pedestrian asymmetric CA					
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424690-00-0280-CA	11	4000K - 1507lm - CRI 70
			424690-39-0280-CA		3000K - 1432lm - CRI 70
Upon request: possibility to choose different lighting point management systems (see table on p. 315).					

Upon request (sub-code -60)	
LED	4000K - CRI 80









Optics: made of PMMA with high temperature resistance and UV rays.

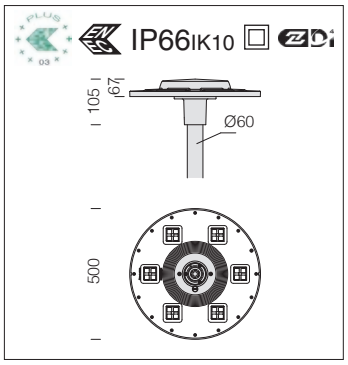
LED: power factor ≥0.9.
Luminous flux maintenance 80%: 100.000h (L80B10).

Other available versions		
code	W tot	K - ølm - CRI
424700-00-0480-CS	17	4000K - 2559lm - CRI 70
424700-39-0480-CS		3000K - 2431lm - CRI 70
424700-00-0340-CS	25	4000K - 3625lm - CRI 70
424700-39-0340-CS		3000K - 3444lm - CRI 70
424700-00-0450-CS	33	4000K - 4649lm - CRI 70
424700-39-0450-CS		3000K - 4417lm - CRI 70

Luminous flux setup: this can be done by programming the drive current values requested when ordering/purchasing the fixture

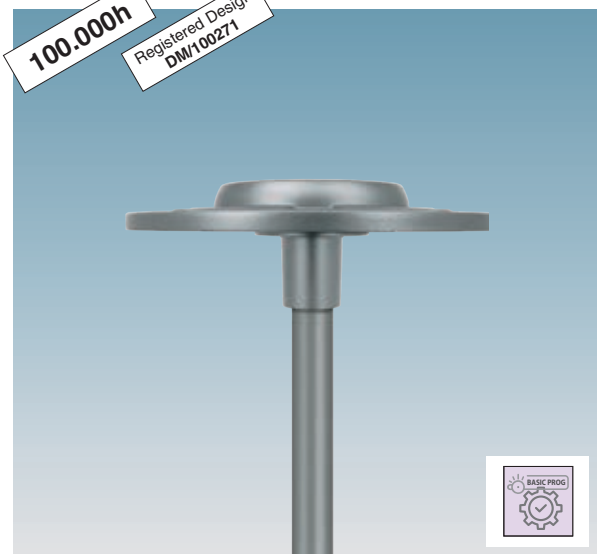
3594 Ischia - cycle-pedestrian symmetric CS					
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424700-00-0280-CS	11	4000K - 1503lm - CRI 70
			424700-39-0280-CS		3000K - 1428lm - CRI 70
Upon request: possibility to choose different lighting point management systems (see table on p. 315).					

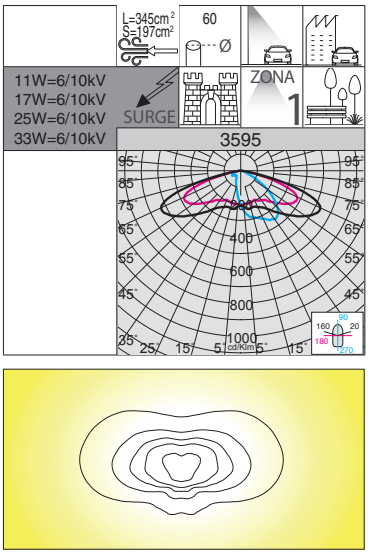
Upon request (sub-code -60)	
LED	4000K - CRI 80



Optics: made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 100.000h (L80B10).





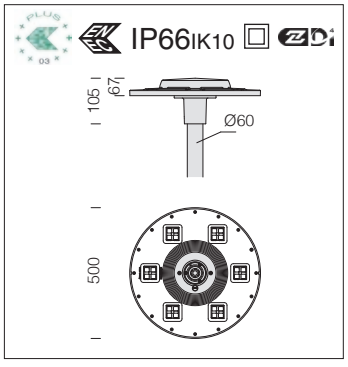
RG0 Ethr
+50 °C -30
U.V.
LOW FLICKER
3000K
4000K

3595 Ischia - asymmetric medium beam AM					
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424710-00-0280-AM	11	4000K - 1514lm - CRI 70
			424710-39-0280-AM		3000K - 1438lm - CRI 70
Upon request: possibility to choose different lighting point management systems (see table on p. 315).					

Upon request (sub-code -60)	
LED	4000K - CRI 80

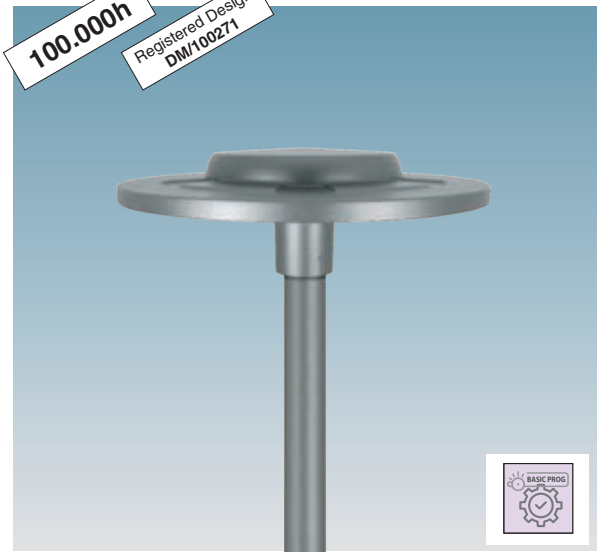
Other available versions		
code	W tot	K - ølm - CRI
424710-00-0480-AM	17	4000K - 2577lm - CRI 70
424710-39-0480-AM		3000K - 2448lm - CRI 70
424710-00-0340-AM	25	4000K - 3651lm - CRI 70
424710-39-0340-AM		3000K - 3468lm - CRI 70
424710-00-0450-AM	33	4000K - 4682lm - CRI 70
424710-39-0450-AM		3000K - 4448lm - CRI 70

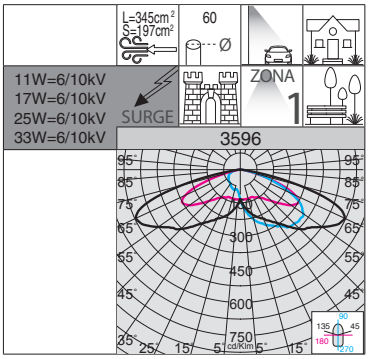
Luminous flux setup: this can be done by programming the drive current values requested when ordering/purchasing the fixture

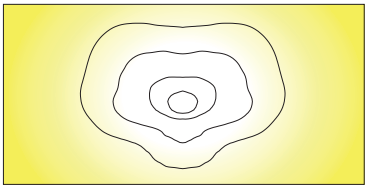


Optics: made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 100.000h (L80B10).







RG0 Ethr
+50 °C -30
U.V.
LOW FLICKER
3000K
4000K

3596 Ischia - asymmetric wide beam AW					
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424720-00-0450-AW	33	4000K - 4484lm - CRI 70
			424720-39-0450-AW		3000K - 4260lm - CRI 70
Upon request: possibility to choose different lighting point management systems (see table on p. 315).					

Upon request (sub-code -60)	
LED	4000K - CRI 80

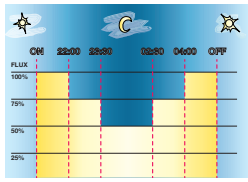
Other available versions		
code	W tot	K - ølm - CRI
424720-00-0280-AW	11	4000K - 1450lm - CRI 70
424720-39-0280-AW		3000K - 1377lm - CRI 70
424720-00-0480-AW	17	4000K - 2468lm - CRI 70
424720-39-0480-AW		3000K - 2345lm - CRI 70
424720-00-0340-AW	25	4000K - 3496lm - CRI 70
424720-39-0340-AW		3000K - 3321lm - CRI 70

Luminous flux setup: this can be done by programming the drive current values requested when ordering/purchasing the fixture

VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The "virtual midnight" is the reference point for dimming lights according to the desired profile. The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*



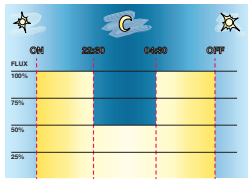
Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.



Factory settings	
Time	Flux
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

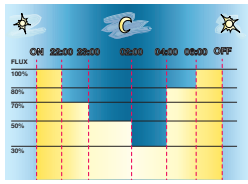
ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request.*

Virtual midnight in 2 steps subcode -31



Settings upon request	
Time	Flux
on ÷ 22:30	100%
22:30 ÷ 04:30	50%
04:30 ÷ off	100%

Virtual midnight in 5 steps subcode -32



Settings upon request	
Time	Flux
on ÷ 22:00	100%
22:00 ÷ 23:30	70%
23:00 ÷ 02:00	50%
02:00 ÷ 04:00	30%
04:00 ÷ 06:00	80%
06:00 ÷ off	100%

RG0 Ethr

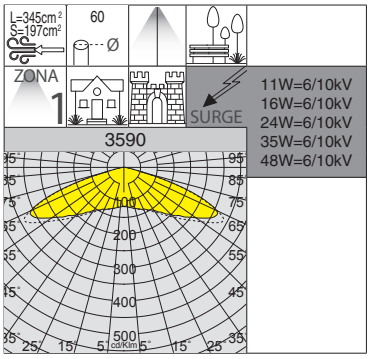
+50 C° -30

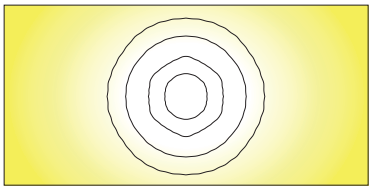
U.V.

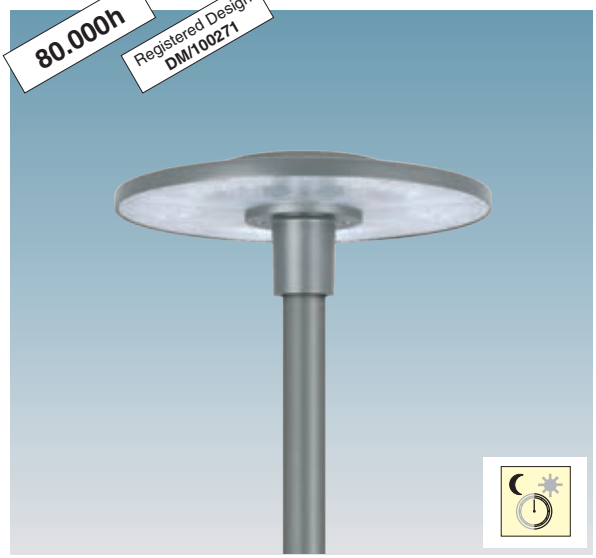
LOW FLICKER

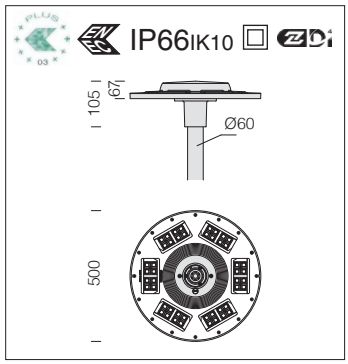
3000K

4000K









Optics: made of PMMA with high temperature resistance and UV rays.

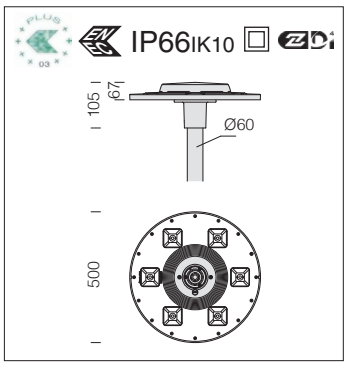
LED: power factor ≥0.9.
Luminous flux maintenance 80%: 80.000h (L80B20).

Other available versions		
code	W tot	K - ølm - CRI
424660-30-0280-RW	11	4000K - 1502lm - CRI 70
424660-3028-0280-RW		3000K - 1427lm - CRI 70
424660-30-0440-RW	16	4000K - 2333lm - CRI 70
424660-3028-0440-RW		3000K - 2216lm - CRI 70
424660-30-0320-RW	24	4000K - 3626lm - CRI 70
424660-3028-0320-RW		3000K - 3445lm - CRI 70

Luminous flux setup: this can be done by programming the drive current values requested when ordering/purchasing the fixture

3590 Ischia MIDNIGHT - rotosymmetric wide beam RW					
		CLD MIDNIGHT			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424660-30	35	4000K - 4624lm - CRI 70
			424660-3028		3000K - 4393lm - CRI 70
LED	graphite	4.50	424661-30	48	4000K - 5874lm - CRI 70
			424661-3028		3000K - 5580lm - CRI 70
Upon request: possibility to choose different lighting point management systems (see table on p. 315).					

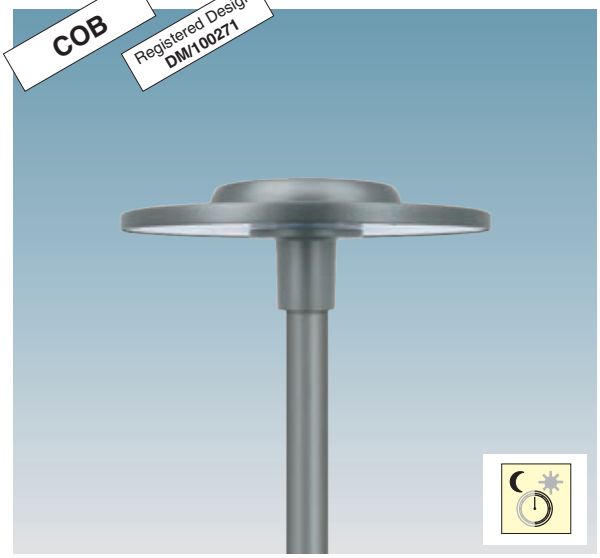
Upon request (sub-code -60)	
LED	4000K - CRI 80

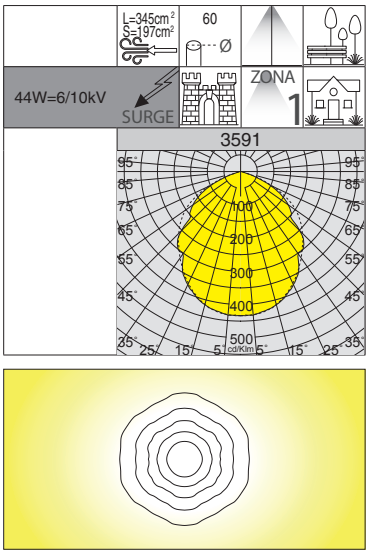


Reflector: in pre-anodised 99.85 aluminium.

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 50.000h (L80B20).

Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.



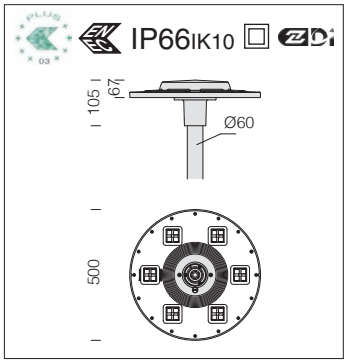


RG0 Ethr
+50 C° -30
U.V.
LOW FLICKER
2200K
3000K
4000K

3591 Ischia MIDNIGHT - COB rotosymmetric medium beam RM

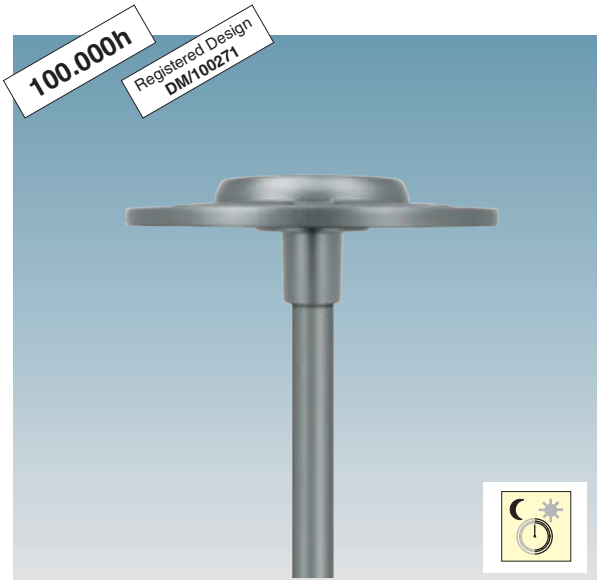
		CLD MIDNIGHT			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
COB	graphite	4.50	424670-30	**44**	4000K - 5877lm - CRI 80
			424671-3028		3000K - 5469lm - CRI 80
COB AMBER			424670-7330		2200K - 5172lm - **AMBER**

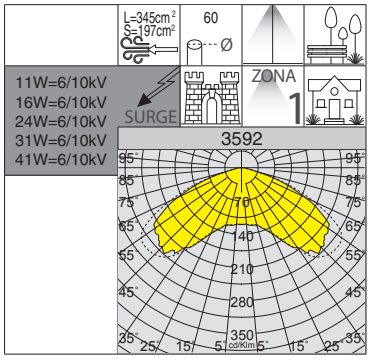
Upon request: possibility to choose different lighting point management systems (see table on p. 315).

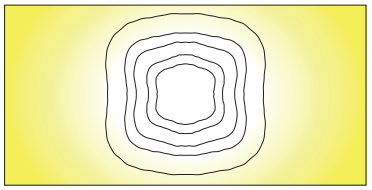


Optics: made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 100.000h (L80B10).







RG0 Ethr
+50 C° -30
U.V.
LOW FLICKER
3000K
4000K

3592 Ischia MIDNIGHT - square wide beam SW

		CLD MIDNIGHT			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424680-30	**31**	4000K - 4395lm - CRI 70
			424680-3028		3000K - 4175lm - CRI 70
LED	graphite	4.50	424681-30	**41**	4000K - 5676lm - CRI 70
			424681-3028		3000K - 5392lm - CRI 70

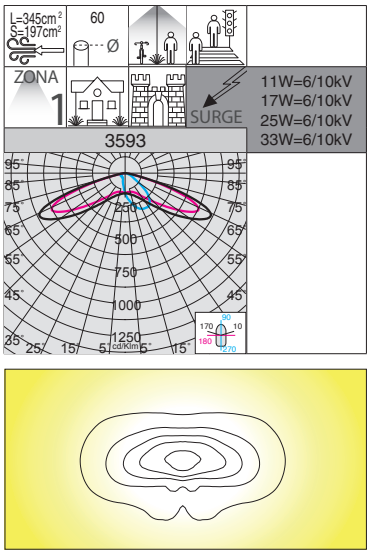
Upon request: possibility to choose different lighting point management systems (see table on p. 315).

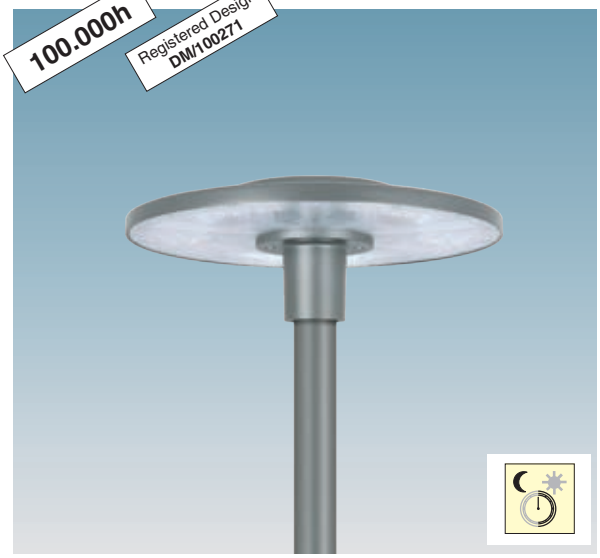
Upon request (sub-code -60)	
LED	4000K - CRI 80

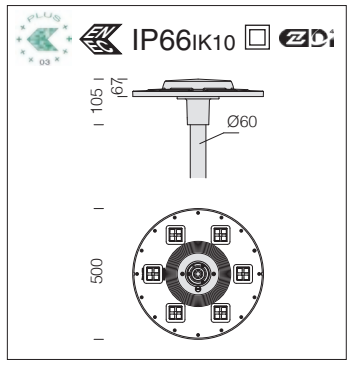
Other available versions		
code	W tot	K - ølm - CRI
424680-30-0280-SW	**11**	4000K - 1500lm - CRI 70
424680-3028-0280-SW		3000K - 1425lm - CRI 70
424680-30-0440-SW	**16**	4000K - 2218lm - CRI 70
424680-3028-0440-SW		3000K - 2107lm - CRI 70
424680-30-0320-SW	**24**	4000K - 3446lm - CRI 70
424680-3028-0320-SW		3000K - 3274lm - CRI 70

Luminous flux setup: this can be done by programming the drive current values requested when ordering/purchasing the fixture

RG0 Ethr
+50 C° -30
U.V.
LOW FLICKER
3000K
4000K







Optics: made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 100.000h (L80B10).

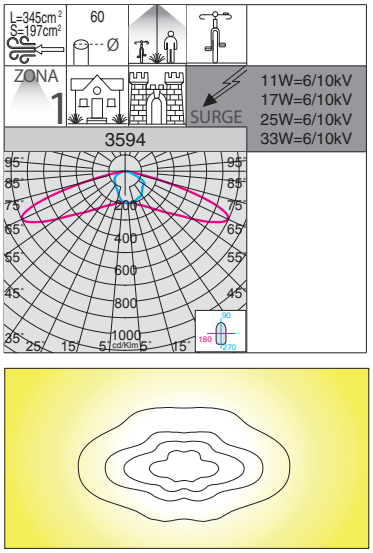
Other available versions		
code	W tot	K - ølm - CRI
424690-30-0480-CA	17	4000K - 2565lm - CRI 70
424690-3028-0480-CA		3000K - 2437lm - CRI 70
424690-30-0340-CA	25	4000K - 3634lm - CRI 70
424690-3028-0340-CA		3000K - 3452lm - CRI 70
424690-30-0450-CA	33	4000K - 4660lm - CRI 70
424690-3028-0450-CA		3000K - 4427lm - CRI 70

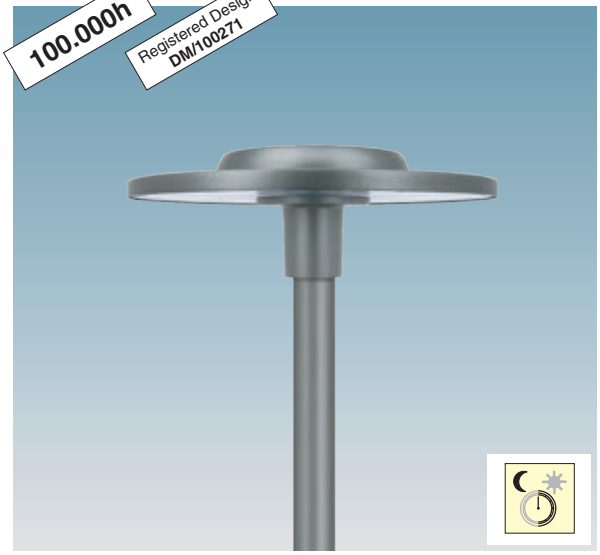
Luminous flux setup: this can be done by programming the drive current values requested when ordering/ purchasing the fixture

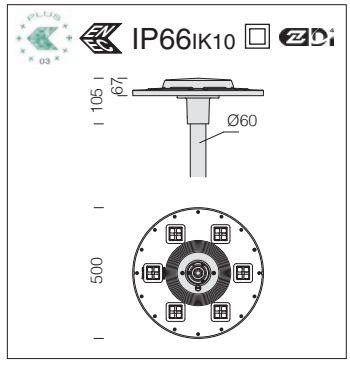
3593 Ischia MIDNIGHT - cycle-pedestrian asymmetric CA					
		CLD MIDNIGHT			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424690-30-0280-CA	11	4000K - 1507lm - CRI 70
			424690-3028-0280-CA		3000K - 1432lm - CRI 70
Upon request: possibility to choose different lighting point management systems (see table on p. 315).					

Upon request (sub-code -60)	
LED	4000K - CRI 80

RG0 Ethr
+50 C° -30
U.V.
LOW FLICKER
3000K
4000K







Optics: made of PMMA with high temperature resistance and UV rays.

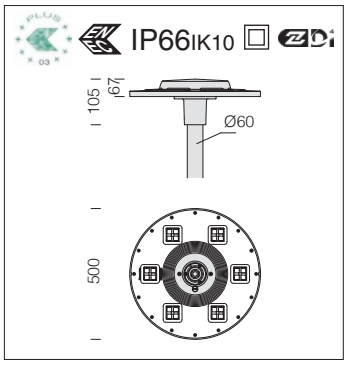
LED: power factor ≥0.9.
Luminous flux maintenance 80%: 100.000h (L80B10).

Other available versions		
code	W tot	K - ølm - CRI
424700-30-0480-CS	17	4000K - 2559lm - CRI 70
424700-3028-0480-CS		3000K - 2431lm - CRI 70
424700-30-0340-CS	25	4000K - 3625lm - CRI 70
424700-3028-0340-CS		3000K - 3444lm - CRI 70
424700-30-0450-CS	33	4000K - 4649lm - CRI 70
424700-3028-0450-CS		3000K - 4417lm - CRI 70

Luminous flux setup: this can be done by programming the drive current values requested when ordering/ purchasing the fixture

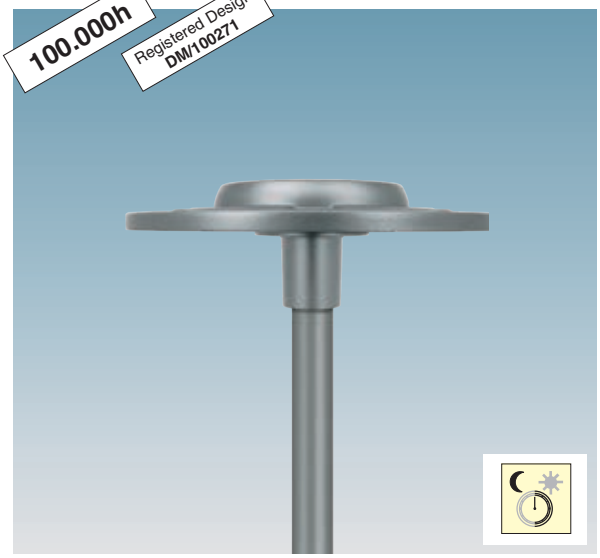
3594 Ischia - cycle-pedestrian symmetric CS					
		CLD MIDNIGHT			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424700-30-0280-CS	11	4000K - 1503lm - CRI 70
			424700-3028-0280-CS		3000K - 1428lm - CRI 70
Upon request: possibility to choose different lighting point management systems (see table on p. 315).					

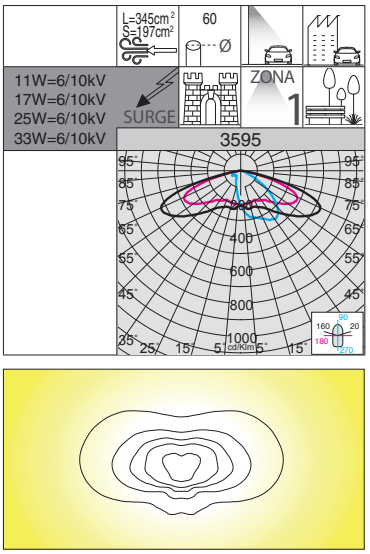
Upon request (sub-code -60)	
LED	4000K - CRI 80



Optics: made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 100.000h (L80B10).





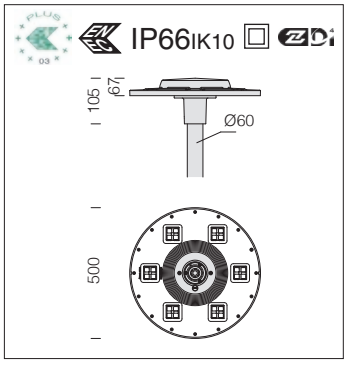
RG0 Ethr
+50 C° -30
U.V.
LOW FLICKER
3000K
4000K

3595 Ischia MIDNIGHT - asymmetric medium beam AM					
		CLD MIDNIGHT			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424710-30-0280-AM	11	4000K - 1514lm - CRI 70
			424710-3028-0280-AM		3000K - 1438lm - CRI 70
Upon request: possibility to choose different lighting point management systems (see table on p. 315).					

Other available versions		
code	W tot	K - ølm - CRI
424710-30-0480-AM	17	4000K - 2577lm - CRI 70
424710-3028-0480-AM		3000K - 2448lm - CRI 70
424710-30-0340-AM	25	4000K - 3651lm - CRI 70
424710-3028-0340-AM		3000K - 3468lm - CRI 70
424710-30-0450-AM	33	4000K - 4682lm - CRI 70
424710-3028-0450-AM		3000K - 4448lm - CRI 70

Upon request (sub-code -60)	
LED	4000K - CRI 80

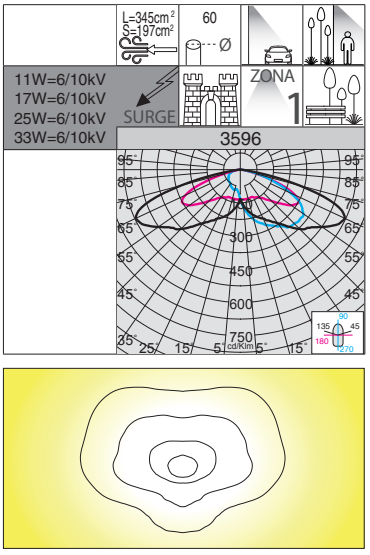
Luminous flux setup: this can be done by programming the drive current values requested when ordering/ purchasing the fixture



Optics: made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 100.000h (L80B10).





RG0 Ethr
+50 C° -30
U.V.
LOW FLICKER
3000K
4000K

3596 Ischia MIDNIGHT - asymmetric wide beam AW					
		CLD MIDNIGHT			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	4.50	424720-30-0450-AW	33	4000K - 4484lm - CRI 70
			424720-3028-0450-AW		3000K - 4260lm - CRI 70
Upon request: possibility to choose different lighting point management systems (see table on p. 315).					

Other available versions		
code	W tot	K - ølm - CRI
424720-30-0280-AW	11	4000K - 1450lm - CRI 70
424720-3028-0280-AW		3000K - 1377lm - CRI 70
424720-30-0480-AW	17	4000K - 2468lm - CRI 70
424720-3028-0480-AW		3000K - 2345lm - CRI 70
424720-30-0340-AW	25	4000K - 3496lm - CRI 70
424720-3028-0340-AW		3000K - 3321lm - CRI 70

Upon request (sub-code -60)	
LED	4000K - CRI 80

Luminous flux setup: this can be done by programming the drive current values requested when ordering/ purchasing the fixture

You can make your lighting system **SMART** by integrating sensors into the fixture so that it can detect the movement of people within a given detection area and automatically adjust light intensity according to previously established light levels and delay times. You will also achieve high **energy savings** without affecting the safety and visual comfort of pedestrians.

The lighting fixtures with **sub-code -1219 complete with motion sensors** are a functional lighting solution for public spaces. The ability to control the light flux without people moving in a space will let you **optimize operating costs**, while achieving notable **economic savings**. This lighting solution is best suited for public or private streets, cycle lanes, private roads, parks and, in general, for any installation where smart lighting control is required.

Energy savings

The ability of these fixtures to sense the presence of people transiting in a space through integrated motion sensors will significantly reduce the waste of light, especially at night, and achieve lower energy costs.

Safety

At night-time, the number of people using urban areas, such as parks, is quite low. Therefore, reducing the light flux using fixtures with integrated motion sensors is the ideal solution to always ensure adequate lighting levels.

Green lighting

Installing lighting fixtures with integrated motion sensors that will switch lights on only when people are around is the first step towards becoming a greener city, where spaces are more liveable and safer, without wasting energy and leaving a lesser impact on the environment.



Motion sensor - STAND-ALONE

Ischia with subcode -1219: fixture comes with **stand-alone** presence and light sensor with 1/10V control.

TECHNICAL SPECIFICATIONS	
Frequency	5.8GHz±75MHz
Stand-by power	≤1W
Setting	telecomando
Hold time (adjustable)	5s / 30s / 1min / 3min / 5min / 10min / 20min / 30min
Ambient light (adjustable)	2lux / 10lux /30lux / 50lux / OFF
Stand-by time (adjustable)	0s / 10s / 30s / 1min / 5min / 10min / 30min /+ ∞
Stand-by dimming level (adjustable)	20% / 30% / 50%
Detection area	50% - 75% - 100%
Detection angle	30° - 150°
Technology	Microwave



Remote control cod. **81418618** (to be purchased separately) that **allows changing the parameters even after installation is complete** and without the need to directly access the fixture.

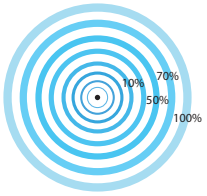


DEFAULT SETTINGS

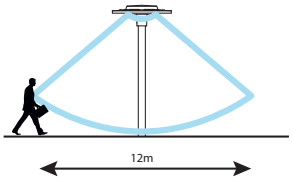
The fixtures is supplied as standard with the following parameters

Hold time	5s
Ambient light	OFF
Stand-by time	0s
Stand-by dimming level	10%
Detection area	100%

NOTE: when placing your order, it is possible upon request a customized configuration that you need to set.



DETECTION RANGE 360°



MOUNTING HEIGHT

A) Detection area: the sensor will turn the lights on when it detects motion in this area; with a 100% detection area the sensitivity level is high.

B) Hold time: the period of time during which lights stay on at full brightness after a person or object has left the detection area.

C) Ambient light: when the level of light inside a room is below a pre-determined threshold, the sensor will trigger the lights on; when set to 'disable', the sensor will operate whenever it detects movement regardless of the amount of light in the room.

D) Stand-by time: refers to the time the sensor keeps the lights at a dim level after the hold time.

E) Stand-by dimming level: is the lights' dimming level during the stand-by time.

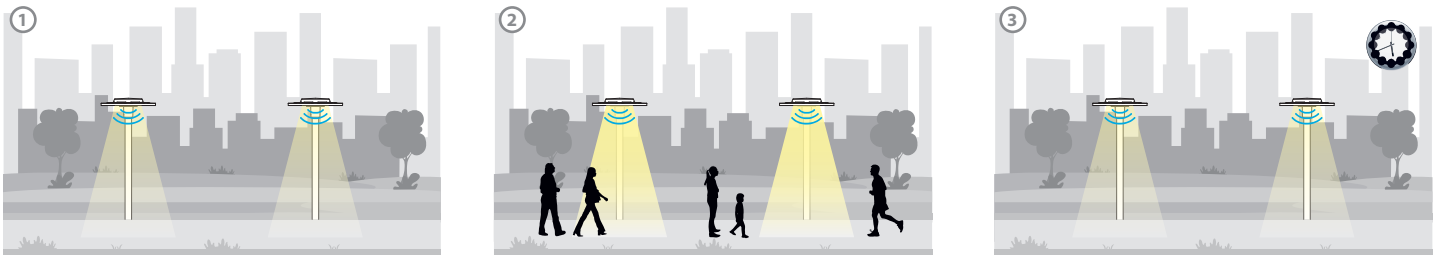
EXAMPLE OF OPERATION

The lighting fixtures with **sub-code -1219** complete with motion sensors will adjust the light flux in the presence of moving people by varying the brightness value according to pre-determined levels based on certain times:

1) when there is no motion, the fixtures will keep a certain level of light intensity for a specific period of time

2) when motion is detected in the monitoring area, the luminous flux will dim to 100% of light level

3) if no motion is detected after a certain period of time, the sensor will reset the light level to the pre-set value



A lighting fixture equipped with a radar-type motion sensor may be affected by wind. Therefore, for particularly windy areas, PIR presence sensors are available upon request and for an additional cost.



GENERAL CHARACTERISTICS

Housing and arms: pressed in die-cast aluminium and designed with a very small surface exposed to wind.

Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

Pole connection: suited for poles with a diameter 60-76mm.

Diffuser: extra-clear tempered glass, 5 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

UNI EN ISO 9227 **Upon request:** coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

Equipment: nylon wiring plate 30% fibre glass complete with connector for mains connection and for LED module. Automatic temperature control inside the device with automatic resetting. With dedicated electronic device to protect the LED module. Equipped with an air-circulation valve.

OTHER CHARACTERISTICS

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.



THE RANGE OF ISEO STREET LAMPS IS AVAILABLE IN THE FOLLOWING COLOUR TEMPERATURES:

3000K 4000K **3000K - 4000K as standard:** lamps with 3000K-4000K white light, instead, is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

Example with Nema Socket (subcode -40)



LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET: to monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	**Zhaga Socket** order with **subcode -0054** (complete with sealing cap)
Mounted directly on the fixture's body, ideal for remote lighting management applications.	

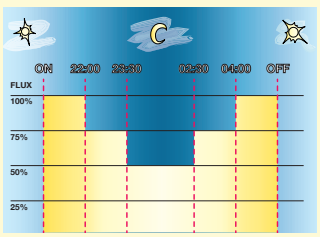
ADVANCED PROG

INTEGRATED ADVANCED PROG (PROG CLD) FUNCTIONS: the products of this family are supplied with programmable drivers as standard.

All these functions are already present on standard products and need only to be enabled on request. These functions do not require to make any modification to the system, as the product only needs to be connected to the mains without the use of a control BUS or a pilot cable.

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP
For more information see page XX-XXI	

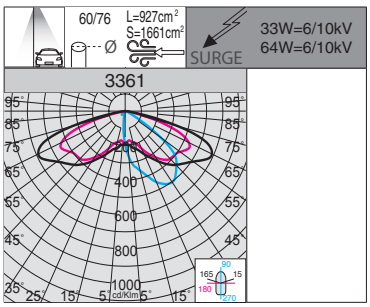
VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*



Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

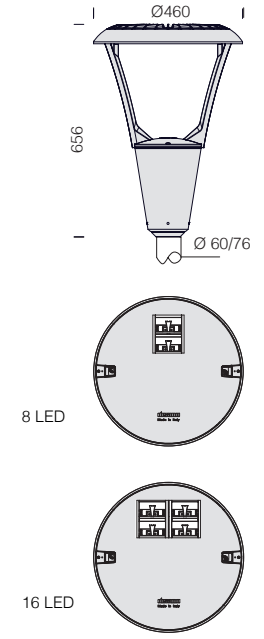
ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request*







IP66 IK09



3361 Iseo 2 - residential amenities

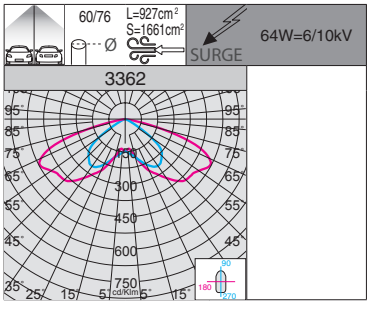
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 530mA - CRI
LED	anthracite	7.10	330570-00	**33**	4000K - 3366lm - CRI 70
			330570-39		3000K - 3130m - CRI 70
LED	anthracite	7.10	330571-00	**64**	4000K - 6732lm - CRI 70
			330571-39		3000K - 6261lm - CRI 70

Integrated **ADVANCED PROG functions** (see table on p. 327).

Example	Power supply	n.LED	W tot	K	ølm
upon request	700mA	8	**42**	**4000K**	4455lm
		16	**84**		8891lm

n.LED	W tot	K	ølm
8	**42**	**3000K**	4143lm
16	**84**		8269lm

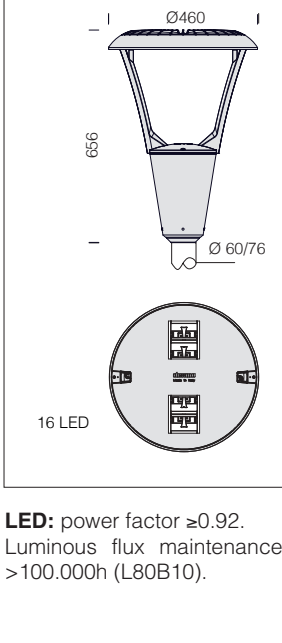
LED: power factor ≥0.92.
Luminous flux maintenance 80%: >100.000h (L80B10).







IP66 IK09



3362 Iseo 3 - residential amenities

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 530mA - CRI
LED	anthracite	7.10	330580-00	**64**	4000K - 6741lm - CRI 70
			330580-39		3000K - 6269lm - CRI 70

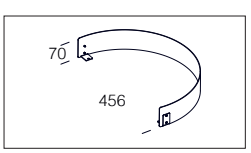
Integrated **ADVANCED PROG functions** (see table on p. 327).

Example	Power supply	n.LED	W tot	K	ølm
upon request	700mA	16	**84**	**4000K**	8903lm

n.LED	W tot	K	ølm
16	**84**	**3000K**	8280lm

LED: power factor ≥0.92.
Luminous flux maintenance 80%: >100.000h (L80B10).



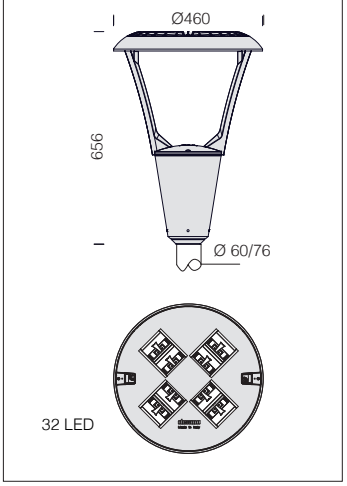


acc. 109 anti-glare shield

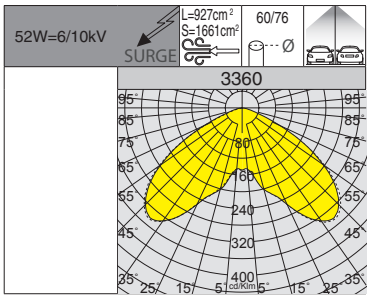
anthracite	991309-00

To prevent glare effects. To be fitted when Garda is installed near a window.

IP66IK09









LED: power factor ≥0.92. Luminous flux maintenance 80%: >100.000h (L80B10).

3360 Iseo 1 - rotosymmetric

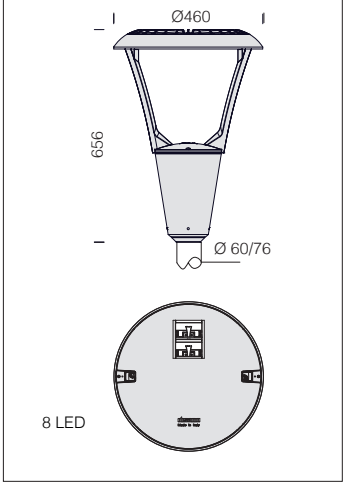
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 530mA - CRI
LED	anthracite	7.30	330560-00	**52**	4000K - 5667lm - CRI 70
			330560-39		3000K - 5270lm - CRI 70

Integrated **ADVANCED PROG functions** (see table on p. 327).

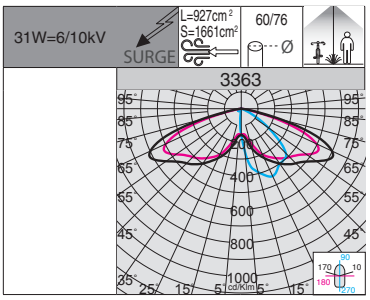
Example	Power supply	n.LED	W tot	K	ølm
upon request	700mA	32	**68**	**4000K**	7485lm

n.LED	W tot	K	ølm
32	**68**	**3000K**	6961lm

IP66IK09









LED: power factor ≥0.92. Luminous flux maintenance 80%: >100.000h (L80B10).

3363 Iseo 4 - cycle-pedestrian

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 530mA - CRI
LED	anthracite	7.00	330590-00	**31**	4000K - 3319lm - CRI 70
			330590-39		3000K - 3087lm - CRI 70

Integrated **ADVANCED PROG functions** (see table on p. 327).

Example	Power supply	n.LED	W tot	K	ølm
upon request	700mA	8	**42**	**4000K**	4384lm

n.LED	W tot	K	ølm
8	**42**	**3000K**	4077lm



GENERAL CHARACTERISTICS

Housing and arms: pressed in die-cast aluminium and designed with a very small surface exposed to wind.

Optics: made of PMMA with high temperature resistance and UV rays.

Pole connection: suited for poles with a diameter 60-76mm.

Diffuser: extra-clear tempered glass, 4 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

UNI EN ISO 9227 **Upon request:** coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

Equipment: nylon wiring plate 30% fibre glass complete with connector for mains connection and for LED module. Automatic temperature control inside the device with automatic resetting. With dedicated electronic device to protect the LED module. Equipped with an air-circulation valve.

OTHER CHARACTERISTICS

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

Available in colour **RAL 6004**



THE RANGE OF COMO STREET LAMPS IS AVAILABLE IN THE FOLLOWING COLOUR TEMPERATURES:

2200K **2200K (subcode -73):** lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.

3000K 4000K **3000K - 4000K as standard:** lamps with 3000K-4000K white light, instead, is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.



BASIC PROG

BASIC PROG (BASIC CLD) AVAILABLE FUNCTIONS

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture

LIGHTING POINT MANAGEMENT OPTIONS ON REQUEST

possibility to choose different lighting point management systems according to the system's needs:

1-10V dimming ordered with **sub-code -12**	Adjustment range from 10%-100% with 1-10V
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps**. To increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The "virtual midnight" is the reference point for dimming lights according to the desired profile. The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.* ***ATTENTION:** original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request.*

Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

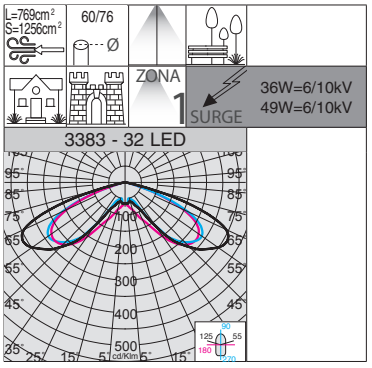
PLC remote control ordered with **sub-code -0078**	Point-to-point and system management and diagnosis system
For more information see page XX-XXI	



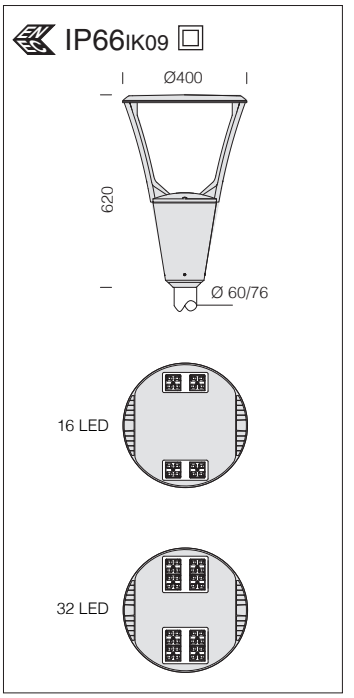
Exemple with Zhaga Socket (subcode -0054)

LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET: to monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	Mounted directly on the fixture's body, ideal for remote lighting management applications.
Zhaga Socket order with **subcode -0054** (complete with sealing cap)	







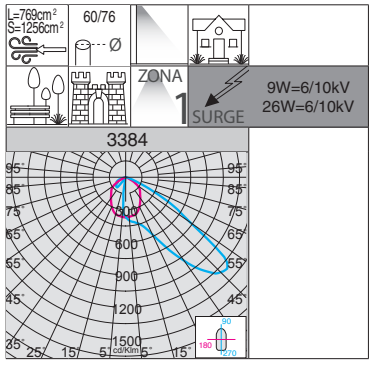
2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
36	2200K - 4605lm
49	2200K - 7073lm

3383 Como 1 - rotosymmetric

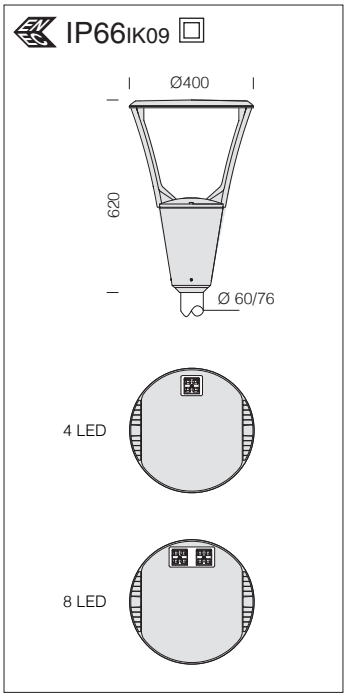
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	anthracite	5.90	340552-00	**36**	4000K - 4112lm - CRI 70
			340552-39		3000K - 3824lm - CRI 70
LED	anthracite	5.90	340553-00	**49**	4000K - 6315lm - CRI 70
			340553-39		3000K - 5872lm - CRI 70

Upon request: possibility to choose different lighting point management systems (see table on p. 331).

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).







2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
9	2200K - 1158lm
26	2200K - 3436lm

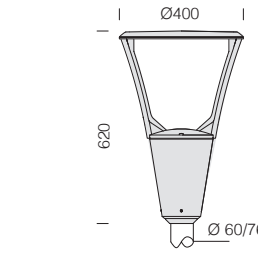
3384 Como 2 - asymmetric

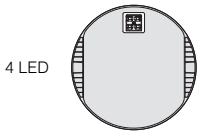
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	anthracite	5.60	340560-00	**9**	4000K - 1034lm - CRI 70
			340560-39		3000K - 961lm - CRI 70
LED	anthracite	5.70	340561-00	**26**	4000K - 3068lm - CRI 70
			340561-39		3000K - 2853lm - CRI 70

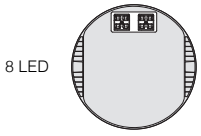
Upon request: possibility to choose different lighting point management systems (see table on p. 331).

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

IP66IK09

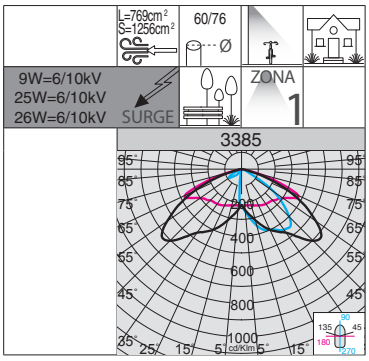












2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
9	2200K - 1167lm
25	2200K - 3409lm
26	2200K - 3515lm

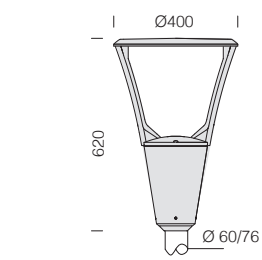
3385 Como 3 - cycleways

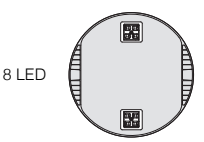
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	anthracite	5.60	340570-00	**9**	4000K - 1042lm - CRI 70
			340570-39		3000K - 969lm - CRI 70
LED	anthracite	5.70	340571-00	**25**	4000K - 3044lm - CRI 70
			340571-39		3000K - 2830lm - CRI 70
LED	anthracite	5.70	340572-00	**26**	4000K - 3138lm - CRI 70
			340572-39		3000K - 2918lm - CRI 70

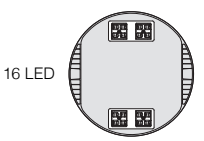
Upon request: possibility to choose different lighting point management systems (see table on p. 331).

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

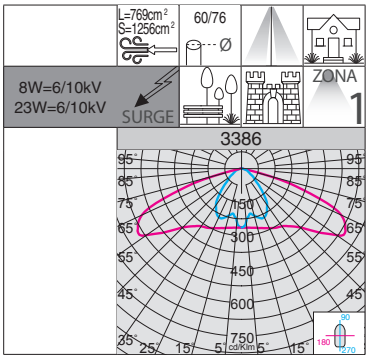
IP66IK09











2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
8	2200K - 1669lm
23	2200K - 4787lm

3386 Como 4 - bi-asymmetric

		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	anthracite	5.70	340580-00	**8**	4000K - 1490lm - CRI 70
			340580-39		3000K - 1386lm - CRI 70
LED	anthracite	5.90	340581-00	**23**	4000K - 4274lm - CRI 70
			340581-39		3000K - 3975lm - CRI 70

Upon request: possibility to choose different lighting point management systems (see table on p. 331).

LED: power factor: ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).


100 MONTADITOS

GENERAL CHARACTERISTICS

Housing and arms: pressed in die-cast aluminium and designed with a very small surface exposed to wind.

Optics: made of PMMA with high temperature resistance and UV rays.

Pole connection: suited for poles with a diameter 60-76mm.

Diffuser: extra-clear tempered glass, 4 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

UNI EN ISO 9227 **Upon request:** coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

Equipment: nylon wiring plate 30% fibre glass complete with connector for mains connection and for LED module. Automatic temperature control inside the device with automatic resetting. With dedicated electronic device to protect the LED module. Equipped with an air-circulation valve.

OTHER CHARACTERISTICS

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

Available in white color.



THE RANGE OF GARDA STREET LAMPS IS AVAILABLE IN THE FOLLOWING COLOUR TEMPERATURES:

2200K **2200K (subcode -73):** lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.

3000K 4000K **3000K - 4000K as standard:** lamps with 3000K-4000K white light, instead, is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.



BASIC PROG

BASIC PROG (BASIC CLD) AVAILABLE FUNCTIONS

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture

LIGHTING POINT MANAGEMENT OPTIONS ON REQUEST

possibility to choose different lighting point management systems according to the system's needs:

1-10V dimming ordered with **sub-code -12**	Adjustment range from 10%-100% with 1-10V
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps**. To increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The "virtual midnight" is the reference point for dimming lights according to the desired profile. The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.* ***ATTENTION:** original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request.*

Factory settings

Time	Flux
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

PLC remote control ordered with **sub-code -0078**	Point-to-point and system management and diagnosis system
For more information see page XX-XXI	



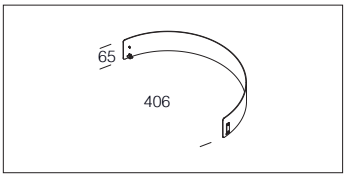
Exemple with Zhaga Socket (subcode -0054)

LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET: to monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	Mounted directly on the fixture's body, ideal for remote lighting management applications.
Zhaga Socket order with **subcode -0054** (complete with sealing cap)	







acc. 109 anti-glare shield	
anthracite	991312-00
To prevent glare effects. To be fitted when Garda is installed near a window.	

RG0 Ethr

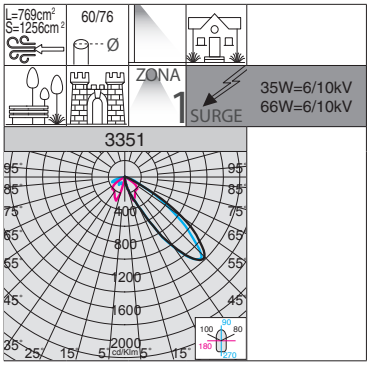
+50 C° -40

U.V.

LOW FLICKER

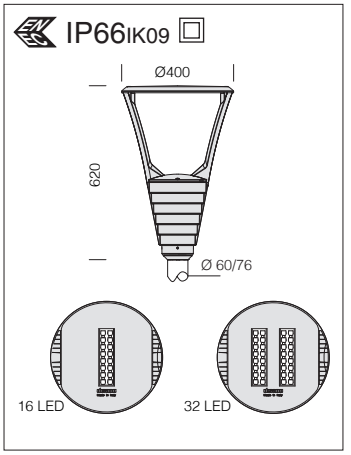
3000K

4000K



Upon request (sub-code -60)	
LED	4000K - CRI 80



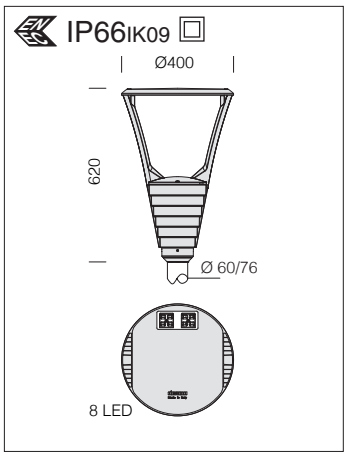


LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

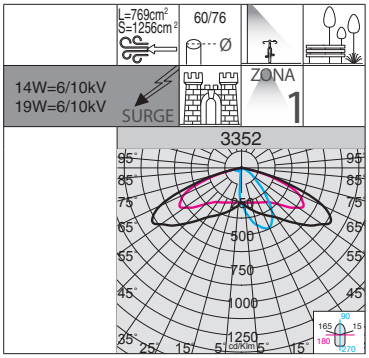
3351 Garda 2 - asymmetric						
		CLD BASIC		CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	anthracite	5.70	330520-00	330520-30	**35**	4000K - 3773lm - CRI 70
			330520-39	330520-3028		3000K - 3508lm - CRI 70
LED	anthracite	5.90	330521-00	330521-30	**66**	4000K - 7275lm - CRI 70
			330521-39	330521-3028		3000K - 6765lm - CRI 70
Upon request: possibility to choose different lighting point management systems (see table on p. 335).						

Example	Power supply	n.LED	W tot	K	ølm
upon request	530mA	16	**26**	**4000K**	2830lm
		32	**50**		5765lm

n.LED	W tot	K	ølm
16	**26**	**3000K**	2632lm
32	**50**		5361lm







LED: power factor ≥0.9.
Luminous flux maintenance 80%: 80.000h (L80B20).

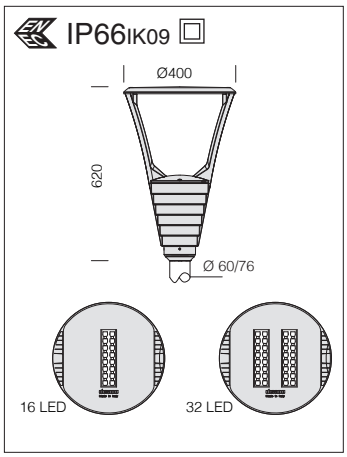
2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
14	2200K - 1590lm
19	2200K - 2058lm

RG0 Ethr | +50 C° -40 | U.V. | LOW FLICKER | 3000K | 4000K

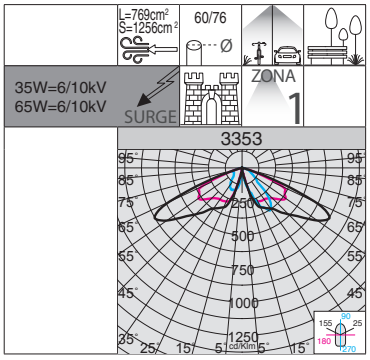
3352 Garda 3 - cycleways

		CLD BASIC		CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	anthracite	5.60	330530-00	330530-30	**14**	4000K - 1790lm - CRI 70
			330530-39	330530-3028		3000K - 1664lm - CRI 70
LED	anthracite	5.60	330531-00	330531-30	**19**	4000K - 2318lm - CRI 70
			330531-39	330531-3028		3000K - 2155lm - CRI 70

Upon request: possibility to choose different lighting point management systems (see table on p. 335).







LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

Upon request (sub-code -60)	
LED	4000K - CRI 80

RG0 Ethr | +50 C° -40 | U.V. | LOW FLICKER | 3000K | 4000K

3353 Garda 4 - cycleways + residential amenities

		CLD BASIC		CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	codice	W tot	K - ølm - CRI
LED	anthracite	5.70	330540-00	330540-30	**35**	4000K - 3525lm - CRI 70
			330540-39	330540-3028		3000K - 3278lm - CRI 70
LED	anthracite	5.90	330541-00	330541-30	**65**	4000K - 6887lm - CRI 70
			330541-39	330541-3028		3000K - 6404lm - CRI 70

Upon request: possibility to choose different lighting point management systems (see table on p. 335).

Example	Power supply	n.LED	W tot	K	ølm
upon request	530mA	16	**26**	**4000K**	2644lm
		32	**50**		5514lm

n.LED	W tot	K	ølm
16	**26**	**3000K**	2458lm
32	**50**		5128lm

RG0 Ethr

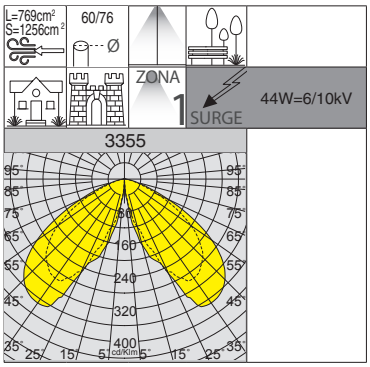
+50 C° -40

U.V.

LOW FLICKER

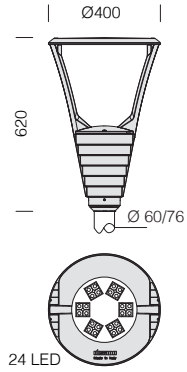
3000K

4000K





IP66 IK09



2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
44	2200K - 5121lm

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 80.000h (L80B20).

3355 Garda 5 - rotosymmetric

		CLD BASIC		CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	codice	W tot	K - ølm - CRI
LED	anthracite	5.80	330550-00	330550-30	**44**	4000K - 5767lm - CRI 70
			330550-39	330550-3028		3000K - 5363lm - CRI 70

Upon request: possibility to choose different lighting point management systems (see table on p. 335).

RG0 Ethr

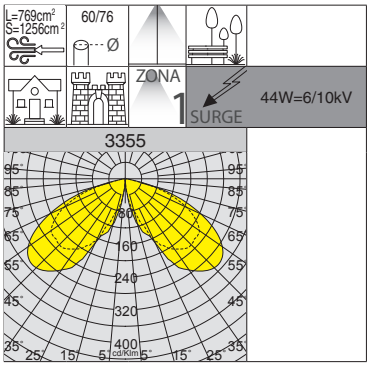
+50 C° -40

U.V.

LOW FLICKER

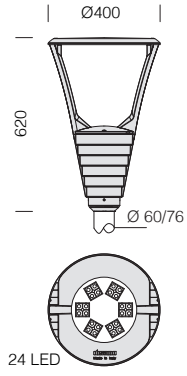
3000K

4000K





IP66 IK09



2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
44	2200K - 5195lm

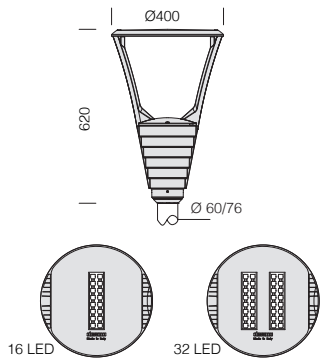
LED: power factor ≥0.9.
Luminous flux maintenance 80%: 80.000h (L80B20).

3355 Garda 6 - rotosymmetric

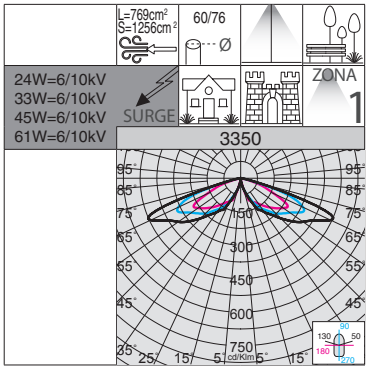
		CLD BASIC		CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	anthracite	5.80	330551-00	330551-30	**44**	4000K - 5851lm - CRI 70
			330551-39	330551-3028		3000K - 5441lm - CRI 70

Upon request: possibility to choose different lighting point management systems (see table on p. 335).

IP66 IK09







RG0 Ethr

+50 C° -40

U.V.

LOW FLICKER

3000K

4000K

LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

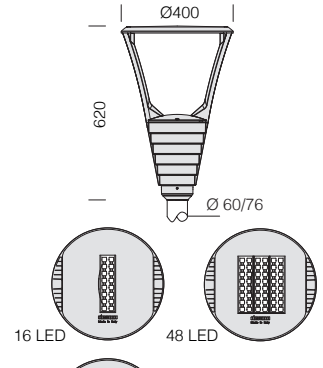
Upon request (sub-code -60)	
LED	4000K - CRI 80

3350 Garda 1 - rotosymmetric

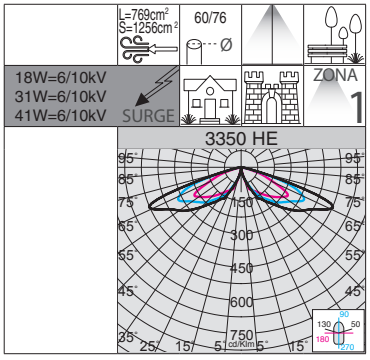
		CLD BASIC		CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	anthracite	5.70	330518-00	330518-30	**24**	4000K - 2400lm - CRI 70
			330518-39	330518-3028		3000K - 2232lm - CRI 70
LED	anthracite	5.90	330519-00	330519-30	**45**	4000K - 4800lm - CRI 70
			330519-39	330519-3028		3000K - 4464lm - CRI 70
LED	anthracite	5.70	330510-00	330510-30	**33**	4000K - 3200lm - CRI 70
			330510-39	330510-3028		3000K - 2976lm - CRI 70
LED	anthracite	5.90	330511-00	330511-30	**61**	4000K - 6400lm - CRI 70
			330511-39	330511-3028		3000K - 5952lm - CRI 70

Upon request: possibility to choose different lighting point management systems (see table on p. 335).

IP66 IK09







RG0 Ethr

+50 C° -40

U.V.

LOW FLICKER

3000K

4000K

Upon request (sub-code -60)	
LED	4000K - CRI 80

3350 Garda 1 HE - rotosymmetric

		CLD BASIC		CLD MIDNIGHT		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm - CRI
LED	anthracite	5.70	330512-00	330512-30	**18**	4000K - 1823lm - CRI 70
			330512-39	330512-3028		3000K - 1695lm - CRI 70
LED	anthracite	5.90	330513-00	330513-30	**31**	4000K - 3463lm - CRI 70
			330513-39	330513-3028		3000K - 3221lm - CRI 70
LED	anthracite	5.90	330517-00	330517-30	**41**	4000K - 5193lm - CRI 70
			330517-39	330517-3028		3000K - 4829lm - CRI 70

Upon request: possibility to choose different lighting point management systems (see table on p. 335).

You can make your lighting system **SMART** by integrating sensors into the fixture so that it can detect the movement of people within a given detection area and automatically adjust light intensity according to previously established light levels and delay times. You will also achieve high **energy savings** without affecting the safety and visual comfort of pedestrians.

The lighting fixtures with **sub-code -1219 complete with motion sensors** are a functional lighting solution for public spaces. The ability to control the light flux without people moving in a space will let you **optimize operating costs**, while achieving notable **economic savings**. This lighting solution is best suited for public or private streets, cycle lanes, private roads, parks and, in general, for any installation where smart lighting control is required.

Energy savings

The ability of these fixtures to sense the presence of people transiting in a space through integrated motion sensors will significantly reduce the waste of light, especially at night, and achieve lower energy costs.

Safety

At night-time, the number of people using urban areas, such as parks, is quite low. Therefore, reducing the light flux using fixtures with integrated motion sensors is the ideal solution to always ensure adequate lighting levels.

Green lighting

Installing lighting fixtures with integrated motion sensors that will switch lights on only when people are around is the first step towards becoming a greener city, where spaces are more liveable and safer, without wasting energy and leaving a lesser impact on the environment.



Motion sensor - STAND-ALONE

Garda with sub-code -1219: lighting fixture complete with stand-alone motion sensor with 1/10V control.

TECHNICAL SPECIFICATIONS	
Frequency	5.8GHz±75MHz
Stand-by power	≤1W
Setting	telecomando
Hold time (adjustable)	5s / 30s / 1min / 3min / 5min / 10min / 20min / 30min
Ambient light (adjustable)	2lux / 10lux /30lux / 50lux / OFF
Stand-by time (adjustable)	0s / 10s / 30s / 1min / 5min / 10min / 30min /+ ∞
Stand-by dimming level (adjustable)	20% / 30% / 50%
Detection area	50% - 75% - 100%
Detection angle	30° - 150°
Technology	Microwave



Remote control cod. **81418618** (to be purchased separately) that **allows changing the parameters even after installation is complete** and without the need to directly access the fixture.

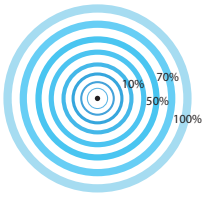


DEFAULT SETTINGS

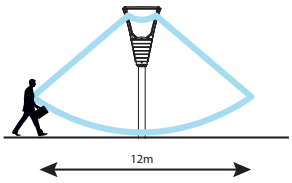
The fixtures is supplied as standard with the following parameters

Hold time	5s
Ambient light	OFF
Stand-by time	0s
Stand-by dimming level	10%
Detection area	100%

NOTE: when placing your order, it is possible upon request a customized configuration that you need to set.



DETECTION RANGE 360°



MOUNTING HEIGHT

A) Detection area: the sensor will turn the lights on when it detects motion in this area; with a 100% detection area the sensitivity level is high.

B) Hold time: the period of time during which lights stay on at full brightness after a person or object has left the detection area.

C) Ambient light: when the level of light inside a room is below a pre-determined threshold, the sensor will trigger the lights on; when set to 'disable', the sensor will operate whenever it detects movement regardless of the amount of light in the room.

D) Stand-by time: refers to the time the sensor keeps the lights at a dim level after the hold time.

E) Stand-by dimming level: is the lights' dimming level during the stand-by time.

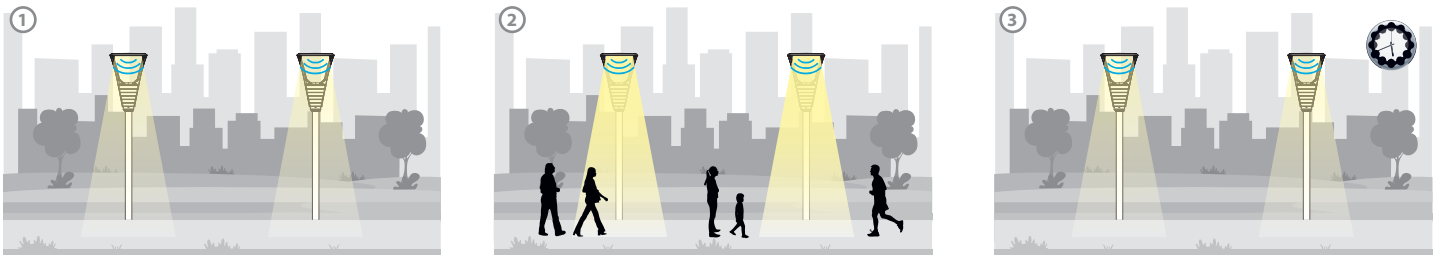
EXAMPLE OF OPERATION

The lighting fixtures with **sub-code -1219** complete with motion sensors will adjust the light flux in the presence of moving people by varying the brightness value according to pre-determined levels based on certain times:

1) when there is no motion, the fixtures will keep a certain level of light intensity for a specific period of time

2) when motion is detected in the monitoring area, the luminous flux will dim to 100% of light level

3) if no motion is detected after a certain period of time, the sensor will reset the light level to the pre-set value



A lighting fixture equipped with a radar-type motion sensor may be affected by wind. Therefore, for particularly windy areas, PIR presence sensors are available upon request and for an additional cost.



GENERAL CHARACTERISTICS

Housing and frame: pressed in die-cast aluminium and designed with a very small surface exposed to wind. Cooling fins are integrated into the cover.

Optics: made of PMMA with high temperature resistance and UV rays.

Pole connection: suited for poles with a diameter 60 mm.

Diffuser: extra-clear tempered glass, 4 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

UNI EN ISO 9227 **Upon request:** coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

Standard supply: automatic temperature control inside the device with automatic resetting. With dedicated electronic device to protect the LED module.

Equipment: equipped with an air-circulation valve. Complete with IP67 airtight connector for mains connection.

OTHER CHARACTERISTICS

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547. It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.



THE RANGE OF LOTO STREET LAMPS IS AVAILABLE IN THE FOLLOWING COLOUR TEMPERATURES:

2200K **2200K (subcode -73):** lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.

3000K 4000K **3000K - 4000K as standard:** lamps with 3000K-4000K white light, instead, is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

Exemple with Zhaga Socket (subcode -0054)



LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET: to monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

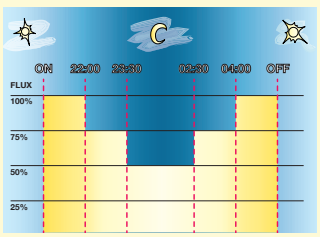
Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	**Zhaga Socket** order with **subcode -0054** (complete with sealing cap)
Mounted directly on the fixture's body, ideal for remote lighting management applications.	

ADVANCED PROG **INTEGRATED ADVANCED PROG (PROG CLD) FUNCTIONS:** the products of this family are supplied with programmable drivers as standard (except for versions with **LED COB**).

All these functions are already present on standard products and need only to be enabled on request. These functions do not require to make any modification to the system, as the product only needs to be connected to the mains without the use of a control BUS or a pilot cable.

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP
For more information see page XX-XXI	

VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*



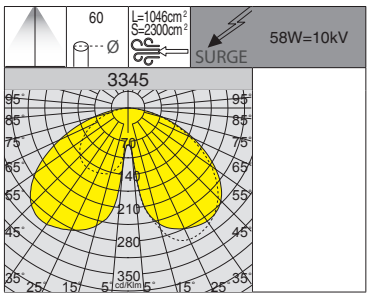
Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

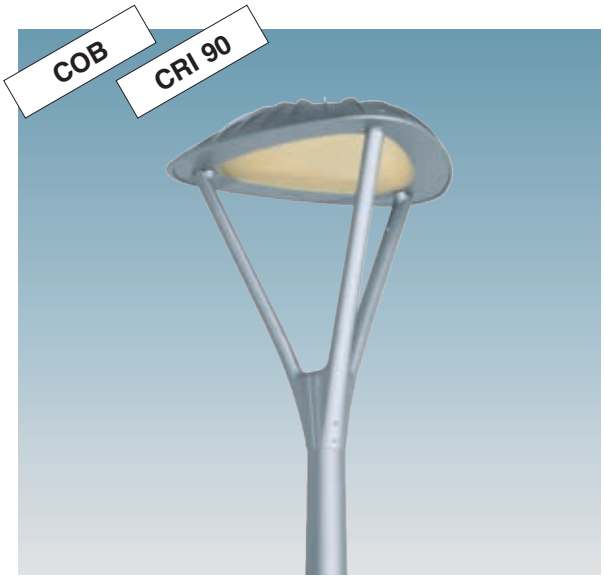
Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

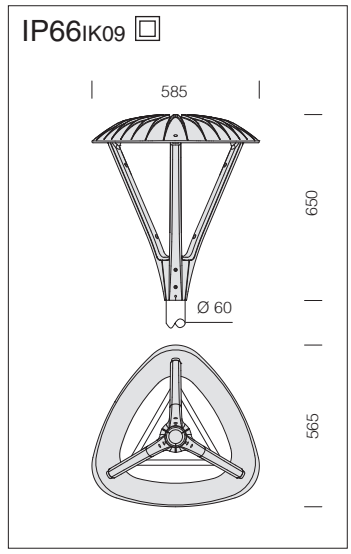
ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request*

Loto - design Alessandro Pedretti

RG0 Ethr
+40 C° -20
U.V.
ZONA 1
LOW FLICKER
2200K
3000K
4000K





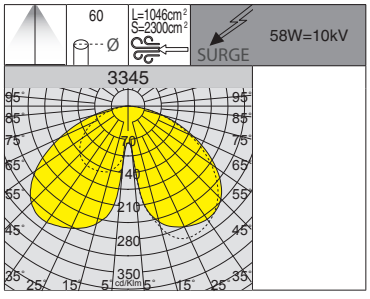


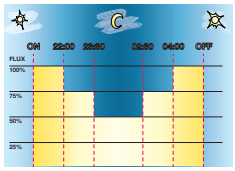
3345 Loto 6 - COB					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	weight	W tot	K - ølm 1400mA - CRI
COB	grey 9007	12.50	330264-00	**58**	4000K - 3502lm - **CRI 90**
	graphite		330265-00		
COB	grey 9007	12.50	330264-39	**58**	3000K - 3257lm - **CRI 90**
	graphite		330265-39		
COB AMBER	grey 9007	12.50	330264-73	**58**	2200K - 3934lm - **AMBER**
	graphite		330265-73		

LED: power factor ≥0.9.
Luminous flux maintenance 80% 50.000h (L80B20).

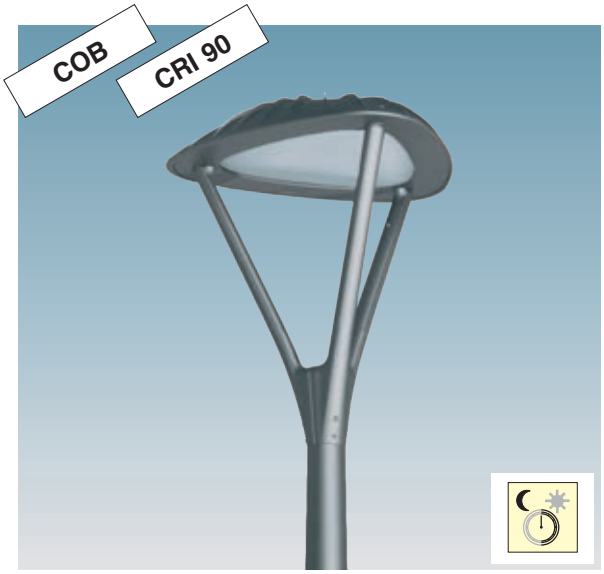
Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

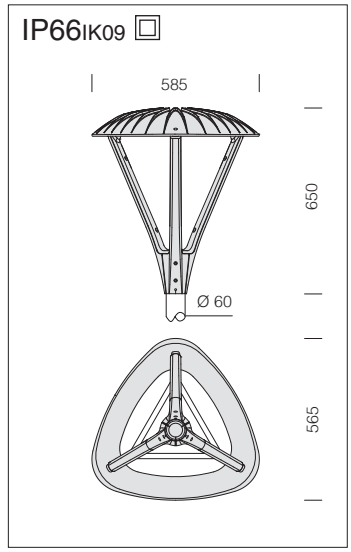
RG0 Ethr
+40 C° -20
U.V.
ZONA 1
LOW FLICKER
2200K
3000K
4000K





Sub-code -30: version with **virtual midnight**.



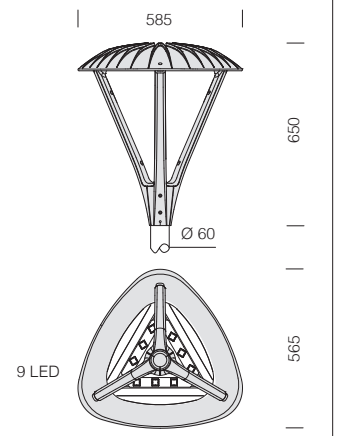


3345 Loto 6 MIDNIGHT - COB					
		CLD MIDNIGHT			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	weight	W tot	K - ølm 1400mA - CRI
COB	grey 9007	12.50	330264-30	**58**	4000K - 3502lm - **CRI 90**
	graphite		330265-30		
COB	grey 9007	12.50	330264-3028	**58**	3000K - 3257lm - **CRI 90**
	graphite		330265-3028		
COB AMBER	grey 9007	12.50	330264-3073	**58**	2200K - 3934lm - **AMBER**
	graphite		330265-3073		

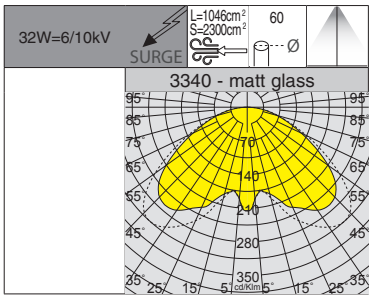
LED: power factor ≥0.9.
Luminous flux maintenance 80% 50.000h (L80B20).

Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

IP66IK09







Upon request: (subcode -39)	
LED	3000K - CRI 80

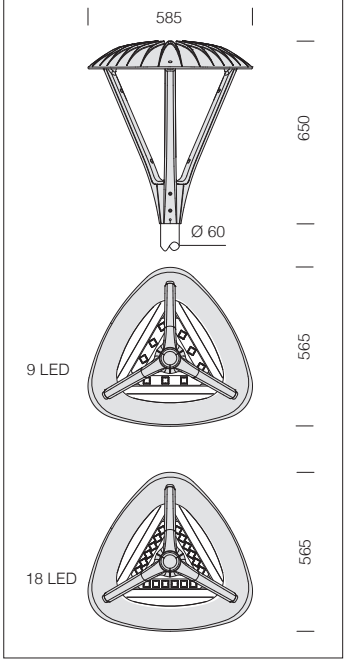
LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

3340 Loto 2 - wide beam - matt

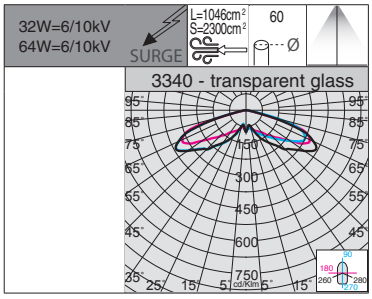
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 550mA - CRI
LED	grey 9007	12.50	330214-00	**32**	4000K - 2933lm - CRI 80
	graphite		330215-00		
Integrated **ADVANCED PROG functions** (see table on p. 343).					

Example	Power supply	n.LED	W tot	ølm
upon request	350mA	9	**20**	1937lm

IP66IK09







LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

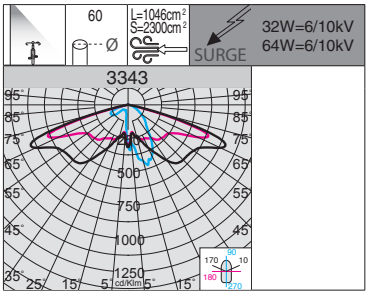
3340 Loto 1 - wide beam

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 550mA - CRI
LED	grey 9007	12.50	330210-00	**32**	4000K - 3765lm - CRI 80
	graphite		330211-00		
LED	grey 9007	12.50	330210-39	**32**	3000K - 3501lm - CRI 80
	graphite		330211-39		
LED	grey 9007	12.80	330212-00	**64**	4000K - 7531lm - CRI 80
	graphite		330213-00		
LED	grey 9007	12.80	330212-39	**64**	3000K - 7004lm - CRI 80
	graphite		330213-39		
Integrated **ADVANCED PROG functions** (see table on p. 343).					

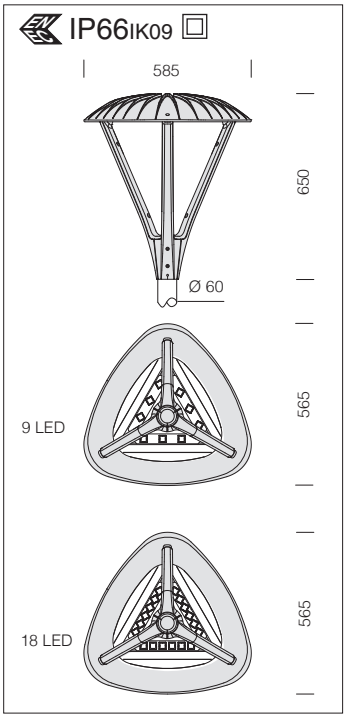
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	9	**20**	**4000K**	2485lm
		18	**41**		4970lm

n.LED	W tot	K	ølm
9	**20**	**3000K**	2311lm
18	**41**		4623lm









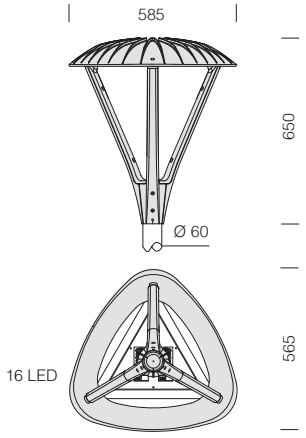
LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

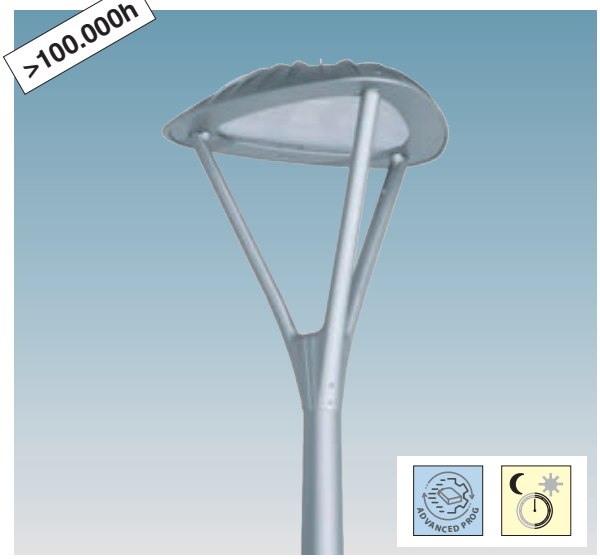
3343 Loto 4 - cycleways					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 550mA - CRI
LED	grey 9007	12.50	330240-00	**32**	4000K - 3769lm - CRI 80
	graphite		330241-00		
LED	grey 9007	12.50	330240-39	**32**	3000K - 3505lm - CRI 80
	graphite		330241-39		
LED	grey 9007	12.80	330242-00	**64**	4000K - 7540lm - CRI 80
	graphite		330243-00		
LED	grey 9007	12.80	330242-39	**64**	3000K - 7012m - CRI 80
	graphite		330243-39		
Integrated **ADVANCED PROG functions** (see table on p. 343).					

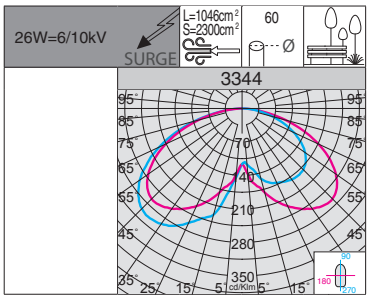
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	9	**20**	**4000K**	2488lm
		18	**41**		4976lm
upon request	700mA	9	**41**	**4000K**	4975lm
		18	**81**		9953lm

n.LED	W tot	K	ølm
9	**20**	**3000K**	2313lm
18	**41**		4628lm
9	**41**	**3000K**	4627lm
18	**81**		9256lm

IP66IK09







RG0 Elnr | +40 C° -30 | U.V. | ZONA 1 | LOW FLICKER

Upon request: (subcode -39)	
LED	3000K - CRI 70

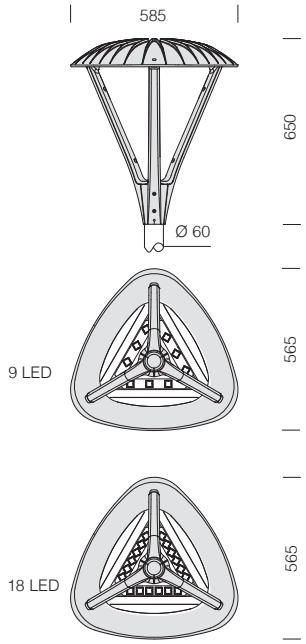
LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

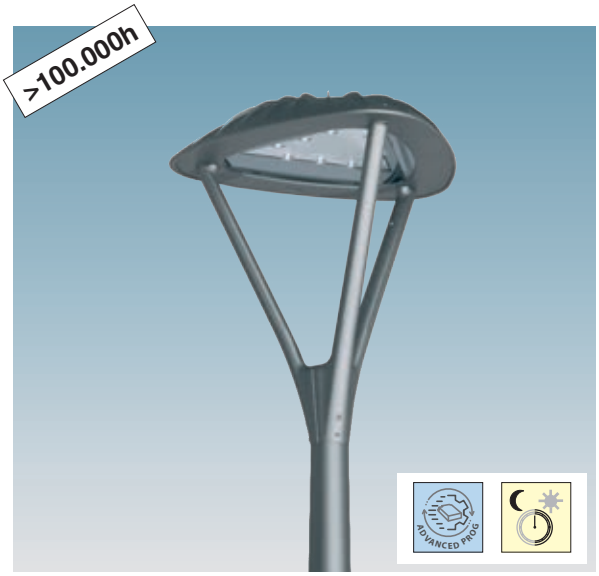
3344 Loto 5 - wide beam

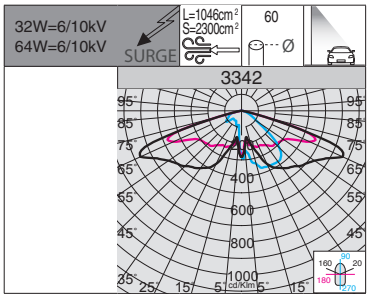
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 530mA - CRI
LED	grey 9007	12.50	330250-00	**26**	4000K - 2930lm - CRI 70
	graphite		330251-00		
Integrated **ADVANCED PROG functions** (see table on p. 343).					

Example	Power supply	n.LED	W tot	ølm
upon request	700mA	16	**35**	3868lm

IP66IK09







RG0 Elnr | +40 C° -30 | U.V. | ZONA 1 | LOW FLICKER | 3000K | 4000K

LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

3342 Loto 3 - asymmetric

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 550mA - CRI
LED	grey 9007	12.50	330230-00	**32**	4000K - 3747lm - CRI 80
	graphite		330231-00		
LED	grey 9007	12.50	330230-39	**32**	3000K - 3485lm - CRI 80
	graphite		330231-39		
LED	grey 9007	12.80	330232-00	**64**	4000K - 7481lm - CRI 80
	graphite		330233-00		
LED	grey 9007	12.80	330232-39	**64**	3000K - 6957lm - CRI 80
	graphite		330233-39		
Integrated **ADVANCED PROG functions** (see table on p. 343).					

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	9	**20**	**4000K**	2473lm
		18	**41**		4937lm
upon request	700mA	9	**41**	**4000K**	4946lm
		18	**81**		9875lm

n.LED	W tot	K	ølm
9	**20**	**3000K**	2300lm
18	**41**		4592lm
9	**41**	**3000K**	4600lm
18	**81**		9183lm







GENERAL CHARACTERISTICS

Housing and frame: pressed in die-cast aluminium and designed with a very small surface exposed to wind. Cooling fins are integrated into the cover.

Optics: made of PMMA with high temperature resistance and UV rays. Flow recovery in V0 polycarbonate, metallized high yield.

Pole connection: version with pole connector incorporated directly into the fixture's housing to enable whip-type installation on poles with diameters Ø60/62mm. Adjustable from 0° to +15° for side-mount applications; and from 0° to +15° for top-mount applications. Tilting angle of 5°.

Diffuser: extra-clear tempered glass, 4 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001). Art. 3334 in plexiglass.

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

OTHER CHARACTERISTICS

UNI EN ISO 9227

Upon request: coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

Standard supply: Complete with IP67 airtight connector for mains connection. Supplied with double insulation switch that cuts off electricity when the cover is opened. Electric gear on a removable tray for easy maintenance. Automatic temperature control inside the device with automatic resetting; equipped with an air-circulation valve.

SURGE

Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

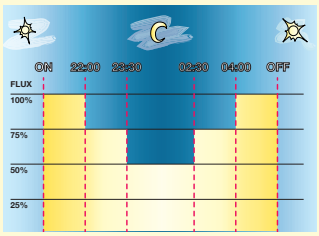
ADVANCED PROG

INTEGRATED ADVANCED PROG (PROG CLD) FUNCTIONS: the products of this family are supplied with programmable drivers as standard.

All these functions are already present on standard products and need only to be enabled on request. These functions do not require to make any modification to the system, as the product only needs to be connected to the mains without the use of a control BUS or a pilot cable.

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP
For more information see page XX-XXI	

VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*

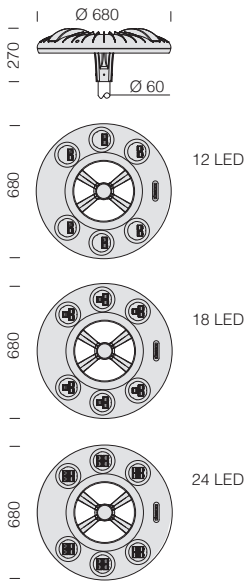


Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

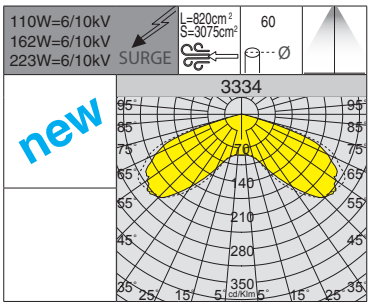
ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request*

IP66 IK08



LED: power factor >0.9.
Luminous flux maintenance 80%: >100.000h (L80B20).







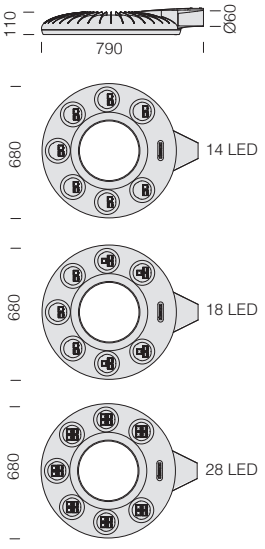
RG0 Emr
+40 C° -30
U.V.
ZONA 1
LOW FLICKER

3334 Disco 5 - central fixing

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 740mA - CRI
LED	grey 9007	12.00	330110-00	110	4000K - **13153lm** - CRI 80
	graphite		330113-00		
LED	grey 9007	12.00	330111-00	162	4000K - **19730lm** - CRI 80
	graphite		330114-00		
LED	grey 9007	13.00	330112-00	223	4000K - **26306lm** - CRI 80
	graphite		330115-00		

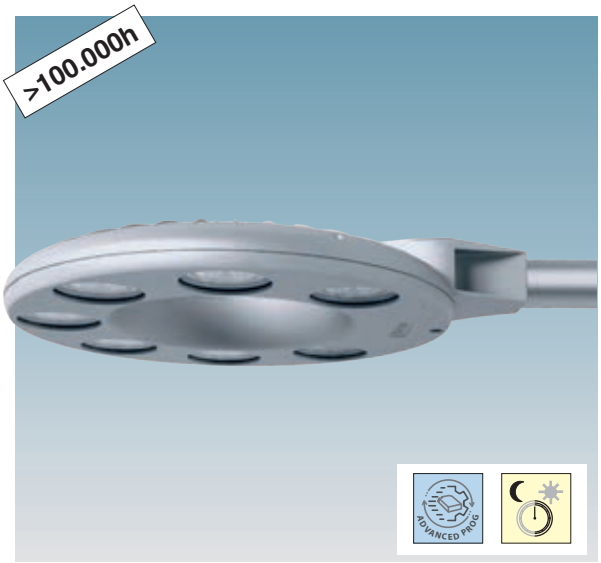
Example	Power supply	n.LED	W tot	ølm
upon request	430mA	12	**63**	8184lm
		18	**93**	12276lm
		24	**124**	16368lm

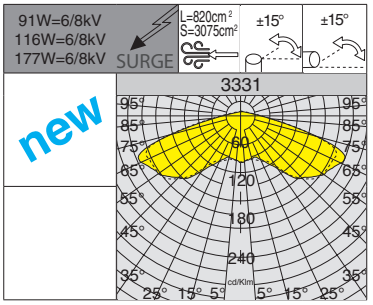
IP66 IK08

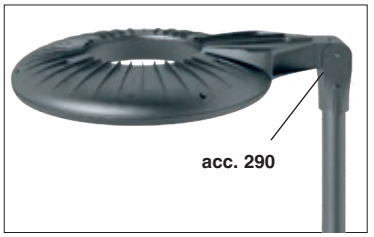


LED: power factor >0.9.
Luminous flux maintenance 80%: >100.000h (L80B20).

Pole joint: acc. 290.







RG0 Emr
+40 C° -30
U.V.
ZONA 1
LOW FLICKER

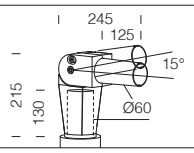
3331 Disco 2 - wide beam

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 530mA - CRI
LED	grey 9007	12.00	330040-00	91	4000K - **11459lm** - CRI 80
	graphite		330043-00		
LED	grey 9007	12.00	330041-00	116	4000K - **14732lm** - CRI 80
	graphite		330044-00		
LED	grey 9007	13.00	330042-00	177	4000K - **22917lm** - CRI 80
	graphite		330045-00		

acc. 290 joint

graphite	991439-00
grey	991438-00

To be used for installation on poles acc. 1477/1478 – 1485/1487.





GENERAL CHARACTERISTICS

Housing: pressed in die-cast aluminium with fastening clamp for application of the arms.

Pole connection: version with pole connector incorporated directly into the fixture's housing to enable whip-type installation on poles with diameters Ø60mm.

Diffuser: art. 3336 polycarbonate 2,5 mm thick and art. 3337-3338 tempered glass, 4 mm thick, thermal shock and impact resistant (UNI-EN 12150-1 : 2001).

Optics: made of PMMA with high temperature resistance and UV rays.

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

UNI EN ISO 9227 **Upon request:** coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

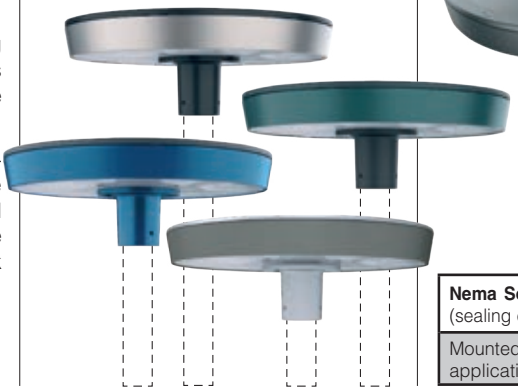
Standard supply: automatic temperature control inside the device with automatic resetting; dedicated electronic device to protect the LED module; Complete with quick connection and anti-condensation valve for air recirculation.

OTHER CHARACTERISTICS

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

Registered Design DM/100271 The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs.

Upon request available in two-colour version.



THE RANGE OF VISCONTI 2.0 STREET LAMPS IS AVAILABLE IN THE FOLLOWING COLOUR TEMPERATURES:

2200K **2200K (subcode -73):** lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.

3000K 4000K **3000K - 4000K as standard:** lamps with 3000K-4000K white light, instead, is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

Exemple with Zhaga Socket (subcode -0054)



LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET: to monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	**Zhaga Socket** order with **subcode -0054** (complete with sealing cap)
Mounted directly on the fixture's body, ideal for remote lighting management applications.	

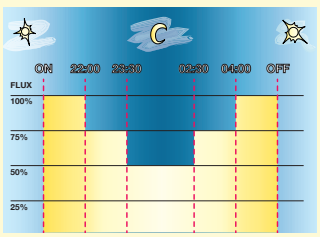
ADVANCED PROG

INTEGRATED ADVANCED PROG (PROG CLD) FUNCTIONS: the products of this family are supplied with programmable drivers as standard.

All these functions are already present on standard products and need only to be enabled on request. These functions do not require to make any modification to the system, as the product only needs to be connected to the mains without the use of a control BUS or a pilot cable.

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP
For more information see page XX-XXI	

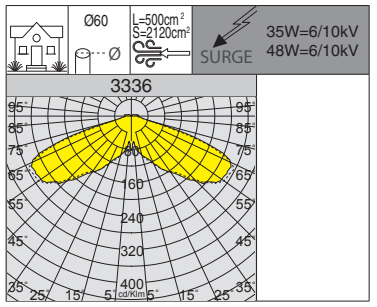
VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*

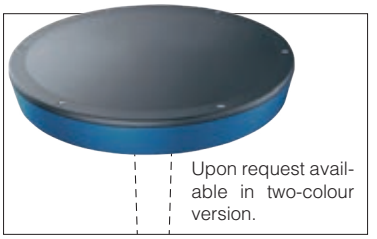


Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request*





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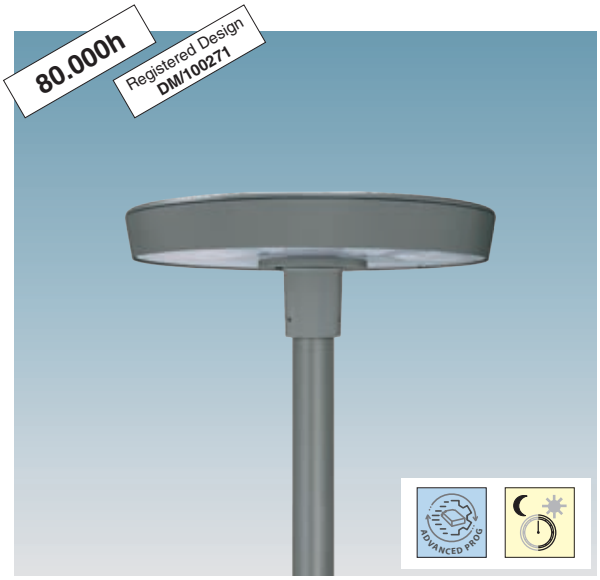
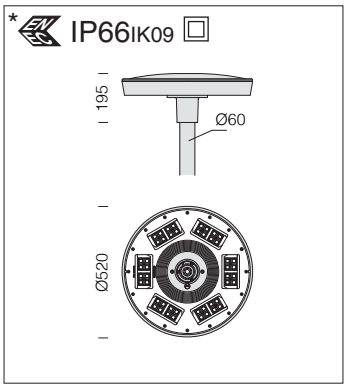


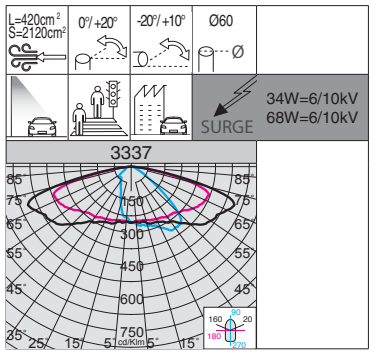


LED: power factor ≥0.9.
Luminous flux maintenance 80%: 80.000h (L80B20).

3336 Visconti 2.0 - rotosymmetric

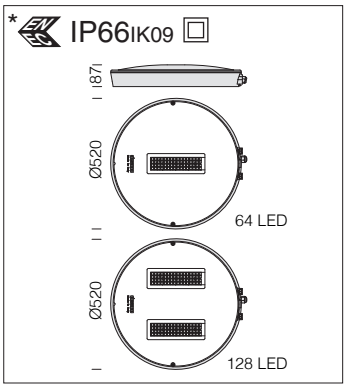
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	7.20	328200-00	**35**	4000K - 4392lm - CRI>70
			328200-39		3000K - 4084lm - CRI>70
LED	graphite	7.20	328201-00	**48**	4000K - 5551lm - CRI>70
			328201-39		3000K - 5162lm - CRI>70

Integrated **ADVANCED PROG functions** (see table on p. 351).



2200K - AMBER (sub-code -73)	
W tot	LUMEN OUTPUT (tq= 25 °C)
34	2200K - 5711lm
68	2200K - 11117lm





LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

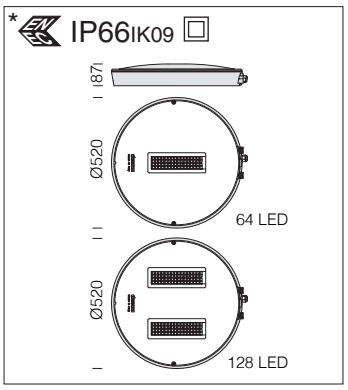
3337 Visconti 2.0 - residential amenities ME

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	8.30	328210-00	**34**	4000K - 5099lm - CRI 70
			328210-39		3000K - 4589lm - CRI 70
LED	graphite	8.30	328211-00	**68**	4000K - 9926lm - CRI 70
			328211-39		3000K - 8933lm - CRI 70

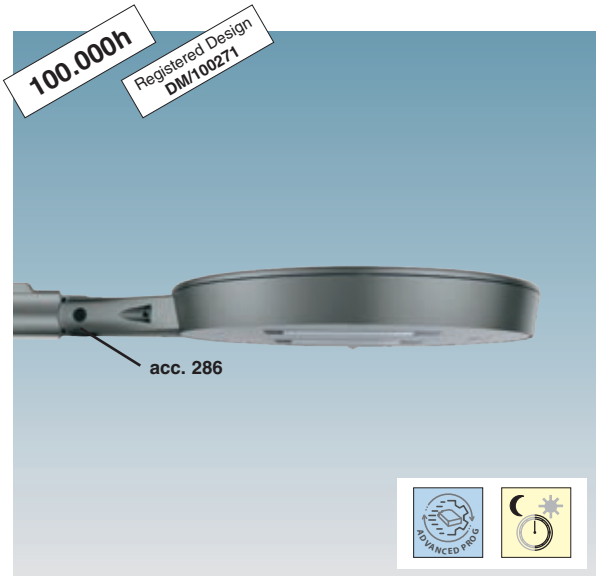
Integrated **ADVANCED PROG functions** (see table on p. 351).

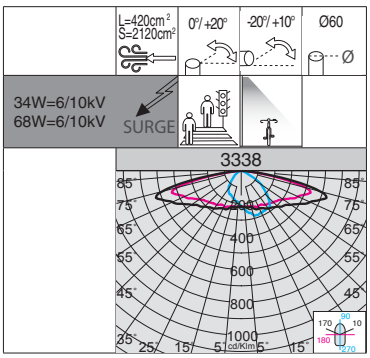
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	**16**	**4000K**	2703lm
		128	**32**		5263lm
upon request	530mA	64	**25**	**4000K**	3978lm
		128	**50**		7743lm

n.LED	W tot	K	ølm
64	**16**	**3000K**	2433lm
128	**32**		4736lm
64	**25**	**3000K**	3580lm
128	**50**		6969lm



LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).





2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
34	2200K - 5935lm
68	2200K - 11859lm

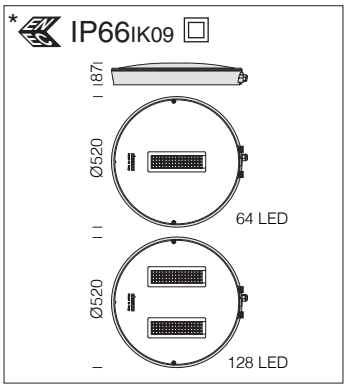
3338 Visconti 2.0 - cycleways

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	8.30	328240-00	**34**	4000K - 4971lm - CRI 70
			328240-39		3000K - 4474lm - CRI 70
LED	graphite	8.30	328241-00	**68**	4000K - 9641lm - CRI 70
			328241-39		3000K - 8677lm - CRI 70

Integrated **ADVANCED PROG functions** (see table on p. 351).

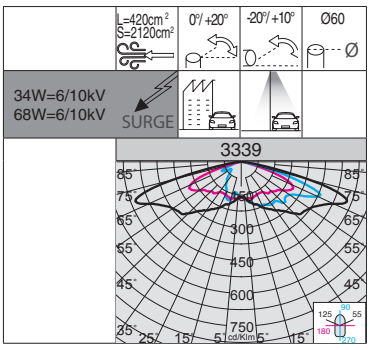
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	**16**	**4000K**	2636lm
		128	**32**		5111lm
upon request	530mA	64	**25**	**4000K**	3878lm
		128	**50**		7521lm

n.LED	W tot	K	ølm
64	**16**	**3000K**	2372lm
128	**32**		4600lm
64	**25**	**3000K**	3490lm
128	**50**		6769lm

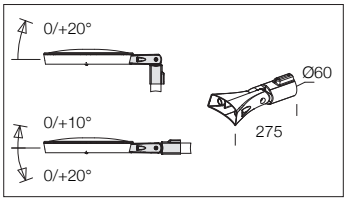


LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).





2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
34	2200K - 5506lm
68	2200K - 10900lm



3339 Visconti 2.0 - large areas

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	8.30	328250-00	**34**	4000K - 4916lm - CRI 70
			328250-39		3000K - 4424lm - CRI 70
LED	graphite	8.30	328251-00	**68**	4000K - 9732lm - CRI 70
			328251-39		3000K - 8759lm - CRI 70

Integrated **ADVANCED PROG functions** (see table on p. 351).

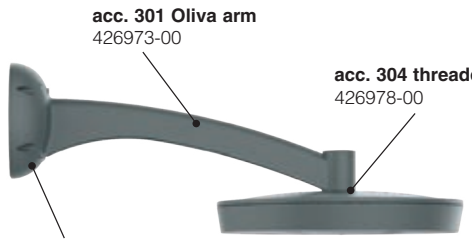
acc. 286 adjustable arm	
graphite	991445-00
In die-cast aluminium. For for Ø60mm side-mount applications.	

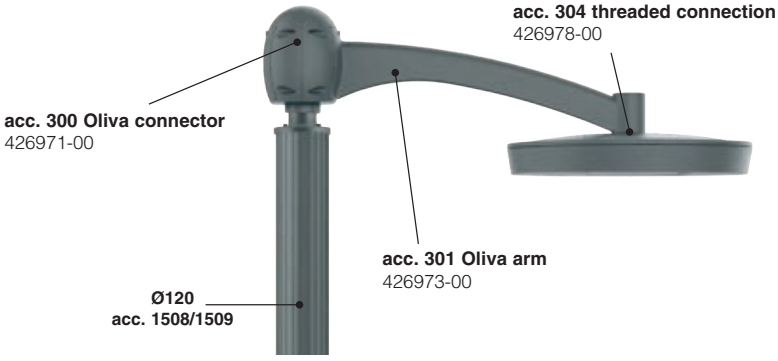
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	**16**	**4000K**	2606lm
		128	**32**		5160lm
upon request	530mA	64	**25**	**4000K**	3835lm
		128	**50**		7592lm

n.LED	W tot	K	ølm
64	**16**	**3000K**	2346lm
128	**32**		4644lm
64	**25**	**3000K**	3452lm
128	**50**		6833lm



Examples of configurations with the Visconti lamp with central connection.





RG0 Ethr

+50 C° -30

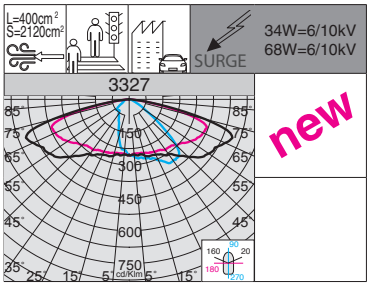
U.V.

ZONA 1

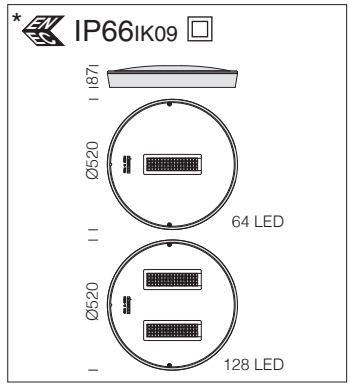
LOW FLICKER

3000K

4000K







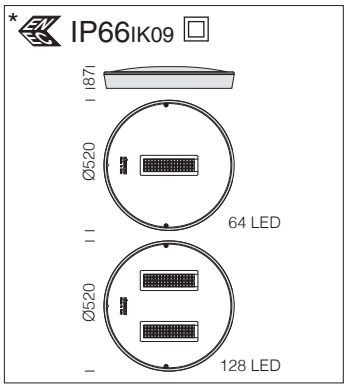
LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
34	2200K - 5711lm
68	2200K - 11117lm

3327 Visconti 2.0 - residential amenities ME					
		CLD PROG			**LUMEN OUTPUT (tq= 25 °C)**
LED	colour	weight	code	**W tot**	K - ølm 700mA - CRI
LED	graphite	8.30	328270-00	**34**	4000K - **5099lm** - CRI 70
			328270-39		3000K - **4589lm** - CRI 70
LED	graphite	8.30	328271-00	**68**	4000K - **9926lm** - CRI 70
			328271-39		3000K - **8933lm** - CRI 70
Integrated **ADVANCED PROG functions** (see table on p. 351).					

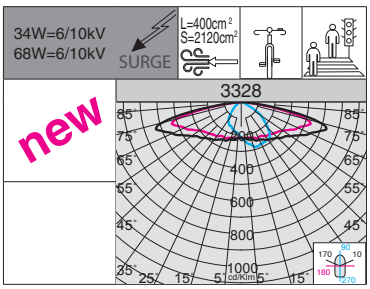
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	**16**	**4000K**	2703lm
		128	**32**		5263lm
upon request	530mA	64	**25**	**4000K**	3978lm
		128	**50**		7743lm

n.LED	W tot	K	ølm
64	**16**	**3000K**	2433lm
128	**32**		4736lm
64	**25**	**3000K**	3580lm
128	**50**		6969lm



LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).





2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
34	2200K - 5935lm
68	2200K - 11859lm

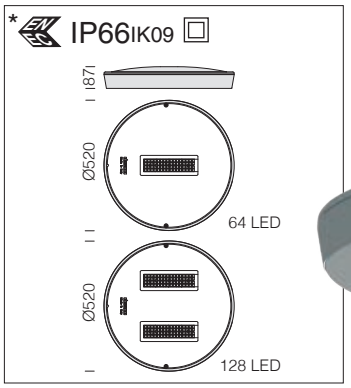
3328 Visconti 2.0 - cycleways

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	8.30	328280-00	**34**	4000K - **4971lm** - CRI 70
			328280-39		3000K - **4474lm** - CRI 70
LED	graphite	8.30	328281-00	**68**	4000K - **9641lm** - CRI 70
			328281-39		3000K - **8677lm** - CRI 70

Integrated **ADVANCED PROG functions** (see table on p. 351).

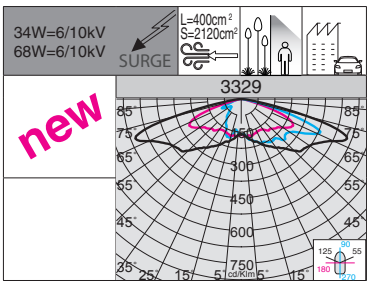
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	**16**	**4000K**	2636lm
		128	**32**		5111lm
upon request	530mA	64	**25**	**4000K**	3878lm
		128	**50**		7521lm

n.LED	W tot	K	ølm
64	**16**	**3000K**	2372lm
128	**32**		4600lm
64	**25**	**3000K**	3490lm
128	**50**		6769lm



LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).





2200K - AMBER (sub-code -73)	
W tot	**LUMEN OUTPUT (tq= 25 °C)**
34	2200K - 5506lm
68	2200K - 10900lm

3329 Visconti 2.0 - large areas

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	8.30	328290-00	**34**	4000K - **4916lm** - CRI 70
			328290-39		3000K - **4424lm** - CRI 70
LED	graphite	8.30	328291-00	**68**	4000K - **9732lm** - CRI 70
			328291-39		3000K - **8759lm** - CRI 70

Integrated **ADVANCED PROG functions** (see table on p. 351).

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	**16**	**4000K**	2606lm
		128	**32**		5160lm
upon request	530mA	64	**25**	**4000K**	3835lm
		128	**50**		7592lm

n.LED	W tot	K	ølm
64	**16**	**3000K**	2346lm
128	**32**		4644lm
64	**25**	**3000K**	3452lm
128	**50**		6833lm

You can make your lighting system **SMART** by integrating sensors into the fixture so that it can detect the movement of people within a given detection area and automatically adjust light intensity according to previously established light levels and delay times. You will also achieve high **energy savings** without affecting the safety and visual comfort of pedestrians.

The lighting fixtures with **sub-code -1219 complete with motion sensors** are a functional lighting solution for public spaces. The ability to control the light flux without people moving in a space will let you **optimize operating costs**, while achieving notable **economic savings**. This lighting solution is best suited for public or private streets, cycle lanes, private roads, parks and, in general, for any installation where smart lighting control is required.

Energy savings

The ability of these fixtures to sense the presence of people transiting in a space through integrated motion sensors will significantly reduce the waste of light, especially at night, and achieve lower energy costs.

Safety

At night-time, the number of people using urban areas, such as parks, is quite low. Therefore, reducing the light flux using fixtures with integrated motion sensors is the ideal solution to always ensure adequate lighting levels.

Green lighting

Installing lighting fixtures with integrated motion sensors that will switch lights on only when people are around is the first step towards becoming a greener city, where spaces are more liveable and safer, without wasting energy and leaving a lesser impact on the environment.



Motion sensor - STAND-ALONE

Visconti 2.0 with sub-code -1219: lighting fixture complete with stand-alone motion sensor with 1/10V control.

TECHNICAL SPECIFICATIONS	
Frequency	5.8GHz±75MHz
Stand-by power	≤1W
Setting	telecomando
Hold time (adjustable)	5s / 30s / 1min / 3min / 5min / 10min / 20min / 30min
Ambient light (adjustable)	2lux / 10lux /30lux / 50lux / OFF
Stand-by time (adjustable)	0s / 10s / 30s / 1min / 5min / 10min / 30min /+ ∞
Stand-by dimming level (adjustable)	20% / 30% / 50%
Detection area	50% - 75% - 100%
Detection angle	30° - 150°
Technology	Microwave



Remote control cod. **81418618** (to be purchased separately) that **allows changing the parameters even after installation is complete** and without the need to directly access the fixture.

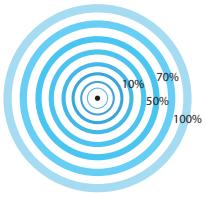


DEFAULT SETTINGS

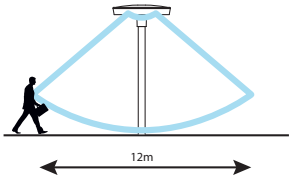
The fixtures is supplied as standard with the following parameters

Hold time	5s
Ambient light	OFF
Stand-by time	0s
Stand-by dimming level	10%
Detection area	100%

NOTE: when placing your order, it is possible upon request a customized configuration that you need to set.



DETECTION RANGE 360°



MOUNTING HEIGHT

A) Detection area: the sensor will turn the lights on when it detects motion in this area; with a 100% detection area the sensitivity level is high.

B) Hold time: the period of time during which lights stay on at full brightness after a person or object has left the detection area.

C) Ambient light: when the level of light inside a room is below a pre-determined threshold, the sensor will trigger the lights on; when set to 'disable', the sensor will operate whenever it detects movement regardless of the amount of light in the room.

D) Stand-by time: refers to the time the sensor keeps the lights at a dim level after the hold time.

E) Stand-by dimming level: is the lights' dimming level during the stand-by time.

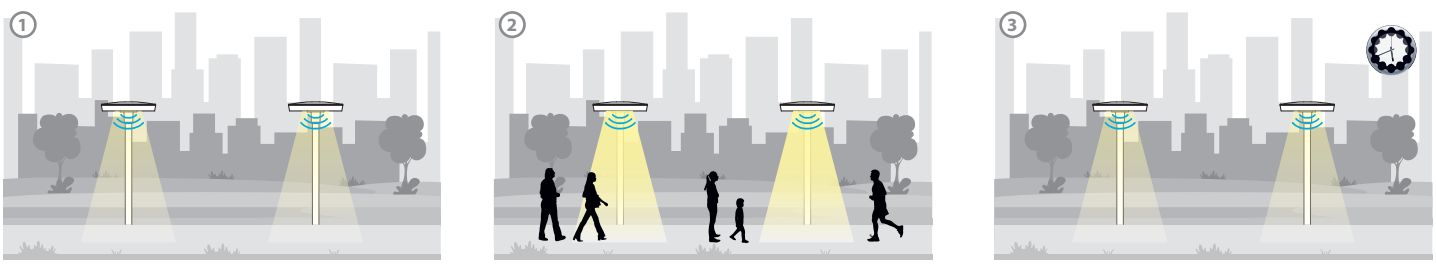
EXAMPLE OF OPERATION

The lighting fixtures with **sub-code -1219** complete with motion sensors will adjust the light flux in the presence of moving people by varying the brightness value according to pre-determined levels based on certain times:

1) when there is no motion, the fixtures will keep a certain level of light intensity for a specific period of time

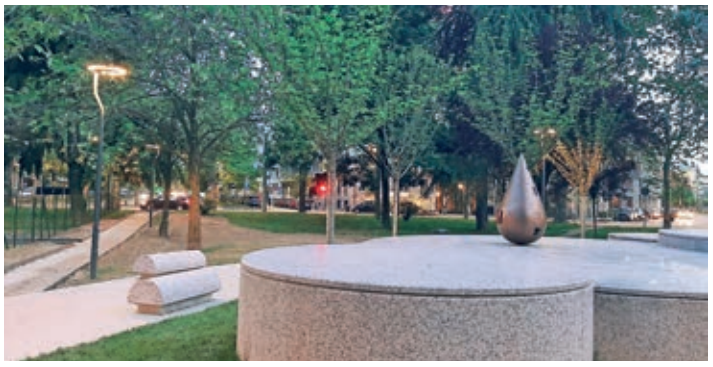
2) when motion is detected in the monitoring area, the luminous flux will dim to 100% of light level

3) if no motion is detected after a certain period of time, the sensor will reset the light level to the pre-set value



A lighting fixture equipped with a radar-type motion sensor may be affected by wind. Therefore, for particularly windy areas, PIR presence sensors are available upon request and for an additional cost.





GENERAL CHARACTERISTICS

Housing/cover: in die-cast aluminium.

Optics: combined optical system made in PMMA.

Diffuser: in V2 self-extinguishing, UV stabilized, clear polycarbonate.

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

UNI EN ISO 9227 **Upon request:** coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

Standard supply: automatic temperature control inside the device with automatic resetting; complete with socket-plug. With dedicated electronic device to protect the LED module.

LED: Power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

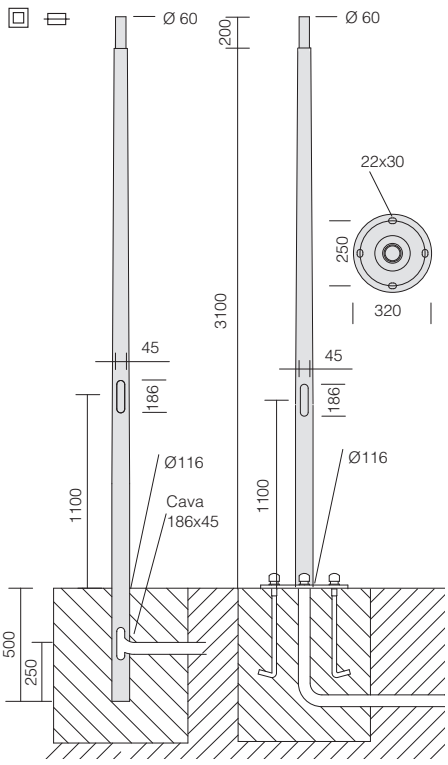
OTHER CHARACTERISTICS

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.



ACCESSORIES



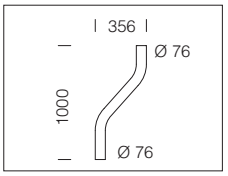
Poles and arm in painted galvanized aluminium. Designed with a hole for the insertion of the power supply cable, with mast-top mounting of ø60 cm for arm acc. 513 or 532. With inspection window, complete with 4-pole/3-way removable 10 mm2 terminal block and 2.5 mm2 shunt, with 16A fuse. The version with base requires the purchase of 4 long bolts, nuts and caps to be buried for ground installation.

acc. 1441 - Steel cone-shaped to be buried for acc. 513/532

colour	code							Ø	Ø
grey	425266-00	3600	3100	500	1100	186	45	**Ø 116**	Ø 60
graphite	425267-00								

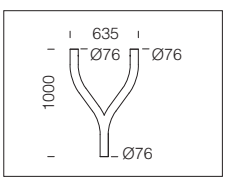
acc. 1440 - Steel cone-shaped with base acc. 513/532

colour	code					Ø	Ø	
grey	425276-00	3100	1100	186	45	**Ø 116**	Ø 60	Ø 320 foro 22x30
graphite	425277-00							



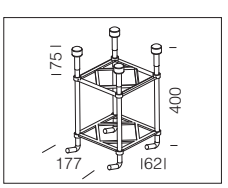
acc. 513 arm for pole

grey	991290-00
graphite	991291-00
arm for Aura pole acc. 1440-1441.	



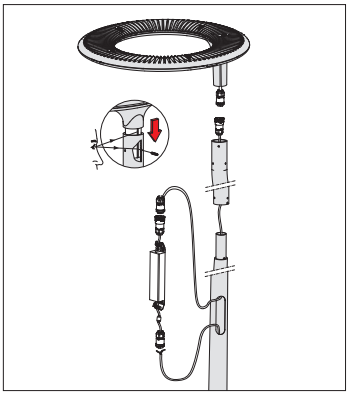
acc. 532 double arm for pole

grey	991292-00
graphite	991293-00
arm for Aura pole acc. 1440-1441.	



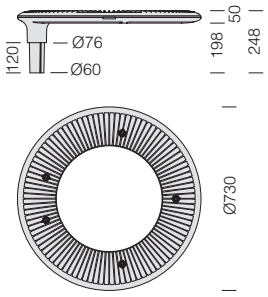
acc. 299 Long bolts

991396-00
Long bolts should always be purchased with pole 1440.

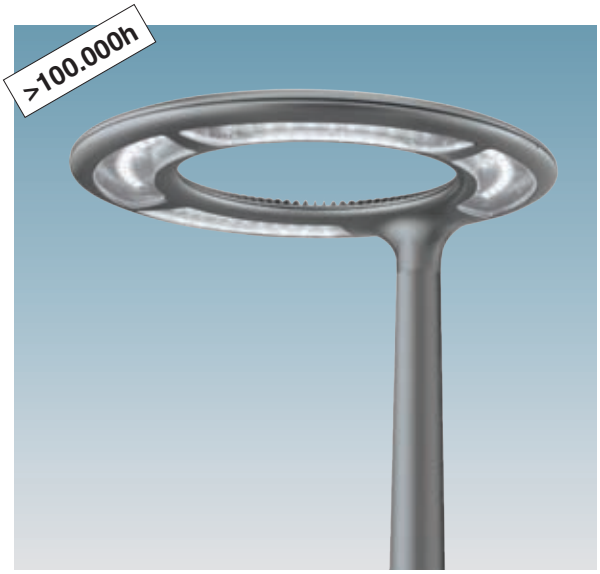


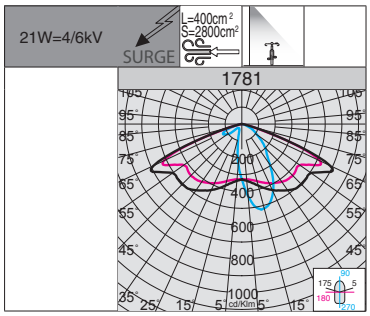
Fixture supplied with driver to be placed inside the pole, complete with 3.5 m connector and cable.

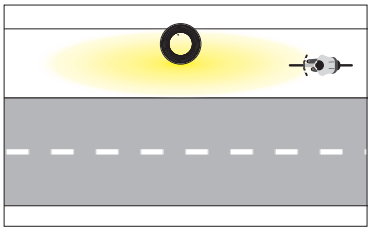
IP65 IK08



LED: power factor ≥0.92.
Luminous flux maintenance 80%: >100.000h (L80B10).



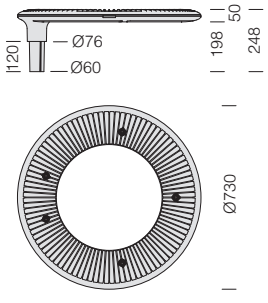




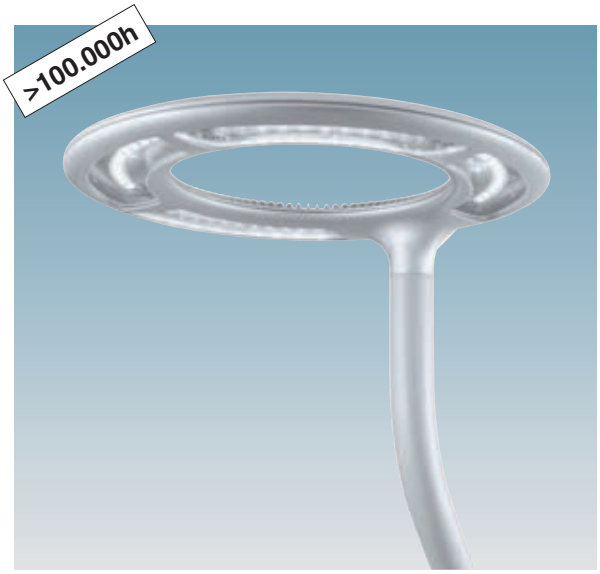
1781 Aura - cycle-pedestrian

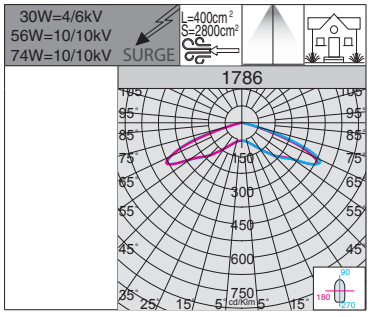
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey 9007	8.50	423280-00	**21**	4000K - 2905lm - CRI 70
	graphite		423281-00		
LED	grey 9007	8.50	423280-39	**21**	3000K - 2715lm - CRI 70
	graphite		423281-39		

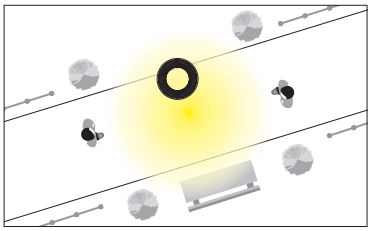
IP65 IK08



LED: power factor ≥0.92.
Luminous flux maintenance 80%: >100.000h (L80B10).







1786 Aura - rotosymmetric

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey 9007	8.50	423278-00	**30**	4000K - 4200lm - CRI 70
	graphite		423279-00		
LED	grey 9007	8.50	423278-39	**30**	3000K - 3924lm - CRI 70
	graphite		423279-39		
LED	grey 9007	8.50	423270-00	**56**	4000K - 7242lm - CRI 70
	graphite		423271-00		
LED	grey 9007	8.50	423270-39	**56**	3000K - 6768lm - CRI 70
	graphite		423271-39		
LED	grey 9007	8.50	423274-00	**74**	4000K - 9170lm - CRI 70
	graphite		423277-00		
LED	grey 9007	8.50	423274-39	**74**	3000K - 8528lm - CRI 70
	graphite		423277-39		


PMN 2251

GENERAL CHARACTERISTICS

Housing, lid, spokes, and pole connection: die-cast aluminium.

Diffuser: tempered glass, 5 mm thick, withstands thermal shock and impacts (UNI-EN 12150-1 : 2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

UNI EN ISO 9227 **Upon request:** coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

Equipment: nylon wiring plate, 30% fibre glass, removable, tool-free, for quick maintenance. Standard knife switch, which enables to automatically cut off the power supply during maintenance. Complete with quick-connector for connection to the line (art. 3202, 3209, 3212, 3214, 3322). Can be adjusted by loosening the bolts without taking the lighting fixture apart. Temperature control device. In the event of an unexpected LED temperature rise caused by particular weather conditions or a LED failure, the system will reduce the luminous flux to lower the working temperature and guarantee proper operation.

OTHER CHARACTERISTICS

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

Available in white color.



THE RANGE OF LUCERNA STREET LAMPS IS AVAILABLE IN THE FOLLOWING COLOUR TEMPERATURES:

2200K **2200K (subcode -73):** lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.

3000K 4000K **3000K - 4000K as standard:** lamps with 3000K-4000K white light, instead, is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

Exemple with Zhaga Socket (subcode -0054)



LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET: to monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

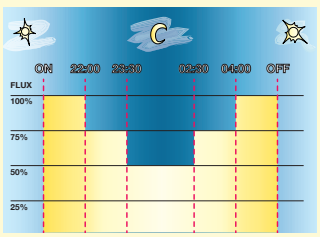
Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	**Zhaga Socket** order with **subcode -0054** (complete with sealing cap)
Mounted directly on the fixture's body, ideal for remote lighting management applications.	

ADVANCED PROG **INTEGRATED ADVANCED PROG (PROG CLD) FUNCTIONS:** the products of this family are supplied with programmable drivers as standard (except for versions with **LED COB**).

All these functions are already present on standard products and need only to be enabled on request. These functions do not require to make any modification to the system, as the product only needs to be connected to the mains without the use of a control BUS or a pilot cable.

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP
For more information see page XX-XXI	

VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*



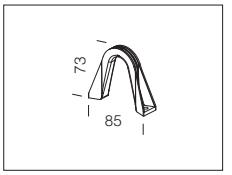
Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

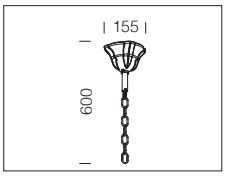
ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request*



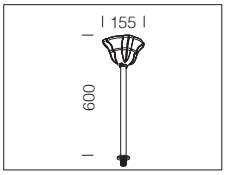
SUSPENSION ACCESSORIES: ART 3206 - 3216 - 3326



acc. 329 suspension unit	
anthracite	998003-00
In die-cast aluminium. Supplied separately for suspension applications.	



acc. 518 chain connection	
anthracite	991284-00
Supplied with suspension chain. To be used with acc. 329.	



acc. 519 rod connection	
anthracite	991285-00
Supplied with suspension rod.	

RG0 Ethr

+40 C° -30

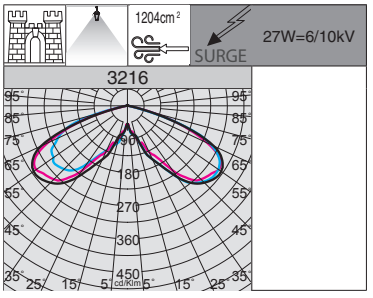
U.V.

ZONA 1

LOW FLICKER

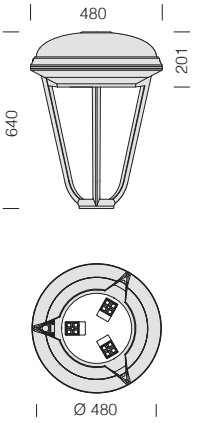
3000K

4000K





IP66 IK08



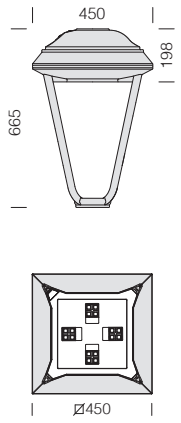
3216 Lucerna R 6					
		CLD CTL			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 350mA - CRI
LED	anthracite	10.55	327210-00	**27**	4000K - 3390lm - CRI>70
			327210-39		3000K - 3153lm - CRI>70
Integrated **ADVANCED PROG functions** (see table on p. 361).					

LED: power factor ≥0.9. Luminous flux maintenance 80%: >100.000h (L80B10).

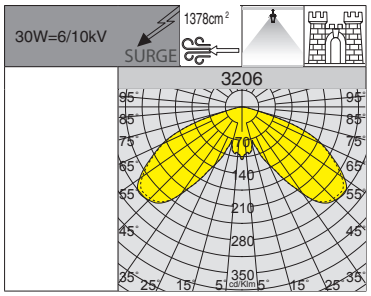
Example	Power supply	n.LED	W tot	K	ølm
upon request	530mA	12	**42**	**4000K**	5180lm

n.LED	W tot	K	ølm
12	**42**	**3000K**	4817lm

IP66 IK08







LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

3206 Lucerna Q 6

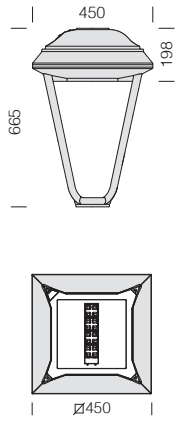
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 300mA - CRI
LED	anthracite	10.55	327200-00	**30**	4000K - 3830lm - CRI>70
			327200-39		3000K - 3562lm - CRI>70

Integrated **ADVANCED PROG functions** (see table on p. 361).

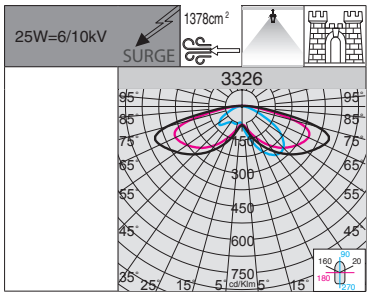
Example	Power supply	n.LED	W tot	K	ølm
upon request	470mA	16	**48**	**4000K**	5700lm

n.LED	W tot	K	ølm
16	**48**	**3000K**	5301lm

IP66 IK08





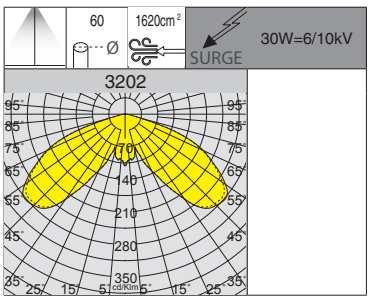


LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

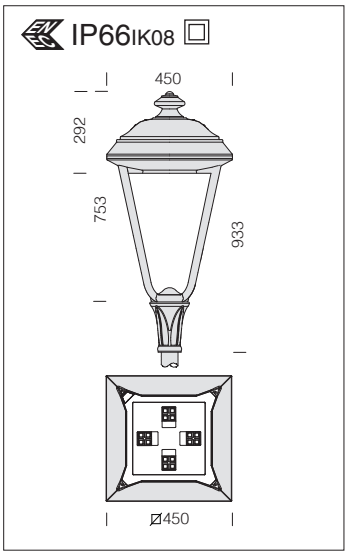
3326 Lucerna Q 9 FX

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 530mA - CRI
LED	anthracite	10.55	327202-00	**25**	4000K - 2910lm - CRI 70
			327202-39		3000K - 2706lm - CRI 70

Integrated **ADVANCED PROG functions** (see table on p. 361).







3202 Lucerna Q

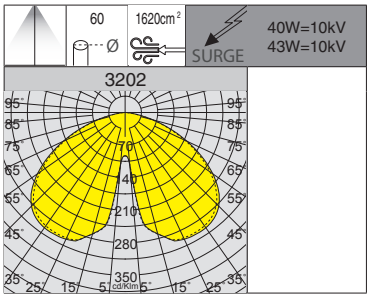
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 300mA - CRI
LED	anthracite	12.55	326920-00	**30**	4000K - 3830lm - CRI>70
			326920-39		3000K - 3562lm - CRI>70

Integrated **ADVANCED PROG functions** (see table on p. 361).

LED: power factor ≥0.9. Luminous flux maintenance 80%: >100.000h (L80B10).

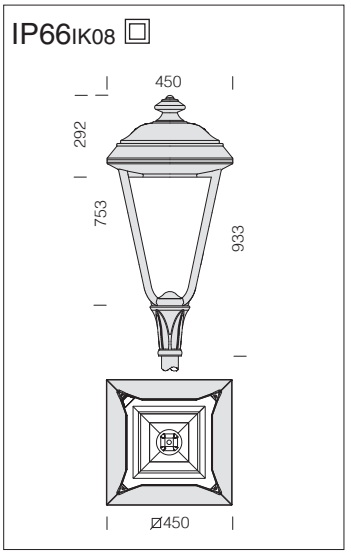
Example	Power supply	n.LED	W tot	K	ølm
upon request	470mA	16	**48**	**4000K**	5700lm

n.LED	W tot	K	ølm
16	**48**	**3000K**	5301lm









3202 Lucerna Q - COB

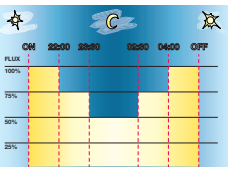
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 1050mA - CRI
COB	anthracite	12.55	326923-00	**40**	4000K - 2579lm - **CRI 90**
			326923-39		3000K - 2398lm - **CRI 90**
COB AMBER	anthracite	12.55	326923-73	**43**	2200K - 2953lm - **AMBER**

LED COB: power factor ≥0.9. Luminous flux maintenance 80%: 50.000h (L80B20).

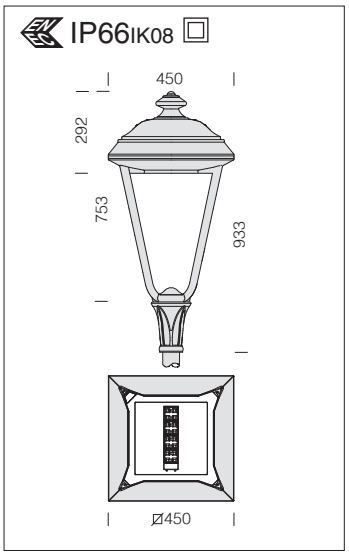
Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

3202 Lucerna Q MIDNIGHT - COB

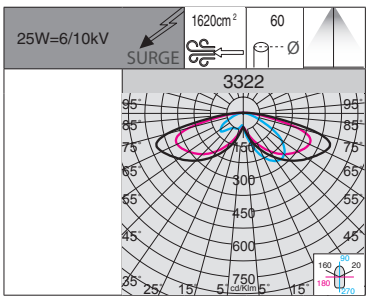
		CLD MIDNIGHT			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 1050mA - CRI
COB	anthracite	12.55	326923-30	**40**	4000K - 2579lm - **CRI 90**
			326923-3028		3000K - 2398lm - **CRI 90**
COB AMBER	anthracite	12.55	326923-3073	**43**	2200K - 2953lm - **AMBER**



Sub-code -30: version with **virtual midnight**.



















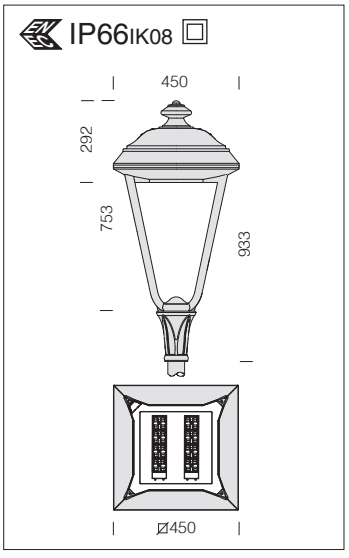




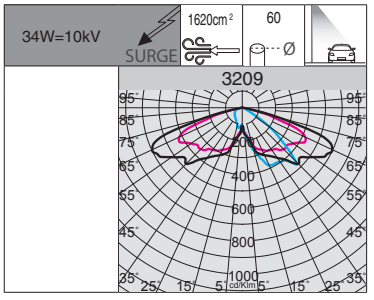


LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

3322 Lucerna Q 7 FX					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 530mA - CRI
LED	anthracite	12.55	326922-00	**25**	4000K - 2910lm - CRI 70
			326922-39		3000K - 2706lm - CRI 70
Integrated **ADVANCED PROG functions** (see table on p. 361).					























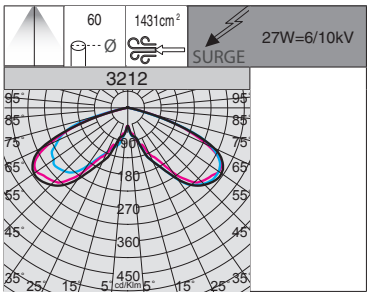


LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

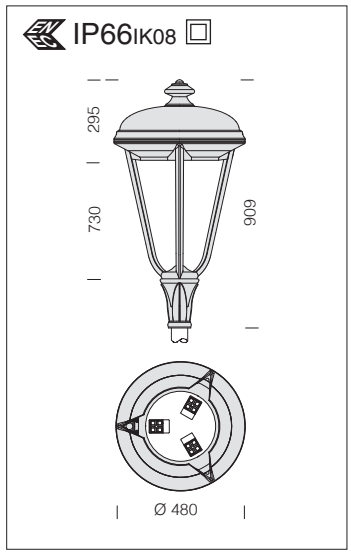
3209 Lucerna Q 8 - residential amenities					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 350mA - CRI
LED	anthracite	13.55	327220-00	**34**	4000K - 4072lm - CRI>70
			327220-39		3000K - 3787lm - CRI>70
Integrated **ADVANCED PROG functions** (see table on p. 361).					

Example	Power supply	n.LED	W tot	K	ølm
upon request	520mA	32	**50**	**4000K**	5720lm

n.LED	W tot	K	ølm
32	**50**	**3000K**	5320lm





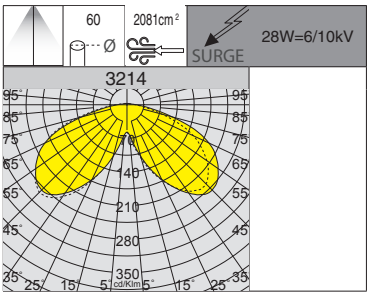


3212 Lucerna R					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 350mA - CRI
LED	anthracite	12.35	326970-00	**27**	4000K - 3390lm - CRI>70
			326970-39		3000K - 3153lm - CRI>70
Integrated **ADVANCED PROG functions** (see table on p. 361).					

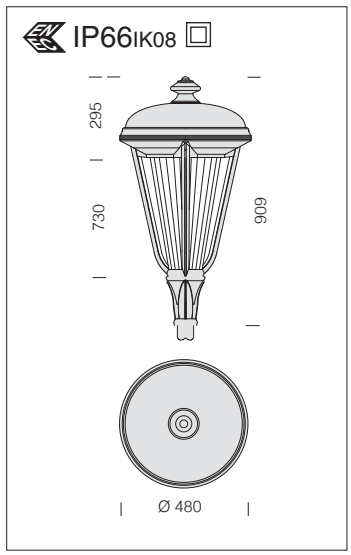
LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

	Power supply	n.LED	W tot	K	ølm
Upon request	530mA	12	**42**	**4000K**	5180lm

n.LED	W tot	K	ølm
12	**42**	**3000K**	4817lm

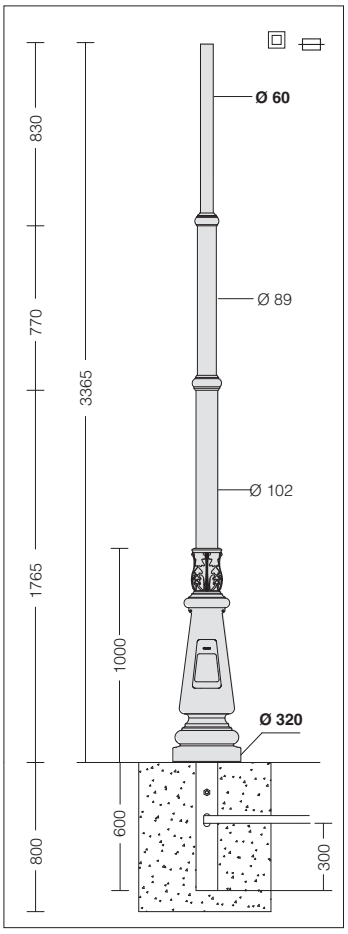




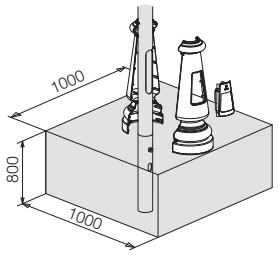


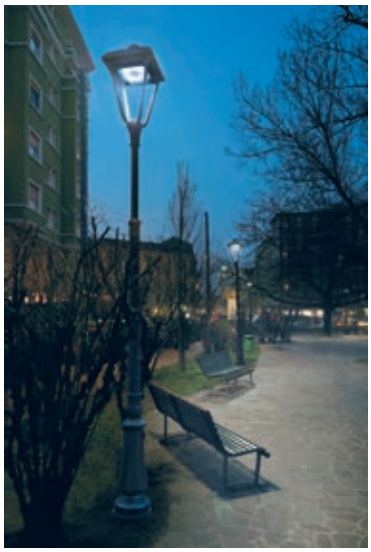
3214 Lucerna R					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 350mA - CRI
LED	anthracite	12.35	326985-00	**28**	4000K - 2626lm - CRI>70
Integrated **ADVANCED PROG functions** (see table on p. 361).					

LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).
Diffuser: in shatterproof and self-extinguishing V2 polycarbonate, UV-stabilized, frosted inside for improved glare control.



Size of concrete plinth (subject to variations in the ground).





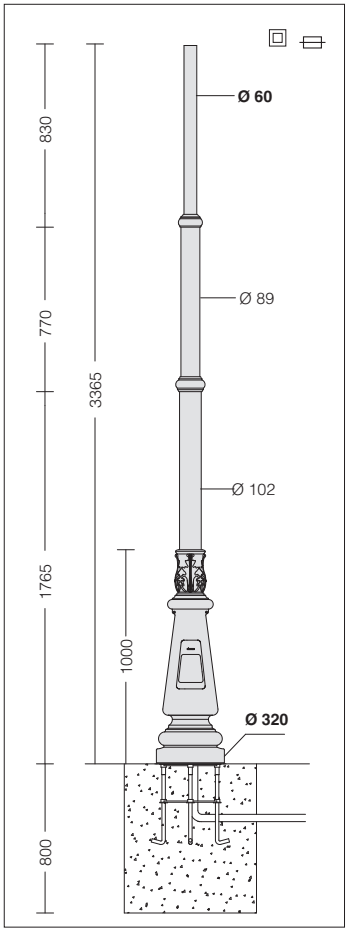
acc. 1411 - Lucerna pole to be buried

colour	code							Ø	Ø
anthracite	425230-00	3965	3365	600	300	320	60	**Ø 320**	Ø 60

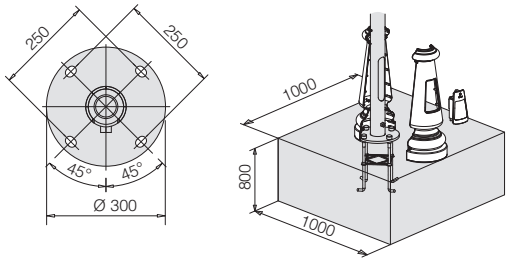
Hot galvanized steel poles, coated using thermosetting polyester powder.
Base, inspection window and decorations made from die-cast aluminium, pressed and varnished. Equipped with inspection window, 2 protection fuse holders, 2 fuses (16A), removable terminal block.
Stainless steel screws, double insulation.



Avaible on request: an inspection window that can be customized logo.



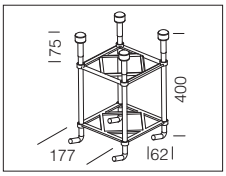
Size of concrete plinth (subject to variations in the ground).





acc. 1410 - Lucerna pole with base

colour	code					Ø	Ø	
anthracite	425220-00	3365	300	320	60	**Ø 320**	Ø 60	Ø 300

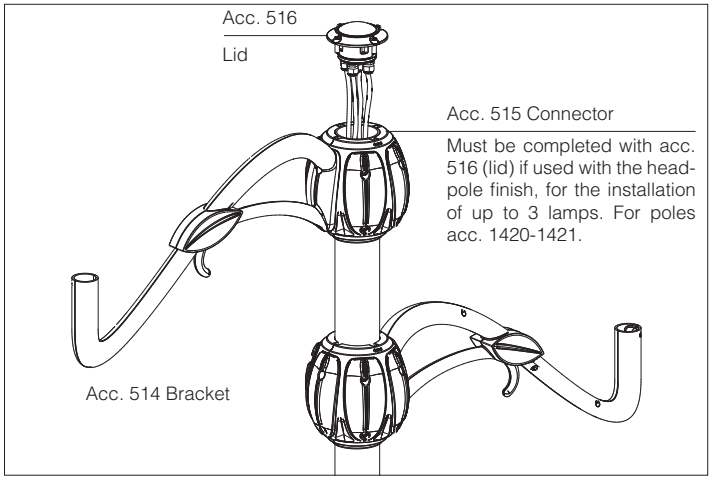


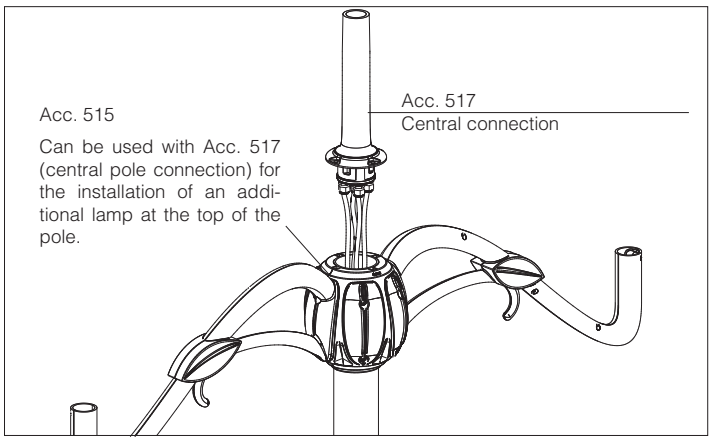
acc. 299 log bolts
991396-00
Log bolts supplied with poles 1410.

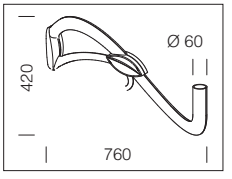
NOTE: before selecting the appropriate pole, make all necessary wind pressure resistance tests, pursuant to the Standards or Legislative Decrees in force in the countries where the pole will be mounted.

Lucerna pole with Ø 102 connection





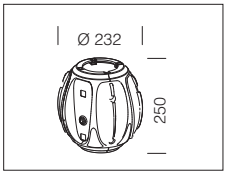




acc. 514 bracket

anthracite	991280-00

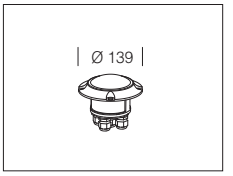
Bracket in die-cast aluminium with feeder, external PVC sheath and double insulated conductors, 2x1 sqmm section. Stainless steel screws.



acc. 515 connector Ø 102

anthracite	991281-00

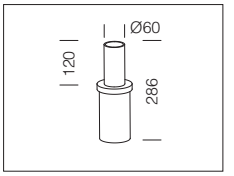
In die-cast aluminium for stainless steel pole Ø 102, for the installation of up to 3 brackets (acc. 514) plus a central bracket (acc. 517). Stainless steel screws.



acc. 516 lid

anthracite	991282-00

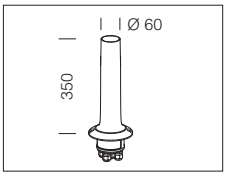
Die-cast aluminium lid. Supplied with plastic distribution box and terminal for power connection. Stainless steel screws.



acc. 528 mast top pole connection

anthracite	991288-00

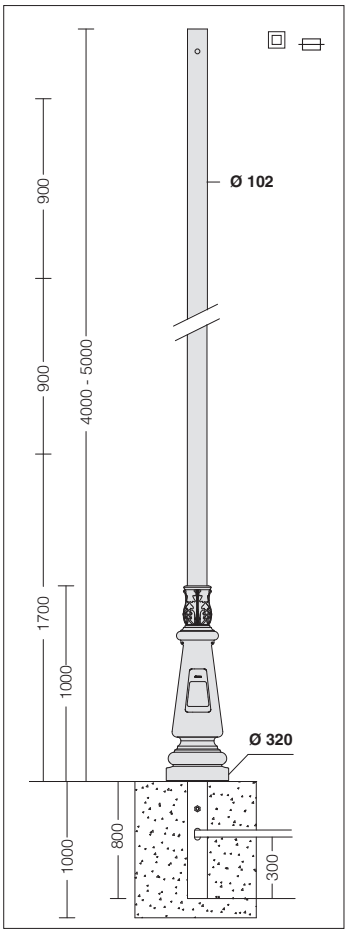
To be used as a mast top pole connection on poles acc. 1420/21.



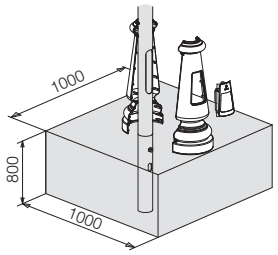
acc. 517 central connection

anthracite	991283-00

Made from die-cast aluminium, to be used with acc. 1420-21. Supplied with power lead, 2x1 sqmm section. Plastic distribution box and terminal for electrical connection. Stainless steel screws. To be used for pole-head connection with acc. 1420-21.



Size of concrete plinth (subject to variations in the ground).





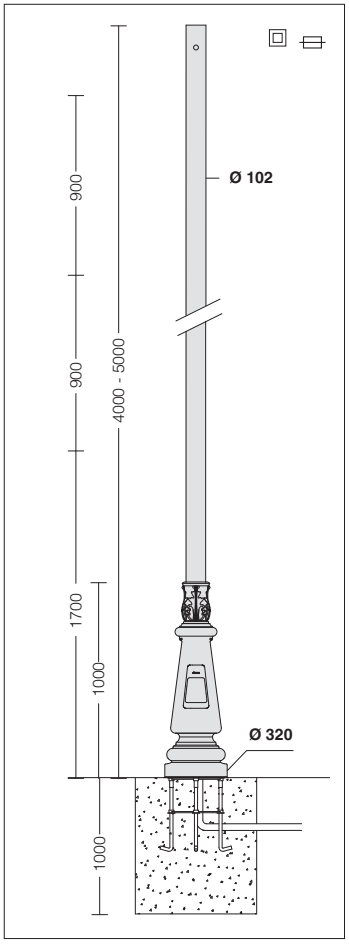
acc. 1421 - Lucerna pole to be buried

colour	code							Ø	Ø
anthracite	425330-00	4800	4000	800	300	320	60	**Ø 320**	Ø 102
anthracite	425331-00	5800	5000	800	300	320	60	**Ø 320**	Ø 102

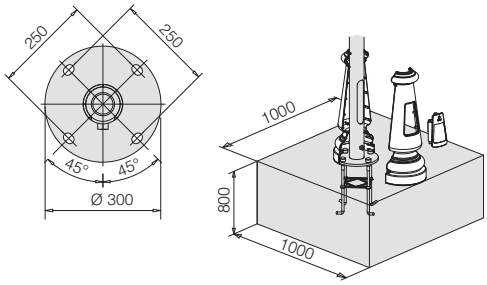
Hot galvanized steel poles, coated using thermosetting polyester powder.
Base, inspection window and decorations made from die-cast aluminium, pressed and varnished. Equipped with inspection window, 2 protection fuse holders, 2 fuses (16A), removable terminal block.
Stainless steel screws, double insulation.



Avaible on request: an inspection window that can be customized logo.



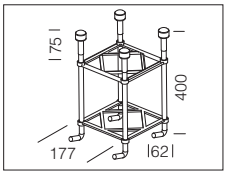
Size of concrete plinth (subject to variations in the ground).





acc. 1420 - Lucerna pole with base

colour	code					Ø	Ø	
anthracite	425320-00	4000	300	320	60	**Ø 320**	Ø 102	Ø 300
anthracite	425321-00	5000	300	320	60	**Ø 320**	Ø 102	Ø 300



acc. 299 log bolts
991396-00
Log bolts supplied with poles 1420.

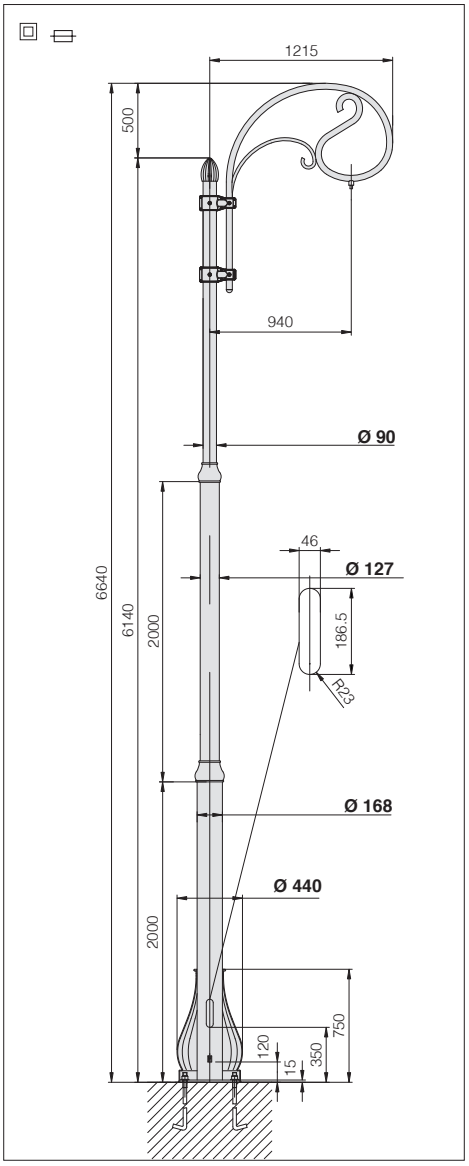
NOTE: before selecting the appropriate pole, make all necessary wind pressure resistance tests, pursuant to the Standards or Legislative Decrees in force in the countries where the pole will be mounted.

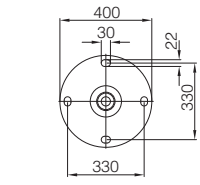


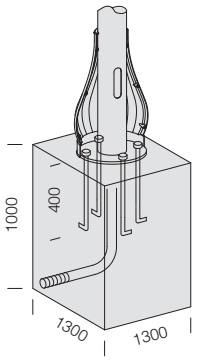
Liberty Pole, complete with one or two brackets. Internal steel pole with die-cast aluminium coating. Die-cast aluminium inspection window. Complete with 2 protection fuse holders, 2 fuses, 16A, removable 4-pole terminal block, 16sqmm cross section.

NOTE: The possibility to attach an assembly to the pole is subject to a wind pressure resistance assessment in the areas regulated by CNR-UNI standard 10032-67, according to load assumptions in UNI UNI 40/6 standard. An accurate and suitable protection or insulation of the surfaces involved is recommended to avoid any direct contact with the new masonry or concrete screed.

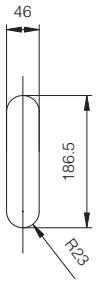




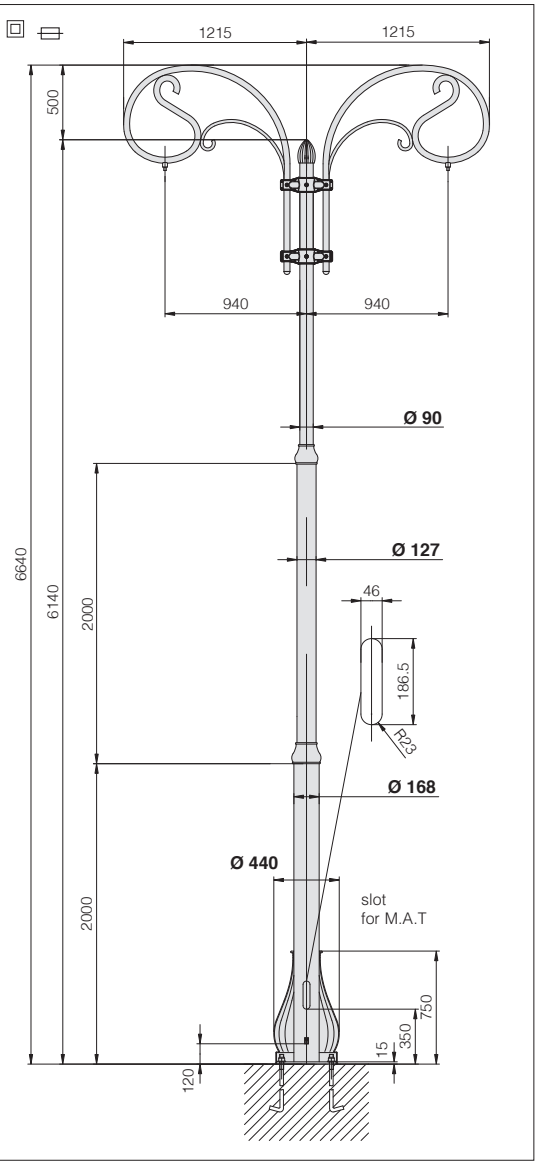




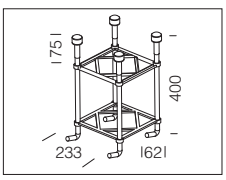
Cement base dimensions (subject to soil variations) for underground sinking of the 4 log bolts of acc. 1498.



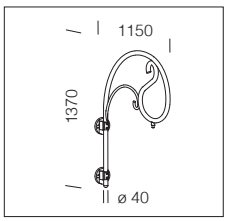
Inspection window with easily removable terminal block for quick connection.



acc. 297 log bolts
426448-00
Log bolts are always to be used with the pole 1498.



acc. 507 bracket for wall applications	
anthracite	991286-00
Supplied with 2 die-cast aluminium bases for wall applications.	



acc. 1498 Liberty pole

version	colour	code					Ø	Ø	
with 1 arm	anthracite	425203-00	6140	350	186.5	46	**Ø 440**	Ø 90	Ø 400 hole 30x22
with 2 arms	anthracite	425204-00							

Log bolts are to be bought separately acc. 297.



GENERAL CHARACTERISTICS

Housing and frame: pressed in die-cast aluminium and designed with a very small surface exposed to wind. Cooling fins are integrated into the cover.

Pole connection: pressed in die-cast aluminium. Suited for poles with a diameter 60 mm.

Diffuser: extra-clear tempered glass, 4 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001).

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

UNI EN ISO 9227 **Upon request:** coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

Standard supply: dedicated electronic device to protect the LED module. Supplied with connector for mains connection and complete with an air-circulation valve

OTHER CHARACTERISTICS

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547. It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

Registered Design DM/100271 The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs.

Available in:
- two-colour version (anthracite - graphite)
- pearl colour (for codes see website)



THE RANGE OF VOLO STREET LAMPS IS AVAILABLE IN THE FOLLOWING COLOUR TEMPERATURES:

3000K 4000K **3000K - 4000K as standard:** lamps with 3000K-4000K white light, instead, is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.
Upon request LED 4000K - CRI 80 versions with **sub-code -60.**

Example with Zhaga Socket (subcode -0054)



LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET: to monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	**Zhaga Socket** order with **subcode -0054** (complete with sealing cap)
Mounted directly on the fixture's body, ideal for remote lighting management applications.	

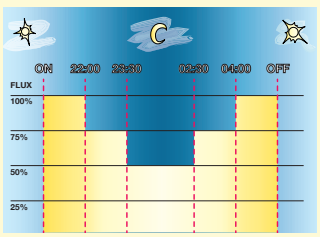
ADVANCED PROG

INTEGRATED ADVANCED PROG (PROG CLD) FUNCTIONS: the products of this family are supplied with programmable drivers as standard.

All these functions are already present on standard products and need only to be enabled on request. These functions do not require to make any modification to the system, as the product only needs to be connected to the mains without the use of a control BUS or a pilot cable.

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP
For more information see page XX-XXI	

VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*

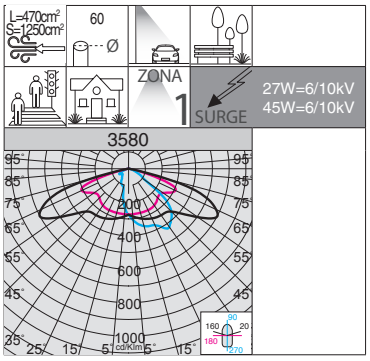


Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

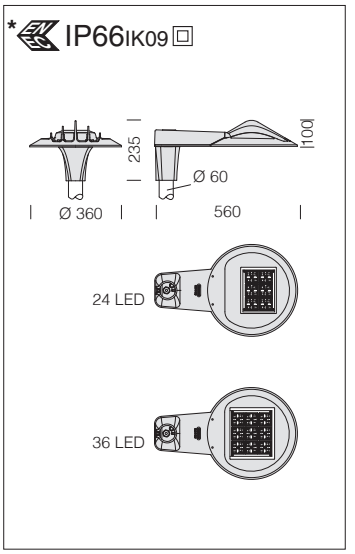
Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request*

RG0 Ethr
+40 C° -30
U.V.
LOW FLICKER
3000K
4000K







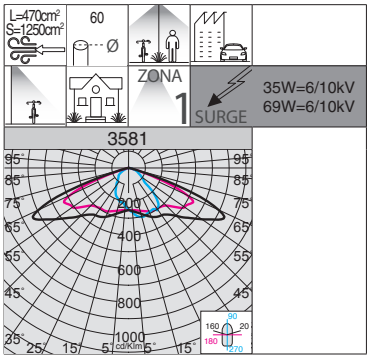
Upon request (sub-code -60)	
LED	CRI 80

3580 Volo - residential amenities - high performance					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	6.00	424600-2168	**27**	4000K - 4346lm - CRI 70
			424600-3968		3000K - 4115lm - CRI 70
LED	graphite	6.50	424602-2168	**45**	4000K - 7412lm - CRI 70
			424602-3968		3000K - 7019lm - CRI 70
Integrated **ADVANCED PROG functions** (see table on p. 373).					

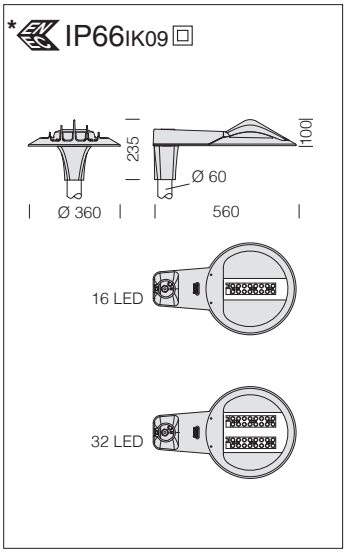
Optique : made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

RG0 Ethr
+40 C° -30
U.V.
LOW FLICKER
3000K
4000K







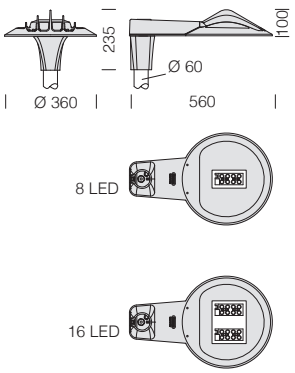
Upon request (sub-code -60)	
LED	CRI 80

3581 Volo - cycleways + residential amenities					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	6.00	424610-2168	**35**	4000K - 4411lm - CRI 70
			424610-3968		3000K - 4177lm - CRI 70
LED	graphite	6.20	424612-2168	**69**	4000K - 8970lm - CRI 70
			424612-3968		3000K - 8494lm - CRI 70
Integrated **ADVANCED PROG functions** (see table on p. 373).					

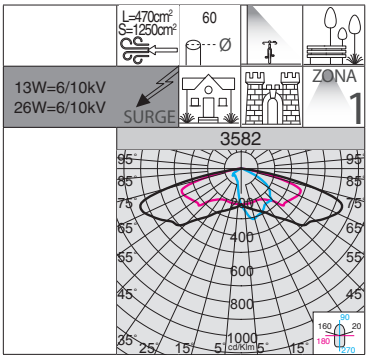
Optique : made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

*IP66 IK09







RG0 Ethr
+40 C° -30
U.V.
LOW FLICKER
3000K
4000K

Upon request (sub-code -60)	
LED	CRI 80

Optique : made of PMMA with high temperature resistance and UV rays.

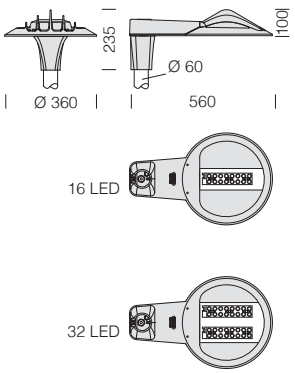
LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

3582 Volo - cycleways

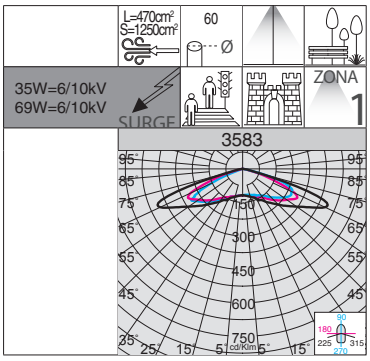
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	6.00	424620-2168	**13**	4000K - 1847lm - CRI 70
			424620-3968		3000K - 1716lm - CRI 70
LED	graphite	6.20	424622-2168	**26**	4000K - 3589lm - CRI 70
			424622-3968		3000K - 3337lm - CRI 70

Integrated **ADVANCED PROG functions** (see table on p. 373).

*IP66 IK09







RG0 Ethr
+40 C° -30
U.V.
LOW FLICKER
3000K
4000K

Upon request (sub-code -60)	
LED	CRI 80

Optique : made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

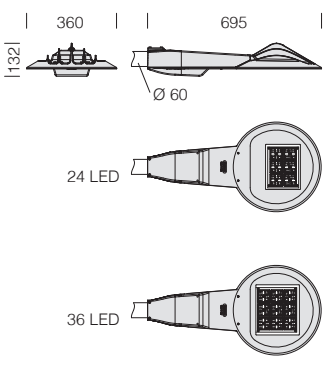
3583 Volo - rotosymmetric

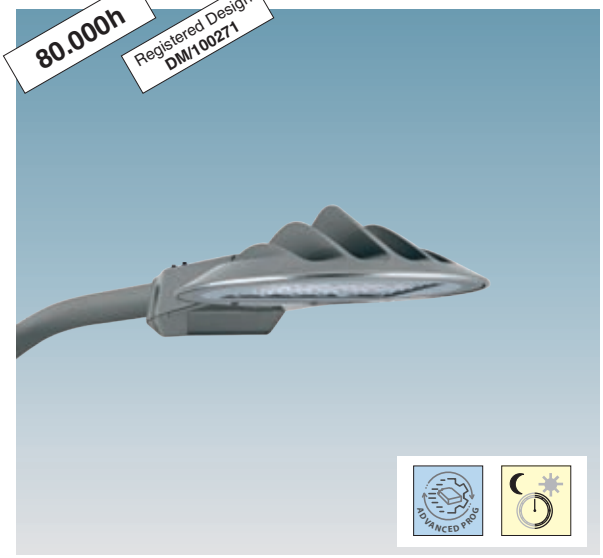
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	6.00	424630-2168	**35**	4000K - 4261lm - CRI 70
			424630-3968		3000K - 4035lm - CRI 70
LED	graphite	6.20	424632-2168	**69**	4000K - 8715lm - CRI 70
			424632-3968		3000K - 8253lm - CRI 70

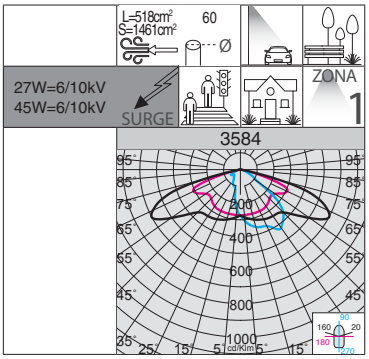
Integrated **ADVANCED PROG functions** (see table on p. 373).



IP66 IK09







RG0 Ethr | +40 C° -30 | U.V. | LOW FLICKER | 3000K | 4000K

Upon request (sub-code -60)	
LED	CRI 80

Optique : made of PMMA with high temperature resistance and UV rays.

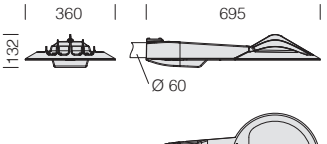
LED: power factor ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

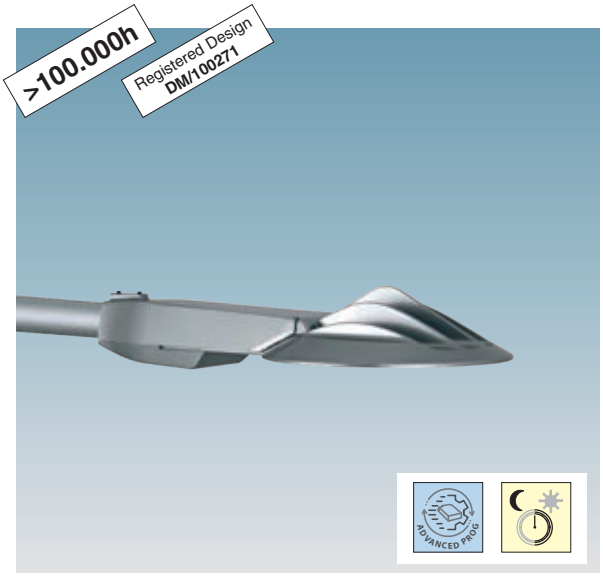
3584 Volo - residential amenities - high performance

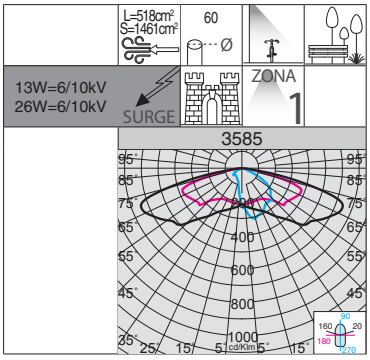
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	6.00	424640-00	**27**	4000K - 4346lm - CRI 70
			424640-39		3000K - 4115lm - CRI 70
LED	graphite	6.50	424641-00	**45**	4000K - 7412lm - CRI 70
			424641-39		3000K - 7019lm - CRI 70

Integrated **ADVANCED PROG functions** (see table on p. 373).

IP66 IK09







RG0 Ethr | +40 C° -30 | U.V. | LOW FLICKER | 3000K | 4000K

Upon request (sub-code -60)	
LED	CRI 80

Optique : made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

3585 Volo - cycleways

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	6.00	424650-00	**13**	4000K - 1847lm - CRI 70
			424650-39		3000K - 1716lm - CRI 70
LED	graphite	6.20	424651-00	**26**	4000K - 3589lm - CRI 70
			424651-39		3000K - 3337lm - CRI 70

Integrated **ADVANCED PROG functions** (see table on p. 373).







GENERAL CHARACTERISTICS

Housing/Frame: in die-cast aluminium.

Optics art. 1583 FX: made of PMMA with high temperature resistance and UV rays.

Reflector: made of satin aluminium.

Painting: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

Diffuser: in vandal-resistant V2 self-extinguishing polycarbonate, UV-stabilized, smooth and clear.

UNI EN ISO 9227

Upon request: coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

Standard supply: safety diode to protect against voltage peaks compliant with EN 61547. With dedicated electronic device to protect the LED module. Supplied with double insulation switch.

LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

OTHER CHARACTERISTICS

SURGE

Electronic safety device to protect the LED module and the related ballast compliant with EN 61547. It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

2200K

2200K (subcode -73): lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.

3000K 4000K

3000K - 4000K as standard: lamps with 3000K-4000K white light, instead, is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

ADVANCED PROG

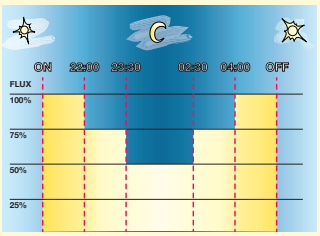
INTEGRATED ADVANCED PROG (PROG CLD) FUNCTIONS: the products of this family are supplied with programmable drivers as standard (except for versions with **LED COB**).

All these functions are already present on standard products and need only to be enabled on request. These functions do not require to make any modification to the system, as the product only needs to be connected to the mains without the use of a control BUS or a pilot cable.

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP

For more information see page XX-XXI

VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*

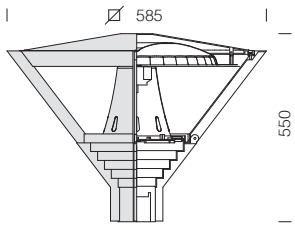


Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

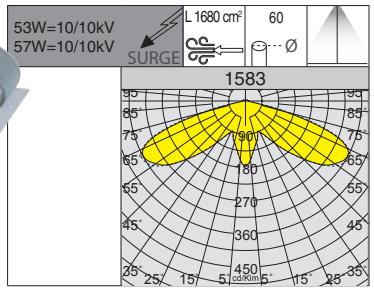
ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request*

IP65 IK09



LED: power factor ≥0.9.
Luminous flux maintenance 80%: 50.000h (L80B20).





Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

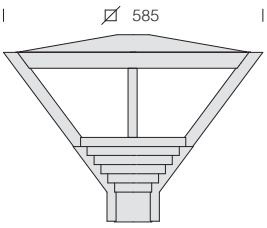
1583 Vista

		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 1400mA - CRI
COB	graphite	13.30	422212-00	**53**	4000K - 3700lm - CRI≥80
	grey 9007		422213-00		
COB AMBER	graphite	13.30	422212-73	**57**	2200K - 3415lm - **AMBER**
	grey 9007		422213-73		

1583 Vista - anti-light pollution

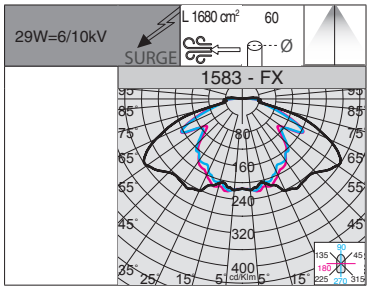
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 1400mA - CRI
COB	graphite	12.50	422212-0016	**53**	4000K - 3441lm - CRI≥80
	grey 9007		422213-0016		

IP65 IK09



LED: power factor ≥0.9.
Luminous flux maintenance 80%: 80.000h (L80B10).





1583 Vista - FX

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	12.00	422304-00	**29**	4000K - 3691lm - CRI 70
			422304-39		3000K - 3432lm - CRI 70



GENERAL CHARACTERISTICS

Housing: made of die-cast aluminium.

Cover: art. 1205 made of turned aluminium; art. 1570 made of die-cast aluminium; art. 1517/1518 made of aluminium plate.

Diffuser: in vandal-resistant V2 self-extinguishing polycarbonate, UV-stabilized.

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

UNI EN ISO 9227 **Upon request:** coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

Equipment: Automatic temperature control inside the device with automatic resetting. Complete with quick-connector for connection to the line.

RGO Ethr

+40 C° -20

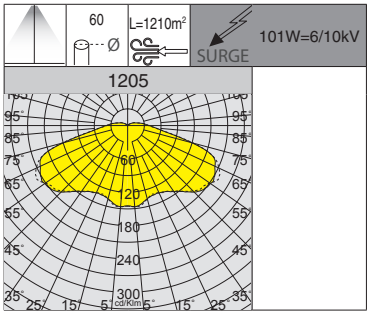
U.V.

LOW FLICKER

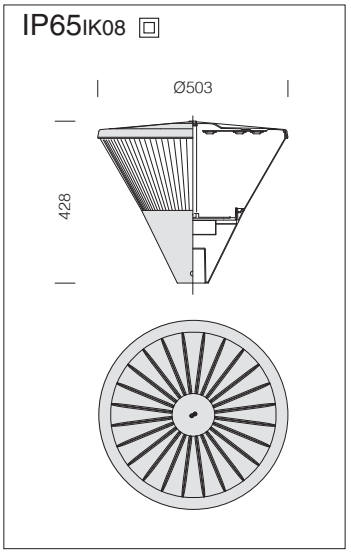
ZONA 2

3000K

4000K







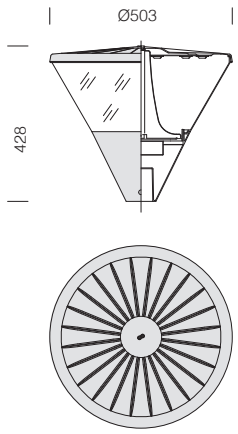
1205 Polar					
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey 9007	5.90	422140-00	**101**	4000K - 8656lm - CRI>70
	graphite		422141-00		
LED	grey 9007	5.90	422140-39	**101**	3000K - 8050lm - CRI>70
	graphite		422141-39		
Upon request: possibility to choose different lighting point management systems (see page XX-XXI).					

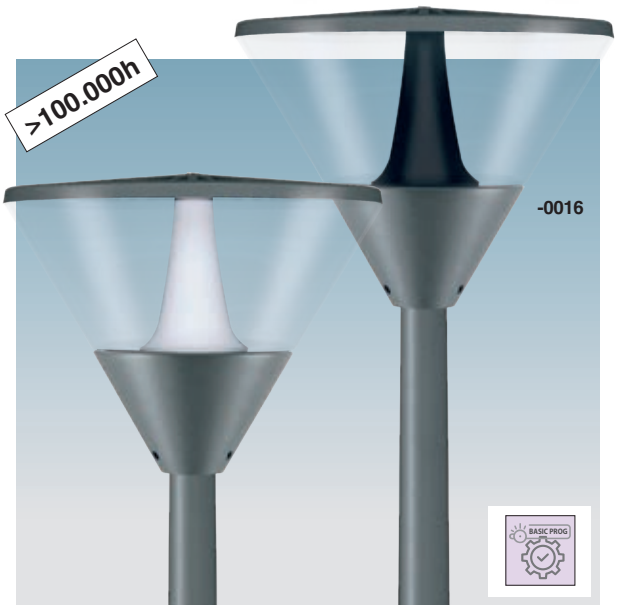
LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

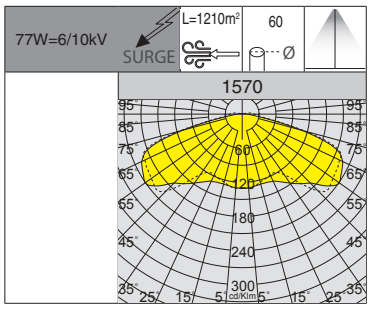
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	12	**49**	**4000K**	4976lm

n.LED	W tot	K	ølm
3000K	**49**	**3000K**	4025lm

IP65IK08







Upon request		W tot	ølm
Power supply 700mA	-	101	11078lm
	-0016	101	10524lm

RG0 Ethr · +40 C° -20 · U.V. · ZONA 1 · ZONA 2 · LOW FLICKER · 3000K · 4000K

LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

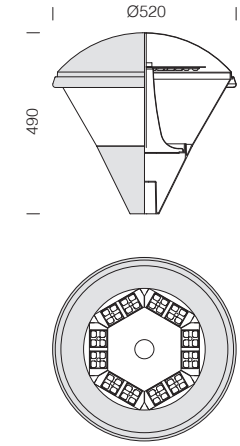
13W version is recommended for poles up to 2 metres tall.

1570 Clima

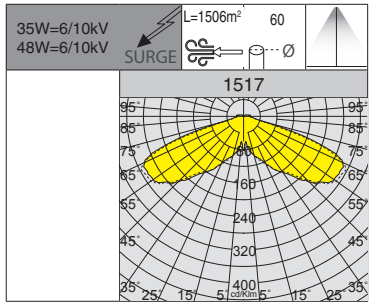
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 350mA - CRI
LED	grey 9007	5.90	422403-00	**13**	4000K - 1903lm - CRI 70
	graphite		422404-00		
LED	grey 9007	5.90	422403-39	**13**	3000K - 1770lm - CRI 70
	graphite		422404-39		
LED	grey 9007	5.90	422400-56	**49**	4000K - 5539lm - CRI>70
	graphite		422401-56		
					K - ølm 530mA - CRI
LED	grey 9007	5.90	422400-00	**77**	4000K - 8387lm - CRI>70
	graphite		422401-00		
LED	grey 9007	5.90	422400-0016	**77**	4000K - 7968lm - CRI>70
	graphite		422401-0016		

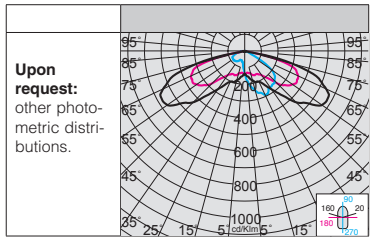
Upon request: possibility to choose different lighting point management systems (see page XX-XXI).

IP65IK08









RG0 Ethr · +40 C° -20 · U.V. · ZONA 1 · ZONA 2 · LOW FLICKER · 3000K · 4000K

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 80.000h (L80B20).

1517 Clima

		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey 9007	5.90	422372-00	**35**	4000K - 4392lm - CRI>70
	graphite		422373-00		
LED	grey 9007	5.90	422372-39	**35**	3000K - 4084lm - CRI>70
	graphite		422373-39		
LED	grey 9007	5.90	422370-00	**48**	4000K - 5551lm - CRI>70
	graphite		422371-00		
LED	grey 9007	5.90	422370-39	**48**	3000K - 5162lm - CRI>70
	graphite		422371-39		

Upon request: possibility to choose different lighting point management systems (see page XX-XXI).

1518 Clima - anti-light pollution

		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey 9007	5.90	422380-00	**37**	4000K - 3920lm - CRI>70
	graphite		422381-00		

Upon request: possibility to choose different lighting point management systems (see page XX-XXI).

You can make your lighting system **SMART** by integrating sensors into the fixture so that it can detect the movement of people within a given detection area and automatically adjust light intensity according to previously established light levels and delay times. You will also achieve high **energy savings** without affecting the safety and visual comfort of pedestrians.

The lighting fixtures with **sub-code -1219 complete with motion sensors** are a functional lighting solution for public spaces. The ability to control the light flux without people moving in a space will let you **optimize operating costs**, while achieving notable **economic savings**. This lighting solution is best suited for public or private streets, cycle lanes, private roads, parks and, in general, for any installation where smart lighting control is required.

Energy savings

The ability of these fixtures to sense the presence of people transiting in a space through integrated motion sensors will significantly reduce the waste of light, especially at night, and achieve lower energy costs.

Safety

At night-time, the number of people using urban areas, such as parks, is quite low. Therefore, reducing the light flux using fixtures with integrated motion sensors is the ideal solution to always ensure adequate lighting levels.

Green lighting

Installing lighting fixtures with integrated motion sensors that will switch lights on only when people are around is the first step towards becoming a greener city, where spaces are more liveable and safer, without wasting energy and leaving a lesser impact on the environment.



Motion sensor - STAND-ALONE

Polar/Clima with sub-code -1219: lighting fixture complete with stand-alone motion sensor with 1/10V control.

TECHNICAL SPECIFICATIONS	
Frequency	5.8GHz±75MHz
Stand-by power	≤1W
Setting	telecomando
Hold time (adjustable)	5s / 30s / 1min / 3min / 5min / 10min / 20min / 30min
Ambient light (adjustable)	2lux / 10lux /30lux / 50lux / OFF
Stand-by time (adjustable)	0s / 10s / 30s / 1min / 5min / 10min / 30min /+ ∞
Stand-by dimming level (adjustable)	20% / 30% / 50%
Detection area	50% - 75% - 100%
Detection angle	30° - 150°
Technology	Microwave



Remote control cod. **81418618** (to be purchased separately) that **allows changing the parameters even after installation is complete** and without the need to directly access the fixture.

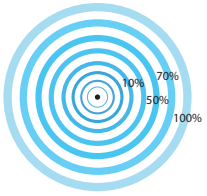


DEFAULT SETTINGS

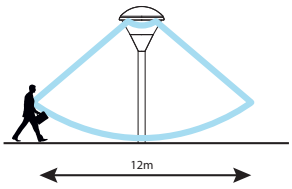
The fixtures is supplied as standard with the following parameters

Hold time	5s
Ambient light	OFF
Stand-by time	0s
Stand-by dimming level	10%
Detection area	100%

NOTE: when placing your order, it is possible upon request a customized configuration that you need to set.



DETECTION RANGE 360°



MOUNTING HEIGHT

A) Detection area: the sensor will turn the lights on when it detects motion in this area; with a 100% detection area the sensitivity level is high.

B) Hold time: the period of time during which lights stay on at full brightness after a person or object has left the detection area.

C) Ambient light: when the level of light inside a room is below a pre-determined threshold, the sensor will trigger the lights on; when set to 'disable', the sensor will operate whenever it detects movement regardless of the amount of light in the room.

D) Stand-by time: refers to the time the sensor keeps the lights at a dim level after the hold time.

E) Stand-by dimming level: is the lights' dimming level during the stand-by time.

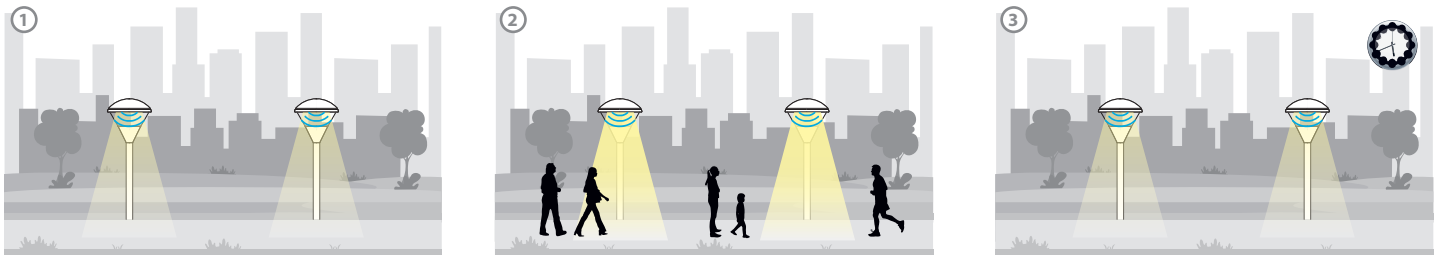
EXAMPLE OF OPERATION

The lighting fixtures with **sub-code -1219** complete with motion sensors will adjust the light flux in the presence of moving people by varying the brightness value according to pre-determined levels based on certain times:

1) when there is no motion, the fixtures will keep a certain level of light intensity for a specific period of time

2) when motion is detected in the monitoring area, the luminous flux will dim to 100% of light level

3) if no motion is detected after a certain period of time, the sensor will reset the light level to the pre-set value



A lighting fixture equipped with a radar-type motion sensor may be affected by wind. Therefore, for particularly windy areas, PIR presence sensors are available upon request and for an additional cost.



GENERAL CHARACTERISTICS

Housing/cover: made of die-cast aluminium.

Diffuser: in transparent, vandal-resistant and V2 self-extinguishing polycarbonate, UV-stabilized.

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

UNI EN ISO 9227

Upon request: coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

Standard supply: automatic temperature control inside the device with automatic resetting. Safety diode to protect against voltage peaks compliant with EN 61547. With dedicated electronic device to protect the LED module. Complete with quick connection. Art. 1513 supplied with double insulation switch.

LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

OTHER CHARACTERISTICS

SURGE

Electronic safety device to protect the LED module and the related ballast compliant with EN 61547. It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

3000K 4000K

3000K - 4000K as standard: lamps with 3000K-4000K white light, instead, is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

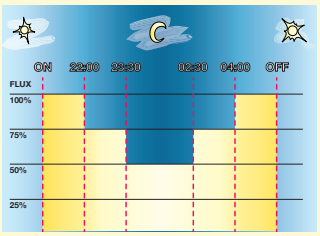
ADVANCED PROG

INTEGRATED ADVANCED PROG (PROG CLD) FUNCTIONS: the products of this family are supplied with programmable drivers as standard (except for versions with **LED COB**).

All these functions are already present on standard products and need only to be enabled on request. These functions do not require to make any modification to the system, as the product only needs to be connected to the mains without the use of a control BUS or a pilot cable.

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP
For more information see page XX-XXI	

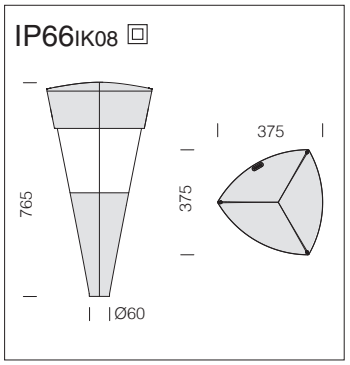
VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*



Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

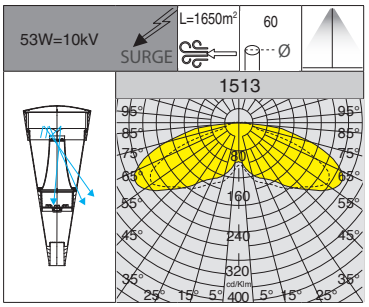
ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request*



Reflector art. 1513: made of specular aluminium

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 50.000h (L80B20).

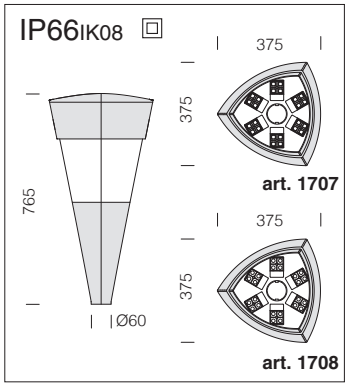




RG0 Ethr
+40 C° -20
U.V.
ZONA 1
ZONA 3
LOW FLICKER
3000K
4000K

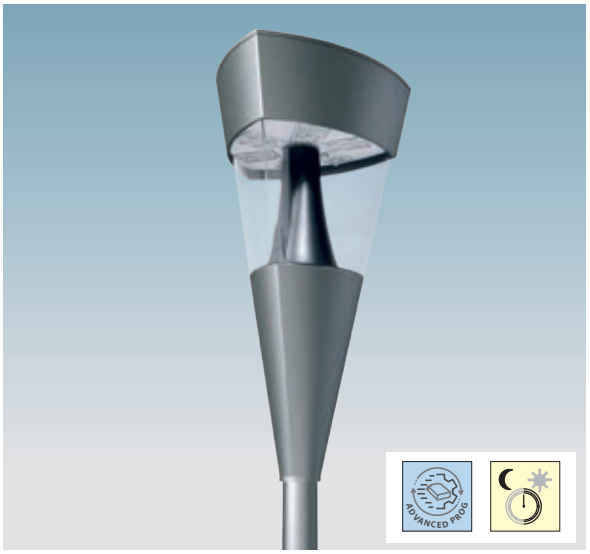
1513 Torcia - COB					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 1400mA - CRI
COB	grey 9007	7.40	423250-00	53	4000K - 5060lm - CRI≥80
	graphite		423251-00		
COB	grey 9007	7.40	423250-39	53	3000K - 4706lm - CRI≥80
	graphite		423251-39		

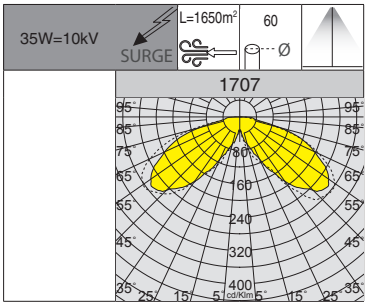
1513 Torcia - COB - anti-light pollution					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 1400mA - CRI
COB	grey 9007	7.40	423250-0016	53	4000K - 4048lm - CRI≥80
	graphite		423251-0016		

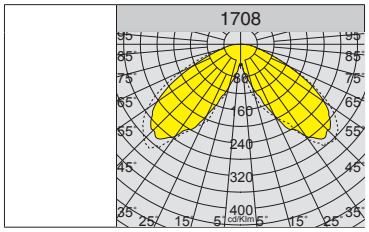


Optics: Optics made of PMMA with high temperature resistance and UV rays.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 80.000h (L80B20).).





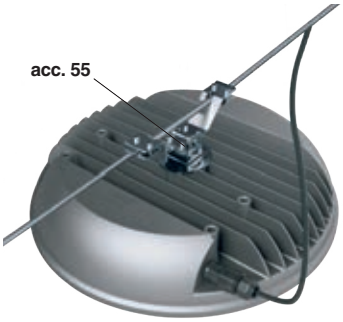


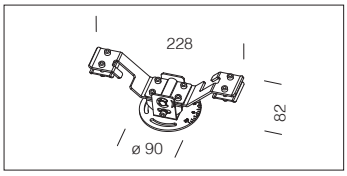
RG0 Ethr
+40 C° -20
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

1707 Torcia					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 240mA - CRI
LED	grey 9007	7.40	423252-00	35	4000K - 4600lm - CRI>70
	graphite		423253-00		
LED	grey 9007	7.40	423252-39	35	3000K - 4278lm - CRI>70
	graphite		423253-39		

1708 Torcia					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 240mA - CRI
LED	grey 9007	7.40	423255-00	35	4000K - 4200lm - CRI>70
	graphite		423256-00		







acc. 55 suspension connection	
0.90	998098-00
In stainless steel AISI 304. For installation on ropes and steel cables.	

GENERAL CHARACTERISTICS

Housing/Frame: in die-cast aluminium with cooling fins integrated into the cover and designed with a very small surface exposed to wind.

Optics: made of PMMA with high temperature resistance and UV rays. Flow recovery in V0 polycarbonate, metallized high yield.

Diffuser: tempered glass, 4 mm thick, resistant to thermal shocks and impacts (UNI-EN 12150-1: 2001).

Coating: The standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

UNI EN ISO 9227 **Upon request:** coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

Standard supply: automatic temperature control inside the device with automatic resetting. With dedicated electronic device to protect the LED module. Supplied with double insulation switch. Equipped with anti-condensation filter; complete with quick connection.

OTHER CHARACTERISTICS

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

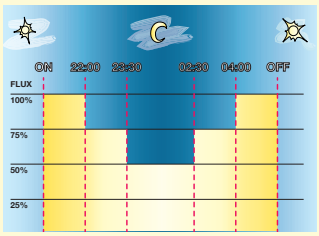
LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

INTEGRATED ADVANCED PROG (PROG CLD) FUNCTIONS: the products of this family are supplied with programmable drivers as standard.

All these functions are already present on standard products and need only to be enabled on request. These functions do not require to make any modification to the system, as the product only needs to be connected to the mains without the use of a control BUS or a pilot cable.

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP
For more information see page XX-XXI	

VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*

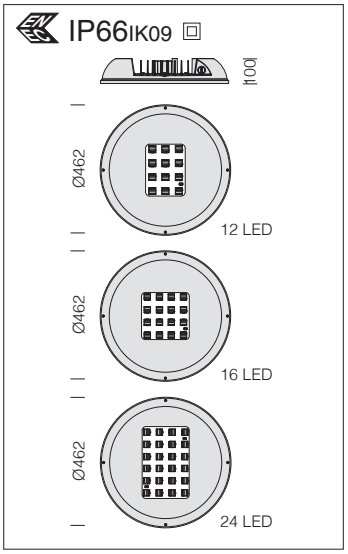


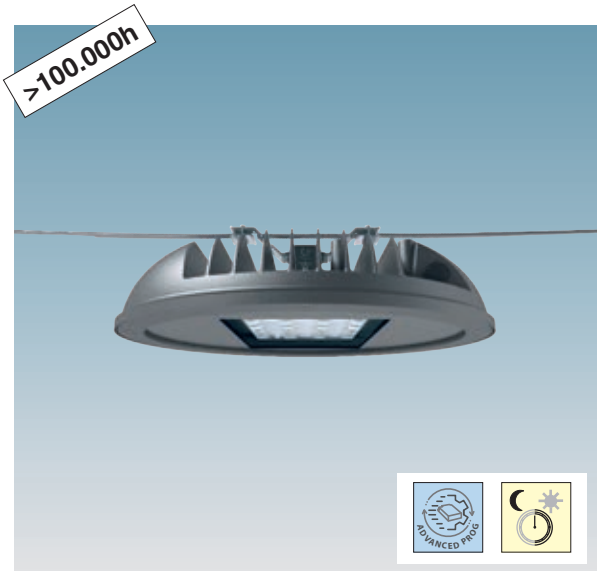
Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

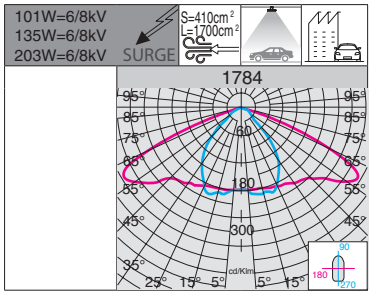
Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request*









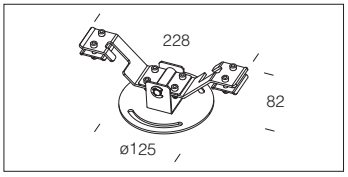


LED: power factor ≥0.95.
Luminous flux maintenance 80%: >100.000h (L80B10).

1784 Astro - with central connection					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	11.10	330066-00	**101**	4000K - 10407lm - CRI 70
	grey		330067-00		
LED	graphite	11.10	330065-00	**135**	4000K - 13876lm - CRI 70
	grey		330064-00		
LED	graphite	12.00	330062-00	**203**	4000K - 20818lm - CRI 70
	grey		330060-00		

Example	Power supply	n.LED	W tot	ølm
upon request	350mA	12	**49**	5203lm
		16	**66**	6938lm
		24	**98**	10409lm





acc. 56 suspension connection	
0.70	995727-00
Made of stainless steel AISI 304. For installation on rope and steel cables.	

GENERAL CHARACTERISTICS

Housing: die-cast aluminium.

Diffuser: tempered glass, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001).

Optics: art. 3142 in high-efficiency, metal-coated V0 polycarbonate, matt finish and micro-facetted to reduce direct glare; art.3146 made of PMMA with high temperature resistance and UV rays

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating. Reflector, ceramic white.

UNI EN ISO 9227

Upon request: coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

Equipment: these lighting fixtures also come with an automatic control temperature device, which protects the LEDs from peak current through a protection diode. Safety diode to protect against voltage peaks compliant with EN 61547. With dedicated electronic device to protect the LED module. Supplied with double insulation switch.

OTHER CHARACTERISTICS

SURGE

Electronic safety device to protect the LED module and the related ballast compliant with EN 61547. It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

2200K

2200K (subcode -73): lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.

3000K 4000K

3000K - 4000K as standard: lamps with 3000K-4000K white light, instead, is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

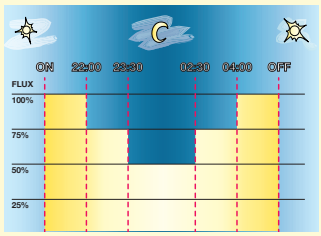
ADVANCED PROG

INTEGRATED ADVANCED PROG (PROG CLD) FUNCTIONS: the products of this family are supplied with programmable drivers as standard (except for versions with **LED COB**).

All these functions are already present on standard products and need only to be enabled on request. These functions do not require to make any modification to the system, as the product only needs to be connected to the mains without the use of a control BUS or a pilot cable.

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP
For more information see page XX-XXI	

VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*

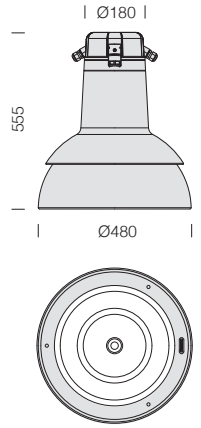


Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

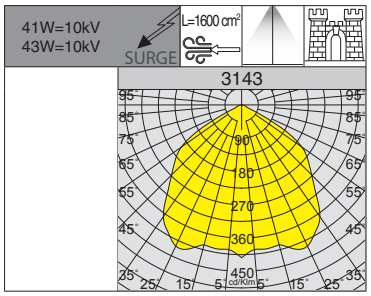
Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request*

IP65 IK08







Note: when ordering, make sure you select the **AMBER LED** type best suited for your lighting design and installation needs.

RG0 Ethr | +30 C° -20 | U.V. | ZONA 1 | LOW FLICKER | 2200K | 4000K

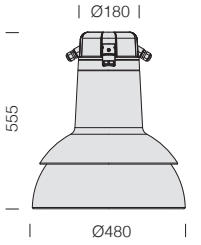
Reflector: made of 3µ thick 99.85 anodised and polished hammered aluminium.

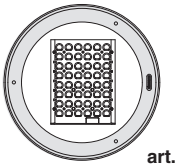
LED: power factor ≥0.9.
Luminous flux maintenance 80%: 50.000h (L80B20).

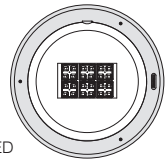
3143 Campana - COB

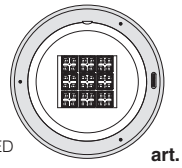
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 1050mA - CRI
COB	graphite + white	8,30	326786-00	**41**	4000K - 3732lm - **CRI 90**
COB AMBER			326786-73	**43**	2200K - 4273lm - **AMBER**

IP65 IK08



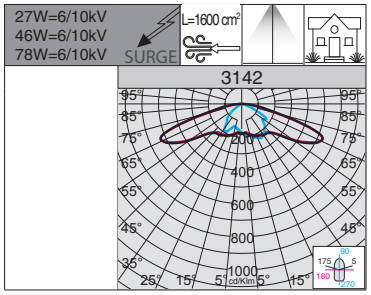

art. 3142

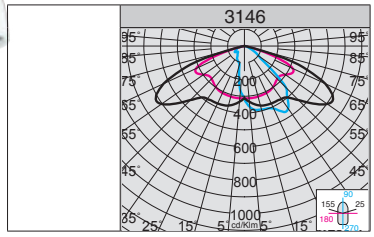

24 LED



art. 3146







RG0 Ethr | +40 C° -30 | U.V. | ZONA 1 | LOW FLICKER | 3000K | 4000K

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 80.000h (L80B20).

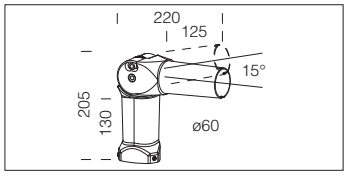
3142 Campana

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - 530mA - CRI
LED	graphite + white	8,30	326785-00	**78**	4000K - 8512lm - CRI>70

3146 Campana

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite + white	7,20	326790-00	**27**	4000K - 3951lm - CRI>70
			326790-39		3000K - 3674lm - CRI>70
LED	graphite + white	7,20	326791-00	**46**	4000K - 6779lm - CRI>70
			326791-39		3000K - 6304lm - CRI>70





acc. 405 articulated connect.	
grey	991385-00
To be used for Monza pole installation ø 60. Adjustable connection at 90°.	

GENERAL CHARACTERISTICS

Housing/Frame: in die-cast aluminium.

Diffuser: tempered glass, 5 mm thick, resistant to thermal shock and impacts (UNI EN 12150-1:2001 tests)

Optics: in PMMA, highly resistant to temperature and UV radiation.

Coating: the standard liquid immersion coating consists of a first metal surface pre-treatment stage, a successive epoxy cataphoresis corrosion and salt resistant coating, and a final layer of bi-component acrylic liquid UV-stabilised coating.

UNI EN ISO 9227 **Upon request:** coating for marine environments in compliance with UNI EN ISO 9227.

Standard supply: temperature control inside the device with automatic resetting. Supplied with double insulation switch.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

OTHER CHARACTERISTICS

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

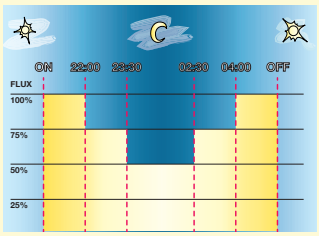
3000K 4000K **3000K - 4000K as standard:** lamps with 3000K-4000K white light, instead, is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.

ADVANCED PROG **INTEGRATED ADVANCED PROG (PROG CLD) FUNCTIONS:** the products of this family are supplied with programmable drivers as standard.

All these functions are already present on standard products and need only to be enabled on request. These functions do not require to make any modification to the system, as the product only needs to be connected to the mains without the use of a control BUS or a pilot cable.

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP
For more information see page XX-XXI	

VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*

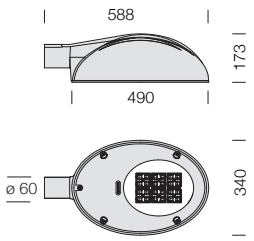


Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

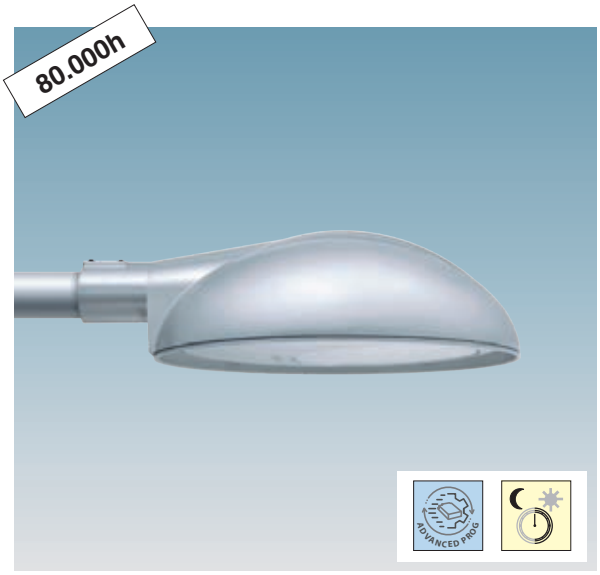
Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

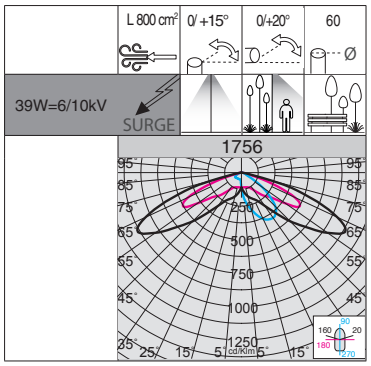
ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request*

IP66 IK09



LED: power factor ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

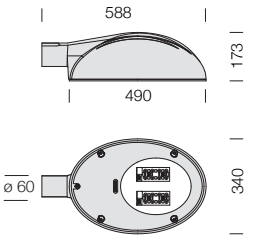




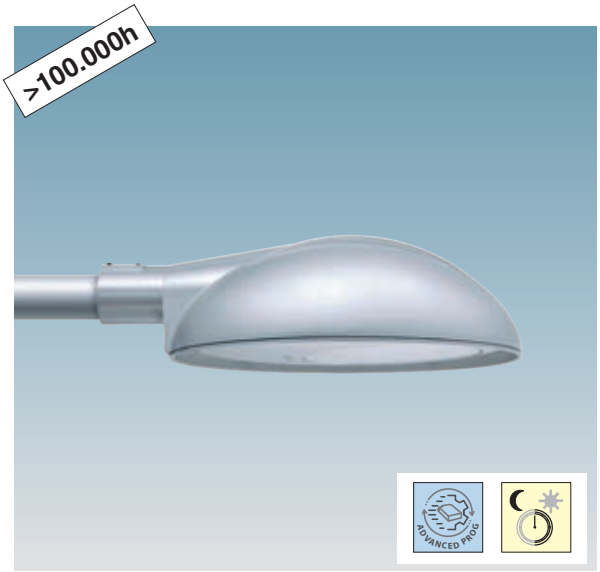
RG0 Emr
+40 C° -40
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

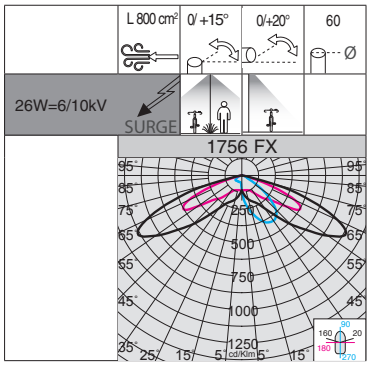
1756 Monza HP - high performance					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey 9007	5.50	423066-00	**39**	4000K - 5580lm - CRI 70
			423066-39		3000K - 5189lm - CRI 70

IP66 IK09



LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).



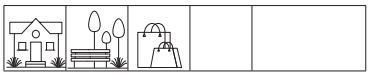


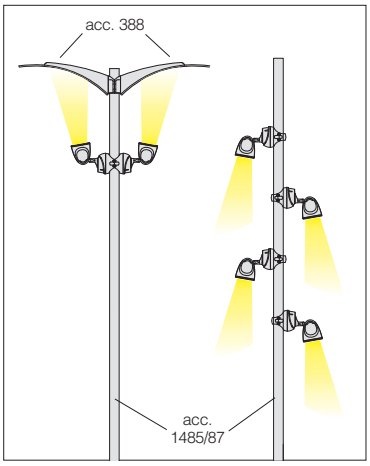


RG0 Emr
+40 C° -40
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

1756 Monza - FX					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 270mA - CRI
LED	grey 9007	5.50	423065-00	**26**	4000K - 3723lm - CRI 70
			423065-39		3000K - 3462lm - CRI 70

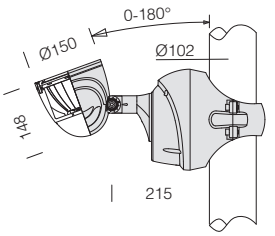
RG0 Ethr
U.V.
ZONA 1







IP65 IK08



GENERAL CHARACTERISTICS

Housing: die-cast aluminium.

Diffuser: tempered glass, 4 mm thick, shock and heat resistant

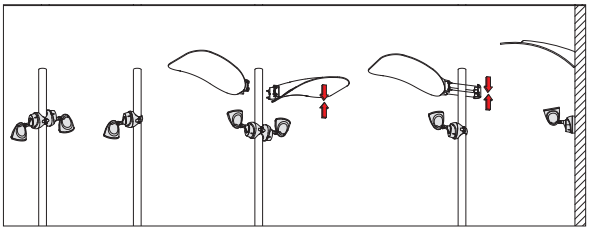
Standard supply: safety diode to protect against voltage peaks (EN 61547)

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 50.000h (L80B20).

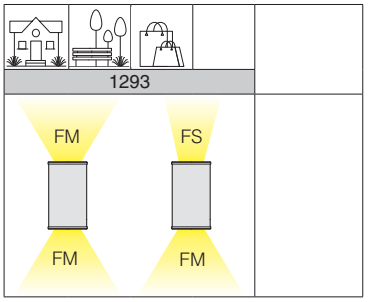
1561 Elfo

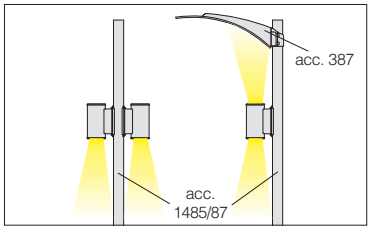
		CLD CELL			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 1050mA - CRI - degrees
COB	grey 9007	2.60	422398-00	**41**	4000K - 3531lm - **CRI 90** - 15°





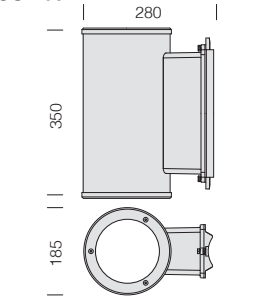
RG0 Ethr
U.V.
ZONA 1







IP65 IK08



GENERAL CHARACTERISTICS

Housing: die-cast aluminium.

Diffuser: tempered glass, 4 mm thick, shock and heat resistant

Standard supply: safety diode to protect against voltage peaks (EN 61547)

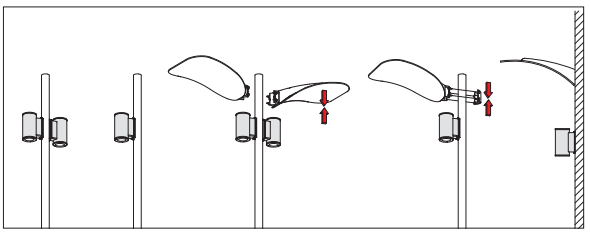
LED: power factor ≥0.9.
Luminous flux maintenance 80%: 50.000h (L80B20).

1293 Cilindro 4

		CLD CELL			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
COB	grey 9007	6.90	420410-00	**42**	4000K - 2663lm - FM+FM - **CRI 90**
			420427-00		4000K - 1897lm - FS+FM - **CRI 90**

Standard version includes double switching.



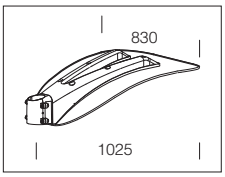


ACCESSORIES FOR COMPOSITIONS WITH PEGASO

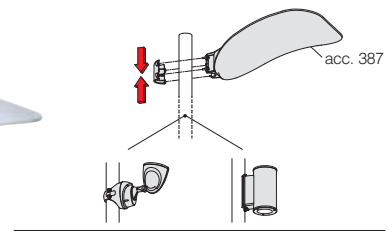
Housing Pegaso: 6 mm. thick fibreglass reinforced polyester

Support: die-cast aluminium with pole connection also made of die-cast aluminium.

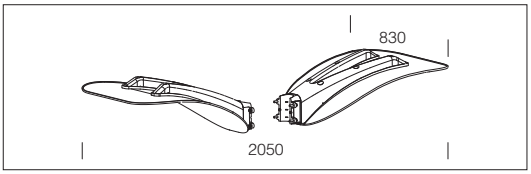
acc. 387 Pegaso single	
grey	991391-00
Indirect light plate to be mounted directly on the pole - access.1485/1487.	

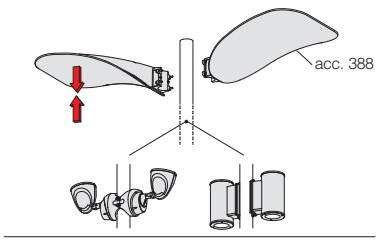




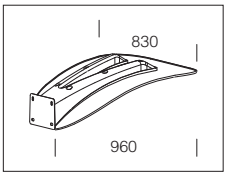


acc. 388 Pegaso double	
grey	991392-00
Indirect light plate to be mounted directly on the pole - access.1485/1487.	

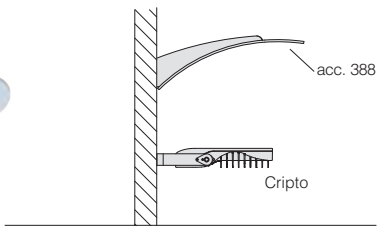




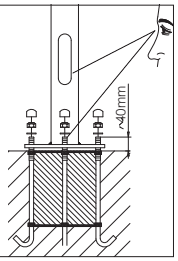
acc. 389 Pegaso wall mount.	
grey	991393-00
Indirect light plate to be mounted directly on the wall.	







For correct installation of pole and base, the plastic cap should be fitted as shown in the assembly drawing featured opposite.

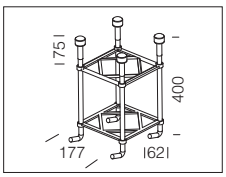


Pole designed for Pegaso: ø 102 silver colour steel. Complete with inspection window with removable terminal block. Single or double polyester plate to create indirect lighting effects. To be used mounted directly on the pole together with the fittings of the various products to install Pegaso on the poles - access. 1485/1487.

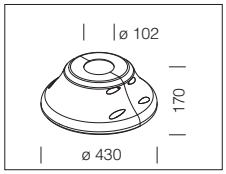
acc. 1485 pole with base		
5000	grey	425070-00

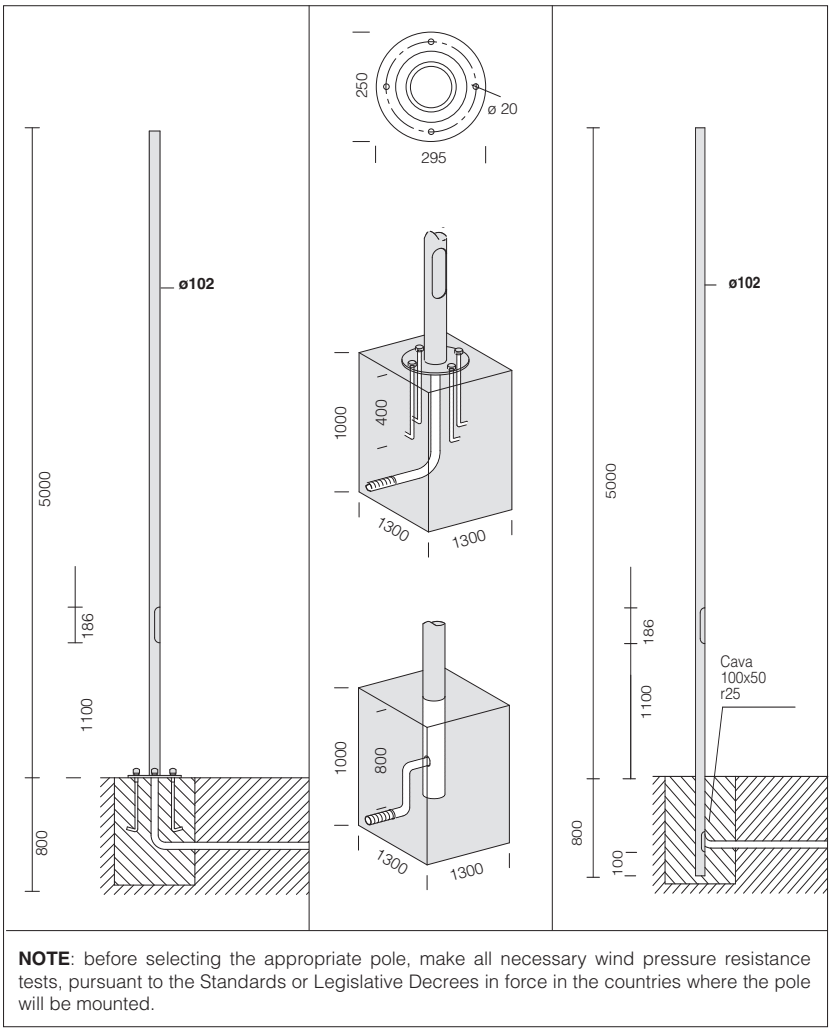
acc. 1487 pole to be buried in the ground		
5000+800	grey	425060-00

acc. 299 log bolts
991396-00
Log bolts are to be always used with the pole 1485.



acc. 222 base pole cover	
grey	991399-00
To be used as base pole cover acc. 1485/1487.	

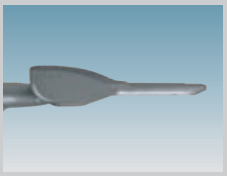




NOTE: before selecting the appropriate pole, make all necessary wind pressure resistance tests, pursuant to the Standards or Legislative Decrees in force in the countries where the pole will be mounted.


mborghini
automobili
Lamborghini

MINI GIOVI - HP



MINI GIOVI



Mini Giovi p. 396

GIOVI - HP

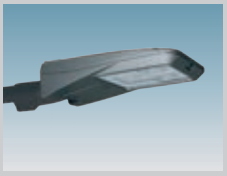


GIOVI



Giovi p. 408

SELLA 1 - HP



SELLA 1



Sella 1 p. 418

SELLA 2 - HP



SELLA 2



Sella 2 p. 426

MINI STELVIO - HP



MINI STELVIO



Mini Stelvio p. 432

STELVIO - HP

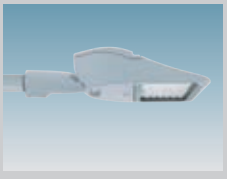


STELVIO



Stelvio p. 440

ROLLE - HP

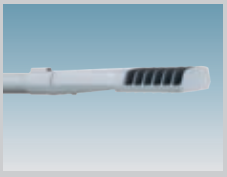


ROLLE

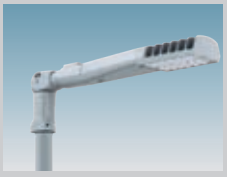


Rolle p. 444

SUSA ME



SUSA T2-T3



Susa p. 452



GENERAL CHARACTERISTICS

Housing and cover: in die-cast aluminium, EN-AB 47100 alloy and designed with a very small surface exposed to wind. Cooling fins integrated in the cover. Once removed, the cover allows accessing the electric gear compartment and power terminal board.

Heat sink: the heat dissipation system is specially designed and made to allow the operation of the LED lights with temperatures ensuring excellent performance/efficiency and durability.

Pole connection: in die-cast aluminium suited for poles with a diameter of min. 46 mm to max. 76 mm, adjustable from -20° to +10° for side-mount applications; and from 0° to +20° for top-mount applications. Tilting angle of 5°.

Diffuser: clear, tempered glass, 4 mm thick, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001).

OTHER CHARACTERISTICS

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Standard supply: complete with insulation connector for quick installation.

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

OTHER INFORMATION

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

The ENEC Plus mark certifies that the LED luminaires are compliant and reliable in terms of safety and declared performance.

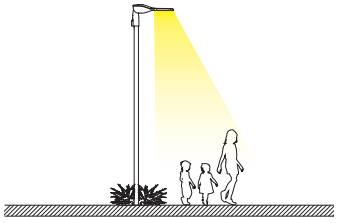
The products of the Mini Giovi family are compliant with all applicable tests (third-party certification) pursuant to standard **ANSI C136.31: Street Lighting – Luminaire Vibration.** - Test level: 3.0G Level 2 for bridge/overpass applications.

Registered Design **DM/100271** The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs.

UPON REQUEST

UNI EN ISO 9227 Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

CUT-OFF accessory (HP versions excluded): ideal for blocking backlight and eliminating potential intensity peak behind the light pole; available in either white or black shades *(NOTE: the black version will block backlight best, while the white version will enable greater efficiency).*

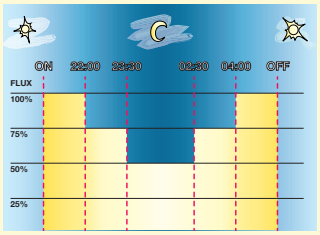


INTEGRATED ADVANCED PROG (PROG CLD) FUNCTIONS: the products of this family are supplied with programmable drivers as standard.

All these functions are already present on standard products and need only to be enabled on request. These functions do not require to make any modification to the system, as the product only needs to be connected to the mains without the use of a control BUS or a pilot cable.

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP
For more information see page XX-XXI	

VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*



Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request*

Example with Zhaga Socket (subcode -0054)



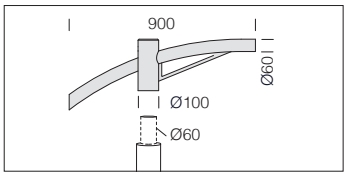
LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET: to monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	Mounted directly on the fixture's body, ideal for remote lighting management applications.
Zhaga Socket order with **subcode -0054** (complete with sealing cap)	

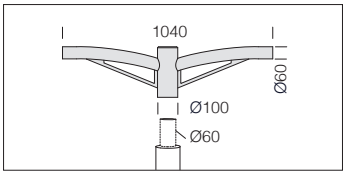
The Zhaga-D4i mark certifies the fixture's compliance with Zhaga Book 18 version 2 specifications for outdoor luminaires and DiiA's D4i specifications for intra-luminaire DALI interface.



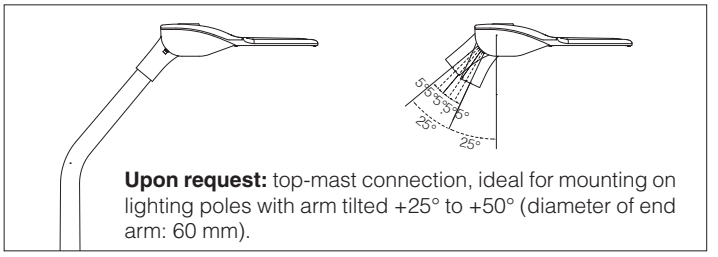




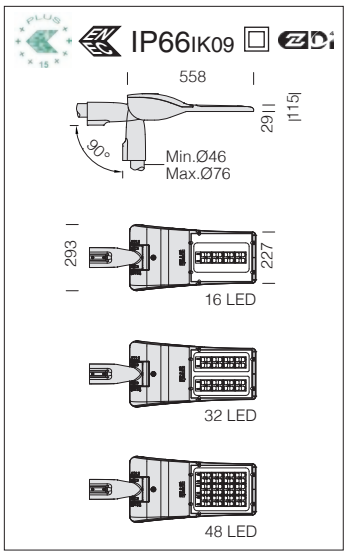
acc. 504 single arm	
graphite	991263-00
Suited for poles with a diameter 60mm.	

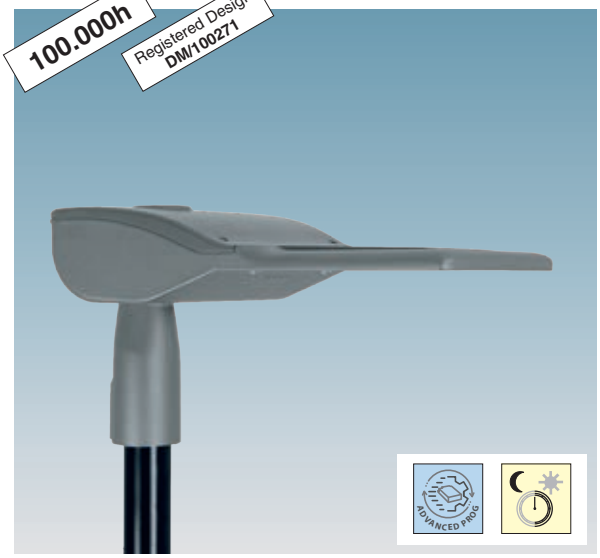


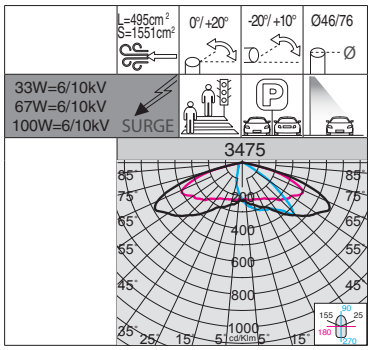
acc. 508 double arm	
graphite	991267-00
Suited for poles with a diameter 60mm.	

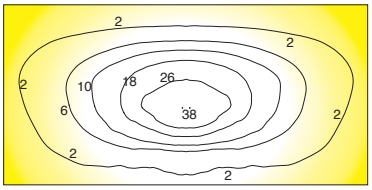


Upon request: top-mast connection, ideal for mounting on lighting poles with arm tilted +25° to +50° (diameter of end arm: 60 mm).









RG0 Ethr
+50 C° -30
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

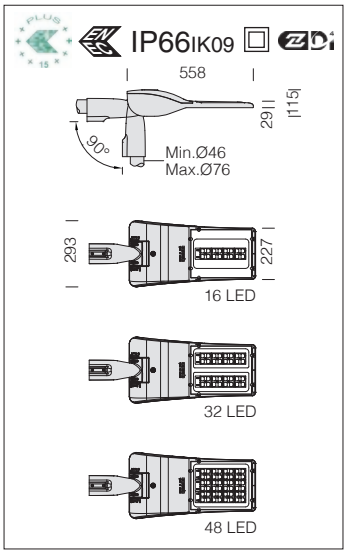
Integrated **ADVANCED PROG functions** (see table on p. 397).

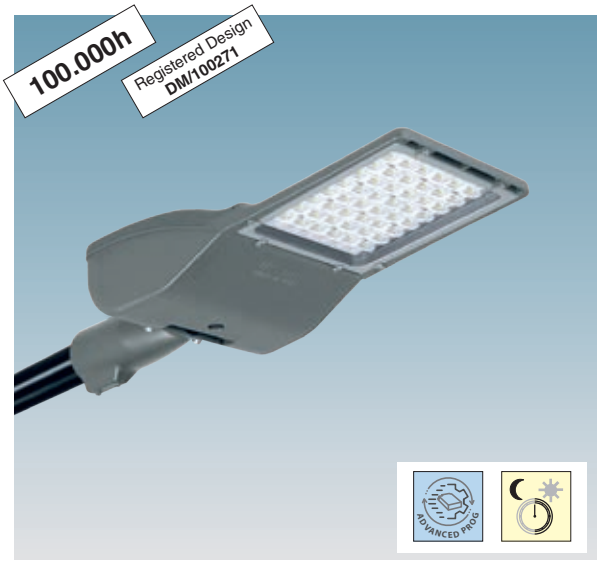
3475 Mini Giovi W1 - residential amenities

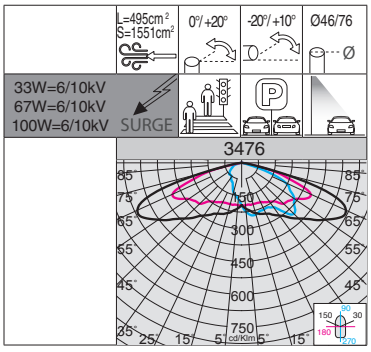
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	5.90	331000-00	**33**	4000K - 4468lm - CRI 70
			331000-39		3000K - 4244lm - CRI 70
LED	graphite	6.20	331001-00	**67**	4000K - 8937lm - CRI 70
			331001-39		3000K - 8490lm - CRI 70
LED	graphite	6.60	331002-00	**100**	4000K - 13406lm - CRI 70
			331002-39		3000K - 12735lm - CRI 70

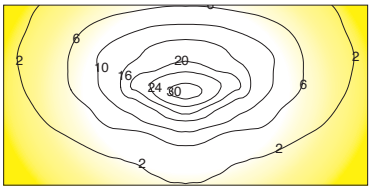
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	16	**16**	**4000K**	2370lm
		32	**33**		4741lm
		48	**50**		7112lm
upon request	530mA	16	**25**	**4000K**	3529lm
		32	**50**		7059lm
		48	**76**		10589lm

n.LED	W tot	K	ølm
16	**16**	**3000K**	2251lm
32	**33**		4504lm
48	**50**		6756lm
16	**25**	**3000K**	3352lm
32	**50**		6706lm
48	**76**		10059lm









RG0 Ethr
+50 C° -30
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

3476 Mini Giovi W2 - residential amenities

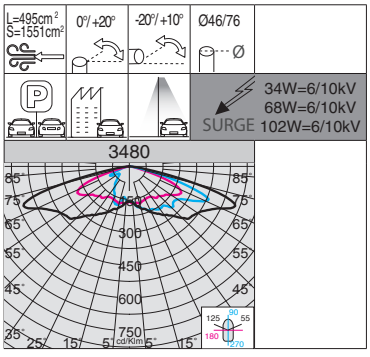
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	graphite	5.90	331010-00	**33**	4000K - 4542lm - CRI 70
			331010-39		3000K - 4314lm - CRI 70
LED	graphite	6.20	331011-00	**67**	4000K - 9085lm - CRI 70
			331011-39		3000K - 8630lm - CRI 70
LED	graphite	6.60	331012-00	**100**	4000K - 13630lm - CRI 70
			331012-39		3000K - 12950lm - CRI 70

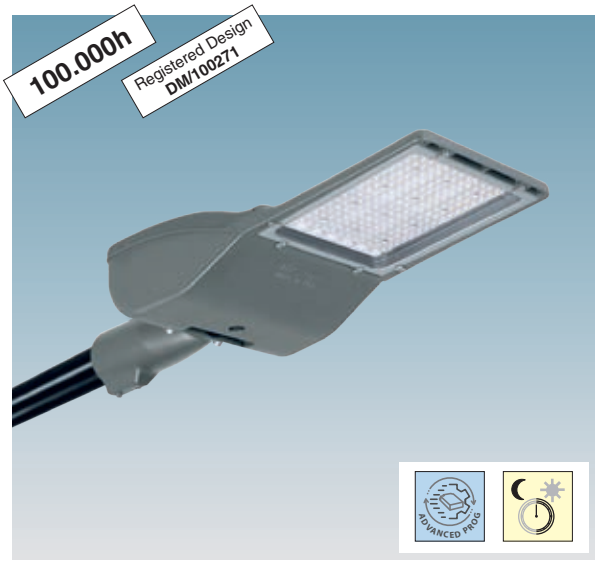
Integrated **ADVANCED PROG functions** (see table on p. 397).

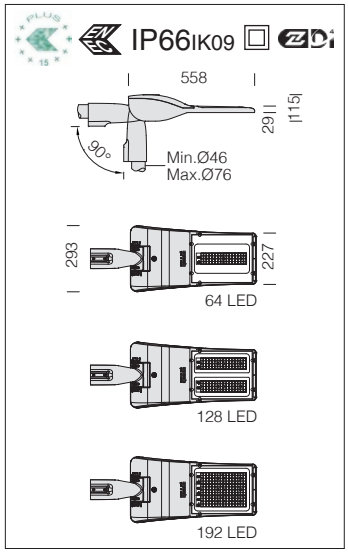
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	16	**16**	**4000K**	2410lm
		32	**33**		4820lm
		48	**50**		7231lm
upon request	530mA	16	**25**	**4000K**	3588lm
		32	**50**		7176lm
		48	**76**		10766lm

n.LED	W tot	K	ølm
16	**16**	**3000K**	2289lm
32	**33**		4578lm
48	**50**		6870lm
16	**25**	**3000K**	3408lm
32	**50**		6817lm
48	**76**		10229lm









RG0 Ethr

+50 C° -30

U.V.

ZONA 1

LOW FLICKER

3000K

4000K

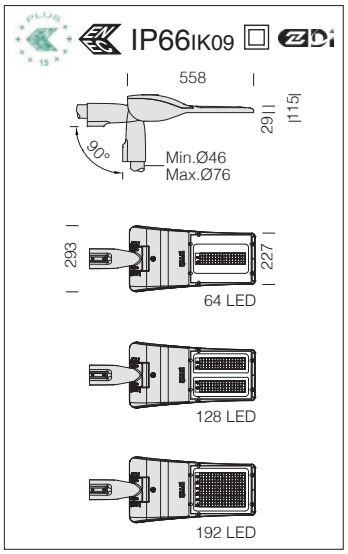
3480 Mini Giovi - high performance - large areas					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	5.80	331050-00	**34**	4000K - 4916lm - CRI 70
			331050-39		3000K - 4424lm - CRI 70
LED	graphite	6.00	331051-00	**68**	4000K - 9732lm - CRI 70
			331051-39		3000K - 8759lm - CRI 70
LED	graphite	6.60	331052-00	**102**	4000K - 14758lm - CRI 70
			331052-39		3000K - 13282lm - CRI 70
Integrated **ADVANCED PROG functions** (see table on p. 397).					

Optics: in PMMA, highly resistant to temperature and UV radiation.

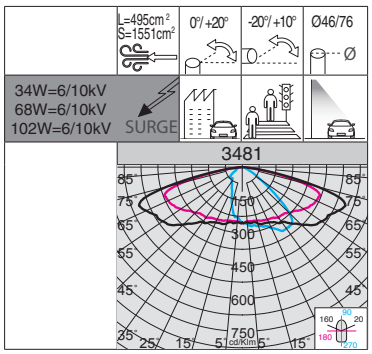
LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	**16**	**4000K**	2606lm
		128	**32**		5160lm
		192	**49**		7824lm
upon request	530mA	64	**25**	**4000K**	3835lm
		128	**50**		7592lm
		192	**75**		11513lm

n.LED	W tot	K	ølm
64	**16**	**3000K**	2346lm
128	**32**		4644lm
192	**49**		7042lm
64	**25**	**3000K**	3452lm
128	**50**		6833lm
192	**75**		10362lm







RG0 Ethr
+50 C° -30
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

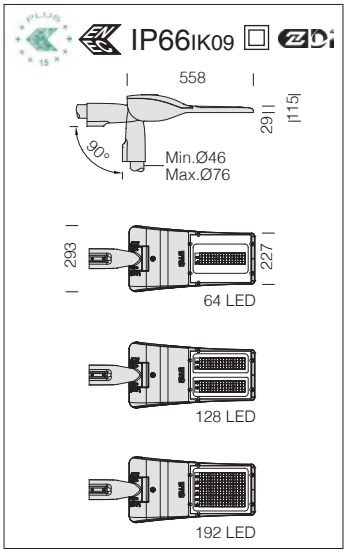
Integrated **ADVANCED PROG functions** (see table on p. 397).

3481 Mini Giovi - high performance - residential amenities ME

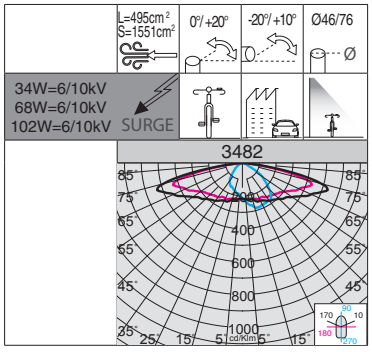
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	5.80	331060-00	**34**	4000K - 5099lm - CRI 70
			331060-39		3000K - 4589lm - CRI 70
LED	graphite	6.00	331061-00	**68**	4000K - 9926lm - CRI 70
			331061-39		3000K - 8933lm - CRI 70
LED	graphite	6.60	331062-00	**102**	4000K - 15246lm - CRI 70
			331062-39		3000K - 13721lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	**16**	**4000K**	2703lm
		128	**32**		5263lm
		192	**49**		8083lm
upon request	530mA	64	**25**	**4000K**	3978lm
		128	**50**		7743lm
		192	**75**		11894lm

n.LED	W tot	K	ølm
64	**16**	**3000K**	2433lm
128	**32**		4736lm
192	**49**		7275lm
64	**25**	**3000K**	3580lm
128	**50**		6969lm
192	**75**		10704lm







RG0 Ethr
+50 C° -30
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

3482 Mini Giovi - high performance - cycleways

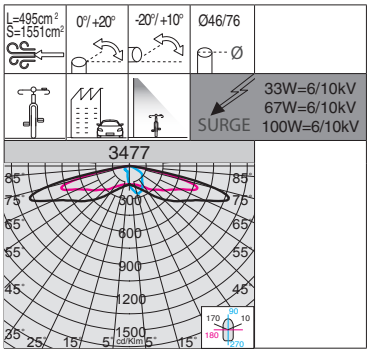
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	5.80	331070-00	**34**	4000K - 4971lm - CRI 70
			331070-39		3000K - 4474lm - CRI 70
LED	graphite	6.00	331071-00	**68**	4000K - 9641lm - CRI 70
			331071-39		3000K - 8677lm - CRI 70
LED	graphite	6.60	331072-00	**102**	4000K - 14911lm - CRI 70
			331072-39		3000K - 13420lm - CRI 70

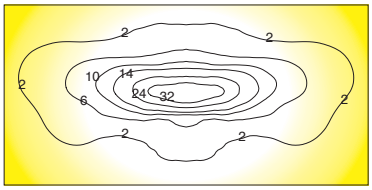
Integrated **ADVANCED PROG functions** (see table on p. 397).

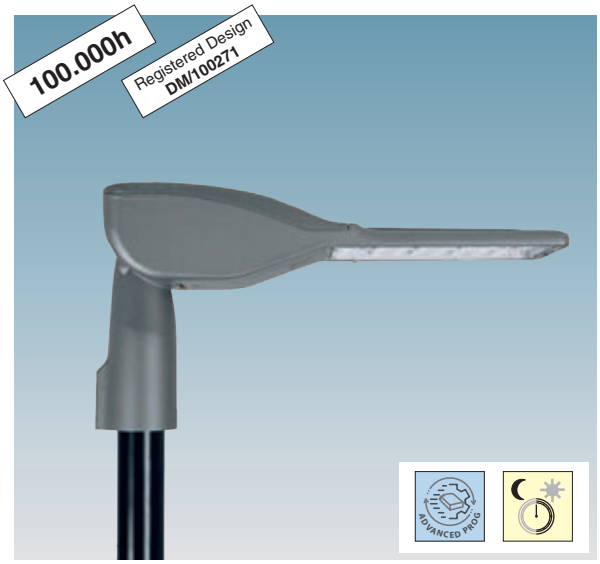
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	**16**	**4000K**	2636lm
		128	**32**		5111lm
		192	**49**		7905lm
upon request	530mA	64	**25**	**4000K**	3878lm
		128	**50**		7521lm
		192	**75**		11632lm

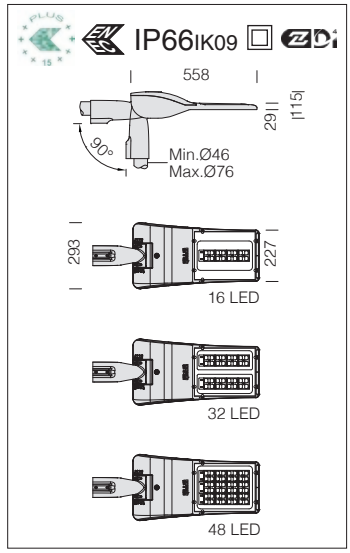
n.LED	W tot	K	ølm
64	**16**	**3000K**	2372lm
128	**32**		4600lm
192	**49**		7115lm
64	**25**	**3000K**	3490lm
128	**50**		6769lm
192	**75**		10469lm











RG0 Ethr · +50 C° -30 · U.V. · ZONA 1 · LOW FLICKER · 3000K · 4000K

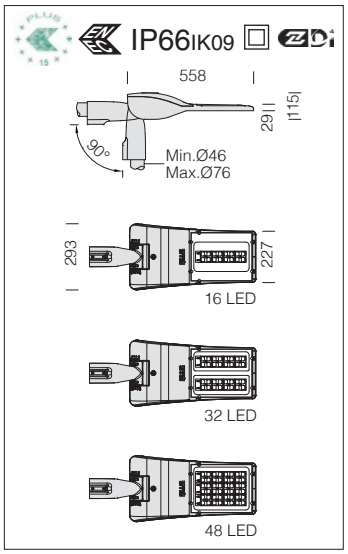
3477 Mini Giovi N1 - cycleways					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	5.90	331020-00	**33**	4000K - 4340lm - CRI 70
			331020-39		3000K - 4122lm - CRI 70
LED	graphite	6.20	331021-00	**67**	4000K - 8300lm - CRI 70
			331021-39		3000K - 7885lm - CRI 70
LED	graphite	6.60	331022-00	**100**	4000K - 12840lm - CRI 70
			331022-39		3000K - 12197lm - CRI 70
Integrated **ADVANCED PROG functions** (see table on p. 397).					

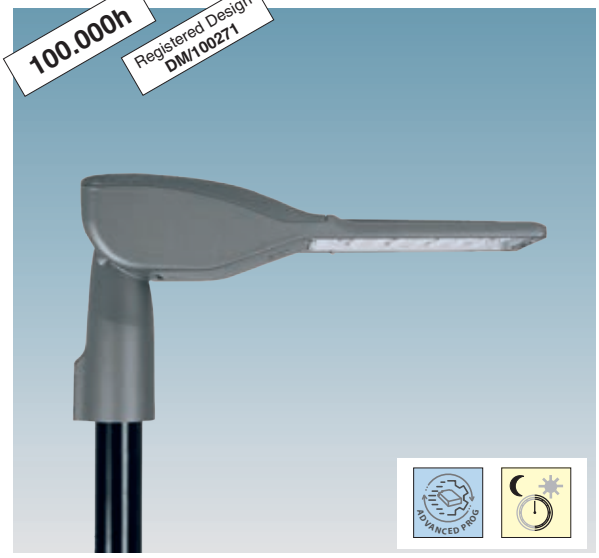
Optics: in PMMA, highly resistant to temperature and UV radiation.

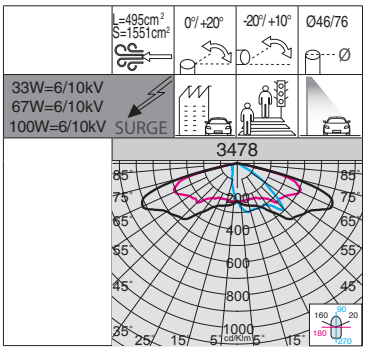
LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

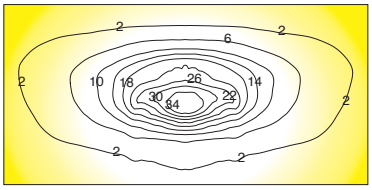
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	16	**16**	**4000K**	2316lm
		32	**33**		4429lm
		48	**50**		6851lm
upon request	530mA	16	**25**	**4000K**	3385lm
		32	**50**		6556lm
		48	**76**		10015lm

n.LED	W tot	K	ølm
16	**16**	**3000K**	2200lm
32	**33**		4207lm
48	**50**		6509lm
16	**25**	**3000K**	3215lm
32	**50**		6228lm
48	**76**		9514lm









RG0 Ethr
+50 C° -30
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

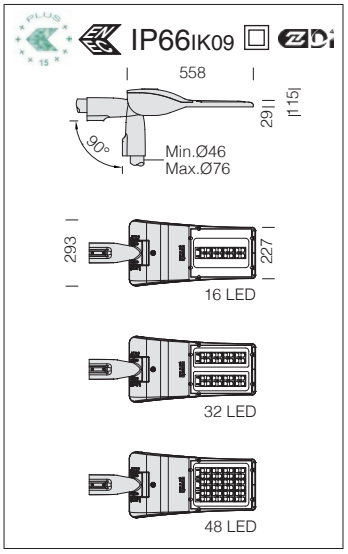
Integrated **ADVANCED PROG functions** (see table on p. 397).

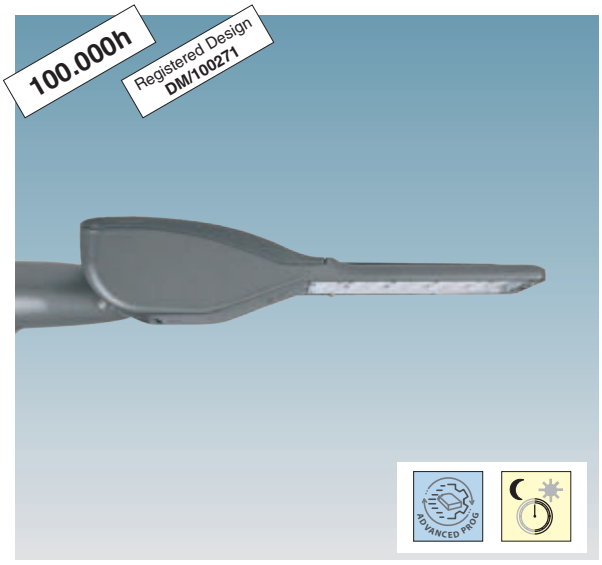
3478 Mini Giovi M1 - residential amenities

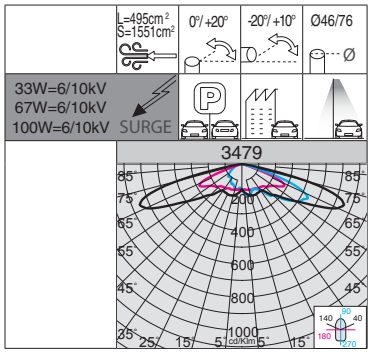
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	5.90	331030-00	**33**	4000K - 4613lm - CRI 70
			331030-39		3000K - 4382lm - CRI 70
LED	graphite	6.20	331031-00	**67**	4000K - 9150lm - CRI 70
			331031-39		3000K - 8692lm - CRI 70
LED	graphite	6.60	331032-00	**100**	4000K - 13839lm - CRI 70
			331032-39		3000K - 12735lm - CRI 70

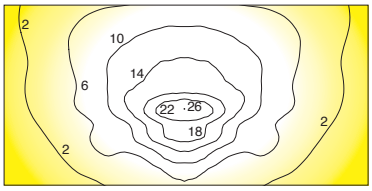
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	16	**16**	**4000K**	2447lm
		32	**33**		4854lm
		48	**50**		7342lm
upon request	530mA	16	**25**	**4000K**	3644lm
		32	**50**		7228lm
		48	**76**		10931lm

n.LED	W tot	K	ølm
16	**16**	**3000K**	2325lm
32	**33**		4611lm
48	**50**		6756lm
16	**25**	**3000K**	3461lm
32	**50**		6866lm
48	**76**		10059lm









RG0 Ethr
+50 C° -30
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

3479 Mini Giovi T4 - large areas

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	5.90	331040-00	**33**	4000K - 4571lm - CRI 70
			331040-39		3000K - 4342lm - CRI 70
LED	graphite	6.20	331041-00	**67**	4000K - 9141lm - CRI 70
			331041-39		3000K - 8684lm - CRI 70
LED	graphite	6.60	331042-00	**100**	4000K - 13712lm - CRI 70
			331042-39		3000K - 13027lm - CRI 70

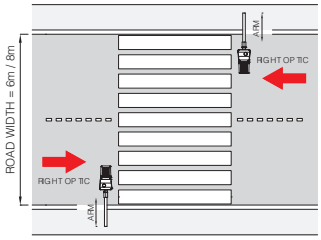
Integrated **ADVANCED PROG functions** (see table on p. 397).

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	16	**16**	**4000K**	2425lm
		32	**33**		4849lm
		48	**50**		7274lm
upon request	530mA	16	**25**	**4000K**	3611lm
		32	**50**		7220lm
		48	**76**		10831lm

n.LED	W tot	K	ølm
16	**16**	**3000K**	2303lm
32	**33**		4607lm
48	**50**		6911lm
16	**25**	**3000K**	3430lm
32	**50**		6859lm
48	**76**		10290lm

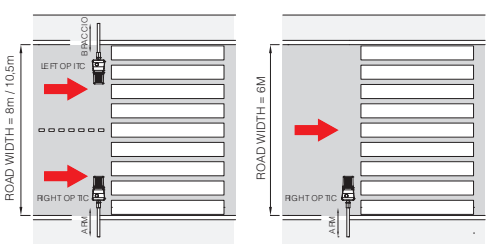


Examples of installation of Mini Giovi at pedestrian crossings



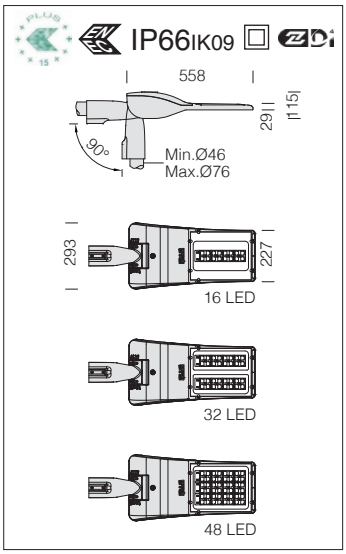
EXAMPLE OF INSTALLATION ON TWO-WAY ROADS

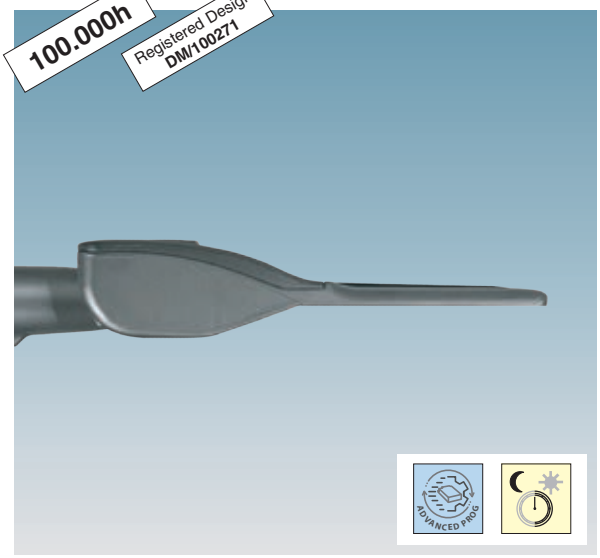
POLE HEIGHT H=6m							
road width	tot. wattage	extension	road lumin. class	pedestrian lumin. class	ev min. richiesto	ev min.	fixtures arrangement
6m	33W	0m	M5	EV3	10lux	12lux	R - R
6m	67W	1,25m	M3-M4	EV2	30lux	34lux	
8m	100W	1,25m				46lux	

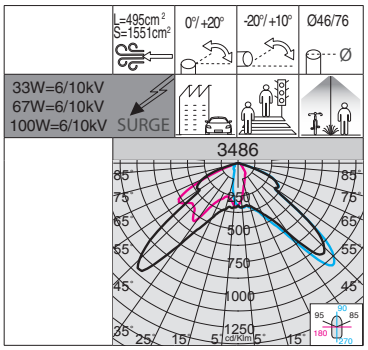


EXAMPLE OF INSTALLATION ON ONE-WAY ROADS

POLE HEIGHT H=6m							
road width	tot. wattage	extension	road lumin. class	pedestrian lumin. class	ev min. richiesto	ev min.	fixtures arrangement
6m	67W	1,25m	M5	EV3	10lux	16lux	R
6m	67W	0m	M3-M4	EV2	30lux	46lux	R - L
8m	100W	0m				37lux	
10,5m	67W	0m				39lux	
10,5m	100W	0m	M2	EVv1	50lux	58lux	







RG0 Ethr · +50 C° -30 · U.V. · ZONA 1 · LOW FLICKER · 3000K · 4000K

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

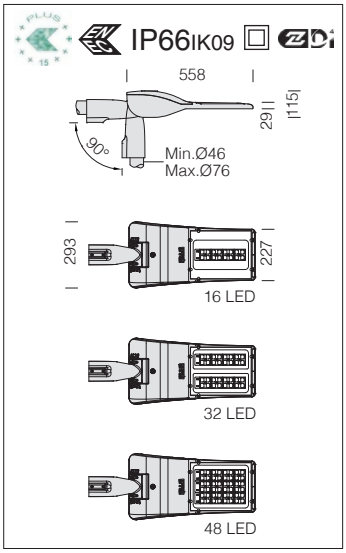
Integrated **ADVANCED PROG functions** (see table on p. 397).

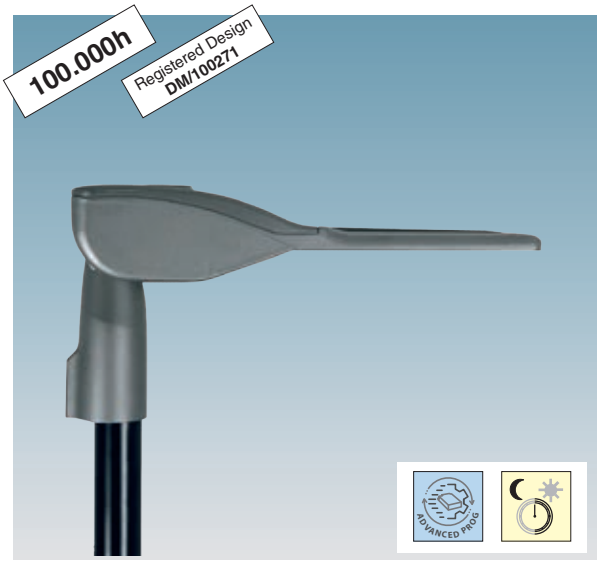
3486 Mini Giovi left (L) - for pedestrian crossing

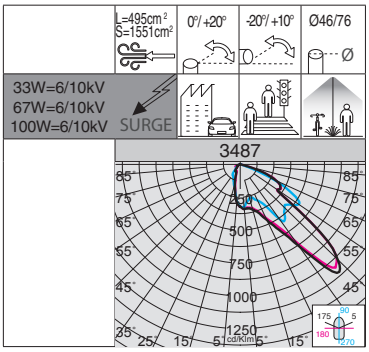
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	5.90	331080-00	**33**	4000K - 4641lm - CRI 70
			331080-39		3000K - 4409lm - CRI 70
LED	graphite	6.20	331081-00	**67**	4000K - 9281lm - CRI 70
			331081-39		3000K - 8817lm - CRI 70
LED	graphite	6.60	331082-00	**100**	4000K - 13922lm - CRI 70
			331082-39		3000K - 13226lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	16	**16**	**4000K**	2476lm
		32	**33**		4953lm
		48	**50**		7429lm
upon request	530mA	16	**25**	**4000K**	3620lm
		32	**50**		7239lm
		48	**76**		10859lm

n.LED	W tot	K	ølm
16	**16**	**3000K**	2352lm
32	**33**		4705lm
48	**50**		7057lm
16	**25**	**3000K**	3439lm
32	**50**		6877lm
48	**76**		10316lm







RG0 Ethr · +50 C° -30 · U.V. · ZONA 1 · LOW FLICKER · 3000K · 4000K

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

3487 Mini Giovi right (R) - for pedestrian crossing

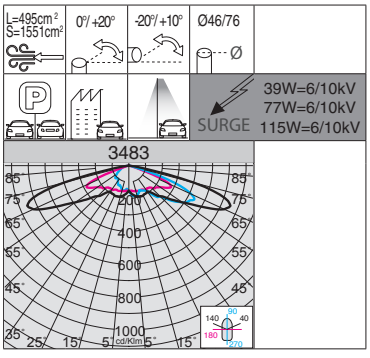
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	5.90	331090-00	**33**	4000K - 4641lm - CRI 70
			331090-39		3000K - 4409lm - CRI 70
LED	graphite	6.20	331091-00	**67**	4000K - 9281lm - CRI 70
			331091-39		3000K - 8817lm - CRI 70
LED	graphite	6.60	331092-00	**100**	4000K - 13922lm - CRI 70
			331092-39		3000K - 13226lm - CRI 70

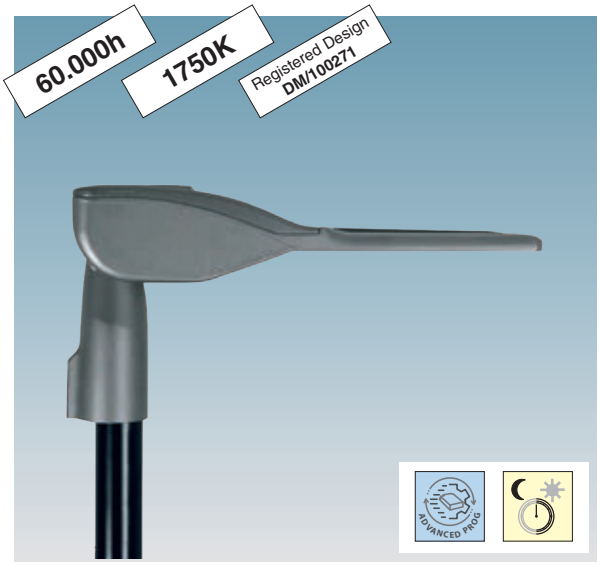
Integrated **ADVANCED PROG functions** (see table on p. 397).

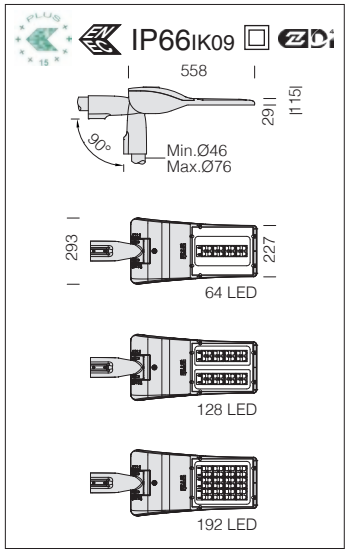
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	16	**16**	**4000K**	2476lm
		32	**33**		4953lm
		48	**50**		7429lm
upon request	530mA	16	**25**	**4000K**	3620lm
		32	**50**		7239lm
		48	**76**		10859lm

n.LED	W tot	K	ølm
16	**16**	**3000K**	2352lm
32	**33**		4705lm
48	**50**		7057lm
16	**25**	**3000K**	3439lm
32	**50**		6877lm
48	**76**		10316lm







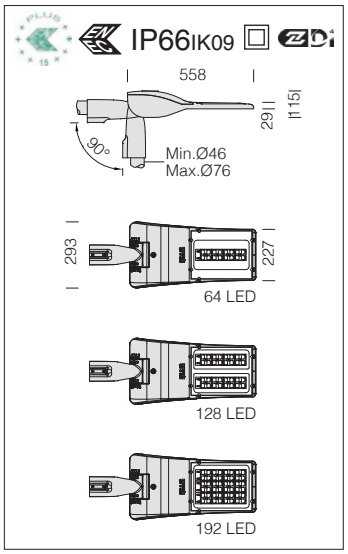


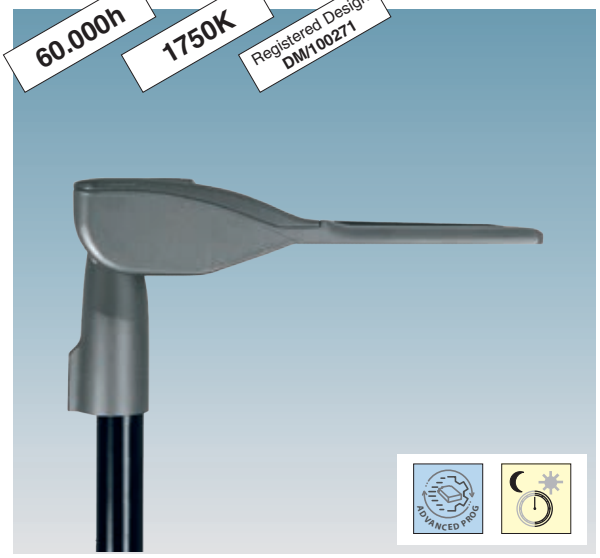
1750K: lamps with warm light at a colour temperature of 1750K are ideal for particularly dangerous areas (pedestrian crossings, entries, roundabouts, etc.) and to minimize the lighting's impact on the environment and on the fauna of green urban areas.

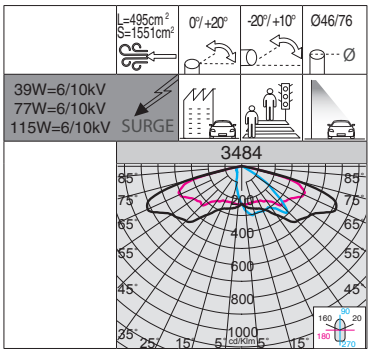
3483 Mini Giovi AMBER - large areas					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 200mA - CRI
LED	graphite	5.90	331050-44	**39**	1750K - 3641lm - **AMBER**
		6.20	331051-44	**77**	1750K - 6896lm - **AMBER**
		6.60	331052-44	**115**	1750K - 10422lm - **AMBER**
Integrated **ADVANCED PROG functions** (see table on p. 397).					

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9. Luminous flux maintenance 80%: 60.000h (L80B10).







1750K: lamps with warm light at a colour temperature of 1750K are ideal for particularly dangerous areas (pedestrian crossings, entries, roundabouts, etc.) and to minimize the lighting's impact on the environment and on the fauna of green urban areas.

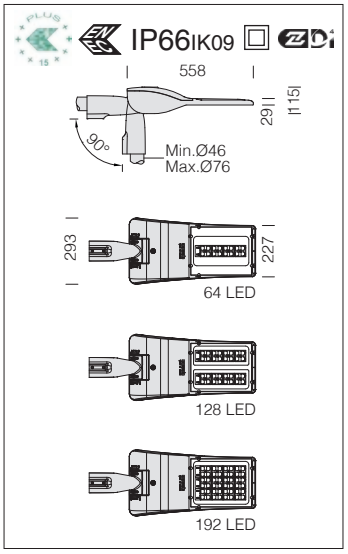
Optics: in PMMA, highly resistant to temperature and UV radiation.

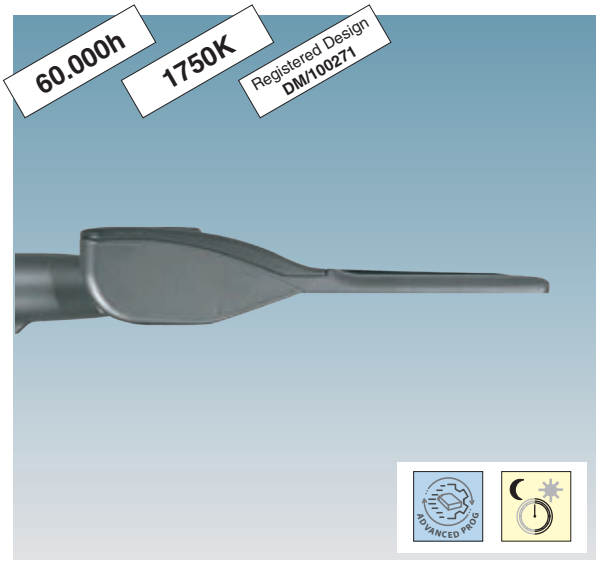
LED: power factor ≥0.9.
Luminous flux maintenance 80%: 60.000h (L80B10).

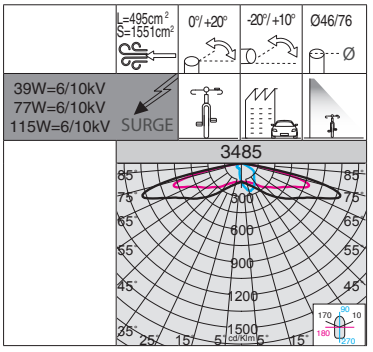
3484 Mini Giovi AMBER - residential amenities ME

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 200mA - CRI
LED	graphite	5.90	331060-44	**39**	1750K - 3825lm - **AMBER**
		6.20	331061-44	**77**	1750K - 7244lm - **AMBER**
		6.60	331062-44	**115**	1750K - 10948lm - **AMBER**

Integrated **ADVANCED PROG functions** (see table on p. 397).







1750K: lamps with warm light at a colour temperature of 1750K are ideal for particularly dangerous areas (pedestrian crossings, entries, roundabouts, etc.) and to minimize the lighting's impact on the environment and on the fauna of green urban areas.

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 60.000h (L80B10).

3485 Mini Giovi AMBER - cycleways

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 200mA - CRI
LED	graphite	5.90	331070-44	**39**	1750K - 3653lm - **AMBER**
		6.20	331071-44	**77**	1750K - 6920lm - **AMBER**
		6.60	331072-44	**115**	1750K - 10457lm - **AMBER**

Integrated **ADVANCED PROG functions** (see table on p. 397).



GENERAL CHARACTERISTICS

Housing and cover: in die-cast aluminium, EN-AB 47100 alloy and designed with a very small surface exposed to wind. Cooling fins integrated in the cover. Once removed, the cover allows accessing the electric gear compartment and power terminal board.

Heat sink: the heat dissipation system is specially designed and made to allow the operation of the LED lights with temperatures ensuring excellent performance/efficiency and durability.

Pole connection: in die-cast aluminium suited for poles with a diameter of min. 46 mm to max. 76 mm, adjustable from -20° to +10° for side-mount applications; and from 0° to +20° for top mount applications. Tilting angle of 5°.

Diffuser: clear, tempered glass, 4 mm thick, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001).

OTHER CHARACTERISTICS

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Standard supply: complete with insulation connector for quick installation.

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

OTHER INFORMATION

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

The ENEC Plus mark certifies that the LED luminaires are compliant and reliable in terms of safety and declared performance.

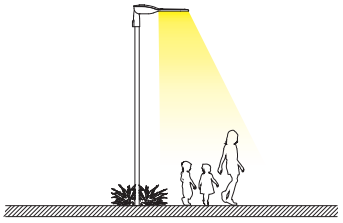
The products of the Giovi family are compliant with all applicable tests (third-party certification) pursuant to standard **ANSI C136.31: Street Lighting – Luminaire Vibration.** - Test level: 3.0G Level 2 for bridge/overpass applications.

Registered Design **DM/100271** The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs.

UPON REQUEST

UNI EN ISO 9227 Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

CUT-OFF accessory (HP versions excluded): ideal for blocking backlight and eliminating potential intensity peak behind the light pole; available in either white or black shades *(NOTE: the black version will block backlight best, while the white version will enable greater efficiency).*

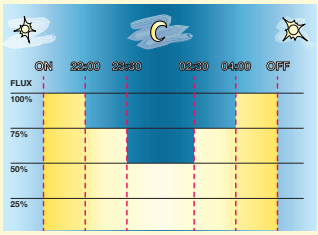


INTEGRATED ADVANCED PROG (PROG CLD) FUNCTIONS: the products of this family are supplied with programmable drivers as standard.

All these functions are already present on standard products and need only to be enabled on request. These functions do not require to make any modification to the system, as the product only needs to be connected to the mains without the use of a control BUS or a pilot cable.

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP
For more information see page XX-XXI	

VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*



Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request*

Example with Zhaga Socket (subcode -0054)



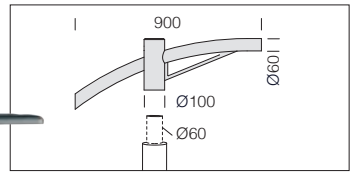
LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET: to monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	Mounted directly on the fixture's body, ideal for remote lighting management applications.
Zhaga Socket order with **subcode -0054** (complete with sealing cap)	

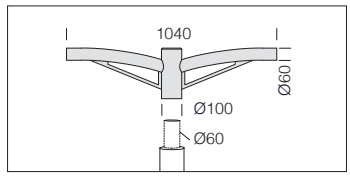
The Zhaga-D4i mark certifies the fixture's compliance with Zhaga Book 18 version 2 specifications for outdoor luminaires and DiiA's D4i specifications for intra-luminaire DALI interface.



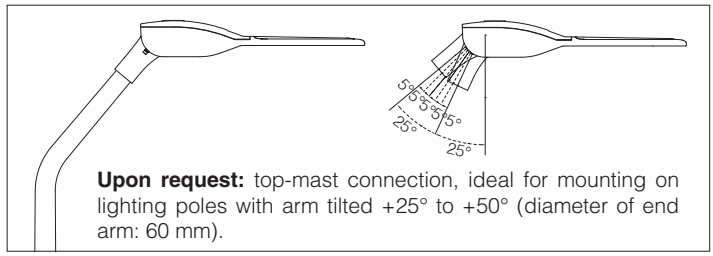




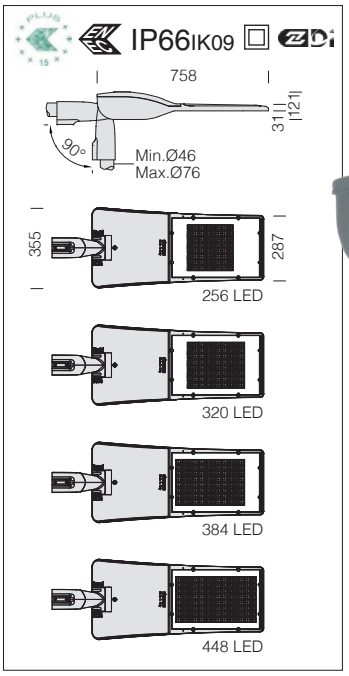
acc. 504 single arm	
graphite	991263-00
Suited for poles with a diameter 60mm.	

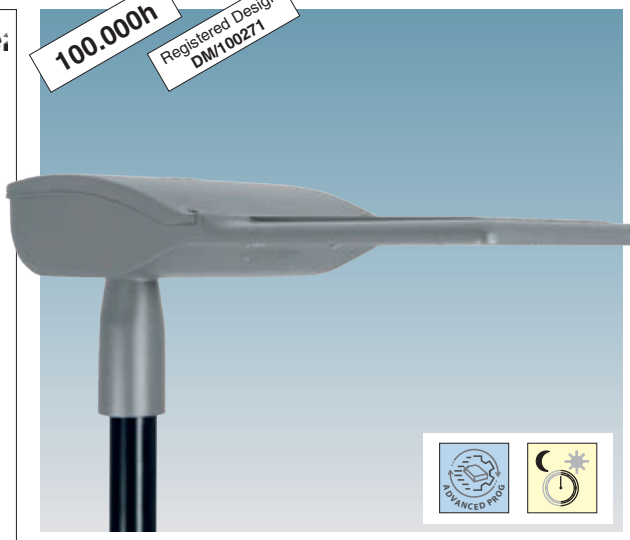


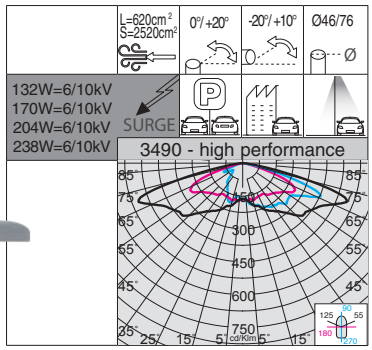
acc. 508 double arm	
graphite	991267-00
Suited for poles with a diameter 60mm.	



Upon request: top-mast connection, ideal for mounting on lighting poles with arm tilted +25° to +50° (diameter of end arm: 60 mm).







Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

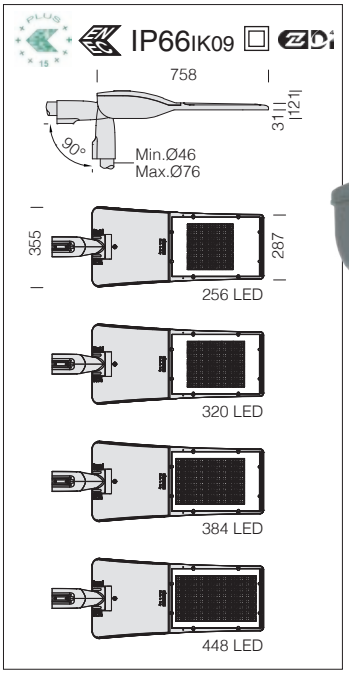
Integrated **ADVANCED PROG functions** (see table on p. 409).

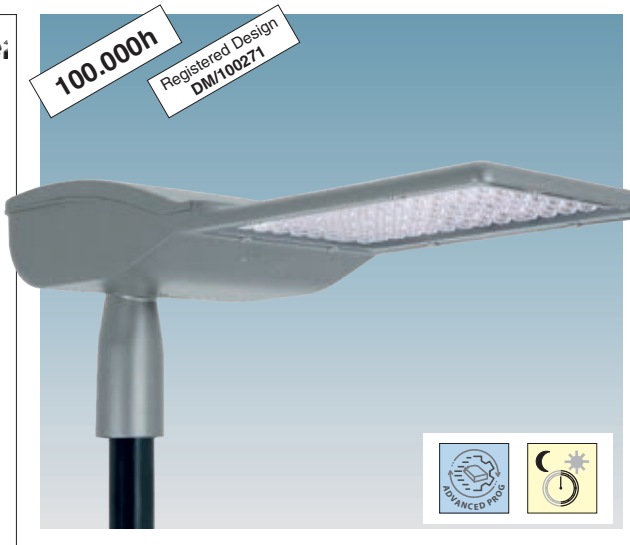
3490 Giovi - high performance - large areas

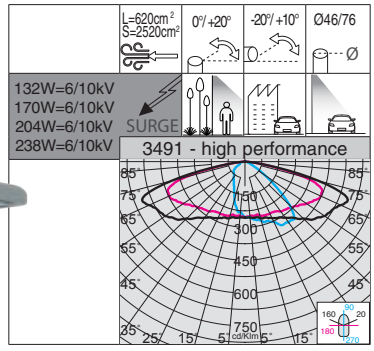
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	9.00	341040-00	**132**	4000K - 19080lm - CRI 70
			341040-39		3000K - 17172lm - CRI 70
LED	graphite	9.30	341041-00	**170**	4000K - 24627lm - CRI 70
			341041-39		3000K - 22164lm - CRI 70
LED	graphite	9.50	341042-00	**204**	4000K - 29348lm - CRI 70
			341042-39		3000K - 26413lm - CRI 70
LED	graphite	10.00	341043-00	**238**	4000K - 33856lm - CRI 70
			341043-39		3000K - 30470lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	256	**65**	**4000K**	10116lm
		320	**82**		13057lm
		384	**99**		15560lm
		448	**116**		17950lm

n.LED	W tot	K	ølm
256	**65**	**3000K**	9104lm
320	**82**		11751lm
384	**99**		14004lm
448	**116**		16155lm







Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

Integrated **ADVANCED PROG functions** (see table on p. 409).

3491 Giovi - high performance - residential amenities ME

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	9.00	341050-00	**132**	4000K - 19799lm - CRI 70
			341050-39		3000K - 17819lm - CRI 70
LED	graphite	9.30	341051-00	**170**	4000K - 25554lm - CRI 70
			341051-39		3000K - 22999lm - CRI 70
LED	graphite	9.50	341052-00	**204**	4000K - 30379lm - CRI 70
			341052-39		3000K - 27341lm - CRI 70
LED	graphite	10.00	341053-00	**238**	4000K - 35076lm - CRI 70
			341053-39		3000K - 31568lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	256	**65**	**4000K**	10497lm
		320	**82**		13548lm
		384	**99**		16106lm
		448	**116**		18597lm
upon request	530mA	256	**99**	**4000K**	15445lm
		320	**125**		19935lm
		384	**151**		23699lm
		448	**177**		27363lm

n.LED	W tot	K	ølm
256	**65**	**3000K**	9447lm
320	**82**		12193lm
384	**99**		14496lm
448	**116**		16737lm
256	**99**	**3000K**	13901lm
320	**125**		17942lm
384	**151**		21329lm
448	**177**		24627lm





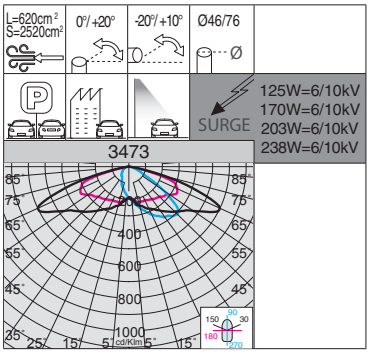


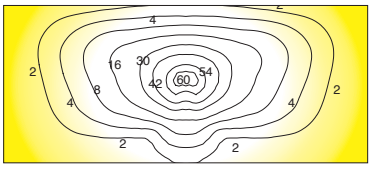










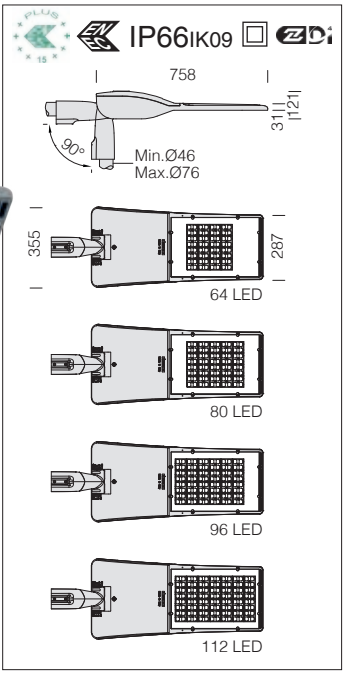


3473 Giovi W1 - residential amenities

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	9.00	341030-00	**125**	4000K - 18080lm - CRI 70
			341030-39		3000K - 17176lm - CRI 70
LED	graphite	9.30	341031-00	**170**	4000K - 23772lm - CRI 70
			341031-39		3000K - 22568lm - CRI 70
LED	graphite	9.50	341032-00	**203**	4000K - 28544lm - CRI 70
			341032-39		3000K - 27118lm - CRI 70
LED	graphite	10.00	341033-00	**238**	4000K - 32670lm - CRI 70
			341033-39		3000K - 31035lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	**66**	**4000K**	10163lm
		80	**83**		13362lm
		96	**100**		16045lm
		112	**117**		18364lm

n.LED	W tot	K	ølm
64	**66**	**3000K**	9654lm
80	**83**		12686lm
96	**100**		15243lm
112	**117**		17445lm



Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

Integrated **ADVANCED PROG functions** (see table on p. 409).







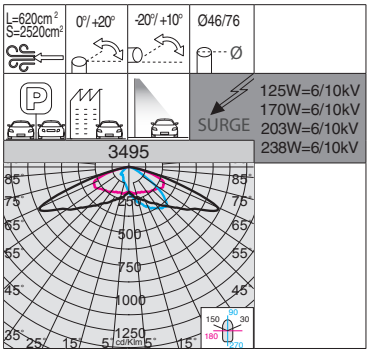


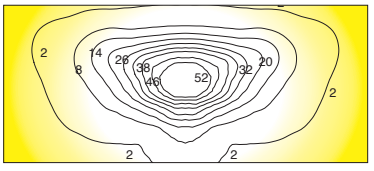












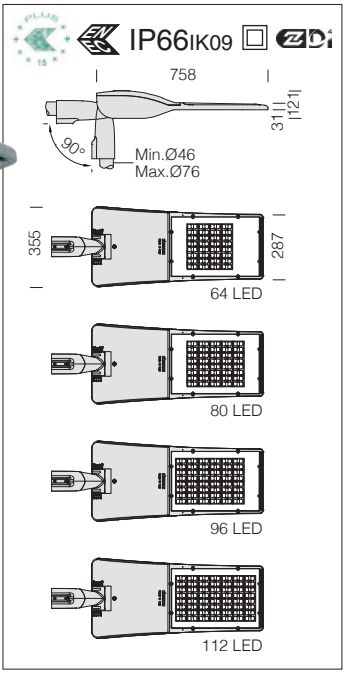


3495 Giovi W2 - residential amenities

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	9.00	341010-00	**125**	4000K - 17911lm - CRI 70
			341010-39		3000K - 17014lm - CRI 70
LED	graphite	9.30	341011-00	**170**	4000K - 23550lm - CRI 70
			341011-39		3000K - 22372lm - CRI 70
LED	graphite	9.50	341012-00	**203**	4000K - 28455lm - CRI 70
			341012-39		3000K - 27032lm - CRI 70
LED	graphite	10.00	341013-00	**238**	4000K - 32568lm - CRI 70
			341013-39		3000K - 30940lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	**66**	**4000K**	10068lm
		80	**83**		13237lm
		96	**100**		15995lm
		112	**117**		18306lm
upon request	530mA	64	**100**	**4000K**	14363lm
		80	**125**		18885lm
		96	**150**		22818lm
		112	**175**		26116lm

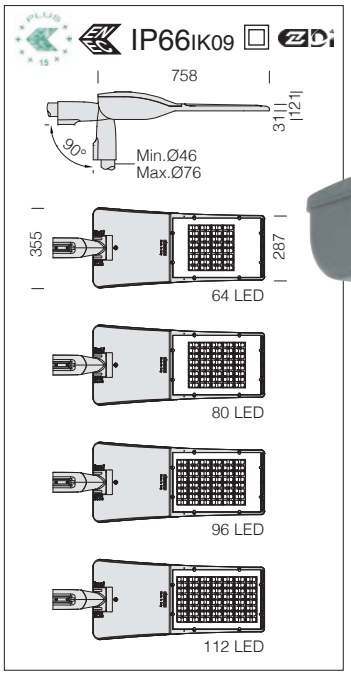
n.LED	W tot	K	ølm
64	**66**	**3000K**	9564lm
80	**83**		12575lm
96	**100**		15194lm
112	**117**		17391lm
64	**100**	**3000K**	13644lm
80	**125**		17940lm
96	**150**		21677lm
112	**175**		24810lm



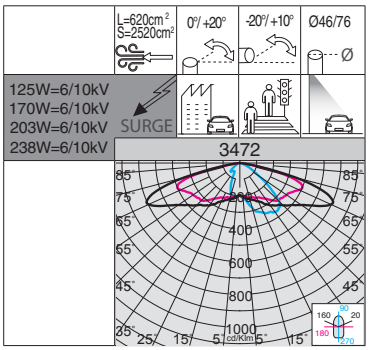
Optics: in PMMA, highly resistant to temperature and UV radiation.

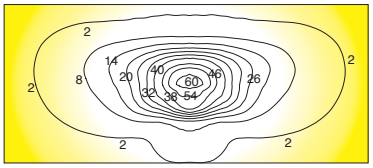
LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

Integrated **ADVANCED PROG functions** (see table on p. 409).









RG0 Ethr
+50 C° -30
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

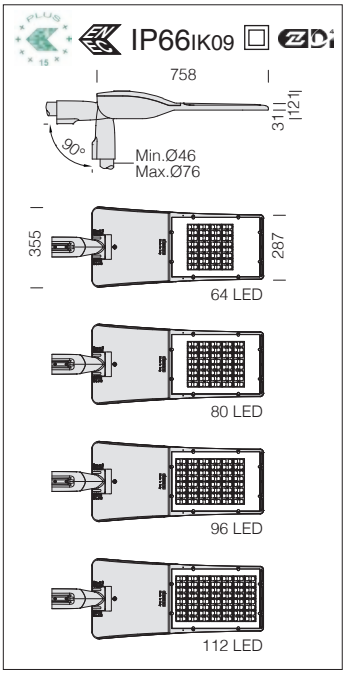
Integrated **ADVANCED PROG functions** (see table on p. 409).

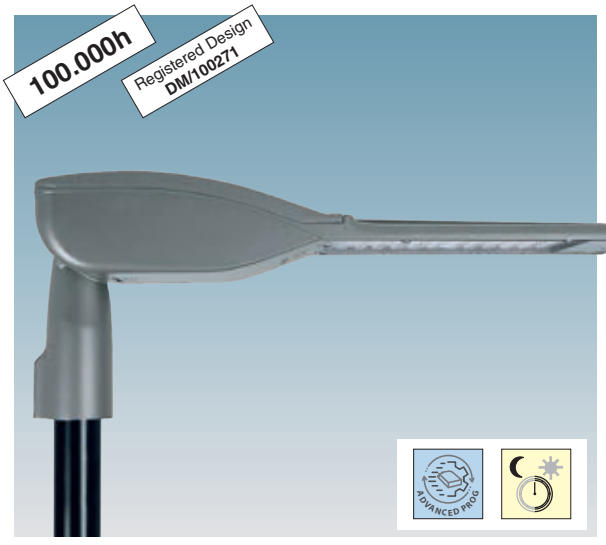
3472 Giovi M1 - residential amenities

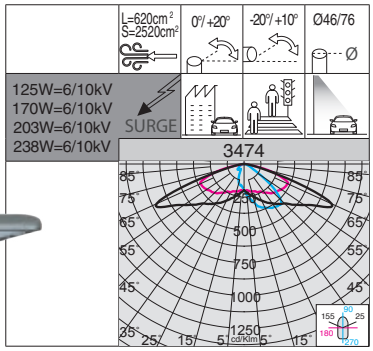
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	9.00	341020-00	**125**	4000K - 17742lm - CRI 70
			341020-39		3000K - 16860lm - CRI 70
LED	graphite	9.30	341021-00	**170**	4000K - 23329lm - CRI 70
			341021-39		3000K - 22130lm - CRI 70
LED	graphite	9.50	341022-00	**203**	4000K - 28090lm - CRI 70
			341022-39		3000K - 26669lm - CRI 70
LED	graphite	10.00	341023-00	**238**	4000K - 32150lm - CRI 70
			341023-39		3000K - 30537lm - CRI 70

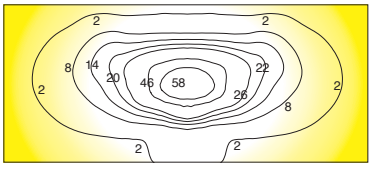
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	**66**	**4000K**	9973lm
		80	**83**		13113lm
		96	**100**		15789lm
		112	**117**		18072lm

n.LED	W tot	K	ølm
64	**66**	**3000K**	9477lm
80	**83**		12439lm
96	**100**		14991lm
112	**117**		17165lm









RG0 Ethr
+50 C° -30
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).

Integrated **ADVANCED PROG functions** (see table on p. 409).

3474 Giovi M2 - residential amenities

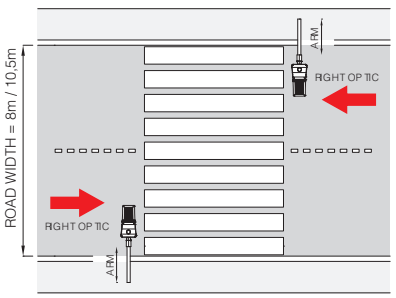
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	9.00	341110-00	**125**	4000K - 17834lm - CRI 70
			341110-39		3000K - 16942lm - CRI 70
LED	graphite	9.30	341111-00	**170**	4000K - 23450lm - CRI 70
			341111-39		3000K - 22162lm - CRI 70
LED	graphite	9.50	341112-00	**203**	4000K - 28265lm - CRI 70
			341112-39		3000K - 26851lm - CRI 70
LED	graphite	10.00	341113-00	**238**	4000K - 32350lm - CRI 70
			341113-39		3000K - 30723lm - CRI 70

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	**66**	**4000K**	10024lm
		80	**83**		13181lm
		96	**100**		15888lm
		112	**117**		18184lm
upon request	530mA	64	**100**	**4000K**	14301lm
		80	**125**		18805lm
		96	**150**		22666lm
		112	**175**		25941lm

n.LED	W tot	K	ølm
64	**66**	**3000K**	9523lm
80	**83**		12522lm
96	**100**		15093lm
112	**117**		17269lm
64	**100**	**3000K**	13586lm
80	**125**		17864lm
96	**150**		21532lm
112	**175**		24637lm

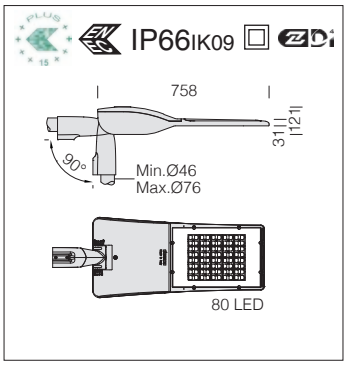


Examples of installation of Giovi at pedestrian crossings



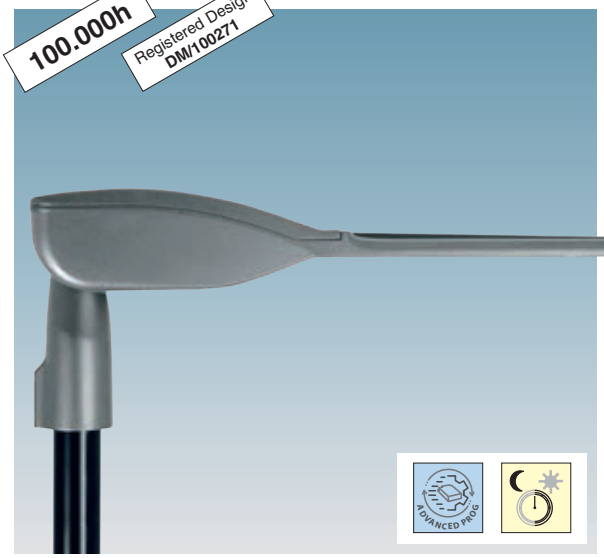
EXAMPLE OF INSTALLATION ON TWO-WAY ROADS

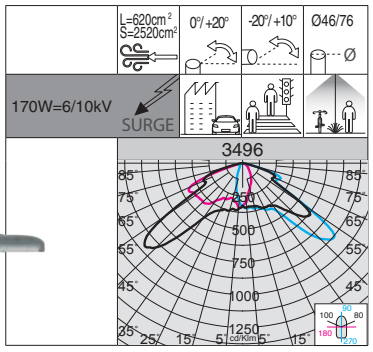
POLE HEIGHT H=6m							
road width	tot. wattage	extension	road lumin. class	pedestrian lumin. class	ev min. richiesto	ev min.	fixtures arrangement
8m	170W	0m	M3- M4	EV2	30lux	36lux	DX-DX
10,5m	170W	1,25m					



Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).





RG0 Ethr
+50 C° -30
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

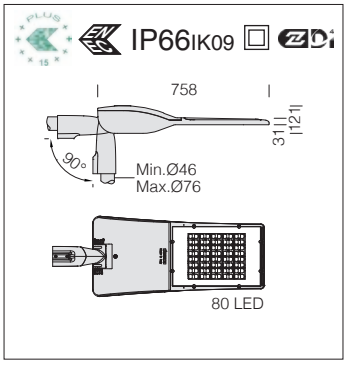
3496 Giovi - left (L) - for pedestrian crossing

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	9.30	341080-00	**170**	4000K - 23760lm - CRI 70
			341080-39		3000K - 22573lm - CRI 70

Integrated **ADVANCED PROG functions** (see table on p. 409).

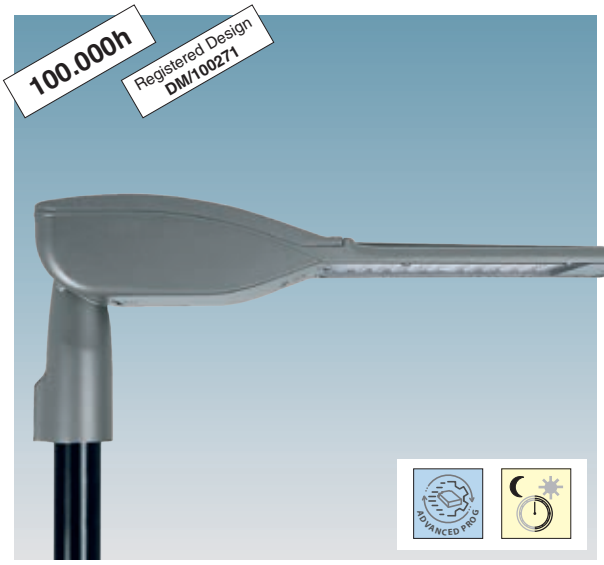
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	80	**83**	**4000K**	13355lm
upon request	530mA	80	**125**	**4000K**	19053lm

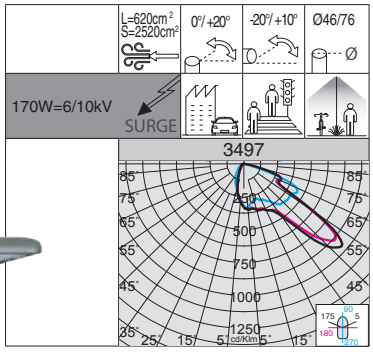
n.LED	W tot	K	ølm
80	**83**	**3000K**	12688lm
80	**125**	**3000K**	18101lm



Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 90%: 100.000h (L90B10).





RG0 Ethr
+50 C° -30
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

3497 Giovi - right (R) - for pedestrian crossing

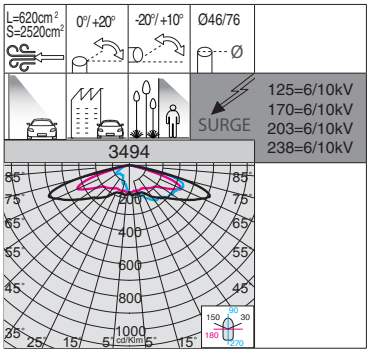
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	9.30	341090-00	**170**	4000K - 23760lm - CRI 70
			341090-39		3000K - 22573lm - CRI 70

Integrated **ADVANCED PROG functions** (see table on p. 409).

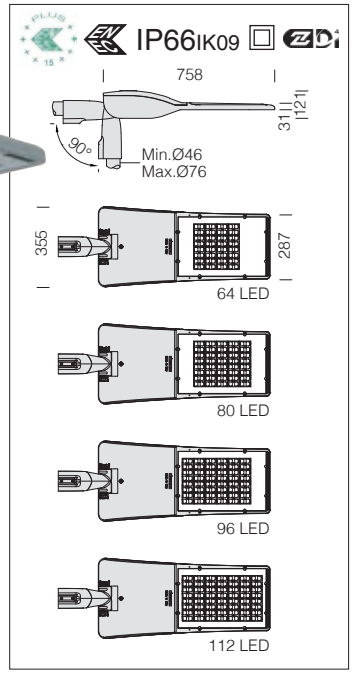
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	80	**83**	**4000K**	13355lm
upon request	530mA	80	**125**	**4000K**	19053lm

n.LED	W tot	K	ølm
80	**83**	**3000K**	12688lm
80	**125**	**3000K**	18101lm









RG0 Ethr · +50 C -30 · U.V. · ZONA 1 · LOW FLICKER · 3000K · 4000K

3494 Giovi T4 - asymmetric - large areas

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	graphite	9.00	341000-00	**125**	4000K - 16822lm - CRI 70
			341000-39		3000K - 15983lm - CRI 70
LED	graphite	9.30	341001-00	**170**	4000K - 22118lm - CRI 70
			341001-39		3000K - 21004lm - CRI 70
LED	graphite	9.50	341002-00	**203**	4000K - 27533lm - CRI 70
			341002-39		3000K - 26156lm - CRI 70
LED	graphite	10.00	341003-00	**238**	4000K - 31512lm - CRI 70
			341003-39		3000K - 29933lm - CRI 70

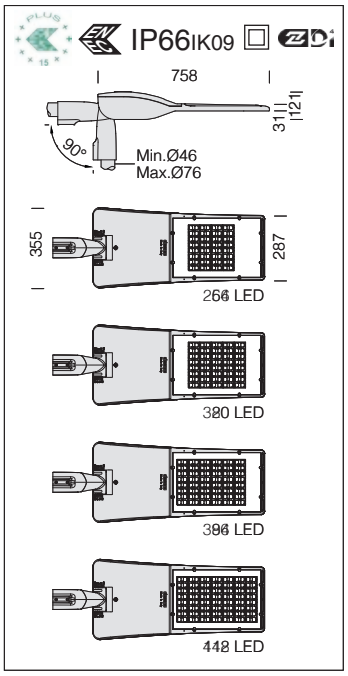
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	**66**	**4000K**	9456lm
		80	**83**		12433lm
		96	**100**		15476lm
		112	**117**		17713lm
upon request	530mA	64	**100**	**4000K**	13490lm
		80	**125**		17736lm
		96	**150**		22079lm
		112	**175**		25269lm

n.LED	W tot	K	ølm
64	**66**	**3000K**	8984lm
80	**83**		11806lm
96	**100**		14702lm
112	**117**		16825lm
64	**100**	**3000K**	12816lm
80	**125**		16843lm
96	**150**		20975lm
112	**175**		24003lm

Optics: in PMMA, highly resistant to temperature and UV radiation.

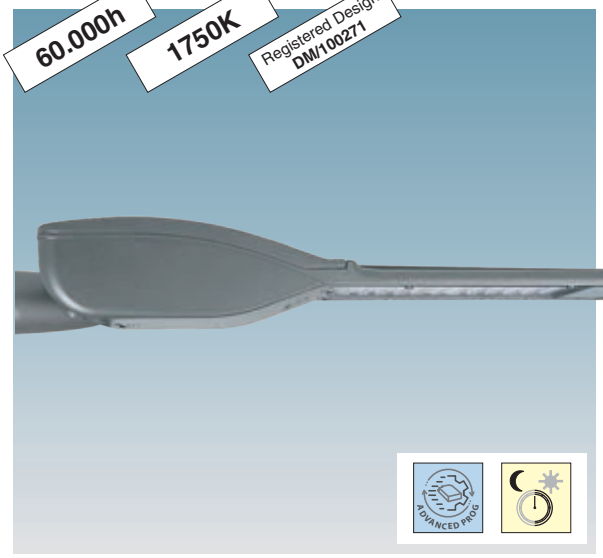
LED: power factor ≥0.9. Luminous flux maintenance 90%: 100.000h (L90B10).

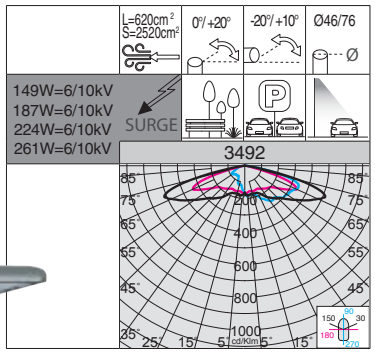
Integrated **ADVANCED PROG functions** (see table on p. 409).



Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 60.000h (L80B10).



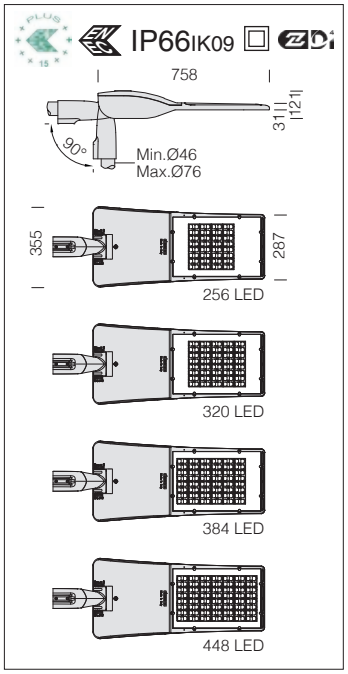


1750K: lamps with warm light at a colour temperature of 1750K are ideal for particularly dangerous areas (pedestrian crossings, entries, roundabouts, etc.) and to minimize the lighting's impact on the environment and on the fauna of green urban areas.

3492 Giovi AMBER T4 - large areas

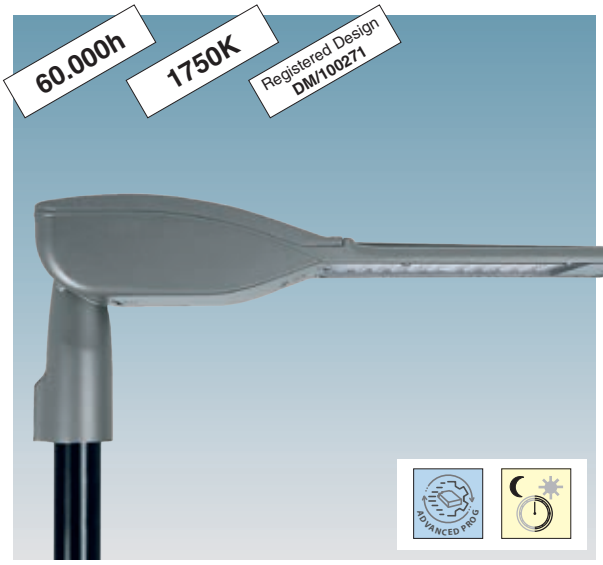
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 200mA - CRI
LED	graphite	9.00	341060-44	**149**	1750K - 14049lm - **AMBER**
		9.30	341061-44	**187**	1750K - 17321lm - **AMBER**
		9.50	341062-44	**224**	1750K - 20481lm - **AMBER**
		10.00	341063-44	**261**	1750K - 23870lm - **AMBER**

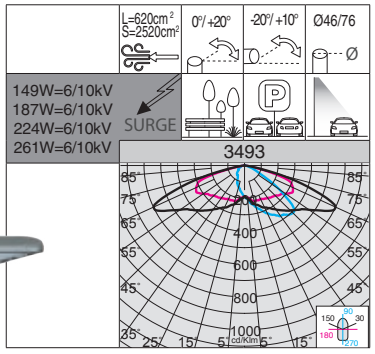
Integrated **ADVANCED PROG functions** (see table on p. 409).



Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 60.000h (L80B10).





1750K: lamps with warm light at a colour temperature of 1750K are ideal for particularly dangerous areas (pedestrian crossings, entries, roundabouts, etc.) and to minimize the lighting's impact on the environment and on the fauna of green urban areas.

3493 Giovi AMBER - residential amenities ME

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 200mA - CRI
LED	graphite	9.00	341070-44	**149**	1750K - 14414lm - **AMBER**
		9.30	341071-44	**187**	1750K - 17770lm - **AMBER**
		9.50	341072-44	**224**	1750K - 21011lm - **AMBER**
		10.00	341073-44	**261**	1750K - 24489lm - **AMBER**

Integrated **ADVANCED PROG functions** (see table on p. 409).



Energy-saving: the possibility to choose the correct drive current for LEDs will allow you to have the right power under specific design conditions, and also help you deal with maintenance and retrofitting problems. Using a lower current will improve the efficiency of fixtures and therefore increase energy savings, whilst a higher current will result in a higher light flux so that you can reduce the number of fixtures.

Upon request	Power supply	n.LED	W tot	ølm
Sella 1 - art. 3290	350mA - **4000K**	8	**21**	2714m
		16	**41**	5440lm
		24	**61**	8092lm
Sella 1 - art. 3290	530mA - **4000K**	8	**32**	3753lm
		16	**64**	7528lm
		24	**97**	11150lm
Sella 1 - art. 3290	350mA - **3000K**	8	**21**	2524lm
		16	**41**	5059lm
		24	**61**	7528lm
Sella 1 - art. 3290	530mA - **3000K**	8	**32**	3490lm
		16	**64**	7001lm
		24	**97**	10370lm

Upon request	Power supply	n.LED	W tot	ølm
Sella 1 - art. 3291	350mA - **4000K**	8	**21**	2697lm
		16	**41**	5404lm
		24	**61**	8077lm
Sella 1 - art. 3291	530mA - **4000K**	8	**32**	3732lm
		16	**64**	7476lm
		24	**97**	11128lm
Sella 1 - art. 3291	350mA - **3000K**	8	**21**	2508lm
		16	**41**	5026m
		24	**61**	7511lm
Sella 1 - art. 3291	530mA - **3000K**	8	**32**	3470m
		16	**64**	6953lm
		24	**97**	10350lm

GENERAL CHARACTERISTICS

Housing and cover: in die-cast aluminium and designed with a very small surface exposed to wind. Cooling fins are integrated into the cover.

Pole connection: in die-cast aluminium and with gaskets to secure the frame according to different inclinations. Adjustable ranges: between 0° and 20° for side mount; and between 0° and 20° for mast-top mounting. Inclination pace: 5°. Suited for poles with a diameter 42-76mm.

Diffuser: extra-clear, tempered glass, 4 mm thick, resistant to thermal shock and impacts (UNI-EN12150-1: 2001).

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating. The SELLA luminaire **is declared** to have passed the 2000 hours of salt corrosion resistance test in accordance with ASTM B 117 standard and the 2000 hours of UV condensation test in accordance with the ASTM G 154 standard.

OTHER CHARACTERISTICS

Standard supply: double insulation switch that cuts off electricity when the cover is opened. Complete with quick connection. With dedicated electronic device to protect the LED module.

SURGE

Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

Upon request: Class 2 - protection up to 10KV.

OTHER INFORMATION

LOW FLICKER

Product with a very low flicker; uniform light for greater eye protection.

Registered Design DM/100271

The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs.

The products of the Sella 1 family are compliant with all applicable tests (third-party certification) pursuant to standard **ANSI C136.31: Street Lighting – Luminaire Vibration.**
- Test level: 3.0G Level 2 for bridge/overpass applications.

UPON REQUEST

UNI EN ISO 9227

Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

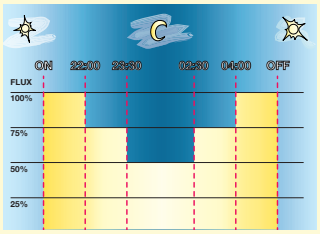
ADVANCED PROG

INTEGRATED ADVANCED PROG (PROG CLD) FUNCTIONS: the products of this family are supplied with programmable drivers as standard.

All these functions are already present on standard products and need only to be enabled on request. These functions do not require to make any modification to the system, as the product only needs to be connected to the mains without the use of a control BUS or a pilot cable.

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP
For more information see page XX-XXI	

VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*



Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request*

Example with Zhaga Socket (subcode -0054)

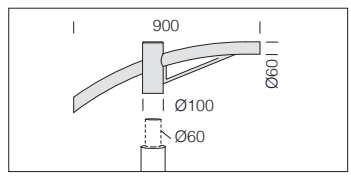


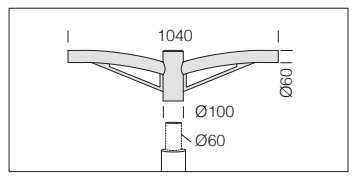
LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET: to monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	Mounted directly on the fixture's body, ideal for remote lighting management applications.
Zhaga Socket order with **subcode -0054** (complete with sealing cap)	





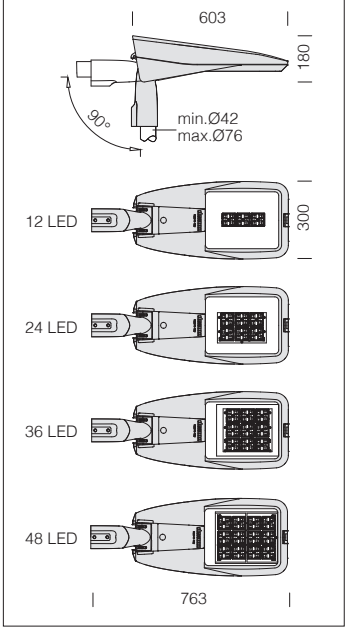




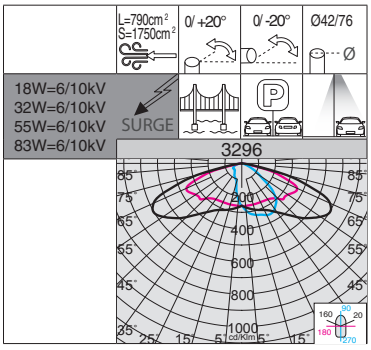
acc. 504 single arm	
grey	991262-00
graphite	991263-00
Suited for poles with a diameter 60mm.	

acc. 508 double arm	
grey	991266-00
graphite	991267-00
Suited for poles with a diameter 60mm.	

IP66IK09







RG0 Ethr
+40 C° -30
U.V.
ZONA 1
LOW FLICKER

Optics: in PMMA, highly resistant to temperature and UV radiation.

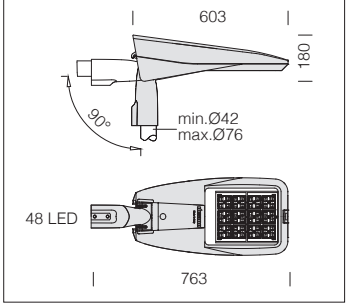
LED: power factor ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

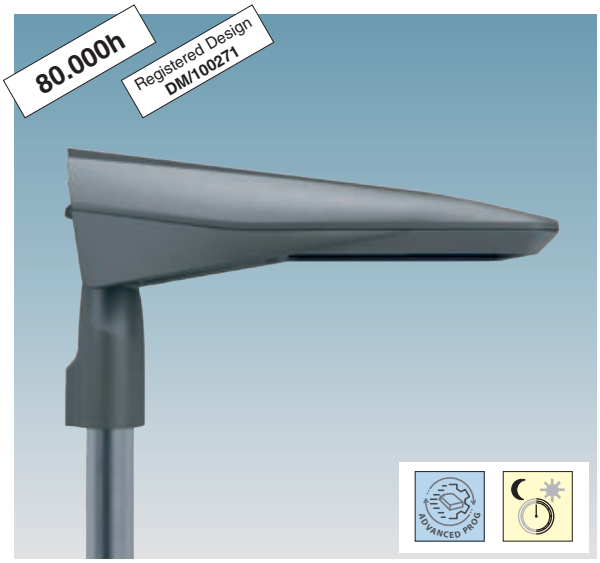
3296 Sella 1 - high performance

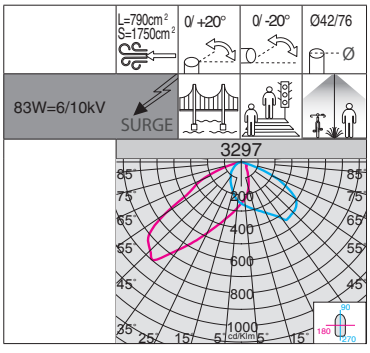
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey	7.20	330900-00	**18**	4000K - 2722lm - CRI 70
	graphite		330901-00		
LED	grey	7.20	330902-00	**32**	4000K - 5071lm - CRI 70
	graphite		330903-00		
LED	grey	7.20	330904-00	**55**	4000K - 8089lm - CRI 70
	graphite		330905-00		
LED	grey	7.20	330906-00	**83**	4000K - 11873lm - CRI 70
	graphite		330907-00		

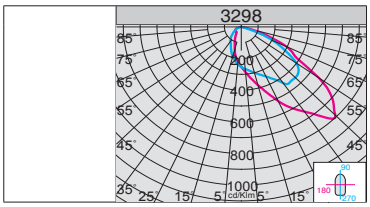
Integrated **ADVANCED PROG functions** (see table on p. 419).

IP66IK09





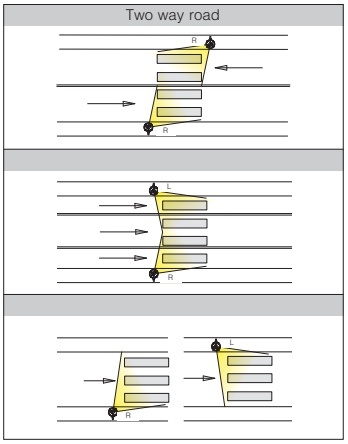




RG0 Ethr
+40 C° -30
U.V.
ZONA 1
LOW FLICKER

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).



3297 Sella 1 - left (L) - high performance - for pedestrian crossing

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey	7.20	330910-00	**83**	4000K - 12900lm - CRI 70
	graphite		330911-00		

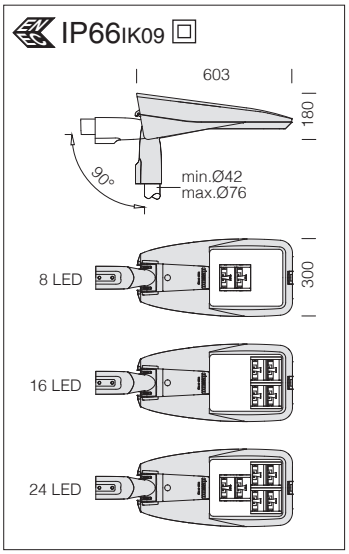
Integrated **ADVANCED PROG functions** (see table on p. 419).

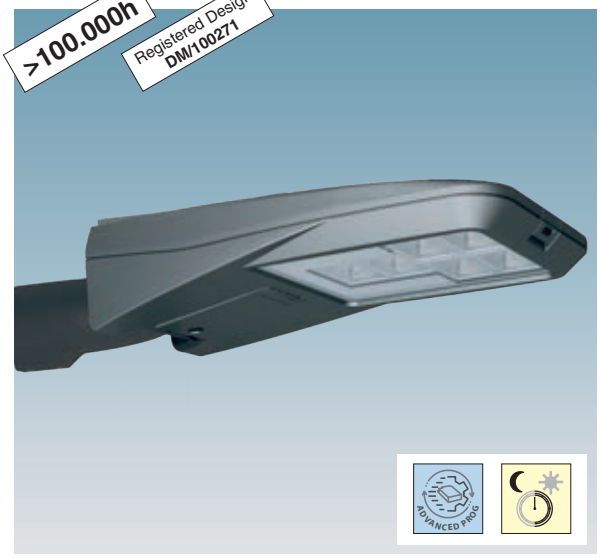
3298 Sella 1 - droit (DRO) - high performance - for pedestrian crossing

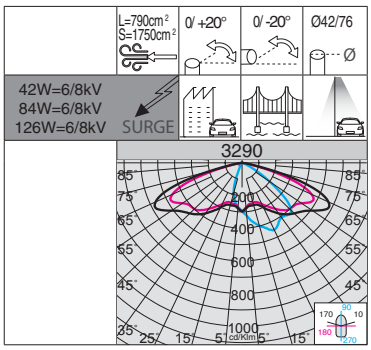
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey	7.20	330915-00	**83**	4000K - 12900lm - CRI 70
	graphite		330916-00		

Integrated **ADVANCED PROG functions** (see table on p. 419).


P







RG0 Ethr

+40 C° -30

U.V.

LOW FLICKER

LED: LUMINOUS FLUX MAINTENANCE
(including end-of-life failure)

n. LED	W tot	L80B10 @ta+25°C	L80B10 @ta+50°C	L80B10 @ta+50°C	L90B10 @ta+50°C
8	42 (700mA)	>100.000h	>100.000h	70.000h	50.000h
16	84 (700mA)				
24	126 (700mA)				

Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

LED: power factor ≥0.92.
Luminous flux maintenance 80%: >100.000h (L80B10).

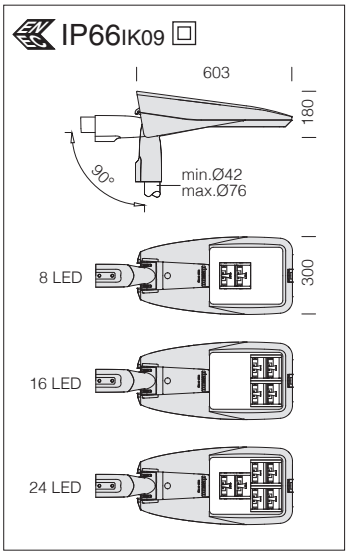
3290 Sella 1 - ST

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	7.20	330603-00	**42**	4000K - 4888lm - CRI 70
	graphite		330600-00		
LED	grey	7.20	330603-39	**42**	3000K - 4546lm - CRI 70
	graphite		330600-39		
LED	grey	7.20	330604-00	**84**	4000K - 9777lm - CRI 70
	graphite		330601-00		
LED	grey	7.20	330604-39	**84**	3000K - 9093lm - CRI 70
	graphite		330601-39		
LED	grey	7.20	330605-00	**126**	4000K - 14567lm - CRI 70
	graphite		330602-00		
LED	grey	7.20	330605-39	**126**	3000K - 13547lm - CRI 70
	graphite		330602-39		

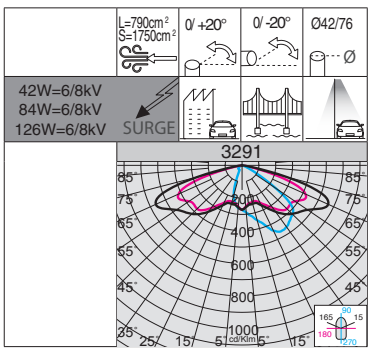
Integrated **ADVANCED PROG functions** (see table on p. 419).

3000K

4000K







RG0 Ethr

+40 C° -30

U.V.

LOW FLICKER

LED: LUMINOUS FLUX MAINTENANCE
(including end-of-life failure)

n. LED	W tot	L80B10 @ta+25°C	L80B10 @ta+50°C	L80B10 @ta+50°C	L90B10 @ta+50°C
8	42 (700mA)	>100.000h	>100.000h	70.000h	50.000h
16	84 (700mA)				
24	126 (700mA)				

Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

LED: power factor ≥0.92.
Luminous flux maintenance 80%: >100.000h (L80B10).

3291 Sella 1 - STWB

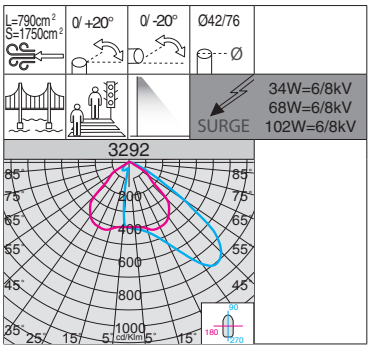
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	7.20	330613-00	**42**	4000K - 4887lm - CRI 70
	graphite		330610-00		
LED	grey	7.20	330613-39	**42**	3000K - 4545lm - CRI 70
	graphite		330610-39		
LED	grey	7.20	330614-00	**84**	4000K - 9710lm - CRI 70
	graphite		330611-00		
LED	grey	7.20	330614-39	**84**	3000K - 9030lm - CRI 70
	graphite		330611-39		
LED	grey	7.20	330615-00	**126**	4000K - 14539lm - CRI 70
	graphite		330612-00		
LED	grey	7.20	330615-39	**126**	3000K - 13521lm - CRI 70
	graphite		330612-39		

Integrated **ADVANCED PROG functions** (see table on p. 419).

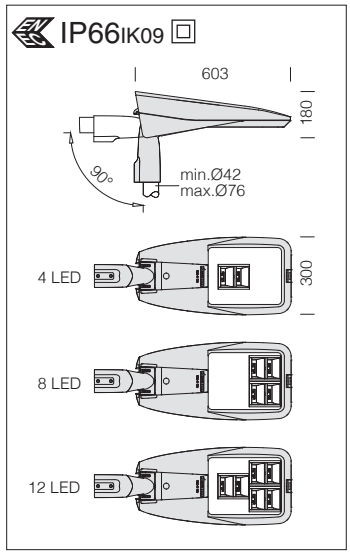
3000K

4000K









3292 Sella 1 - asymmetric 45°

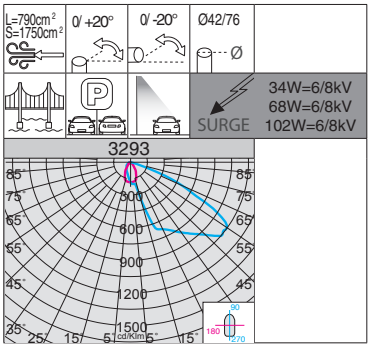
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	7.20	330664-00	**34**	4000K - 3654lm - CRI 70
	graphite		330660-00		
LED	grey	7.20	330664-39	**34**	3000K - 3398lm - CRI 70
	graphite		330660-39		
LED	grey	7.20	330665-00	**68**	4000K - 7308lm - CRI 70
	graphite		330661-00		
LED	grey	7.20	330665-39	**68**	3000K - 6796lm - CRI 70
	graphite		330661-39		
LED	grey	7.20	330666-00	**102**	4000K - 10962lm - CRI 70
	graphite		330662-00		
LED	grey	7.20	330666-39	**102**	3000K - 10195lm - CRI 70
	graphite		330662-39		

Integrated **ADVANCED PROG functions** (see table on p. 419).

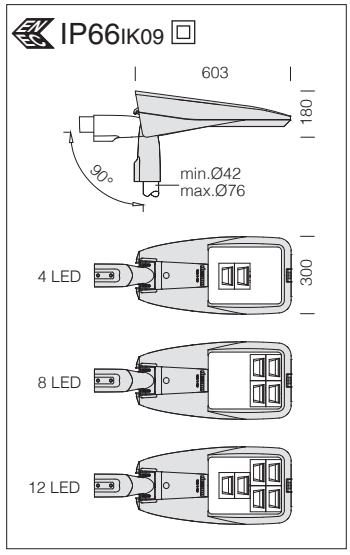
Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

LED: power factor ≥0.92.
Luminous flux maintenance 80%: 80.000h (L80B10).









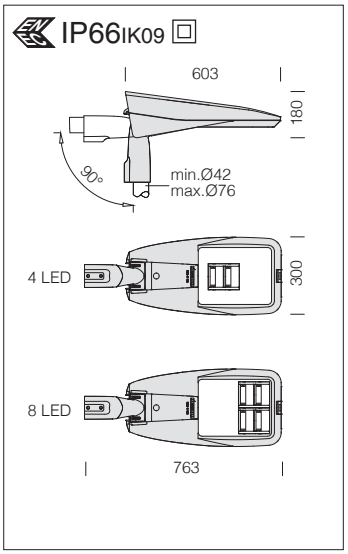
3293 Sella 1 - asymmetric 60°

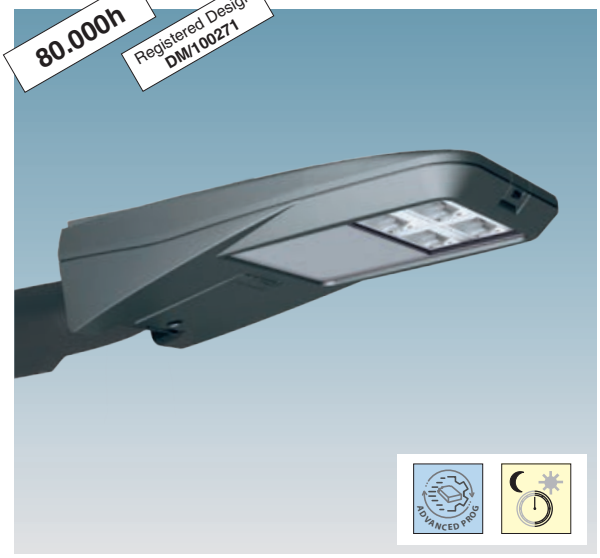
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	7.20	330684-00	**34**	4000K - 3045lm - CRI 70
	graphite		330680-00		
LED	grey	7.20	330684-39	**34**	3000K - 2832lm - CRI 70
	graphite		330680-39		
LED	grey	7.20	330685-00	**68**	4000K - 6130lm - CRI 70
	graphite		330681-00		
LED	grey	7.20	330685-39	**68**	3000K - 5701lm - CRI 70
	graphite		330681-39		
LED	grey	7.20	330686-00	**102**	4000K - 9395lm - CRI 70
	graphite		330682-00		
LED	grey	7.20	330686-39	**102**	3000K - 8737lm - CRI 70
	graphite		330682-39		

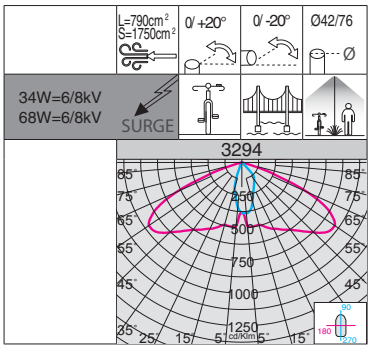
Integrated **ADVANCED PROG functions** (see table on p. 419).

Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

LED: power factor ≥0.92.
Luminous flux maintenance 80%: 80.000h (L80B10).







RG0 Ethr
+40 C° -30
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

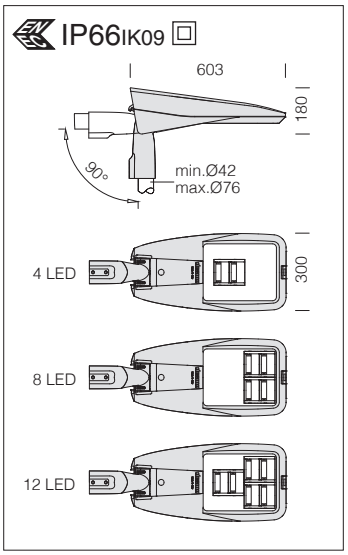
Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

LED: power factor ≥0.92.
Luminous flux maintenance 80%: 80.000h (L80B10).

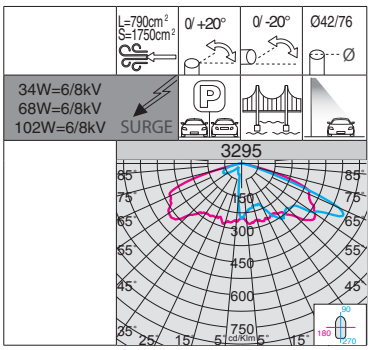
3294 Sella 1 - cycle-pedestrian

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	7.20	330702-00	**34**	4000K - 3011lm - CRI 70
	graphite		330700-00		
LED	grey	7.20	330702-39	**34**	3000K - 2800lm - CRI 70
	graphite		330700-39		
LED	grey	7.20	330703-00	**68**	4000K - 6015lm - CRI 70
	graphite		330701-00		
LED	grey	7.20	330703-39	**68**	3000K - 5594lm - CRI 70
	graphite		330701-39		

Integrated **ADVANCED PROG functions** (see table on p. 419).







RG0 Ethr
+40 C° -30
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

LED: power factor ≥0.92.
Luminous flux maintenance 80%: 80.000h (L80B10).

3295 Sella 1 - large areas

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	7.20	330724-00	**34**	4000K - 2862lm - CRI 70
	graphite		330720-00		
LED	grey	7.20	330724-39	**34**	3000K - 2662lm - CRI 70
	graphite		330720-39		
LED	grey	7.20	330725-00	**68**	4000K - 5725lm - CRI 70
	graphite		330721-00		
LED	grey	7.20	330725-39	**68**	3000K - 5324lm - CRI 70
	graphite		330721-39		
LED	grey	7.20	330726-00	**102**	4000K - 8587lm - CRI 70
	graphite		330722-00		
LED	grey	7.20	330726-39	**102**	3000K - 7986lm - CRI 70
	graphite		330722-39		

Integrated **ADVANCED PROG functions** (see table on p. 419).



GENERAL CHARACTERISTICS

Housing and cover: in die-cast aluminium and designed with a very small surface exposed to wind. Cooling fins are integrated into the cover.

Pole connection: in die-cast aluminium and with gaskets to secure the frame according to different inclinations. Adjustable ranges: between 0° and 20° for side mount; and between 0° and 20° for mast-top mounting. Inclination pace: 5°. Suited for poles with a diameter 42-76mm.

Diffuser: extra-clear, tempered glass, 4 mm thick, resistant to thermal shock and impacts (UNI-EN12150-1: 2001).

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating. The SELLA luminaire **is declared** to have passed the 2000 hours of salt corrosion resistance test in accordance with ASTM B 117 standard and the 2000 hours of UV condensation test in accordance with the ASTM G 154 standard.

OTHER CHARACTERISTICS

Standard supply: double insulation switch that cuts off electricity when the cover is opened. Complete with quick connection. With dedicated electronic device to protect the LED module.

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

Upon request: Class 2 - protection up to 10KV.

OTHER INFORMATION

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

Registered Design DM/100271 The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs.

Optical system: the modularity of the optical system, the solutions used for the electronic circuit design and the optimal control of operating temperatures, make the Sella 2 line a highly professional, flexible and reliable product, capable of guaranteeing huge application advantages in several situations.

UPON REQUEST

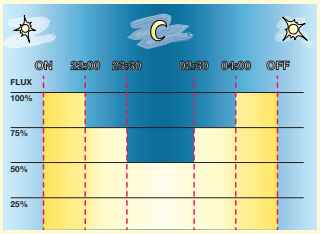
UNI EN ISO 9227 Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

INTEGRATED ADVANCED PROG (PROG CLD) FUNCTIONS: the products of this family are supplied with programmable drivers as standard.

All these functions are already present on standard products and need only to be enabled on request. These functions do not require to make any modification to the system, as the product only needs to be connected to the mains without the use of a control BUS or a pilot cable.

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP
For more information see page XX-XXI	

VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*



Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request*

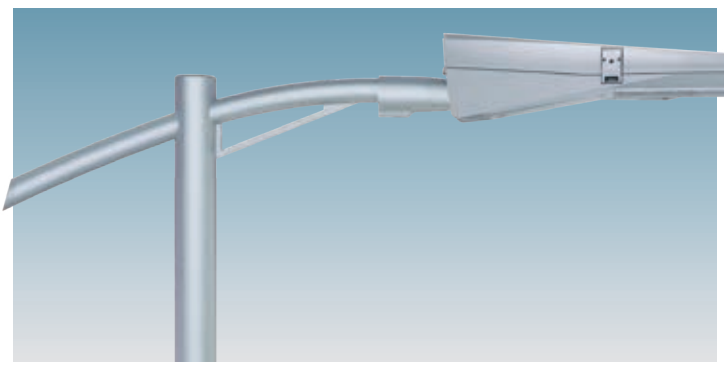
Example with Zhaga Socket (subcode -0054)

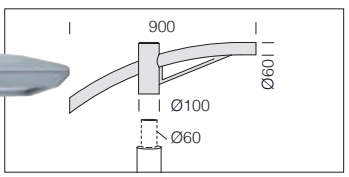


LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET: to monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

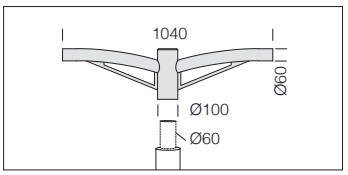
Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	Mounted directly on the fixture's body, ideal for remote lighting management applications.
Zhaga Socket order with **subcode -0054** (complete with sealing cap)	



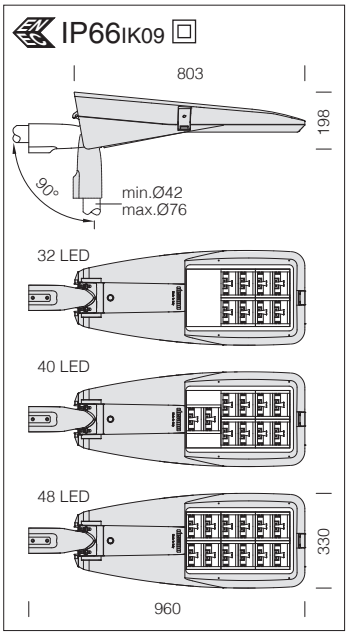




acc. 504 single arm	
grey	991262-00
graphite	991263-00
Suited for poles with a diameter 60mm.	



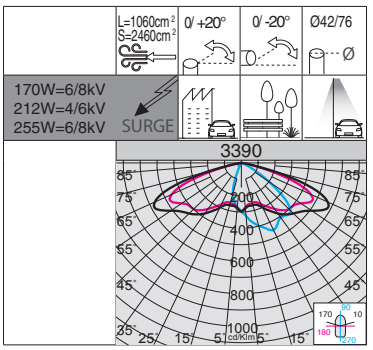
acc. 508 double arm	
grey	991266-00
graphite	991267-00
Suited for poles with a diameter 60mm.	



Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

LED: power factor ≥0.92.
Luminous flux maintenance 80%: >100.000h (L80B10).





RG0 Ethr
+40 C° -30
U.V.
LOW FLICKER

LED: LUMINOUS FLUX MAINTENANCE
(including end-of-life failure)

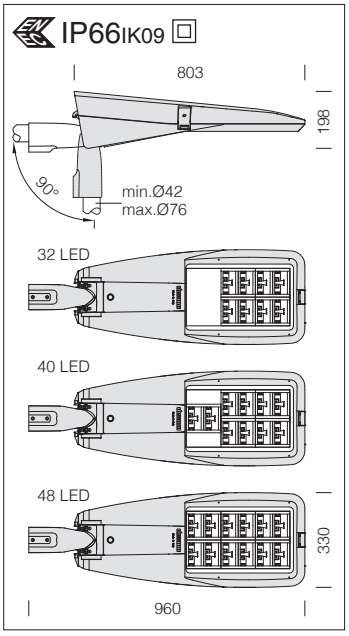
n. LED	W tot	L80B10 @ta+25°C	L80B10 @ta+50°C	L90B10 @ta+25°C	L90B10 @ta+50°C
32	170 (700mA)	>100.000h	>100.000h	70.000h	50.000h
40	212 (700mA)	>100.000h	>100.000h	70.000h	50.000h
48	255 (700mA)	>100.000h	>100.000h	60.000h	40.000h

3390 Sella 2 - ST

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	11.00	330803-00	**170**	4000K - 20634lm - CRI 70
	graphite		330800-00		
LED	grey	11.00	330803-39	**170**	3000K - 19190lm - CRI 70
	graphite		330800-39		
LED	grey	11.00	330804-00	**212**	4000K - 25792lm - CRI 70
	graphite		330801-00		
LED	grey	11.00	330804-39	**212**	3000K - 23987lm - CRI 70
	graphite		330801-39		
LED	grey	11.00	330805-00	**255**	4000K - 30950lm - CRI 70
	graphite		330802-00		
LED	grey	11.00	330805-39	**255**	3000K - 28784lm - CRI 70
	graphite		330802-39		

Integrated **ADVANCED PROG functions** (see table on p. 427).

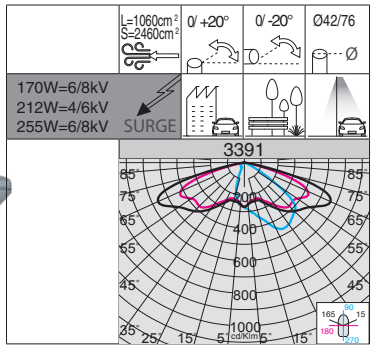
3000K
4000K



Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

LED: power factor ≥0.92.
Luminous flux maintenance 80%: >100.000h (L80B10).





RG0 Ethr
+40 C° -30
U.V.
LOW FLICKER

LED: LUMINOUS FLUX MAINTENANCE
(including end-of-life failure)

n. LED	W tot	L80B10 @ta+25°C	L80B10 @ta+50°C	L90B10 @ta+25°C	L90B10 @ta+50°C
32	170 (700mA)	>100.000h	>100.000h	70.000h	50.000h
40	212 (700mA)	>100.000h	>100.000h	70.000h	50.000h
48	255 (700mA)	>100.000h	>100.000h	60.000h	40.000h

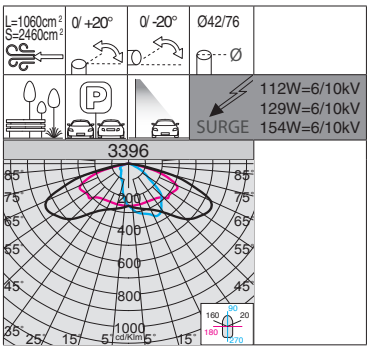
3391 Sella 2 - STWB

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	11.00	330813-00	**170**	4000K - 20495lm - CRI 70
	graphite		330810-00		
LED	grey	11.00	330813-39	**170**	3000K - 19060lm - CRI 70
	graphite		330810-39		
LED	grey	11.00	330814-00	**212**	4000K - 25618lm - CRI 70
	graphite		330811-00		
LED	grey	11.00	330814-39	**212**	3000K - 23825lm - CRI 70
	graphite		330811-39		
LED	grey	11.00	330815-00	**255**	4000K - 30742lm - CRI 70
	graphite		330812-00		
LED	grey	11.00	330815-39	**255**	3000K - 28591lm - CRI 70
	graphite		330812-39		

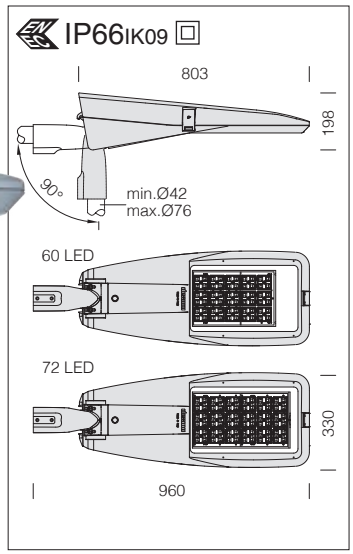
Integrated **ADVANCED PROG functions** (see table on p. 427).

3000K
4000K







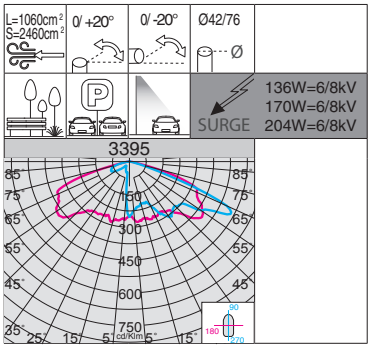


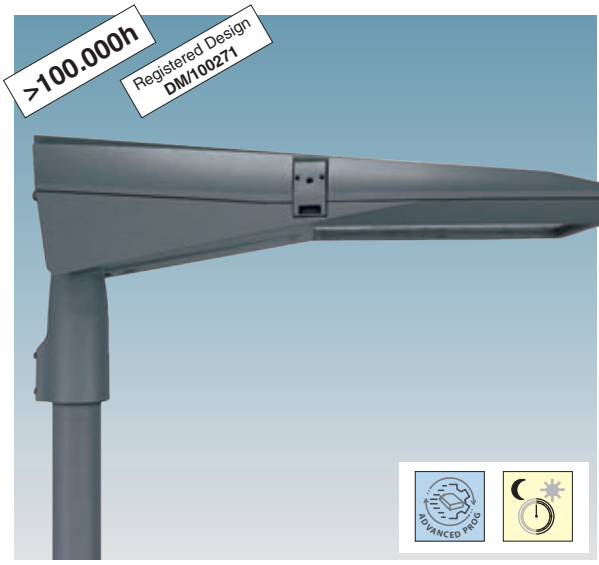
3396 Sella 2 - high performance					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey	11.00	330830-00	**112**	4000K - 15732lm - CRI 70
	graphite		330831-00		
LED	grey	11.50	330832-00	**129**	4000K - 18987lm - CRI 70
	graphite		330833-00		
LED	grey	11.50	330834-00	**154**	4000K - 21050lm - CRI 70
	graphite		330835-00		
Integrated **ADVANCED PROG functions** (see table on p. 427).					

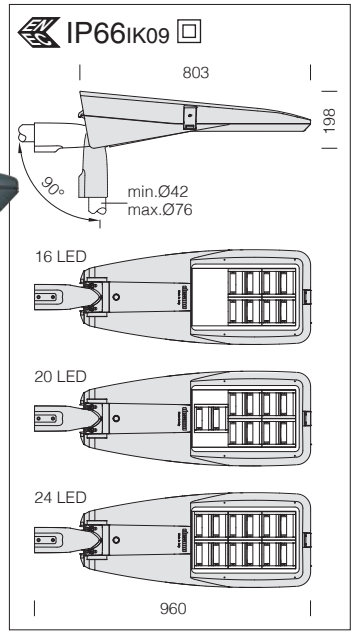
Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).





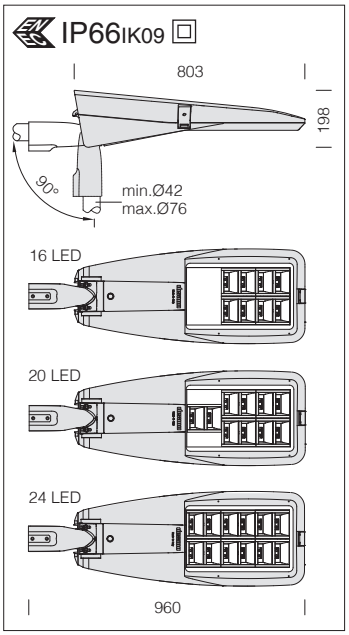




3395 Sella 2 - large areas					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	11.00	330824-00	**136**	4000K - 11450lm - CRI 70
	graphite		330820-00		
LED	grey	11.00	330824-39	**136**	3000K - 10649lm - CRI 70
	graphite		330820-39		
LED	grey	11.00	330825-00	**170**	4000K - 14312lm - CRI 70
	graphite		330821-00		
LED	grey	11.00	330825-39	**170**	3000K - 13310lm - CRI 70
	graphite		330821-39		
LED	grey	11.00	330826-00	**204**	4000K - 17175lm - CRI 70
	graphite		330822-00		
LED	grey	11.00	330826-39	**204**	3000K - 15973lm - CRI 70
	graphite		330822-39		
Integrated **ADVANCED PROG functions** (see table on p. 427).					

Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

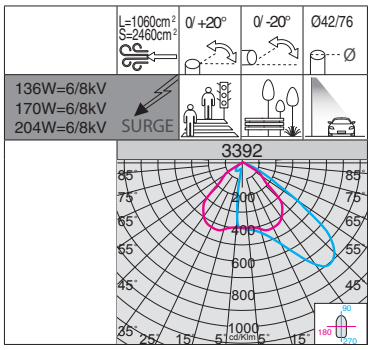
LED: power factor ≥0.92.
Luminous flux maintenance 80%: >100.000h (L80B10).



Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

LED: power factor ≥0.92.
Luminous flux maintenance 80%: >100.000h (L80B10).

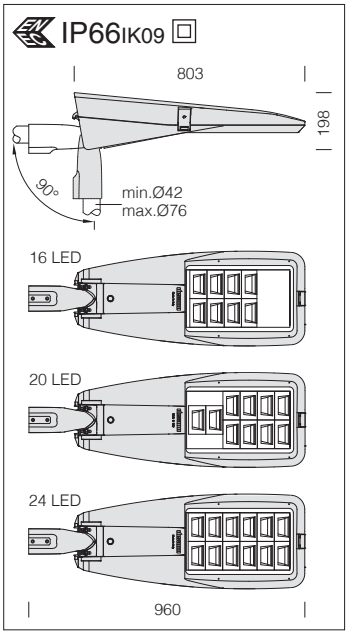




3392 Sella 2 - asymmetric 45°

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	11.00	330864-00	**136**	4000K - 14610lm - CRI 70
	graphite		330860-00		
LED	grey	11.00	330864-39	**136**	3000K - 13587lm - CRI 70
	graphite		330860-39		
LED	grey	11.00	330865-00	**170**	4000K - 18262lm - CRI 70
	graphite		330861-00		
LED	grey	11.00	330865-39	**170**	3000K - 16984lm - CRI 70
	graphite		330861-39		
LED	grey	11.00	330866-00	**204**	4000K - 21915lm - CRI 70
	graphite		330862-00		
LED	grey	11.00	330866-39	**204**	3000K - 20381lm - CRI 70
	graphite		330862-39		

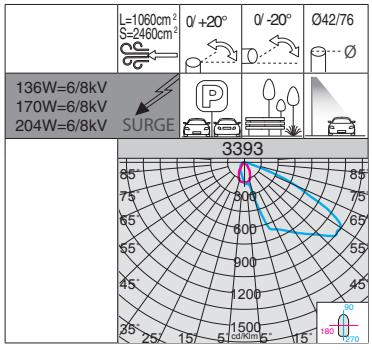
Integrated **ADVANCED PROG functions** (see table on p. 427).



Optics: in aluminium coated with very high purity (99.99%) silver using physical vapour deposition (PVD).

LED: power factor ≥0.92.
Luminous flux maintenance 80%: >100.000h (L80B10).





3393 Sella 2 - asymmetric 60°

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	11.00	330884-00	**136**	4000K - 12260lm - CRI 70
	graphite		330880-00		
LED	grey	11.00	330884-39	**136**	3000K - 11402lm - CRI 70
	graphite		330880-39		
LED	grey	11.00	330885-00	**170**	4000K - 15325lm - CRI 70
	graphite		330881-00		
LED	grey	11.00	330885-39	**170**	3000K - 14252lm - CRI 70
	graphite		330881-39		
LED	grey	11.00	330886-00	**204**	4000K - 18390lm - CRI 70
	graphite		330882-00		
LED	grey	11.00	330886-39	**204**	3000K - 17103lm - CRI 70
	graphite		330882-39		

Integrated **ADVANCED PROG functions** (see table on p. 427).



GENERAL CHARACTERISTICS

Housing and cover: in die-cast aluminium and designed with a very small surface exposed to wind. Cooling fins are integrated into the cover.

Heat sink: the heat dissipation system is specially designed and made to allow the operation of the LED lights with temperatures ensuring excellent performance/efficiency and durability.

Pole connection: in die-cast aluminium and with gaskets to secure the frame according to different inclinations. Adjustable ranges: between 0° and 15° for side mount; and between 0° and 10° for mast-top mounting. Inclination pace: 5°. Suited for poles with a diameter 60-63mm.

Diffuser: clear, tempered glass, 4 mm thick, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001)

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

OTHER CHARACTERISTICS

Standard supply: automatic temperature control inside the device with automatic resetting. With dedicated electronic device to protect the LED module.

Equipment: complete with IP67 airtight connector for mains connection. Supplied with double insulation switch that cuts off electricity when the cover is opened.



Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

OTHER INFORMATION



Product with a very low flicker; uniform light for greater eye protection.

Optical system: the modularity of the optical system, the solutions used for the electronic circuit design and the optimal control of operating temperatures, make the Mini Stelvio line a highly professional, flexible and reliable product, capable of guaranteeing huge application advantages in several situations.



The products of the Mini Stelvio family are compliant with all applicable tests (third-party certification) pursuant to standard **ANSI C136.31: Street Lighting – Luminaire Vibration.**
- Test level: 3.0G Level 2 for bridge/overpass applications.

UPON REQUEST



Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

1750K **version with 1750K LED (subcode -44):** lamps with warm light at a colour temperature of 1750K are ideal for particularly dangerous areas (pedestrian crossings, entries, roundabouts, etc.) and to minimize the lighting's impact on the environment and on the fauna of green urban areas.



BASIC PROG (BASIC CLD) AVAILABLE FUNCTIONS

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture

LIGHTING POINT MANAGEMENT OPTIONS ON REQUEST
possibility to choose different lighting point management systems according to the system's needs:

1-10V dimming ordered with **sub-code -12**	Adjustment range from 10%-100% with 1-10V
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps**. To increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The "virtual midnight" is the reference point for dimming lights according to the desired profile. The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.* ***ATTENTION:** original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request.*

Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

PLC remote control ordered with **sub-code -0078**	Point-to-point and system management and diagnosis system

For more information see page XX-XXI

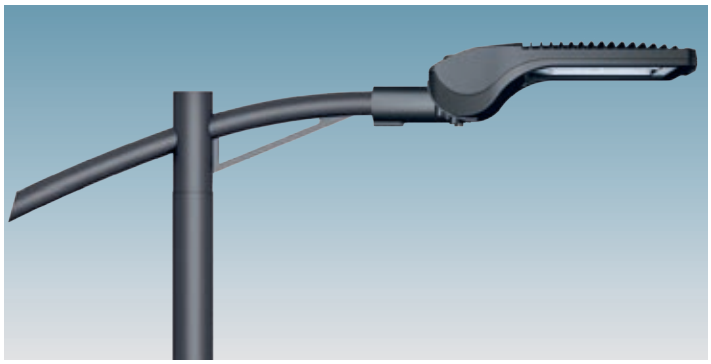
Example with Zhaga Socket (subcode -0054)

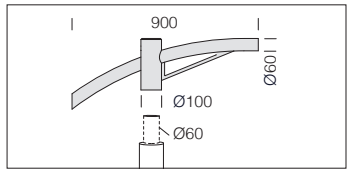


LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET: to monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

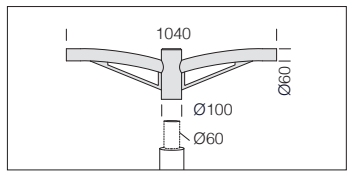
Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	Mounted directly on the fixture's body, ideal for remote lighting management applications.
Zhaga Socket order with **subcode -0054** (complete with sealing cap)	





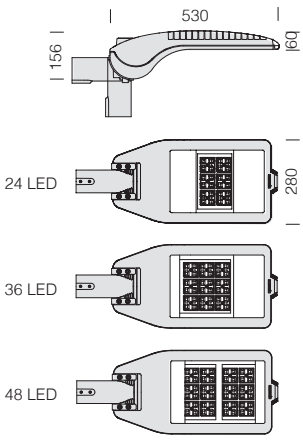


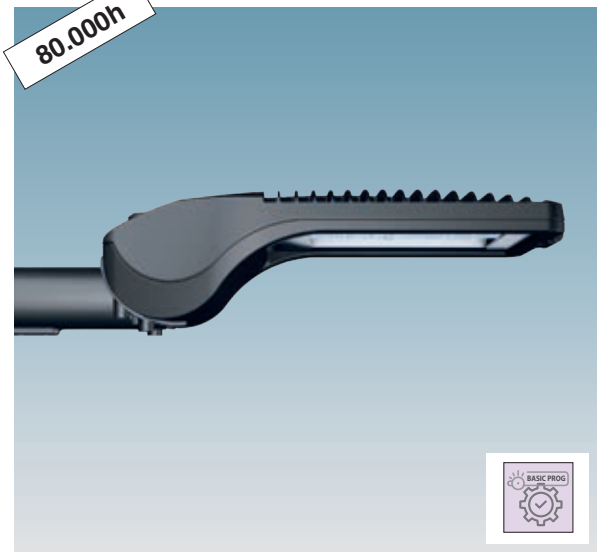
acc. 504 single arm	
anthrac.	991264-00
Suited for poles with a diameter 60mm.	

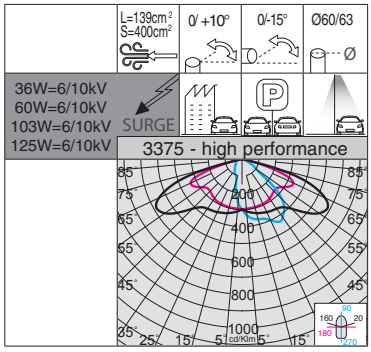


acc. 508 double arm	
anthrac.	991265-00
Suited for poles with a diameter 60mm.	

IP66IK09







RG0 Ethr | +40 C° -30 | U.V. | ZONA 1 | LOW FLICKER | 3000K | 4000K

Optics: in PMMA, highly resistant to temperature and UV radiation.

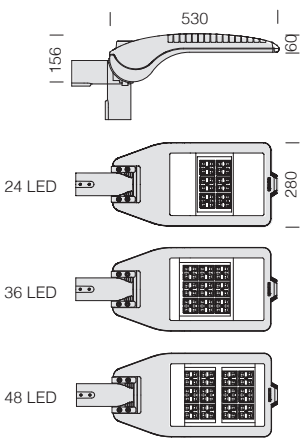
LED: power factor ≥0.9.
Luminous flux maintenance 80%: 80.000h (L80B20).

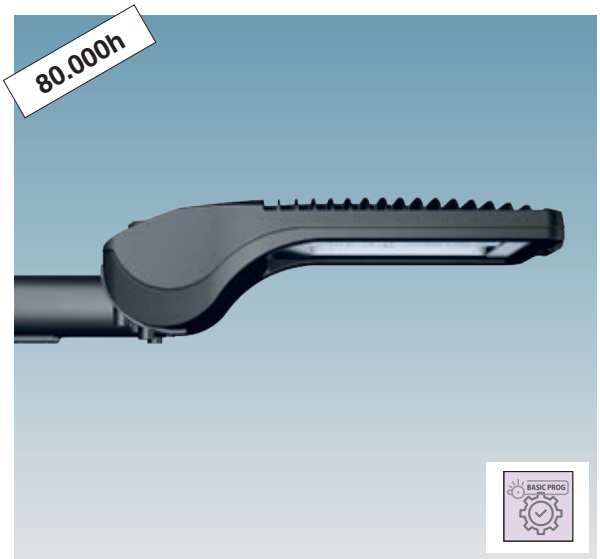
3375 Mini Stelvio - high performance

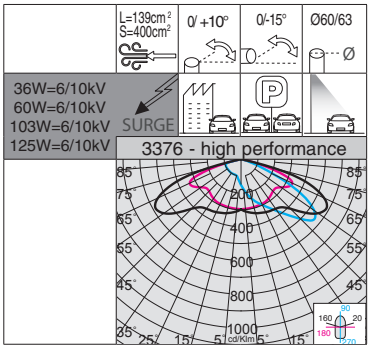
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	anthracite	7.60	340200-00	**36**	4000K - 6075lm - CRI≥70
			340200-39		3000K - 5649lm - CRI≥70
LED	anthracite	8.00	340201-00	**60**	4000K - 9088lm - CRI≥70
			340201-39		3000K - 8452lm - CRI≥70
LED	anthracite	8.10	340202-00	**103**	4000K - 14831lm - CRI≥70
			340202-39		3000K - 13792lm - CRI≥70
LED	anthracite	8.10	340203-00	**125**	4000K - 17480lm - CRI≥70
			340203-39		3000K - 16256lm - CRI≥70

Upon request: possibility to choose different lighting point management systems (see table on p. 433).

IP66IK09







RG0 Ethr | +40 C° -30 | U.V. | ZONA 1 | LOW FLICKER | 3000K | 4000K

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 80.000h (L80B20).

3376 Mini Stelvio - high performance - large areas

		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	anthracite	7.60	340210-00	**36**	4000K - 5866lm - CRI≥70
			340210-39		3000K - 5456lm - CRI≥70
LED	anthracite	8.00	340211-00	**60**	4000K - 8941lm - CRI≥70
			340211-39		3000K - 8316lm - CRI≥70
LED	anthracite	8.10	340212-00	**103**	4000K - 14593lm - CRI≥70
			340212-39		3000K - 13571lm - CRI≥70
LED	anthracite	8.10	340213-00	**125**	4000K - 17200lm - CRI≥70
			340213-39		3000K - 15996lm - CRI≥70

Upon request: possibility to choose different lighting point management systems (see table on p. 433).



RG0 Ethr

+40 C° -30

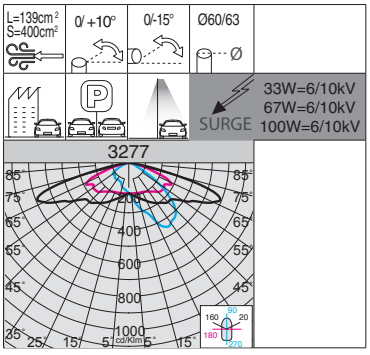
U.V.

ZONA 1

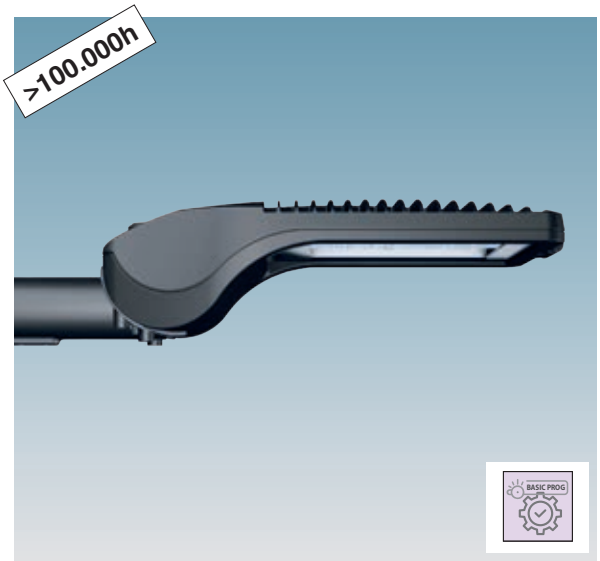
LOW FLICKER

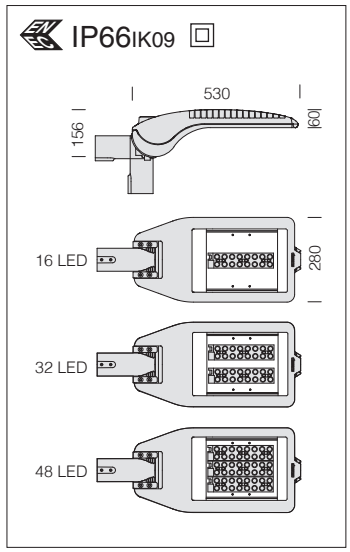
3000K

4000K



Upon request (sub-code -44)	
LED	1750K





3277 Mini Stelvio Fx T2

		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	anthracite	7.60	330380-00	**33**	4000K - 4573lm - CRI≥70
			330380-39		3000K - 4345lm - CRI≥70
LED	anthracite	8.00	330381-00	**67**	4000K - 9142lm - CRI≥70
			330381-39		3000K - 8685lm - CRI≥70
LED	anthracite	8.10	330383-00	**100**	4000K - 13713lm - CRI≥70
			330383-39		3000K - 13027lm - CRI≥70

Upon request: possibility to choose different lighting point management systems (see table on p. 433).

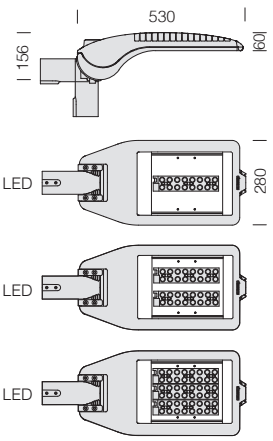
Optics: in PMMA, highly resistant to temperature and UV radiation.

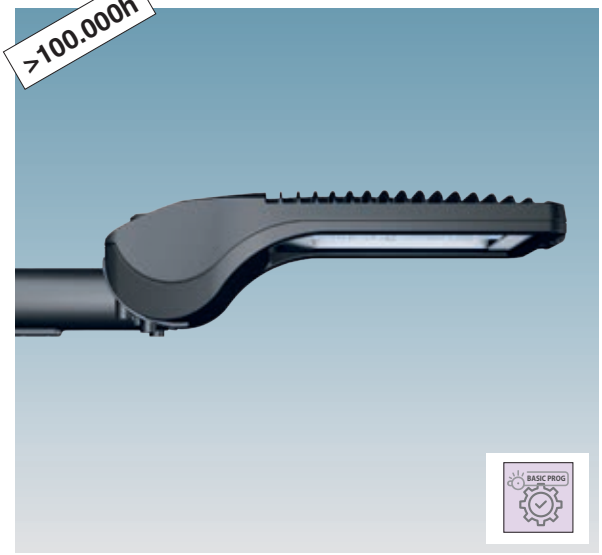
LED: power factor ≥0.9.
Luminous flux maintenance 80%: 100.000h (L80B10).

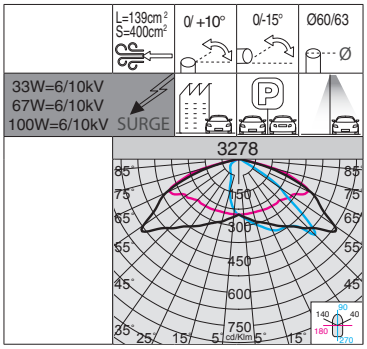
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	16	**17**	**4000K**	2426lm
		32	**32**		4851lm
		48	**49**		7275lm
upon request	530mA	16	**25**	**4000K**	3613lm
		32	**52**		7223lm
		48	**74**		10834lm

n.LED	W tot	K	ølm
16	**17**	**3000K**	2305lm
32	**32**		4607lm
48	**49**		6911lm
16	**25**	**3000K**	3433lm
32	**52**		6862lm
48	**74**		10293lm

IP66 IK09







Upon request (sub-code -44)	
LED	1750K

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 100.000h (L80B10).

3278 Mini Stelvio Fx T3

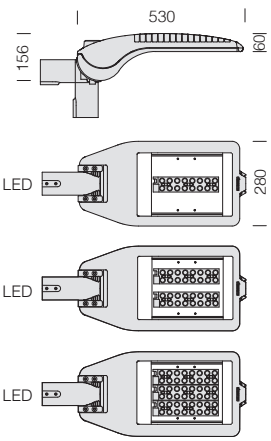
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	anthracite	7.60	330390-00	**33**	4000K - 4728lm - CRI≥70
			330390-39		3000K - 4491lm - CRI≥70
LED	anthracite	8.00	330391-00	**67**	4000K - 9456lm - CRI≥70
			330391-39		3000K - 8983lm - CRI≥70
LED	anthracite	8.10	330393-00	**100**	4000K - 14178lm - CRI≥70
			330393-39		3000K - 13470lm - CRI≥70

Upon request: possibility to choose different lighting point management systems (see table on p. 433).

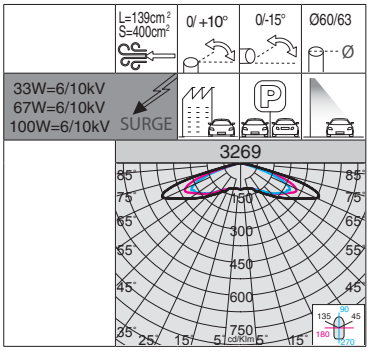
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	16	**17**	**4000K**	2507lm
		32	**32**		5016lm
		48	**49**		7521lm
upon request	530mA	16	**25**	**4000K**	3735lm
		32	**52**		7470lm
		48	**74**		11200lm

n.LED	W tot	K	ølm
16	**17**	**3000K**	2383lm
32	**32**		4766lm
48	**49**		7145lm
16	**25**	**3000K**	3548lm
32	**52**		7096lm
48	**74**		10640lm

IP66 IK09







Upon request (sub-code -44)	
LED	1750K

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 100.000h (L80B10).

3269 Mini Stelvio Fx T5

		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	anthracite	7.60	330460-00	**33**	4000K - 4510lm - CRI≥70
			330460-39		3000K - 4284lm - CRI≥70
LED	anthracite	8.00	330461-00	**67**	4000K - 8910lm - CRI≥70
			330461-39		3000K - 8464lm - CRI≥70
LED	anthracite	8.10	330463-00	**100**	4000K - 13366lm - CRI≥70
			330463-39		3000K - 12698lm - CRI≥70

Upon request: possibility to choose different lighting point management systems (see table on p. 433).

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	16	**17**	**4000K**	2392lm
		32	**32**		4727lm
		48	**49**		7091lm
upon request	530mA	16	**25**	**4000K**	3563lm
		32	**52**		7039lm
		48	**74**		10559lm

n.LED	W tot	K	ølm
16	**17**	**3000K**	2273lm
32	**32**		4490lm
48	**49**		6736lm
16	**25**	**3000K**	3384lm
32	**52**		6687lm
48	**74**		10031lm



RG0 Ethr

+40 C° -30

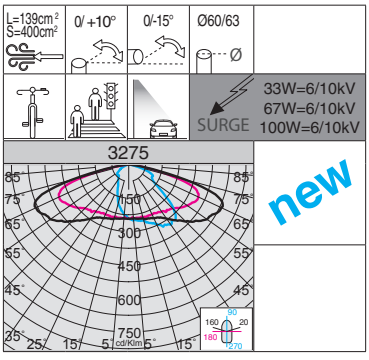
U.V.

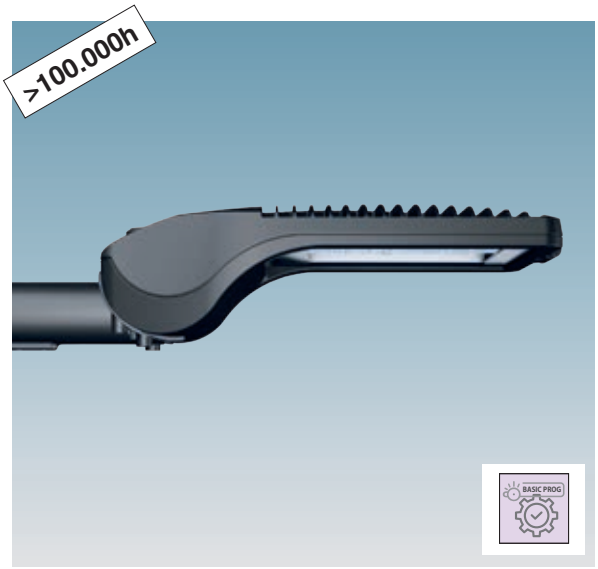
ZONA 1

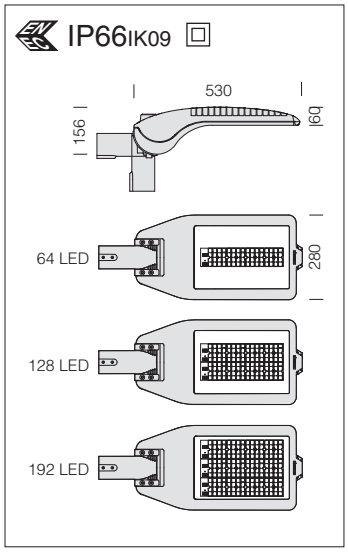
LOW FLICKER

3000K

4000K







Optics: in PMMA, highly resistant to temperature and UV radiation.

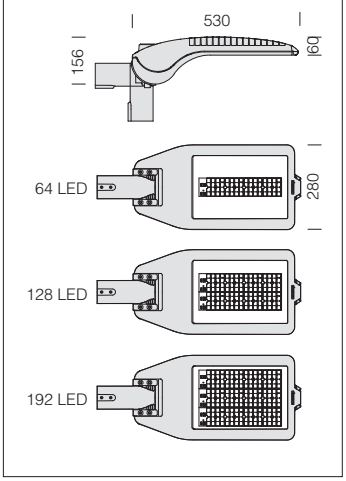
LED: power factor ≥0.9.
Luminous flux maintenance 80%: 100.000h (L80B10).

3275 Mini Stelvio plus					
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	anthracite	7.60	330360-00	**33**	4000K - **4438lm** - CRI≥70
			330360-39		3000K - **4216lm** - CRI≥70
LED	anthracite	8.00	330361-00	**67**	4000K - **8620lm** - CRI≥70
			330361-39		3000K - **8189lm** - CRI≥70
LED	anthracite	8.10	330362-00	**100**	4000K - **12928lm** - CRI≥70
			330362-39		3000K - **12282lm** - CRI≥70
Upon request: possibility to choose different lighting point management systems (see table on p. 433).					

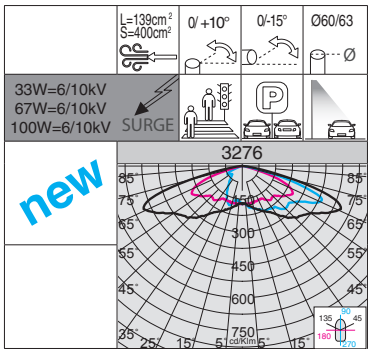
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	**16**	**4000K**	2341lm
		128	**32**		4547lm
		192	**48**		6820lm
upon request	530mA	64	**25**	**4000K**	3373lm
		128	**50**		6551lm
		192	**75**		9825lm

n.LED	W tot	K	ølm
64	**16**	**3000K**	2224lm
128	**32**		4320lm
192	**48**		6479lm
64	**25**	**3000K**	3204lm
128	**50**		6224lm
192	**75**		9334lm

IP66 IK09







RG0 Ethr | +40 C° -30 | U.V. | ZONA 1 | LOW FLICKER

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 100.000h (L80B10).

3276 Mini Stelvio plus - asymmetric

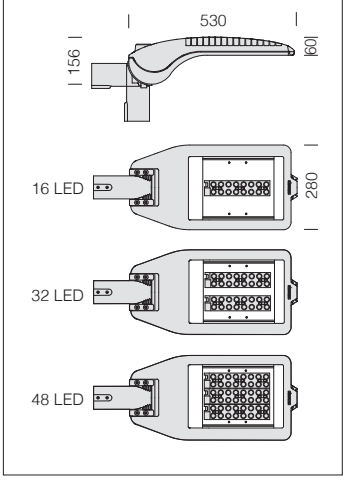
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	anthracite	7.60	330370-00	**33**	4000K - **4283lm** - CRI≥70
			330370-39		3000K - **4069lm** - CRI≥70
LED	anthracite	8.00	330371-00	**67**	4000K - **8318lm** - CRI≥70
			330371-39		3000K - **7902lm** - CRI≥70
LED	anthracite	8.10	330372-00	**100**	4000K - **12477lm** - CRI≥70
			330372-39		3000K - **11853lm** - CRI≥70

Upon request: possibility to choose different lighting point management systems (see table on p. 433).

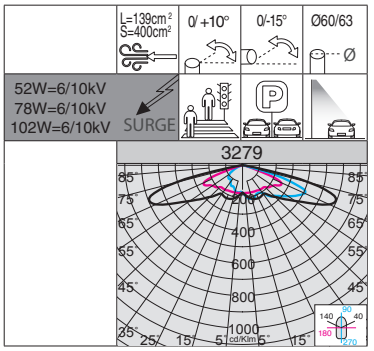
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	64	**16**	**4000K**	2259lm
		128	**32**		4388lm
		192	**48**		6582lm
upon request	530mA	64	**25**	**4000K**	3255lm
		128	**50**		6322lm
		192	**75**		9483lm

n.LED	W tot	K	ølm
64	**16**	**3000K**	2146lm
128	**32**		4168lm
192	**48**		6253lm
64	**25**	**3000K**	3092lm
128	**50**		6006lm
192	**75**		9008lm

IP66 IK09







Upon request (sub-code -44)	
LED	1750K

RG0 Ethr | +40 C° -30 | U.V. | ZONA 1 | LOW FLICKER | 3000K | 4000K

Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 100.000h (L80B10).

3279 Mini Stelvio Fx T4 - asymmetric

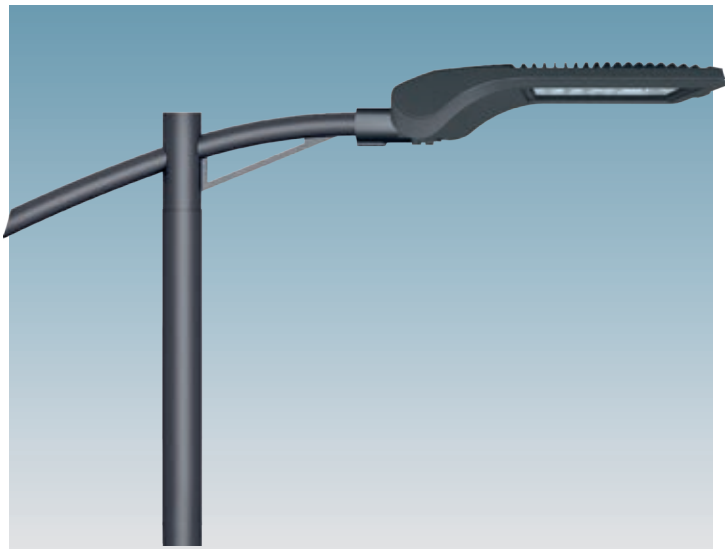
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	anthracite	7.60	330450-00	**33**	4000K - 4571lm - CRI≥70
			330450-39		3000K - 4342lm - CRI≥70
LED	anthracite	8.00	330451-00	**67**	4000K - 9141lm - CRI≥70
			330451-39		3000K - 8684lm - CRI≥70
LED	anthracite	8.10	330453-00	**100**	4000K - 13712lm - CRI≥70
			330453-39		3000K - 13027lm - CRI≥70

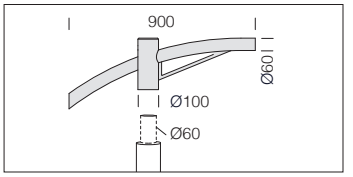
Upon request: possibility to choose different lighting point management systems (see table on p. 433).

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	16	**17**	**4000K**	2425lm
		32	**32**		4850lm
		48	**49**		7274lm
upon request	530mA	16	**25**	**4000K**	3611lm
		32	**52**		7221lm
		48	**74**		10832lm

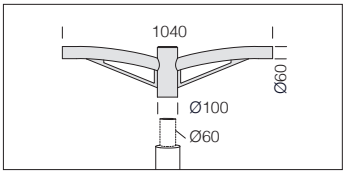
n.LED	W tot	K	ølm
16	**17**	**3000K**	2304lm
32	**32**		4607lm
48	**49**		6911lm
16	**25**	**3000K**	3430lm
32	**52**		6861lm
48	**74**		10290lm



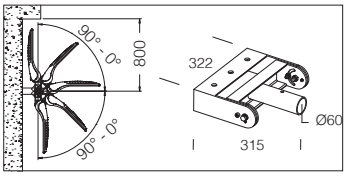




acc. 504 single arm	
anthrac.	991264-00
Suited for poles with a diameter 60mm.	



acc. 508 double arm	
anthrac.	991265-00
Suited for poles with a diameter 60mm.	



acc. 578 adjustable bracket	
anthrac.	997709-00
Adjustable bracket for wall mounting or for use on the towers.	

GENERAL CHARACTERISTICS

Housing and cover: in die-cast aluminium and designed with a very small surface exposed to wind. Cooling fins are integrated into the cover.

Pole connection: in die-cast aluminium and with gaskets to secure the frame according to different inclinations. Adjustable ranges: between 0° and 15° for side mount; and between 0° and 10° for mast-top mounting. Inclination pace: 5°. Suited for poles with a diameter 60-63mm.

Diffuser: clear, tempered glass, 4 mm thick, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001)

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

OTHER CHARACTERISTICS

Standard supply: automatic temperature control inside the device with automatic resetting. With dedicated electronic device to protect the LED module.

Equipment: complete with IP67 airtight connector for mains connection. Supplied with double insulation switch that cuts off electricity when the cover is opened.



Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

OTHER INFORMATION



Product with a very low flicker; uniform light for greater eye protection.

Optical system: the modularity of the optical system, the solutions used for the electronic circuit design and the optimal control of operating temperatures, make the Stelvio line a highly professional, flexible and reliable product, capable of guaranteeing huge application advantages in several situations.



The products of the Stelvio family are compliant with all applicable tests (third-party certification) pursuant to standard **ANSI C136.31: Street Lighting – Luminaire Vibration.**
- Test level: 3.0G Level 2 for bridge/overpass applications.

UPON REQUEST



Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.



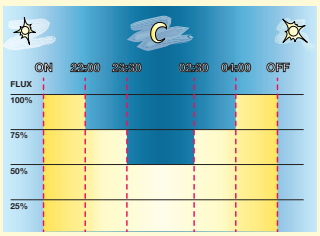
INTEGRATED ADVANCED PROG (PROG CLD) FUNCTIONS: the products of this family are supplied with programmable drivers as standard.

All these functions are already present on standard products and need only to be enabled on request. These functions do not require to make any modification to the system, as the product only needs to be connected to the mains without the use of a control BUS or a pilot cable.

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps** (up to **max 8 steps** available **upon request**)
Broadcast Prog	This allows the reconfiguration of the Virtual Midnight profile, including the enabling/disabling of all the fixtures installed on the same power line (broadcast function) via a sequence of electrical impulses.
Mains voltage regulation	This allows varying the luminous flux by adjusting the mains voltage between 170 and 250 V AC
CLO (Costant Light Output)	The lighting fixture maintains a constant light output throughout its entire service life
DC power in **EM**	In centralized emergency systems, the LED Driver automatically detects when the power changes from AC to DC and adjusts the lights to a pre-set value (DC level)
Monitoring (default)	The driver is equipped with a micro-processor that records the operating conditions from the moment it is turned on
Setup via **APP**	The NFC technology allows users to set the different operating modes via an APP
For more information see page XX-XXI	



VIRTUAL MIDNIGHT: to increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.*



Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

ATTENTION: *original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request*

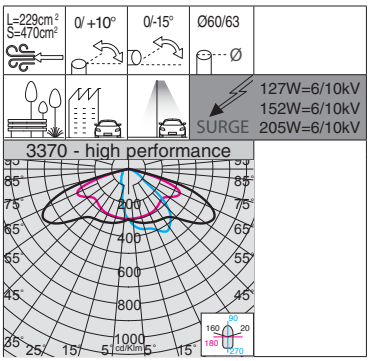
Example with Zhaga Socket (subcode -0054)

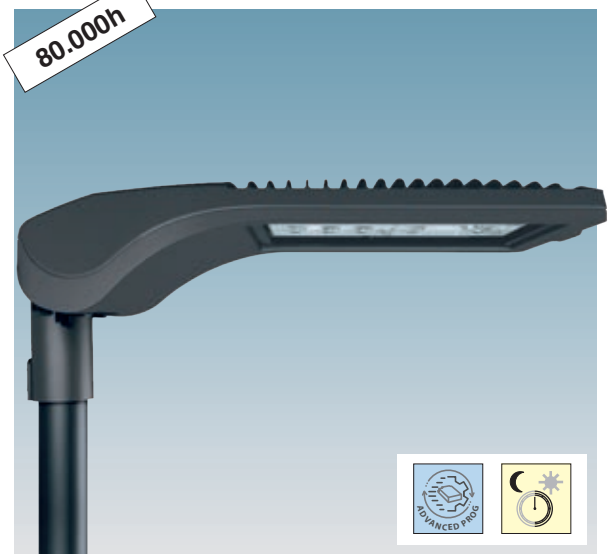


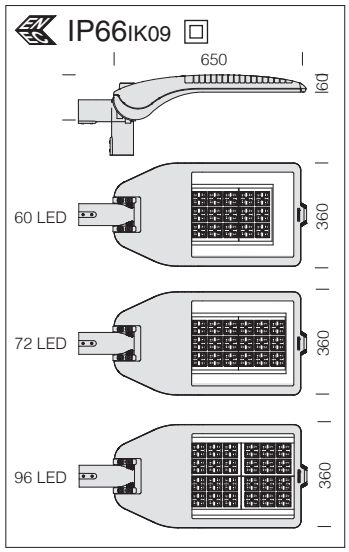
LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET: to monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	Mounted directly on the fixture's body, ideal for remote lighting management applications.
Zhaga Socket order with **subcode -0054** (complete with sealing cap)	

RG0 Ethr
+40 C° -30
U.V.
ZONA 1
LOW FLICKER
3000K
4000K





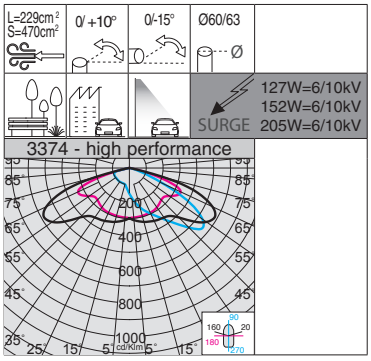


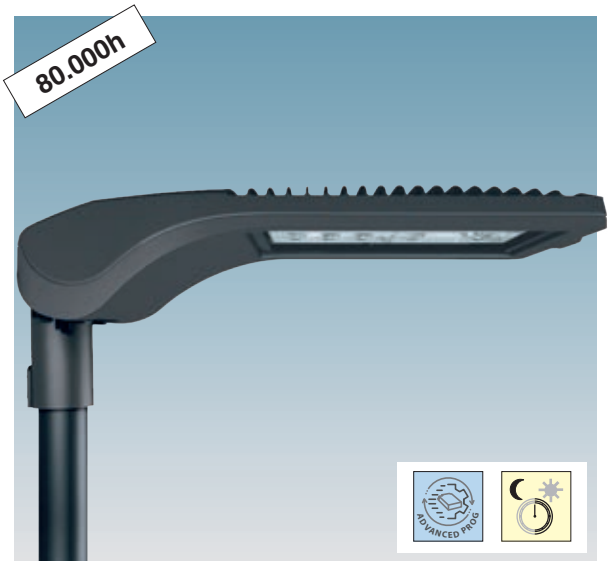
3370 Stelvio - high performance					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	anthracite	10.50	340250-00	**127**	4000K - 16892lm - CRI≥70
			340250-39		3000K - 15710lm - CRI≥70
LED	anthracite	11.00	340251-00	**152**	4000K - 20594lm - CRI≥70
			340251-39		3000K - 19152lm - CRI≥70
LED	anthracite	12.00	340252-00	**205**	4000K - 27458lm - CRI≥70
			340252-39		3000K - 25536lm - CRI≥70
Integrated **ADVANCED PROG functions** (see table on p. 441).					

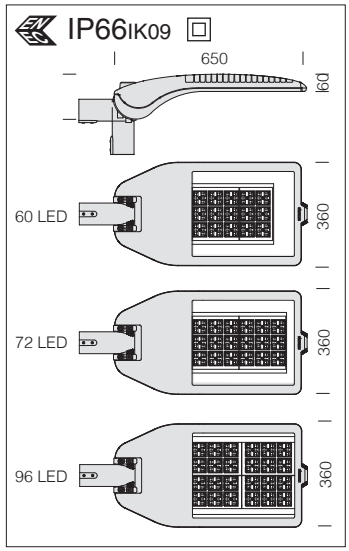
Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 80.000h (L80B20).

RG0 Ethr
+40 C° -30
U.V.
ZONA 1
LOW FLICKER
3000K
4000K





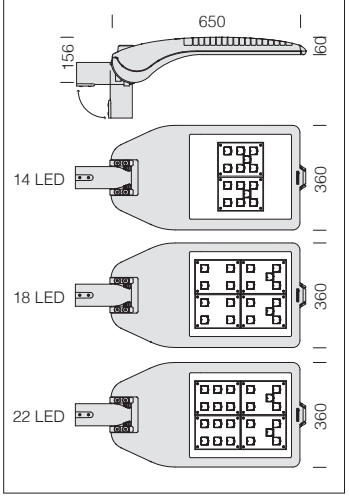


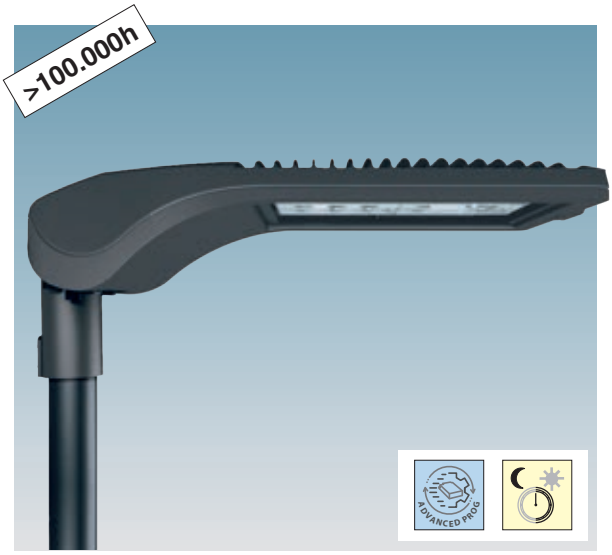
3374 Stelvio - high performance - large areas					
		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	anthracite	10.50	340260-00	**127**	4000K - 16348lm - CRI≥70
			340260-39		3000K - 15204lm - CRI≥70
LED	anthracite	11.00	340261-00	**152**	4000K - 19920lm - CRI≥70
			340261-39		3000K - 18526lm - CRI≥70
LED	anthracite	12.00	340262-00	**205**	4000K - 26560lm - CRI≥70
			340262-39		3000K - 24701lm - CRI≥70
Integrated **ADVANCED PROG functions** (see table on p. 441).					

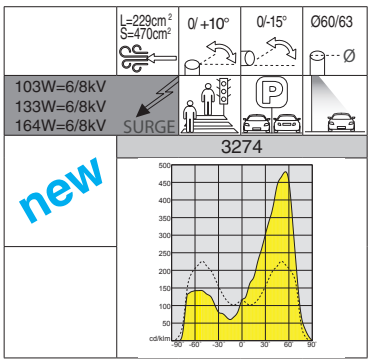
Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: 80.000h (L80B20).

IP66 IK09







RG0 Emr | +40 C° -30 | U.V. | ZONA 1 | LOW FLICKER | 3000K | 4000K

Optics: in PMMA, highly resistant to temperature and UV radiation. Flow recovery in V2 polycarbonate.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

Integrated **ADVANCED PROG functions** (see table on p. 441).

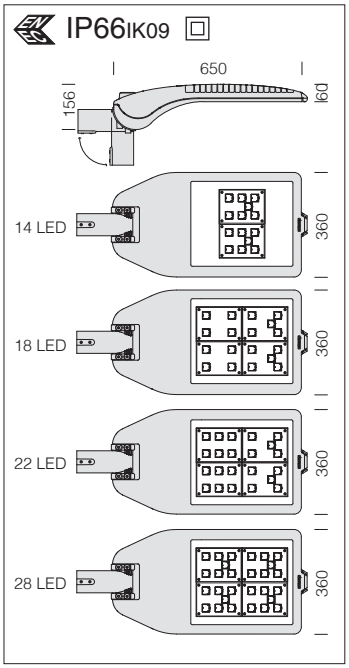
3274 - Stelvio 2 plus - asymmetric

		CLD PROG			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 600mA - CRI
LED	anthracite	11.30	320360-00	103	4000K - **14127lm** - CRI≥70
			320360-39		3000K - **13185lm** - CRI≥70
LED	anthracite	11.40	320361-00	133	4000K - **18142lm** - CRI≥70
			320361-39		3000K - **16932lm** - CRI≥70
LED	anthracite	12.80	320363-00	164	4000K - **22172lm** - CRI≥70
			320363-39		3000K - **20693lm** - CRI≥70

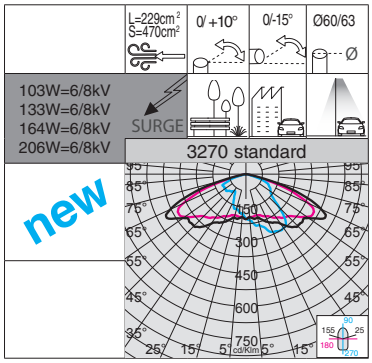
Example	Power supply	n.LED	W tot	K	ølm
upon request	300mA	14	**49**	**4000K**	7452lm
		18	**63**		9570lm
		22	**78**		11696lm
upon request	410mA	14	**68**	**4000K**	9889lm
		18	**88**		12699lm
		22	**108**		15520lm

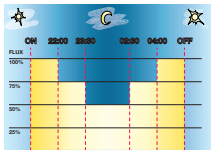
n.LED	W tot	K	ølm
14	**49**	**3000K**	6955lm
18	**63**		8932lm
22	**78**		10916lm
14	**68**	**3000K**	9229lm
18	**88**		11852lm
22	**108**		14485lm

IP66 IK09









Sub-code -30: version with **virtual midnight**.

RG0 Emr | +40 C° -30 | U.V. | ZONA 1 | LOW FLICKER | 3000K | 4000K

Optics: in PMMA, highly resistant to temperature and UV radiation. Flow recovery in V2 polycarbonate.

LED: power factor ≥0.9.
Luminous flux maintenance 80%: >100.000h (L80B10).

Integrated **ADVANCED PROG functions** (see table on p. 441).

3270 - Stelvio 1 plus

		CLD PROG		CLD PROG		LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	code	W tot	K - ølm 600mA - CRI
LED	anthracite	11.30	330342-00	330342-30	103	4000K - **13845lm** - CRI≥70
			330342-39			3000K - **12922lm** - CRI≥70
LED	anthracite	11.40	330348-00	330348-30	133	4000K - **17800lm** - CRI≥70
			330348-39			3000K - **16613lm** - CRI≥70
LED	anthracite	12.80	330343-00	330343-30	164	4000K - **21754lm** - CRI≥70
			330343-39			3000K - **20303lm** - CRI≥70
LED	anthracite	12.80	330349-00	330349-30	206	4000K - **27414lm** - CRI≥70
			330349-39			3000K - **25585lm** - CRI≥70

Example	Power supply	n.LED	W tot	K	ølm
upon request	300mA	14	**49**	**4000K**	7303lm
		18	**63**		9390lm
		22	**78**		11475lm
		28	**100**		14461lm
upon request	4100mA	14	**68**	**4000K**	9692lm
		18	**88**		12460lm
		22	**108**		15228lm
		28	**137**		19190lm

n.LED	W tot	K	ølm
14	**49**	**3000K**	6816lm
18	**63**		8763lm
22	**78**		10710lm
28	**100**		13496lm
14	**68**	**3000K**	9045lm
18	**88**		11629lm
22	**108**		14212lm
28	**137**		17910lm



GENERAL CHARACTERISTICS

Housing and cover: in die-cast aluminium and designed with a very small surface exposed to wind. Cooling fins are integrated into the cover.

Heat sink: the heat dissipation system is specially designed and made to allow the operation of the LED lights with temperatures ensuring excellent performance/efficiency and durability.

Pole connection: in die-cast aluminium and with gaskets to secure the frame according to different inclinations. Adjustable ranges: between 0° and 20° for side mount; and between 0° and 15° for mast-top mounting. Inclination pace: 5°. Suited for poles with a diameter 46-76.

Diffuser: clear, tempered glass, 4 mm thick, resistant to thermal shock and impacts (UNI-EN 12150-1 : 2001)

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

OTHER CHARACTERISTICS

Standard supply: automatic temperature control inside the device with automatic resetting. With dedicated electronic device to protect the LED module. Complete with quick connection.

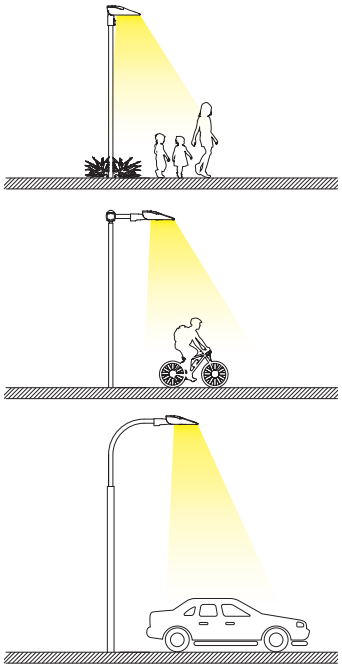
SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

Photometric performance: designed with an optical system capable of controlling the potential glare created by the growing light intensity of LEDs while achieving high photometric performance.

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

OTHER INFORMATION

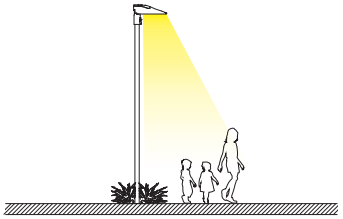
Optical system: the modularity of the optical system and the solutions used for the electronic circuit design, make the Rolle line a highly professional, flexible and reliable product, capable of guaranteeing huge application advantages in several situations.



UPON REQUEST

UNI EN ISO 9227 Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.

CUT-OFF accessory (for HP versions): ideal for blocking backlight and eliminating potential intensity peak behind the light pole; available in either white or black shades *(NOTE: the black version will block backlight best, while the white version will enable greater efficiency).*



BASIC PROG

BASIC PROG (BASIC CLD) AVAILABLE FUNCTIONS

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture

LIGHTING POINT MANAGEMENT OPTIONS ON REQUEST
possibility to choose different lighting point management systems according to the system's needs:

1-10V dimming ordered with **sub-code -12**	Adjustment range from 10%-100% with 1-10V
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps**. To increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The "virtual midnight" is the reference point for dimming lights according to the desired profile. The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.* ***ATTENTION:** original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request.*

Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

PLC remote control ordered with **sub-code -0078**	Point-to-point and system management and diagnosis system
For more information see page XX-XXI	

Example with Zhaga Socket (subcode -0054)

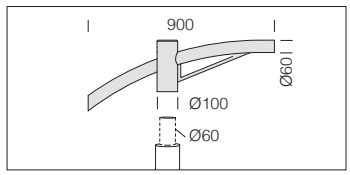


LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET: to monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

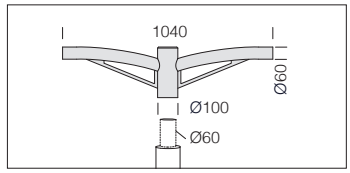
Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	Mounted directly on the fixture's body, ideal for remote lighting management applications.
Zhaga Socket order with **subcode -0054** (complete with sealing cap)	



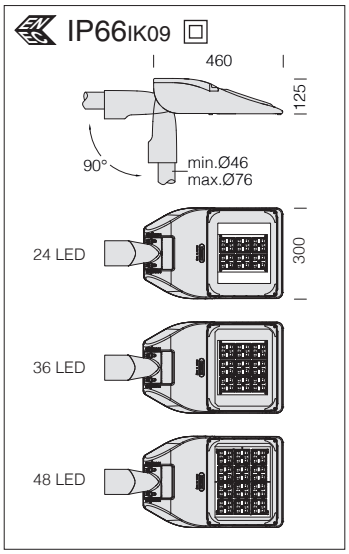


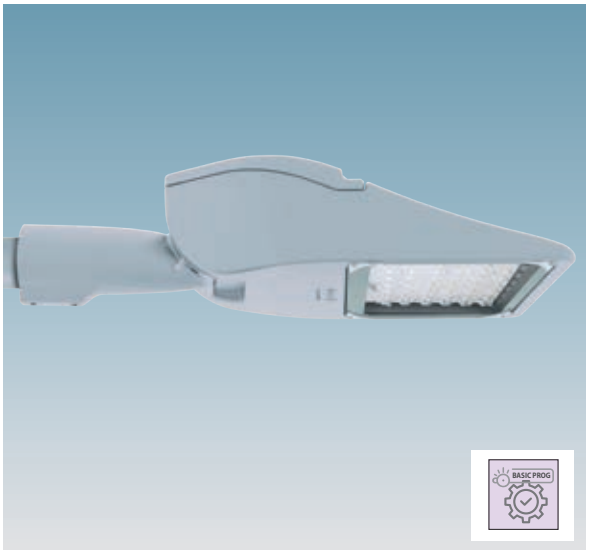


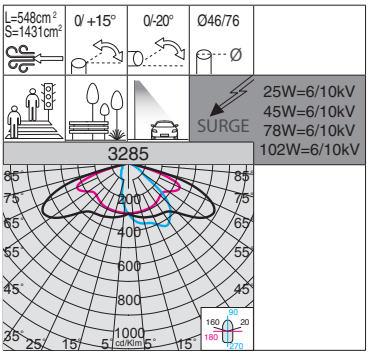
acc. 504 single arm	
grey	991262-00
Suited for poles with a diameter 60mm.	



acc. 508 double arm	
grey	991266-00
Suited for poles with a diameter 60mm.	







* **On request:** available ideal version for pedestrian crossing (left and right).

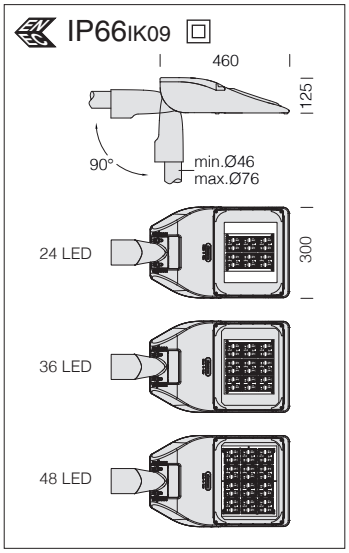
Optics: in PMMA, highly resistant to temperature and UV radiation.

LED: power factor ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

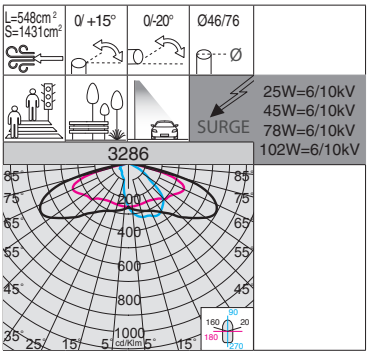
3285 Rolle - high performance

		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey	6.50	340100-00	**25**	4000K - 4346lm - CRI 70
			340100-39		3000K - 4287lm - CRI 70
LED	grey	7.00	340101-00	**45**	4000K - 7412lm - CRI 70
			340101-39		3000K - 7266lm - CRI 70
LED	grey	7.00	340102-00	**78**	4000K - 11561lm - CRI 70
			340102-39		3000K - 11221lm - CRI 70
LED *	grey	7.00	340103-00	**102**	4000K - 15415lm - CRI 70
			340103-39		3000K - 13828lm - CRI 70

Upon request: possibility to choose different lighting point management systems (see table on p. 445).







* **On request:** available ideal version for pedestrian crossing (left and right).

Optics: in PMMA, highly resistant to temperature and UV radiation.

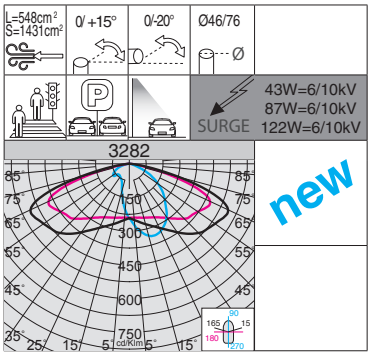
LED: power factor ≥0,9.
Luminous flux maintenance 80%: 80.000h (L80B20).

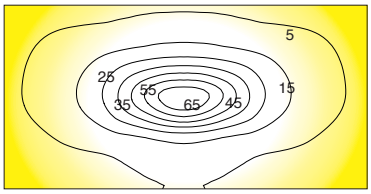
3286 Rolle - high performance

		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - CRI
LED	grey	6.50	340110-00	**25**	4000K - 4229lm - CRI 70
			340110-39		3000K - 4172lm - CRI 70
LED	grey	7.00	340111-00	**45**	4000K - 7212lm - CRI 70
			340111-39		3000K - 7071lm - CRI 70
LED	grey	7.00	340112-00	**78**	4000K - 11251lm - CRI 70
			340112-39		3000K - 10920lm - CRI 70
LED *	grey	7.00	340113-00	**102**	4000K - 15001lm - CRI 70
			340113-39		3000K - 13033lm - CRI 70

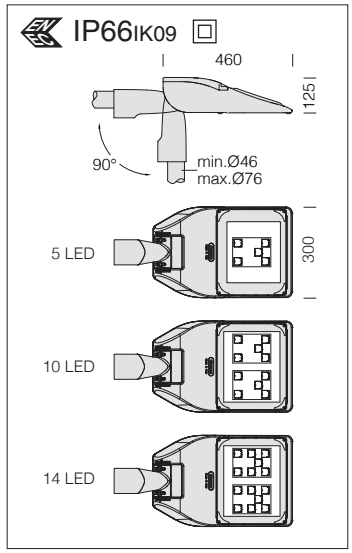
Upon request: possibility to choose different lighting point management systems (see table on p. 445).











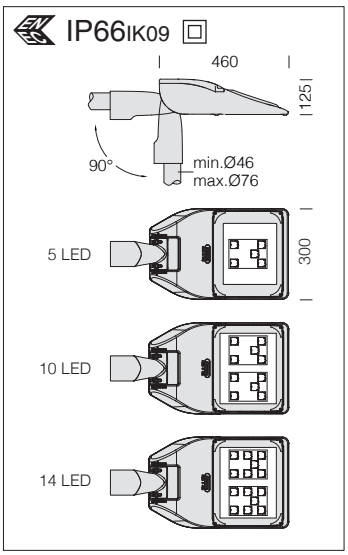
3282 Rolle - T3					
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	7.70	330420-00	**43**	4000K - **5933lm** - CRI 70
			330420-39		3000K - **5538lm** - CRI 70
LED	grey	7.70	330421-00	**87**	4000K - **11302lm** - CRI 70
			330421-39		3000K - **10548lm** - CRI 70
LED	grey	7.70	330422-00	**122**	4000K - **15822lm** - CRI 70
			330422-39		3000K - **14768lm** - CRI 70
Upon request: possibility to choose different lighting point management systems (see table on p. 445).					

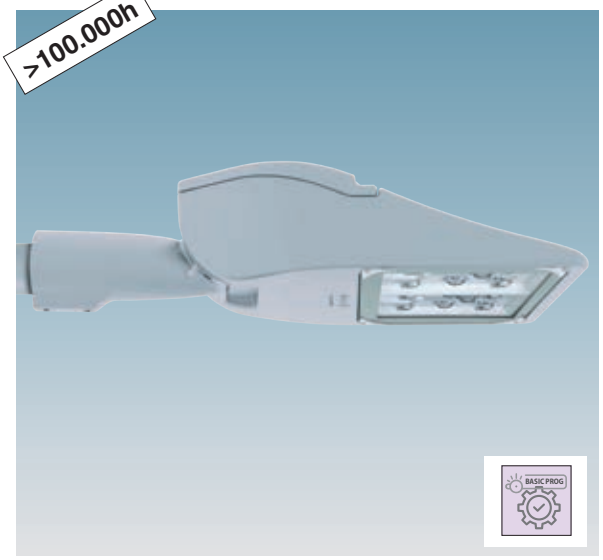
Optics: in PMMA, highly resistant to temperature and UV radiation. Flow recovery in V2 polycarbonate.

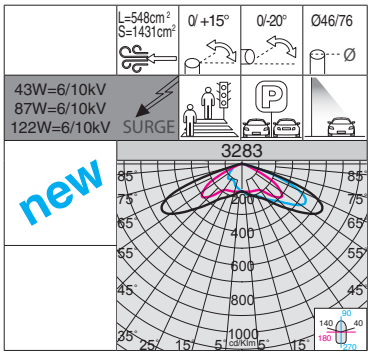
LED: power factor ≥0,9.
Luminous flux maintenance 80%: >100.000h (L80B10).

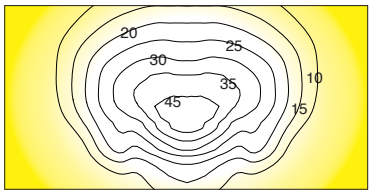
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	5	**22**	**4000K**	3204lm
		10	**44**		6103lm
		14	**60**		8544lm
upon request	530mA	5	**33**	**4000K**	4628lm
		10	**65**		8815lm
		14	**91**		12342lm

n.LED	W tot	K	ølm
5	**22**	**3000K**	2990lm
10	**44**		5696lm
14	**60**		7975lm
5	**33**	**3000K**	4320lm
10	**65**		8228lm
14	**91**		11519lm









RG0 Ethr

+40 C° -30

U.V.

ZONA 1

LOW FLICKER

3000K

4000K

Optics: in PMMA, highly resistant to temperature and UV radiation. Flow recovery in V2 polycarbonate.

LED: power factor ≥0,9.
Luminous flux maintenance 80%: >100.000h (L80B10).

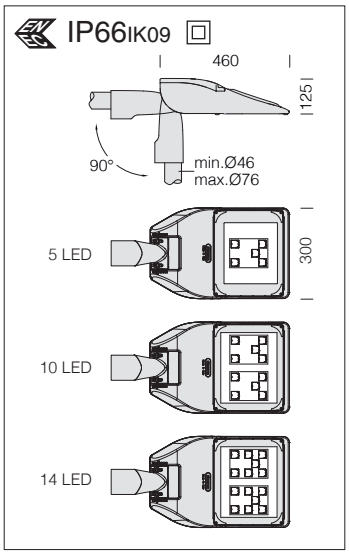
3283 Rolle - T4

		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	7.70	330430-00	**43**	4000K - **6082lm** - CRI 70
			330430-39		3000K - **5676lm** - CRI 70
LED	grey	7.70	330431-00	**87**	4000K - **11585lm** - CRI 70
			330431-39		3000K - **10812lm** - CRI 70
LED	grey	7.70	330432-00	**122**	4000K - **16218lm** - CRI 70
			330432-39		3000K - **15137lm** - CRI 70

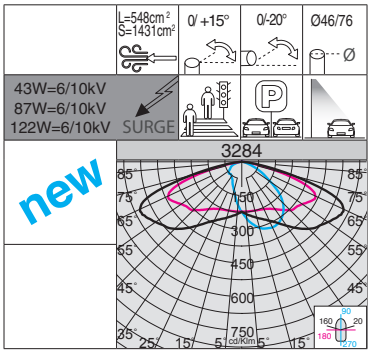
Upon request: possibility to choose different lighting point management systems (see table on p. 445).

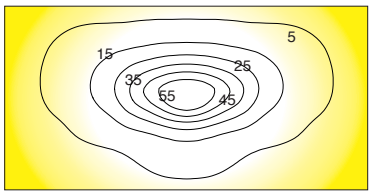
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	5	**22**	**4000K**	3284lm
		10	**44**		6256lm
		14	**60**		8758lm
upon request	530mA	5	**33**	**4000K**	4744lm
		10	**65**		9036lm
		14	**91**		12650lm

n.LED	W tot	K	ølm
5	**22**	**3000K**	3065lm
10	**44**		5839lm
14	**60**		8174lm
5	**33**	**3000K**	4428lm
10	**65**		8434lm
14	**91**		11807lm









RG0 Ethr

+40 C° -30

U.V.

ZONA 1

LOW FLICKER

3000K

4000K

Optics: in PMMA, highly resistant to temperature and UV radiation. Flow recovery in V2 polycarbonate.

LED: power factor ≥0,9.
Luminous flux maintenance 80%: >100.000h (L80B10).

3284 Rolle - T5

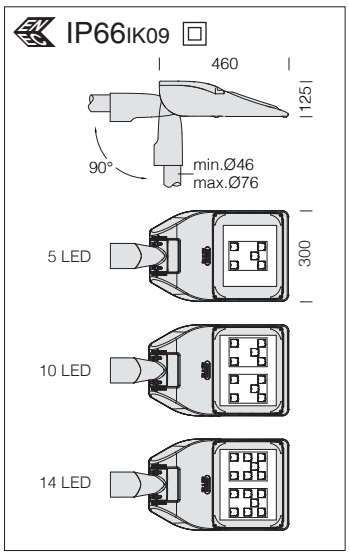
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	7.70	330440-00	**43**	4000K - **5960lm** - CRI 70
			330440-39		3000K - **5563lm** - CRI 70
LED	grey	7.70	330441-00	**87**	4000K - **11353lm** - CRI 70
			330441-39		3000K - **10596lm** - CRI 70
LED	grey	7.70	330442-00	**122**	4000K - **15894lm** - CRI 70
			330442-39		3000K - **14834lm** - CRI 70

Upon request: possibility to choose different lighting point management systems (see table on p. 445).

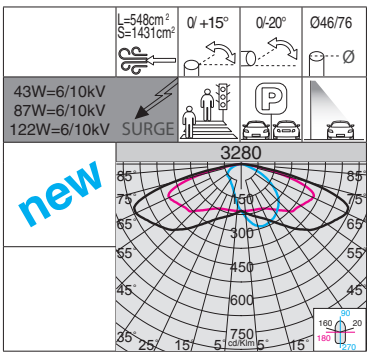
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	5	**22**	**4000K**	3219lm
		10	**44**		6130lm
		14	**60**		8583lm
upon request	530mA	5	**33**	**4000K**	4649lm
		10	**65**		8855lm
		14	**91**		12397lm

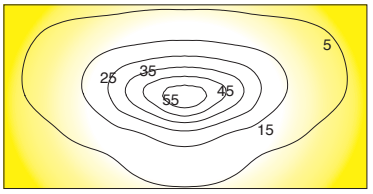
n.LED	W tot	K	ølm
5	**22**	**3000K**	3004lm
10	**44**		5722lm
14	**60**		8010lm
5	**33**	**3000K**	4339lm
10	**65**		8265lm
14	**91**		11571lm











RG0 Ethr
+40 C° -30
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

Optics: in PMMA, highly resistant to temperature and UV radiation. Flow recovery in V2 polycarbonate.

LED: power factor ≥0,9.
Luminous flux maintenance 80%: >100.000h (L80B10).

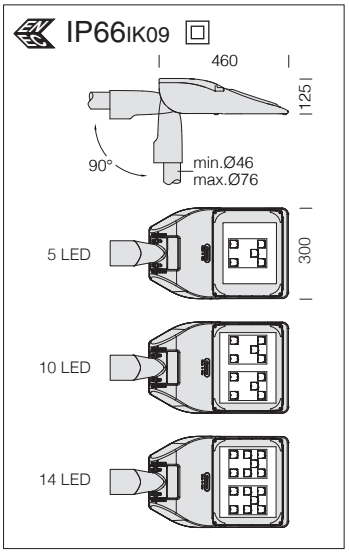
Upon request: possibility to choose different lighting point management systems (see table on p. 445).

3280 Rolle - T1

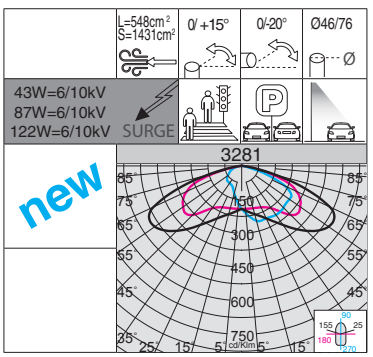
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	7.70	330400-00	**43**	4000K - **5826lm** - CRI 70
			330400-39		4000K - **5437lm** - CRI 70
LED	grey	7.70	330401-00	**87**	4000K - **11096lm** - CRI 70
			330401-39		3000K - **10356lm** - CRI 70
LED	grey	7.70	330402-00	**122**	4000K - **15535lm** - CRI 70
			330402-39		3000K - **14499lm** - CRI 70

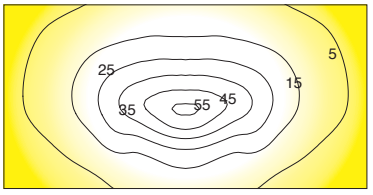
Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	5	**22**	**4000K**	3146lm
		10	**44**		5992lm
		14	**60**		8389lm
upon request	530mA	5	**33**	**4000K**	4544lm
		10	**65**		8655lm
		14	**91**		12117lm

n.LED	W tot	K	ølm
5	**22**	**3000K**	2936lm
10	**44**		5593lm
14	**60**		7830lm
5	**33**	**3000K**	4241lm
10	**65**		8078lm
14	**91**		11309lm









RG0 Ethr
+40 C° -30
U.V.
ZONA 1
LOW FLICKER
3000K
4000K

Optics: in PMMA, highly resistant to temperature and UV radiation. Flow recovery in V2 polycarbonate.

LED: power factor ≥0,9.
Luminous flux maintenance 80%: >100.000h (L80B10).

3281 Rolle - T2

		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 700mA - CRI
LED	grey	7.70	330410-00	**43**	4000K - **5955lm** - CRI 70
			330410-39		3000K - **5558lm** - CRI 70
LED	grey	7.70	330411-00	**87**	4000K - **11344lm** - CRI 70
			330411-39		3000K - **10587lm** - CRI 70
LED	grey	7.70	330412-00	**122**	4000K - **15881lm** - CRI 70
			330412-39		3000K - **14822lm** - CRI 70

Upon request: possibility to choose different lighting point management systems (see table on p. 445).

Example	Power supply	n.LED	W tot	K	ølm
upon request	350mA	5	**22**	**4000K**	3216lm
		10	**44**		6126lm
		14	**60**		8576lm
upon request	530mA	5	**33**	**4000K**	4645lm
		10	**65**		8848lm
		14	**91**		12387lm

n.LED	W tot	K	ølm
5	**22**	**3000K**	3002lm
10	**44**		5717lm
14	**60**		8004lm
5	**33**	**3000K**	4336lm
10	**65**		8258lm
14	**91**		11562lm



GENERAL CHARACTERISTICS

Housing: in die-cast aluminium and designed with a very small surface exposed to wind. Cooling fins are integrated into the cover.

Heat sink: the heat dissipation system is specially designed and made to allow the operation of the LED lights with temperatures ensuring excellent performance/efficiency and durability.

Pole connection: in die-cast aluminium and with gaskets to secure the frame. Suited for poles with a diameter 45-60mm.

Optics: in PMMA, highly resistant to temperature and UV radiation.

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Equipment: silicone rubber gasket; external screws and bolts in stainless steel; air recirculation valve. Insulation connector for quick installation with **no need to open the fixture.**

OTHER CHARACTERISTICS

Standard supply: automatic temperature control inside the device with automatic resetting. With dedicated electronic device to protect the LED module.

SURGE Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.

The fixture's design is configured to minimise wind exposure surfaces: L=326cm² - S=559cm²



OTHER INFORMATION

LOW FLICKER Product with a very low flicker; uniform light for greater eye protection.

Registered Design DM/100271 The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs.

Anti-light pollution optical system : the modularity of the optical system, the solutions used for the electronic circuit design and the optimal control of operating temperatures, make the Susa line a highly professional, flexible and reliable product, capable of guaranteeing huge application advantages in several situations



UPON REQUEST

UNI EN ISO 9227 Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.



Available in olive green colour version.

BASIC PROG

BASIC PROG (BASIC CLD) AVAILABLE FUNCTIONS

Luminous flux setup	This can be done by programming the drive current values requested when ordering/purchasing the fixture

LIGHTING POINT MANAGEMENT OPTIONS ON REQUEST

possibility to choose different lighting point management systems according to the system's needs:

1-10V dimming ordered with **sub-code -12**	Adjustment range from 10%-100% with 1-10V
Virtual Midnight order with **subcode -30**	Stand-alone system with automatic luminous flux reduction in **4 steps**. To increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The "virtual midnight" is the reference point for dimming lights according to the desired profile. The device is integrated in the LED driver and therefore does not require any modification to the system. *In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.* ***ATTENTION:** original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request.*

Factory settings

Time	Flux
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

PLC remote control ordered with **sub-code -0078**	Point-to-point and system management and diagnosis system

For more information see page XX-XXI

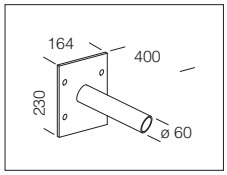
Example with Zhaga Socket (subcode -0054)



LUMINAIRE DESIGNED FOR INSTALLATION ON NEMA OR ZHAGA SOCKET: to monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	Mounted directly on the fixture's body, ideal for remote lighting management applications.
Zhaga Socket order with **subcode -0054** (complete with sealing cap)	

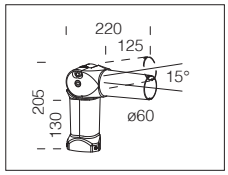




acc. 248
wall bracket

grey	997708-00

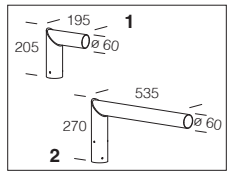
In steel. For wall mounting. Connection Ø60.



acc. 405
articulated connect.

grey	991407-00

To be used for pole installation Ø45/60. Adjustable connection at 90°.



acc. 205
mast-top mounting

1	galvan.	426941-00
2	grey	426948-00

To be used for pole installation Ø60. 90° fixed.

RG0 Ethr

+40 C° -30

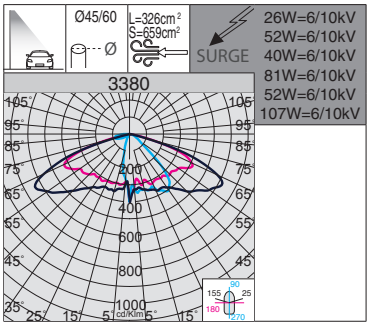
U.V.

ZONA 1

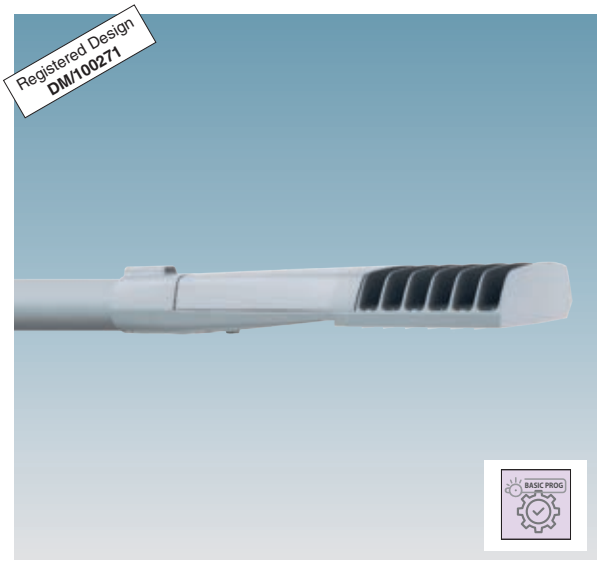
LOW FLICKER

3000K

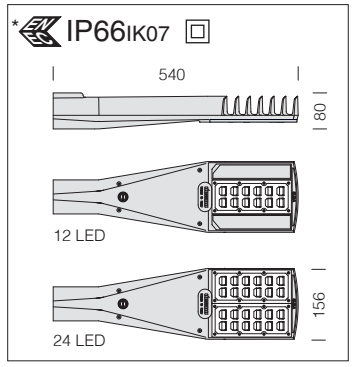
4000K







Upon request: IK08 version.



LED: power factor ≥0,92. Luminous flux maintenance:		
80%	100.000h (L80B10)	350mA
80%	100.000h (L80B10)	530mA
80%	80.000h (L80B10)	700mA

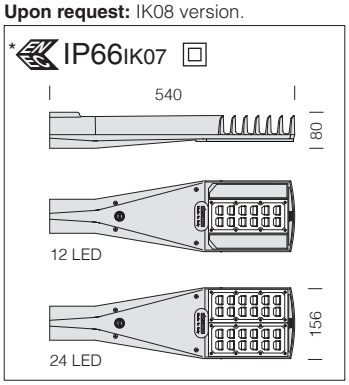
Version best suited for medium-height poles.

Upon request: possibility to choose different lighting point management systems (see table on p. 453).

3380 Susa ME - residential amenities

		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 350mA - CRI
LED	grey	2.30	340504-00	**26**	4000K - 3600lm - CRI 80
			340504-39		3000K - 3348lm - CRI 80
LED	grey	2.50	340505-00	**52**	4000K - 7385lm - CRI 80
			340505-39		3000K - 6868lm - CRI 80
					K - ølm 530mA - CRI
LED	grey	2.30	340500-00	**40**	4000K - 5145lm - CRI 80
			340500-39		3000K - 4785lm - CRI 80
LED	grey	2.50	340501-00	**81**	4000K - 9979lm - CRI 80
			340501-39		3000K - 9280lm - CRI 80
					K - ølm 700mA - CRI
LED	grey	2.30	340502-00	**52**	4000K - 6372lm - CRI 80
			340502-39		3000K - 5926lm - CRI 80
LED	grey	2.50	340503-00	**107**	4000K - 12360lm - CRI 80
			340503-39		3000K - 11495lm - CRI 80

Upon request: IK08 version.

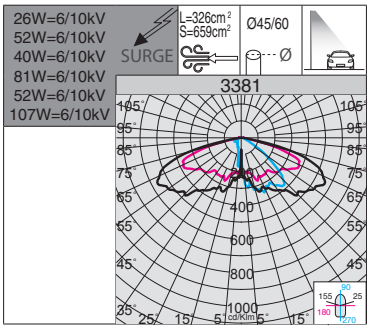


LED: power factor ≥0,92. Luminous flux maintenance:		
80%	100.000h (L80B10)	350mA
80%	100.000h (L80B10)	530mA
80%	80.000h (L80B10)	700mA

Version best suited for lighting installations where poles are spaced farther apart.

Upon request: possibility to choose different lighting point management systems (see table on p. 453).



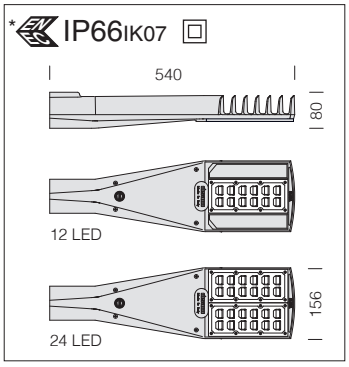




3381 Susa T3 - residential amenities

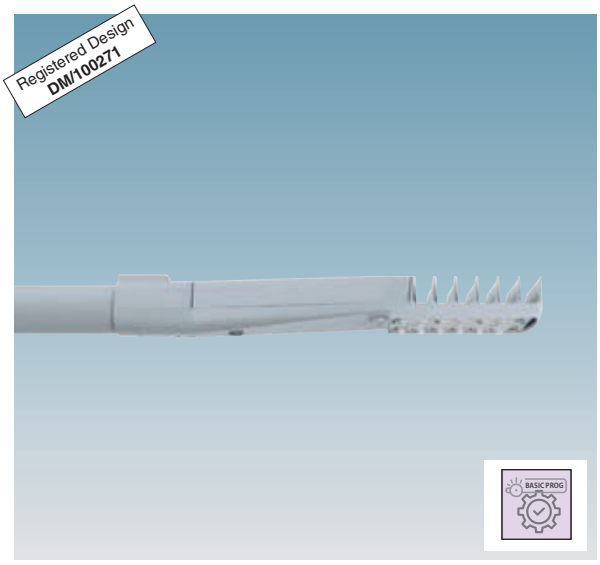
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 350mA - CRI
LED	grey	2.30	340514-00	**26**	4000K - 3780lm - CRI 80
			340514-39		3000K - 3516lm - CRI 80
LED	grey	2.50	340515-00	**52**	4000K - 7316lm - CRI 80
			340515-39		3000K - 6800lm - CRI 80
					K - ølm 530mA - CRI
LED	grey	2.30	340510-00	**40**	4000K - 5109lm - CRI 80
			340510-39		3000K - 4751lm - CRI 80
LED	grey	2.50	340511-00	**81**	4000K - 9887lm - CRI 80
			340511-39		3000K - 9195lm - CRI 80
					K - ølm 700mA - CRI
LED	grey	2.30	340512-00	**52**	4000K - 6328lm - CRI 80
			340512-39		3000K - 5885lm - CRI 80
LED	grey	2.50	340513-00	**107**	4000K - 12246lm - CRI 80
			340513-39		3000K - 11389lm - CRI 80

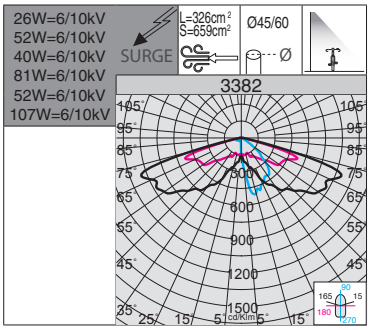
Upon request: IK08 version.

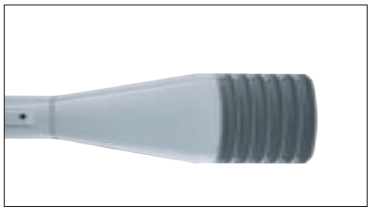


LED: power factor ≥0,92. Luminous flux maintenance:		
80%	100.000h (L80B10)	350mA
80%	100.000h (L80B10)	530mA
80%	80.000h (L80B10)	700mA

Upon request: possibility to choose different lighting point management systems (see table on p. 453).



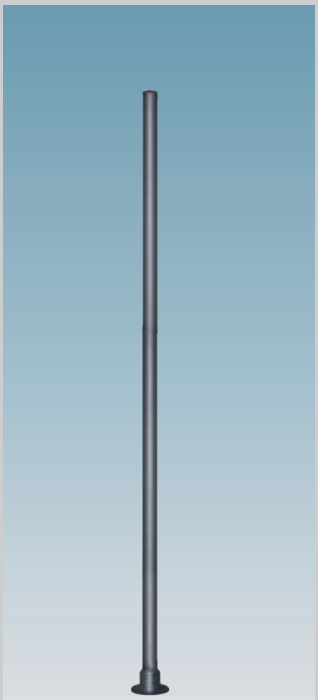




3382 Susa T2 - cycleways

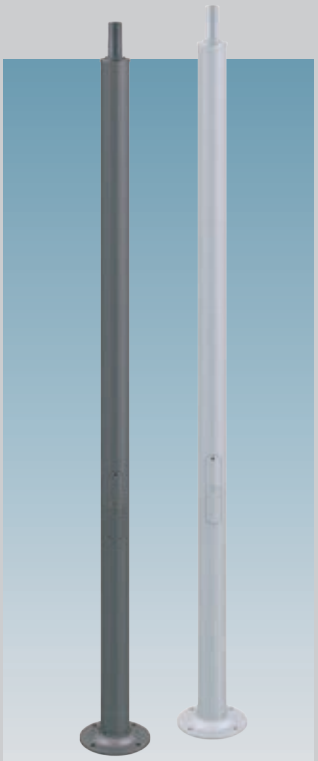
		CLD BASIC			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm 350mA - CRI
LED	grey	2.30	340524-00	**26**	4000K - 3770lm - CRI 80
			340524-39		3000K - 3500lm - CRI 80
LED	grey	2.50	340525-00	**52**	4000K - 7298lm - CRI 80
			340525-39		3000K - 6788lm - CRI 80
					K - ølm 530mA - CRI
LED	grey	2.30	340520-00	**40**	4000K - 5098lm - CRI 80
			340520-39		3000K - 4741lm - CRI 80
LED	grey	2.50	340521-00	**81**	4000K - 9863lm - CRI 80
			340521-39		3000K - 9173lm - CRI 80
					K - ølm 700mA - CRI
LED	grey	2.30	340522-00	**52**	4000K - 6314lm - CRI 80
			340522-39		3000K - 5872lm - CRI 80
LED	grey	2.50	340523-00	**107**	4000K - 12217lm - CRI 80
			340523-39		3000K - 11362lm - CRI 80


WAY



FIBREGLASS POLES

p. 458



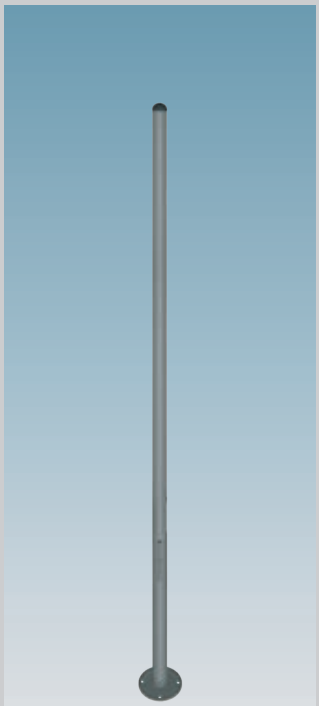
FLUTED POLES

Ø 100 p. 460
Ø 120 p. 462



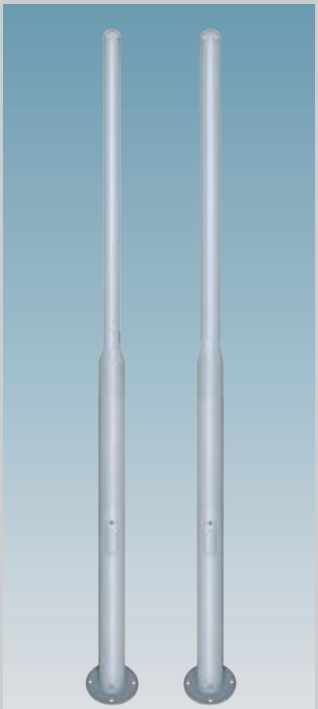
"CONE-SHAPED" - "URBAN" POLE

CONE-SHAPED p. 464
URBAN p. 466



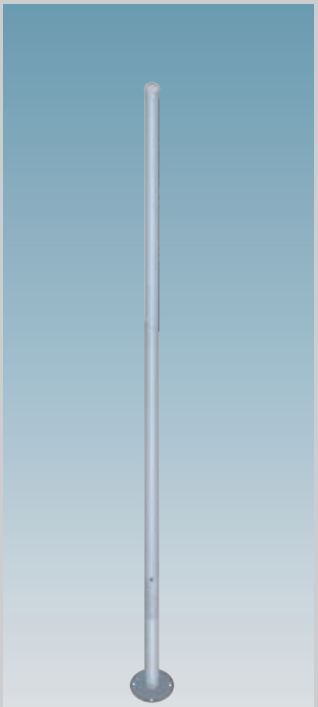
STEEL POLE

Ø 102 p. 468



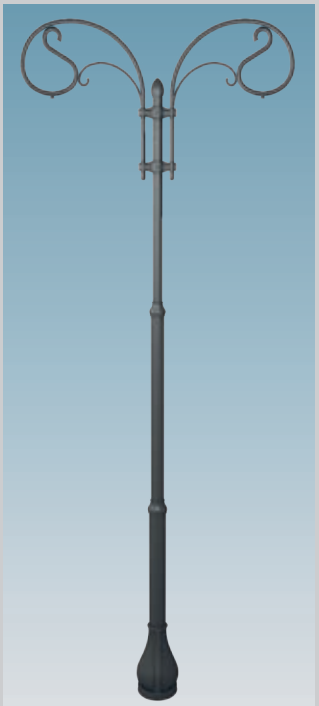
STEEL POLE

Ø 102 - 159 p. 470
Ø 120 - 159 p. 472



STEEL POLE

Ø 120 p. 474



"LIBERTY" POLE

p. 476



"VIRGOLA" POLE

p. 478



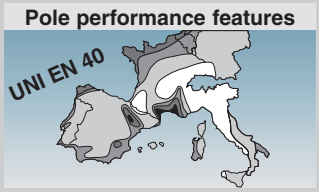
SECTOR p. 480



OLIVA p. 481



LIONE p. 482
ACCESSORIES p. 483



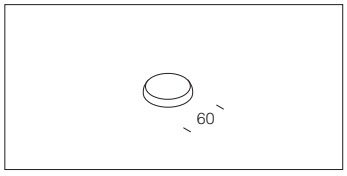
p. 484



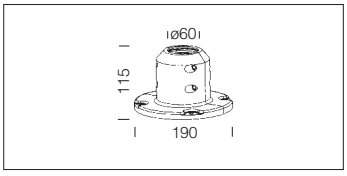
Fibreglass poles have a round or cone-shaped cross-section (dimensions depend on mechanical requirements).
Compared with aluminium or steel poles they offer the following advantages:
- lighter weight
- less maintenance
- surfaces are not attacked by corrosive agents
- electrically insulated
- less dangerous when impact occurs
- extremely flexible in the wind.

Certificated poles: These poles are recommended for small-size luminaires (decorative factor), in private areas, (anti-vandalism factor). They can be installed both on a base or buried according to measurements.

ACCESSORIES

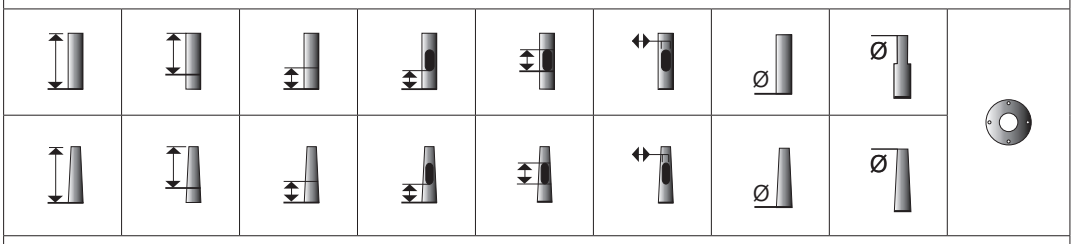


acc. 115 pole cap	
black	991331-00
In fiber glass nylon. To apply to Ø60 mm pole. End cap for the pole top.	



acc. 50 base for acc 5	
black	991216-00
In f.g. nylon; supplied with burying anchor. For use with poles max 1900 high. Connection Ø 60.	

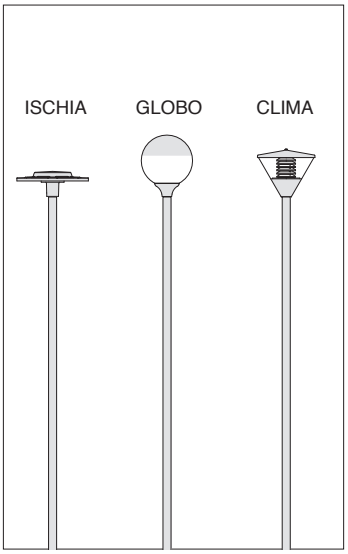
Legend Poles pictograms

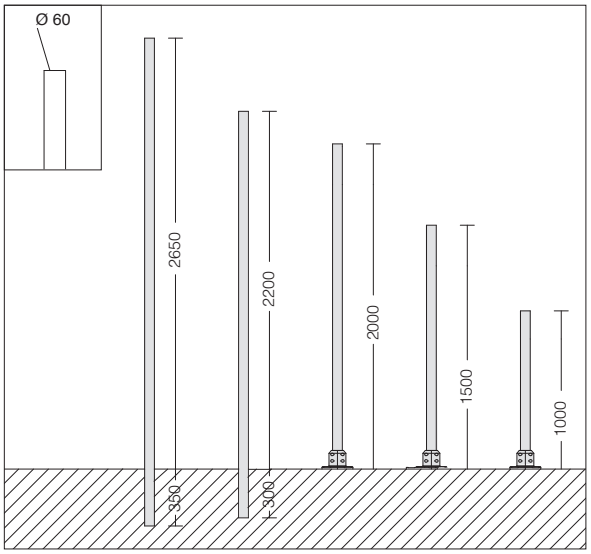


Total height pole	Height above ground or spotlight	Height of pole sunk into the ground	Distance ground/ inspection window (if present)	Height of inspection window (if present)	Width of inspection of window (if present)	Diameter of pole in relation to the ground	Diameter head/Pole	Diameter of base and log bolt holes (if present)

Fibreglass poles: table of general features

h pole	diam. Ø	recommended on base	recomended sinking h. mn
1000	Ø 60	acc. 50	
1500	Ø 60	acc. 50	
2000	Ø 60	acc. 50	250
2500	Ø 60		300
3000	Ø 60		350
3600	Ø 60/120		400
4600	Ø 60/137		500
5600	Ø 60/154		600



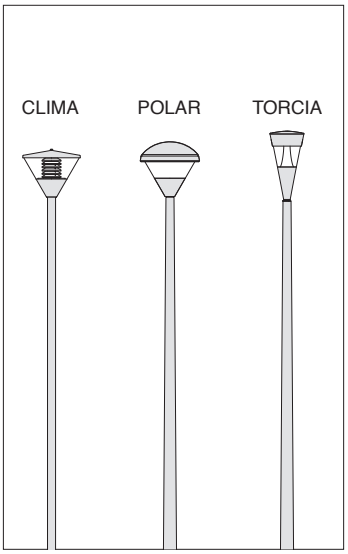


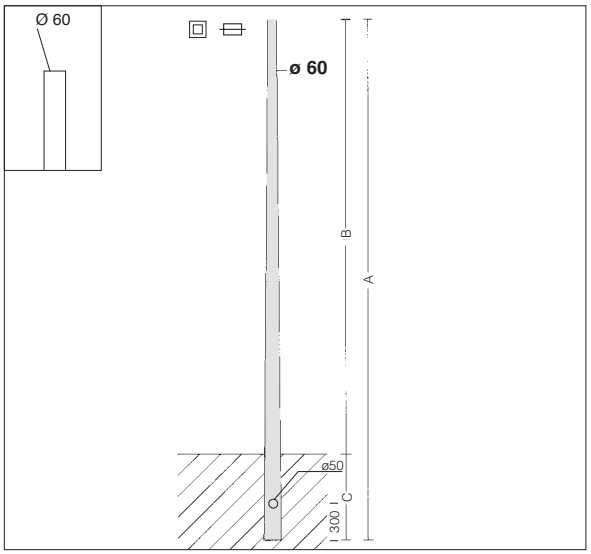


acc 5 pole ø 60 without window

colour	code				Ø	Ø
black	991903-00	1000	800	200		
black	991904-00	1500	1250	250		
black	991905-00	2000	1750	250	**ø 60**	**ø 60**
black	991906-00	2500	2200	300		
black	991907-00	3000	2650	350		

Cone-shaped fibreglass pole, black, corrosion resistant, mechanical high-resistance and UV stabilized.







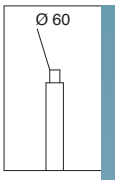
acc 1278 cone-shaped pole without window

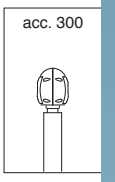
colour	code				Ø	Ø
black	428617-00	3600	3200	400	**ø 120**	
black	428618-00	4600	4100	500	**ø 137**	**ø 60**
black	428619-00	5600	5000	600	**ø 154**	

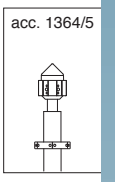
Cone-shaped pole in f.g., black, corrosion-proof, high mechanical resistance and UV-stabilised.

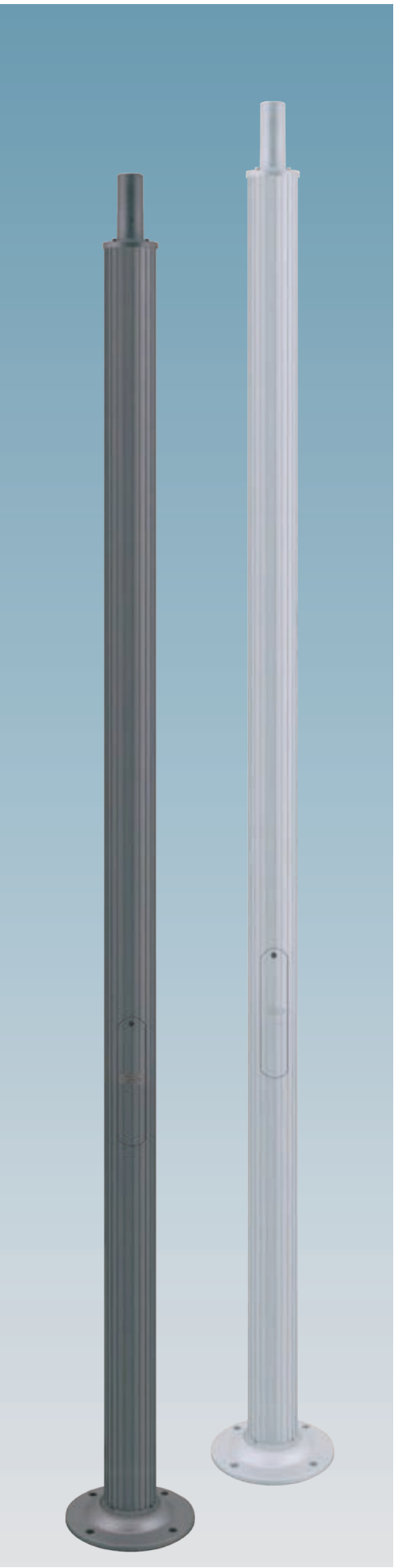
Fluted pole ø 100

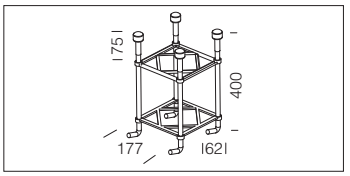
Fluted pole made of extruded aluminium, anodised by 15/20µ thick tin salt electrocoating; graphite or natural oxidised colour.
With die-cast inspection window (186x45mm), protective fuse holder, 16A fuse, 4-pole/3-way removable terminal block = 10 sqmm, 2,5 sqmm connection. With hole for insertion of power supply cable. Die-cast aluminium adapter, Ø60 mm. For the version with base, 4 log bolts to be sunk into the ground, bolts and lids have to be purchased. Standard insulation class II.
When using Insulation Class I fixtures, appropriate grounding connections should be included in the system.
NOTE. Before selecting the appropriate pole, make all necessary wind pressure resistance tests, pursuant to the Standards or Legislative Decrees in force in the countries where the pole will be mounted and based on the assumed loads specified in Standard EN 40-3-1



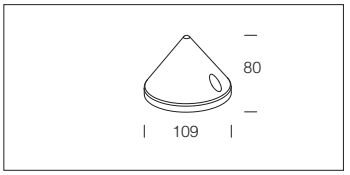




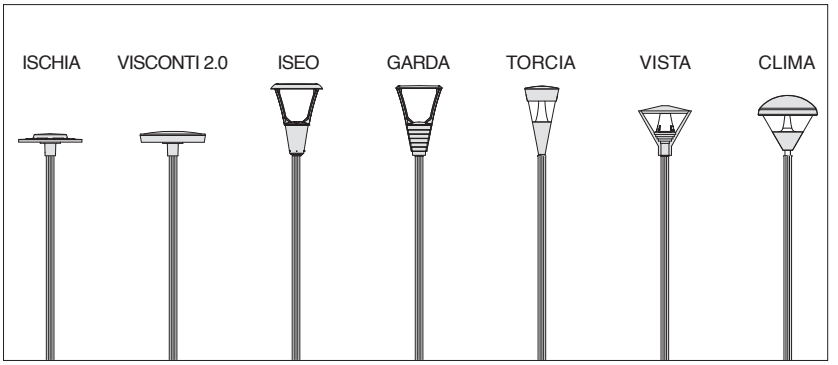


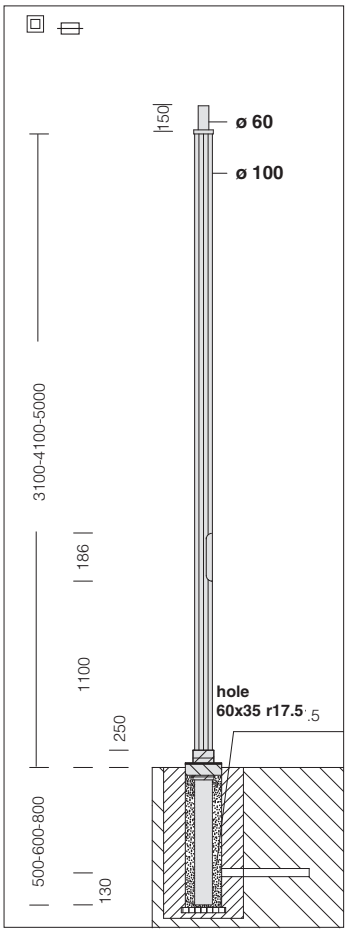


acc. 299 log bolts
991396-00
Log bolts are to be always bought with the pole 1408.

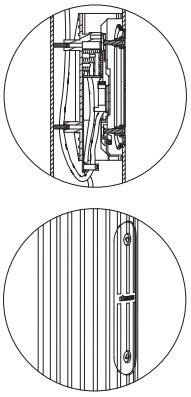


acc. 367 cover for poles	
ox. nat.	426998-00
graphite	426997-00
Made of aluminium. To be used when a particular aesthetic finish is desired.	

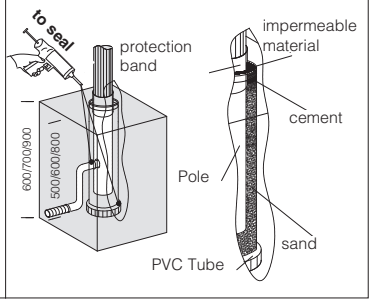




Inspection window with easily removable terminal block for quick connection.



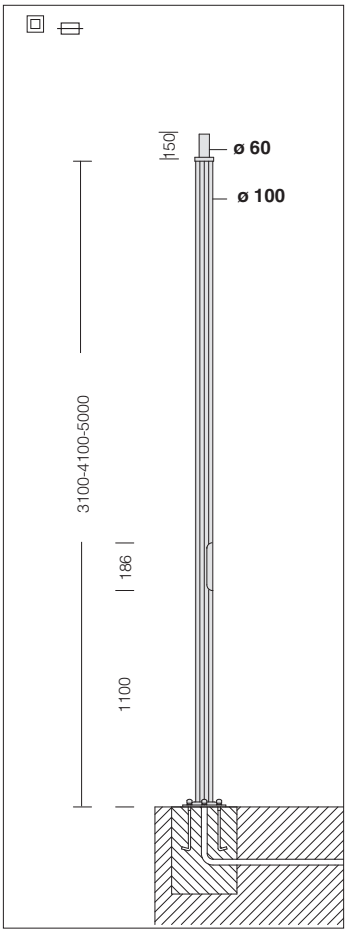
The size of the plinth depends on the type of pole, the composition used, the type of terrain on which the plinth stands, and the material of which it is made.



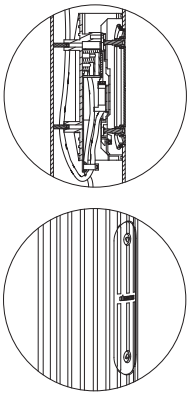


acc. 1409 fluted pole Ø 100

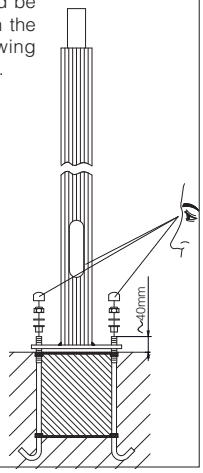
colour	code								
oxy natural	426334-00	3600	3100	500	1100	186	45	**Ø 100**	Ø 60
oxy natural	426335-00	4700	4100	600					
oxy natural	426336-00	5800	5000	800					
graphite	426327-00	3600	3100	500					
graphite	426328-00	4700	4100	600					
graphite	426329-00	5800	5000	800					



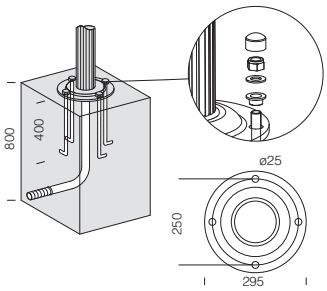
Inspection window with easily removable terminal block for quick connection.



For correct installation of pole and base, the ceiling cap should be fitted as shown in the assembly drawing featured opposite.



Cement base dimensions (subject to soil variations) for underground sinking of the 4 log bolts of acc. 1408.



acc. 1408 fluted pole with base Ø 100

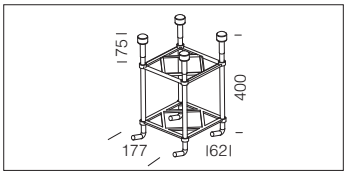
colour	code							
oxy natural	426337-00	3100	1100	186	45	**Ø 100**	Ø 60	Ø 295 hole Ø 25
oxy natural	426338-00	4100						
oxy natural	426339-00	5000						
graphite	426324-00	3100						
graphite	426325-00	4100						
graphite	426326-00	5000						

Log bolts are to be bought separately acc. 299.

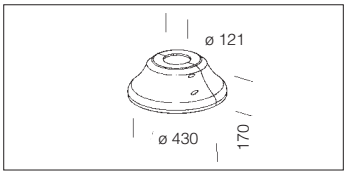
Fluted pole ø 120

Fluted pole made of extruded aluminium, anodised by 15/20µ thick tin salt electrocoating; graphite or natural oxidised colour.
With die-cast inspection window (186x45mm), protective fuse holder, 16A fuse, 4-pole/3-way=10mm^2, derivation 2,5 sqmm, removable terminal block = 6 sqmm, 4 sqmm connection. With hole for insertion of power supply cable. Die-cast aluminium adapter, Ø60 mm.
For the version with base, 4 log bolts to be sunk into the ground, bolts and lids have to be purchased. Standard insulation class II.
When using Insulation Class I fixtures, appropriate earthing connections should be included in the system.

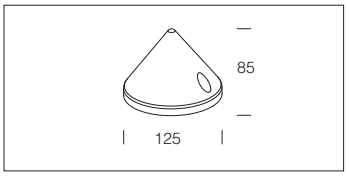
NOTE. Before selecting the appropriate pole, make all necessary wind pressure resistance tests, pursuant to the Standards or Legislative Decrees in force in the countries where the pole will be mounted and based on the assumed loads specified in Standard EN 40-3-1



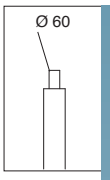
acc. 299 log bolts
991396-00
Log bolts are to be always used with the pole 1508.

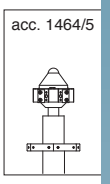


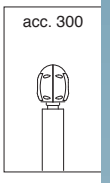
acc. 222 base pole cover	
grey	991378-00
graphite	991381-00
Made of die-cast aluminium. To be used as base pole cover acc. 1508.	

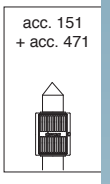


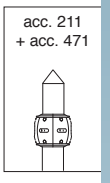
acc. 471 acc. 367 cover for poles	
grey	991461-00
graphite	991462-00
Made of aluminium. To be used when a particular aesthetic finish is desired.	

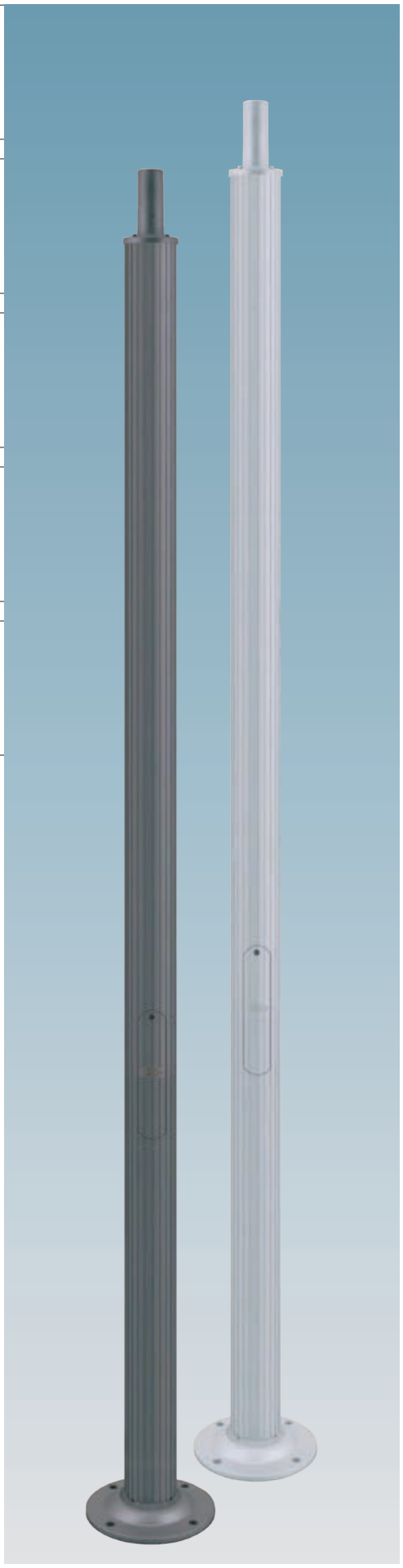


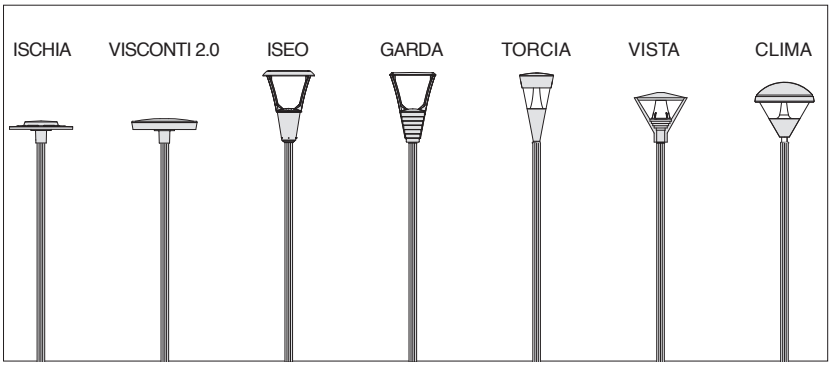


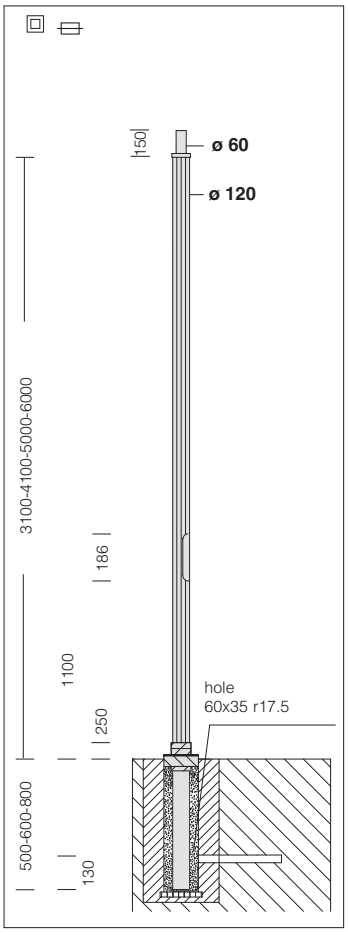




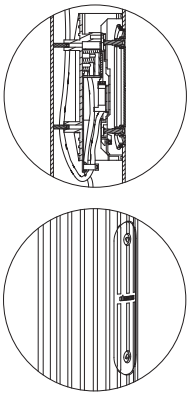




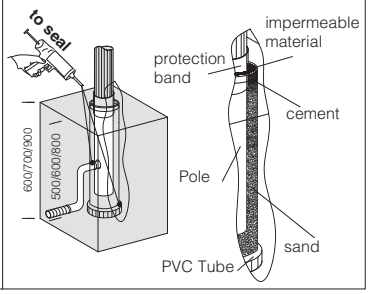




Inspection window with easily removable terminal block for quick connection.



The size of the plinth depends on the type of pole, the composition used, the type of terrain on which the plinth stands, and the material of which it is made.

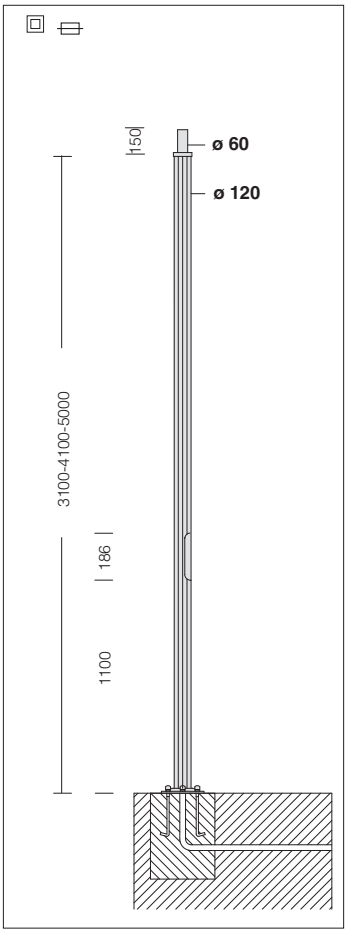




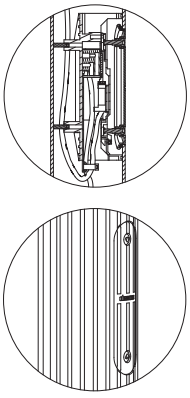
CE U.V.

acc. 1509 fluted pole Ø 120

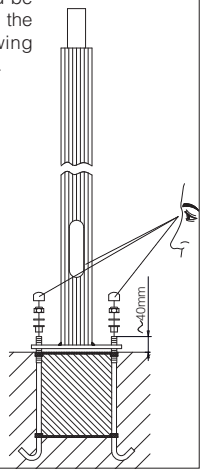
colour	code							Ø	Ø
oxy natural	426374-00	3600	3100	500					
oxy natural	426375-00	4700	4100	600					
oxy natural	426376-00	5800	5000	800					
oxy natural	426373-00	6800	6000	800					
graphite	426366-00	3600	3100	500	1100	186	45	**Ø 120**	Ø 60
graphite	426367-00	4700	4100	600					
graphite	426368-00	5800	5000	800					
graphite	426369-00	6800	6000	800					



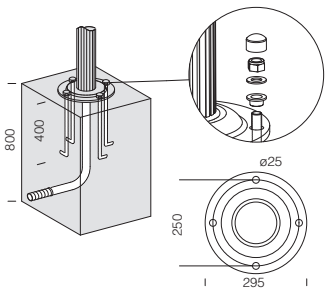
Inspection window with easily removable terminal block for quick connection.



For correct installation of pole and base, the ceiling cap should be fitted as shown in the assembly drawing featured opposite.



Cement base dimensions (subject to soil variations) for underground sinking of the 4 log bolts of acc. 1508.



CE U.V.

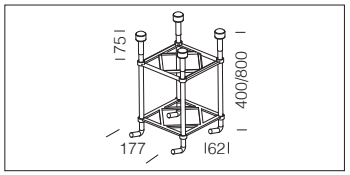
acc. 1508 fluted pole with base Ø 120

colore	codice					Ø	Ø	
oxy natural	426377-00	3100						
oxy natural	426378-00	4100						
oxy natural	426379-00	5000	1100	186	45	**Ø 120**	Ø 60	Ø 295 hole Ø 25
graphite	426362-00	3100						
graphite	426363-00	4100						
graphite	426364-00	5000						

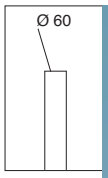
Log bolts are to be bought separately acc. 299.

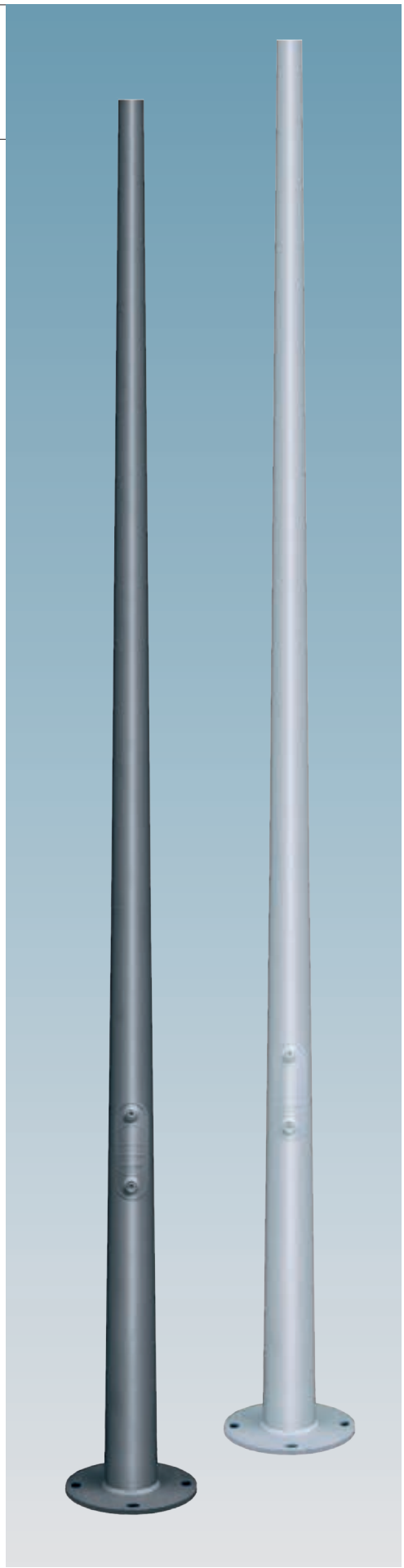
Tapered steel lighting pole. With hole for insertion of power supply cable, pole-head connection, ø60.
For the version with base, 4 log bolts to be sunk into the ground, bolts and lids have to be purchased. Size of inspection window 38x132 (h 3 000) - 45x186 (h 4000-5000-6000-7000-8000), supplied with protection fuse holder, 2 fuses, 16A, removable terminal block, 4 poles/3 holes = 10sqmm and shunt 2,5sqmm.
Standard insulation class II. When using Insulation Class I fixtures, appropriate grounding connections should be included in the system.

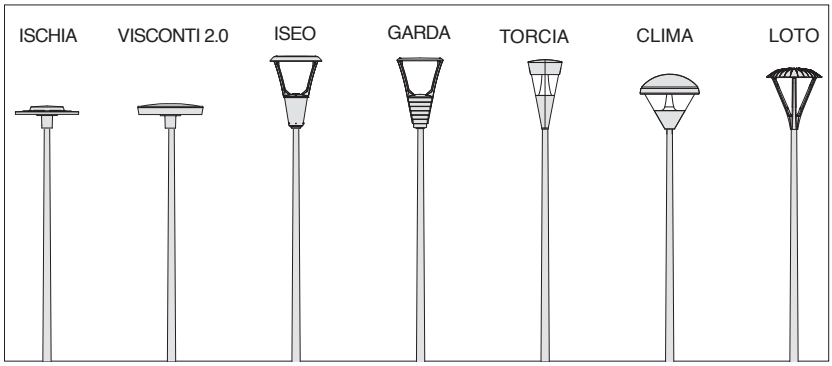
NOTE: The possibility to attach an assembly to the pole is subject to a wind pressure resistance assessment in the areas regulated by CNR-UNI standard 10032-67, according to load assumptions in UNI standard 40/6.

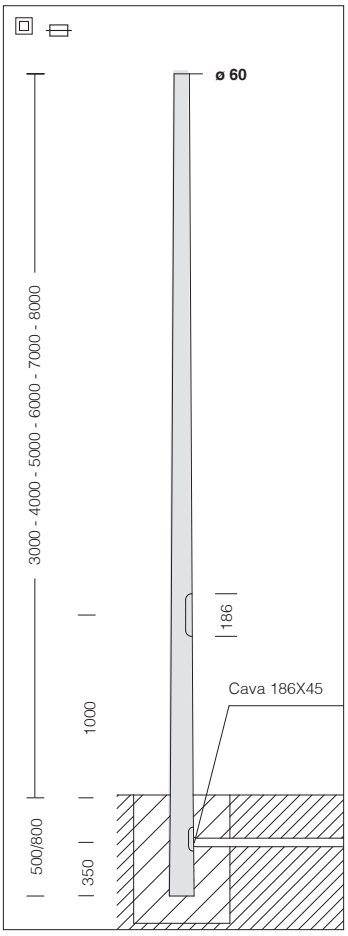


acc. 299 log bolts	
h=3000/4000/5000/6000	991396-00
h=7000/8000	991314-00
Log bolts are to be always used with the pole 1480.	



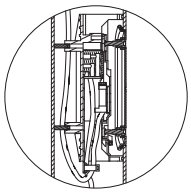




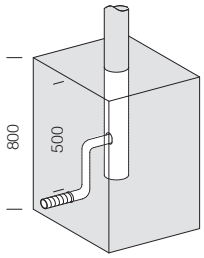


ON REQUEST
Possibility of supplyng poles with the following colour paint finishes:
pearl, blue, RAL 3003, 5011, 7026, 9011, 8015, 5002 7024, 7016, 9006, 7037, 6004, 8019, 6011, 7022, 1015, 9010.

Inspection door with easily removable terminal board for quick connection.

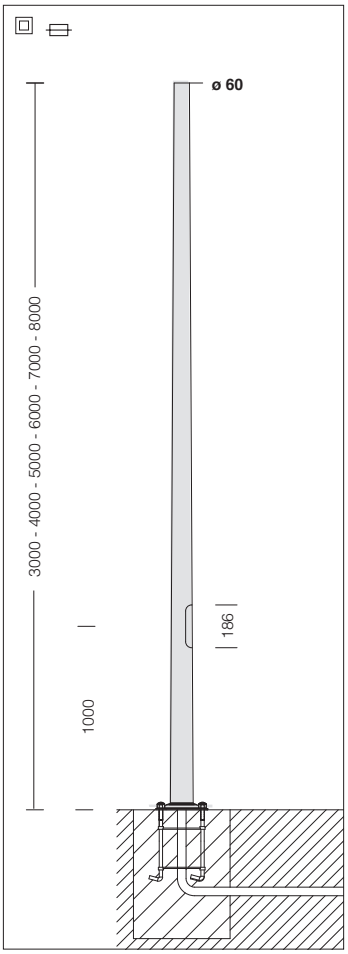


Concrete base dimensions (subject to soil variations).



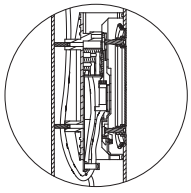
acc. 1481 - steel cone-shaped to be buried-with window

colour	code							ø	Ø
grey	425150-00	3500	3000	500				**Ø 89**	
grey	425151-00	4500	4000	500				**Ø 89**	
grey	425152-00	5500	5000	500				**Ø 102**	
grey	425153-00	6800	6000	800				**Ø 127**	
grey	425158-00	7800	7000	800				**Ø 127**	
grey	425167-00	8800	8000	800				**Ø 139**	
graphite	425154-00	3500	3000	500				**Ø 89**	
graphite	425155-00	4500	4000	500				**Ø 89**	
graphite	425156-00	5500	5000	500				**Ø 102**	
graphite	425157-00	6800	6000	800	1000	186	45	**Ø 127**	Ø 60
graphite	425159-00	7800	7000	800				**Ø 127**	
graphite	425168-00	8800	8000	800				**Ø 139**	
anthracite	425160-00	3500	3000	500				**Ø 89**	
anthracite	425161-00	4500	4000	500				**Ø 89**	
anthracite	425162-00	5500	5000	500				**Ø 102**	
anthracite	425163-00	6800	6000	800				**Ø 127**	
anthracite	425164-00	7800	7000	800				**Ø 127**	
anthracite	425165-00	8800	8000	800				**Ø 139**	

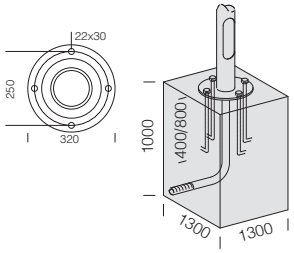


ON REQUEST
Possibility of supplyng poles with the following colour paint finishes:
pearl, blue, RAL 3003, 5011, 7026, 9011, 8015, 5002 7024, 7016, 9006, 7037, 6004, 8019, 6011, 7022, 1015, 9010.

Inspection door with easily removable terminal board for quick connection.



Concrete base dimensions (subject to soil variations).



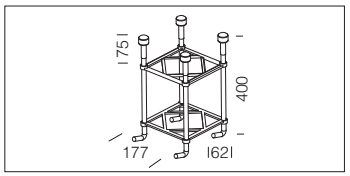
acc. 1480 - steel cone-shaped with base-with window

colour	code					ø	Ø	
grey	425050-00	3000				**Ø 89**		
grey	425051-00	4000				**Ø 89**		
grey	425052-00	5000				**Ø 102**		
grey	425053-00	6000				**Ø 127**		
grey	425058-00	7000				**Ø 127**		
grey	425067-00	8000				**Ø 139**		
graphite	425054-00	3000				**Ø 89**		
graphite	425055-00	4000				**Ø 89**		
graphite	425056-00	5000				**Ø 102**		Ø 320 hole Ø 22x30
graphite	425057-00	6000	1000	186	45	**Ø 127**	Ø 60	
graphite	425059-00	7000				**Ø 127**		
graphite	425068-00	8000				**Ø 139**		
anthracite	425086-00	3000				**Ø 89**		
anthracite	425087-00	4000				**Ø 89**		
anthracite	425088-00	5000				**Ø 102**		
anthracite	425089-00	6000				**Ø 127**		
anthracite	425072-00	7000				**Ø 127**		
anthracite	425073-00	8000				**Ø 139**		

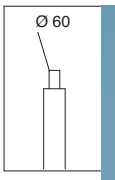
Log bolts are to be bought separately acc. 299.

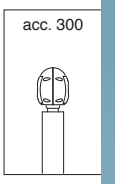
Tapered steel lighting pole. With hole for insertion of power supply cable, pole-head connection, ø60.
For the version with base, 4 log bolts to be sunk into the ground, bolts and lids have to be purchased. Size of inspection window 38x132 (h 3 000) - 45x186 (h 4000-5000-6000), supplied with protection fuse holder, 2 fuses, 16A, removable terminal block, 4 poles/3 holes = 6sqmm and shunt 4sqmm.
Standard insulation class II. When using Insulation Class I fixtures, appropriate grounding connections should be included in the system.

NOTE. Before selecting the appropriate pole, make all necessary wind pressure resistance tests, pursuant to the Standards or Legislative Decrees in force in the countries where the pole will be mounted and based on the assumed loads specified in Standard EN 40-3-1

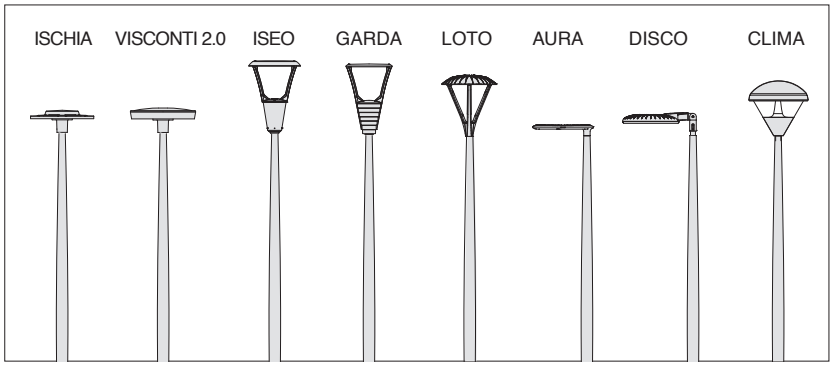


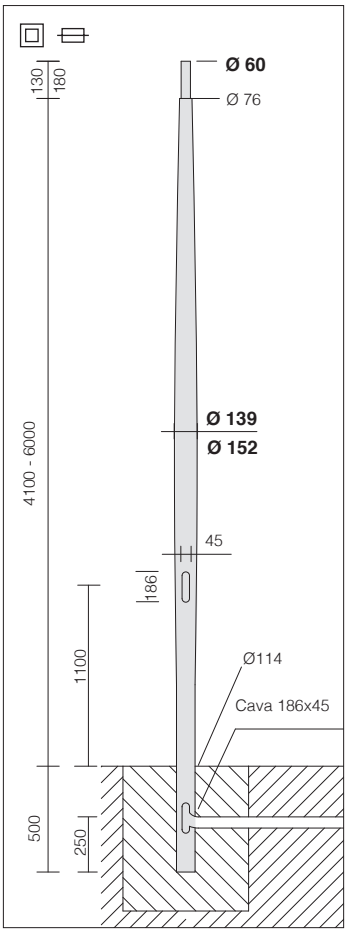
acc. 299 log bolts	
	991396-00
Log bolts are to be always used with the pole 1477.	



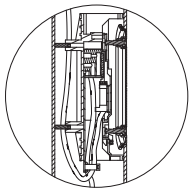




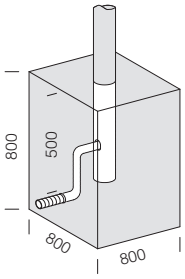


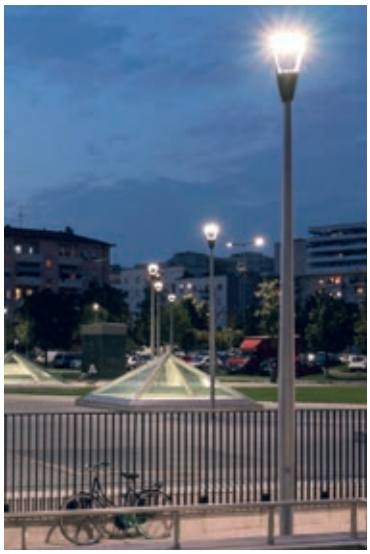


Inspection door with easily removable terminal board for quick connection.



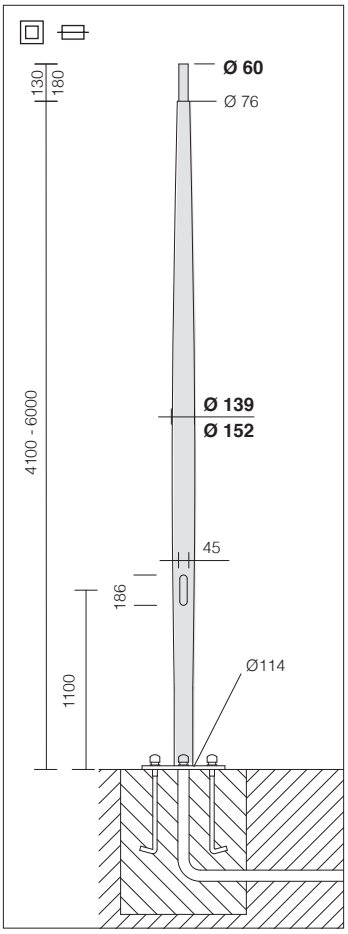
Concrete base dimensions (subject to soil variations).



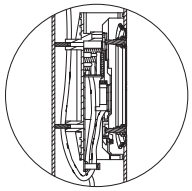


acc. 1478 - pole Urban to be buried

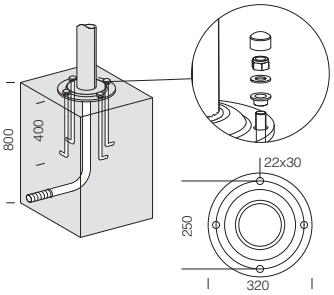
colour	code							Ø	Ø
grey	425370-00	4600	4100	500	1100	186	45	**Ø 114**	Ø 60
graphite	425371-00	4600	4100	500					
anthracite	425372-00	4600	4100	500					
grey	425373-00	6500	6000	500				**Ø 127**	
graphite	425374-00	6500	6000	500					



Inspection door with easily removable terminal board for quick connection.



Concrete base dimensions (subject to soil variations).





acc. 1477 - pole Urban with base

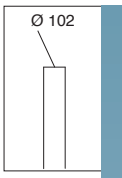
colour	code						Ø	Ø	
grey	425360-00	4100	1100	186	45	**Ø 114**	Ø 60	Ø 320 22x30	
graphite	425361-00	4100							
anthracite	425362-00	4100							
grey	425363-00	6000				**Ø 127**			
graphite	425364-00	6000							

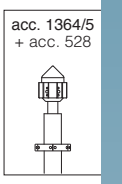
Log bolts are to be bought separately acc. 299.

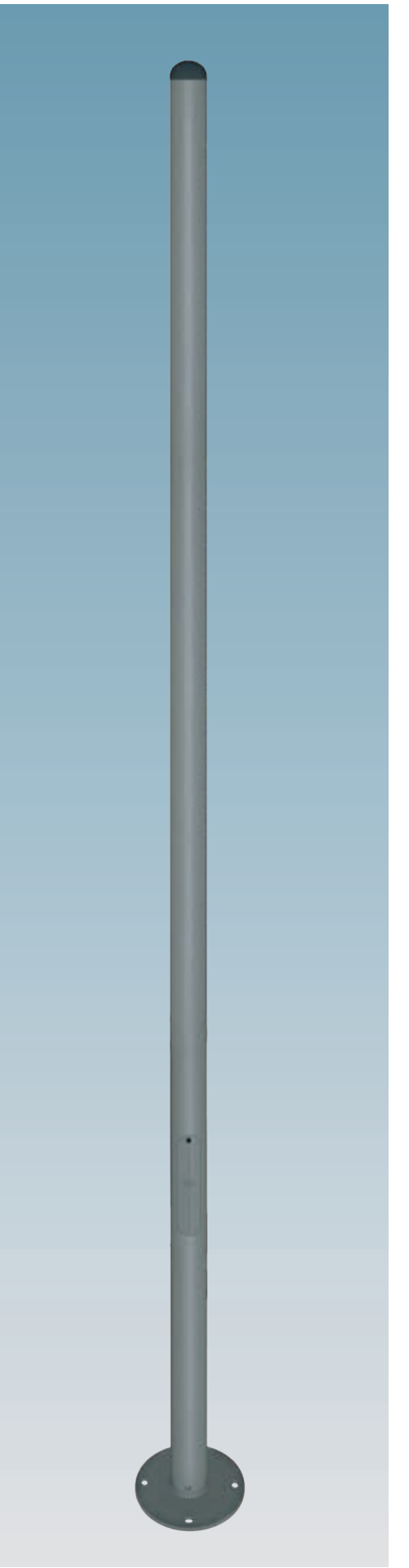
Steel pole ø 102

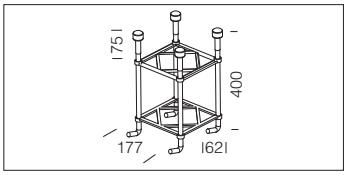
Steel pole ø 102. With die-cast aluminium inspection window (186x45mm), complete with 2 protection fuse holders, 2 fuses, 16A, removable 4-pole terminal block. With hole for insertion of power supply cable. For the version with base, 4 log bolts to be sunk into the ground, bolts and lids have to be purchased.

NOTE. Before selecting the appropriate pole, make all necessary wind pressure resistance tests, pursuant to the Standards or Legislative Decrees in force in the countries where the pole will be mounted and based on the assumed loads specified in Standard EN 40-3-1

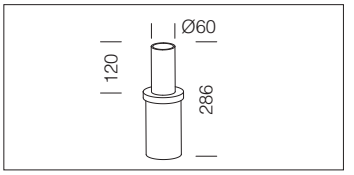




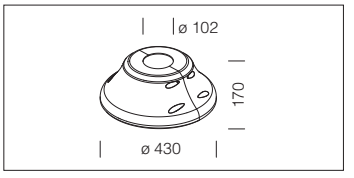




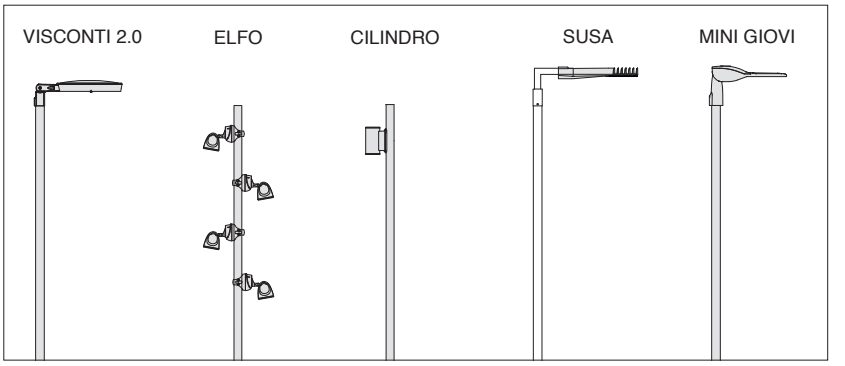
acc. 299 log bolts	
h=5000	991396-00
h=7000	991314-00
Log bolts are to be always used with the pole 1485.	

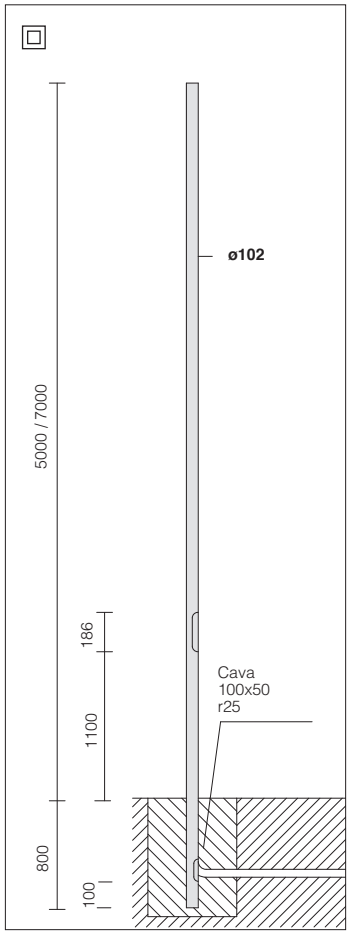


acc. 528 mast-top adapter	
graphite	991463-00
grey	991463-2118
It enables the installation of fixtures on top of poles in single-lamps configurations.	



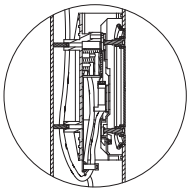
acc. 222 base pole cover	
graphite	991315-00
grey	991399-00
To be used as base pole cover acc. 1485/1487	



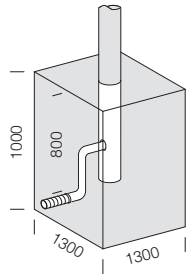


ON REQUEST
Possibility of supplyng poles with the following colour paint finishes:
RAL 3003, 5011, 7026, 9011, 8015, 5002 7024, 7016, 9006, 7037, 6004, 8019, 6011, 7022, 1015, 9010.

Inspection door with easily removable terminal board for quick connection.



Concrete base dimensions (subject to soil variations)

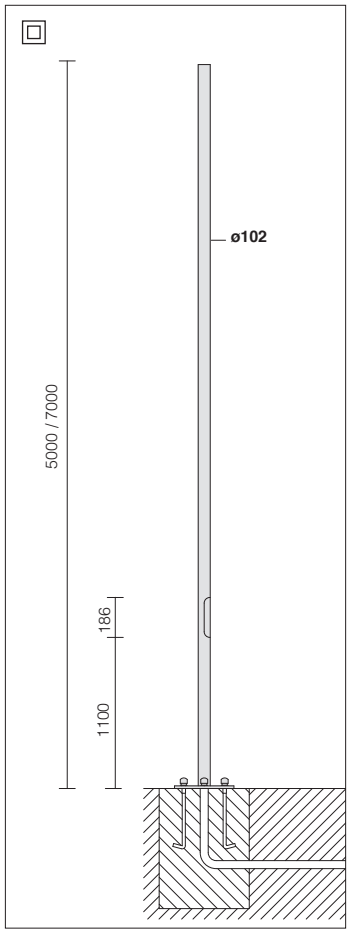




CE U.V.

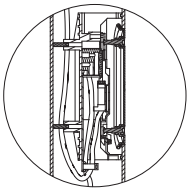
acc. 1487 steel pole to be buried

colour	code							Ø	Ø
grey	425060-00	5800	5000	800	1100	186	45	**Ø 102**	Ø 102
graphite	425064-00	5800	5000	800					
grey	425065-2118	7800	7000	800					
graphite	425065-00	7800	7000	800					

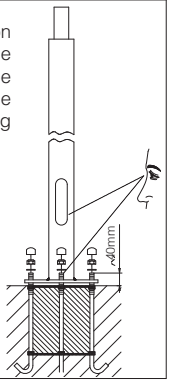


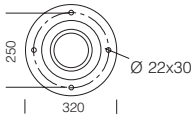
ON REQUEST
Possibility of supplyng poles with the following colour paint finishes:
RAL 3003, 5011, 7026, 9011, 8015, 5002 7024, 7016, 9006, 7037, 6004, 8019, 6011, 7022, 1015, 9010.

Inspection door with easily removable terminal board for quick connection.

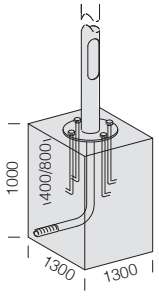


For correct installation of pole and base, the ceiling cap should be fitted as shown in the assembly drawing featured opposite.





Concrete base dimensions (subject to soil variations)



CE U.V.

acc. 1485 steel pole with base

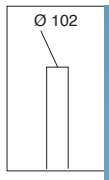
colour	code					Ø	Ø	
grey	425070-00	5000	1100	186	45	**Ø 102**	Ø 102	Ø 320 hole Ø 22x30
graphite	425074-00	5000						
graphite	425075-00	7000						

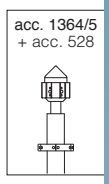
Log bolts are to be bought separately acc. 299.

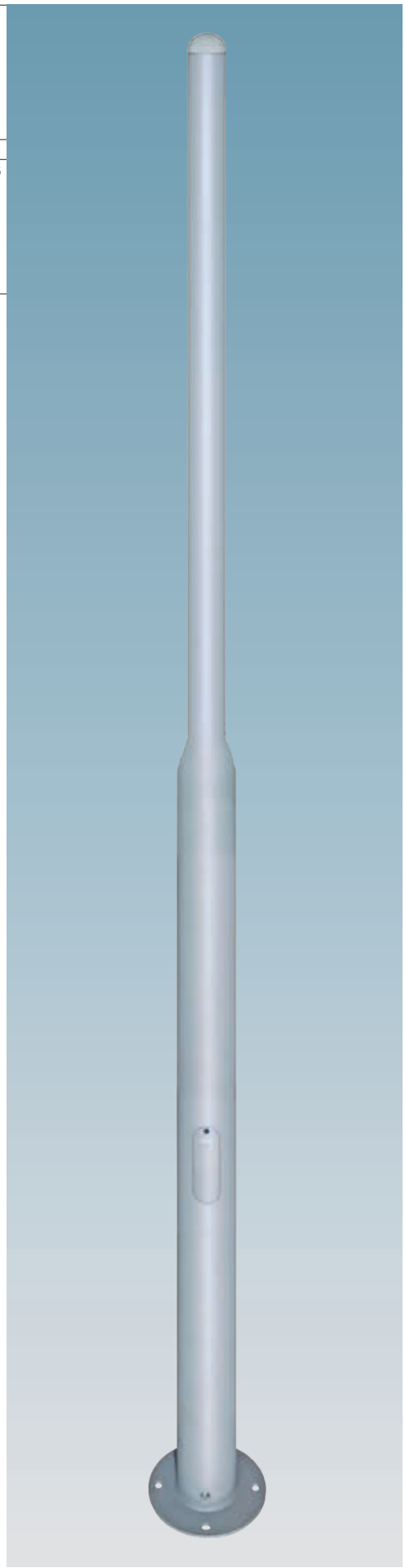
Steel pole Ø 102 -159

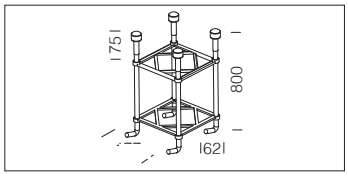
Steel pole ø 102-159. With die-cast aluminium inspection window (186x45mm), complete with 2 protection fuse holders, 2 fuses, 16A, removable 4-pole terminal block. With hole for insertion of power supply cable. For the version with base, 4 log bolts to be sunk into the ground, bolts and lids have to be purchased.

NOTE. Before selecting the appropriate pole, make all necessary wind pressure resistance tests, pursuant to the Standards or Legislative Decrees in force in the countries where the pole will be mounted and based on the assumed loads specified in Standard EN 40-3-1

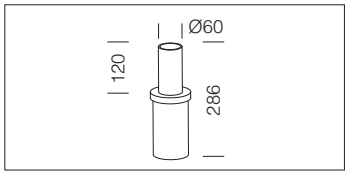




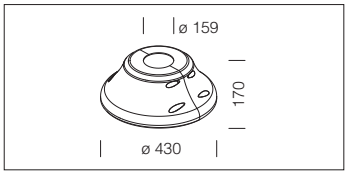




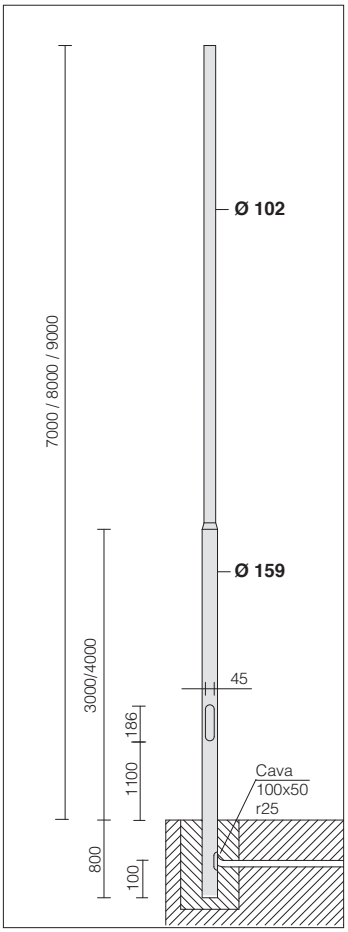
acc. 299 log bolts
991314-00
Log bolts are to be always used with the pole 1417.



acc. 528 mast-top connection	
graphite	991463-00
grey	991463-2118
In galvanised steel. To be used as a mast-top connection	

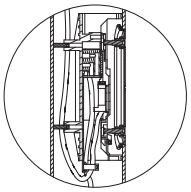


acc. 223 base pole cover	
grey	991333-00
graphite	991320-00
To be used as base pole cover acc. 1417/1418.	

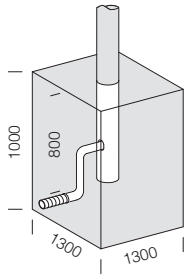


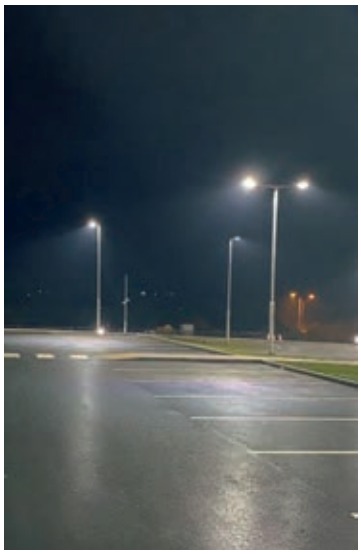
ON REQUEST
Possibility of supplyng poles with the following colour paint finishes:
RAL 3003, 5011, 7026, 9011, 8015, 5002 7024, 7016, 9006, 7037, 6004, 8019, 6011, 7022, 1015, 9010.

Inspection door with easily removable terminal board for quick connection.



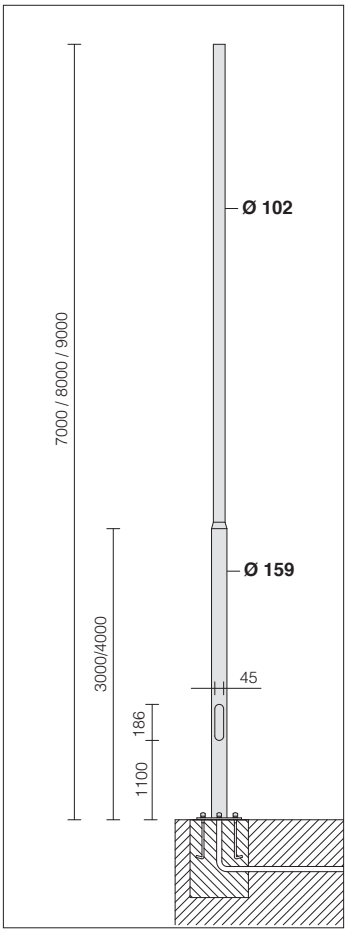
Concrete base dimensions (subject to soil variations)





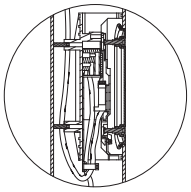
acc. 1418 steel pole to be buried

colour	code							Ø	Ø
grey	426770-00	7800	7000	800	1100	186	45	**Ø 159**	Ø 102
graphite	426771-00	7800	7000	800	1100				
grey	426772-00	8800	8000	800	1100				
graphite	426773-00	8800	8000	800	1100				
grey	426774-00	9800	9000	800	1100				
graphite	426775-00	9800	9000	800	1100				

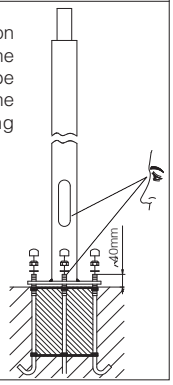


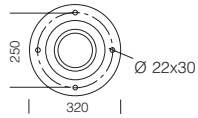
ON REQUEST
Possibility of supplyng poles with the following colour paint finishes:
RAL 3003, 5011, 7026, 9011, 8015, 5002 7024, 7016, 9006, 7037, 6004, 8019, 6011, 7022, 1015, 9010.

Inspection door with easily removable terminal board for quick connection.

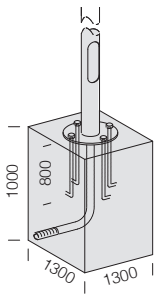


For correct installation of pole and base, the ceiling cap should be fitted as shown in the assembly drawing featured opposite.





Concrete base dimensions (subject to soil variations)



acc. 1417 steel pole with base

colour	code					Ø	Ø	
grey	426760-00	7000	1100	186	45	**Ø 159**	Ø 102	Ø 320 hole Ø 22x30
graphite	426761-00	7000	1100					
grey	426762-00	8000	1100					
graphite	426763-00	8000	1100					
grey	426764-00	9000	1100					
graphite	426765-00	9000	1100					

Log bolts are to be bought separately acc. 299.

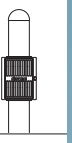
Hot-dip galvanised steel poles.
With die-cast inspection window (186x45mm), 2 protection fuse holders, 2 fuses, 16A, 4-pole/3-way removable terminal block = 10 sqmm, 2,5 sqmm connection. With hole for insertion of power supply cable. For the version with base, 4 log bolts to be sunk into the ground, bolts and lids have to be purchased. Standard insulation class II.
When using Insulation Class I fixtures, appropriate grounding connections should be included in the system.

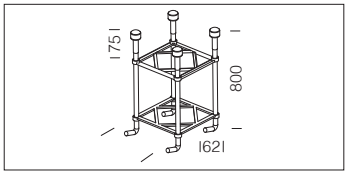
NOTE. Before selecting the appropriate pole, make all necessary wind pressure resistance tests, pursuant to the Standards or Legislative Decrees in force in the countries where the pole will be mounted and based on the assumed loads specified in Standard EN 40-3-1

acc. 211



acc. 151

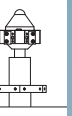


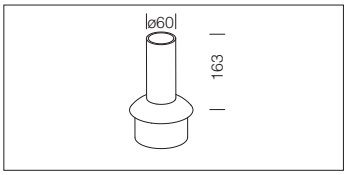


acc. 299 log bolts

991396-00
Log bolts are to be always bought with the pole 1415.

acc.1464/5 + acc. 368



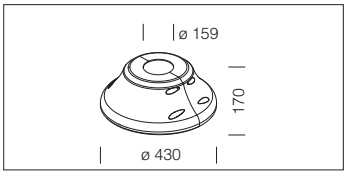


acc. 368 mast-top-pole connec.

grey	427002-00
graphite	427003-00
In galvanized steel. To be used as a mast-top-pole connection on poles acc. 1415/1416.	

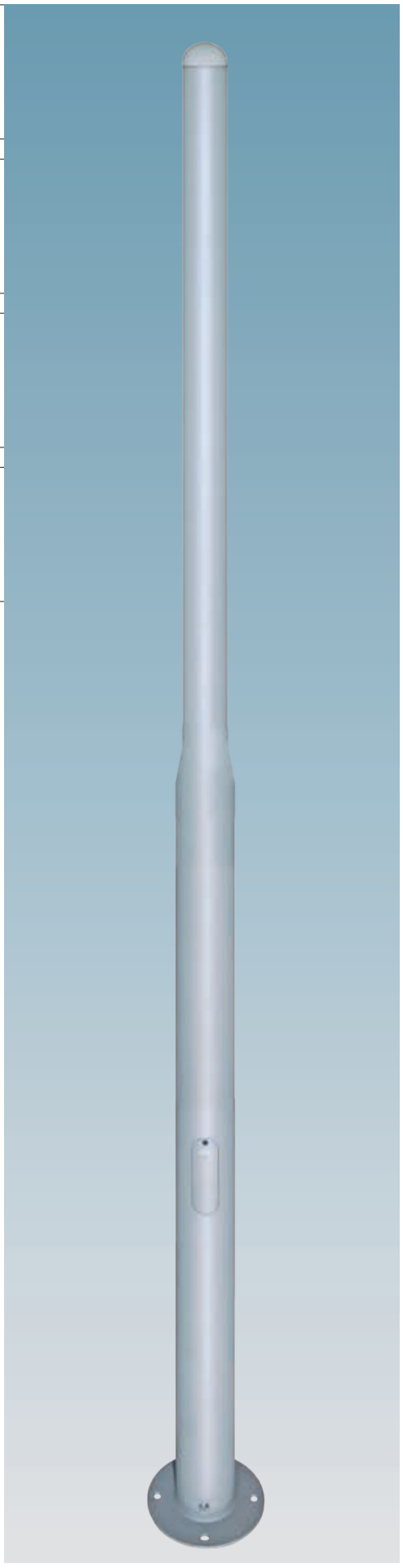
acc. 300 + acc. 368

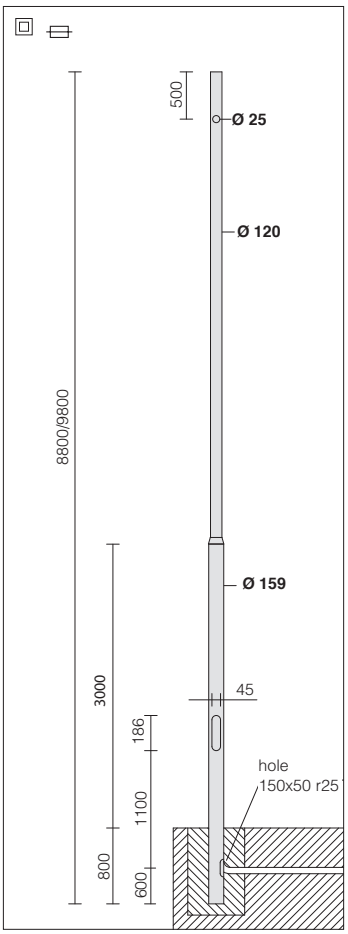




acc. 223 base pole cover

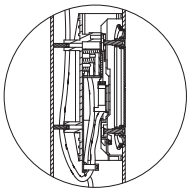
grey	991333-00
graphite	991320-00
To be used as base pole cover acc. 1415/1416.	



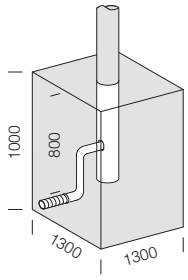


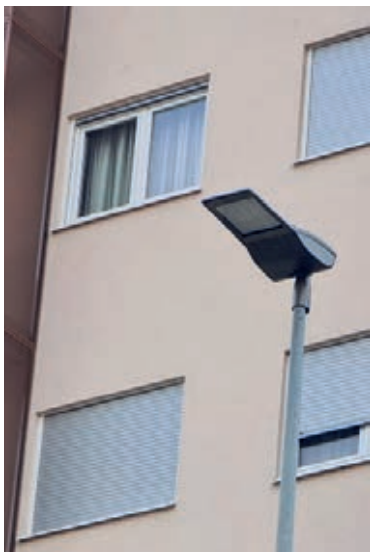
ON REQUEST
Possibility of supplying poles with the following colour paint finishes:
RAL 3003, 5011, 7026, 9011, 8015, 5002 7024, 7016, 9006, 7037, 6004, 8019, 6011, 7022, 1015, 9010.

Inspection door with easily removable terminal board for quick connection.



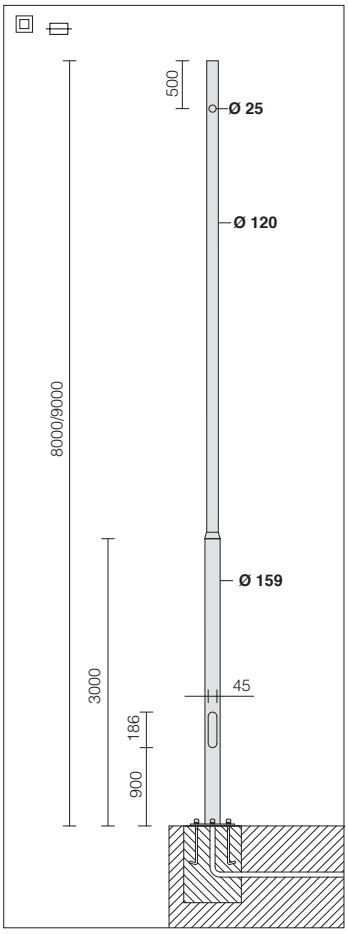
Concrete base dimensions (subject to soil variations)





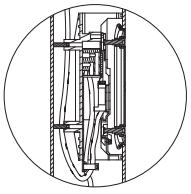
acc. 1416 steel pole to be buried

colour	code							Ø	Ø
grey	426750-00	8800	8000	800	1100	186	45	**Ø 159**	Ø 121
graphite	426751-00	8800	8000	800					
grey	426752-00	9800	9000	800					
graphite	426753-00	9800	9000	800					

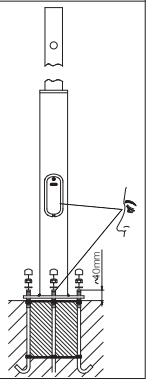


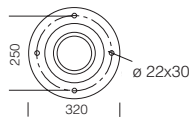
ON REQUEST
Possibility of supplying poles with the following colour paint finishes:
RAL 3003, 5011, 7026, 9011, 8015, 5002 7024, 7016, 9006, 7037, 6004, 8019, 6011, 7022, 1015, 9010.

Inspection door with easily removable terminal board for quick connection.

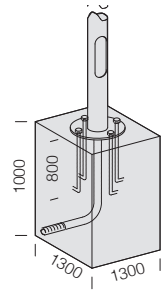


For correct installation of pole and base, the ceiling cap should be fitted as shown in the assembly drawing featured opposite





Concrete base dimensions (subject to soil variations)

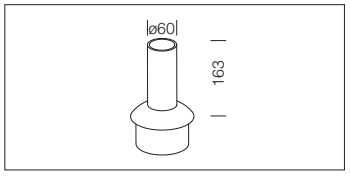


acc. 1415 steel pole with base

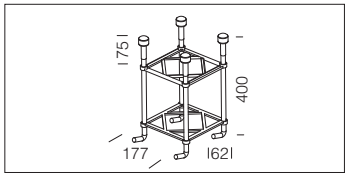
colour	code					Ø	Ø	
grey	426740-00	8000	1100	186	45	**Ø 159**	Ø 121	Ø 320 hole Ø 22x30
graphite	426741-00	8000						
grey	426742-00	9000						
graphite	426743-00	9000						

Log bolts are to be bought separately acc. 299.

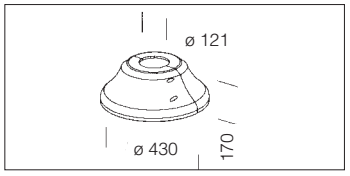
Hot-dip galvanised steel poles. With die-cast inspection window (186x45mm), 2 protection fuse holders, 2 fuses, 16A, 4-pole/3-way=10mm², derivation 2,5 sqmm, removable terminal block = 6 sqmm, 4 sqmm connection. With hole for insertion of power supply cable; with holes at different heights according to use. For the version with base, 4 log bolts to be sunk into the ground, bolts and lids have to be purchased. Standard insulation class II. When using Insulation Class I fixtures, appropriate grounding connections should be included in the system.



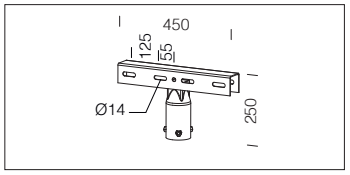
368 mast-top-pole connec.	
grey	427002-00
graphite	427003-00
In galvanized steel. To be used as a mast-top-pole connection on poles acc. 1491/1493 ø120.	



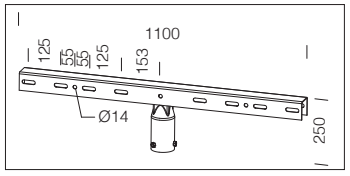
acc. 299 log bolts	
h=6000	991396-00
h=7000/8000	991314-00
Log bolts are to be always used with the pole 1493.	



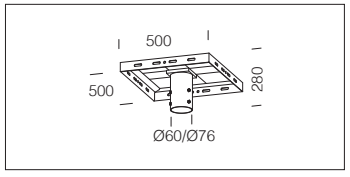
acc. 222 base pole cover	
grey	991378-00
graphite	991381-00
In die-cast aluminium. To be used as a base pole cover acc. 1493.	



acc. 59 pole bracket	
galvanized	997900-00
Bracket for pole mounting 1 or 2 end-to-end floodlights. For Ø 60/76 mm poles.	

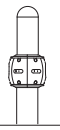


acc. 60 pole bracket	
galvanized	997901-00
Bracket for pole mounting 2 or 4 end-to-end exterior floodlights. For Ø 60/76 mm poles.	



acc. 164 pole bracket	
galvanized	998097
Made in galvanized steel. To be used to apply on a pole until 4 fixture Ø 60/76 mm.	

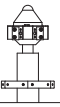
acc. 211



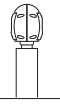
acc. 151

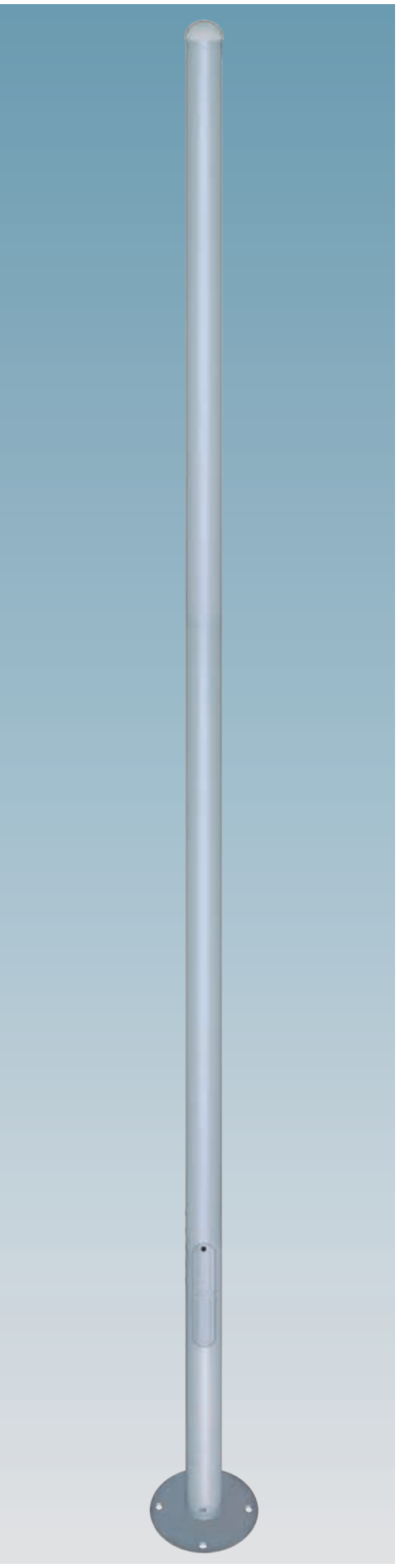


acc.1464/5 + acc. 368

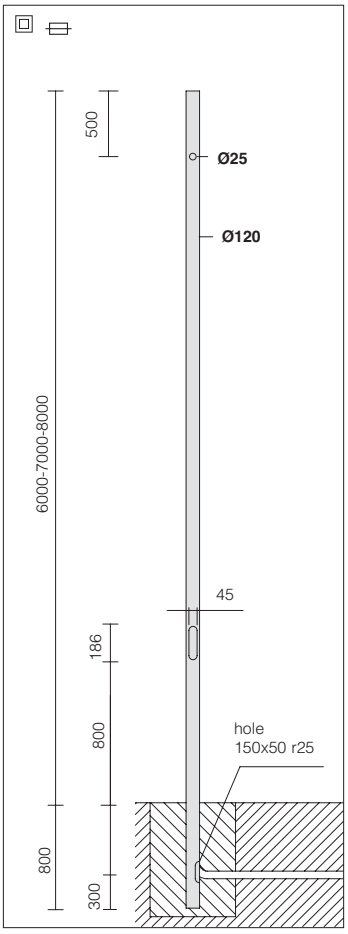


acc. 300 + acc. 368



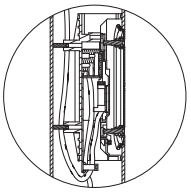


NOTE. Before selecting the appropriate pole, make all necessary wind pressure resistance tests, pursuant to the Standards or Legislative Decrees in force in the countries where the pole will be mounted and based on the assumed loads specified in Standard EN 40-3-1

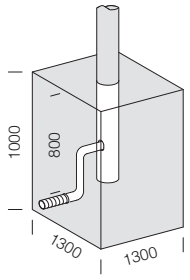


ON REQUEST
Possibility of supplying poles with the following colour paint finishes:
RAL 3003, 5011, 7026, 9011, 8015, 5002 7024, 7016, 7037, 6004, 8019, 6011, 7022, 1015, 9010.

Inspection door with easily removable terminal board for quick connection.



Concrete base dimensions (subject to soil variations)

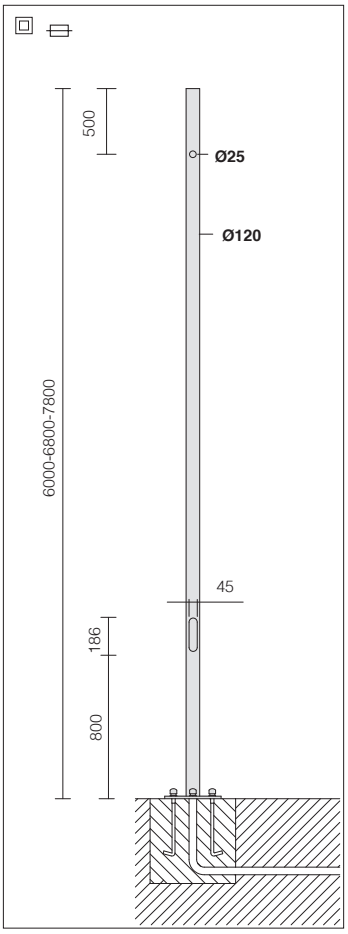




acc. 1491 steel pole to be buried

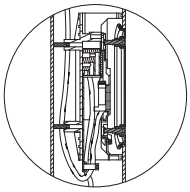
colour	code							Ø
grey	426177-00	6800	6000	800	800	186	45	**Ø 120**
grey	426178-00	7800	7000					
grey	426179-00	8800	8000					
graphite	426149-00	6800	6000					
graphite	426153-00	7800	7000					
graphite	426159-00	8800	8000					

Supplied with end cap and holes to let the cables through.

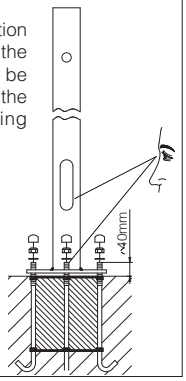


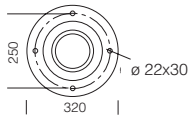
ON REQUEST
Possibility of supplying poles with the following colour paint finishes:
RAL 3003, 5011, 7026, 9011, 8015, 5002 7024, 7016, 7037, 6004, 8019, 6011, 7022, 1015, 9010.

Inspection door with easily removable terminal board for quick connection.

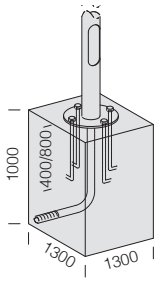


For correct installation of pole and base, the ceiling cap should be fitted as shown in the assembly drawing featured opposite.





Concrete base dimensions (subject to soil variations)



acc. 1493 steel pole with base

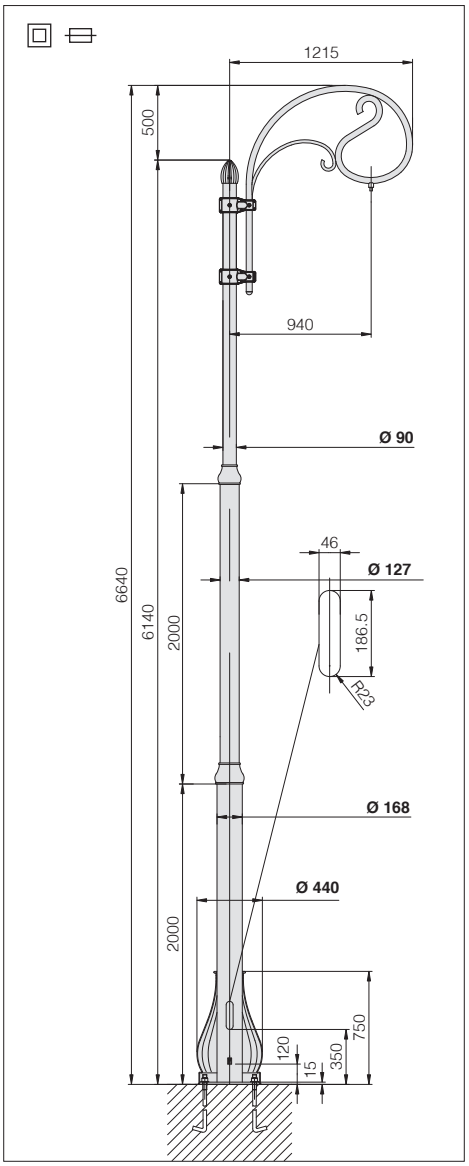
colour	code					Ø	
grey	426197-00	6000	800	186	45	**Ø 120**	Ø 320 hole Ø 22x30
grey	426198-00	6800					
grey	426199-00	7800					
graphite	426187-00	6000					
graphite	426188-00	6800					
graphite	426189-00	7800					

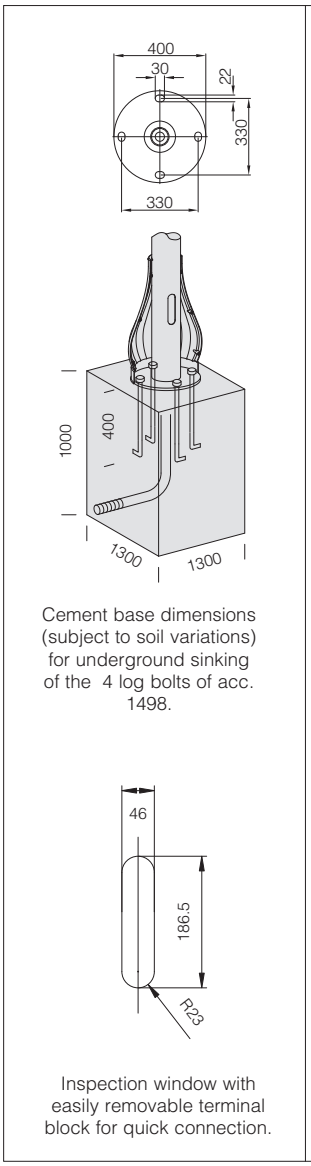
Supplied with end cap and holes to let the cables through. **Log bolts are to be bought separately acc. 299.**

Liberty Pole, complete with one or two brackets. Internal steel pole with die-cast aluminium coating.
Die-cast aluminium inspection window. Complete with 2 protection fuse holders, 2 fuses, 16A, removable 4-pole terminal block, 16sqmm cross section.

NOTE: The possibility to attach an assembly to the pole is subject to a wind pressure resistance assessment in the areas regulated by CNR-UNI standard 10032-67, according to load assumptions in UNI UNI 40/6 standard. An accurate and suitable protection or insulation of the surfaces involved is recommended to avoid any direct contact with the new masonry or concrete screed.

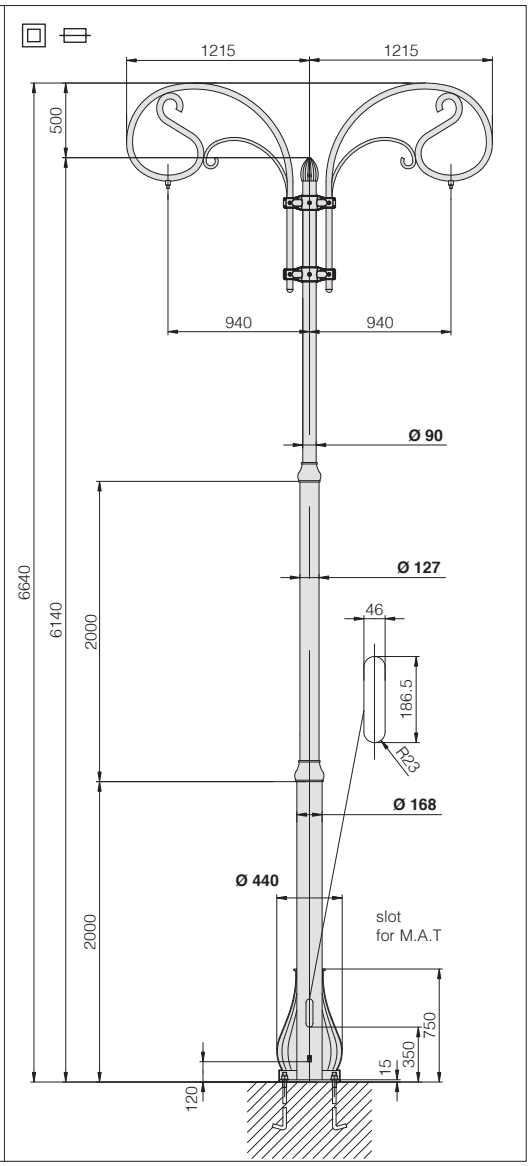




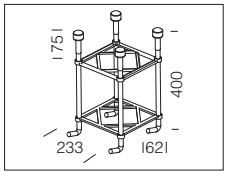


Cement base dimensions (subject to soil variations) for underground sinking of the 4 log bolts of acc. 1498.

Inspection window with easily removable terminal block for quick connection.



acc. 297 log bolts
426448-00
Log bolts are always to be used with the pole 1498.

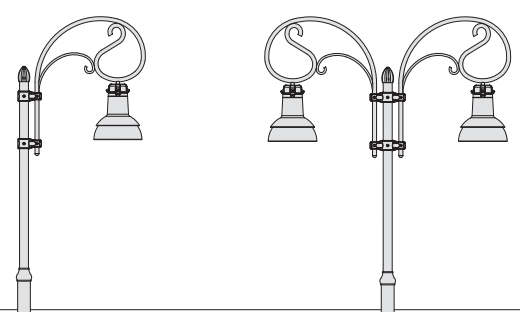


acc. 1498 Liberty pole

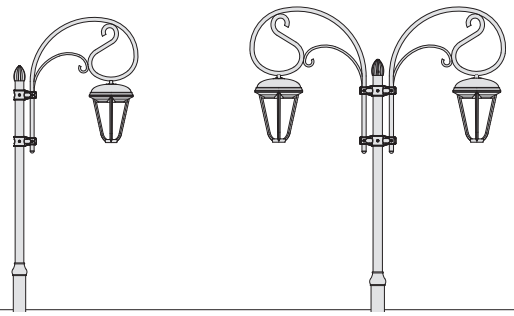
version	colour	code					Ø	Ø	
with 1 arm	graphite	425200-00	6140	350	186.5	46	**Ø 440**	Ø 90	Ø 400 hole 30x22
with 2 arms	graphite	425202-00							

Log bolts are to be bought separately acc. 297.

CAMPANA



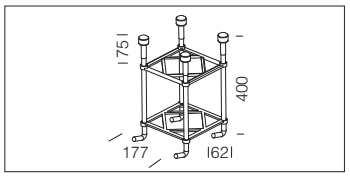
LUCERNA



Virgola pole

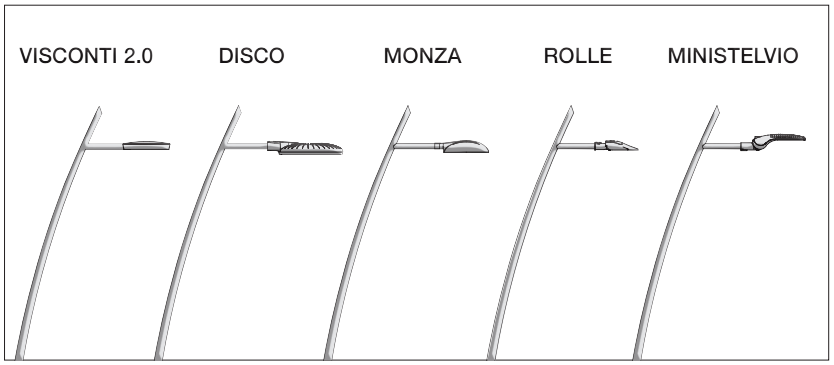
Tapered steel lighting pole. With hole for insertion of power supply cable, pole-head connection, ø60.
For the version with base, 4 log bolts to be sunk into the ground, bolts and lids have to be purchased.
When using insulation Class I fixtures, appropriate grounding connections should be included in the system.

NOTE. Before selecting the appropriate pole, make all necessary wind pressure resistance tests, pursuant to the Standards or Legislative Decrees in force in the countries where the pole will be mounted and based on the assumed loads specified in Standard EN 40-3-1

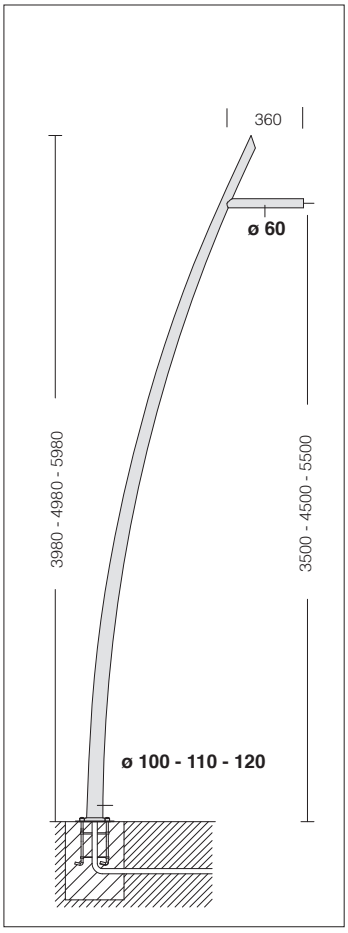


acc. 299 log bolts	
	991396-00
Log bolts are to be always used with the pole 1490.	

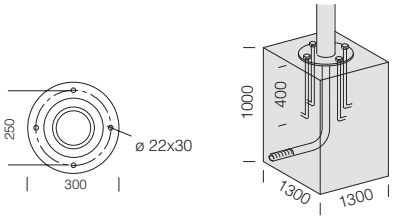








Cement base dimensions
(subject to soil variations)



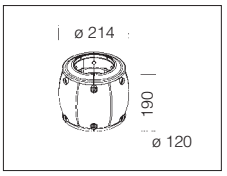




acc. 1490 "Virgola" pole						
colour	code			Ø	Ø	
grey	425080-00	3980	3500	**Ø 100**	Ø 60	Ø 300 hole Ø 22x30
grey	425081-00	4980	4500	**Ø 110**		
grey	425082-00	5980	5500	**Ø 120**		
Painted pole in galvanized steel. Complete with cap and cable insertion hole. **Log bolts are to be bought separately acc. 299. On request pole to be buried**						

For poles: Fluted Ø120, Steel Ø120, Steel Ø120-152, Steel Ø120-193





acc. 211 Sector connector	
grey	426952-00
graphite	426953-00
In aluminium. To be used for pole mounting ø 120.	



Acc. 327/328
Disco
Monza
Volo
Visconti 2.0

Ø 120



Acc. 303
Torcia
Vista

Acc. 301

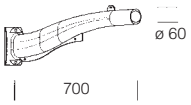


Acc. 210
Disco
Monza
Volo
Visconti 2.0

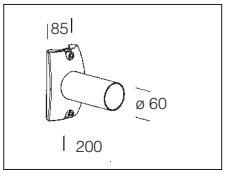
Ø 120

Acc. 304
Campana
Visconti 2.0

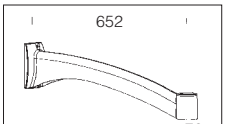
Ø 120



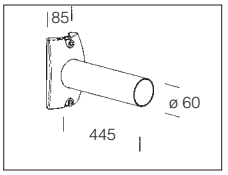
acc. 210 Sector arm	
grey	426950-00
graphite	426951-00
Made of aluminium. To be used with acc. 211 for pole mounting.	



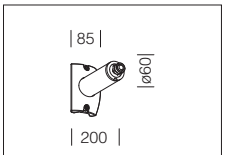
acc. 327 arm	
grey	426942-00
graphite	426943-00
Made of die-cast aluminium. To be used with acc. 211-300 for installation of Monza, Volo.	



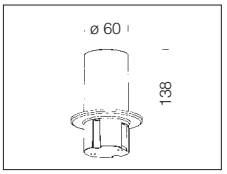
acc. 301 arm Oliva	
grey	426972-00
graphite	426973-00
Made of aluminium. To be used with acc. 300-303-304 for pole mounting or acc. 302/309 for wall mounting.	



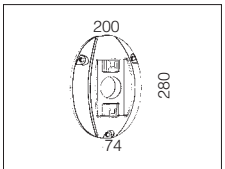
acc. 328 arm	
grey	426944-00
graphite	426945-00
Made of die-cast aluminium. To be used with acc. 211-300 for installation of Monza, Volo.	



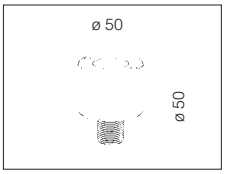
acc. 381 short arm	
grey	326503-00
To be used with acc. 211-300 for pole mounting.	



acc. 303 connection ø 60	
grey	426976-00
graphite	426977-00
Made of aluminium. To be always used with acc. 301 for pole arm installation of Torcia, Vista, Polar, Clima.	



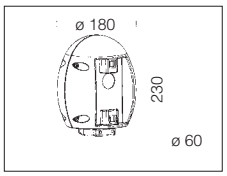
acc. 302 wall mounting	
grey	426974-00
graphite	426975-00
Made of aluminium To be installed with acc.210/327/328 on the wall arm.	



acc. 304 threaded connection	
galvan.	426978-00
Threaded connection to be used with acc. 301 for wall or pole installation of Campana, Visconti 2.0.	

For poles: Fluted Ø120, Cone-Shaped, Steel Ø120, Steel Ø120-152, Steel Ø120-193

acc. 300 Oliva connector	
grey	426970-00
graphite	426971-00
Made of aluminium. To be installed on ø60.	







Acc. 327/328
Disco
Monza
Volo
Visconti 2.0

Ø 120

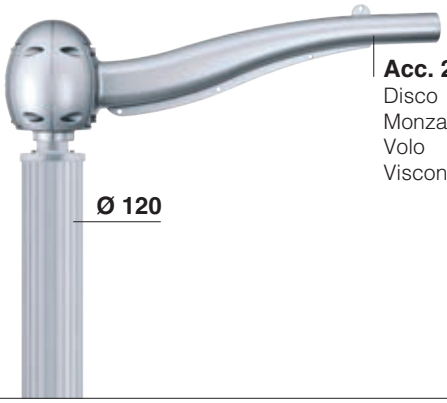


Acc. 303
Torcia
Vista

Acc. 301

Acc. 304
Campana

Ø 120



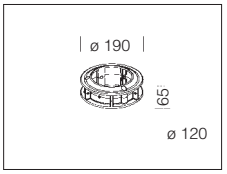
Acc. 210
Disco
Monza
Volo
Visconti 2.0

Ø 120

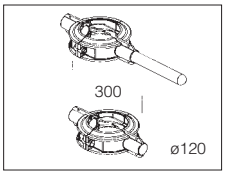




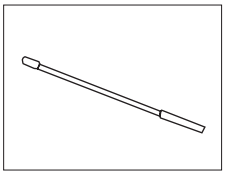
acc. 212 ring	
grey	426954-00
graphite	426955-00
In aluminium. To be used with acc. 214/215 for pole mounting ø 120.	



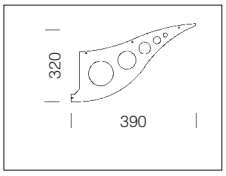
acc. 213 long banner connec.	
grey	426956-00
graphite	426957-00
In aluminium. To be used for pole mounting ø 120 of a flag.	



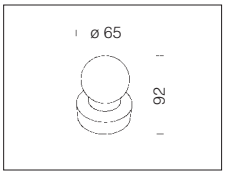
acc. 215 finishing tie rod	
	426960-00
In steel. To be used with acc. 212.	



acc. 214 small banner connec.	
grey	426958-00
graphite	426959-00
In aluminium. To be used with acc. 212 for pole mounting.	



acc. 305 end cap	
grey	426979-00
graphite	426980-00
To be used when on the acc. 210 no fixtures are installed. For an aesthetic finish.	



Upon request:

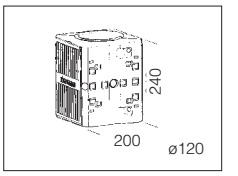




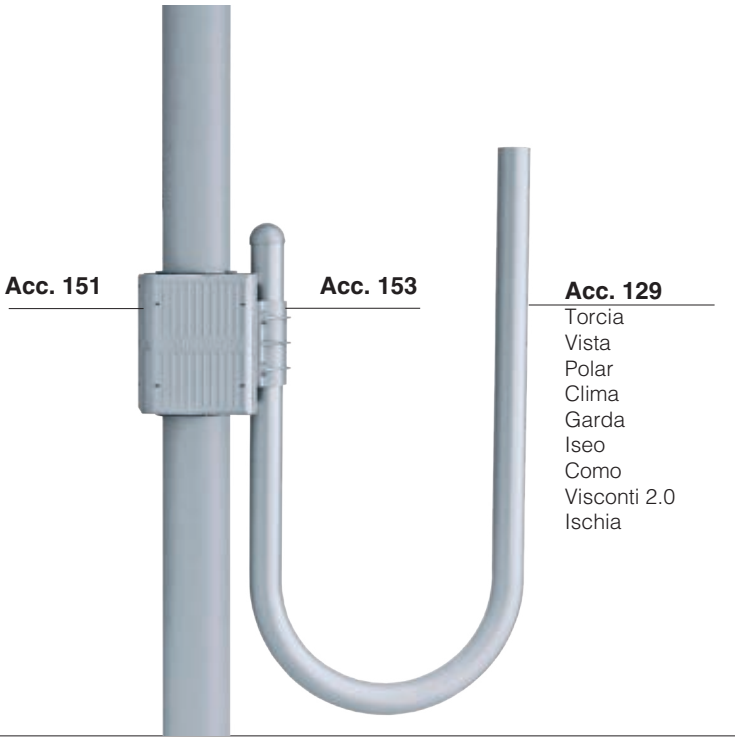


For Ø120 poles

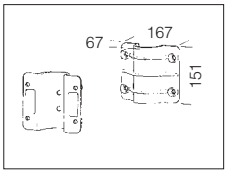




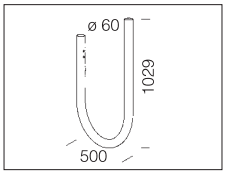
acc. 151 Lione cube	
grey	991365-00
graphite	991310-00
Made of die-cast aluminium. To be used when installing the products on poles Ø120.	







acc. 153 Arm connection	
grey	991359-00
Made of die-cast aluminium. To be used with acc. 151 when installing curved arms (acc. 129) on poles.	



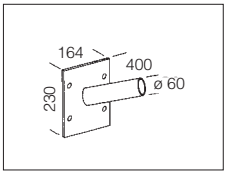
acc. 129 bent arm	
grey	991329-00
graphite	991321-00
Tropicalised steel. Apply to accessories 151-153.	



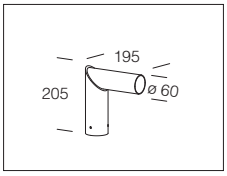




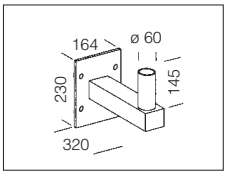
acc. 48 wall bracket	
grey	997706-00
In steel. Used for wall mounting. Connection Ø60. Angle 15°.	



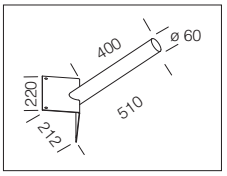
acc. 205 mast-top mounting	
galvanized	426941-00
To be used for mast-top installation on Ø60 pole. 90° fixed.	



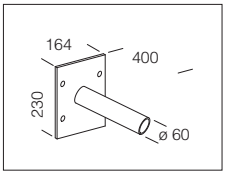
acc. 72 wall bracket	
black	997910-00
Tropicalised steel, with mounting plate. For wall mounting.	



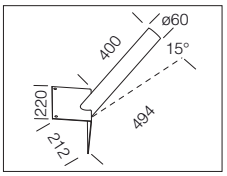
249 corner bracket	
grey	997803-00
In steel. For wall corner mounting. Connection Ø60.	



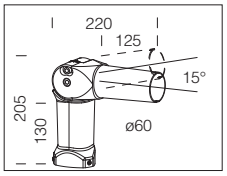
248 wall bracket	
grey	997708-00
In steel. For wall mounting. Connection Ø60.	



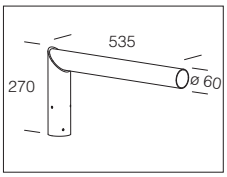
acc. 49 corner bracket	
grey	997802-00
In steel. For wall corner mounting. Connection Ø60. Angle 15°.	



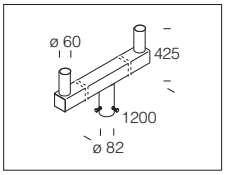
405 articulated connection	
grey	991385-00
Adjustable connection at 90°. be used for pole installation Ø60.	



acc. 205 mast-top mounting	
grey	426948-00
To be used for mast-top installation on Ø60 pole. 90° fixed.	



acc. 74 double mounting on mast	
black	997911-00
Tropicalised steel. For on-mast installation of two fixtures. Connection Ø60/76.	




CIAO
CIAO

UNI EN 40 STANDARD

The UNI standard contains specific prescriptions concerning lighting poles, defined as supports designed to hold one or more lighting fixtures and composed of one or more parts: a stem, an extension, and an arm if required. The regulation applies to pole of a nominal height of 20 m or less, and poles with shelf of a nominal height of 18 m or less. The regulation applies both to straight poles for lighting fixtures with top mast mounting, and poles for fixtures with side mast mounting. The standard specifies the materials to be used in manufacturing poles for public illumination, provides recommendations on corrosion protection treatments, and determines the characteristics of electric gear compartments, cable raceways and grounding terminals of straight poles. Part 3-1 specifies the loads to be considered in designing lighting poles, providing bases for the calculation carried out when designing the illuminant's support structure, represented by the pole. The same part indicates the procedures for the correct measurement of the load due to the wind, as well as all the load variables to be considered. The standard enables a calculation of the action of the wind throughout the entire national territory, divided into nine geographic areas depending on wind intensity. The regulation refers directly to UNI standard ENV 1991-2-4; based on the latter, it provides the speed of the wind to be considered for the relevant installation area. The regulation indicates that the reference speed determines the calculation pressure, which in turn has to be adjusted applying the appropriate coefficients depending on the components' shapes, installation area characteristics, pole physical and geometric characteristics, etc.

TESTING OF THE COMPOSITIONS IN THE SHOWN CATALOGUE - All metal pole assemblies in the "urban decoration" and "residential" lines presented in the catalogue can be tested by Disano in accordance with UNI standard EN 40. Testing for conformity with UNI STANDARD EN 40 can be obtained upon request from our headquarters.
Testing of lighting systems is performed to determine:
- pole's resistance to bending due to wind thrust.
- pole's resistance to twist due to wind thrust on asymmetric assemblies.
- maximum vertical and horizontal warp due to wind thrust and to the assembly's own loads.

For those particular assemblies which are not tested in accordance with UNI standards EN 40/6 no area-related data are provided; however, indications are given on maximum estimated tolerable wind speed (in red) and anchor base dimensioning calculated according to the latter measure.

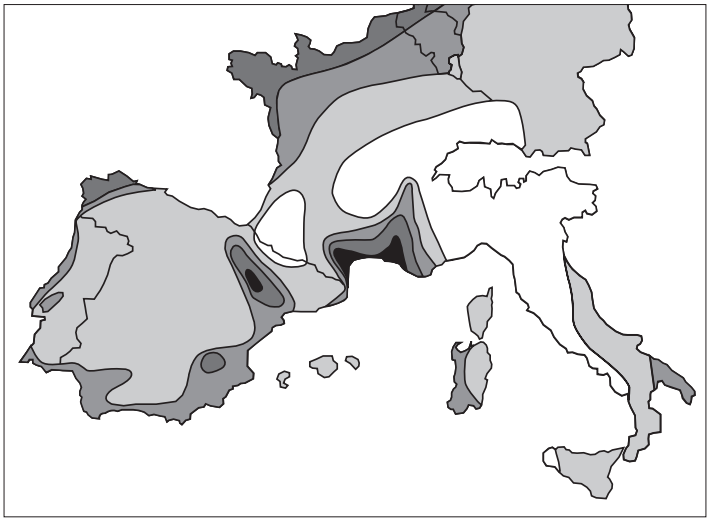
TEST - The action of the wind causes bending stress on the pole due to the momentum generated by the horizontal thrust force acting upon the elements that make up the lighting system with arms equal to the height of the respective centres of gravity.
Tests have been carried out on the lighting systems to ascertain:
- the resistance of the pole to the compressive stress caused by the weights of all the elements making up the composition;
- the resistance of the pole to the bending stress generated by the thrust stress of the wind;
- the resistance of the pole to the torsion stress generated by the thrust stress of the wind;
- the resistance of the pole to the shear stress at the base due to the con trast exercised by the inertia of the concrete foundation plinth;
- the size of foundation plinth required to ensure stability of the combined compressive and bending stress transmitted to the pole.

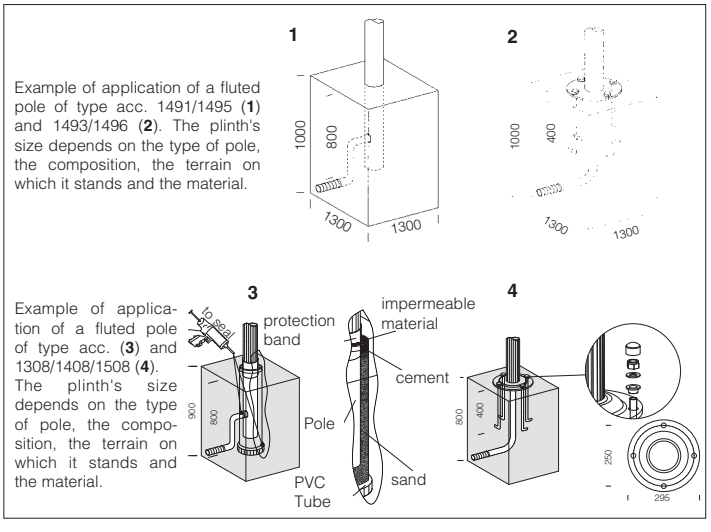
The bending test was carried out using the yield point as the maximum stress value. Resistance was ascertained as in UNI EN standard 40/8, at the critical points in the structure that is at the base of the pole and at the lower edge of the inspection window where present. All calculations were carried out according to the definitions described below:
The load system considered included the weight of each lighting fixture and the thrusts caused by the action of the wind.
The weights of each of the main elements making up the compositions studied were taken into consideration, including:
- weight of the pole and of all the accessories;
- weight of the overall lighting fixture or of the reflectors and related bases.

The vertical forces due to these masses were considered as it applied in the respective fields of gravity.
The dynamic pressure for the calculations due to the wind were obtained by multiplying the basic dynamic pressure, set down by the regulations as 50ON/sq mm, by various factors which take account of the variation in the height above ground level, of the nominal height of the pole, of its dynamic behaviour when there are gusts of wind, of the location where it is installed. The basic dynamic pressure refers to a height of 10 m above ground level. Variation in the height above ground level has been assumed to be half the nominal height of the pole, considering the fact that, in general, poles for urban decor are installed at ground level. If they are installed at a different level, specific tests must be carried out. The dynamic increase coefficient, defined by UNI EN standard 40/6 takes account of the increase in loads when there are oscillations caused by gusts of wind. Coefficients which take into account the shape of the lighting fixture and of the pole have been calculated for each type and height.

SIZING OF THE FOUNDATION PLINTH

In calculating the correct size for the foundation plinth, reference is made to low quality concrete with low resistance since this permits a wide margin of safely. The depth used in the calculations, at which the pole should be buried in the concrete, is given in the catalogue and varies according to the type of pole used in the composition; the depth of the plinth is increased by 10 cm over that measurement to avoid punching and sinking of the pole within the concrete. The base chosen is square shaped to ensure the same response to the action of the wind from whatever direction it blows. In the case of fluted poles with base (acc. 1408 - 1508) which do not need to be buried in a foundation plinth, but are connected to it by log bolts, it is assumed that the log bolts to be buried in the concrete of which the foundation plinth is made are suitably sized to withstand the stress conditions generated by the load assumptions. The stability of the foundation plinth also depends upon the type of ground on which it is laid; the tests were carried out with a ground resistance value of 1.5 kg/sq cm, corresponding to medium to low resistance ground. With these conditions, a check of the force required to overturn the lighting fixture-plinth system was carried out, considering the plinth as simply standing on the ground. The system is subject to the moment generated by the horizontal thrust stresses acting on the elements that make up the lighting system with arms equal to the distance of the respective centres of gravity from the deepest point of the plinth. Stability against overturn is ensured by the weight of the lighting fixture, by the correct size of the concrete plinth and by the resistance offered by the ground. These calculations have permitted the identification of the minimum size of plinth required to prevent overturning, sliding or sinking.







Whether it's for indoor or outdoor areas, public or private offices, commercial or industrial spaces, Disano offers a **WIDE RANGE OF LIGHTING MANAGEMENT SOLUTIONS** that can help increase energy savings, visual comfort and safety.

INDOOR LIGHTING SOLUTIONS

LIGHTING MANAGEMENT SYSTEMS Overview p. 488 — ELEMENTARY MEDIUM ADVANCED SMART (IoT)

ELEMENTARY SOLUTION - ON/OFF - stepDIM
PLUG & PLAY systems with on-board sensors p. 490 — ON/OFF stepDIM

ELEMENTARY SOLUTION - DIMM 1/10V - 0/10V
PLUG & PLAY systems with on-board sensors p. 493 — DIMM 1/10V 0/10V

ELEMENTARY SOLUTION - DIMM DALI
PLUG & PLAY systems with on-board sensors p. 495 — DIMM DALI

MEDIUM SOLUTION - PushDIM (or SwitchDIM)
CABLED solutions for DALI dimmable fixtures p. 496

MEDIUM SOLUTION
CABLED solutions for DALI dimmable fixtures not integrated p. 498

MEDIUM SOLUTION - HIGH CEILINGS
CABLED solutions for DALI dimmable fixtures not integrated p. 500

ADVANCED SOLUTION - basicDIM
High-tech WIRELESS solutions managed via app p. 502

ADVANCED SOLUTION - DISMART
High-tech WIRELESS solutions managed via app p. 506

ADVANCED SOLUTION - ActiveAhead
High-tech WIRELESS solutions managed via app p. 512

SMART SOLUTION - ZHAGA SOCKET
COMPLEX solutions requiring lighting management hardware and software p. 514

SMART SOLUTION - WIRELESS (IoT)
COMPLEX solutions requiring lighting management hardware and software p. 516

OUTDOOR LIGHTING SOLUTIONS

ELEMENTARY SOLUTION
ADVANCED PROG - BASIC PROG - Virtual midnight systems with 1/10V on-board sensors p. 520

SMART SOLUTION - NEMA and ZHAGA SOCKETS
COMPLEX solutions requiring lighting management hardware and software p. 524

SMART SOLUTION
PHOTOCELL / SENSORS / WIRELESS ANTENNA
COMPLEX solutions requiring lighting management hardware and software p. 526

SMART SOLUTION - WIRELESS (IoT)
COMPLEX solutions requiring lighting management hardware and software p. 530

SPORTS SOLUTION - WIRELESS / DMX
COMPLEX solutions requiring lighting management hardware and software p. 532

DMX SOLUTIONS

DMX SOLUTION FOR RGW - FULLCOLOR LEDS
COMPLEX solutions requiring lighting management hardware and software p. 538



DISMART APP:
SIMPLE, RELIABLE AND INTUITIVE

Disano presents **DISMART**, the app that allows you to have complete control over your lighting system, now available for free in app stores.

The **DISMART** app has a simple interface that lets you easily programme and define lighting parameters and configure the system according to your lighting needs.

What are you waiting for? Come and check out our App at page 510

INSTALLATION TIPS (products equipped with integrated sensor with microwave technology):

- *Do not install in unstable locations or where subject to vibration*
- *Do not install near metal or glass structures*
- *Do not install near water pipes*
- *Do not install near fluorescent tubes*
- *Follow the instructions for maximum mounting height*
- *Make sure there are no moving or interfering objects within the sensor's range*
- *The sensor's microwaves can pass through glass, windows, doors and walls*

INDOOR LIGHTING SOLUTIONS



ELEMENTARY SOLUTION

PLUG & PLAY systems with on-board sensors:

- Solution with built-in sensors
- Sensors attached to the lighting body and visible
- Programming via app or remote control of sensors or trimmers
- "PLUG&PLAY" no installation difference with a non-dimmable product
- The installer and the user do not require specific skills because the lighting fixture is configured to change lighting levels automatically
- No additional cabling
- No centralized controls
- No programming and commissioning from specialized technicians
- No remote communication

MEDIUM SOLUTION

CABLED solutions for DALI dimmable fixtures:

- The lighting fixture is equipped with a DALI PUSH DIM LED driver
- Simple additional cabling and possibility to use a standard NO switch

ADVANCED SOLUTION

High-tech WIRELESS solutions to be managed via app:

- System equipped with smart sensors with high level of automation
- Easy-to-use app and software that do not require skills from specialists (e.g. DALI commissioning or software engineer)
- Built-in or external sensors and, if requested, additional cabling that does not require complex circuitry

SMART (IoT) SOLUTION

COMPLEX solutions requiring lighting management hardware and software:

SMART solution:
- Wired and wireless solutions
- System with all fixtures and sensors are managed with the BUS link (or over the air) with the possibility of a limited, but extremely simple, management
- Possibility to configure via app/smartphone/tablet
- Suitable for medium-small systems: variable complexity, including situations that may require the intervention of specialized workers (e.g. commissioning)
- Scalable

IoT solution:
- Device complete with smart technology and hardware infrastructure with software for remote control

OUTDOOR LIGHTING SOLUTIONS



ELEMENTARY SOLUTION

Programmable luminaires:

The luminaire is equipped with a smart LED driver
• Virtual Midnight: lights can be dimmed in 4 steps (up to 8 steps upon request)

SMART SOLUTION

COMPLEX solutions requiring lighting management hardware and software:

The lighting fixture is designed to accept NEMA/ZHAGA socket
• Option to install sensors and remote control at a later time by using the fixture's socket
• No additional cabling is required
• External installation of fixture

SMART (IoT) SOLUTION

COMPLEX solutions requiring lighting management hardware and software:

• Device complete with smart technology and hardware infrastructure with software for remote control

SPORTING SOLUTION

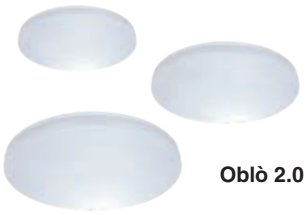
COMPLEX solutions requiring lighting management hardware and software:

• Small and medium-sized sports facilities
• Large-sized sports facilities (stadiums/sport centres/campuses)

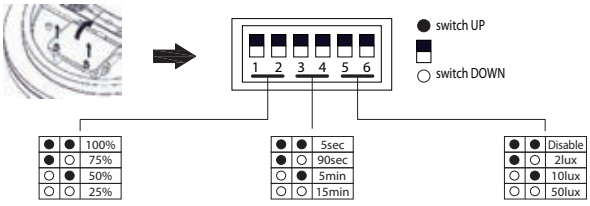
ELEMENTARY SOLUTION (INDOOR)

The Disano products equipped with **integrated sensor with microwave technology** must be ordered with **sub-code -19**. The ELEMENTARY – PLUG & PLAY solutions do not require additional cabling and special skills to be mounted, and apply to the following families of products for interiors:

Luminaires for interiors: **Oblò 2.0, Globo 2.0**



Oblò 2.0

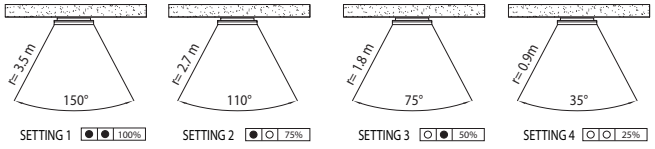


DETECTION AREA:
is the area scanned by the sensor. It can be adjusted for specific applications by combining DIP switches.

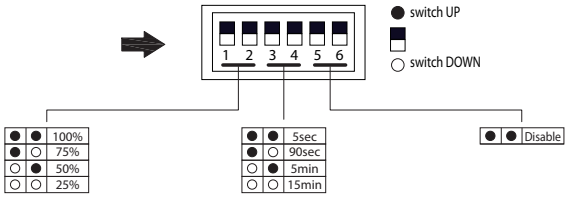
HOLD-TIME:
is the period of time the light will stay ON after the sensor has been triggered.

DAYLIGHT THRESHOLD:
Daylight sensor takes priority over the motion sensor. Set threshold according to specific needs. Disable it to allow motion detection only.

Examples of possible detection area setups (150°-110°-75°-35°) and related detection distances (r=3.5m-2.7m-1.8m-0.9m)



Globo 2.0



DETECTION AREA:
is the area scanned by the sensor. It can be adjusted for specific applications by combining DIP switches.

HOLD-TIME:
is the period of time the light will stay ON after the sensor has been triggered.

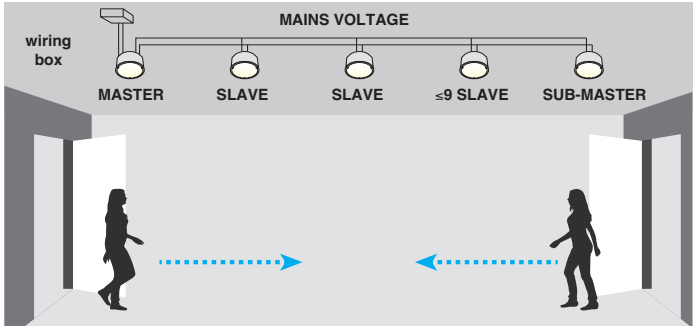
DAYLIGHT THRESHOLD:
Disable, motion detection only.

Factory settings: Detection distance: 8m - Hold time: 5sec			
Power	220-240V AC 50/60 Hz	**Mounting height**	wall: 4m ceiling: 5 m
Frequency	5,8GHz CW Radar, ISM band - 0,2 - <10 mW	**Nominal load**	800 W (resistive) 400 W (inductive)
Detection area	ceiling: 30°-150°	**Energy consumption**	<0,5 W
Detection distance (adjustable)	ceiling: Ø 1-8 m	**Hold Time (adjustable)**	5s, 90s, 5min., 15min.



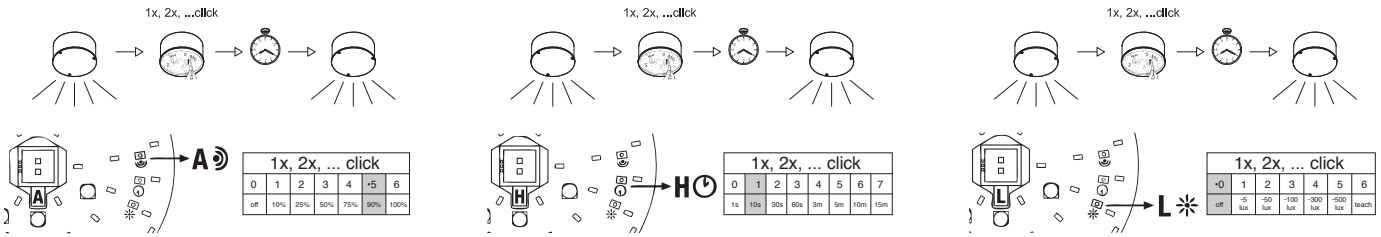
Compact

- Version with **built-in sensor**: **subcode -19**
- **MASTER** version: **subcode -0024** (always use with SLAVE fixture)
- **SLAVE** version: **subcode -0096**



FEATURES MASTER/SLAVE:
Master/Slave interface: to control up to max. 11 fixtures (tot. power 230W).
Example of standard installation:
1 MASTER + 10 SLAVES
Example of mixed installation:
2 MASTERS (one of which serves as the SUB-MASTER) + 9 SLAVES
(Note: this type of installation can accept 1 MASTER and up to max. 3 SUB-MASTERS)

Sensor sensitivity, timer and twilight switch can be adjusted via touch buttons.



ELEMENTARY SOLUTION (INDOOR)

The Disano products equipped with **integrated sensor with microwave technology** must be ordered with **sub-code -19**. The ELEMENTARY – PLUG & PLAY solutions do not require additional cabling and special skills to be mounted, and apply to the following families of products:

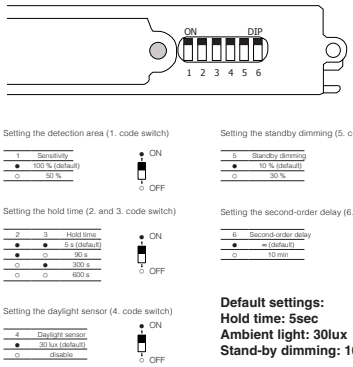
Watertight fixtures in polycarbonate: **Ottima, Hydro,Thema, Echo**



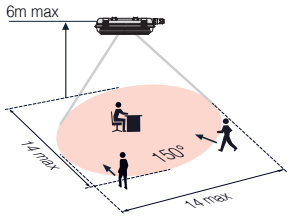
SPECIFICHE TECNICHE RADAR SENSOR stepDIM			
Power source	220-240V AC - 50/60 Hz	**Mounting height**	ceiling: 6 m
Frequency	5,8GHz CW Radar, band - 0,2 mW	**Energy consumption**	<0,5 W
Detection area	ceiling/wall: 150°	**Hold time (adjustable)**	min: 5sec (default) max: 600sec
Detection area sensitivity	min: 100% (default) max: 50%	**Ambient light (adjustable)**	30 lux (default) disable
Detection distance (adjustable)	ceiling: Ø 14 m - h: 3 m	**Stand-by dimming (adjustable)**	min: 10% (default) max: 30%
Detection motion speed	0,5-1-1,5 m/s	**Second-order delay (adjustable)**	min: ∞ (default) max: 10min

Sensor operation:

- When the sensor detects the presence of daylight, lights will go off within 20 seconds. At that point, the system will start monitoring the sensor's light sensitivity for a period of 10 minutes. If the sensor continues to detect the presence of daylight within that time, it will confirm the daylight mode and lights will stay off.
- When night turns to day, there must always be a 10-minute period in which the light sensitivity threshold is monitored before the daylight mode is confirmed. On the other hand, when day turns to night, the system will take only 3 seconds to enable the night mode.
- When the 6 DIP-switch is off, the output signal is 10% or 30%, and if no motion is detected within 10 minutes, the output signal will switch to 0% (lights off).

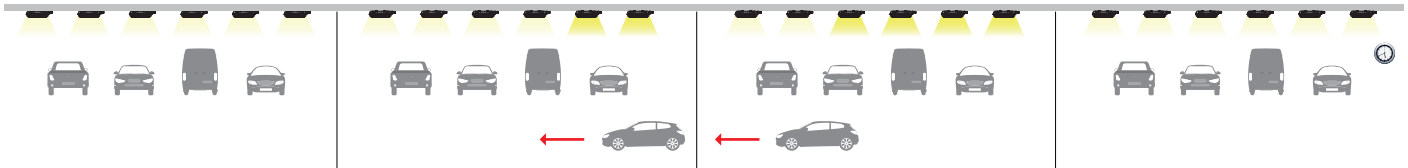


Default settings:
Hold time: 5sec
Ambient light: 30lux
Stand-by dimming: 10%



Example of application: parking garage

EXAMPLE OF HOW THE 2-step DIMMING WORKS



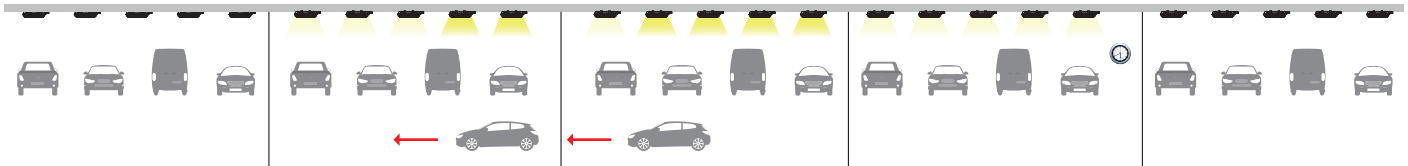
Lights stay on at a pre-programmed level (10% or 30%) when no motion is detected.

As soon as the sensor detects motion, it will change the lights to their full brightness (100%).

Lights will stay on at their full brightness for a previously set hold time (5sec/60sec/3min/5min).

When motion is no longer detected and the hold time has elapsed, the sensor will dim the lights to the previously set brightness (10% or 30%).

EXAMPLE OF HOW THE SECOND-ORDER DELAY WORKS



Lights stay off when no motion is detected.

As soon as the sensor detects motion, it will change the lights to their full brightness (100%).

Lights will stay on at their full brightness for a previously set hold time (5sec/60sec/3min/5min).

When motion is no longer detected and the hold time has elapsed, the sensor will dim the lights to the previously set brightness (10% or 30).

The sensor will turn the lights off after 10 minutes.

ELEMENTARY SOLUTION (INDOOR)

The Disano products equipped with **integrated sensor** must be ordered with **subcode -19**. The ELEMENTARY – PLUG & PLAY solutions do not require additional cabling and special skills to be mounted, and apply to the following families of products:

Industrial fixtures: **Astro e Saturno**



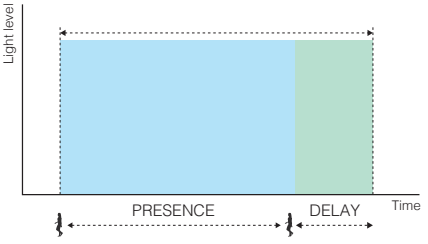


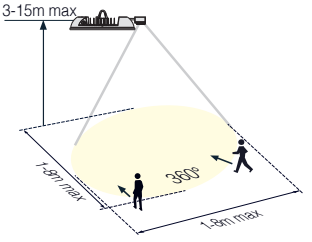
External **ON/OFF** motion sensor with twilight function:
- radar sensor with PIR technology
- operating modes and parameters can be set with remote control

RADAR SENSOR - ON/OFF - TECHNICAL SPECIFICATIONS	
Power source	220-240 Vac - 50/60Hz
High frequency	5.8GHz±75MHz, ISM wave band, <0.5mW
Detection angle	ceiling: 360° - wall: 150°
Detection area	8 max (choice)
Detection motion speed	0.5~3m/s
Mounting height	ceiling: 3-15 m max.
Power consumption	≤0.5W (standby), <1W (operation)
IP degree	IP65
Technology	PIR
Operating temperature (sensor)	-35 ... +70 °C
Hold time (choice)	5s / 30s / 90s / 3min / 20min / 30min
Ambient light (choice)	5lux / 15lux / 30lux / 50lux /100lux / 150lux / Disable



Remote control (cod. **81420019**) to be purchased separately to change parameters after installation, without opening the fixture.



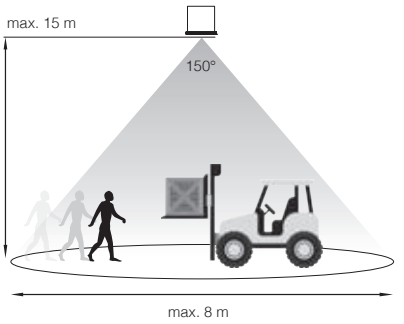


Example of application: warehouse or industrial plant



SCAN AREA: can be reduced by selecting the relevant combination on the remote control to set sensor data for each application.

HOLD TIME: refers to the amount of time the lamp stays on at 100% of the light level after no motion is detected.



ELEMENTARY SOLUTION (INDOOR)

The Disano products equipped with **RADAR SENSOR** must be ordered with **subcode -1219**. The ELEMENTARY – PLUG & PLAY solutions do not require additional cabling and special skills to be mounted, and apply to the following families of products:

Industrial fixtures: **Astro e Saturno**



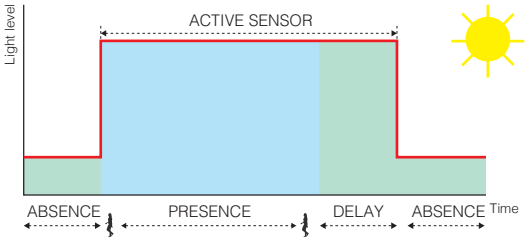


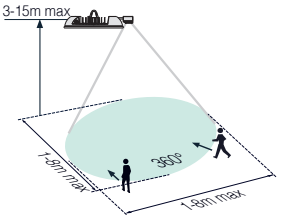
External **BI-LEVEL** motion sensor with twilight function:
- radar sensor with PIR technology
- operating modes and parameters can be set with remote control

RADAR SENSOR - DIMM 1/10V - TECHNICAL SPECIFICATIONS	
Rated supply voltage	220-240 Vac - 50/60Hz
High frequency	5.8GHz±75MHz, ISM wave band, <0.5mW
Detection angle	ceiling: 360° - wall: 150°
Detection area	8 max (choice)
Detection motion speed	0.5~3m/s
Mounting height	ceiling: 3-15 m max.
Power consumption	≤0.5W (standby), <1W (operation)
IP degree	IP65
Technology	PIR
Operating temperature (sensor)	-35 ... +70 °C
Hold time (choice)	5s / 30s / 90s / 3min / 20min /30min
Ambient light (choice)	5lux / 15lux / 30lux / 50lux /100lux / 150lux / Disable
Stand-by period (choice)	5s / 5min / 10min / 30min / 1h / ∞
Stand-by DIMM level (choice)	10% / 20% / 30%/ 50%



Remote control (cod. **81420019**) to be purchased separately to change parameters after installation, without opening the fixture.





Example of application: warehouses or industrial plants



If the sensor does not detect motion, lights stay on constant for a pre-set time.



As soon as the sensor detects motion in the scan area, lights will automatically increase to 100%.



If no motion is detected after a certain amount of time, the sensor will dim back to the set level.



ELEMENTARY SOLUTION (INDOOR)

HIGH CEILINGS

The Disano products equipped with **integrated sensor with microwave technology** must be ordered with **sub-code -1219**. The ELEMENTARY – PLUG & PLAY solutions do not require additional cabling and special skills to be mounted, and apply to the following families of products:

Industrial fixtures: **Saturno**



Sensor integrated inside the fixture

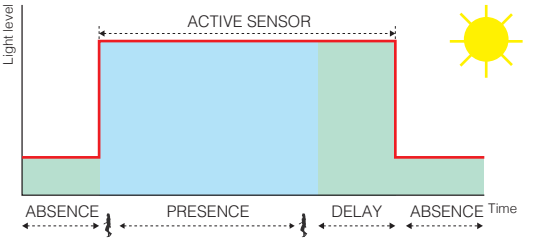
Integrated **BI-LEVEL** motion sensor with twilight function:
- radar sensor with microwave technology
- operating modes and parameters can be set with Dip-switch or remote control (OPTIONAL)

RADAR SENSOR - DIMM 1/10V - TECHNICAL SPECIFICATIONS	
Mains voltage	220-240 Vac - 50/60Hz
Frequency	5.8GHz±75MHz
Detection angle	ceiling: 360°
Detection area	8-14m max (adjustable)
Installation height	ceiling: 12 m (≤ 15 m max.)
Energy consumption	≤ 0.5W (stand-by)
Technology	Microwave
Sensor operating temperature	-20 ... +70 °C



(Optional cod. **81420143**) remote control to change parameters after installation, without opening the fixture

PARAMETERS SETTINGS WITH REMOTE CONTROL	
Technology	Remote control (optional)
Detection area	100% / 75% / 50% / 25%
Motion detection speed	0,5~1,5m/s
Hold time (adjustable)	5s / 30s / 1min/ 3min / 5min / 10min / 20min / 30min
Ambient light (adjustable)	2lux / 10lux /30lux / 50lux / 80lux / 120lux / OFF
Stand-by dimming level (adjustable)	10% / 20% / 30% / 50%



Example of application: warehouses or industrial plants





If the sensor does not detect motion, lights stay on constant for a pre-set time.



As soon as the sensor detects motion in the scan area, lights will automatically increase to 100%.



If no motion is detected after a certain amount of time, the sensor will dim back to the set level.

ELEMENTARY SOLUTION (INDOOR)

HIGH CEILINGS

The Disano products equipped with **RADAR SENSOR** must be ordered with **subcode -0061**. The ELEMENTARY – PLUG & PLAY solutions do not require additional cabling and special skills to be mounted, and apply to the following families of products:

Industrial fixtures: **Astro and Saturno**



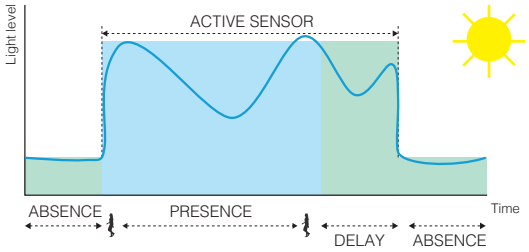


External **motion and constant light sensor**:
- PIR multi-sensor combined with dimmable fixture (DALI)
- operating modes and parameters can be set with remote control (OPTIONAL)

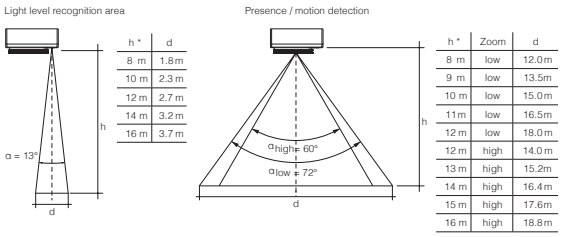
RADAR SENSOR DIMM DALI - TECHNICAL SPECIFICATIONS		
Rated supply voltage	220-240 Vac - 50/60Hz	
Power consumption	2 W	
Output, stand-by	0,5 W	
Operating temperature (sensor)	0 ... +60 °C	
IP degree	IP65	
Time delay (regolabile)	min: 30sec - max: 60min	
Technology	PIR	
Max. mounting height	16m	
Light detection angle	13 °	
Motion detection angle	high	low
	72°	60°
Momentary-action switch input for on/off switching and dimming		



All functions can be set by request or with the (optional cod. **81420022**) remote control



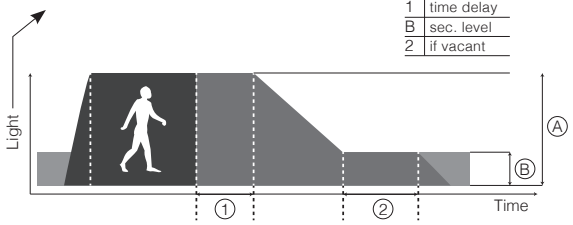
Example of application: warehouses or industrial plants



Lights can be dimmed from 100% to 1% (with the option to go completely OFF)

Default Parameter Motion Detector

A	light-level
1	time delay
B	sec. level
2	if vacant



Time can be set from 30 sec. to 60 min.



PushDIMM - light control via N.O. switch

MEDIUM SOLUTION (INDOOR)

PushDIMM (or switchDIM): light control via N.O. switch

Main features:
• The lighting fixture is equipped with a dimmable LED driver DALI with PUSH function (*Note: not all LED DALI drivers on the market have this function*). With a particular connection between the driver and the DALI inlet you can enable functions such as power on/power off/dimming.
• The length of the cable and the number of fixtures that can be connected are virtually endless, but in practice, there is asynchrony in the reply to the power ON and dimming command over distances above 25 metres and if many LED drivers are installed. As a consequence, this type of dimming is recommended in installations such as small offices, small meeting rooms, and generally, where cables are shorter.

The Disano products equipped with **PushDIMM** driver must be ordered with **subcode -0045**. These solutions require simple additional cabling and can be used with standard N.O. switch and apply to the following families of product:

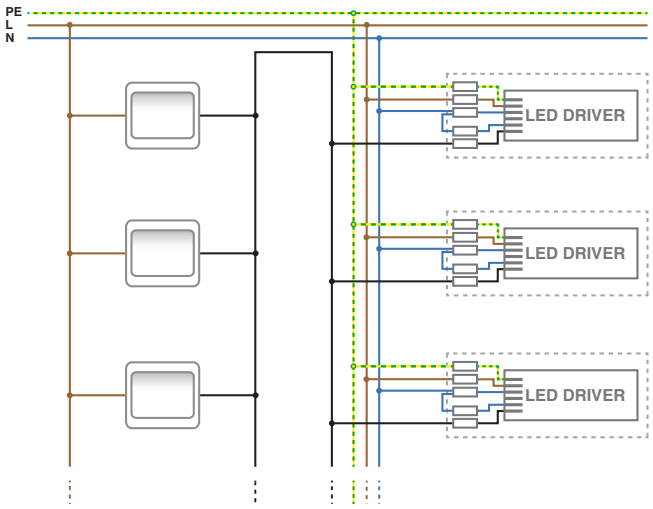
Luminaires for interiors: **Minicomfort, LED Panel, Compact**





Possible operations:
• Lights are powered on and off with a slight pressure of the button
• Lights are dimmed from off to 100% by holding the button down
• The dimming system is unidirectional, the information flows into one direction only, from the dimmer to the LED driver

In the case of a new installation or new ballast installed into an existing installation, it is possible that not all ballasts will be synchronous. In operation some ballasts will be switched off whilst others are switched on and the dimmed levels of the ballasts may not be the same. Pushing the button for longer than 10 seconds all ballasts will synchronize at a 50% light level and have the same point of departure for dimming. This process can be applied at any time during normal operation if any individual is unsynchronized.





cod. 81420033

Upon request, to **automatically synchronize all the lights in a system,** use the **DALI - electronic synchronization device:** control unit with in-built DALI dimmer and manual switching of DALI fixtures with all standard buttons.

Main features
• Possibility to connect up to four parallel devices to setup multiple control points
• Automatic synchronization of control points
• Length of DALI cable: up to 300 m

Advantages
• Manual and intuitive dimming and switching
• Individual setting of minimum light level
• Suited for a maximum of 25 electronic drivers

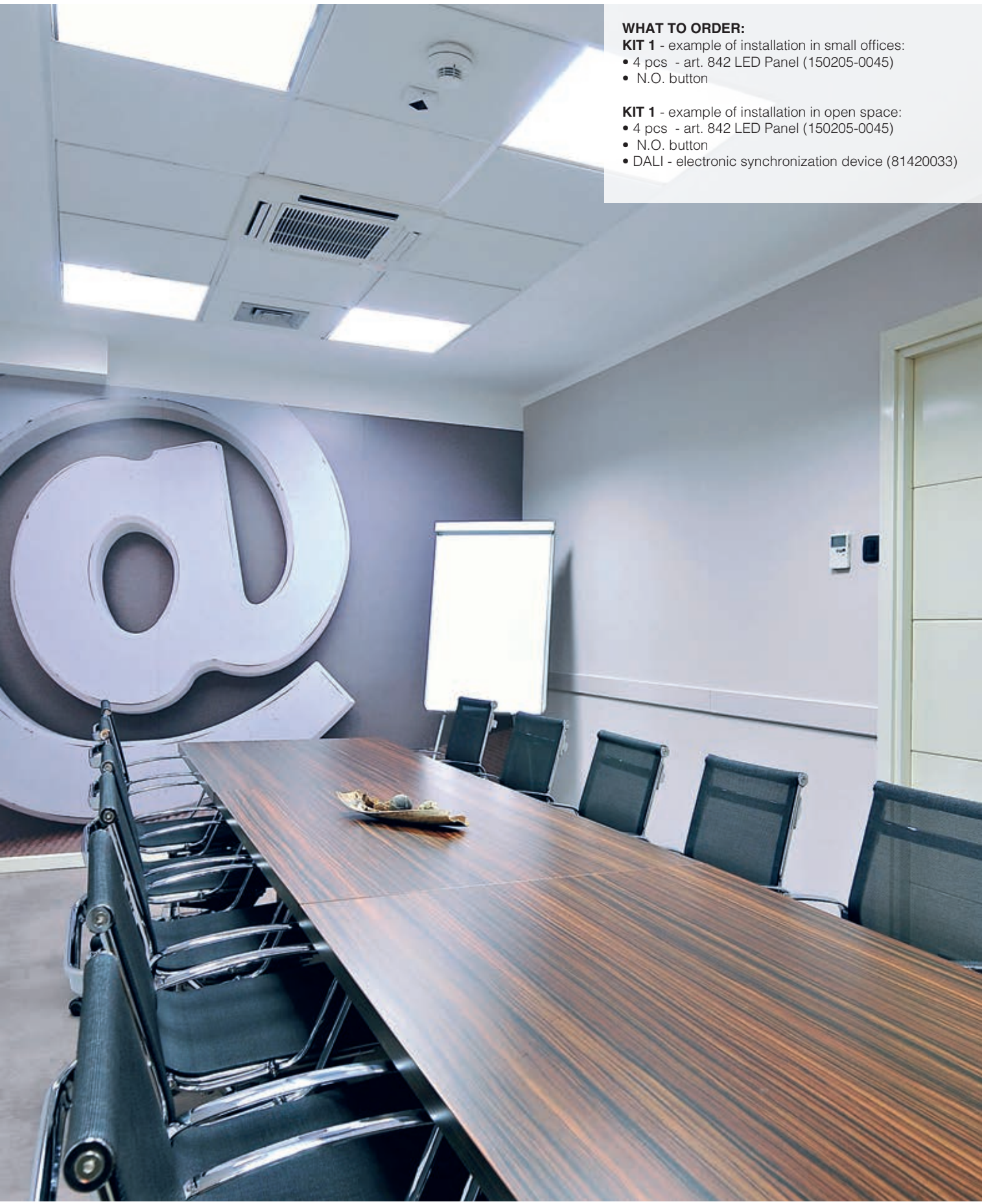
Easy installation in standard flush boxes
Only one component is required for the entire light control. After the connection to the mains and DALI wires, the DALI control unit is placed into the flush box and connected to the pushbutton ready.







Example of application: ideal for industrial/residential spaces and small offices



WHAT TO ORDER:
KIT 1 - example of installation in small offices:
- 4 pcs - art. 842 LED Panel (150205-0045)
- N.O. button

KIT 1 - example of installation in open space:
- 4 pcs - art. 842 LED Panel (150205-0045)
- N.O. button
- DALI - electronic synchronization device (81420033)

MEDIUM SOLUTION (INDOOR)

PRESENCE SENSOR FOR INDOOR APPLICATIONS - DIMM DALI - NOT INTEGRATED

The presence detector adjusts the lights to a preset lighting value based on the people occupying a room and the amount of light at that moment. The integrated lighting sensor constantly measures the level of luminosity in the room and compares this value with the value set by the presence detector.



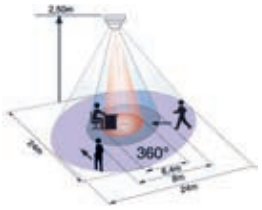
The **DALI** versions of Disano's products can be used with the presence detector by ordering with **subcode -0041**.

MASTER DALI

up to 3,5 m ceiling heights (2,5m recommended)



IP20
recessed version

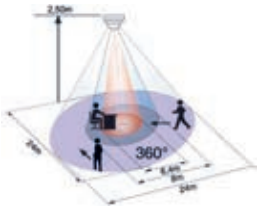


acc. MASTER DIMM DALI - recessed	
Presence detector for large areas DIMM DALI.	code 986417-00

up to 3,5 m ceiling heights (2,5m recommended)



IP20
ceiling version



acc. MASTER DIMM DALI - ceiling	
Presence detector for large areas DIMM DALI. IP54 version with connection.	code 986418-00

- Presence detector for **large scan areas** to adjust electrical lights based on the available daylight
- DALI interface for digital dimmable control as a group
- Possibility to switch from DALI with a remote control
- Enlargement of scan area with Slave units
- Possibility to activate lights manually through the touch of a button
- Further functions can be set with optional remote control

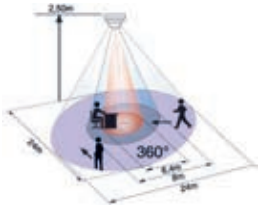
TECHNICAL SPECIFICATIONS FOR MASTER DALI	
Mains voltage	110-240 V AC , 50 / 60 Hz
Power consumption	0,9 W
IP degree	recessed = IP20 - ceiling = IP20 / Class II
DALI	max. 50 electronic ballast
Brightness	10 - 2000 Lux
Ambient temperature	from -25 °C to +50 °C
Channels	Channel 1
Time setting	1 - 30 min

SLAVE DALI

up to 3,5 m ceiling heights (2,5m recommended)



IP20
recessed version

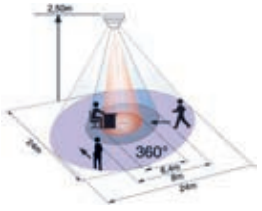


acc. SLAVE DIMM DALI - recessed	
Presence detector for large areas DIMM DALI.	code 986423-00

up to 3,5 m ceiling heights (2,5m recommended)



IP54
ceiling version



acc. SLAVE DIMM DALI - ceiling	
Presence detector for large areas DIMM DALI. IP65 version with connection.	code 986419-00

- **To enlarge the scan area of a Master device;**
- Activation of the Master device if motion is detected regardless of the room's lighting

TECHNICAL SPECIFICATIONS FOR SLAVE DALI	
Mains voltage	110-240 V AC , 50 / 60 Hz
Power consumption	0,2 W
Detection area	vertical: 360°
IP degree	recessed = IP20 - ceiling = IP54 / Class II
Ambient temperature	from -25 °C to +50 °C
Impulse response	2 sec or 9 sec

Accessories available on request for MASTER DALI



IR-DIM-DALI
cod. 986421-00



IR-DIM-DALI Mini
cod. 986422-00

(Ø200 x 90)



Protection grid
cod. 81400047



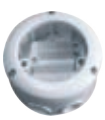
IP54 CONNECTION

Accessories available on request for SLAVE DALI

(Ø200 x 90)



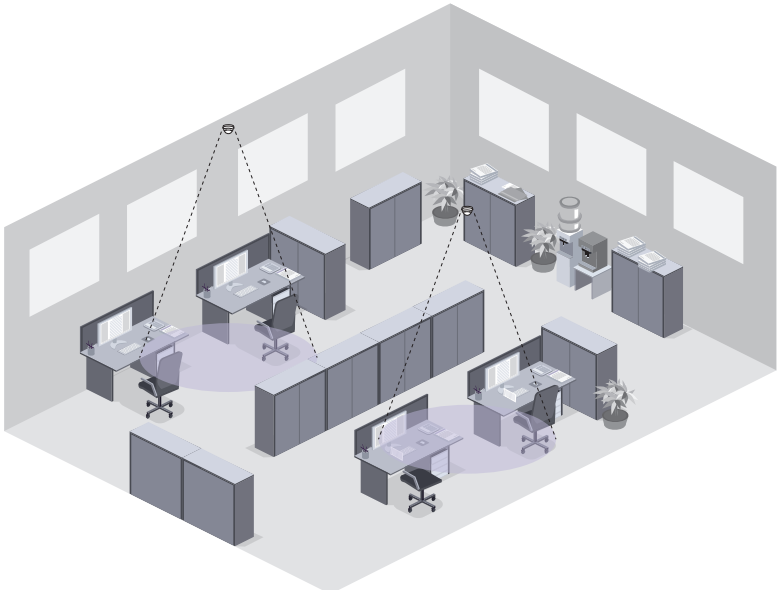
Protection grid
cod. 81400047



IP65 CONNECTION

WHAT TO ORDER:
KIT 1 - example of installation in offices with:
- 8 pcs - art. 842 LED Panel (150205-0041)
- 1 pcs - MASTER DALI sensor (986418-00)
- 1 pcs - SLAVE DALI sensor (986419-00)
- 1 pcs - DALI remote control (986421-00)

Example of application: offices, meeting rooms, stores, corridors, bathrooms, transit areas



These areas generally require to be constantly illuminated with a minimum level of light even when they are not occupied in order to be ready to ensure the right visual comfort as soon as someone steps inside.

MEDIUM SOLUTION (INDOOR)

PRESENCE DETECTOR FOR INDOOR APPLICATIONS - DIMM DALI - HIGH CEILINGS

External light sensor with telescopic function that ensures constant light dimming when mounted on ceilings up to 16 m high. The sensor's scan area can be adjusted by simply setting the telescopic light sensor to the desired mounting height. Motion detection was developed especially for applications such as high bay warehouses and ceilings over 10 m high.



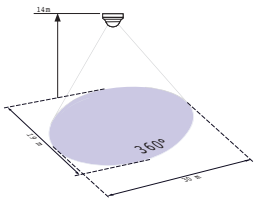
The **DALI** versions of Disano's products can be used with the presence detector by ordering with **subcode -0041**.

MASTER DALI

up to 16 m ceiling heights

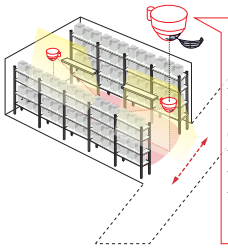


IP54
ceiling version



- DALI occupancy detector for surface mounting in **large mounting heights**
- External telescopic light sensor for a mounting height between 5 and 16 m (mechanically adjustable) for measuring the light according to the application.
- DALI / DSI interface for control of digital dimmable electronic ballasts as a group
- Manual switching and dimming via push button possible
- Logical switching or control output
- Permanent or time-limited orientation light

acc. MASTER DIMM DALI - ceiling	
Presence detector for large areas DIMM DALI.	code 986426-00



In case of installation in high-bay warehouses, make sure the detector is mounted in the high area of the aisles in order to scan motion only in the desired section thanks to the blades or through special technical mounting configuration.

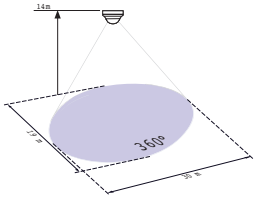
TECHNICAL SPECIFICATIONS FOR MASTER DALI	
Mains voltage	110-240 V AC , 50 / 60 Hz
Power consumption	0,9 W
IP degree	ceiling = IP54 / Class II
DALI	max. 50 electronic ballast
Brightness	10 - 2500 Lux
Ambient temperature	from -25 °C to +50 °C
Channels	Channel 1
Time setting	1 - 30 min

SLAVE DALI

up to 16 m ceiling heights



IP20
ceiling version



- **To enlarge the scan area of a Master device;**
- Activation of the Master device if motion is detected regardless of the room's lighting

acc. SLAVE DIMM DALI - ceiling	
Presence detector for large areas DIMM DALI. IP54/65 version with connection.	code 986427-00

TECHNICAL SPECIFICATIONS FOR SLAVE DALI	
Mains voltage	110-240 V AC , 50 / 60 Hz
Power consumption	0,2 W
Detection area	vertical: 360°
IP degree	ceiling = IP20 / Class II
Ambient temperature	from -25 °C to +50 °C
Impulse response	2 sec or 9 sec

Accessories available on request for MASTER DALI



IR-DIM-DALI

cod. 986421-00

Accessories available on request for SLAVE DALI

(Ø200 x 90)



Protection grid

cod. 81400047



IP54 CONNECTION



IP65 CONNECTION



WHAT TO ORDER:
KIT 1 - example of installation in warehouses with:
- 4 pcs - art. 1789 Astro (330095-0041)
- 1 pcs - MASTER DALI sensor (986426-00)
- 1 pcs - SLAVE DALI sensor (986427-00)
- 1 pcs - DALI remote control (986421-00)l

Example of application: high-bay warehouses



Lights should depend on the movements inside the warehouse. Lights should not be triggered by forklift drivers or operators transiting across the main transit area and in other passageways, but only if the sensor detects their presence in the passage ways.

ADVANCED SOLUTION (INDOOR)

BASICDIM WIRELESS SYSTEM - FOR INDOOR APPLICATIONS

The wireless lighting management system is made up of the lighting system, the DALI driver and one of the basicDIM Wireless modules. The command profiles are saved at the factory. The lighting can be controlled via 4remote BT app or user interface. The Bluetooth connection allows controlling, in an easy and practical way, up to 250 light points, turning them on, off, dimming their intensity, grouping fixtures and creating lighting scenes. The **basicDIM Wireless,** is the ideal solution to make the lighting more modern without construction work. The usage area is substantially unlimited.



Disano's products Disano made with the basicDIM system can be ordered according to the following compositions:

- **COMPOSITION A**: order **DALI** version with **subcode -0041** + **basicDIM wireless** module code **81420072**.
- **COMPOSITION B**: order version **with integrated wireless technology subcode -23**.

For best management of the basicDIM system, order the wireless controllers and app separately.

Advantages for the commissioning technician:

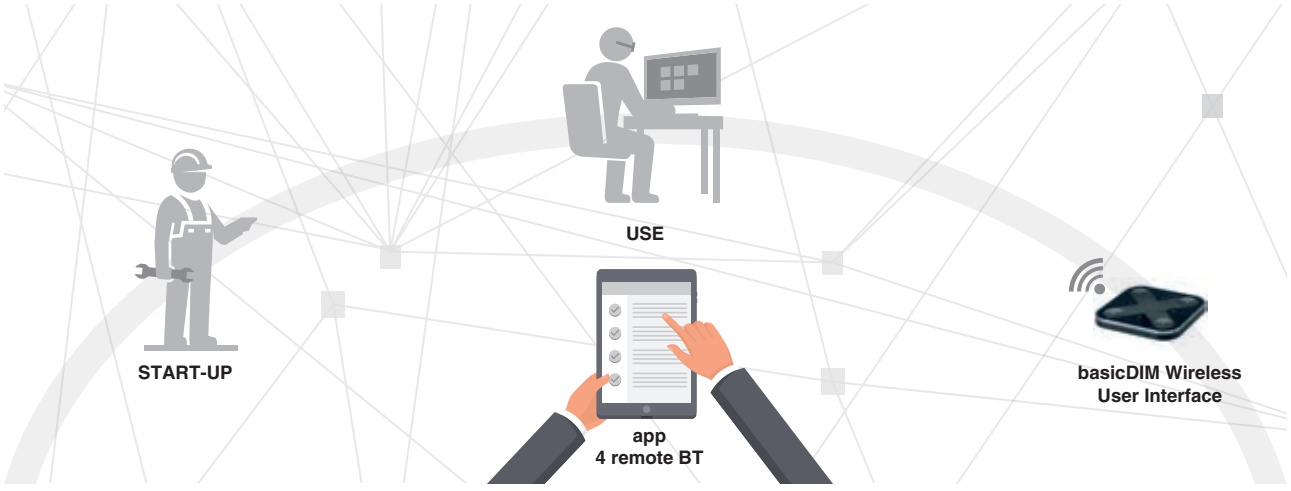
- Starting, programming and control of lighting fixtures in an easy way thanks to the app
- Easy location and wireless assignment of lighting fixtures
- Easy system adjustment

Advantages for the building operator:

- Easy updating
- Reduction of energy consumption
- Possibility of multifunctional use of rooms
- Wireless adjustment of the individual lights

Advantages for the user:

- Individual functioning of the individual lighting fixture
- Easy graphical selection of the lighting fixture
- Intuitive selection of light level and brightness



Options for use

Settings selection

Rapid access to the saved settings and adjustments made according to the use expected for the room

Colour temperature adjustment

Individual adjustment of the light level based on the lighting fixtures used

Dimming option

From 1% to 100%

Presence detection

Basic lighting according to requirements through the integration of sensors

Planning

Support for planning tasks thanks to internal clocks and calendars

Personalization

Adjustments to adapt to the changing usage requirements or to expand the system

System with group circuits

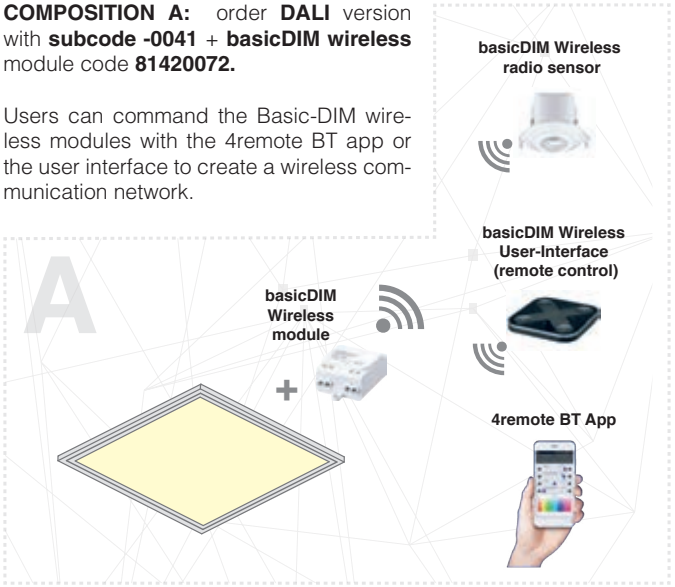
Control of individual fixtures and groups of fixtures that can be adjusted at any time based on usage requirements through the 4remote BT app. Easy to expand thanks to wireless installation.



System composition

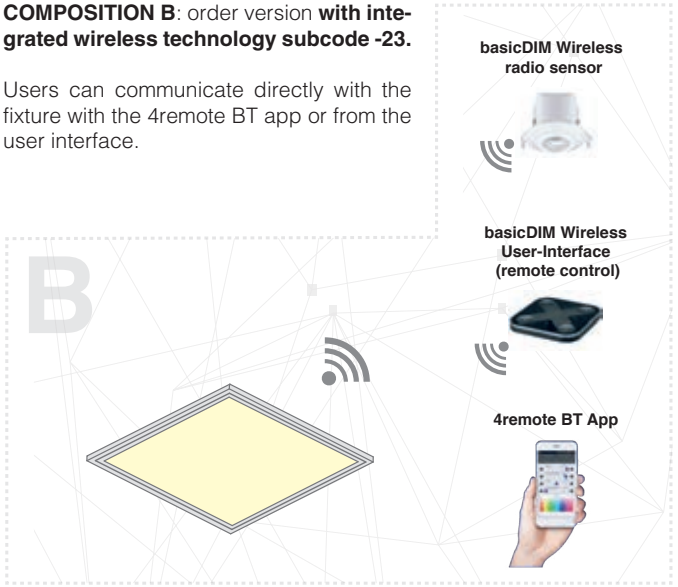
COMPOSITION A: order **DALI** version with **subcode -0041** + **basicDIM wireless** module code **81420072.**

Users can command the Basic-DIM wireless modules with the 4remote BT app or the user interface to create a wireless communication network.



COMPOSITION B: order version **with integrated wireless technology subcode -23.**

Users can communicate directly with the fixture with the 4remote BT app or from the user interface.



ADVANCED SOLUTION (INDOOR)

BASICDIM WIRELESS SYSTEM - FOR INDOOR APPLICATIONS

System architecture: is made up of hardware and software modules. Communication with fixtures and sensors occurs via BLE - 2.4 GHz radio frequency (wireless) solutions.

basicDIM Wireless Module

The basicDIM wireless module allows easy wireless interaction with lighting fixtures, including their configuration, start-up and actual use. The lighting control system can also be managed via the 4remote BT app.



cod. 81420072

- Wireless command with Android/iOS devices
- Automatically creates a wireless communication network with max. 250 nodes
- Possibility to configure analogue/digital output
- Analogue output: 0 – 10 V / 1 – 10 V decreasing/increasing
- Digital output: DALI compatible

FEATURES:
- Power voltage: 220/240 V
- Frequency: 50/60 Hz
- Maximum radio receiver output power: + 4 Dbm
- Ambient temperature: -20 ÷ +50 °C
- Protection class: IP20

G2



cod. 986462-00

- Wireless command with Android/iOS devices
- Automatically creates a wireless communication network with max. 250 nodes
- Digital output: Standalone DALI (compatible)
- *One independent push-button input*
- *Easily implemented RGB and colour temperature controls*

FEATURES:
- Power voltage: 220/240 V
- Frequency: 50/60 Hzz
- Maximum radio receiver output power: + 20 dBm
- Input: 1 momentary-action switch
- Number of DALI addresses: 4
- Max. output current, DALI: 250 mA
- Ambient temperature: -20 ÷ +70 °C
- Protection class: IP20

IP40 (for cod. 81420072 and 986441-00) and IP66 boxes for remote installation

BOX - IP40



cod. 986447-00

BOX - IP66



cod. 997649-00

Power supply DALI PS3

The DALI PS3 power supply is designed specifically for smaller DALI applications.



cod. 986440-00

FEATURES:
- DALI-2 power supply providing 70 mA for DALI-2 installations
- Power voltage: 220/240 V
- Mains frequency: 50/60 Hz
- Power consumption: 1.75 W
- Ambient temperature: 0 ÷ +50 °C
- Degree of protection: IP20

BLE Passive module

The BLE transmitter (passive module) creates a wireless network by interacting with the luminaires, hence eliminating the need for an additional network line. The lighting control system can also be managed via the 4remote BT app.



cod. 986441-00

FEATURES:
- Automatically forms a wireless communication network with max. 250 nodes (no external gateway is required)
- Digital output: DALI compatible
- Max. DALI bus current: 250 mA
- Ambient temperature: 0 ÷ +50 °C
- Degree of protection: IP20

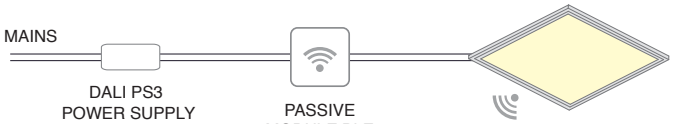
G2



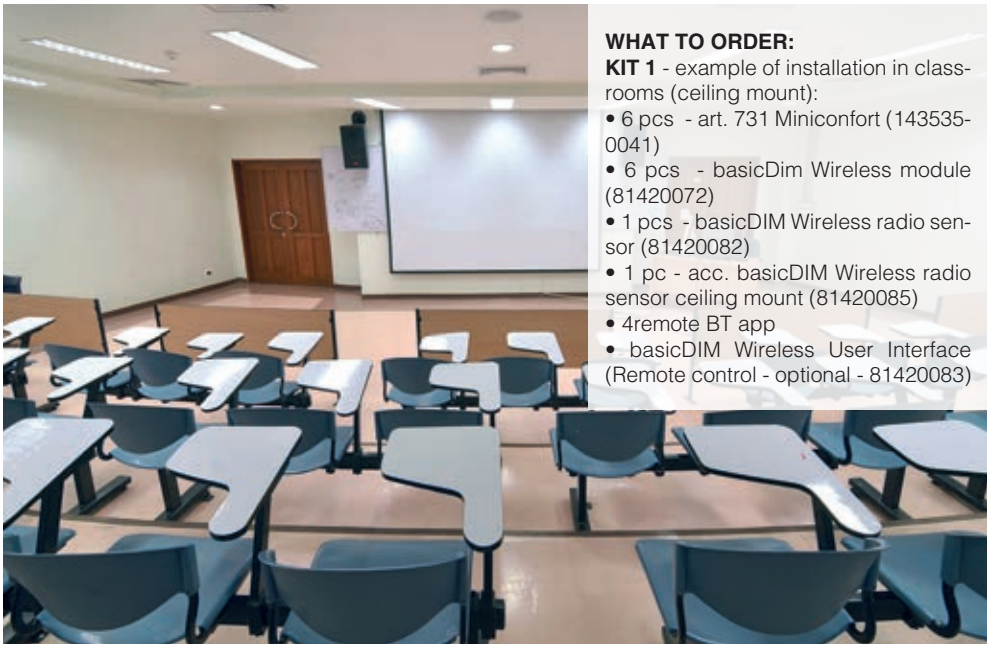
cod. 986463-00

FEATURES:
- Automatically forms a wireless communication network with max. 250 nodes (no external gateway is required)
- Digital output: DALI compatible
- *4 independent push-button inputs*
- *Easily implemented RGB and colour temperature controls*
- Ambient temperature: -20 ÷ +70 °C
- Protection class: IP20

Example of installation



Example of application: classrooms, offices or open spaces



WHAT TO ORDER:

KIT 1 - example of installation in classrooms (ceiling mount):
- 6 pcs - art. 731 Miniconfort (143535-0041)
- 6 pcs - basicDim Wireless module (81420072)
- 1 pcs - basicDIM Wireless radio sensor (81420082)
- 1 pc - acc. basicDIM Wireless radio sensor ceiling mount (81420085)
- 4remote BT app
- basicDIM Wireless User Interface (Remote control - optional - 81420083)



Wireless devices and Apps to manage the basicDIM system

basicDIM Wireless radio sensor



cod. 81420082

The wireless sensor allows controlling lights based on the amount of daylight and occupancy level. It was designed for the following applications: open space offices, training/presentation rooms, corridors, transit ways and garages.

- Command based on surrounding luminosity and presence
- Wireless control with Android/iOS devices
- Passive IR sensor technology
- Including shutter to optimize sensor scanning range



cod. 81420085

Accessory for radio sensor ceiling connection

FEATURES:
- Power voltage: 220/240 V
- Frequency: 50/60 Hz
- Mounting height: max. 4 m
- Scan range (mounting height: 3 m): ø 8 m
- Lighting measurement on the head of the sensor: 1 – 2000 lx (± 20 %)
- Ambient temperature: 0 ÷ +50 °C
- Protection class: IP20

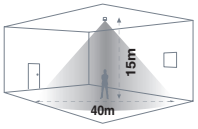
IP40 sensor for high mounting heights



cod. 986448-00

This sensor is ideal for high mounting. It can be installed either on ceilings or walls (indoor/outdoor). It was designed for the following main applications: corridors, passageways and garages.

- Command based on surrounding luminosity and presence
- Wireless control with Android/iOS devices
- Passive IR sensor technology



FEATURES:
- Power voltage: 220/240 V
- Frequency: 50/60 Hz
- Max. mounting height: : ceiling 15 m - (20 m max)
- Scan range: ceiling ø 20 m - wall ø 10 m
- Lighting measurement on the head of the sensor: 1 – 1.000 lx
- Ambient temperature: -20 ÷ +30 °C



cod. 81420153

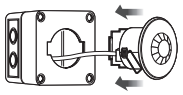
Masking shields can be clipped directly onto the sensor to precisely narrow the detection diameter depending on use.





cod. 81420154

IP65 adapter box for ceiling-mounted sensors. The sensor can be easily inserted through the pre-cut hole.



basicDIM Wireless User Interface



cod. 81420083



cod. 81420084

The basicDIM wireless user interface offers great interior design flexibility because furniture can be replaced and walls can be rebuilt without taking into account of the position of cables and switches.

- Control of all basicDIM Wireless devices
- Control of colour temperature
- Control of individual lighting fixture / Control of groups of lighting fixtures / Control of all lamps
- Saving of light scenes / Savings of animations
- Radio signal capacity: up to 60 m

App 4remote BT



The free app comes with a wireless basicDIM solution in all the development phases. Every operation can be done with an extraordinary comfort in an easy and quick way, starting from the installation and commissioning processes of the lighting fixtures to their daily use.

In order to be able to control basic wireless basicDIM lighting fixtures, you will need to connect (associate) them to a network. This is done with the 4remote BT app. All settings, such as names, images, groups, timers, scenes, and switch settings are saved on a network. If a unit is removed (disassociated) from the network, it will no longer have the specific network settings.

Timer - IP20



cod. 81420086

The timer is a device that will let you store lighting scenes data in case of temporary electricity shortage or black-out. Programming and synchronization settings are re-established when power is restored.

- Command: normally open switch that can be programmed via app
- Time memorization to keep the lighting scenes in case of black-out
- 24-hour network time memorization
- Synchronization of lighting scenes and programming settings in case of black-out or temporary electricity shortage
- Synchronization/storage of circadian profile via the App

Example of application: classrooms, offices or open spaces



WHAT TO ORDER:
KIT 2 - example of installation in offices (recess mount):
- 8 pcs - art. 844 LED Panel HE (150225-0041)
- 8 pcs - basicDim Wireless module (81420072)
- 1 pc - basicDIM Wireless radio sensor (81420082)
- 4remote BT app
- basicDIM Wireless User Interface (Remote control - optional - 81420083)



WHAT TO ORDER:
KIT 3 - example of installation in offices (**with integrated wireless technology**):
- 30 pcs - art. 844 LED Panel HE (150225-23)
- 8 pcs - basicDIM Wireless radio sensor (81420082)
- 4remote BT app
- basicDIM Wireless User Interface (Remote control - optional - 81420083)

ADVANCED SOLUTION (INDOOR)

DISMART: WIRELESS INDUSTRIAL REMOTE CONTROL SYSTEM

The **DISMART** system was designed to allow notable energy savings in large-scale indoor lighting systems, adjusting the lighting intensity emitted by the fixtures based on environmental and design parameters.



It constantly modifies the level of artificial light, setting a dimming level to guarantee the desired brightness according to the amount of daylight filling the room.

To have a **DISMART** system, please order:
1) **DIMM** version fixture with light controller module with **subcode -24**
2) **gateway** module with code **81420077** that creates the local Wi-Fi network
3) free **App** for mobile devices for complete system management and configuration

The solutions with DISMART system apply to the following families of product:

Watertight fixtures: **Ottima, Thema, Echo, Forma**



Industrial fixtures: **Astro and Saturno**



The system allows high energy savings:

• By exploiting the availability of daylight, you can lower the lumen emitted by fixtures (decreasing absorbed power) and guarantee the desired level of lighting, reducing consumption.

• By keeping a constant lumen level to reduce consumptions connected to over-dimensioning (background area of the chart) necessary to make up for the maintenance factor. The system will therefore avoid, from the first start-up, using full light when so much light is not needed.

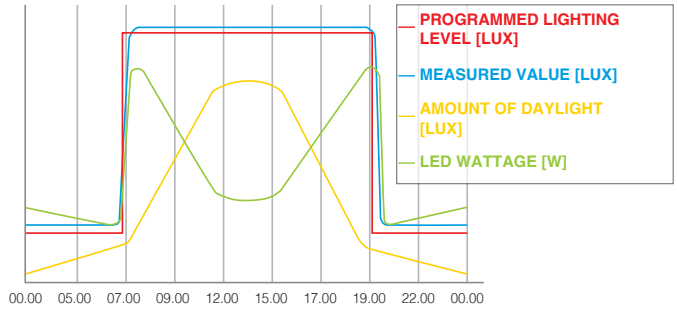


Figure 1: System parameters trend.

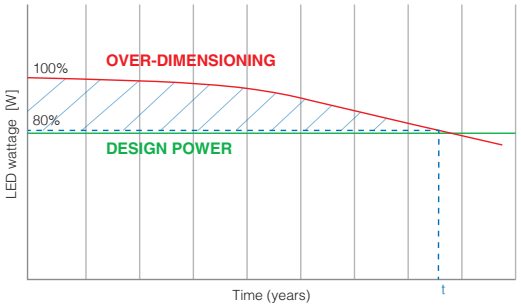


Figure 2: Maintenance factor – The over-dimensioning of lighting fixtures guarantees the same design power after a time t, without considering the reduction of the fixture's energy efficiency.

The DISMART system is ideal for warehouses and industrial plants where it is necessary to control lighting based on the amount of daylight in order to optimize consumptions and cut down running costs.



Main features

Guaranteed energy savings

Simple and fast installation

Commissioning without the need for specialized staff

Reliable, safe and easy to use

Easy management via App

ADVANCED SOLUTION (INDOOR)

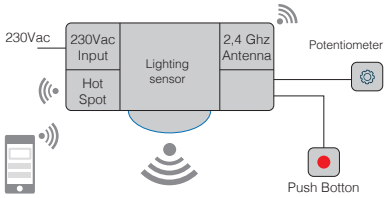
WIRELESS INDUSTRIAL REMOTE CONTROL SYSTEM

The system is made up of only two components in order to make installation and commissioning easier: **gateway module** and the lighting fixture with integrated **light controller module.**





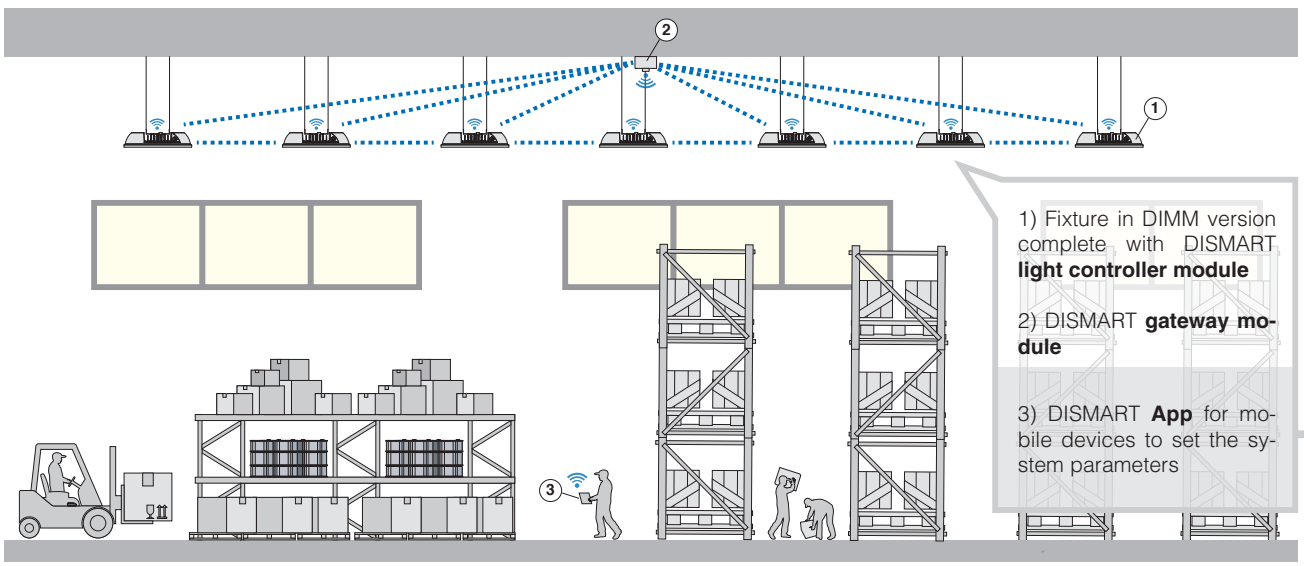
cod. 81420077



Gateway module:it serves as the gateway for the communication nodes on the lighting fixtures. It contains a lighting sensor that constantly measures the lighting value [lux] in the area where it is installed. Based on its measurements, the system processes and sends, in real time, a radio frequency command (2.4 GHz) to the light controller module (receiver node) housed inside the lighting fixture. The installation of the device requires a power supply (230Vac) and the positioning in a central zone with respect to the group of lighting points that it will manage.

TECHNICAL-FUNCTIONAL FEATURES	
Enclosure size	L 90mm x H 60mm x P 90mm
Electrical connection	Through push-in terminals
Power	100 - 240Vac
Clock	Built-in RCT
16-position selector switch	Determines the group of light points you want to manage [from 1 to 16 – Every photocell controls only one group]
Luminance sensor	Auto-regulation 0-80.000 lux [max 0.1 lux precision]
Connectivity	WI-FI for local access to device via APP
Digital input	1 digital input to activate one scene setting per event, configurable via APP
Potentiometer	Manual forcing of the dimming % on the lamps
Fixtures controlled	The system manages an endless number of fixtures
Communication frequency	Transceiver 2,4 GHz, sensibility -96 dBm, Tx power +4 dBm, data rate 1 MBps
Range of action	Max 50 metres outdoor point to point
Network	Auto-configuration MESH network
Transmission	Communication over 4 different channels [automatic selection of the most reliable channel]
Operating temperature	Ambient temperature -20 C + 70° C

System composition



1) Fixture in DIMM version complete with DISMART **light controller module**

2) DISMART **gateway module**

3) DISMART **App** for mobile devices to set the system parameters

DISMART System – Radiofrequency mesh network communication



Example of application: warehouses or industrial plants



WHAT TO ORDER:
KIT 1 - example of installation in industrial plants with:
- 20 pcs - art. 1789 Astro (330094-24)
- 1 pc - gateway DISMART (that incorporates a lighting sensor - 81420077)
- DISMART App for mobile devices (available for free download in app stores)

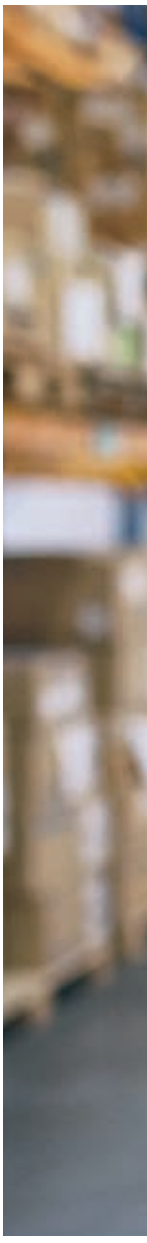
SEE NEXT PAGES

DISMART APP: SIMPLE, RELIABLE AND INTUITIVE

Disano presents the **DISMART app** for the full management of your lighting system, now available for free on **https://dismart.disano.it**.

Once installed, the gateway module will generate a local Wi-Fi network where you can connect your mobile device (smartphone, tablet…) and, by using the **DISMART app**, you will be able to set the parameters for the lighting fixtures belonging to your system.

The software designed to manage your system will allow you to programme, on a daily or weekly basis, the lighting levels you wish to guarantee to the module's installation area. After a simple programming process, the system will work autonomously, enabling you to activate one light setting "per event" that will replace the "hourly programming" for a pre-set time during the programming via the app.



CONNECTED AND READY FOR USE IN 3 SIMPLE STEPS

1 

DOWNLOAD:
download the free version of the app

2 

CONFIGURE:
programme desired time slots, light settings and lighting levels

3 

MANAGE:
adjust the settings in real-time to the desired level



The main features of the "**APP DISMART**" include:

- Connection parameters configuration via local wireless connection to the gateway mode
- Definition of 4 different lighting levels
- Definition of 5 different time slots into which you can divide the day (weekly mode)
- Definition of 35 different time slots into which you can divide the week (daily mode)
- Associate independently the levels of lighting to each time slot
- Option to create light scenes on a daily or weekly basis for each time slot
- Possibility to associate a level of lighting to keep when activating the forcing command

INITIAL APP CONFIGURATION



1) Choose a language on the home screen (Italian or English).



2) Select the sensor you want to control on the login screen: it must be associated to the Wi-Fi network created by the gateway.



3) Search the network created automatically by the gateway in the device's Wi-Fi settings (e.g. MAIA_00000001).



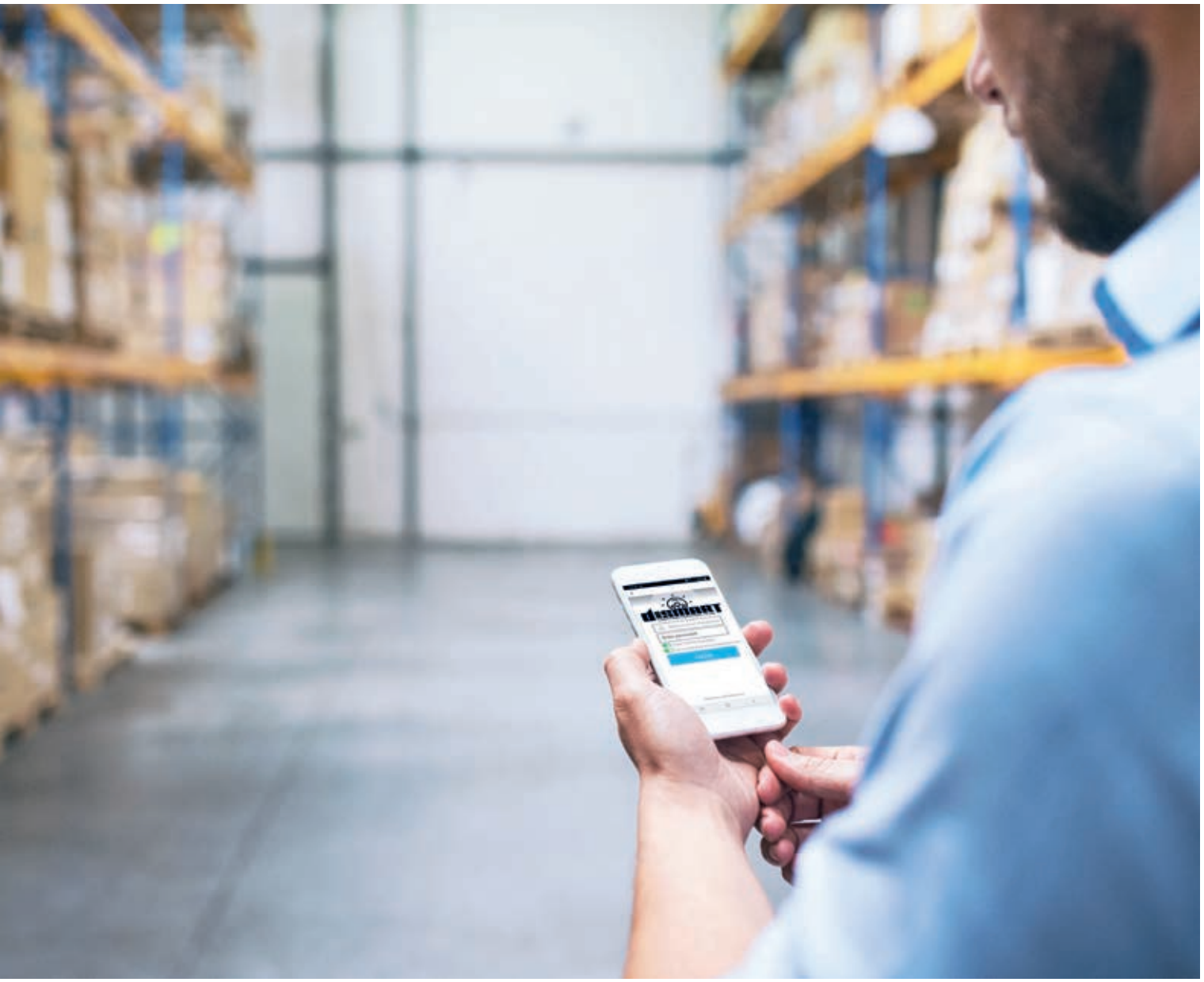
4) Select the network and enter the 8-digit password identifying the Wi-Fi network (e.g. 00000001). Once the password is entered, you will be taken back to the login screen.



5) Enter the 4-digit password 0000 on the login screen (this password is to be changed at a later time).



6) You can start programming on the lighting levels screen.



MAIN SCREENS



Hourly programming – You can define time slots and apply a given lighting level for a single time slot on a daily basis. Moreover, to reduce configuration time, you can duplicate the settings for a day onto all the rest of the days of the week or only some of them.



Lighting levels – It allows defining up to 4 levels of lighting. The dimming range can be adjusted easily and in real-time to take the system to the desired light intensity which is set with a lux meter. During the programming stage, levels can be applied to the individual time slots or to a specific event.



Event programming (external command/signal) – The configuration of this section allows Enabling/Disabling the "event programming" and defining the lighting level for a single event, using an external command (push button).



Options – In the options page you can find a series of tools that are used to give general settings and that are not connected with the system's programming.

For more info, go to http://dismart.disano.it/

ADVANCED SOLUTION (INDOOR)

PREDICTIVE LIGHTING: ARTIFICIAL INTELLIGENCE

Disano **ActiveAhead** is a new type of lighting system. **It does not need to be programmed because it learns on its own from the first day it is installed and shares what it knows with its constituting modules**.

Improved comfort
An ActiveAhead lighting fixture starts learning as soon as it is switched on. The fixture will probably learn the first motion patterns within a couple of hours/days based on the amount of free movements in the space. The ActiveAhead lighting fixture learns motion patterns constantly and will therefore adjust to possible changes, such as the installation or the removal of a wall.

Easy installation
ActiveAhead fixtures are extremely easy to install. It is sufficient to fix the fixtures in the desired position and turn on the general switch. No need for control cables, programming or configuration. ActiveAhead is a real plug-and-forget solution.

Smart energy savings
Compared to a regular lighting system, ActiveAhead takes comfort to a completely new level, while offering remarkable energy savings. In addition to increasing lighting levels in a predictive way, it dims lights in a smart way based on actual occupancy.



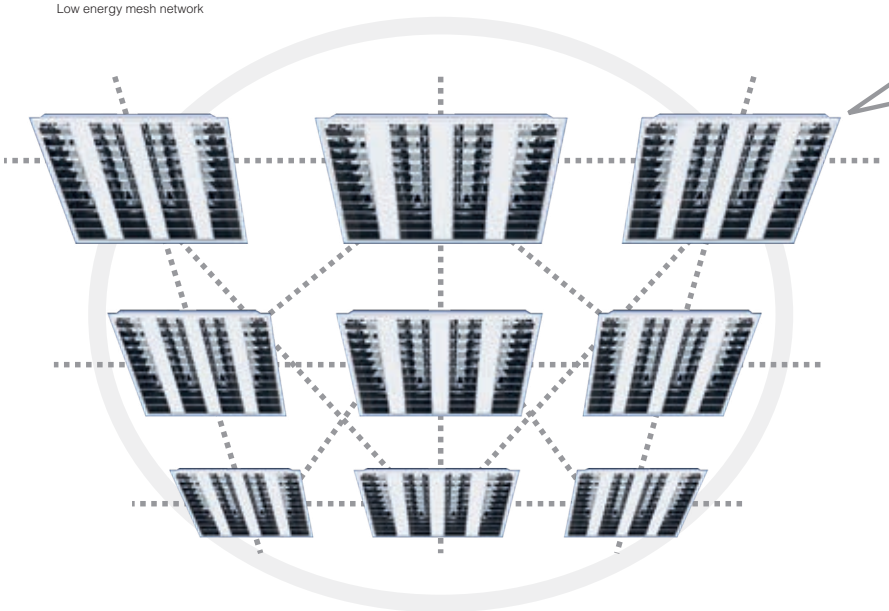
ActiveAhead is a smart lighting solution managed by a motion detector that automatically controls the light emitted by fixtures via wireless based on people's movements, the amount of sunlight entering a room and a combination of parameters that can be configured via app in a simple and intuitive way. Once installed, fixtures will establish a mesh network based on the low energy wireless Bluetooth technology. They exchange information to help identify the most commonly used paths of the occupants of the room. The system "learns" to predict where light is necessary so that the fixtures can react literally "one step ahead" a person. In addition to saving energy, **ActiveAhead** is simple to install, without requiring the need to add complicated cabling.

In general, **ActiveAhead** offers a good lighting experience in a space without the need for local adjustments. However, customizations, such as the adjustment of lower or higher lighting levels, turn off delays, groupings and assignments of work areas are possible via a smartphone with the **ActiveAhead** app. Moreover, **ActiveAhead**'s ability to predict motion models offers many advantages in applications such as stairways, corridors and underground parking spaces. **ActiveAhead** components can be used in lighting renovation projects where you cannot add cables.

ActiveAhead can be used in simple offices with open spaces, corridors, recreation areas and small and medium-sized meeting rooms with the need to control general lights.

The Disano products equipped with **ActiveAhead system** must be ordered with **subcode -25.** This solution can be applied to interior lighting fixtures such as **Minicomfort, Ibis and Heron.**

Bluetooth™
Low energy mesh network





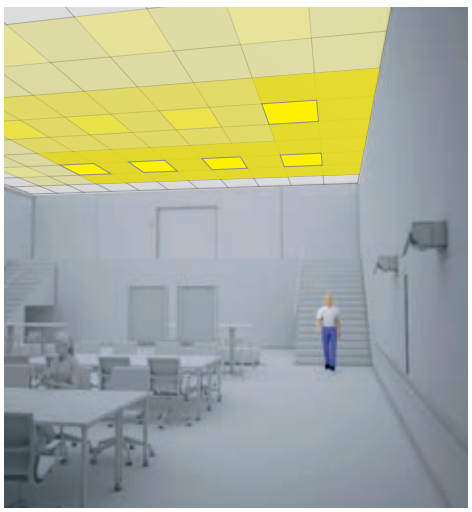
The ActiveAhead **App** allows you to define the parameters for lighting fixtures. The product, however, will work regardless of whether the app or any other software is configured or not. The app is available for all standard mobile devices (iPhone 4s, third-generation iPad or Android 4.4 and successive versions) equipped with Bluetooth Low Energy.

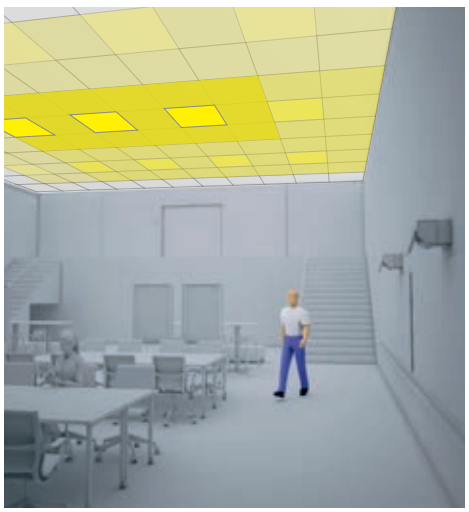
Example of application: offices, meeting rooms, stores, corridors, bathrooms, transit areas

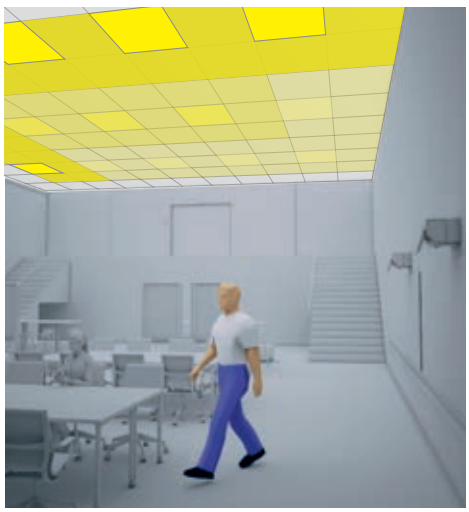


WHAT TO ORDER:
KIT 1 - example of installation in offices with:
• art. 841 Miniconfort (153535-25)

ActiveAhead is based on artificial intelligence that collects and analyzes the motion and lighting patterns detected by the sensors in each **ActiveAhead** lighting fixture. After collecting sufficient data to allow the algorithm to identify the most common motion patterns, it estimates when to control the lights based on the notification messages received by the nearby lighting systems in order to optimize both lighting levels and energy savings.







SMART SOLUTION (INDOOR)

The Disano products with **Zhaga Socket** must be ordered with **subcode -0054**. The socket provides electrical and mechanical connection between the sensor and the fixture necessary to manage industrial lights effectively and efficiently. This solution applies to the following families of product:

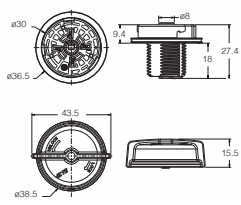
Industrial fixtures: **Astro and Saturno**





Main characteristics of the **Zhaga socket**:
- Standard interface for all wireless networks
- 24V power, not prone to spikes/overvoltage
- Simple and fast installation of wireless controller
- Ready network: the initial wireless installation and successive update through a wireless network controller
- Quick and simple management of the wireless controller



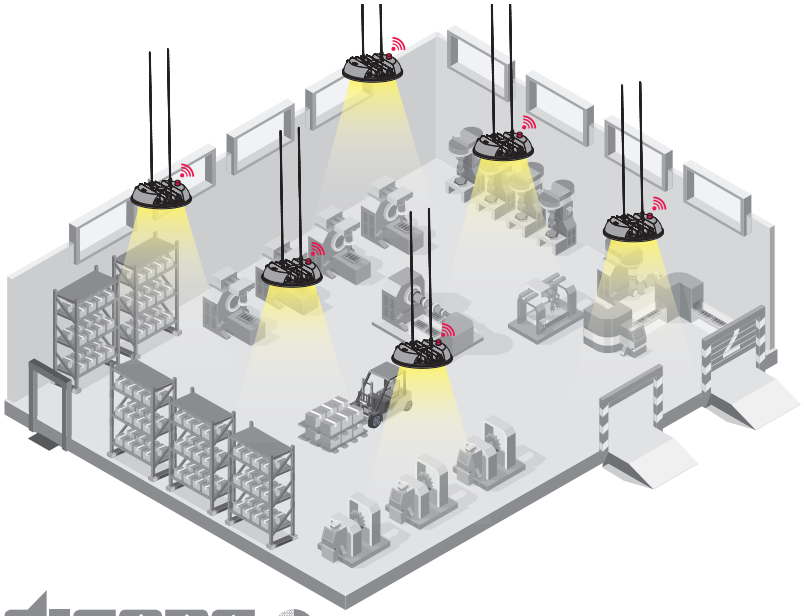


The **Zhaga** Consortium is an international consortium that includes many leading lighting manufacturers with the goal to standardize all the components regarding LED fixtures. With the new **Zhaga socket** (Book 18), the consortium standardized the mechanical and electrical interface between a wireless network and the fixtures' electronics.
The recent 2.0 version describes a smart interface between fixtures and communication nodes. It specifies the power and communication aspects in addition to mechanical ones and electrical PINs (characteristic of the previous 1.0 version). The Zhaga Consortium and the Digital Illumination Interface Alliance (DiiA) unveiled their joint certification zhaga-D4i programme that allows certified fixtures and nodes to bear the Zhaga and D4i logo. Book 18 Ed 2.0 allows any certified node to operate with any certified fixture.

Advantages:

- Easy tool-free mounting. The module is attached and secured with a bayonet clamp
- Compact dimensions for greater design flexibility
- The special (push-in) contacts reduce logistics problems arising from the need to use cables with various lengths for different lighting fixtures
- Single built-in seal that protects both the fixture and the modules, minimizing mounting times.

Example of application: warehouses or industrial plants



Thanks to the **Zhaga socket**, the end user can easily install any type of wireless controller (to be purchased separately) turning the fixture into a **SMART** fixture and therefore capable of being managed with the most common lighting control systems available on the market.
This type of solution is ideal in industrial environments where lights need to adjust constantly to maintain the desired lighting levels based on the amount of daylight inside.





WHAT TO ORDER:
With **subcode -0054** you can order fixtures with **ZHAGA SOCKET**

IoT SOLUTION (INDOOR)

Thanks to their modular and scalable architecture, **wireless** solutions can be used in **stand-alone** applications. It is therefore possible to meet project requirements with the available budget or the expected return on investment. In stand-alone solutions, systems can be configured through a simple and easy-to-use APP without the need for further assistance from specialized technicians.



System architecture

The system is made up of hardware and software modules. Communication with **DALI sub-code -0041** fixtures and sensors occurs via radio frequency (wireless) solutions.

STAND-ALONE

Stand-alone

Controllers and sensors can work autonomously without being connected to the server. System configuration can be done in a simple and intuitive way using an App.



DIS-RF



DIS-RF-SENS



DIS-RF-GATE



art. DIS-RF



Wireless control module for DALI drivers

The DIS-RF radio module controls a single lighting fixture equipped with **DALI** driver via a wireless network. The module operates in the **868 MHz** band and can implement the Mesh Network functionality. The DIS-RF module can also work as a stand-alone controller or through a centralized system.

FEATURES

- 12 Vdc (50 mA) power supply
- 868 MHz frequency (915 upon request)
- 13 dBm transmission power, wire antenna
- DALI outlet (max 4 “broadcast” drivers)
- Digital and serial I/O interface

art. DIS-RF-SENS



Wireless light and motion sensor

The DIS-RF-SENS multi-sensor detects light intensity and the presence of moving people and objects, sending the information in the **868 MHz** band via a wireless network. DIS-RF-SENS can be installed at elevated heights (up to 12 m). The sensor must be connected to the mains without having to be cabled to the rest of the system.

FEATURES

- 100-240Vac 50-60 Hz power supply (max 3W)
- 868 MHz frequency, Mesh Network
- 13 dBm transmission power, wire antenna
- PIR motion sensor for elevated heights (max 12 m) and ambient light sensor
- Recessed installation in plastic housing (sensor front protection: IP54)
- Signal status LED

art. DIS-RF-GATE



868 MHz Bluetooth gateway

DIS-RF-GATE is a portable battery-powered gateway that allows the wireless configuration of systems through App, compatible with Low Energy Android iOS Bluetooth smartphones. The App allows the identification and grouping of 868 MHz wireless network nodes, configuring light and motion sensors. DIS-RF-GATE integrates a digital lux meter that can be used to cable light sensors and set the luminous levels to work in the DLR (Day Light Regulation) mode.

FEATURES

- 9-12 Vdc power supply (max 1W)
- Radio interface with Low Energy Bluetooth for smartphone connection
- ON button with automatic OFF function
- 4 configurable buttons to send wireless commands
- 868 MHz radio interface to control wireless systems

GUIDELINES ON HOW TO BUILD A CONTROL SYSTEM

Designing a control system with smart solutions is fast and simple! Thanks to **wireless** technologies and a modular and scalable architecture, it is possible to implement stand-alone and networked systems by developing lighting control devices and adding sensors and all the necessary hardware and software modules to network the system. To select the right technology, you must be aware of the system’s intended use and determine whether you should use sensors, pre-setting and/or scheduling solutions.

STAND-ALONE SYSTEMS

Point-to-point wireless solution:

this solution is used when it is not possible to cable the fixtures’ dimmers because each point needs to be replaced and the electrical installation cannot be changed. In this case, you will need to install a **DIS-RF**.

Motion/light sensors:

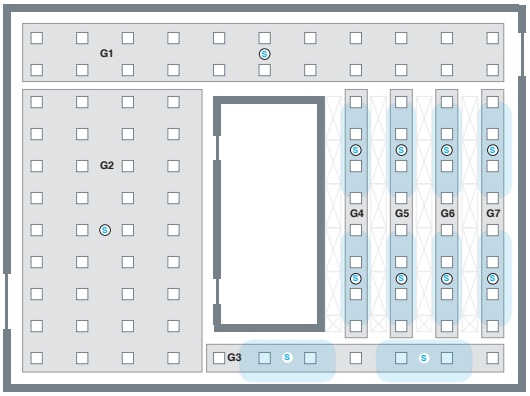
motion and light sensors can make you save energy when the area is occupied randomly throughout the day and when the room is illuminated by daylight. The **DIS-RF-SENS** multi-sensor is used when fixtures are installed at heights of up to 12 m above ground. It can be programmed as a motion sensor and/or a light sensor using an App.

Fully wireless system

When the electrical system cannot be changed, each replaced luminaire must be connected to the **DIS-RF** wireless controller. The system can be connected to standard DALI fixtures (without any modification needed) and then connected only to the power mains. If, instead, the electrical system can be changed or built from scratch as a new installation, it is often useful to implement a control system for one group of luminaires to be connected to each other through a dedicated dimming cable.



Example of application: industrial systems, retailing spaces, garages and similar areas



□ = **DALI sub-code -0041** fixtures

Ⓢ = DIS-RF-SENS

All these systems illuminate very large spaces and require the fixtures to be divided into dedicated functional groups to control independent zones, each of which can include sensors or require manual commands and scheduling. By way of example, let us consider an industrial area, which includes transiting, production and storage zones.

Features required for each zone corresponding to different groups of fixtures:

Group G1 – Main access zone:
The luminaires in this zone must stay ON day and night and are controlled depending on the amount of daylight.

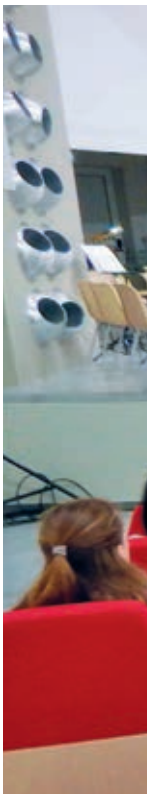
Group G2 – Production zone:
The luminaires in this zone must stay ON day and night and are controlled depending on the amount of daylight.

Group G3 – Transiting zone:
The luminaires in this zone must be switched ON only when sensors detect movement inside its scan area. The lighting level must be dimmed based on the amount of daylight. When no motion is detected lights switch ON to a background level corresponding to 10% of its total power and then switch OFF after a few minutes.

Groups G4-G7 – Storage zone:
The luminaires illuminate the aisles of a store and behave like the luminaires of Group G3, i.e. depending on the amount of daylight. Each aisle must be independent from the other and the background lighting level must be 20%. Luminaires should never switch OFF completely.

IoT SOLUTION (INDOOR)

Thanks to their modular and scalable architecture, **wireless** solutions can be used in **network** applications. It is therefore possible to meet project requirements with the available budget or the expected return on investment. In networked systems, instead, you can use PCs to also control setup operations.

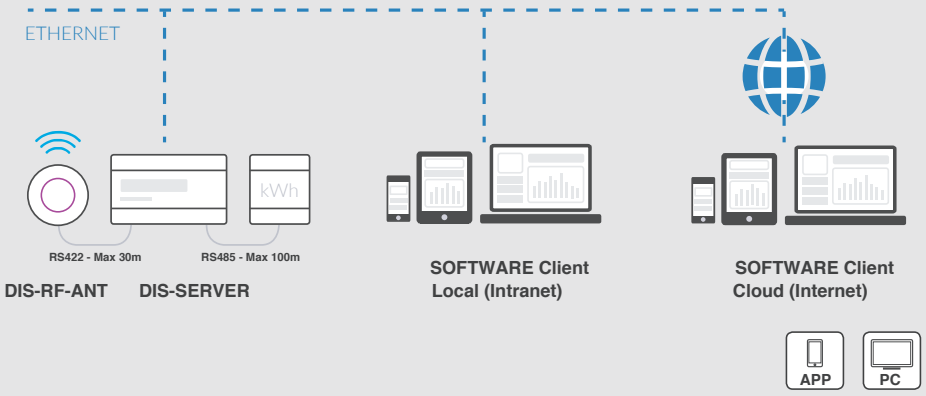


System architecture

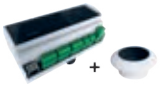
The system is made up of hardware and software modules. Communication with **DALI sub-code -0041** fixtures and sensors occurs via cables (wired) or radio frequency (wireless) solutions.

NETWORKED

Networked (centralised)
These systems work through a centralized supervision and diagnostics software programme. Configuration can also be done from a PC. Centralized supervision and diagnostics is possible by connecting the modules together in a wireless network and/or the Ethernet. As well as reducing networking costs, it is also possible to integrate the system into third-party solutions.



art. DIS-SERVER + DIS-RF-ANT



Ethernet server with modular interfaces
The DIS-SERVER module allows the configuration, control and monitoring of cabled DALI lighting fixtures, wireless devices (controllers and sensors) and energy meters. Thanks to the integrated web server and the Ethernet interface, it can be controlled via web browser, allowing centralization and remote access from the software application. DIS-SERVER integrates a weekly scheduler, 8 opto-isolated digital inputs and 3 modular serial slots for the insertion of plug-in cards dedicated to various communication interfaces. Combined with an DIS-RF-ANT antenna, DIS-SERVER can control up to 250 wireless devices (controllers and sensors).

FEATURES

- 24 Vdc, 2A power supply
- Ethernet interface with RJ45 plug-in
- 8 opto-isolated digital inputs
- 10 programmable digital inputs (dipswitch)
- 3 modular serial slots (Serial 1, Serial 2, Serial 3)
- Integrated web server; weekly scheduler
- Web App optimized for mobile devices (tablets, smartphones)
- Internal SD memory (optional)
- Status LED: Power, SD, Serial 1, Serial 2, Serial 3, Error

ACCESSORIES

- Serial 1: RS422 interface for the DIS-RF-ANT connection
- Serial 2, Serial 3: DALI interface (64 drivers in addressable mode)
- Serial 3: RS485 interface for Modbus meters connection
- DIS-RF-ANT: 868 MHz wireless antenna with RS422 interface

CONNECTION

DIS-SERVER must be installed on DIN guide and thanks to the remote DIS-RF-ANT antenna, which needs to be in a visible position for the wireless devices, it can also be housed in skylight wells and shielded electrical boards. Peripherals can be connected by following the distances shown in the diagram.

Software



Software for centralized supervision and diagnostics
An application for the local (Intranet) and remote (Internet) control of each automation system integrated into the platform. Thanks to the software modular and scalable architecture it is capable of viewing the contents on each type of device equipped with a web browser, such as PCs, notebooks, tablets and smartphones. With the software it is possible to configure, monitor and command each integrated system and each connected device both through manual operations and through automatic algorithms based on calendar, events and conditional logic.

FEATURES

- Web-based application for Windows and Linux
- Standard MySQL database
- Configurable for Intranet and Cloud
- Control of the system through graphical maps
- User profiling for single-site and multi-site applications
- Programming of activities based on time/date
- Control of energy consumptions
- Export of technical data and reports
- Integration with other Building Automation systems (customizable plug-ins)
- Export of data to BMS and SCADA systems (web services)



HOME: this section can be fully customized like any normal HTML page. It displays technical, logistic and marketing information.



ENERGY: this section allows you to graphically display measured energy consumptions and export them into a .csv file.



MAPS: this section displays systems as tree lists and charts, organized in hierarchies to ensure simple and intuitive navigation.



SCHEDULER: this section allows you to create advanced algorithms based on hourly or calendar programming.

APP

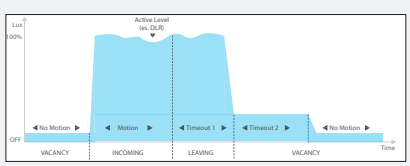


App for the configuration of wireless devices
With the application, available for Apple and Android smartphones, it is possible to set all operating parameters of wireless systems equipped with RF 868 MHz interface. The simple and intuitive graphical interface allows the selection of various pre-configured usage applications, which will only require fine-tuning such operating parameters as motion timeouts and the desired lighting levels. The Advanced section is used to configure more professional functionalities, typically used in network systems.

FEATURES

- Application for Apple and Android smartphones
- Simple and user-friendly graphical interface
- Configuration of wireless devices operating in 868 MHz
- "**Basic**" section for the configuration of simple functions
- Pre-configured usage profiles for the most common applications
- Customization of operating parameters (timeout, lighting levels, etc.)
- Assignment of devices to their corresponding work groups
- "**Advanced**" section for the configuration of more professional functionalities
- Calibration of lighting sensors through the built-in lux meter in RF-WiFi
- Saving of favourite configurations

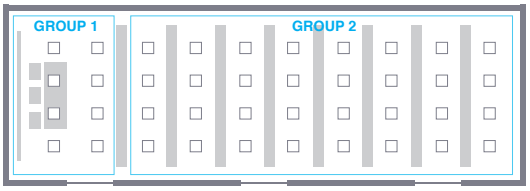
The App interface allows the customization of simple operating parameters, such as the timeouts determining the transitions based on motion and the desired lighting levels under various conditions.





Examples of use: offices, meeting rooms, open spaces, entrance halls, corridors and community areas

All these systems are made to illuminate spaces in office buildings with mounting heights of up to max. 4 m, typically with false ceilings. The "local" cabling of controllers and sensors is always possible, even in case of relamping solutions. Therefore, we use systems that allow managing independent areas through sensors and manual commands. Thanks to the 868 MHz wireless network, the system can be easily supervised from the software.



□ = **DALI sub-code -0041** fixtures

Conference rooms
In this type of rooms, lighting control is connected with the need to create static light settings to adjust levels to group of fixtures. We typically use DALI fixtures with systems that allow implementing the several lighting scenes manually through standard buttons or mobile devices.

GUIDELINES ON HOW TO BUILD A CONTROL SYSTEM

Designing a control system with smart solutions is fast and simple! Thanks to **wireless** technologies and a modular and scalable architecture, it is possible to implement stand-alone and networked systems by developing lighting control devices and adding sensors and all the necessary hardware and software modules to network the system. To select the right technology, you must be aware of the system's intended use and determine whether you should use sensors, pre-setting and/or scheduling solutions.

NETWORKED SYSTEMS

Presetting and scheduling:
these functions are particularly useful when the system is required to meet different needs throughout the day or week. For example, you can set lower lighting levels when performing maintenance and cleaning, and higher levels during the workday. To control the system based on preset scheduling times and different work modes you must use a **DIS-SERVER**.

Centralized supervision/diagnostics software:
this application is used for the local (Intranet) and remote (Internet) control of each automation system that can be integrated in the platform. With the software, it is possible to configure, monitor and command each integrated system and connected device through manual operations and automatic algorithms using the calendar, events and conditional logic on any device equipped with a web browser, including PCs, notebooks, tablets and smartphones.

Systems with advances functions
To control zones in manual mode and through time scheduling, it is necessary to use **DIS-SERVER**. With additional hardware and software, it will be possible to connect the system to the Ethernet network and control it through an integrated web APP remotely (Internet). The system can be monitored and controlled through graphical maps with the software installed on a PC or pre-loaded on the server. Thanks to this software, it is also possible to control the system remotely through Intranet-based and/or Cloud-based solutions.

ELEMENTARY SOLUTION (OUTDOOR)

VIRTUAL MIDNIGHT, A SMART DEVICE THAT SAVES ENERGY

The **virtual midnight** calculation is based on a mechanism that can be applied to public lights, and more generally to outdoor luminaires, which allow programming a reduction of the luminous flux, when you don't need the luminaire to operate at full power all the time. For example, during the central hours of the night, in areas where vehicle and pedestrian traffic is low, a **reduction of the luminous flux will keep lighting levels within safety standards while saving energy**. Multiply by hundreds or even thousands of street lamps and the savings become significant. This type of device, applied to a LED lighting system, results in considerable energy savings compared to old technology.

It is worth noting that the initial system setup – if necessary – can be easily customized from the operating board. Therefore, the system doesn't require much effort or costs for running and maintenance. In this way, town administrators have the chance to make their streets, squares, big and small neighbourhoods safer and more liveable with a contained investment, which is mostly compensated by the energy savings.

High-quality, eco-friendly technology within anyone's reach: the advantages

Lower consumptions using light only when and where needed	No need to change the whole system	A preset, easily customizable mechanism with no running and maintenance costs	An eco-friendly solution, which is based on a smart technology that anyone can afford

Disano outdoor lighting products are divided into two ranges that provide the end user with different types of technology:

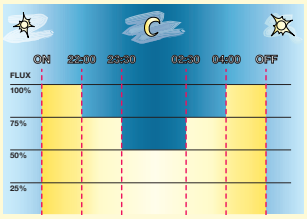
Advanced Prog (CLD PROG wiring): luminaires made to meet specific technological needs and designed, as standard, to integrate special functions to ensure high energy-savings, customization options and versatility of use in many applications (e.g. installation with dimmers or emergency supply). *These functions are already available on standard products and must be enabled on request (**except** for versions with **LED COB**)*. These products do not require any modification to the entire system because the lamp only needs to be connected to mains power supply no pilot cable and/or control bus required.
When ordering with **subcode -30**, the luminaire will be set to the Virtual Midnight factory settings.

Basic Prog (CLD BASIC wiring): luminaires developed to grant great flexibility of use thanks to the possibility to vary luminous flux intensity. When ordering with **subcode -30**, the luminaire will be supplied with a Virtual Midnight device set to factory settings.

VIRTUAL MIDNIGHT - Stand-alone system with automatic luminous flux reduction in **4 steps**

To increase energy savings at night when there are fewer people and vehicles around, a lighting fixture can be programmed according to a specific profile (customizable on request). The fixture reduces its luminous flux through a self-learning process which, depending on the previous switching on and off times, will determine a hypothetical "virtual midnight". This is the average value between the time the fixture is switched on (sunset) and switched off (sunrise). The "virtual midnight" is the reference point for dimming lights according to the desired profile. The device is integrated in the LED driver and therefore does not require any modification to the system.

In order for the system to function correctly, the system must be adjusted by a device that turns the system on and off on a regular basis every day.

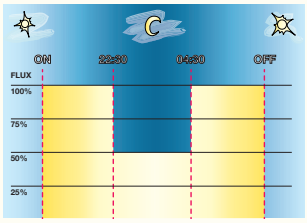


Factory settings	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	75%
23:30 ÷ 02:30	50%
02:30 ÷ 04:00	75%
04:00 ÷ off	100%

Virtual Midnight subcode -30: fixtures are equipped with a device to reduce flux in **4 steps** based on the calculation of the virtual midnight.

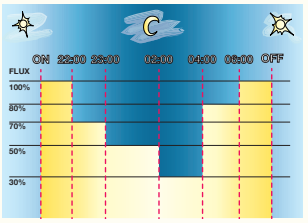
***ATTENTION:** original settings and time slots for the "virtual midnight" value can be customized in up to 8 steps upon request.*

Virtual midnight in 2 steps subcode -31

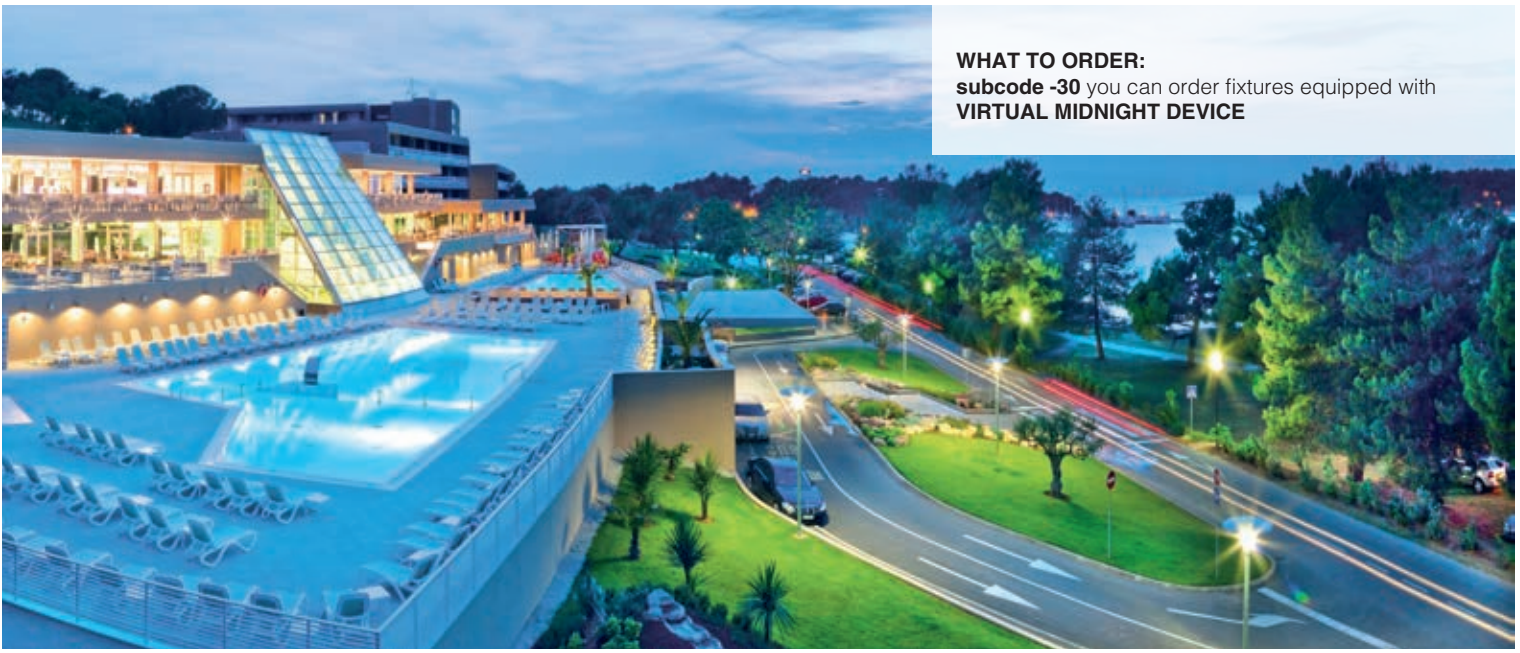


Settings upon request	
Time	**Flux**
on ÷ 22:30	100%
22:30 ÷ 04:30	50%
04:30 ÷ off	100%

Virtual midnight in 5 steps subcode -32



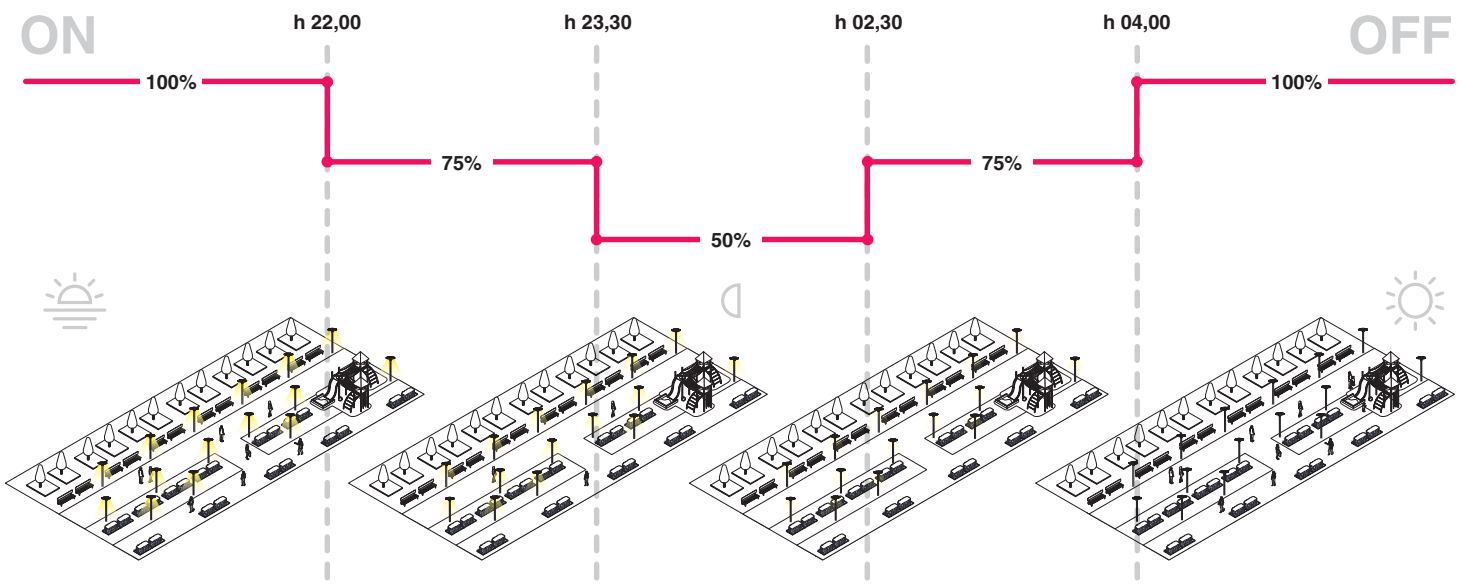
Settings upon request	
Time	**Flux**
on ÷ 22:00	100%
22:00 ÷ 23:30	70%
23:00 ÷ 02:00	50%
02:00 ÷ 04:00	30%
04:00 ÷ 06:00	80%
06:00 ÷ off	100%



WHAT TO ORDER:
subcode -30 you can order fixtures equipped with **VIRTUAL MIDNIGHT DEVICE**

Solution with virtual midnight stand-alone system with automatic dimming of the luminous flux to **4 steps** of brightness. The lamp can be programmed according to a specific profile (customisable on request).

For example, in the central hours of the night, in areas where car and pedestrian traffic decreases significantly, a **reduction in luminous flux keeps the light within safety standards, while avoiding waste**. If we multiply this reduction by tens or hundreds of lamps, we get **significant savings**.



Example of fixtures with VIRTUAL MIDNIGHT



ELEMENTARY SOLUTION (OUTDOOR)

You can make your lighting system **SMART** by integrating sensors into the fixture so that it can detect the movement of people within a given detection area and automatically adjust light intensity according to previously established light levels and delay times. You will also achieve high **energy savings** without affecting the safety and visual comfort of pedestrians.

The lighting fixtures with **sub-code -1219 complete with motion sensors** are a functional lighting solution for public spaces. The ability to control the light flux without people moving in a space will let you **optimize operating costs**, while achieving notable **economic savings**. This lighting solution is best suited for public or private streets, cycle lanes, private roads, parks and, in general, for any installation where smart lighting control is required.

Energy savings

The ability of these fixtures to sense the presence of people transiting in a space through integrated motion sensors will significantly reduce the waste of light, especially at night, and achieve lower energy costs.

Safety

At night-time, the number of people using urban areas, such as parks, is quite low. Therefore, reducing the light flux using fixtures with integrated motion sensors is the ideal solution to always ensure adequate lighting levels.

Green lighting

Installing lighting fixtures with integrated motion sensors that will switch lights on only when people are around is the first step towards becoming a greener city, where spaces are more liveable and safer, without wasting energy and leaving a lesser impact on the environment.









Motion sensor - STAND-ALONE

Fixtures with sub-code -1219: lighting fixture complete with stand-alone motion sensor with 1/10V control.

TECHNICAL SPECIFICATIONS	
Frequency	5.8GHz±75MHz
Stand-by power	≤1W
Setting	telecomando
Hold time (adjustable)	5s / 30s / 1min / 3min / 5min / 10min / 20min / 30min
Ambient light (adjustable)	2lux / 10lux /30lux / 50lux / OFF
Stand-by time (adjustable)	0s / 10s / 30s / 1min / 5min / 10min / 30min /+ ∞
Stand-by dimming level (adjustable)	20% / 30% / 50%
Detection area	50% - 75% - 100%
Detection angle	30° - 150°
Technology	Microwave



Remote control cod. **81418618** (to be purchased separately) that **allows changing the parameters even after installation is complete** and without the need to directly access the fixture.

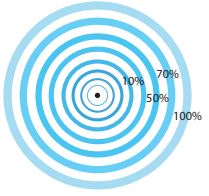


DEFAULT SETTINGS

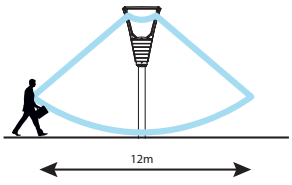
The fixtures is supplied as standard with the following parameters

Hold time	5s
Ambient light	OFF
Stand-by time	0s
Stand-by dimming level	10%
Detection area	100%

NOTE: when placing your order, it is possible upon request a customized configuration that you need to set.



DETECTION RANGE 360°



MOUNTING HEIGHT

A) Detection area: the sensor will turn the lights on when it detects motion in this area; with a 100% detection area the sensitivity level is high.

B) Hold time: the period of time during which lights stay on at full brightness after a person or object has left the detection area.

C) Ambient light: when the level of light inside a room is below a pre-determined threshold, the sensor will trigger the lights on; when set to 'disable', the sensor will operate whenever it detects movement regardless of the amount of light in the room.

D) Stand-by time: refers to the time the sensor keeps the lights at a dim level after the hold time.

E) Stand-by dimming level: is the lights' dimming level during the stand-by time.

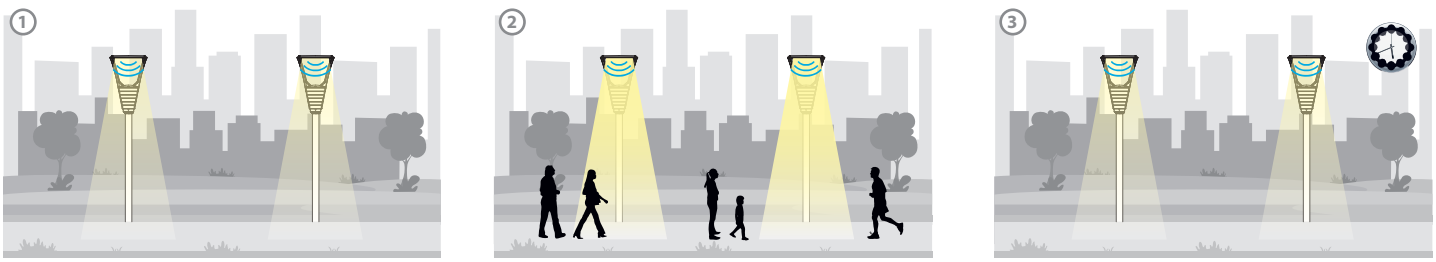
EXAMPLE OF OPERATION

The lighting fixtures with **sub-code -1219** complete with motion sensors will adjust the light flux in the presence of moving people by varying the brightness value according to pre-determined levels based on certain times:

1) when there is no motion, the fixtures will keep a certain level of light intensity for a specific period of time

2) when motion is detected in the monitoring area, the luminous flux will dim to 100% of light level

3) if no motion is detected after a certain period of time, the sensor will reset the light level to the pre-set value



A lighting fixture equipped with a radar-type motion sensor may be affected by wind. Therefore, for particularly windy areas, PIR presence sensors are available upon request and for an additional cost.

SMART SOLUTION (OUTDOOR)

To monitor and manage public lighting centrally, lighting fixtures will always be more equipped with wireless controls that will allow their integration with the IoT. Today the market offers two solutions: **NEMA and ZHAGA**. Both solutions offer an electrical and mechanical connection between the control antenna and the lighting fixture.

Applications: ideal for use in public or private street lights, car parks, cycle and pedestrian lanes, corridors within hospitals, schools and industrial plants and urban amenities and generally in any area where you need a “smart” control of lighting fixtures.

Nema Socket

Disano’s luminaires with **subcode -40** come with the **Nema Socket** to enable the electrical and mechanical connection between the sensor and the light fixture. The socket is made in plastic material and is complete with a gasket to ensure perfect IP protection; moreover, thanks to its removable structure, it can be installed directly onto the luminaire’s body (without accessing any internal parts) and **without using tools**, hence facilitating future maintenance; **upon request**, the sealing cap can be installed. The Nema Socket can be adapted to **5/7 poles**: 3 for the electrical connection, and the remaining 2/4 to carry 1/10V or DALI signals; it is also perfectly suited to integrate all “smart” devices for remote lighting control.

Upon request, the **sealing cap can be installed**



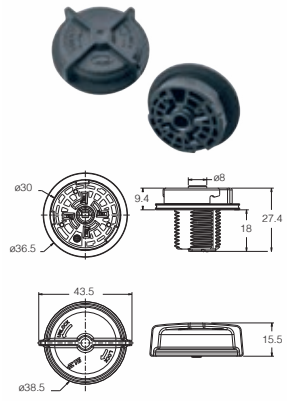
The ANSI C136 standard defines the dimensions of the socket, the type of block and other details. It provides a connection between the power grid and the twist-lock control signals.
The **Nema socket** in lighting fixtures can have 5 or 7 terminals:
3 terminals are used for the connection of the power supplier, the remaining 2 or 4 terminals are used to carry the pilot signal and the other signals. The power terminals can carry current up to 15A. Signal terminals are limited to 100mA. Signal contacts can support (0)1/10VDC or DALI protocol. The sockets are made in durable polycarbonate and in order to prevent water from leaking inside the fixture, it is sealed at the bottom. This socket, which can be opened and closed manually without the use of tools, will be the essential solution for smart city applications.
Nema sockets are very popular in the United States, especially in outdoor lighting installations, such as street lights. A lighting fixture with a Nema socket is opened to new developments. In fact, when a new technology is developed for the control system, the device can be changed/upgraded without the need to change the lighting fixtures.

Advantages:
- Easy installation without tools
- Up to 355-degree rotation
- Robust twist-lock contacts for reliable power interconnection
- The socket is pre-terminated with wire conductors to facilitate the integration into new and existing lighting systems
- It accepts DIMM dimmable photocells (ANSI standard) to enable connection between the photocell and the lighting fixture
- Available with two or four dimming contacts to support dimming protocols over one or two channels

Zhaga Socket

Disano’s fixtures with **subcode -0054** are compatible with the **Zhaga Socket** that ensures an electric and mechanical connection between the sensor and the luminaire, simplifying the complex architecture of street lighting installations and removing the need for accessory modules and cabling. The **Zhaga Socket** consists of a standard interface between the receptacle on the fixture and its basic components and cover that, together, form the housing of the control module. The built-in low friction seals, that can be coupled together, protect both the fixture and the module. UV-resistant and strong materials complete the features of this reliable connector.

Sealing cap supplied **as standard**



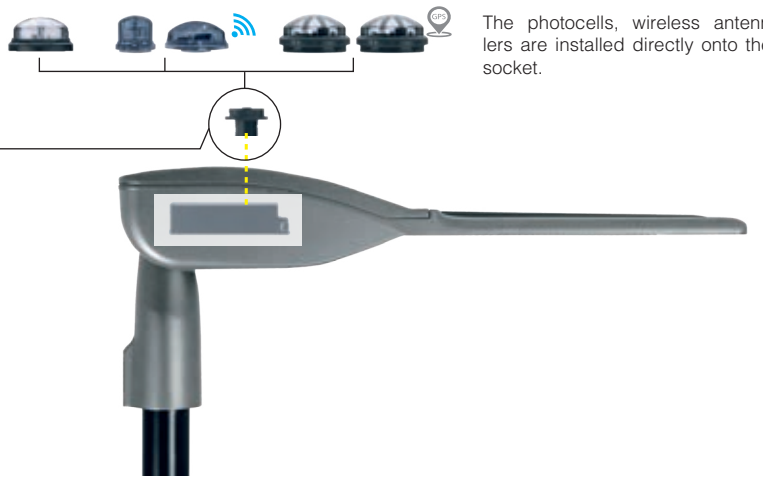
The **Zhaga** Consortium is an international consortium that includes many leading lighting manufacturers with the goal to standardize all the components regarding LED fixtures. With the new **Zhaga socket** (Book 18), the consortium standardized the mechanical and electrical interface between a wireless network and the fixtures’ electronics.
The recent 2.0 version describes a smart interface between fixtures and communication nodes. It specifies the power and communication aspects in addition to mechanical ones and electrical PINs (characteristic of the previous 1.0 version). The Zhaga Consortium and the Digital Illumination Interface Alliance (DiiA) unveiled their joint certification zhaga-D4i programme that allows certified fixtures and nodes to bear the Zhaga and D4i logo. Book 18 Ed 2.0 allows any certified node to operate with any certified fixture.

Main characteristics of the **Zhaga socket**:
- Standard interface for all wireless networks
- 24V power, not prone to spikes/overvoltage
- Simple and fast installation of wireless controller
- Less aesthetical impact than a Nema socket
- Ready network: the initial wireless installation and successive update through a wireless network controller
- Quick and simple management of the wireless controller

Advantages:
- Easy tool-free mounting. The module is attached and secured with a bayonet clamp
- Compact dimensions for greater design flexibility
- The special (push-in) contacts reduce logistics problems arising from the need to use cables with various lengths for different lighting fixtures
- Single built-in seal that protects both the fixture and the modules, minimizing mounting times.

Zhaga socket -0054 (standard configuration)

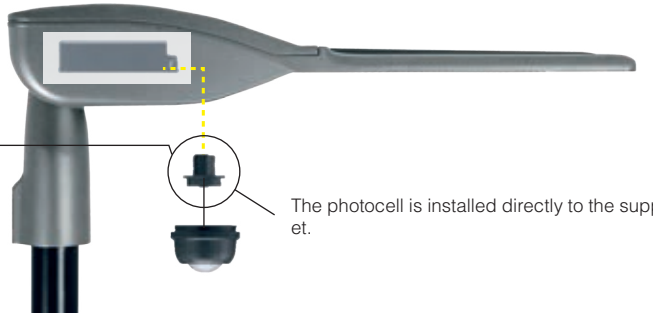
Fixture designed to accept Zhaga socket, which is found on the **top part of the lighting fixture**, electrically connected to the lighting fixture's driver.



The photocells, wireless antennas and controllers are installed directly onto the supplied Zhaga socket.

Zhaga socket (bottom configuration - upon request)

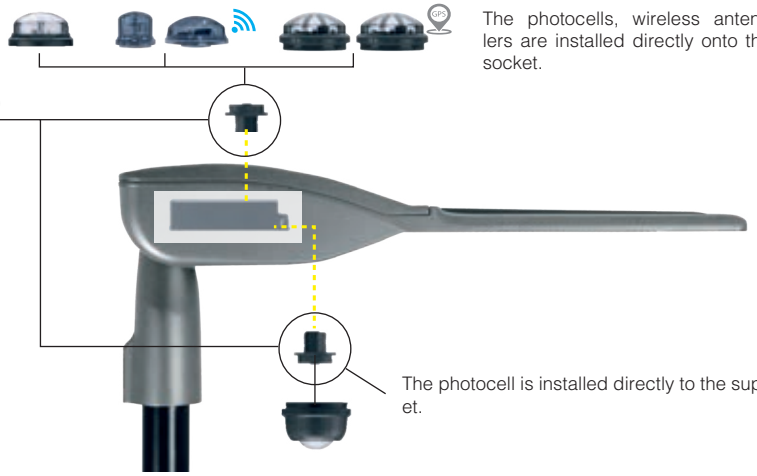
Fixture designed to accept the Zhaga socket, which is found in the **lower part of the lighting fixture**, electrically connected to the lighting fixture's driver.



The photocell is installed directly to the supplied Zhaga socket.

Zhaga socket (double configuration - upon request)

Fixture designed to accept the Zhaga socket, which is found on **both the top and lower part of the lighting fixture**, electrically connected to the lighting fixture's driver.



The photocells, wireless antennas and controllers are installed directly onto the supplied Zhaga socket.

The photocell is installed directly to the supplied Zhaga socket.

Nema Socket order with **subcode -40** (sealing cap to be ordered separately)	Mounted directly on the fixture's body, ideal for remote lighting management applications.
Zhaga Socket order with **subcode -0054** (complete with sealing cap)	

The Zhaga-D4i mark certifies the fixture's compliance with Zhaga Book 18 version 2 specifications for outdoor luminaires and DiiA's D4i specifications for intra-luminaire DALI interface. This joint certification covers all critical features including mechanical adaptation, digital communication, data reporting and power requirements within a single luminaire, ensuring "plug & play" interoperability of luminaires (drivers) and peripherals, such as connectivity nodes.

The fixture is designed to accept Zhaga socket, projecting public lighting into the future. You can create a 'smart' Plug-and-Play solution featuring maximum interoperability.

The Zhaga D4i certification means that a product has a Zhaga Book 18 interface and is compliant with DALI-2 and D4i standards.

SMART SOLUTION (OUTDOOR)

PHOTOCELL AND LIGHTING-MOTION SENSOR

Luminaires compatible with Zhaga receptacles may be equipped with photocells or light/motion sensors. In this way, the luminaire will have the necessary “intelligence” to adjust to specific needs.

PHOTOCELL for DALI-2 street lighting

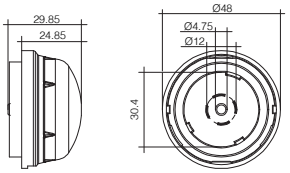


cod. 986450-00



bottom view

Main features:
- Monitoring of ambient lighting for stand-alone or network applications
- Ready for Zhaga receptacles for quick installation to the luminaire
- Precise light measurement from 0.2 to 20,000 Lux
- Detection angle for light measurement: 150° - Start time: ≤ 5 s
- Designed to be installed to the upper side of the luminaire
- Service life up to 100,000 h at a TC of 60 °C



Structural features:
- Body: grey plastic
- Lens: plastic, smoked grey
- Protection up to IP66
- Impact resistance ≤ IK09

Advantages:
- Innovative: simple start-up for stand-alone applications, Plug & Play interface
- Flexible: luminaire switches on/off depending on ambient light
- Reliable: tested for critical outdoor conditions

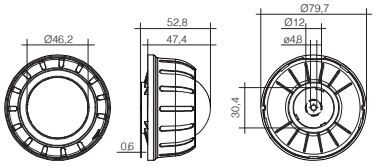
MOTION AND LIGHT SENSOR for DALI-2 street lighting



cod. 986451-00



bottom view



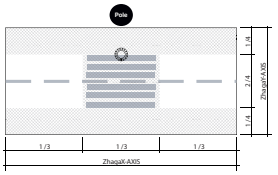
Main features:
- Monitoring of ambient light and presence detection
- Integrated temperature measurement
- 2 PIR sensors with extended features such as detecting objects with side orientation
- Ready for Zhaga receptacle for quick installation to the luminaire
- Rectangular detection range, ideal for street applications - Start time: 30 s
- Detection angle for light measurement: 76°
- Precise light measurement from 1 to 4,000 Lux
- Integrated pressure equalizing membrane
- Service life up to 100,000 h at a TC of 60 °C

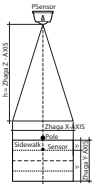
Structural features:
- Body: dark grey (RAL 7040)
- Protection up to IP66
- Impact resistance IK08 (without lens)

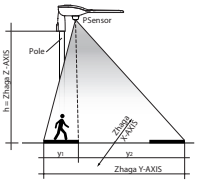
Advantages:
- Innovative: first DALI-2 asymmetric motion sensor based on Zhaga socket
- Flexible: adjustment of parameters with configuration software
- Reliable: tested for critical outdoor conditions

Motion detection: the motion sensor detects moving objects that radiate warmth (mainly pedestrians) thanks to PIR technology that reacts to heat changes within a rectangular coverage area (part of a street). The entire coverage area is rectangular, while the highlighted area is the one optimised for the detection of pedestrians. The sensitivity of the sensor can be adjusted via the application.

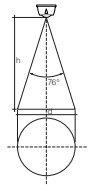
Brightness detection: the detection angle for light measurement is 76°.







Height	Detection area				Covered area
h	x	y	y_1	y_2	–
4.0 m	17.0m	8 m	2.0 m	6.0 m	136 m²
4.5 m	19.3m	9 m	2.3 m	6.8 m	173 m²
5.0 m	21.5m	10 m	2.5 m	7.5 m	215 m²
5.5 m	23.8m	11 m	2.8 m	8.3 m	261 m²
6.0 m	26.0m	12m	3.0 m	9.0 m	312 m²
6.5 m	28.3m	13m	3.3 m	9.8 m	367 m²
7.0 m	30.5m	14 m	3.5 m	10.5 m	427 m²
7.5 m	32.8m	15 m	3.8 m	11.3 m	491 m²
8.0 m	35.0m	16 m	4.0 m	12.0 m	560 m²



Height	Detection area	Covered area
h	d	–
4.0 m	6.2 m	31 m²
4.5 m	7.0 m	39 m²
5.0 m	7.8 m	48 m²
5.5 m	8.6 m	58 m²
6.0 m	9.4 m	69 m²
6.5 m	10.2 m	81 m²
7.0 m	10.9 m	94 m²
7.5 m	11.7 m	108 m²
8.0 m	12.5 m	123 m²



SMART SOLUTION (OUTDOOR)

WIRELESS ANTENNAS WITH REMOTE CONTROL

Thanks to Zhaga compatibility, remote communication modules can now be effectively used for lighting control and data transmission. Each RF node has the necessary “intelligence” to control multiple DALI devices while simultaneously setting up a stable wireless network.

WIRELESS ANTENNAS for DALI-2 Street Lighting

Bluetooth™ Low energy mesh network

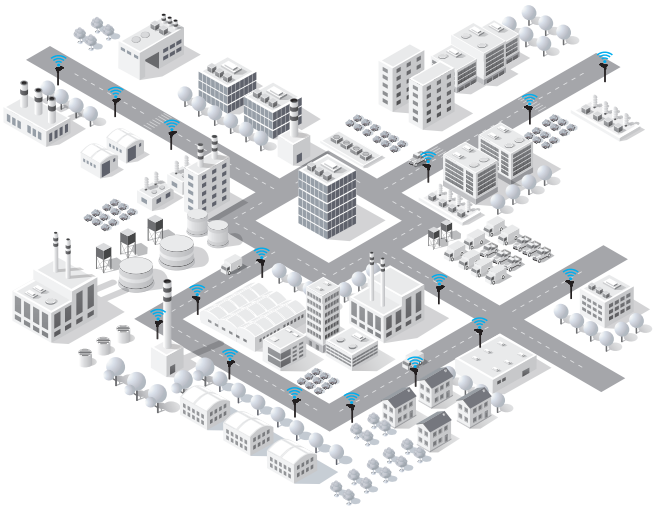


cod. 986445-00 **cod. 986446-00**

Main features:

- Each control unit stores information about its own configuration and the configuration of the rest of the controls installed in the same network.
- Configuration and control can be done from a mobile phone or a tablet using the free CASAMBI APP (available for iOS and Android).
- Remote control of the installation is also possible via cloud through a Casambi router connected to the Internet.
- Electrical connection and mechanical fixing are done through standard ZHAGA Book 18 compatible socket by twisting and locking into place, without tools.
- No need for hubs, master devices, computers or programmes. Communication is via a Bluetooth 4.0 mesh network.

FEATURES	
Nominal input voltage	24 VDC SELV
Energy consump. in standby mode	0,5W
Energy consump. in operating mode	0,6W
Control interface	DALI/DALI2
DALI output current	40mA max.
Dimming	0-100%
RF communication interface	Bluetooth 4.0 BLE
RF communication protocol	Casambi
Wireless class	Class 2
Firmware update	OTA (Over the air)
Casing material	PC con trattamento UV
IP - IK	66 - 09
Connectors	ZHAGA Book 18
Dimensions (diameter - height)	986445-00 Ø48mm. H 44mm
	986446-00 Ø80mm. H 50mm





Operation and configuration:

From the **CASAMBI APP** it is possible to group luminaires by street, set dimming levels according to time, schedule special events for particular days, etc. The communication range between controllers is up to **70m** outdoors. Since devices are operating on a mesh network, controllers communicate with each other until the information reaches the controller for which it was intended, even if it is far away. During setup it is sufficient to be located in the range of one of the controllers.

Communication security is guaranteed through encrypted messages. It is possible to set different access levels and configuration permissions. Network configuration information can optionally be stored in the CASAMBI cloud and restored if necessary. When a controller receives a firmware update, it will automatically retransmit the update to the other controllers. Each network can support up to **250 controllers**.

Several operating modes are possible (on/off, 0-100% dimming, circadian control, tunable white, etc.). Different communication profiles can be configured to meet the requirements of different luminaires. The monitoring of internal temperature is done via the Casambi App. Information is received from the associated driver (energy consumption, temperature, etc.) and sent to the cloud.



SMART SOLUTION (OUTDOOR)

THE "CONTROL-GROUP PROG" SYSTEM

The CONTROL-GROUP PROG solution allows managing the lighting system through local and autonomous dimming programmes based on the data supplied by motion and light sensors. The CONTROL-GROUP PROG is ideal for automating the lighting of roads, pedestrian routes and cycle lanes, residential neighbourhoods, parks, car parks, road junctions, marinas and much more.

CONTROL-GROUP PROG for DALI-2 street lighting

Main features:

The system is made up of a PROGRAMMER for the on-site management/programming of the light points through the CONTROLLERS installed on the fixtures.

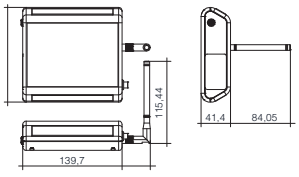
- Management of wireless mesh installations divided into groups of up to 60 nodes
- Dynamic point-to-point management, with integration of sensors
- Easy to use, both at the hardware and software level
- Multi-channel DALI support up to 8 power suppliers
- Real-time clock, and access to satellite clock in case of power outages lasting longer than 48 hours
- Light sensor integrated in the RF node
- 868 MHz signal that guarantees reliable communication and node-to-node distances of up to 100 metres



upon request

Control-Group Programmer:

- Programmer for on-site commissioning
- Control via smartphone / tablet (android and iOS) and laptop with dedicated WEB app
- Local autonomous management of groups of luminaires via RF mesh
- Groups of luminaires, small installations of up to 60 network nodes
- Standard-based solution (ZD4i) can be applied directly to a smart city solution via IoT
- Built-in battery for offline operation, including power supplier and an additional 12V charger



Structural features:

- Housing: Black ABS
- IP40 protection
- Radio range: 100 m max
- Life: up to 50,000 h

Advantages:

- Innovative: integrates sensors, schedules and scenes for customized outdoor lighting
- Intuitive: user-friendly interface display with map support and live test function
- Reliable: creates a network built on self-healing mesh technology for stable and long-lasting operation
- Safe: hardware components tested for outdoor use



upon request

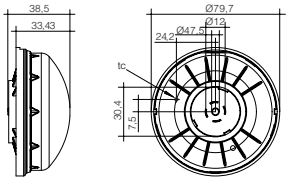


upon request

Controller:

- *RF DALI Controller* with built-in light sensor: controls up to 8 DALI DT6 channels and 1 motion sensor, it automatically sets the driver to DALI mode; compatible with 868 MHz narrow frequency band

- *Controller GPS* version for quick commissioning with user interface display and acting as master clock



Structural features:

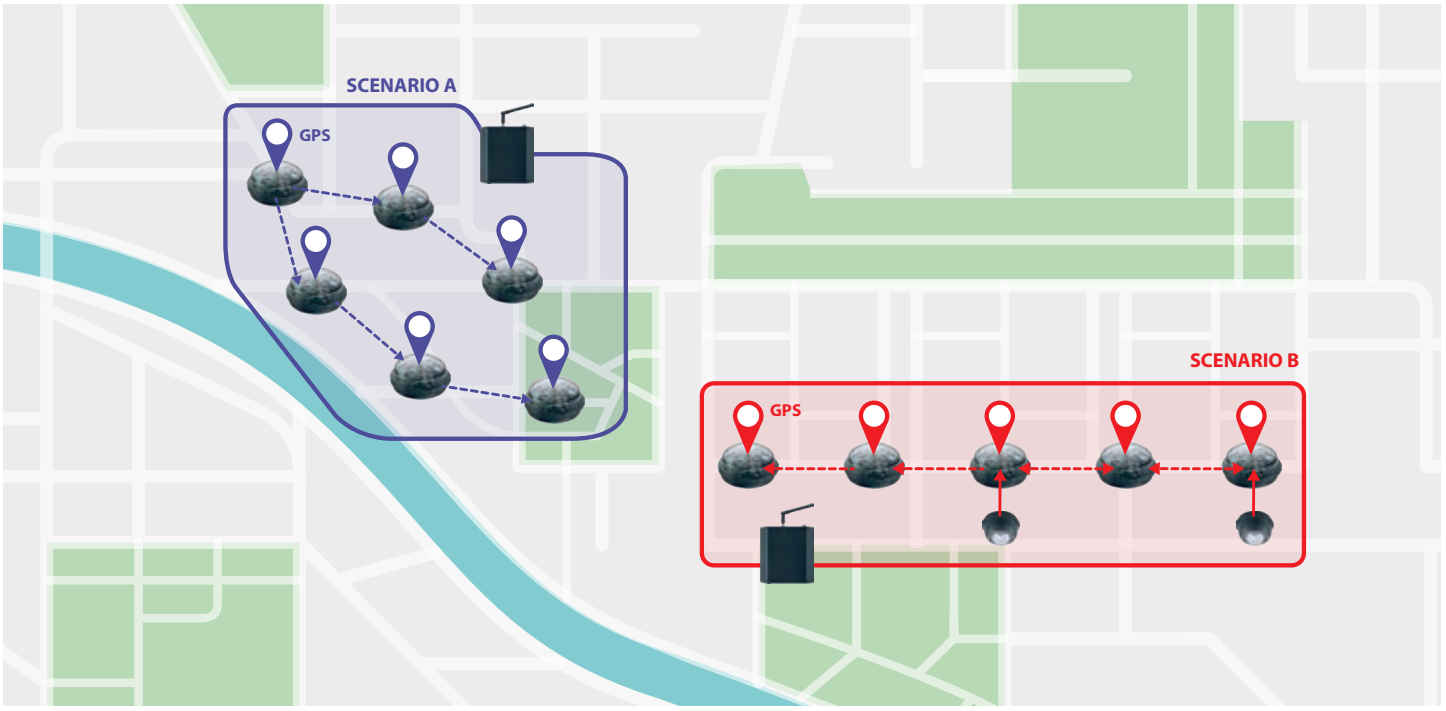
- Body: grey plastic
- Lens: plastic, smoked grey
- Protection up to IP66
- Impact resistance ≤ IK09

Advantages:

- Innovative: RF Multi Master controller based on Zhaga interface with IPv6 6LoWPAN mesh technology
- Intuitive: fast and easy connectivity update of the luminaire with Zhaga Book 18 Ed. 2 interface
- Reliable: self-healing mesh network for stable and safe operation
- Safe: pressure equalization membrane to withstand quick outdoor temperature changes



The CONTROL-GROUP PROG is based on the most advanced industry standards, such as ZD4i, ensuring future-proof operation, interoperability and easy maintenance. The system integrates directly into a cloud-connected IoT solution. All you need to do is to add a gateway and connect it to the Internet.



Example of possible installations

- Map support for device location



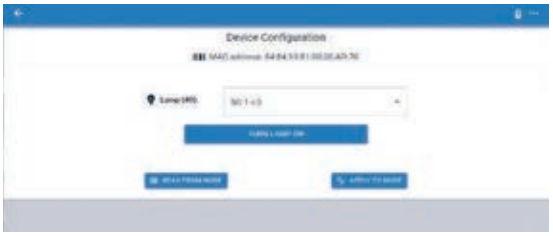
- Schedule definition and weekly programming



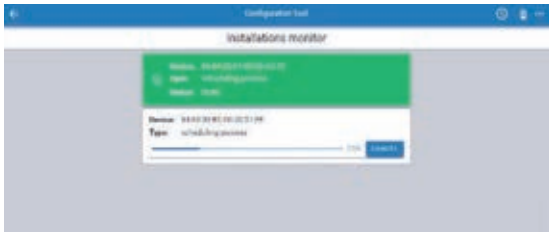
- Contextual submenus for detailed programming



- Identification of on-site fixtures (fig. a) and confirmation of information upload (fig. b)

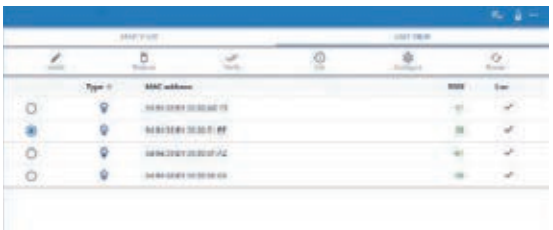


a)



b)

- Selection of the luminaires that make up the motion path (fig. c) and checking of onboard controllers (fig. d)



c)



d)

IoT SOLUTION (OUTDOOR)

What is a smart city?
A smart city is a city where there is a better quality of life and where public spaces can help citizens achieve their full potential and move more freely, while saving time and respecting the environment. The intelligence of a «Smart City» is a distributed, shared, horizontal and social intelligence. It is an intelligence that promotes the participation of citizens and the organization of the city towards a greater optimization of resources and results. Energy consumption, public resource use and time are all optimized.



With the Web and the new technologies, access to services is easier and public spaces can be organized to favour mobility, save time and turn our cities smarter. Remote management systems make objects more intelligent and recognizable, so that they can communicate data and provide access to aggregated information. Thanks to a more efficient use of the Web, everything within a city (urban fittings, public buildings, monuments, etc.) can play an active role and become collectors and distributors of information about traffic, energy consumption, services and assistance to citizens, cultural and touristic attractions and much more.



The fixture can be equipped with a **control system which provides lighting managers with the ability to improve the performance of urban and street lighting** installations while saving costs by lowering energy usage, optimizing operation and reducing CO_2 emissions. The system incorporates the latest technologies in power electronics, communications and IoT. This makes possible, among other features, an on/off scheduled switching, a dynamic programming of lighting levels, map-based visualizations, automatic alarm reports, real-time fixture monitoring and maintenance scheduling of every single luminaire of multiple installations at once. The system has a friendly and secure web-based user interface which can be operated anywhere and anytime from any web-connected device such as computers, smartphones and tablets providing real time and accurate control of the lighting infrastructure.

System Highlights

- Flexible solution
  - Valid for new installations as well as for lighting renovation
  - Autonomous system but integrable with other city services platforms
  - Valid worldwide
  - Compatible with most Smart City services platforms
- Values and revenues
  - Better lighting performance
  - Money savings
  - Energy costs reduction
  - Operation costs reduction
- Users
  - Municipalities and County Councils
  - Smart City platforms operators
  - Managers of large infrastructure
- Applications
  - Street and residential lighting (streets, roads)
  - Urban & architectural lighting (monuments, public spaces)
  - Large infrastructure lighting (airports, ports)
  - Large areas and sport lighting (car parks, stadiums)
  - Urban events lighting (celebrations, demostrations)

System Architecture & Components

- System architecture
  - Smart power electronics: LED drivers
  - Wireless network hardware
  - RF Nodes and GSM Gateways
  - Cloud-based data acquisition and network management
  - Management software suite (Network & data management)
  - Web-based multi-device user friendly interface
- Technical aspects
  - Fully programmable electrical parameters and functionalities
  - Connectivity of sensors
  - Self-diagnosis, notification of alarms
  - Mains voltage and frecuency monitoring
  - High efficiency
- Lighting network nodes
  - Multi-hop wireless mesh network
  - IP-based protocol, broad coverage
  - Automatic neighbour discovery, self-organization, ad hoc configuration
  - Extensibility, interoperability, open standards
  - Robust link, reliable and high-performance network
  - Additional sensor data acquisition (optional)
- Gateway
  - Mesh network concentrator
  - 2G/3G/LTE network gateway
  - Time and date precise synch
- Central host and database
  - Local or cloud hosting available
  - End-to-end secured system
  - Smart City and other horizontal management platforms integrability
  - Multi-level data interchange capabilities, app interfaces
  - Business Intelligence and data analytics
- Management Software Suite
  - Lighting configuration, management and maintenance
  - Easy installation, test capabilities
  - Data network management and configuration
  - Reports, statistics and data visualization tools
- Fast commissioning
  - Ease of installation
  - Assembling outside fitting
  - Remote configuration
  - Reliable, outdoor-proof
- Accuracy
  - GPS accurate location
  - Point-to-point management
  - Real-time operation

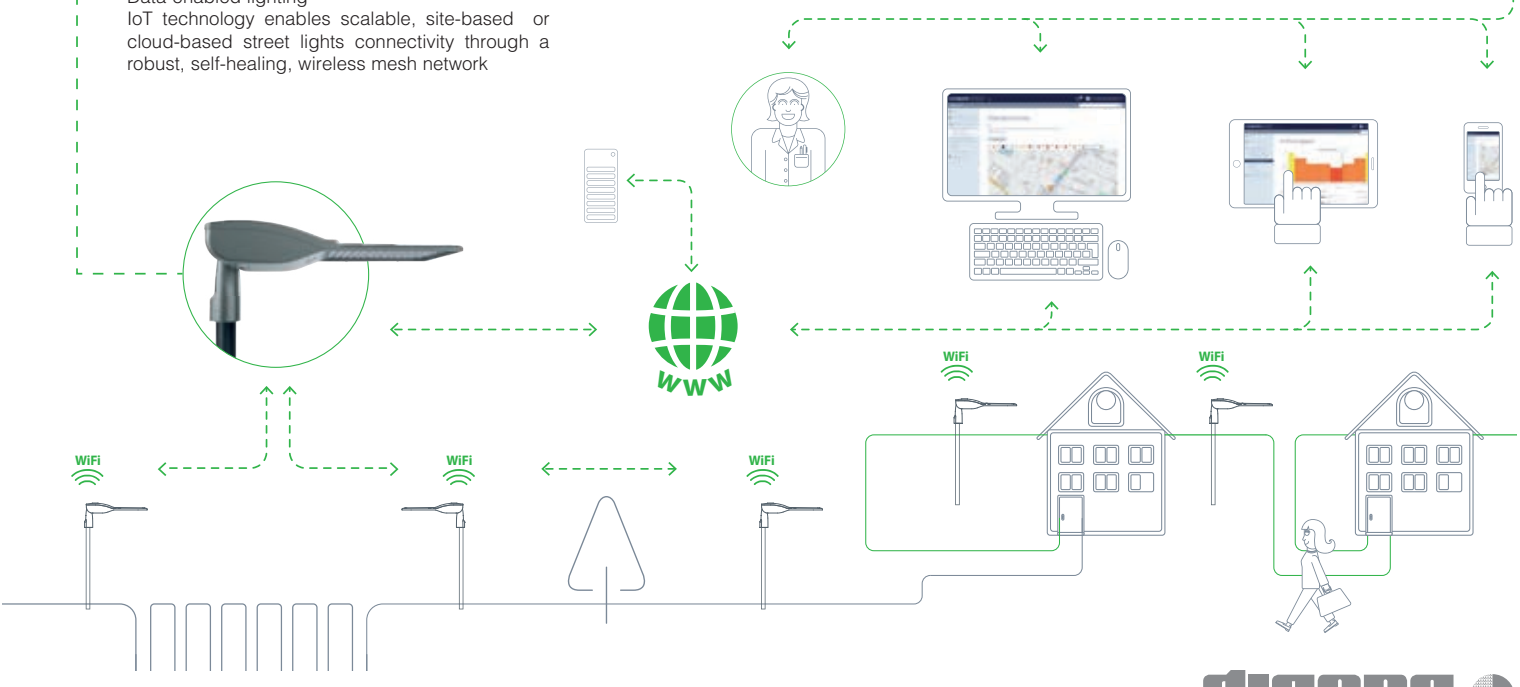


Smart City Lighting

- Flexible and avant-garde lighting
  - Programmable lighting
  - Dynamic lighting
  - Reactive to events
  - Makes possible a human centric lighting
  - Increases citizen satisfaction
  - Helps to improve safety on streets
  - Compatible with most existing Smart City & urban services management platforms and easily adaptable thanks to its open architecture
- Environmental sustainability
  - Energy savings
  - Reduction of CO_2 footprint
  - Lower lighting pollution
- Data-enabled lighting
  IoT technology enables scalable, site-based or cloud-based street lights connectivity through a robust, self-healing, wireless mesh network

User Friendly Web-based Interface

- Main functionalities
  - Easy lighting levels & timing configuration
  - Creation of customized lighting schedules
  - Energy consumption monitoring
  - Power supply monitoring
  - Alarms and events reporting
  - Operation time recording
  - Geolocation and mapping of luminaires (multiple map choice)
  - Easy allocation of luminaires by town, street, coordenates, type
  - Manteinance planning
  - Multiple users administration
- Optimum lighting maintenance
  - Possibility of preventive maintenance
  - Optimization of reactive maintenance
- Privacy and security commitment
  - Encrypted communications
  - Safe communications exchange through highest encryptation levels
  - Database access security
  - Secure hosting
  - Cloud protection and data confidentiality
  - Safe access with authentication
  - Highest protection against unauthorized access



SPORTING SOLUTION

BASIC WIRELESS: a wireless lighting control solution conceived for small and medium-sized non-professional sporting centres to adjust lighting levels according to the sporting events held.

This solution applies to the following families of product:

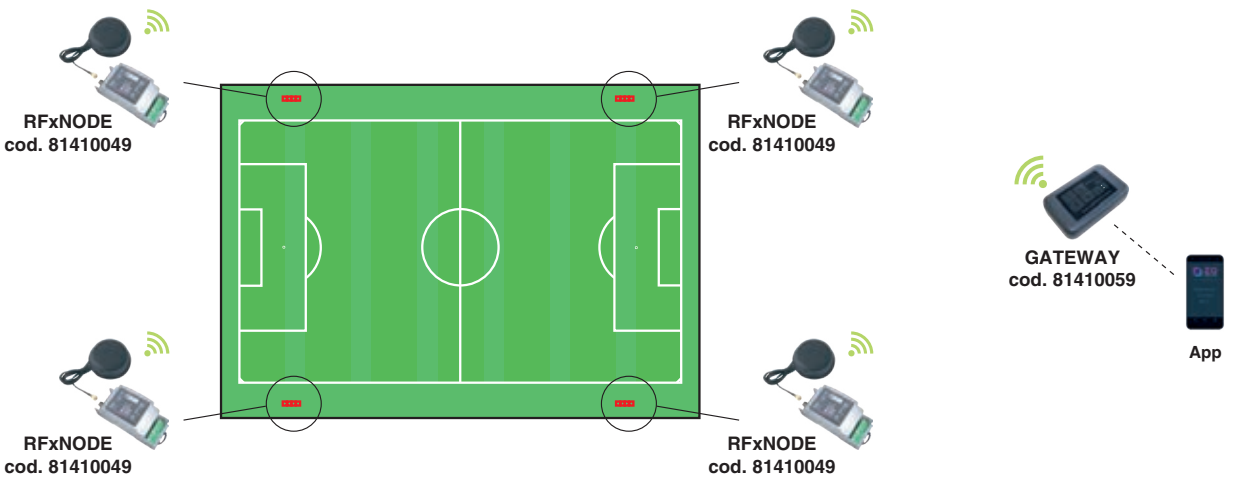
Floodlights: **Rodio, Satuno, Astro, Radon and Forum**





Example of use: small and medium-size arenas

System architecture
The system is made up of hardware and software modules. The communication with the lighting fixtures occurs via a **RFxNODE wireless module** (that can control up to 32 DALI drivers) to be installed in an electrical board at the base of the light post and that can be easily configured with the **wireless button panel** or via app.



SPORTING SOLUTION

ADVANCE WIRELESS: wireless lighting control solution conceived for small and medium-sized non-professional sporting centres to adjust lighting levels according to the sporting events held.

This solution applies to the following families of product:

Floodlights: **Rodio, Astro, Cromo, Radon and Forum**

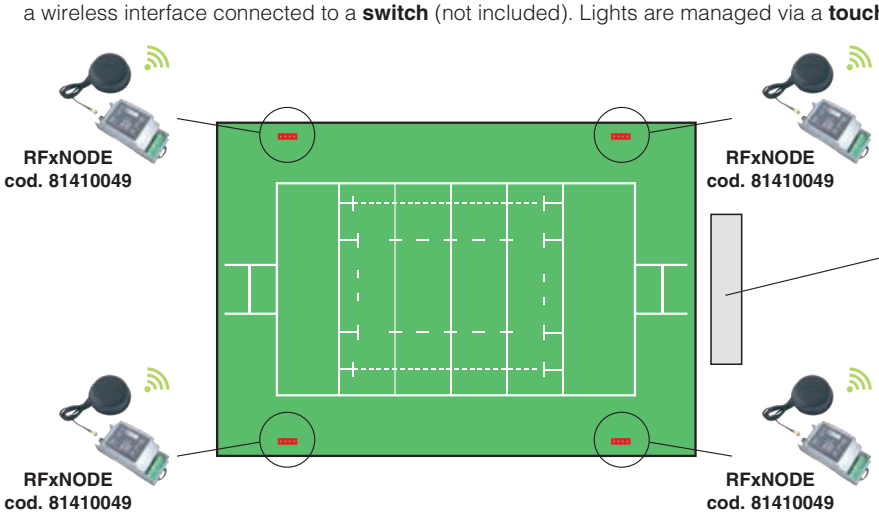




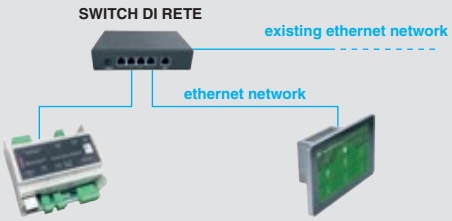
Example of use: small and medium-size arenas

System architecture

The system is made up of hardware and software modules. The communication with the lighting fixtures occurs via a **RFxNODE wireless module** (that can control up to 32 DALI drivers) to be installed in an electrical board at the base of the light post and that can be easily configured with a **server** with a wireless interface connected to a **switch** (not included). Lights are managed via a **touch panel**.



Installation of system components in secondary room:



cod. 81418573

SERVER: to be installed in electrical board to ensure protection from mechanical damage. The server is supplied with external antenna and a 2 m long cable.

cod. 986442-00

TOUCH PANEL: for easy lighting control. Up to 5 lighting levels possible. Password locking. Display turns off after 1 min.

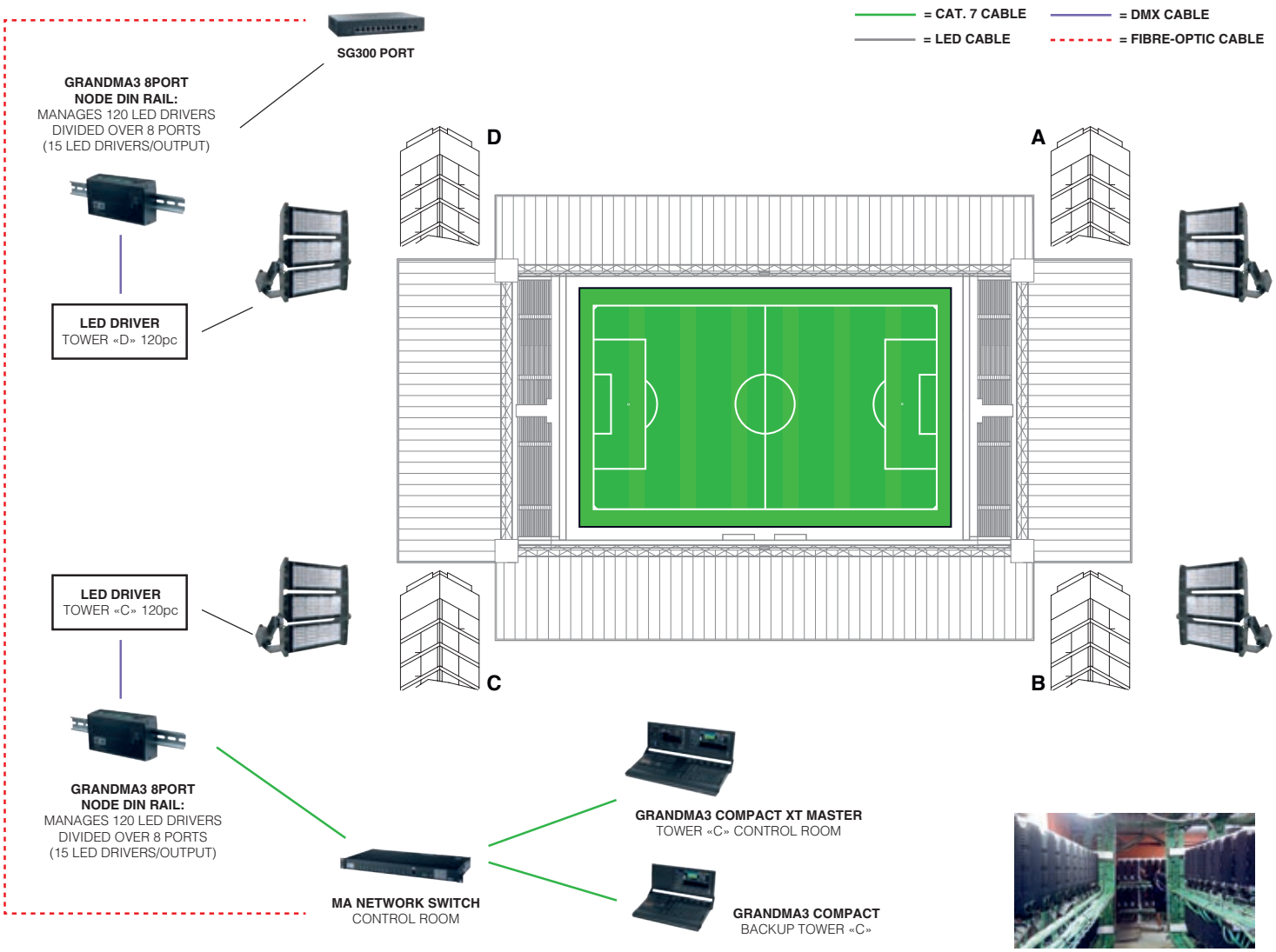
SPORTING SOLUTION

DMX TOP SOLUTION: a lighting control system conceived for large professional arenas that require very high and evenly distributed lighting levels to meet HDTV needs. The system allows adjusting the brightness of lights and creating spectacular lighting effects that produce a strong visual impact on viewers.

Forum LED is equipped with **DMX compatible drivers**. DMX protocol is needed for dynamic light thanks to its immediate reaction time and virtually unlimited number of addresses. DMX can also be used in functional dimming using simple lighting controls in high-end sports installations. DMX allows all range of scenic effects, as well as the monitoring of each luminaire and ease of configuration thanks to the self-addressing DMX-RDM functions.















The **Luigi Ferraris stadium in Genoa** is one of the sporting facilities that made the history of Italian football.

The new lighting system features **Forum LED fixtures**, a top quality and environmentally friendly solution thanks to the high energy efficiency of its lighting sources and the construction excellence of its materials. With its modular configuration, Forum allows creating a lighting system which is "tailor-made" to fit all lighting needs.

Moreover, the new lights installed in Genoa are equipped with a **DMX driver and a central lighting control console**. The DMX (Digital multipleX) protocol is the most common digital system used for controlling lights during shows and sporting events. The whole system is managed from a central console that allows setting different lighting scenarios and creating spectacular light plays. This type of system, which adds a lot of emotion and atmosphere to a game, is becoming more popular in the lighting of major stadiums.



SPORTING SOLUTION

DMX TOP SOLUTION: a lighting control system conceived for large professional arenas that require very high and evenly distributed lighting levels to meet HDTV needs. The system allows adjusting the brightness of lights and creating spectacular lighting effects that produce a strong visual impact on viewers.

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CHAMPIONS
DEL
BROUGHT BY CONTAINER




CHAMPIONS
DEL




EHF

DMX SOLUTION

To create ambience lighting that highlights important architectural structures and gives otherwise anonymous buildings an unimaginable aesthetic value. The possibilities offered by coloured lights can be further enhanced with an additional element: dynamism.

This type of solution applies to the following products:








Disano offers different solutions depending on the complexity of the setting and the number of lighting fixtures to be controlled:

• DOP CONTROLLER:
Ideal for less complex settings with luminaires that change colour simultaneously. For users who are unfamiliar with the technology, there is a simple rotary potentiometer that can easily create colour-changing scenes.

• DMX MINI CONTROLLER:
Ideal for medium-complexity sets, it comes with 10 pre-set scenes that can be simply recalled using a special button on the controller (e.g. single fixed colour, continuous colour sequence, Italian flag). A computer or smartphone is required for programming customised scenes.

• BLE DMX CONTROLLER:
Controller featuring IP66 protection and CASAMBI Bluetooth technology to programme and control a simple DMX installation in broadcast mode via free APP available for mobile devices.

• DMX/RDM CONTROLLER:
Ideal for installations with a large number of luminaires and complex set designs. The RDM technology allows creating extremely flexible systems that can be managed with special software and recalled via Apps for smart devices.

RDM type: RDM stands for Remote Device Management and is a communication protocol (based on DMX) whose purpose is to enable two-way communication between a DMX controller and a luminaire. The purpose is to communicate remotely with RDM luminaires without having to open the fixture itself. It is sufficient to simply connect the luminaires to the DMX controller with RDM function to detect them and assign the desired address once the installation is complete.

Disano RGBW DMX/RDM products with built-in driver are equipped with this technology.

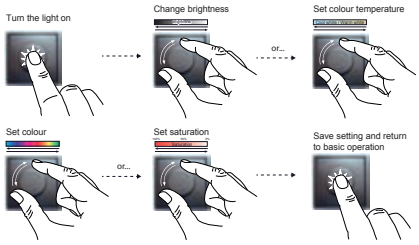
DMX controller

DOP controller - IP20



cod. 986563-00

Recessed rotary DMX controller to set colour, dimming level and rotating programmes for RGB and RGBW luminaires with DMX technology.



FEATURES:
- One rotary button for On-Off/dimming/colour/animation control
- Required power supply: 12 - 32Vdc; min. power 2W (power supplier not included)
- Configuration mode via Dip-Swich
- Device control in broadcast mode
- Suitable for recessed mounting in 502 box

DMX mini controller - IP20



cod. 986460-00

The solution for simple DMX installations where standalone control is sufficient. Equipped with a DIN rail adapter, it can be easily mounted in an electrical control cabinet. It is possible to create your own static or dynamic lighting scenes with the ESA2 software or via a free app from any smart device and upload them to the DMX MINI CONTROLLER via the supplied USB connector. Mini DMX **does not** support group addressing through the RDM protocol. When ordering, please specify if you need a system with multiple addresses.

FEATURES:
- Supplied with 10 pre-set scenes that can be recalled using a front button - 60 channels
- Configuration mode via ESA2 software (free download) and via smartphone with OTG function, with Arcolis APP (free download)
- DIN rail adapter and USB cable included
- Necessary power supply: 5 - 5.5Vdc via micro USB (power supplier not included)
- DMX connection (screw terminals)
- Compact dimensions (52 x 29 x 24 mm



App

BLE DMX controller



cod. 81420057

Wireless DMX controller with CASAMBI technology. It programmes and controls a simple DMX installation via APP from any smart device. It can be integrated into existing CASAMBI networks.

FEATURES:
- Programming and scene recall with CASAMBI technology
- Device control via broadcast mode
- Necessary power supply: 230V
- DMX connection screw terminals
- Compact dimensions (115 x 123 x 62 mm)
- Suitable for indoor and outdoor applications (IP67 enclosures)



App

DMX/RDM controller



IP20
cod. 986562-00

BOX-IP65
cod. 986557-00

DMX controller with RDM addressing function. Built-in Wi-Fi connection for wireless management. Suitable for highly complex semi-professional DMX installations. Connected via USB cable to a PC, it turns it into a DMX console (with software installed and running). Stand Alone function by uploading the programmes created with dedicated software to the internal memory.

FEATURES:
- Up to 99 settable scenes via front micro-buttons - 512 channels expandable to 1024
- Configuration mode via ESA2 software (free download)
- USB cable included
- Necessary power supply: 5 - 5.5Vdc via micro USB Type C (power supplier not included)
- DMX cannon connector
- Compact dimensions (77 x 87 x 40 mm)



App

DMX accessories

DMX/RDM splitter



IP20
cod. 986461-00

BOX-IP65
cod. 986513-00

If the system has more than 32 luminaires and/or the DMX line has an extension of more than 250 m, a splitter must be inserted. This will amplify, regenerate and branch the signal, distributing it to 4 outputs for a maximum of 128 luminaires (32 for each output).

FEATURES:
- Necessary power supply: 12 - 24 - 48Vdc; max. current 500mA (power supplier not included for IP20 version)
- 4 outputs for up to 128 luminaires (32 for each output)
- Adapter for installation on 4 DIN rail modules
- Dimensions (72 x 92 x 71 mm



GENERAL CHARACTERISTICS

Housing: in die-cast aluminium with cooling fins.

Diffuser: 5mm thick tempered glass, resistant to thermal shocks and impacts (UNI-EN 12150-1 : 2001).

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

UNI EN ISO 9227 **Upon request:** coating for marine environments (sea-front) in compliance with UNI EN ISO 9227.

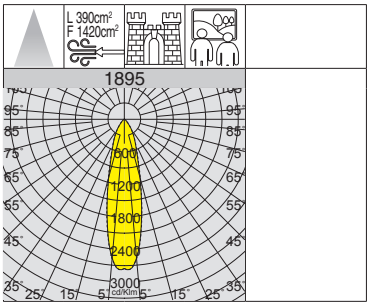
Equipment: complete with galvanised and coated bracket. Silicone rubber gasket; external screws and bolts in stainless steel; air recirculation valve. Insulation connector for quick installation with **no need to open the fixture.**

RG0 Ethr

+40 C° -20

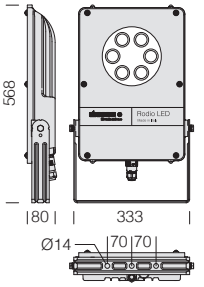
U.V.

RGBW DMX RDM





IP66 IK08



For DMX management of the luminaire, see the section about DMX controllers and accessories.

1895 Rodio - LED RGBW DMX/RDM					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W tot	K - ølm - degrees
LED RGBW	graphite	6.20	414830-00	**max. 50**	R= 387lm - G= 604lm - B= 137lm W= 630lm (4000K) - 26°

Upon request: DMX start address 1 (1=RED 2=GREEN 3=BLUE 4=WHITE)
- Without DMX signal (loss of signal or upon start-up): functions at 100% WHITE with no light shows
- With DMX signal: stage light effects sent from the central control unit

A richiesta:
1) Custom DMX addressing
2) STAND ALONE colour selection (Red, Green, Blue, White or any other colour such as Orange, Pink, Light Blue, Purple, etc.)
3) DMX PERSONALITY setting: in case of loss of DMX signal, the fixture will set itself to a random colour, which can be either the same or different from the STAND ALONE colour (to be specified upon ordering)

GENERAL CHARACTERISTICS

Housing: die-cast aluminium with cooling fins.

Diffuser: tempered glass 4 mm thermal shock and impact resistant (UNI-EN 12150-1 : 2001).

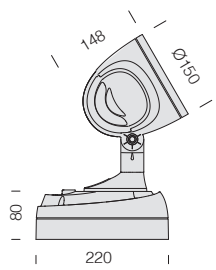
Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

UNI EN ISO 9227 **Upon request:** coating for marine environments (sea-front) in compliance with UNI EN ISO 9227.

Standard Supply: electronic safety device to protect the LED module and the related ballast compliant with EN 61547.

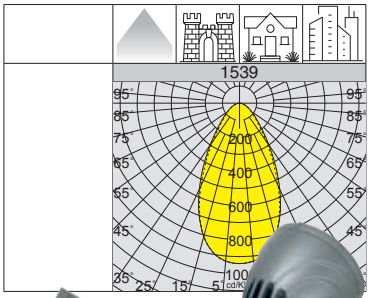


IP65 IK08



For DMX management of the luminaire, see the section about DMX controllers and accessories.







U.V.

0° 180°

RGBW

DMX RDM

1539 Elfo - LED RGBW DMX/RDM					
		CLD			LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	W	K - ølm 700mA
LED RGBW	grey 9007	3.60	432834-00	**41**	R= 325lm - G= 426lm - B= 62lm W= 447lm (4000K)

Upon request: DMX start address 1 (1=RED 2=GREEN 3=BLUE 4=WHITE)
- Without DMX signal (loss of signal or upon start-up): functions at 100% WHITE with no light shows
- With DMX signal: stage light effects sent from the central control unit

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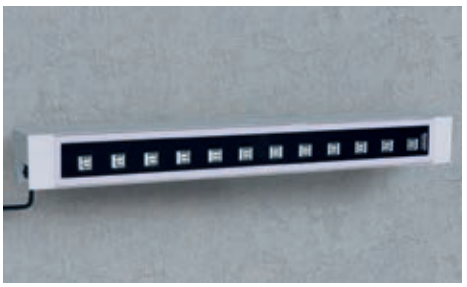
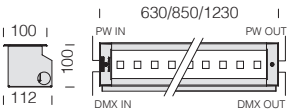
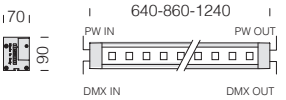




IP67IK08



IP66IK08



SICURA - RGBW - DMX/RDM (on request)	
TW (on request)	2700K - 3000K - 4000K - 5000K
Version	RGBW - TUNABLE WHITE
Standard beam	elliptic - narrow - medium - wide - asymm.

ELECTRICAL DRIVE CHARACTERISTICS	
Electrical connect.	loop in-out
Equipment	DMX/RDM or stand-alone

GENERAL CHARACTERISTICS

Housing: complete with graphite aluminium frame with die-cast aluminium end caps; extruded aluminium suitable for continuous row for recessed version.

Diffuser: tempered shock, resis tant to impacts, thermal shocks and loads (recessed: max load 2000 kg) 8 mm thick glass.

For DMX management of the luminaire, see the section about DMX controllers and accessories.

Sicura - LED RGBW DMX/RDM									
	WHITE 4000K		RED		GREEN		BLUE		
	ølm	w	**ølm**	w	**ølm**	w	**ølm**	w	W. tot
SICURA RGBW 600	1300lm	13W	260lm	12W	760lm	12W	33lm	13W	50W
SICURA RGBW 800	1740lm	17W	360lm	16W	1010lm	16W	450lm	17W	66W
SICURA RGBW 1200	2600lm	26W	520lm	24W	1520lm	24W	670lm	26W	100W

Upon request: DMX start address 1 (1=RED 2=GREEN 3=BLUE 4=WHITE)
- Without DMX signal (loss of signal or upon start-up): functions at 100% WHITE with no light shows
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A richiesta:
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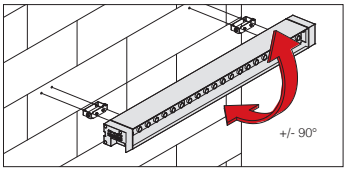
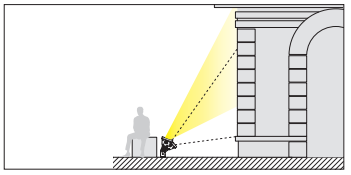
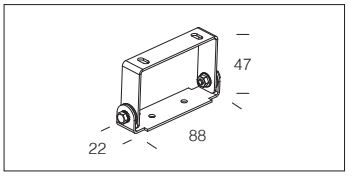
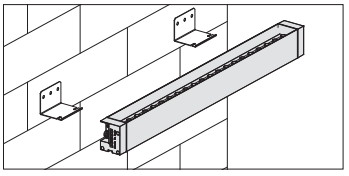
INSTALLATION AND ACCESSORIES

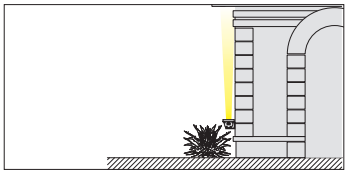


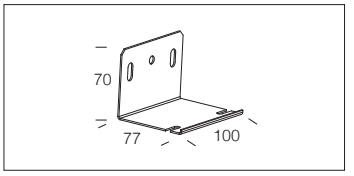




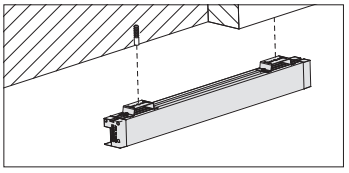
acc. 535 adjustable connection	
grey	993970-00
For direct ceiling installation. Capacity: 6 Kg. **2 for pack.**	

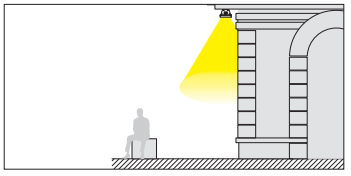


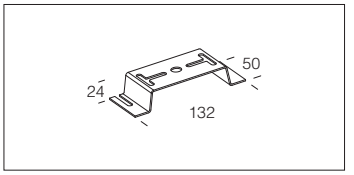




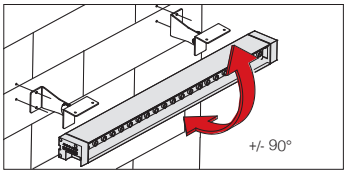
acc. 536 bracket	
grey	993972-00
To install Sicura permanently on walls. **2 for pack.**	

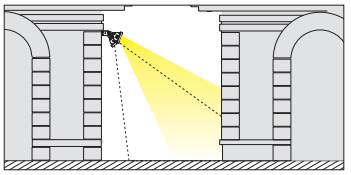


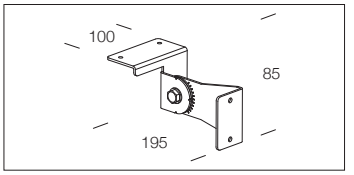




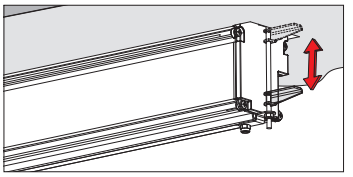
acc. 376 ceiling moun. unit	
galvanized	145151-00
For direct ceiling installation. Only for equipment with direct light. **2 for pack.**	







acc. 537 adjustable connection	
galvanized	993974-00
To install Sicura on walls or ceiling. To be used for continuous lines. **2 for pack.**	



acc. 905 bracket	
s. steel	998013-00
Support for ceiling mounting. Packet containing 2 brackets.	

GENERAL CHARACTERISTICS

Housing/Chassis: in die-cast aluminium.

Frame: in AISI 316L stainless steel.

Outer shell: in black nylon reinforced fibreglass.

Reflector: revolving with max. 0/+15° graduated brackets, in metalized polycarbonate.

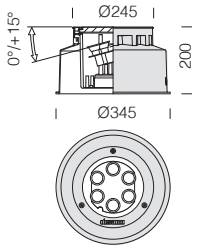
Diffuser: 15 mm tempered glass, resistant to thermal shocks, impacts and static load.

Coating: the standard powder coating consists of a first metal surface pre-treatment stage and of single layer of UV-stabilised, corrosion and salt resistant polyester powder coating.

Equipment: silicone rubber seal and screws in anti-grip stainless steel.

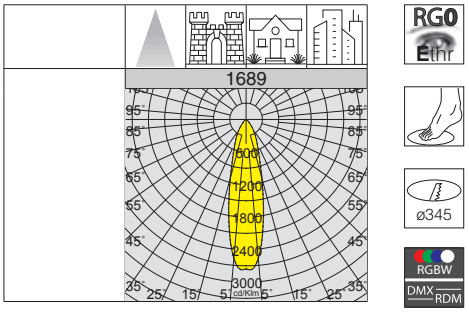


IP68IK10



For DMX management of the luminaire, see the section about DMX controllers and accessories.





1689 Floor - adjustable - LED RGBW DMX/RDM										
		CLD		temperature and load						LUMEN OUTPUT (tq= 25 °C)
LED	colour	weight	code	T. max on glass ta 25°	T. max on glass ta 15°	max load kg	can be walked on	can bear vehicle loads	W tot	ølm - degrees
LED RGBW	s. steel	4.50	530540-00	40°	30°	4000	OK	OK	**max. 50**	R= 387lm - G= 604lm - B= 137lm W= 630lm (4000K) - 26°

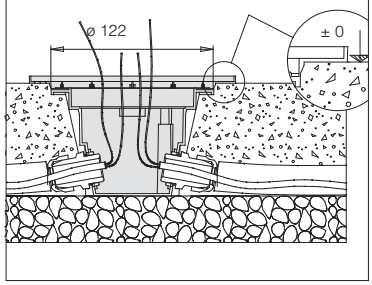
Upon request: DMX start address 1 (1=RED 2=GREEN 3=BLUE 4=WHITE)
- Without DMX signal (loss of signal or upon start-up): functions at 100% WHITE with no light shows
- With DMX signal: stage light effects sent from the central control unit

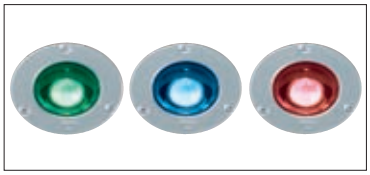
A richiesta:
1) Custom DMX addressing
2) STAND ALONE colour selection (Red, Green, Blue, White or any other colour such as Orange, Pink, Light Blue, Purple, etc.)
3) DMX PERSONALITY setting: in case of loss of DMX signal, the fixture will set itself to a random colour, which can be either the same or different from the STAND ALONE colour (to be specified upon ordering)

ø120

RGB FULL COLOR

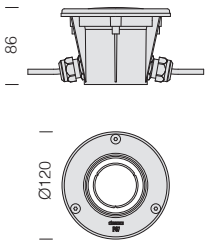
It is advised to install Starled according to the following information.







IP67IK08



GENERAL CHARACTERISTICS

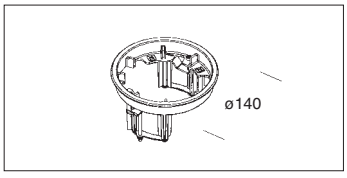
Housing: fibreglass nylon with stainless steel AISI 316L frame.

Diffuser: tempered shock and heat resistant glass.

1635 Microfloor - adjustable - LED RGB Fullcolor									
		S+L		temperature and load					LED (tj= 25 °C)
LED	colour	peso	code	T. max on glass	max load kg	can be walked on	can bear vehicle loads (•)	W	ølm 350mA
RGB Fullcolor	s. steel	0.40	530800-00	40°	2000	ok	ok	**4,5**	105lm

Luminaire supplied without power supplier. See the section about RGB control solutions (stand-alone or DMX/RMD) depending on intended use.

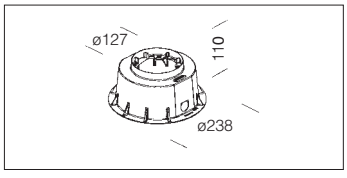
INSTALLATION AND ACCESSORIES



acc. 314 - chassis

993926-00

To install Microfloor on the wall.



acc. 313 - outer shell

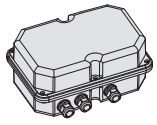
993925-00

To install Microfloor into the ground.

RGB CONTROL SOLUTIONS

1) STAND-ALONE SOLUTION

KIT acc.61 + acc.65: solution for simple installations where a stand-alone control is sufficient. It is managed using a remote control to recall preset dynamic scenes or select a determined colour and intensity.



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acc. 61 RGB power supplier - IP67

25W	986512-00

RGB LED driver supplied in IP67 waterproof box with IRE receiver. Suitable for powering up to 5 Microfloor RGB Fullcolor. It is possible to connect up to a maximum of 20 acc.61 in cascade mode with a special synchronisation cable.

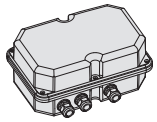
acc. 65 remote control

986507-00

IR remote control to be used in combination with acc. 61 to control the RGB system. It allows switching lights on and off, selecting colour and light intensity and recalling pre-set programmes and rotation speed.

2) DMX/RDM SOLUTION

POWER SUPPLIER acc.63: solution for integrating Microfloor into DMX/RDM controlled installations. For DMX luminaire management see DMX controllers and accessories.



acc. 63 RGB DMX/RDM power supplier - IP67

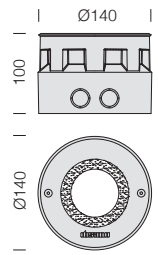
50W	986511-00

RGB LED driver supplied in IP67 enclosure controllable by DMX signal and addressable with RDM technology. Suitable for powering up to 11 Microfloor RGB Fullcolor fixtures.

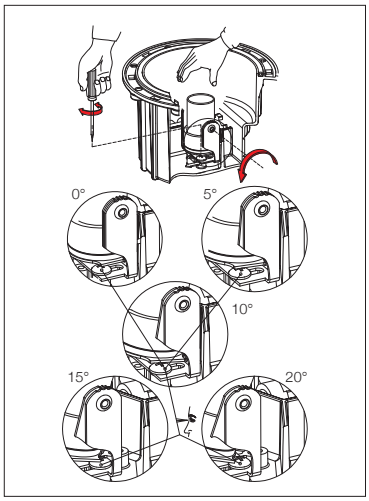
Default settings: powering up the luminaire in the absence of a DMX signal will automatically start a pre-set colour sequence (stand-alone operation).
When a signal is present the luminaire automatically switches to the DMX controller (DMX default address: 1).

Upon request: the luminaire can be supplied with stand-alone programming and customized DMX address.

IP67IK10













RGB FULL COLOR

GENERAL CHARACTERISTICS

Housing: made in die-cast aluminum with stainless steel AISI 316L frame and fibreglass nylon outer shell.

Diffuser: tempered shock and heat resistant glass.

(*) drive-over fixture for **restricted traffic areas.**

1871 Midifloor - adjustable - LED RGB Fullcolor

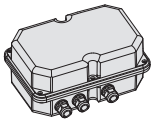
		S+L		temperature and load					LED (tj= 25 °C)
LED	colour	weight	code	T. max on glass	max load kg	can be walked on	can bear vehicle loads (*)	W	ølm 350mA
RGB Fullcolor	s. steel	0.50	530790-00	40°	3000	ok	ok	**4,5**	105lm

Luminaire supplied without power supplier. See the section about RGB control solutions (stand-alone or DMX/RMD) depending on intended use.

RGB CONTROL SOLUTIONS

1) STAND-ALONE SOLUTION

KIT acc.61 + acc.65: solution for simple installations where a stand-alone control is sufficient. It is managed using a remote control to recall preset dynamic scenes or select a determined colour and intensity.



+



acc. 61 RGB power supplier - IP67	
25W	986512-00

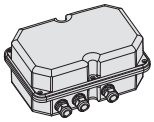
RGB LED driver supplied in IP67 waterproof box with IRE receiver. Suitable for powering up to 5 Midifloor RGB Fullcolor. It is possible to connect up to a maximum of 20 acc.61 in cascade mode with a special synchronisation cable.

acc. 65 remote control
986507-00

IR remote control to be used in combination with acc. 61 to control the RGB system. It allows switching lights on and off, selecting colour and light intensity and recalling pre-set programmes and rotation speed.

2) DMX/RDM SOLUTION

POWER SUPPLIER acc.63: solution for integrating Midifloor into DMX/RDM controlled installations. For DMX luminaire management see DMX controllers and accessories.



acc. 63 RGB DMX/RDM power supplier - IP67	
50W	986511-00

RGB LED driver supplied in IP67 enclosure controllable by DMX signal and addressable with RDM technology. Suitable for powering up to 11 Midifloor RGB Fullcolor fixtures.

Default settings: powering up the luminaire in the absence of a DMX signal will automatically start a pre-set colour sequence (stand-alone operation).
When a signal is present the luminaire automatically switches to the DMX controller (DMX default address: 1).

Upon request: the luminaire can be supplied with stand-alone programming and customized DMX address.

Fixtures with Emergency Kit

Emergency lighting is an essential safety system to ensure the protection of people during emergency situations. People who are left in the dark during power outages or block-outs, especially in crowded places or during a catastrophic event, will feel uneasy, hence increasing the risk of getting hurt because uneasiness can easily turn into panic. Therefore, an efficient emergency lighting system is an essential requirement to guarantee a safe and fast evacuation during emergencies. If this system is designed in compliance with existing laws and regulations, it will provide the necessary aid that, together with adequate safety signals, will ensure a smooth evacuation from the premises.

Emergency lighting

Safety lighting

designed to provide minimum light levels to avoid panic and dangerous situations. Escape routes and exit signage must be easily recognisable and visible enough to allow people to escape safely from any location.

Back-up lighting

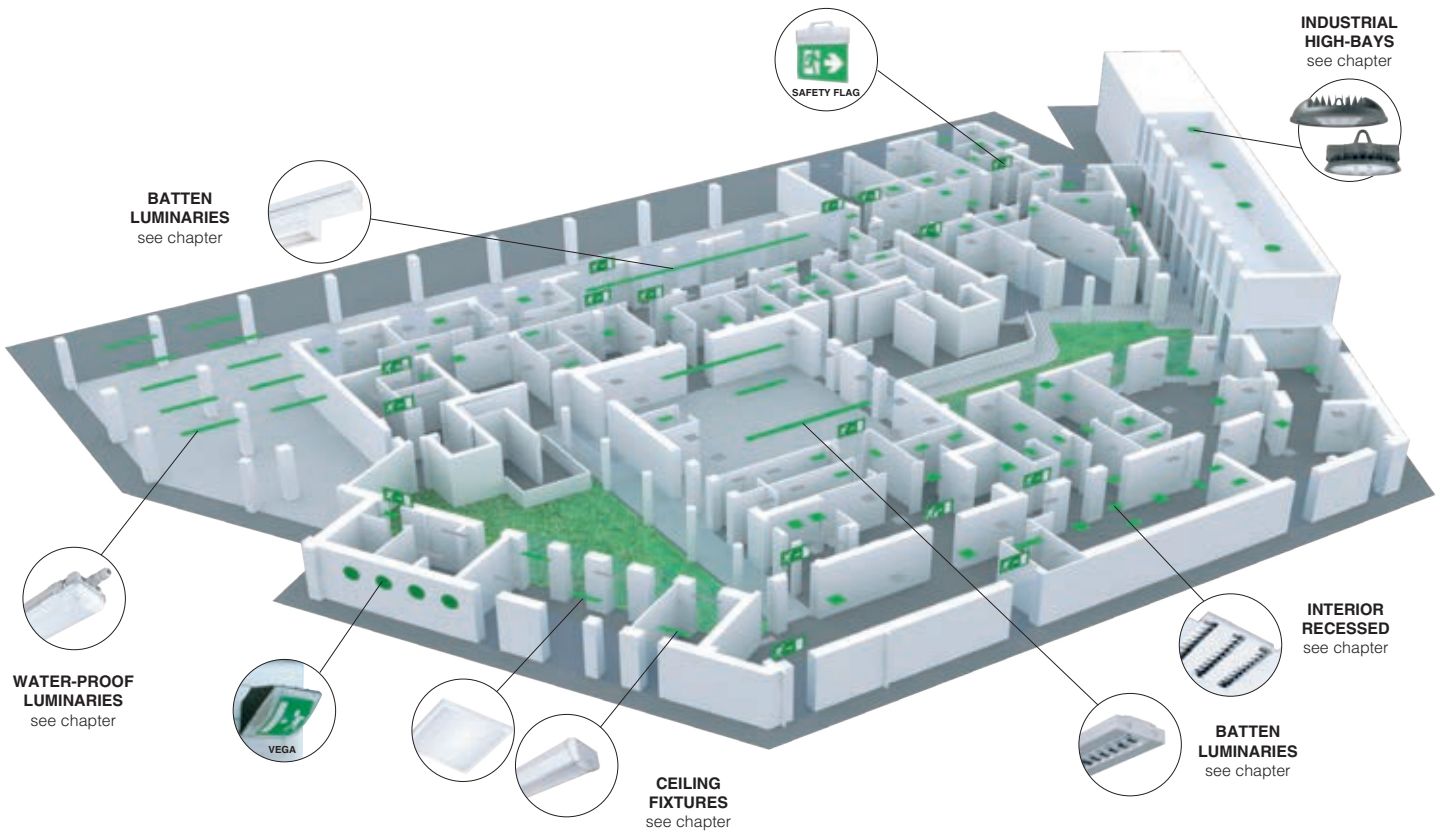
designed for workplaces with potentially hazardous situations. In the event of power outages, it serves as “general lighting” for limited periods of time, so that work activities can be terminated, and premises can be evacuated safely.

For emergency lighting, Disano offers 3 practical and economical solutions to meet different needs:

• **BASIC EM:** lighting fixtures with integrated emergency with **subcode -07**, lighting fixtures with external emergency with **subcode -07 + acc.1175**, lighting fixtures with external emergency standard -00 + **acc.600** emergency kit.

• **SELF-DIAGNOSIS EM:** lighting fixtures complete with localised self-diagnostic function with **subcode -0066**; this system triggers periodic tests on operation and battery life.

• **ADVANCE EM:** lighting fixtures with **subcode -95** complete with advanced emergency system that allows the centralised control of the whole system through DALI protocol.



• BASIC EM

Emergency lighting fixtures are used in case of energy outages to guarantee practical and safe operation, avoiding problems due to a sudden loss of electricity. They are divided into:

- lighting fixtures with integrated emergency to be ordered with **subcode -07**
- lighting fixtures with external emergency to be ordered with **subcode -07 + acc.1175**
- lighting fixtures with external emergency standard version -00 + **acc. 600** emergency kit

• SELF-DIAGNOSIS EM

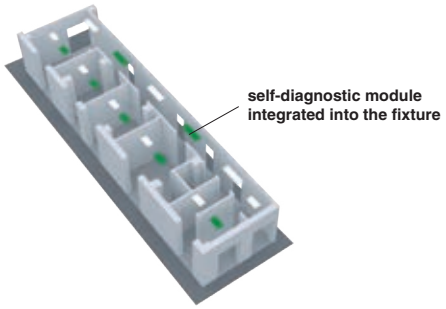
Most ceiling fixtures with emergency lighting systems may be equipped with a locale self-diagnosis system that can be obtained by combining the normal produce code with subcode - **0066** during the ordering phase. This **self-diagnosis** module is equipped with a sophisticated microprocessor device which enables it to automatically and independently make periodic diversified checks.

The module makes two types of check at diversified periodic intervals:
1) **functionality test:** a brief test is carried out automatically every 7 days to check the functionality of the fluorescent tube.
2) **run time test:** every 12 weeks it automatically checks the battery runtime. All signals are shown by a single three-colour G-Y-R LED indicating the various operating statuses of the kit. The table below shows the various kinds of signal/behaviour of the LED.

EXAMPLE OF LOCALISED SELF-DIAGNOSTIC LIGHTS

A localised self-diagnostic system uses an integrated module that monitors the operation of the emergency light on each individual lighting fixture. This function is recommended for use in small simple rooms, and an accessory component is to be used on each single fixture.

NOTE: to order lighting fixtures with the self-diagnostic module use **subcode -0066.**

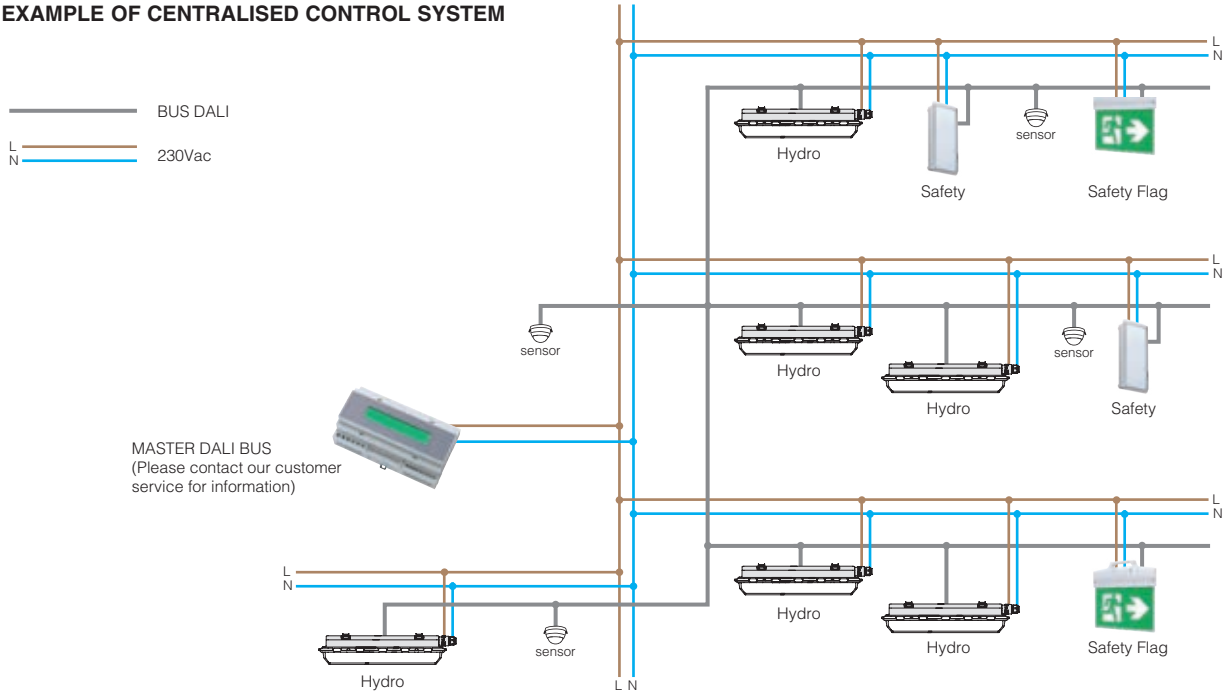


• ADVANCE EM

Lighting fixtures with **subocde -95** are available with an emergency module based on the DALI protocol in compliance with standard EN 62386-202 and compatible with the most advanced control systems. The biggest advantage of using the DALI emergency protocol is that you have one single bus to manage general and emergency lights. This simplifies both the wiring of the (bus) system and the programming of the entire lighting system.

ADVANTAGES:
- control of light source operative status (LED lamp or module)
- control of battery life during an emergency
- control of operation and/or battery life on individual luminaires, groups of luminaires or the entire lighting system
- control of light intensity on Emergency Only (SE) and Always On (SA) luminaires.

EXAMPLE OF CENTRALISED CONTROL SYSTEM



NOTE: to order lighting fixtures with an emergency module based on the DALI protocol, use **subcode -95.**



The use of LED lights in horticulture will:

• Help you save up to 75% on your energy bills.

• Help you save up to 90% on the water used: less heat means lower evaporation rates, which will help relieve the global water crisis.

• Increase plant growth factor: higher levels of red light will increase crop growth.

Improve nature

To guarantee food supply in the future, choose Disano's horticulture LED lights! This type of fixtures can offer a spectrum of endless possibilities, encouraging photosynthesis and plant growth in height or width at different wavelengths to be able to implement a systematic cultivation.

What is horticulture lighting and how is it used?

Horticulture lighting is used to encourage, increase and enable plant growth using artificial lighting. LED lights represent a very efficient and innovative solution for this type of application!

Supplementary lighting
To provide additional quantity and quality of illumination not achieved with the artificial lighting system in order to improve the photosyntentisis and therefore the growth and quality of the plants in greenhouses.

Photoperiod regulation
To control the plant's internal clock. It can be used at the end of the light cycle to trigger plant flowering within short days.

Plant growing in the absence of natural daylight
To fully replace sunlight and control climate conditions.

Glossary (basic terminology)

PAR Region
• Photosynthetic Active Radiation is the bandwidth from 400 nm to 700 nm, which is the light which plants primarily use.
• Different plants require different wavelength combinations within the PAR region.

PPF (Photosynthetic Photon Flux) measured in µmol/s
• Total number of photons emitted per second in the PAR region.

PPFD (Photosynthetic Photon Flux Density) measured in µmol/m2s
• Represents the number of photons that reaches the plant within the PAR region over a given area.
• It declines exponentially as the distance between the light source and the plant surface increases.

DLI (Daily Lighting Integral)
• Plants need a minimum amount of light per day to meet their basic biological needs. It varies based on species.
• For flowering and fruiting, high levels of light can show significant increases in both the quality and quantity.

Applications

Greenhouses: currently used in conventional lighting systems. Plants are illuminated top down with sources that mimic sunlight.

Inter lighting: light is positioned between the tall leafy plants. This reduces the shade on leaves that may be created with top-down lighting.

Multilayer cultivation: suited for growing plants in environments with little or no sunlight exposure; lights can be positioned on the plant because they do not heat up and consume 85% less than fluorescent tubes.

Home farming: ideal for non-industrial settings, such as restaurants, florists and hotels where it is possible to keep the necessary lighting level for the growth and preservation of plants also in the absence of sunlight.

LED characteristics

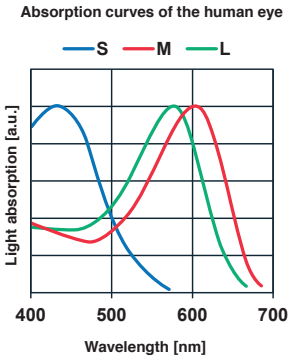
• *Deep blue (450 nm)* and *hyper red (660 nm)* to guarantee the light required by the photosynthesis
• *Far red* (730 nm) to control the plant from germination to vegetative growth and to flowering
• *Mint White* (EQW) to add green content
• *Mint White* (EQW) to create a human-centric work environment
• High energy efficiency in µmol/J
• High drive current up to 1 A
• Low thermal resistance between 3.8 and 6 K/W
• Different angles of radiation – point-source or diffuse lighting (80°-120°- 150°)
• Resistant in wet environments

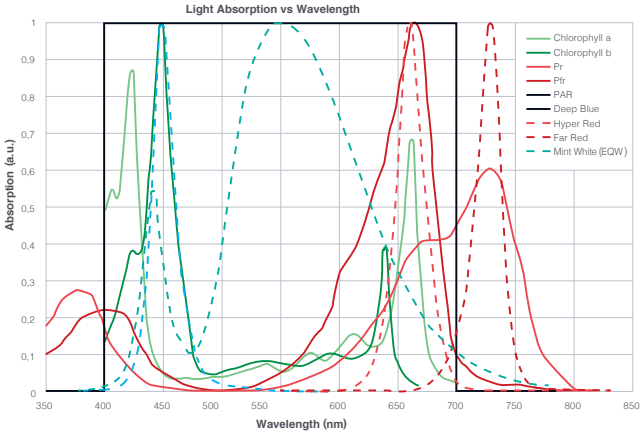
The influence of colours on plants

Perfect light for plants does NOT mean perfect light for our eyes!
Numerous research and tests show that the radiations of red and blue light spectra form the most efficient wavelengths for the production of plants' chemical energy. Insufficient illumination or an inappropriate composition of different wavelengths have anomalous consequences or may even be harmful for plant growth. Knowing the behaviour of plants when illuminated by different colours will affect the expected result, and will help monitor and improve the quality of the crops. In other terms, knowing means being able to design a lighting system that can boost each phase of the plant growth.



Lighting initiates photochemical reactions: humans react to light stimulation with photoreceptors which show peaks of light absorption at 555 nm (S,M,L); in plants, instead, photosynthetic efficiency is primarily guided by chlorophyll a and b. Peaks of light absorption of chlorophyll a are 665 nm and 465 nm.





Sunlight intercepted by chlorophyll a and b and actually available as energy for the photosynthesis is **Photosynthetic Active Radiation (PAR)** corresponding to 41% of the total sun radiation, and concentrates within the blue and red wavelengths, with peaks at 430 nm and 680 nm.
This region includes the following sub-regions:
- blue-violet, (400-490 nm), absorbed by pigments used for flowering, protein synthesis, phototropic effects, average effect on the photosynthesis;
- green (490-560 nm), the least photosynthetically active radiation;
- yellow (560-590 nm);
- red-orange (590-700 nm), very photosynthetically active radiation.

Effects of LED lighting and advantages of specific spectrum systems

- *Tailored emission spectrum*: ad hoc composition of wavelengths capable of affecting the photomorphogenesis of plants (growth, shape and flowering); the simulation and full control over the various phases of daylight.
- *Faster on/off time*: lights get instantly to their full light level; adjustment to daylight changes, ensuring higher energy savings.
- *Longer lamp life*: the extremely long service life of the LEDs (>50000 hours) entails lower maintenance costs and, above all, a quick return on the investment.
- *Supplementary lighting*: to provide additional quantity and quality of illumination not achieved with the artificial lighting system in order to improve the photosyntentisis and therefore the growth and quality of the plants in greenhouses.
- *Plant growing in the absence of natural sunlight*: to fully replace sunlight and control climate conditions.

Dedicated Disano Products:

Forma	Radon	Saturno	Rodio	Sicura
				



Conclusions

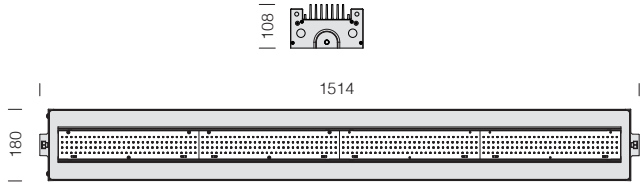
- Greenhouses will play an increasingly important role in food supply.
- The globally increasing demand for high-quality food production will lead to a greater demand for greenhouses fit for this purpose.
- Light is the key element to boost plant photosynthesis.
- Light is made up of different wavelengths that help the various phases of plant photosynthesis.
- The light emitted by most traditional light sources (fluorescent or high-pressure sodium lamps) is insufficient and expensive.
- The LED technology allows adjusting the light and the lamps to a specific requirement based on the plants' emission spectrum

The Disano Group addresses the horticulture lighting sector by putting its professional lighting consultants at the complete disposal of users to develop tailor-made solutions by using specialist jargon and a vast expertise in LED lighting, technical characteristics and cultivation layouts.
Disano offers reliable products that can perfectly dissipate heat, withstand humidity and adjust to different types of crops (from hydroponic greenhouses to home farming applications).

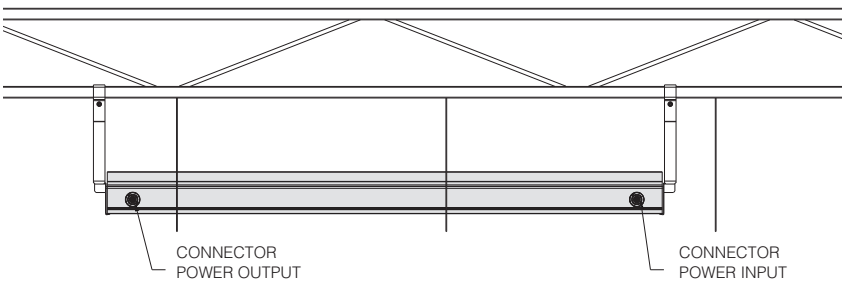


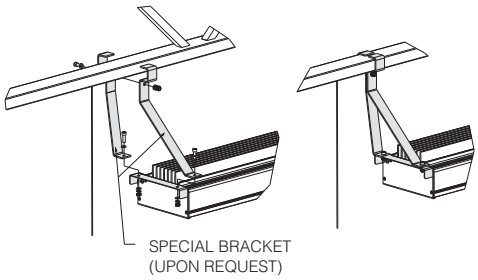
UPON REQUEST: ART. 2168 RADON HP IN THE SPECIAL VERSION WITH HIGH POWER LED SOURCES >650W











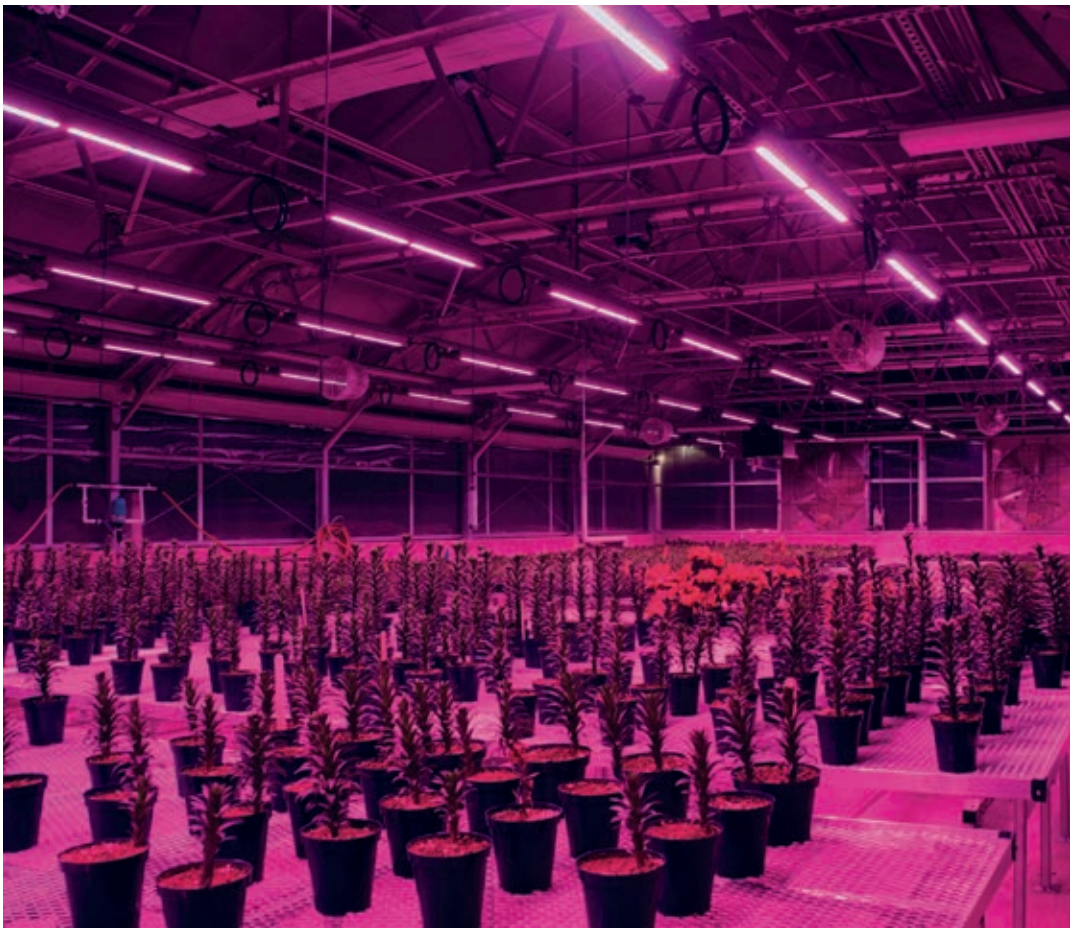
GENERAL CHARACTERISTICS

Housing: in extruded aluminium with terminal ends in die-cast aluminium; provision for cable management

Diffuser: 4 mm thick temperate glass resistant to thermal shock and impacts (UNI EN 12150-1:2001).

Coating: the standard powder coating consists of a first metal surface pre-treatment stage of UV-stabilised, corrosion and salt resistant polyester powder coating

Standard supply: complete with mounting bracket with standard eyebolt to install the fixture as a suspension lamp, including stainless steel screws, plug-socket connector for fast and easy installation **without any need to open the lamp**.



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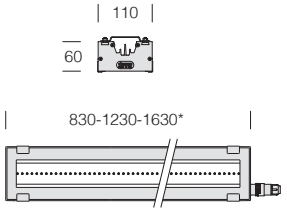
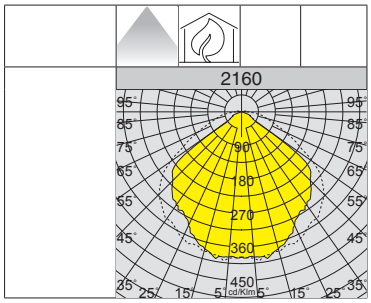


***** 1630mm version **upon request**

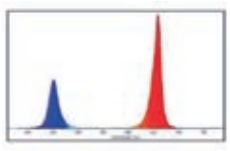
Reflector: matt aluminium.

Tailored emission spectrum: ad hoc composition of wavelengths capable of affecting the photomorphogenesis of plants (growth, shape and flowering).

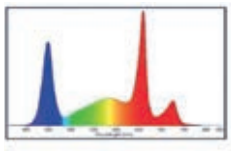




2160 Radon - HORTI - 2 channels (Deep blue - Hyper Red)				
				LED
LED	colour	L	W	Photosynthetic photon flux (400-700nm) - Photosynthetic photon efficacy
LED	graphite / grey	830	**120**	370 [µmol/s] - 3.10 [µmol/J]
LED	graphite / grey	1230	**181**	554 [µmol/s] - 3.10 [µmol/J]



2160 Radon - HORTI - 4 channels (Deep Blue – White CRI70 4000K - Hyper Red - Far Red)				
				LED
LED	colour	L	W	Photosynthetic photon flux (400-700nm) - Photosynthetic photon efficacy
LED	graphite / grey	830	**130**	358 [µmol/s] - 2.75 [µmol/J]
LED	graphite / grey	1230	**196**	537 [µmol/s] - 2.75 [µmol/J]



“A new technology to disinfect, sanitize and purify air and surfaces”

UV fixtures are the best way to eliminate airborne microorganisms that may cause certain epidemic infectious diseases

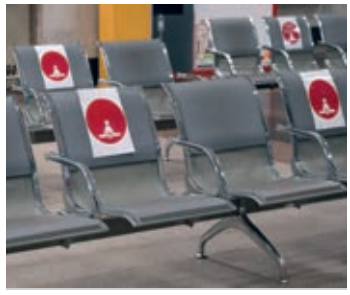
We’re live surrounded by microorganisms: bacteria, viruses, moulds, yeasts and protozoa. Shortwave UV radiation is a very effective physical method for eliminating and inactivating these microorganisms. The nuclei in the cells are subjected to a photolytic reaction that prevents their replication. The germicidal effect of light is provided in the shortwave UV band below 320 nm.

UV irradiation is the most RELIABLE, ECO-FRIENDLY, EASY-TO-USE and LOW-COST method for sanitizing the surfaces in the spaces where we spend most of our time.

Highly frequented places can be sanitized with UV lamps. UV rays trigger a photochemical reaction within the germs damaging their protein structure to alter their DNA/RNA. This makes them harmless and unable to replicate, preventing the spread of contagion, disease or damage.
Ultraviolet germicidal irradiation is a safe, proven and effective technology for the **elimination of microorganisms** like bacteria, viruses, fungi, spores, mites and moulds. It ensures bacteriologically controlled surfaces and can be used in luminaires for the bacteriological sanitization of:

- offices and schools
- waiting rooms
- medical studios
- bars and restaurants
- shopping malls and stores
- gyms
- beauty salons and wellness centres
- hotels






Reliable: scientific research has shown that ultraviolet rays can affect water and air-borne microorganisms, be they bacteria, viruses, fungi, algae, spores, or other (Note: before installing luminaires fitting UV sources, be sure to contact a qualified technician for the design stage).

Ecological: UV radiation is a physical, not a chemical, disinfection system. UV rays act on the nucleus of the cell that, when properly irradiated, is subjected to a reaction that prevents the reproduction process in a completely natural way (without using chemical disinfectants).

Low-cost: disinfection with ultraviolet lamps is currently the most economical option offered by technology.

Design: the Disano group is happy to offer expert advice to designers when planning the space where the lights will be installed.

MAIN ADVANTAGES OF UV

EFFECTIVE
Kills 99.9% of microorganisms

FAST
Extremely fast sanitization time

EASY TO USE
Can be installed as recessed, ceiling and floor lamp for night-time use and in the absence of people inside the room

LOW-COST
Considerable saving of time and disinfectants

ECOLOGICAL
Does not interact with foreign bodies and does not require additives that may not be bio-degradable

Note: UV does not replace cleaning

Legend

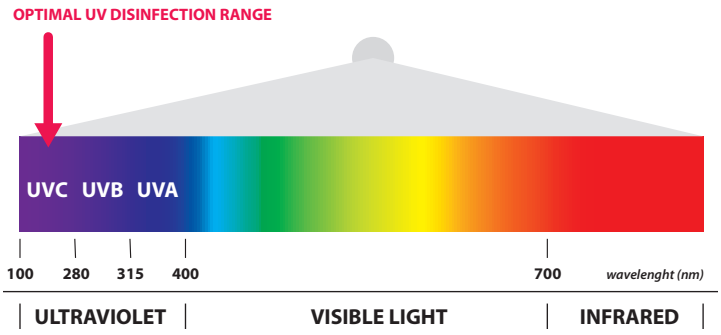
- The presence of people is allowed
- Versions also including general lighting
- The presence of people is not allowed
- Versions with UV lighting only

Ultraviolet germicidal irradiation

Ultraviolet radiation (UV) is that portion of the electromagnetic spectrum that goes from the lower wavelength limit of the visible light to the upper wavelength limit of X rays.

Ultraviolet radiation has a wavelength between 100 and 400 mm (1 nm = 10^{-9} m) and is not visible to the naked eye.
The UV spectrum is divided into three sub-regions:

- UV-A (long wavelength) from 315 to 400 nm (for medical and industrial use)
- UV-B (medium wavelength) from 280 to 315 nm (for curative medical use)
- UV-C (short wavelength) from 100 to 280 nm (for sanitization)



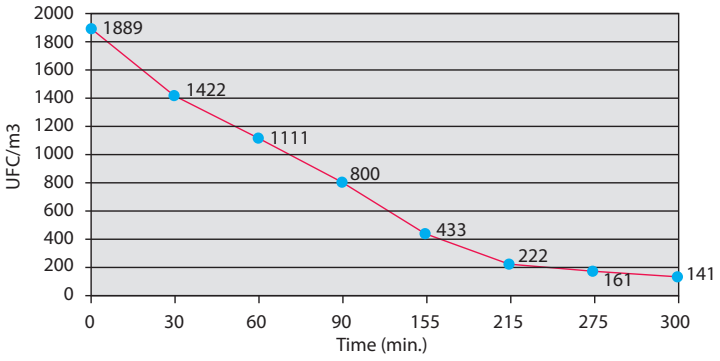
UV band eliminates bacteria, viruses, fungi, spores, moulds and mites, destroying the DNA and inhibiting its replication and proliferation.

UV technology is a physical disinfection method with an excellent cost-benefit ratio, it is ecological and, unlike chemical agents, it works against all microorganisms without creating resistance.

Thanks to the filtering action of the Earth's atmosphere, most UV in nature is UV-A, a very small portion is UV-B, and UV-C rays are practically absent.

The **UV-A** light modules are less aggressive than the UV-C modules and require longer sanitization time. It is therefore necessary to control ON/OFF times based on the absence/presence of people in the room. For example: sanitization can be carried out at night, on weekends, on holidays, on certain weekdays, when certain areas are closed.

The **UV-C** light modules are more aggressive than UV-A modules and allow shorter sanitization time. We recommend equipping the system with "absence devices" (sensors or smart technology) so that the UV-C modules will activate only when nobody is in the room.



Reduction of microbial load over a period of time after the UV-C luminaire is switched on

APPLICATION TIPS

SECTORS/APPLICATIONS	**UV-A**: long sanitization time at night, weekends, holidays **(in the absence of people)**	**UV-C**: very short sanitization time temporary absence in a room **(in the absence of people)**
SCHOOLS	classrooms corridors gyms laboratories	break when exiting the classroom to move to another classroom
GYMS	training areas common areas	when moving from one lesson to the next locker rooms
FACTORIES	production storage common areas	assembly chain break lunch break
OFFICES	open space common areas restrooms	lunch break in rooms between one conference and the next
STORES	sales warehouses	fitting rooms (between one customer and the next)
HOTELS	utility rooms kitchens bars and restaurants	reception when changing room when cleaning empty common areas
DENTISTS/BEAUTICIANS	all areas	when moving from a room to the next
WAITING ROOMS	all areas	during short closures to the public
SHOPPING MALLS	all areas	after cleaning bathrooms and transit areas (before re-opening to the public)
HOSPITALS AND HEALTH CENTRES	all areas except patient/visitor rooms	when the staff leaves their work station for patient visits or rounds

Before installing UV luminaires, be sure to entrust the lighting design to a professional lighting designer.

UV lighting for sanitization

***** NOTE:

• UV light may cause serious damage to the skin or the eyes, therefore avoid direct exposure on humans, animals and plants.

• Lighting fixtures equipped with UV-C LED sources must be **used only in the absence of people.**

Luminaires must be installed by qualified staff to ensure compliance with safety and radiation protection requirements.

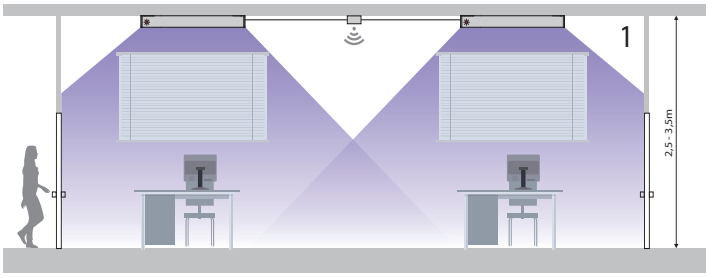
The human eye cannot see ultraviolet light. Exposure to UV-B and UV-C radiation without using skin or eye protection may cause erythema (reddening of the skin) or conjunctivitis (inflammation of the eye).

UV luminaires can be installed in a room by simply connecting them to the lighting system. This type of application requires the supervision of a qualified installer who will assess the safety of the system, based on whether or not people* are inside the room.

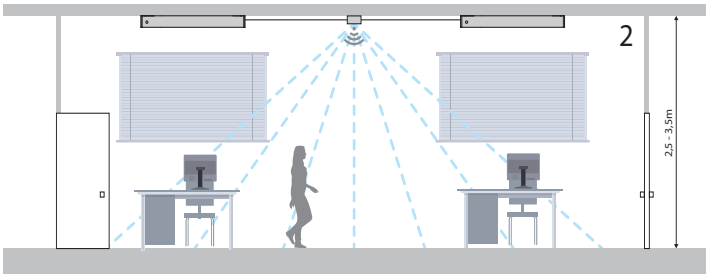
The use of UV sources, especially those in the UV-C wavelength band, require special attention as they can cause inflammation and damage, sometimes even permanently. This is why it is essential that UV sources are used when there are no people and/or animals in the room.
• Use of timers or time switchers (on-off timers).
• Use of “absence” detectors (sensors).
• Use of SMART control devices to control the lighting system.



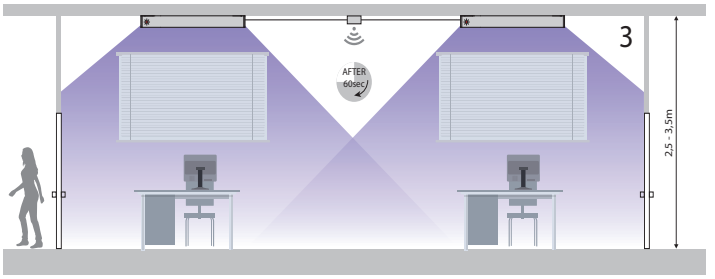
Example of installation with “absence” sensors:



1) When the power supply is switched on and the sensor doesn’t detect any presence in the room for 60 seconds, the UV lamp will turn on and a red LED light will be visible.



2) As soon as the sensor detects movement, the UV lamp will automatically go off (together with the red LED light).



3) If 60 seconds go by and no movement is detected, the lamp will turn on again (in the UV mode) and the red LED light will be visible again.

Before installing UV luminaires, be sure to entrust the lighting design to a professional lighting designer.



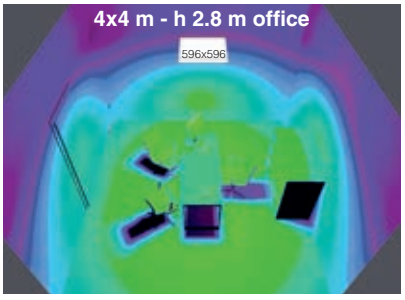
Before installing UV luminaires, **be sure to entrust the lighting design to a professional lighting designer.** The main factors to consider for a proper use of UV sources are:

- radiated power
- exposure time
- distance
- emission spectrum

For a UV lamp to be effective on spores, germs, bacteria and viruses, the lighting system must be designed so that the above parameters are correctly combined in order to achieve the desired results according to scientific/academic studies and literature.

Practical example of surface sanitization:

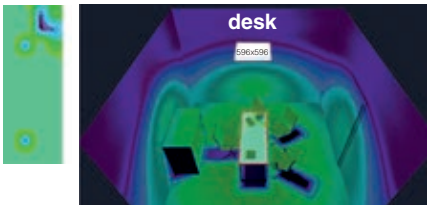




Log Reduction Scale: The number in the log reduction value refers to the number of nines shown in the percentage, which indicates the percentage of microorganisms that are eliminated by a given disinfection procedure			
1-Log Reduction	=	90% inactivation	Classification
2-Log Reduction	=	99.9% inactivation	Detergent
3-Log Reduction	=	99.99% inactivation	Detergent/Sanitizing
4-Log Reduction	=	99.999% inactivation	**Sanitizing**
5-Log Reduction	=	99.9999% inactivation	Disinfectant
6-Log Reduction	=	99.99999% inactivation	Disinfectant
7-Log Reduction	=	99.999999% inactivation	Disinfectant
8-Log Reduction	=	99.9999999% inactivation	Disinfectant
9-Log Reduction	=	99.99999999% inactivation	Sterilant
10-Log Reduction	=	99.999999999% inactivation	

Irradiance and Fluence Scale 4x4 m office

E_e	0,00002	0,00003	0,00005	0,00007	0,0001	0,0002	0,0003	0,0005	0,00075	0,001	0,002	0,003	0,005	0,0075	0,01	0,02	0,03	0,05	0,075	0,1	0,2	0,3	0,5	0,75	1	1,5	[mW/cm2]
30 Min	0,036	0,054	0,09	0,126	0,18	0,36	0,54	0,9	1,35	1,8	3,6	5,4	9	13,5	18	36	54	90	135	180	360	540	900	1350	1800	2700	[mJ/cm2]

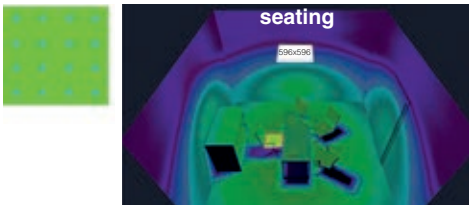


Calculation area= 60x160cm - h from ground= 75cm

Luminaire data:
- Luminaire= 596x596mm
- Quantity= 1
- P(UV-C)= 3.95W
- P(Wtot)= 21 W

Results:
- Average irradiance: E_e= 0,03 mW/cm²
- Minimum irradiance: E_{min}= 0,01 mW/cm²
- Uniformity: U_0 = 70%
- UV dose for Covid-19*= 22 mJ/cm²

Log4 (estimated)= 30 min

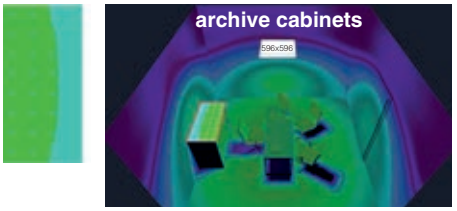


Calculation area= 40x40cm - h from ground= 45cm

Luminaire data:
- Luminaire= 596x596mm
- Quantity= 1
- P(UV-C)= 3.95W
- P(Wtot)= 21 W

Results:
- Average irradiance: E_e= 0,024 mW/cm²
- Minimum irradiance: E_{min}= 0,023 mW/cm²
- Uniformity: U_0 = 90%
- UV dose for Covid-19*= 22 mJ/cm²

Log4 (estimated)= 16 min



Calculation area= 60x160cm - h from ground= 75cm

Luminaire data:
- Luminaire= 596x596mm
- Quantity= 1
- P(UV-C)= 3.95W
- P(Wtot)= 21 W

Results:
- Average irradiance: E_e= 0,012 mW/cm²
- Minimum irradiance: E_{min}= 0,008 mW/cm²
- Uniformity : U_0 = 65%
- UV dose for Covid-19*= 22 mJ/cm²

Log4 (estimated)= 48 min

Before installing UV luminaires, be sure to entrust the lighting design to a professional lighting designer.



LED

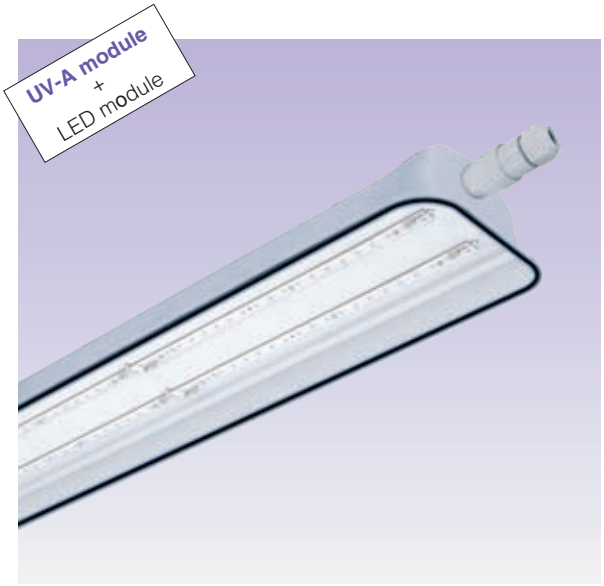
4000K

L80 B20 50.000h



UV

L90 UV-A 9.000h



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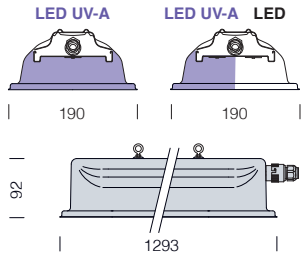


GENERAL CHARACTERISTICS

Housing: pressed steel, in a single piece of high mechanical resistance.

Diffuser: in technopolymer plastic specially designed for UV radiation lamps.

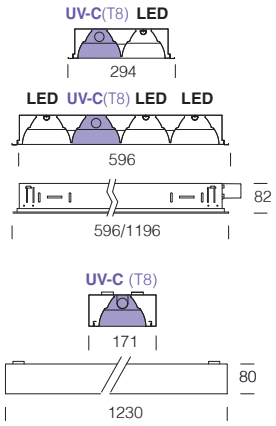
- 2-lamps version with separate switches: one for the general lights, the other for UV sanitization.
- complete with built-in UV module operating indicator to ensure the safety of people.

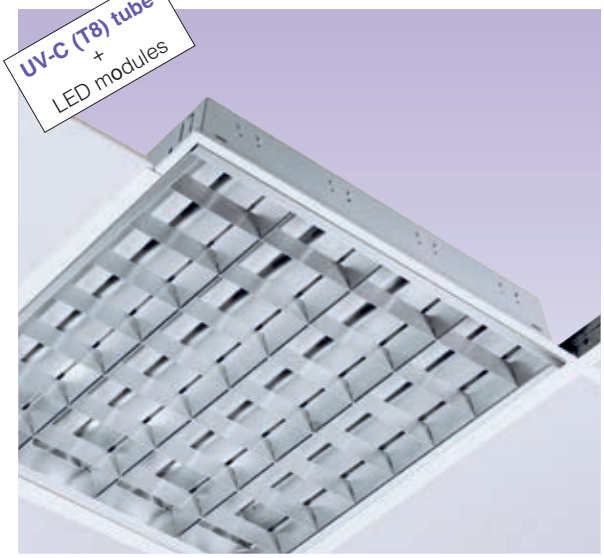
983 Forma

				CLD			CELL (T8)		
colour	peso	version	code	LED	W tot	LUMEN OUTPUT (tq= 25 °C)	UV-A	W tot	UV-A (W) RADIATION
s. silver	7.20	1-lamp	162465-65	-	-	-	1x	66	21
s. silver	7.20	2-lamps	162466-65	1x	43	4000K - 5820lm - CRI 80	1x	66	21

Before installing UV luminaires, be sure to entrust the lighting design to a professional lighting designer.

IP20IK07







4000K
L80 B20 50.000h
LED

UV-C 9.000h
UV

GENERAL CHARACTERISTICS

Housing: galvanized steel sheet.

Optics: in scored matt aluminium with wide light distribution.

• art. 877 with separate switches: one for the general lights, the other for UV sanitization.

• complete with built-in UV module operating indicator to ensure the safety of people.

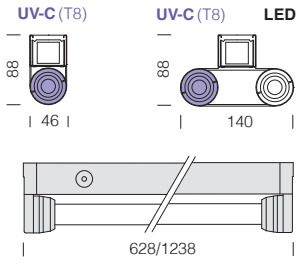
877 Comfort - matt scored optical

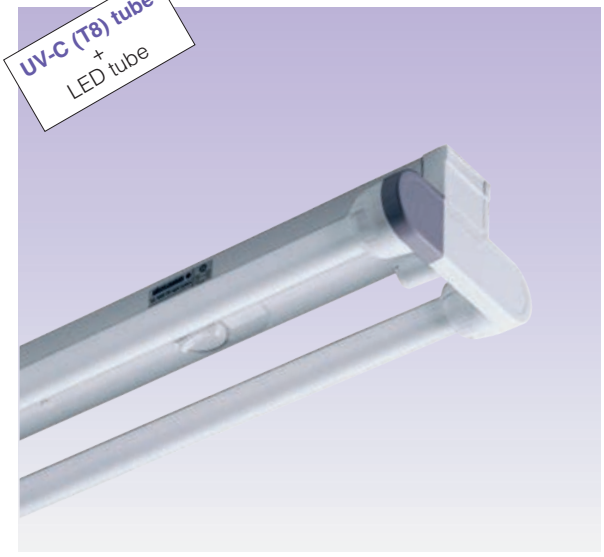
				CLD			CELL (T8)		
colour	weight	L	code	LED	W tot	LUMEN OUTPUT (tq= 25 °C)	UV-C	W tot	UV-C (W) RADIATION
white	2.20	294x596	151203-69	1x	10	4000K - 985lm - CRI 80	1x	21	3,95
white	4.10	294x1196	151204-69	1x	19	4000K - 1970lm - CRI 80	1x	38	13
white	3.50	596x596	151208-69	3x	28	4000K - 2985lm - CRI 80	1x	21	3,18

777 Comfort - matt scored optical

				CLD			CELL (T8)		
colour	weight	L	code	LED	W tot	LUMEN OUTPUT (tq= 25 °C)	UV-C	W tot	UV-C (W) RADIATION
white	3.50	171x1230	141201-69	-	-	-	1x	38	10,6

IP40IK07







4000K
LED 30.000h
LED

UV-C 9.000h
UV

GENERAL CHARACTERISTICS

Fixture housing: galvanized steel previously stove-enamelled with UV-stabilised white polyester resin; rounded edges to prevent cutting; polycarbonate end caps.

Standard supply: nylon fastening pawl supplied with power terminal block.

- art. 6501 with separate switches: one for the general lights, the other for UV sanitization.
- complete with built-in UV module operating indicator to ensure the safety of people.

6401 Rapid System T8 - with knife swtch

				CLD			CELL (T8)		
colour	weight	L	code	LED	W tot	LUMEN OUTPUT (tq= 25 °C)	UV-C	W tot	UV-C (W) RADIATION
white	0.90	46x628	238040-69	-	-	-	1x	21	4,5
white	1.40	46x1238	237531-69	-	-	-	1x	38	15

6501 Rapid System T8 - with knife swtch

				CLD			CELL (T8)		
colour	weight	L	code	LED	W tot	LUMEN OUTPUT (tq= 25 °C)	UV-C	W tot	UV-C (W) RADIATION
white	0.95	140x628	238045-69	1x	8	4000K - 800lm - CRI 80	1x	21	4,5
white	1.90	140x1238	237536-69	1x	15	4000K - 1600lm - CRI 80	1x	38	15

Before installing UV luminaires, be sure to entrust the lighting design to a professional lighting designer.

"Recommended values for indoor and outdoor sports lighting"

(refer to Standard UNI EN 12193 - CONI for further details)

ACTIVITY / PLANT	activity level (a)	INDOOR (b)			OUTDOOR (b)			Note
		average illuminance (lux)	min/medium illuminance	specific illuminance (lux)	average illuminance (lux)	min/medium illuminance	specific illuminance (lux)	
ATHLETICS	3	500	0,7	1000 (1)	500	0,7	1000 (1)	(1) fotofinish
	2	200	0,5		300	0,6		
	1	100	0,5		200	0,5		
SWIMMING (POOLS)	3	500	0,7		500	0,7		
	2	300	0,7		300	0,7		
	1	200	0,5		200	0,5		
BASEBALL	3	750 (1)	0,7(1)		750(1)	0,7(1)		(1) infield
	2	500 (1)	0,5(1)					
	1	300 (1)	0,5(1)					
FOOTBALL	3	500	0,7					
	2	200	0,6					
	1	75	0,5					
FOOTBALL FIVE	3	500	0,7		750	0,7		
	2	200	0,7		500	0,7		
	1	100	0,5		200	0,5		
CYCLING	3	500	0,7	1000 (1)	750	0,7	1000 (1)	(1) fotofinish vert. plane
	2	300	0,7		500	0,7		
	1	100	0,5		200	0,5		
GOLF	3-2	100 (1)	0,8	100 (2)				(1) tee (2) hole
GYMNASTICS	3				500	0,7		
	2				300	0,6		
	1				200	0,5		
HOCKEY and ROLLER SKATING	3	500	0,7		750	0,7		
	2	200	0,7		500	0,7		
	2	200	0,7		300	0,7		
BASKETBALL VOLLEYBALL HANDBALL WRESTLING WEIGHTLIFTING JUDO	3	500	0,7		750	0,7		
	2	200	0,6		500	0,7		
	1	100	0,5		200	0,5		
BOXING	3				2000 (1)	0,8		(1) on the ring
	2				1000 (1)	0,8		
	1				500 (1)	0,5		
RUGBY	3	500	0,7					
	2	200	0,6					
	1	75	0,5					
EQUESTRIAN SPORTS	3	500	0,7		500	0,7		
	2	300	0,6		200	0,5		
	1	200	0,5		100	0,5		
MOTORSPORTS	3	200	0,6	1000 (1)	200	0,6	1000 (1)	(1) fotofinish
	2	200	0,6		200	0,6		
	1	80	0,5		80	0,5		
ICE RINKS	3	750	0,7		750	0,7		
	2	500	0,7		500	0,7		
	1	200	0,5		300	0,7		
TENNIS/SQUASH	3	500	0,7		750	0,7		
	2	300	0,7		500	0,7		
	1	200	0,6		300	0,5		

N.B.: Level: (a) 1. Non professional level - 2. Local professional level - 3. National and international professional level

(b) All luminance values, except otherwise stated, refer to the horizontal plane that matches the surfaces where the activity takes place (water surface for swimming activities).

Overview of illuminance levels for UEFA competitions

Type of match	UEFA illuminance level
• UEFA EURO • UEFA Champions League final • UEFA Europa League final	Elite level A
• UEFA Champions League: group stage to semi-finals • UEFA Super Cup final	Level A
• UEFA Women's EURO • UEFA European Under-21 Championship: Final tournament • UEFA Champions League: Play-offs • UEFA Europa League: group stage to semi-finals • UEFA European Football Championship: qualifying matches	Level B
• UEFA Champions League: third qualifying round • UEFA Europa League: third qualifying round and play-offs • UEFA Champions League: second qualifying round • UEFA European Under-21 Championship: qualifying matches	Level C
• UEFA Champions League: first and second qualifying rounds • UEFA Europa League: First and second qualifying rounds • Youth and Women's Competitions: Qualifying rounds, group-stage and knock-out rounds (excluding final(s))	Level D
• Non-broadcast matches	> 350 lux

UEFA illuminance requirements: Elite level A

Eh ave (average horizontal illuminance)		> 2,000 lux
Uniformity U1h	Uniformity U2h	> 0.50 / > 0.70
Ev ave-0° (vertical illuminance on 0° reference plane)		average > 1,500 lux minimum > 1,000 lux
Uniformity U1v-0°	Uniformity U2v-0°	> 0.40 / > 0.50
Ev ave-90° (vertical illuminance on 90° reference plane)		average > 1,500 lux minimum > 1,000 lux
Uniformity U1v-90°	Uniformity U2v-90°	> 0.40 / > 0.50
Ev ave-180° (vertical illuminance on 180° reference plane)		average > 1,500 lux minimum > 1,000 lux
Uniformity U1v-180°	Uniformity U2v-180°	> 0.40 / > 0.50
Ev ave-270° (vertical illuminance on 270° reference plane)		average > 1,500 lux minimum > 1,000 lux
Uniformity U1v-270°	Uniformity U2v-270°	> 0.40 / > 0.50
Match continuity mode (MCM)		Eh ave >1,000 lux Ev4 ave > 600 lux
Flicker factor (FF)		average < 5%
Minimum adjacent uniformity ratio (MAUR)		> 0.60
Colour temperature (Tk)		5,000–6,200K
Colour rendering		≥ 80 Ra
Maintenance factor (MF)		0.85
Power supply		Elite level A

CHEMICAL COMPOUND	METHACRYLATE	POLYCARBONATE	POLYAMIDE	PVC	ALUMINIUM	STEEL
Acetone	▲	●	●	●	■	■
Arsenio acid 20%	■	■	●	■	▲	●
Citric acid 20%	■	■	■	■	●	●
Hydrochloric acid 10%	■	■	▲	■	▲	●
Chloric acid	■	■	▲	■	▲	▲
Chromic acid	●	●	●	■	●	●
Formic acid up to 30%	●	●	■	■	▲	●
Nitric acid 20%	●	●	▲	■	▲	▲
Sulphuric acid up lo 30%	■	■	▲	■	▲	▲
Salt water	■	■	●	●	●	■
Ethyl alcohol	▲	■	■	■	■	■
Isopropyl alcohol	●	▲	■	■	●	■
Aniline	▲	▲	●	▲	■	■
Ammonia	■	▲	■	●	■	●
Benzine	■	■	■	■	■	■
High grade fuel	■	▲	▲	●	■	■
Benzol	▲	▲	●	▲	●	■
Alcoholic drinks	■	■	■	■	■	■
Bromine	▲	●	▲	▲	●	■
White lime	●	●	▲	▲	▲	■
Diesel fuel	●	●	●	■	■	■
Marine climate	■	■	■	■	●	●
Chloroform	▲	▲	●	●	■	■
Liquid chlorine (vapours)	▲	▲	●	▲	■	▲
Calcium chloride	■	■	■	■	■	●
Ferric chloride	■	●	■	■	●	●
Hexane	■	●	■	■	■	■
Ethylether	■	▲	■	▲	■	■
Phenols	▲	▲	▲	●	●	■
Glycerol	■	●	■	■	■	■
Hydrocarbons	●	▲	■	●	■	■
Methanol	▲	▲	●	■	●	■
Minerai oils	■	▲	■	■	■	■
Silicone oil	●	■	■	■	■	■
Diesel oil	■	●	■	■	■	■
Oil and food fats	■	●	■	■	■	■
Ozone	■	●	▲	●	■	●
Potassium permanganate	■	■	■	■	●	■
PVC with plasticizers	▲				■	■
Soda	■	▲	■	■	▲	▲
Watery zinc sulphate	■	■	■	■	■	■
Aluminium sulphate	■	■	■	■	■	■
Copper sulphate	■	■	■	■	■	●
Carbon tetrachloride	▲	▲	■	▲	■	■
Toluene	▲	●	●	▲	■	■
Trichloroethlene	▲	▲	■	●	■	■

The chemical products in thè table are only a part of thè existing ones. Please, check thè compatibility between thè component product materials and thè installation environment. There may be some variations in compatibility between thè material and chemical product according to thè concentration and temperature. Clean them with soapy water or with a very dilute solution of neutral and non-aggressive detergents. All of trichlorethylene type products, pericoloroetilene or solvents are to be avoided. Don't use abrasive or highly alkaline cleaners. Never scrape thè surfaces with squeegees, razor blades or other sharp instruments. Don't clean products when hot or or with an high ambient temperature.

Symbols used

▲ = non resistant
● = partially resistant
■ = resistant

LED general chemical compatibility list

This chemical compatibility list includes materials that are used and found in LED luminaire assembly and are known by us as critical regarding certain of their effects on LED packages, if used in the proximity of LEDs since interaction with the LED package may negatively impact the performance of the LEDs. This list only contains certain materials and certain compatibilities known to us and is not intended to provide a listing of all possible substances and their effects. Therefore, the absence of a substance from this list can neither be seen as a recommendation nor as any evaluation of such substance. Likewise, the concerns and applications in the list cannot be seen as conclusive, but other applications and/or concerns are possible. This list is subject to change without notice. **The list is provided for information only and is not a warranty or a specification**.

Material	Examples of applications	Effect on the LED packages		Examples for concerns regarding effects on the LED packages
		Critical	Non Critical	
Acetates	Can be found in the outgassing of adhesive or conformal coating materials.	X		Corrosion risk for LED.
Acetic acid	Can be found in RTV silicones, cutting fluids, degreasers or adhesives.	X		Corrosion risk for LED. May interact with silicones.
Acetone	Solvent	X		May cause swelling of silicone encapsulation.
Acrylates	Can be found in the outgassing of adhesive or conformal coating materials	X		Corrosion risk for LED if the adhesive or conformal coating material is not properly cured.
Acrylic adhesives (Two component type)	Sealants and adhesives	X		Corrosion risk for LED.
Acrylic latex caulk	Sealing materials	X		Corrosion risk for LED.
Acrylic rubber	Rubber/plastic seals	X		Corrosion risk for LED.
Acrylonitrile-Butadiene-Styrene, ABS	Structural plastic (widelyused in mobile phones)	X		Discoloration of encapsulant, housing material and lead frame may occur.
Aldehydes	Can be found in the outgassing of adhesive or conformal coating materials.	X		Discoloration of encapsulant, housing material and lead frame may occur.
Amines	Base material. Can be found in detergents or cleaners.	X		Discoloration of encapsulant, housing material and lead frame may occur.
Ammonia	Base material. Can be found in detergents or cleaners.	X		Discoloration of encapsulant, housing material and lead frame may occur.
Benzene	Solvent	X		May interact with silicones.
Bleach solution (mainly the component of hypochlorous acid)	Cleaning agents	X		Outgassing from bleach solutions may cause silicone encapsulation/lens/housing tarnishing; direct contact may cause encapsulation swelling and detachment.
Butadiene-containing adhesive	Adhesive	X		May cause material yellowing.
Butadiene rubber	Rubber/plastic seals	X		May cause silicone and lead frame yellowing.
Castor oil	Oil/lubricant	X		If the lubricant is made from natural sources, it may contain sulfur and cause silver-containing lead frame corrosion. May interact with silicones.
Chlorinated polyethylene	Rubber/plastic seals	X		May contain trace amount of HCl and result in lead frame corrosion.
Chlorosulphonated material	Rubber/plastic seals	X		Corrosion risk for LED.
Cutting fluids (oil & water based)	Manufacturing materials	X		May cause silicone encapsulation delamination, mechanical strength change or even crack.
Cyanoacrylates (could be found in adhesive materials)	Sealants and adhesives	X		Discoloration of encapsulant, housing material and lead frame; corrosion risk.
Dichloromethane	Solvent	X		May soften and/or tarnish silicone encapsulant/housing/lens.
Dienes	Can be found in the outgassing of adhesive or conformal coating materials.	X		Discoloration risk for silicone encapsulant/housing/lens.
Epichlorohydrin	Rubber/plastic seals	X		Corrosion risk for LED.
Epoxy adhesive (amine types)	Adhesive	X		Risky conditions due to amino compound outgassing, which can cause LED discoloration.
Ethanolamine	Can be found in detergents, emulsifiers, polishes	X		May cause pH change and material yellowing issues.
Ethylene propylene (EPDM) rubber	Rubber/plastic seals	X		Corrosion risk for LED.
Formaldehyde	Can be found in cleaners, mineral spirits, petroleum, paint or gasoline.	X		May cause material yellowing.
Gaskets (containing sulfur compounds)		X		Corrosion risk for LED.
Gasoline	Solvent	X		May soften and/or tarnish the silicone encapsulant/housing/lens.
General lubricants	Manufacturing materials	X		Delamination risk for the silicone encapsulant/housing/lens.
General surfactantse	Manufacturing materials	X		Delamination risk for the silicone encapsulant/housing/lens.
Glycol ethers	Solvent. Can be found in cleaners, mineral spirits, petroleum, paint or gasoline.	X		May cause silicone to become turbid and affect the light output.May cause encapsulation swelling/softening.
Halogenated hydrocarbons (containing F, Cl, Br elements)	Can be found in machine oil, lubricants, solder fluxes/pastes or flame retardants.	X		Corrosion risk for LED. May interact with silicones.
Hydrochloric acid	Can be found in cleaners and cutting fluids.	X		Corrosion risk for LED. May interact with silicones and phosphors.
Isophorone di-isocyanate	Can be found in coating/potting/casting materials, polyurethane.	X		Discoloration of encapsulant, housing material and lead frame as well as silicone degradation.
Lard/Oil	Oil/lubricant	X		May weaken adhesion. May cause encapsulation swelling. May interact with silicones.
Linseed oil/Oil	Oil/lubricant	X		May weaken adhesion. May cause encapsulation swelling. May interact with silicones.
Methyl ethyl ketone (MEK) solvent	Solvent. Can be found in cleaners, mineral spirits, petroleum, paint or gasoline.	X		May interact with silicones.
Methylated Spirits/Mineral spirits	Manufacturing materials	X		May weaken adhesion. May cause encapsulation swelling. May interact with silicones.

Material	Examples of applications	Effect on the LED packages		Examples for concerns regarding effects on the LED packages
		Critical	Non Critical	
Methyl isobutyl ketone (MIBK) solvent	Solvent. Can be found in cleaners, mineral spirits, petroleum, paint or gasoline.	X		May degrade the encapsulant and the housing material.
Mineral Oil Lubricants	Manufacturing materials	X		May weaken adhesion. May cause encapsulation swelling. May interact with silicones.
Mineral splits	Solvent	X		May interact with silicones. May cause encapsulation swelling
Neodecanoic acid glycidyl ester	Surface coating, Paint drrier	X		May cause silicone and housing material yellowing and silicone softening.
Nitric acid	Can be found in cleaners and cutting fluids	X		Corrosion risk for LED. May cause encapsulant and housing yellowing and phosphor degradation. May interact with silicones.
Outgassing aromatic hydrocarbons (e.g. toluene, benzene, xylene, etc.)	Solvent	X		May interact with silicone encapsulant.
Paints (containing sulfur compounds)		X		May cause silver-containing lead frame corrosion.
Perfluoro elastomers	Rubber/plastic seals	X		May interact with silicone encapsulant.
Petroleum oil	Petroleum oil	X		May cause material swelling and thus weaken the adhesion. May cause material yellowing and decrease the overall light output. May interact with silicones. May cause silver-containing lead frame corrosion.
Petroleum byproducts (containing sulfur compounds)	Can be found in exhaust	X		May cause silver-containing lead frame corrosion.
Phenyl mercuric neodecanoate	Can be found in coatings, adhesives, sealants or elastomers	X		May cause material swelling and thus weaken the adhesion. May cause material yellowing, lead frame staining and decrease the overall light output.
Phosphoric acid	Can be found in cleaners and cutting fluids.	X		Depending on concentration, temperature and exposure time to the housing material, silicone, phosphor or lead frame, degradation may occur.
Polynorbornene rubber	Rubber/plastic seals	X		Discoloration of the silicone and lead frame staining.
Polystyrene (GPPS)	Structural plastic	X		Discoloration of the silicone and lead frame staining.
Polysulphide rubber	Rubber/plastic seals	X		Lead frame discoloration/degradation
Polyurethane material	Adhesive, tape, plastic rubber, sealant, potting material	X		Improper curing of polyurethane may result in outgassing and silicone degradation issues. Properly cured polyurethane should not be critical.
Potassium hydroxide	Alkaline/Alkali. Can be found in detergents or cleaners.	X		Depending on concentration, temperature and exposure time to housing material, silicone, phosphor or lead frame, degradation may occur.
Release Agents (Oil, Wax, Solvent and Water based)	Manufacturing materials	X		Delamination risk for the silicone encapsulant/housing/lens.
Sealants (containing sulfur compounds)		X		May cause silver-containing lead frame corrosion.
Silicone	Sealants, adhesives, encapsulant, potting and coating resins	X	X	Depending on the silicone source, grade and curing condition, may cause package failure. Curing byproducts during silicone curing may cause package contamination. Electronics material grade with low ionic and impurity content is highly recommended.
Silicone oil	Oil/lubricant	X		May interact with silicones.
Sodium hydroxide	Alkaline/Alkali. Can be found in detergents or cleaners.	X		Depending on concentration, temperature and exposure time to housing material, silicone, phosphor and lead frame, degradation may occur.
Solder Flux Resin	PCB manufacturing	X	X	Excess solder flux resin could cause lead frame staining and corrosion risk for LED.
Styrene butadiene rubber	Rubber/plastic seals	X		May cause silicone and lead frame yellowing.
Sulfuric acid	Can be found in cleaners or cutting fluids.	X		Depending on concentration, temperature and exposure time to housing material, silicone, phosphor and lead frame, degradation may occur; potential corrosion risk.
Tetrachloromethane	Solvent	X		May soften and/or tarnish the silicone encapsulant/housing/lens.
Tetradecylamine	Can be found in detergents.	X		May soften and/or tarnish the silicone encapsulant/housing/lens.
Toluene	Solvent. Can be found in cleaners.	X		May interact with silicones.
Trimethylhexamethylenediamine	Hardener in coating/potting/casting/adhesive epoxy materials	X		Discoloration of encapsulant, housing material and lead frame may occur.
UV acrylic adhesives	Sealants and adhesives	X		Corrosion risk for LED.
Xylene	Solvent. Can be found in cleaners.	X		May interact with silicones.

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Art.3283	330432-39	1	36	449
Art.3284	330440-00	1	36	449
Art.3284	330440-39	1	36	449
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Art.3285	340102-00	1	36	447
Art.3285	340102-39	1	36	447
Art.3285	340103-00	1	36	447
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Art.3286	340111-39	1	36	447
Art.3286	340112-00	1	36	447
Art.3286	340112-39	1	36	447
Art.3286	340113-00	1	36	447
Art.3286	340113-39	1	36	447
Art.3290	330600-00	1	22	423
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Art.3290	330601-00	1	22	423
Art.3290	330601-39	1	22	423
Art.3290	330602-00	1	22	423
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Art.3290	330605-39	1	22	423
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Art.3291	330610-39	1	22	423

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Art.3291	330614-00	1	22	423
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Art.3291	330615-00	1	22	423
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Art.3293	330684-39	1	22	424
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Art.3295	330724-00	1	22	425
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Art.3296	330903-00	1	22	421
Art.3296	330904-00	1	22	421
Art.3296	330905-00	1	22	421
Art.3296	330906-00	1	22	421
Art.3296	330907-00	1	22	421
Art.3297	330910-00	1	22	421

Art. / Acc.	Code disano	px n° pack	px n° pallet	pag.
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Art.3298	330916-00	1	22	421
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Art.3322	326922-39	1	6	365
Art.3326	327202-00	1	6	363
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Art.3329	328291-39	1	18	355
Art.3331	330040-00	1	12	349
Art.3331	330041-00	1	12	349
Art.3331	330042-00	1	12	349
Art.3331	330043-00	1	12	349
Art.3331	330044-00	1	12	349
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Art.3333	330031-00	1	12	153
Art.3333	330032-00	1	12	153
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Art.3334	330113-00	1	9	349
Art.3334	330114-00	1	9	349
Art.3334	330115-00	1	9	349
Art.3335	330033-00	1	12	153
Art.3335	330034-00	1	12	153
Art.3335	330035-00	1	12	153
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Art.3336	328201-00	1	12	352
Art.3336	328201-39	1	12	352
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Art.3340	330213-00	1	2	345
Art.3340	330213-39	1	2	345
Art.3340	330214-00	1	2	345
Art.3340	330215-00	1	2	345

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Art.3342	330231-00	1	2	347
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Art.3342	330233-39	1	2	347
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Art.3345	330264-3028	1		344
Art.3345	330264-3073	1		344
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Art.3345	330265-3073	1		344
Art.3350	330510-00	1	12	339
Art.3350	330510-30	1		339
Art.3350	330510-39	1	12	339
Art.3350	330510-3028	1		339
Art.3350	330511-00	1	12	339
Art.3350	330511-30	1		339
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Art.3350	330511-3028	1		339
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Art.3350	330519-00	1	12	339
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Art.3350	330519-39	1	12	339
Art.3350	330519-3028	1		339
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Art.3351	330520-30	1		336
Art.3351	330520-39	1	12	336
Art.3351	330520-3028	1		336
Art.3351	330521-00	1	12	336

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Art. / Acc.	Code disano	px n° pack	px n° pallet	pag.
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Art.3351	330521-39	1	12	336
Art.3351	330521-3028	1		336
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Art.3352	330530-39	1	12	337
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Art.3355	330551-3028	1		338
Art.3360	330560-00	1	12	329
Art.3360	330560-39	1	12	329
Art.3361	330570-00	1	12	328
Art.3361	330570-39	1	12	328
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Art.3376	340211-39	1	30	435
Art.3376	340212-00	1	30	435
Art.3376	340212-39	1	30	435

Art. / Acc.	Code disano	px n° pack	px n° pallet	pag.
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Art.3376	340213-39	1	30	435
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Art.3380	340501-39	1		454
Art.3380	340502-00	1		454
Art.3380	340502-39	1		454
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Art.3385	340571-39	1	12	333
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Art.3386	340580-00	1	12	333
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Art.3390	330800-39	1	15	429
Art.3390	330801-00	1	15	429
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Art.3390	330802-00	1		429
Art.3390	330802-39	1	15	429
Art.3390	330803-00	1	15	429

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Art.3390	330804-00	1	15	429
Art.3390	330804-39	1	15	429
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Art.3391	330810-00	1	15	429
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Art.3472	341020-39	1		413
Art.3472	341021-00	1	18	413
Art.3472	341021-39	1		413

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Art.3472	341022-39	1		413
Art.3472	341023-00	1	18	413
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Acc.Type5	99767700001041			234

EUROPEAN CONSUMER SAFETY LABEL

ENEC is a European Mark that demonstrates that an electrical product is compliant with applicable European safety standards and was manufactured by a company that applies a Quality System according to ISO 9000. The ENEC mark is recognized as being equivalent to the individual national marks of the countries that adhere to the agreement and provides a guarantee of product quality.

* ENEC European Certificate of Conformity: PENDING APPROVAL

The ENEC Plus mark certifies that the LED luminaires are compliant and reliable in terms of safety and declared performance.

Please note that the purpose of the EC labelling is to indicate a product's compliance with all applicable standards and to guarantee the right of this product to be marketed directly in all member states of the European Community. The standards to be complied with by lighting fixtures are as follows: EC 89/336/EEC "electromagnetic compatibility" - EC 73/23/EEC "low voltage electrical materials".Therefore they comply with EMC regulations (electronic compatibility). For more detailed information, please contact our lighting design support centre.

CSQ/IQNET marking is valid all over the world. It shows that the company has obtained the Company's Quality System certification as regards the design, production and marketing of lighting fixtures and accessories. The reference standard is UNI EN ISO 90001/IQNET and UNI EN ISO 9002/ IQNET.
Environmental Management System compliant with the requirements of UNI EN ISO 14001.

I.M.Q. approval for wired fixture. All fixtures comply with CEI Italian safety standards corresponding to EN60598 European standards.

Registered Design **DM/100271**

The International Bureau of the World Intellectual Property Organization (WIPO) hereby certifies that the particulars given below correspond to the recording made in the International Register of Industrial Designs, at the date of the international registration, under the Hague Agreement Concerning the International Registration of Industrial Designs.

The Zhaga-D4i mark certifies the fixture's compliance with Zhaga Book 18 version 2 specifications for outdoor luminaires and DiiA's D4i specifications for intra-luminaire DALI interface. This joint certification covers all critical features including mechanical adaptation, digital communication, data reporting and power requirements within a single luminaire, ensuring "plug & play" interoperability of luminaires (drivers) and peripherals, such as connectivity nodes.

In the DISANO catalogue, there are some items, generally the more recent ones, that have two numbers (a subcode) at the end of the classical 6-digit code. These subcodes indicate the product type of wiring. Therefore, it is very important when making an order to write the complete DISANO code, including the subcode, which carries the following meaning:

-03 = article designed to fit LED TUBLES
-07 = article supplied with EMergency unit (1h)
-09 = article supplied with electronic+EMergency gear (1h)
-12 = article supplied with DIMM 1-10V wiring
-14 = article supplied with double insulation class
-19 = article supplied with integrated presence and light sensor
-22 = narrow beam version (FS)
-23 = article supplied with integrated wireless technology
-24 = article supplied with integrated DISMART light controller
-25 = article supplied with integrated ActiveAhead system
-30 = article with Virtual Midnight
-31 = article supplied with 3-hour emergency unit
-38 = special version article featuring high chemical resistance for environments with high chlorine content (with *conformal coating* treatment).
-39 = article with 3000K LED
-40 = article supplied with Nema Socket
-42 = Techno System fixtures equipped with a special upper cover for the direct mounting to the ceiling
-44 = article with 1750K LED
-54 = article supplied with ON/OFF switch
-56 = fixture powered at 350mA
-60 = article with CRI 80 LED
-65 = article with UV-A LED
-68 = article with 4000K LED
-69 = article with UV-C LED
-73 = article with AMBER LED
-89 = article supplied with HCL-WIRELESS system
-92 = article with on/off switch and electric socket
-94 = article supplied with DIMM 1-10V + emergency unit (EM) (1h)
-95 = article supplied with DIMM DALI + emergency unit (EM) (1h)
-0016 = non-polluting luminous article, the products are manufactured in compliance with regional Italian laws
-0024 = article supplied with TW-BASIC system
-0034 = article with 5700K-CRI 90 LED
-0035 = article with 5700K-CRI 70 LED
-0041 = article with DALI digital dimmable electronic control gear
-0045 = article with PUSH DALI digital dimmable electronic control gear
-0050 = article with emergency wiring with centralized power supply
-0054 = article supplied with Zhaga Socket
-0059 = Techno System fixtures are designed to directly replace Rapid System FL ceiling lamps. The special mounting clip will make relamping quick and easy
-0061 = article supplied with integrated DIMM DALI presence and light sensor
-0072 = special version for continuous line applications
-0078 = article supplied with PLC remote control system
-0083 = article with 6500K LED
-0092 = article with built-in multi-sensor
-0093 = version with IP68 protection with gel watertight system at the bottom of the fixture
-1219 = article supplied with integrated DIMM 1/10V presence and light sensor
-2191 = fixture in corten colour

Versions with special LEDs for the **FOOD** industry (*Red Meat, Marbled Meat, Fish, Bread & Pastries e Produce*).
-00000034 = BREAD/CHEESE **-00000036** = MEAT
-00000035 = FRUIT/VEGETABLE **-00000037** = FISH

PRODUCT CODE STRUCTURE

The product code of some families consists of alphanumeric characters that indicate the product's technical features and is structured as follows:

standard code	equipment	current (I out)	optics type
424660	00	0280	RW

The type of optics is identified as follows:

RW: rotosymmetric wide beam optic
RM: rotosymmetric medium beam optic
SW: square wide beam optic
CA: cycle-pedestrian asymmetric optic
CS: cycle-pedestrian symmetric optic
AM: asymmetric medium beam optic
AW: asymmetric wide beam optic

CLD S+L The unit is supplied without power supply + LED.

CLD Electronic power supply with 230/240V - 50/60Hz + LED.

CLD D Electronic dimmable power supply with 230/240V - 50/60Hz (1/10V) + LED.

CLD D-D (DALI) Electronic digital dimmable power supply with 230/240V - 50/60Hz (DALI) + LED..

CLD D-D (PUSH) Electronic digital dimmable power supply with 230/240V - 50/60Hz (PUSH DALI) + LED

CLD E Electronic power supply with 230/240V - 50/60Hz+ emergency kit + LED.

CLD D-E Electronic dimmable power supply with 230/240V - 50/60Hz (1/10V) + emergency lighting + LED.

CLD EC The unit is supplied with emergency wiring with centralized power supply.

CLD PROG The unit is supplied with ADVANCED PROG wiring.

CLD BASIC The unit is supplied with BASIC PROG wiring.

DIMM Fixtures wired with dimming electronic power supply.

DIMM 1-10V Fixtures wired with 1-10V dimming electronic power supply.

DIMM DIG Fixtures wired with DALI digital dimmable electronic power supply.

PUSH DIG Fixtures wired with PUSH DALI digital dimmable electronic power supply.

1-10V +EM Fixtures wired with 1-10V dimming electronic power supply + emergency circuit.

EM E1= permanent (illumination + emergency) emergency circuit.

EM EC permanently mounted fixture, operating in AC/DC mode, with centralized emergency device, not incorporated into the fixture.

new **NEW PRODUCT**

new **PERFORMANCE**
Techniques - Lighting - Photometric

IP... International Protection: the IP prefix followed by two figures indicates the level of resistance of the fixture to penetration by solids and liquids. Protection rating (published in EN60529) parts.

IP20 Protection against solid bodies Ø >12 mm only.

IP23 Protection against solid bodies Ø >12 mm and rain.

IP40 Protection against solid bodies Ø > 1 mm only.

IP43 Protection against solid bodies Ø > 1 mm and rain.

IP44 Protection against solid bodies Ø > 1 mm and water sprays.

IP54 Protection against dust and water sprays

IP55 Protection against dust and water jets.

IP65 Protection against dust and water sprays.

IP66 Dust and water tight.

IP67 Dust and waterwave tight.

IK Protected against impact energy

PROTECTION RATING AGAINST MECHANICAL IMPACT

classification according to standard: **EN 50102 o NF C 20-015**

Impact force	NF C 20-010	Third figure in our catalogue
IK	**J**	**IP**
00	0	0
01	0,15	-
02	0,20	1
03	0,35	-
04	0,50	3
05	0,70	-
06	1	-
07	2	5
08	5	-
-	6	7
09	10	-
10	20	9

V.. V0: the test piece extinguishes within 5 sec. without dropping
V2: the test piece extinguishes within 25 sec. (dropping allowed)

L80 B20 50.000h Life expectancy of the LED.

Class II fixture (double insulation). No grounding needed.

Fixtures with protection fuse.

Fixture surface area exposed to the wind.

Minimum and maximum operating temperature. Ask for specific product temperature to our technical offices.

ICE version ideal for environments that reach low temperatures.

HT version ideal for environments that reach high temperatures.

Size of hole for recessed installation

0° 180° Fixture equipped with 0-90° protractor scale for aiming. Security dowels or rack with screw.

Ceiling light fixture fitted with LED and baffle film protection

DARK 65°<500 LIGHT Radial dark light optic unit 65° manufactured according to European EN 12464 Regulations. Suitable for uses in places fitted with video terminals

The lighting fittings can be trodden on and also bear vehicle loads

Produced with vandal resistant materials.

Material supplied with vandal resistant system.

Aiming on horizontal axis at 0°.

Aiming on vertical axis at 0°.

The fixture can be mast-top installed. Tilt angle as indicated.

The fixture can be mast-arm installed. Tilt angle as indicated.



Mast top connection diameter.



These products are compliant with all applicable tests (third-party certification) pursuant to standard **ANSI C136.31: Street Lighting – Luminaire Vibration**.
- Test level: 3.0G Level 2 for bridge/overpass applications.



Products compliant with ball impact resistance test standard DIN 18032-3: 2018.



UV-stabilised coating, anti-yellowing. Fixture built with stabilised materials.



Coating for marine environments (seafront) in compliance with UNI EN ISO 9227.



Standard coating with special surface treatment for marine environments in compliance with UNI EN ISO 9227 regulation.



On request: ideal version for spaces with a high concentration of particular volatile chemicals around the luminaires (see chemical compatibility table).



Built with materials that are highly resistant to acid and toxic gas corrosion.



Zone1: high protection, limited lighting (e.g.: internationally prominent astronomy or astrophysics observatories). Radius (3.3) from the observation centre, r= 5 Km.



Zone2: protection around Zone 1 or around nationally and/or educationally prominent observatories. Radius (3.3) from the observation centre, r= 5 Km, 10 Km, 15 Km, or 25 Km, depending on the observatory importance.



Zone3: national territory not classified under zones 1 and 2.



Electronic safety device to protect the LED module and the related ballast compliant with EN 61547.
It works in two modes:
- differential mode: surge between power cables and between the phase and neutral.
- common mode: surge between power, L/N and ground cables or between the fixture's body if it is of class II and installed on a metal pole.



Product with a very low flicker; uniform light for greater eye protection.



Risk Group 0 (RG0): luminaires are exempt from photobiological risks in compliance with standard EN 62471.



Risk Group 0 (RG0 Ethr): luminaires are exempt from photobiological risks in compliance with standard EN 62471. If necessary, contact our customer service for the observation distance.



Risk Group 1 (low risk group): luminaires do not pose any risks due to normal behavioural limitations of a person when exposed to a light source.



Very demanding applications (technical drawings)



Offices and schools (reading, business meetings, computer work)



Industrial applications, craftsmen



Transit areas



1750K (subcode -44): lamps with warm light at a colour temperature of 1750K are ideal for particularly dangerous areas (pedestrian crossings, entries, roundabouts, etc.) and to minimize the lighting's impact on the environment and on the fauna of green urban areas.



2200K (subcode -73): lamps with warm amber light at a colour temperature of 2200K eliminate the risks of an excessive exposure to harmful blue LED light and allows a "softer" impact on inhabited zones, especially in historic centres.



3000K (subcode -39) - 4000K as standard: lamps with 3000K-4000K white light, instead, is the best choice for lighting up urban areas, streets, residential centres and generally all areas where this type of light guarantees greater safety and visual comfort.



Narrow beam.



Medium beam.



Wide beam.



Extra-wide beam.



Asymmetric beam.



Both direct and indirect light.



Rotosymmetric/wide beam.



Asymmetric beam.



Residential amenities/asymmetric beam.



Bi-asymmetric beam.



Residential amenities/large areas beam.



Centre road beam.



Residential amenities/ cycleways beam.



Cycleways beam.



Cycle-pedestrian beam.



Pedestrian crossing beam.



Fixtures are equipped with a device to reduce flux in 4 steps based on the calculation of the virtual midnight.

ADVANCED PROG (CLD PROG): the products are supplied with programmable drivers as standard.All these functions are already present on standard products and need only to be enabled on request.

BASIC PROG (CLD BASIC): luminaires developed to grant great flexibility of use thanks to the possibility to vary luminous flux intensity by changing the LED drive current.

Fixture ideal for HD TV broadcasts.

Fixture available in the ATEX version.

Fixture available in the HORTICULTURE version.

Fixture available in the Tunable White and HCL version (see chapter *Interiors - HCL*).

Installation of photocell switch device as an optional feature.

Possibility of centralized lighting point control or via external presence/lighting sensors (see chapter Lighting management systems and recommendations).

Built-in RADAR SENSOR (sub-code -19 at an extra price): is an automatic sensor that immediately sense the presence of people's movements and anyone walking past.

Possibility of lighting point management with Casambi technology, an advanced automation lighting control system based on the bluetooth low energy (BLE).

Fixture available in the RGBW - DMX/RDM version (see chapter Lighting management systems - DMX solution for LED RGBW).

Fixture available in the RGB FULLCOLOR (see chapter Lighting management systems - DMX solution for LED RGBW).



WATERPROOF FIXTURES Fixture enclosures are in polycarbonate and keep their IP65/66 waterproof rating if installed, used and maintained in compliance with technical specifications (particularly operating voltage and temperature), as well as with the supplied instructions and applicable standards. Exposure to direct sunlight may heat up the fixture to 45°C compromising the degree of protection. It is advisable to use fixtures properly without altering mechanical properties and protection rating (IP65/IP66); **do not install on surfaces subjected to heavy vibrations or externally from cables and poles**. Otherwise, use watertight fixtures in steel.



HEALTHCARE ENVIRONMENTS: nursing rooms, operating rooms, clinics, first aids, wards, aseptic rooms UNI EN 12464.



SCHOOLS: classrooms, lecture rooms, laboratories, meeting rooms. UNI EN 12464.



OFFICES: single office, meeting rooms, telephone exchange rooms, offices with VDU terminals (time spent in front of the screen: less than 3 hours totally) - UNI EN 12464



OFFICES WITH VDU TERMINALS: drafting and designing rooms, meeting rooms, banks, offices with VDU terminals (time spent in front of the screen: 3 to 6 hours) - UNI EN 12464

OFFICES WITH VDU TERMINALS: time spent in front of the screen: more than 6 hours continually - UNI EN 12464.



OPEN SPACES: offices, large areas, public areas, waiting rooms. UNI EN 12464.



ART AND CULTURE: cinemas, theatres, museums, galleries, churches, libraries, auditoriums, monuments UNI EN 12464



COMMON AREAS: corridors, stairs, llifts. UNI EN 12464.



COMMERCIAL CENTRES: shops, show rooms, shop windows, supermarkets, airports. UNI EN 12464.



LARGE-SCALE DISTRIBUTION: shopping centres, supermarkets, hypermarkets.



MALLS: General shops, goods displays, shop windows, supermarkets, airports, shop facades. UNI EN 12464.



GENERAL ROOMS: home, hotels, sleeping rooms, bars, restaurants, canteens. UNI EN 12464



FOOD INDUSTRY: UNI EN 12464.



WORKSHOPS: mechanical workshops, bodyshops, garages - UNI EN 12464.



STORES: Goods sheds, warehouses, depots, production areas, hangars. UNI EN 12464.



INDUSTRIES: stores, goods sheds, warehouses, depots, production areas. UNI EN 12464.



INDOOR SPORTS FACILITIES: ice-skating facilities, sport facilities, athletics grounds, swimming pools, gymnasiums, volleyball courts, basketball courts.



OUTDOOR SPORT FACILITIES: Football grounds, athletics grounds, horse racing grounds, golf courses, bowling fields, tennis, volleyball courts, basketball courts, etc. - UNI 9316.



PROFESSIONAL SPORT FACILITIES: Football grounds, athletics grounds, horse racing grounds, golf courses, bowling fields, tennis, volleyball courts, basketball courts, etc. UNI 9316.



SWIMMING POOLS: for difficult maintenance situations.



AMENITY LIGHTING: gardens, tree-lined alleys, green areas, parks, promenades.



RESIDENTIAL AREAS: private areas, residences; external walls, pedestrian paths, service stations - UNI 10439



CLASSIC LIGHTING: Ideal for application in city centers.



RELIGIOUS PLACES



FACADES



BICYCLE PATHWAYS: also for pedestrian areas.



PEDESTRIAN ROUTES: near crossroads, pedestrian crossings, and traffic light intersections.



STREETS: Secondary roads, shop-lined streets, low-traffic streets, industrial areas. UNI 10819 - UNI 10439.



PARKING LOTS: private, public, in commercial areas



PEDESTRIAN AREAS: parks, walkways



PORTS: large areas, common areas, loading and unloading areas



AIRPORTS: large areas, common areas, loading and unloading areas



TUNNELS: highway, railway, underground and subway, tunnels.



HOTEL



SPORT HALLS, GYMNASIUMS



BOATS, YACHT and BOAT BUSINESS



PHONE



NO SMOKING



WC

UV lighting for sanitization:



The presence of people is allowed.

Versions also including general lighting.

The presence of people is not allowed.

Versions with UV lighting only.

1- This catalogue supersedes and cancels all previous editions.

2- All list prices are VAT excluded and already include WEEE contribution. However, prices are not binding and the company will inform you on any variation.

3- Goods travel at the customer's risk, including in the case of possible breakages, even if shipped carriage free. No complaints will be accepted after 8 days from receipt.

4- Orders will be dealt with according to availability; partial shipments may also be sent out.

5- The characteristics of the articles, the LEDs used and the lighting design calculations may be subject to change without notice and with no obligation of notification, in accordance with our manufacturing requirements and in order to finalise the lighting fixture.

6- Transportation costs, with the exception of delivery by our vehicles, are at the customer's expense.

7- Returned goods will not be accepted. In any case, returned goods must be authorised by our company and will be accepted carriage free if the material is in a good state of conservation and can therefore be used. (Ask for the current year's circular).

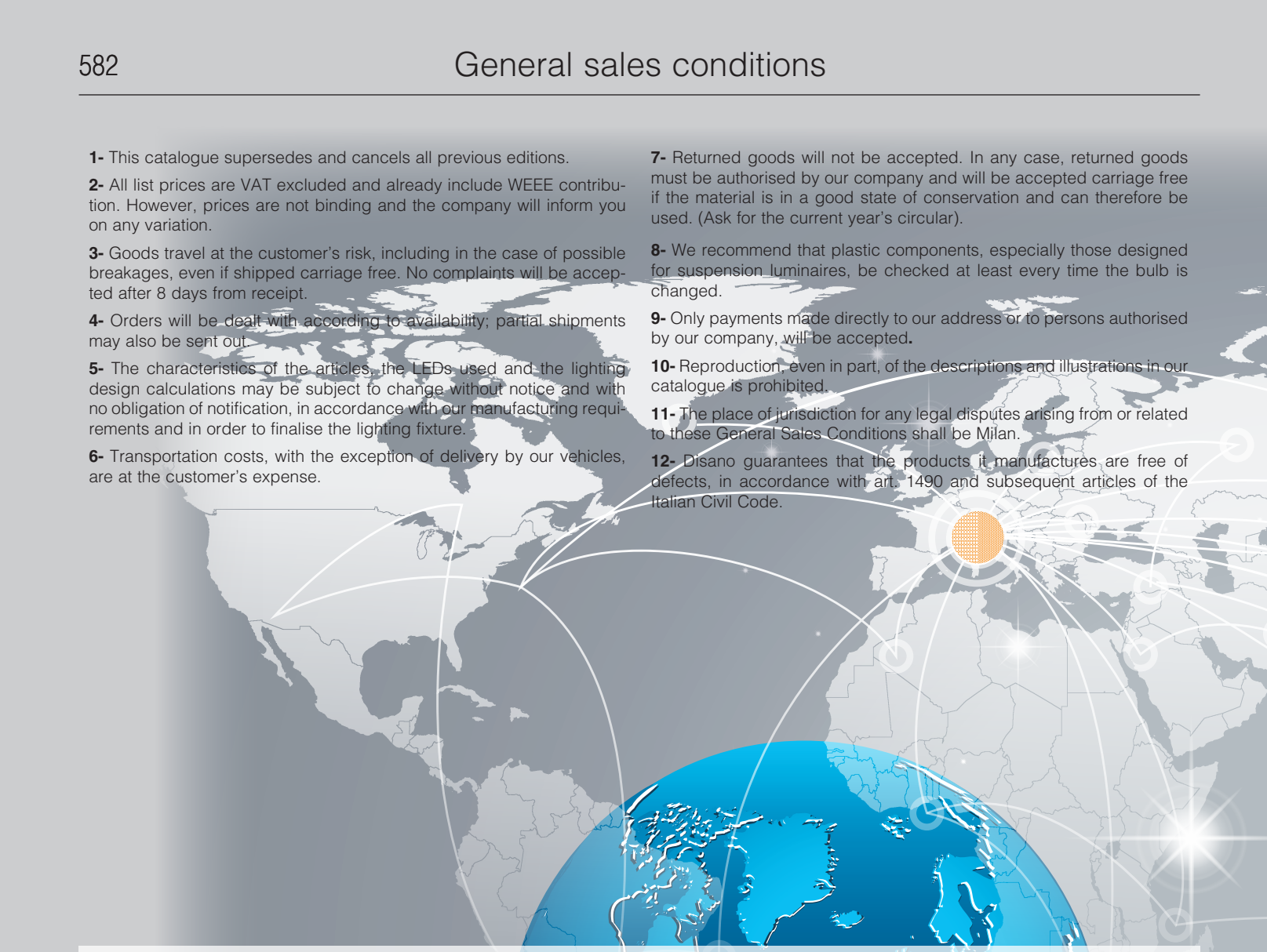
8- We recommend that plastic components, especially those designed for suspension luminaires, be checked at least every time the bulb is changed.

9- Only payments made directly to our address or to persons authorised by our company, will be accepted**.**

10- Reproduction, even in part, of the descriptions and illustrations in our catalogue is prohibited.

11- The place of jurisdiction for any legal disputes arising from or related to these General Sales Conditions shall be Milan.

12- Disano guarantees that the products it manufactures are free of defects, in accordance with art. 1490 and subsequent articles of the Italian Civil Code.



QUANTITIES SHALL BE HANDLED ONLY IN PACKAGES OR RELEVANT MULTIPLES

SURCHARGE OF 10% FOR ACCESSORIES NOT HANDLED IN PACKAGES

DIMENSIONS ARE GIVEN IN MM, UNLESS OTHERWISE INDICATED

PHOTOMETRIC DATA, POWER EFFICIENCY AND LUMINAIRE DESIGN INFORMATION MAY BE SUBJECT TO VARIATIONS AND IMPROVEMENTS. BASED ON THE SPEED OF TECHNOLOGICAL EVOLUTION AFFECTING THESE PRODUCTS. THE COLOUR TEMPERATURES OF LEDS FALL WITHIN ACCEPTED INDUSTRY TOLERANCES DEFINED BY LED MANUFACTURERS, WE WILL GIVE NOTICE OF THESE CHANGES ON OUR WEBSITES FROM TIME TO TIME.

OUTPUT LUMINOUS FLUX AND POWER (tq): THE REPORTED LUMINOUS FLUX IS THE FLUX EMITTED BY THE LIGHT SOURCE WITH A TOLERANCE OF ± 10% COMPARED TO THE INDICATED VALUE. THE W TOT COLUMN (EXCEPT FOR THE EMERGENCY VERSIONS, OF WHICH VALUES ARE TO BE PROVIDED UPON REQUEST) INDICATES THE TOTAL WATTAGE ABSORBED BY THE SYSTEM WITHOUT EXCEEDING 10% OF THE INDICATED VALUE.

NOMINAL LUMINOUS FLUX AND POWER (tj-tp): LUMINOUS FLUX AND POWER VALUES ARE NOMINAL. THE FLUX MAY HAVE A TOLERANCE OF ± 10% WITH REFERENCE TO THE INDICATED VALUE. THE W COLUMN INDICATES THE LED'S POWER WATTAGE.

ALWAYS STAY WITHIN THE RECOMMENDED OPERATING TEMPERATURES OF THE DEVICE.

EXPOSURE TO CHEMICALS EITHER DIRECTLY OR IN THE ATMOSPHERE MAY DAMAGE THE LEDS AS WELL AS THE LIGHTING FIXTURES. FOR FURTHER INFORMATION, PLEASE CONTACT THE MANUFACTURER AND READ THE CHEMICAL COMPATIBILITY TABLE.

SOME IMAGES ARE SIMULATED APPLICATION AND / OR PHOTOMONTAGES

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