Palazzoli

CATALOGUE 2022

LIGHTING

INDUSTRY

ATEX

INFRASTRUCTURE

MARINE

Always a step ahead

Let's be inspired

Lighting catalogue

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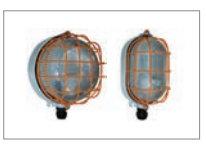

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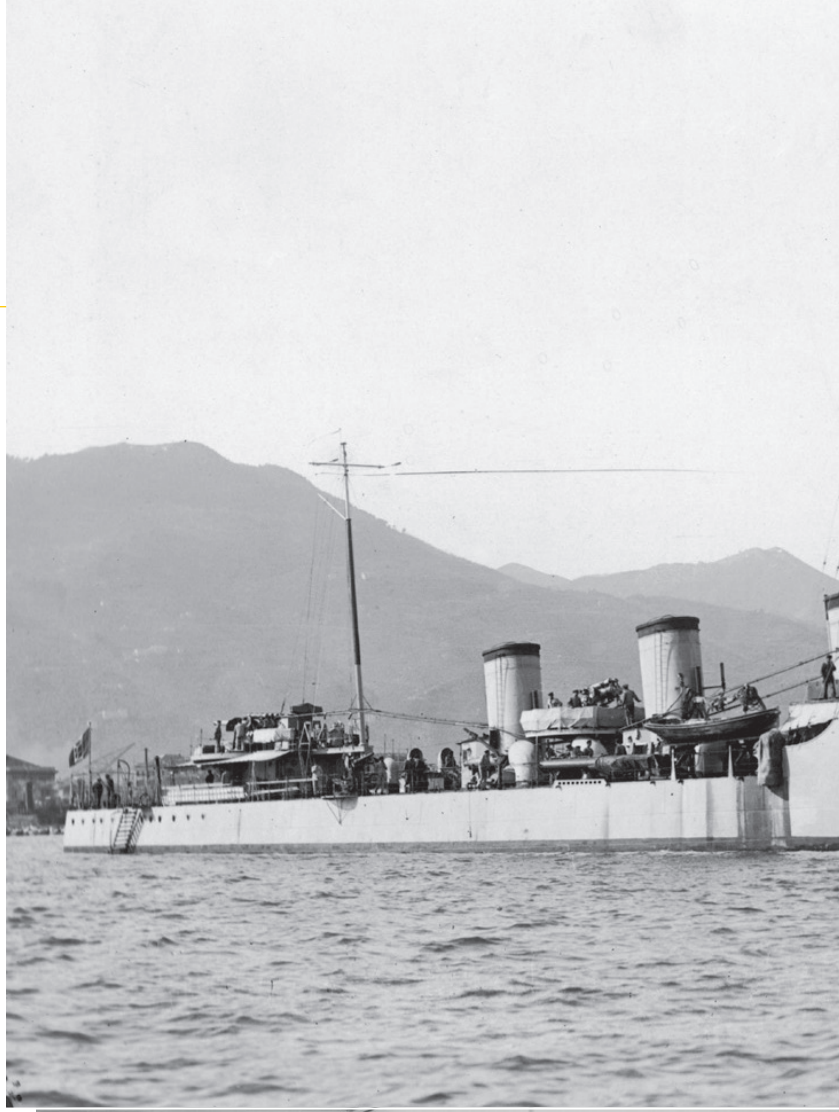
More than a century of history

Having grown in an area with an established industrial history, for more than a century, Palazzoli has contributed to carrying on the pride of Italian entrepreneurship with its commitment and profusion of energy.
A sagacious and far-sighted interpreter of the changes that society, and in particular the industrial sector, was undergoing, the company made its contribution above all in sectors that present the greatest challenges and require increasingly specific skills.

The relationship with the Italian Navy, which was consolidated with the First World War, represented for Palazzoli a training ground for the use of the most advanced technologies and ensured the Brescian company a unique heritage of knowledge and the first area of challenge with the international giants of the sector.



By the 1950s, it was already ahead of its competitors and set up an in-house test and measurement laboratory to ensure the complete reliability of its products.
Today the company boasts a photometric laboratory that enables it to test the performance of its light fixtures in a very short time.

A leader in the supply of light fixtures for harsh environments, the company has in fact been supplying equipment for locations with a high explosion hazard for more than 20 years.

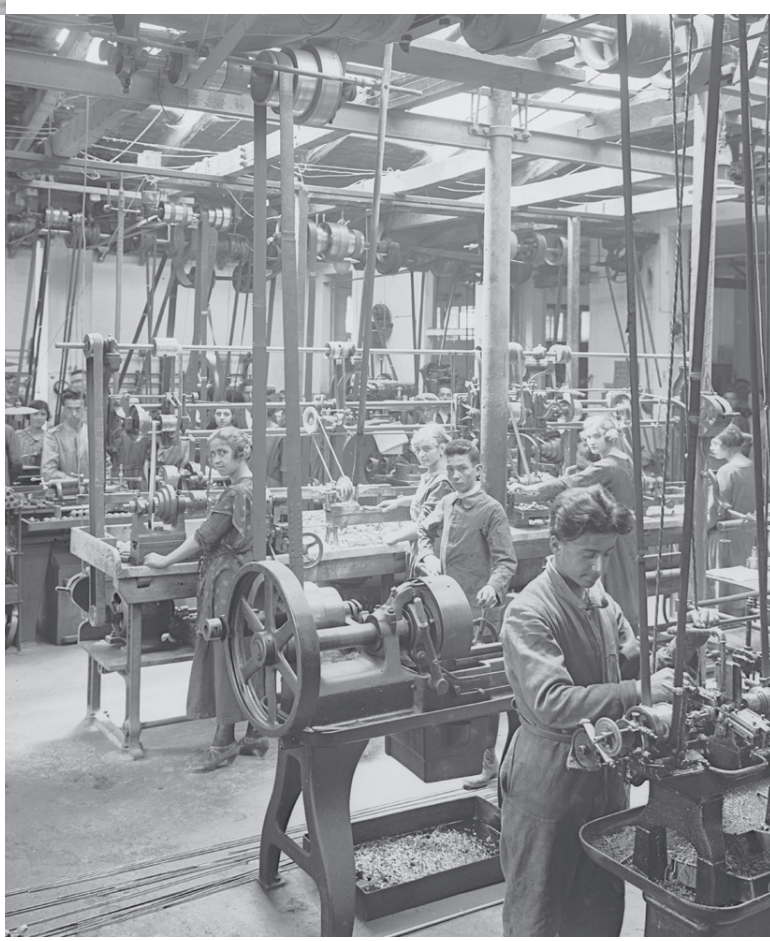
Without neglecting its attention to social issues, to the community of workers and more generally the link to the local area, issues to which the company has always given particular importance. As early as 1924, women were working at the drill and lathe alongside men in Palazzoli's lathe department.

The social sensitivity of the company's top management is demonstrated, for example, by the donation in 1966 of Villa Palazzoli with all its outbuildings and the adjacent Ronco to the Brescia Municipality, with the aim of converting them into a guesthouse for teachers and state employees.

Today, the company can rightly boast that it has met and exceeded its Kyoto Protocol 2020 targets.

From the 1990s onwards, the company, on the strength of its achievements in the naval and industrial sectors, began to develop products for other sectors and soon obtained prestigious orders. The extension of the Milan Trade Fair and the new Brescia Trade Fair are just a few examples, to which orders for installations in extreme areas were added, such as the Italian Enea base in Antarctica, the equipment selected for the vast mining facilities in Israel and the Nantong power station in China.

Thanks to a massive investment that marked a clear industrial turning point, a new fully automated warehouse went into operation in 2004. A forerunner of Industry 4.0 and artificial intelligence.



Palazzoli today

With more than a century of history and a distinct industrial tradition behind it, Palazzoli today is a solid and highly reliable company, recognised by the market for the high performance of its products and appreciated by individual customers for the quality of its services.

Thanks to its in-depth knowledge of materials, the company is able to offer suitable solutions for every environment and therefore produces in a wide variety of variants, ranging from thermoplastic to thermosetting material, aluminium, stainless steel and brass.

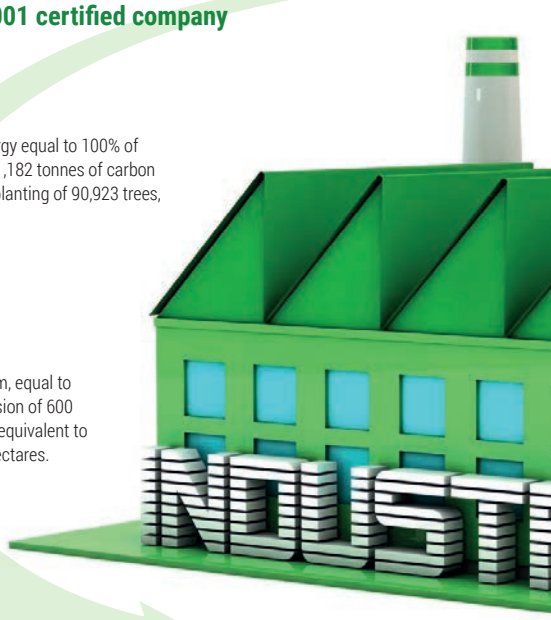
ISO 14001 and ISO 45001 certified company

HEATING

Thermal energy from waste to energy equal to 100% of demand, avoiding the emission of 1,182 tonnes of carbon dioxide per year, equivalent to the planting of 90,923 trees, 303 hectares.

MOTIVE POWER

Electricity from photovoltaic system, equal to 85% of demand, avoiding the emission of 600 tonnes of carbon dioxide annually, equivalent to the planting of 46,154 trees, 154 hectares.



GOOD DESIGN

DESIGN PLUS

Beyond Building Barcelona Reengineering CONSTRUMAT

reddot design award

A green company

All work cycles are GREEN certified: no toxic materials in production, no harmful emissions into the environment. The company uses photovoltaic systems to produce 85% of the electricity consumed.
Today, the company has met and exceeded its 2020 Kyoto Protocol targets.
Palazzoli operates in all the major countries of the world, thanks to more than 100 businesses that cooperate with it directly and indirectly.

A 4.0 company

Products are manufactured on automated assembly lines with 100% mechanical, electrical and electronic testing. All production is monitored by quality assurance and stored in vertical, machine-readable warehouses, making shipping fast and safe.

PROCESSING
- zero halogens;
- zero asbestos;
- zero carcinogenic components;
- zero emissions of polluting liquids;
- zero emissions of polluting gases.

RAW MATERIALS
Recycled aluminium from shredded aluminium equal to 95% of demand, avoiding the emission of 4,962 tonnes of carbon dioxide per year, equivalent to the planting of 381,692 trees, 1,272 hectares.

A certified company

For customer satisfaction, protection and respect of employees and the local area, Palazzoli uses a quality management system according to the international standard UNI EN ISO 9001 and an environmental management system, certified according to the international standard UNI EN ISO 14001.
Palazzoli's focus is also on human capital. The ISO 45001-certified Occupational Health and Safety Management System is dedicated to this.

A responsible company

The company set up the "DIAMO LUCE ALLA RICERCA" (Let's give light to research) project with the AIRC Foundation. Today the funds are donated to support the research project of Giacomo Bianchini, Head of Breast Oncology at IRCCS.

ANNUAL VALUES

Kg of CO_2 saved	Trees planted	Hectares saved
6,744,000	518,769	1,729

AIRC

GREENLUX

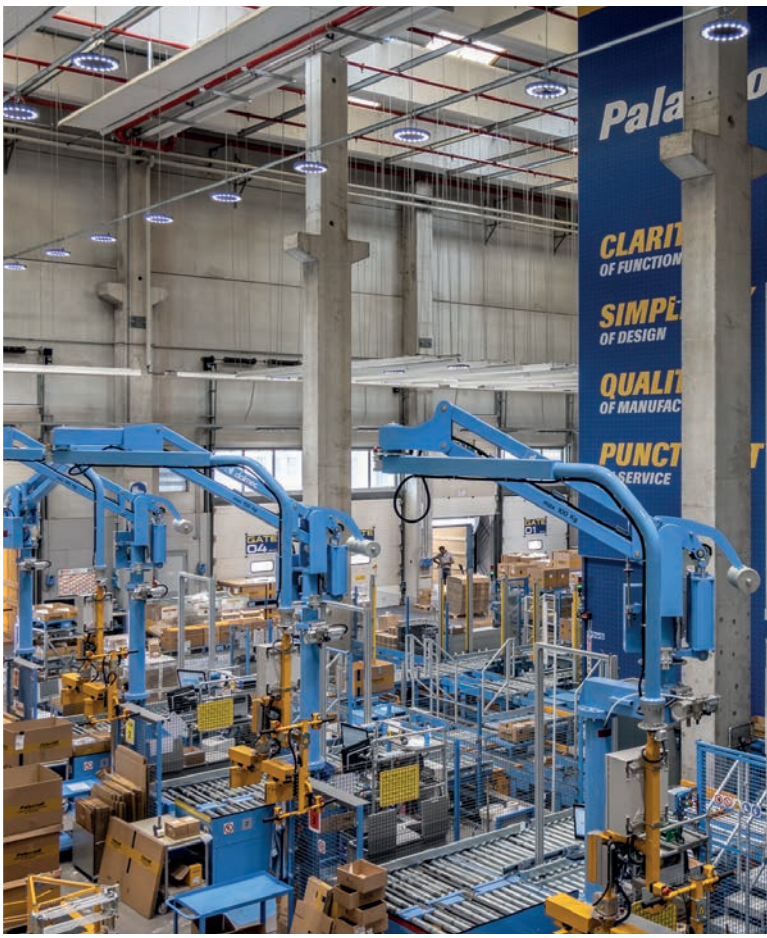
Palazzoli's strength

Customer focused operations

Drawing up a detailed analysis of the market and technical aspects as the basic objectives of the project, before starting with a new work plan.

Smart engineering

A mechanical or electrical system that works well is a good project, and to realise it in the simplest and most reliable way is the goal of Palazzoli's technicians.



Top Manufacture

The careful selection of materials, the attention and expertise in manufacturing, the structured process checks, are the factors that differentiate the Palazzoli factory in Brescia.

Service excellence

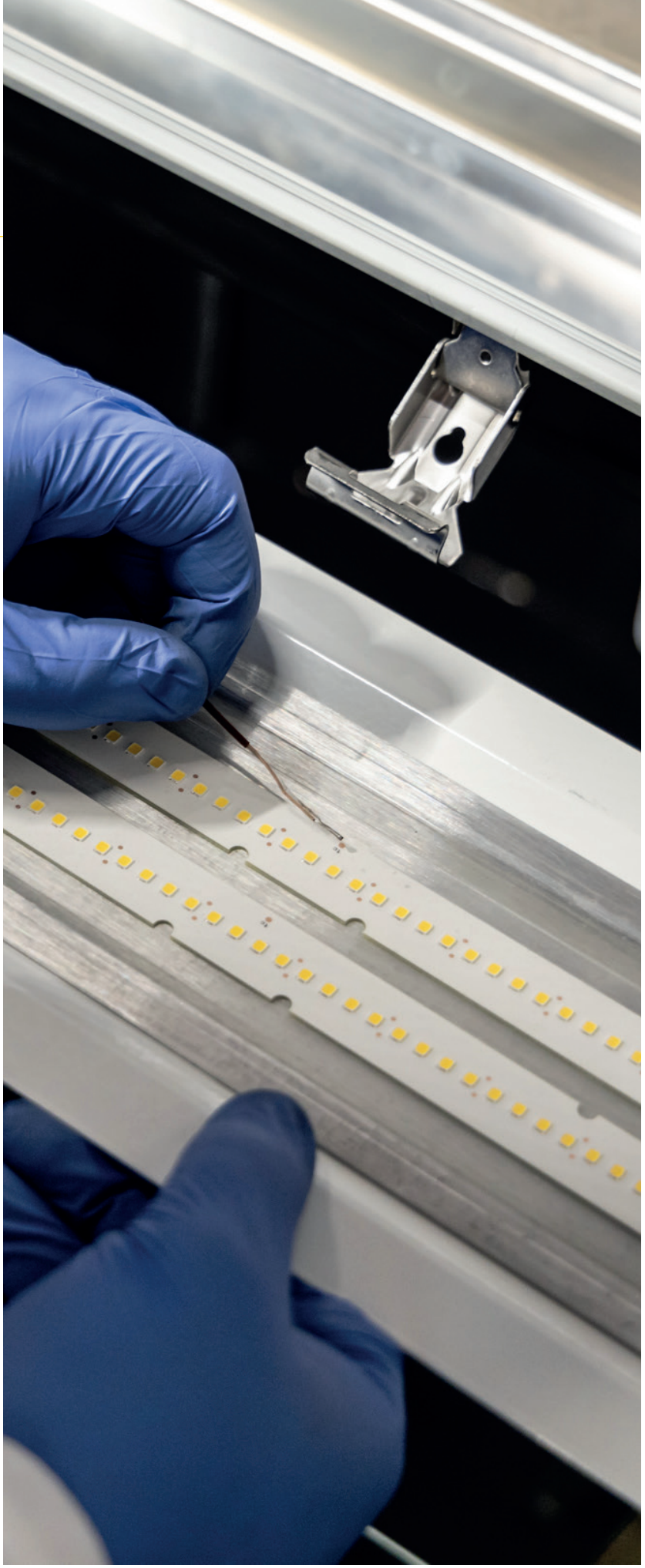
Timely deliveries, installation advice, testing and guaranteed operation over time set Palazzoli apart in the lighting market.

Quality and safety

Palazzoli has its own in-house laboratory to carry out all kinds of tests and measurements. Equipped and compliant with European regulatory standards, the laboratory performs durability, temperature, humidity, water tightness and mechanical shock protection tests.

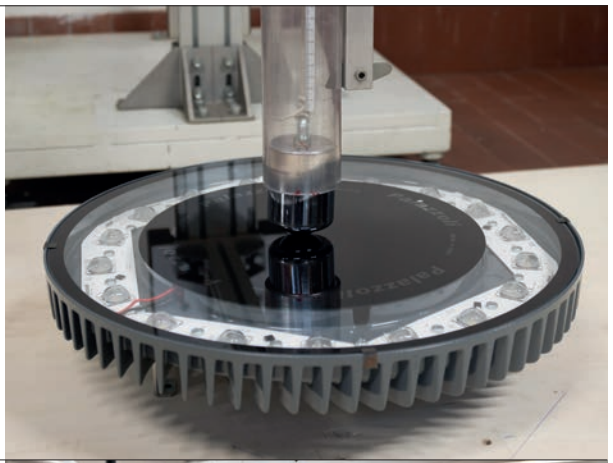
In line with the company's philosophy of providing the best possible customer support in the various application areas, whenever - due to design requirements - changes need to be made to the product, the laboratory technicians work alongside the technical department by carrying out all the tests necessary to guarantee the maximum quality of the solution and customer satisfaction.

In addition, Palazzoli uses the “BURN-IN” test before delivery to check that the finished light fixture is working properly.
This testing technique is used to check that all LEDs are switched on correctly and to identify any cases of “infant mortality” of electronic components and lenses. It involves a prolonged switch-on of the light fixture under various normal operating conditions.
The purpose of this test is to detect: cold soldering problems on LED boards, early faults on electronic components, lens fixing anomalies and inadequately gasketed seals.



Impact resistance testing

These are performance tests that aim to determine the degree of resistance of light fixtures to external mechanical impact sources.
These tests are performed in accordance with EN 62262 and IEC/TR 62696.



Endurance Testing

This is a safety test aimed at verifying the resistance of light fixtures to cyclic heating and cooling typical of the conditions of use over time.
The test takes place in an environment with variable and constantly monitored air conditioning.

Water and dust resistance testing

These are safety tests to check the protection rating of the light fixture housings against the penetration of water and dust. These tests are carried out in accordance with EN 60598-1 using the test equipment described in EN 60529 standards.

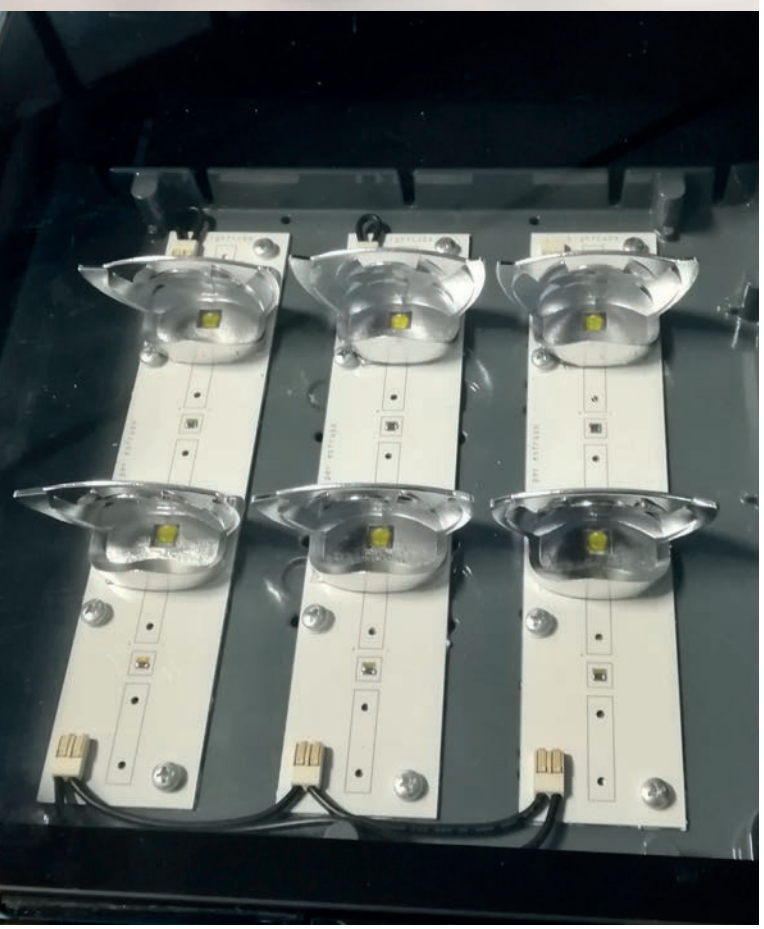
Corrosion resistance testing

Paints and other types of protective surface treatments are tested to determine their resistance to corrosion by ageing in neutral salt spray according to ISO 9227 and EN 60068-2-11 standards.

Light intensity measurement testing

Performances, emitted luminous flux (Φ [lm]), efficacy (η [lm/W]) and luminous intensity distribution are carefully measured by means of a mirror goniophotometer in compliance with the EN 13032-1, UNI 13032-4 and IESNA LM79 standards.

The chamber where these measurements are taken is air-conditioned at a temperature of +25± 1°C and with an air speed of < 0.1 m/s; the measuring instruments are equipped with a datalogger with 12 thermocouples that allows the internal temperatures of the light fixture to be monitored during photometric measurements.



Continuous development

Work to improve the performance of LED light fixtures is ongoing, through simulations, prototyping and performance tests of the optics. In our photometric laboratory, we tested reflection optics with glare control performed by discrete surfaces.

Palazzoli has one of the few goniophotometers in Italy, with which it is possible to test both mass-produced products and light fixtures dedicated to special projects.

The assembly and the wiring of the optical units inside the light fixtures are carried out in a dedicated area inside Palazzoli's facilities.
The lenses, mounted on the boards with an automated process, are designed to achieve an optimal distribution of the luminous flux.

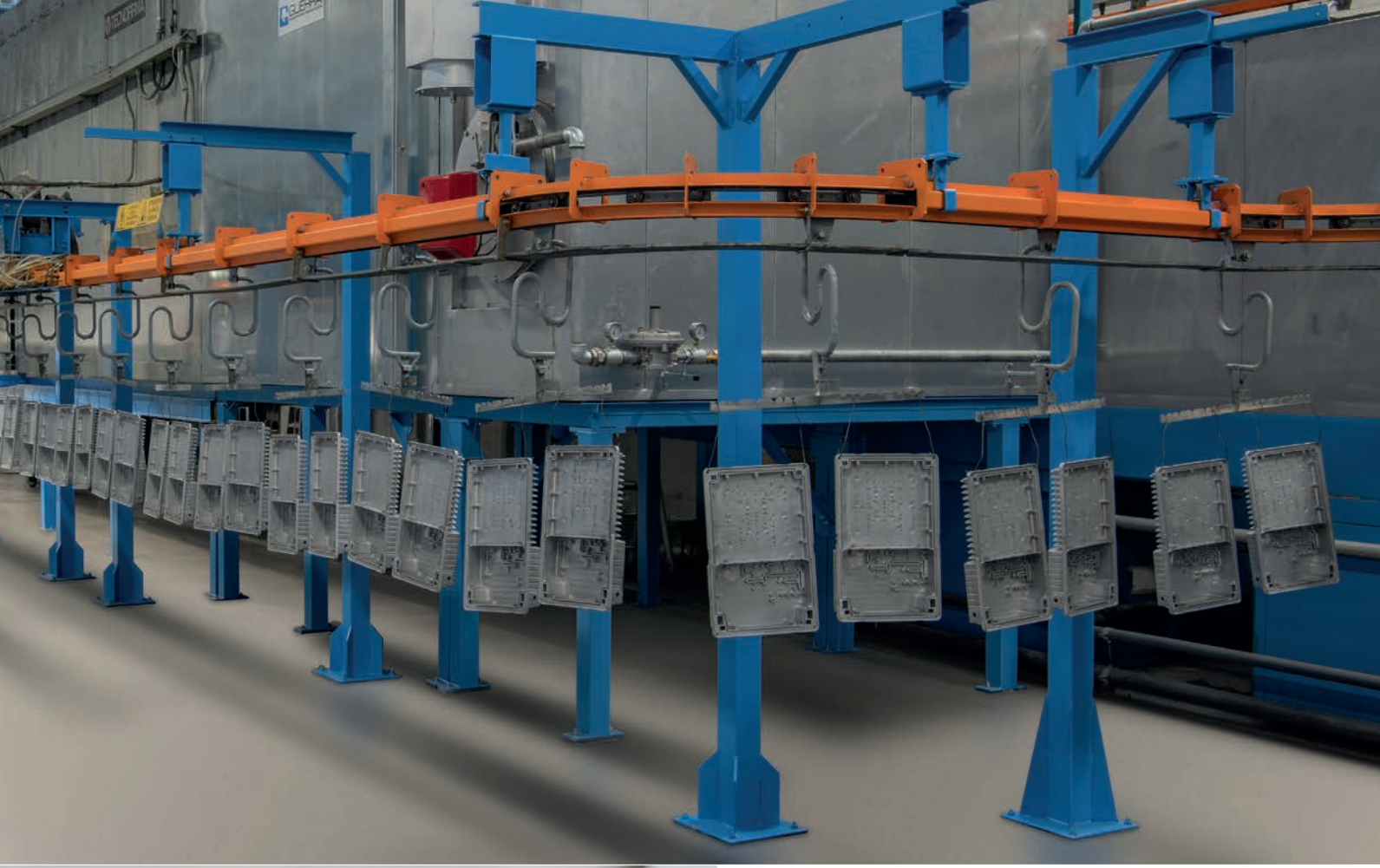
Painting

Palazzoli has always specialised in the production of heavy-duty light fixtures for particularly aggressive environments, where the operating conditions are harsh and extreme.
For this reason, the company has long since invested in surface finishing processes to ensure the best protection and excellent corrosion resistance.
The company has created an in-house product painting department, structured through different phases, where every step of each process is checked and verified. Through fluorozirconate coating processes, which precede powder coating, the company is able to provide products with high quality standards, that are resistant to corrosion and abrasion.

Palazzoli designs and manufactures in Italy

Palazzoli produces light fixtures using a variety of materials.
The aluminium alloy bodies are treated against corrosion through a passivation and painting process. AISI 304 stainless steel bodies are intended for the industrial and atex sectors, while AISI 316L stainless steel bodies are intended for the infrastructure and marine sectors.

The diffusers are made of tempered glass or polycarbonate, with HACCP certification for those destined for use in the food industry.
Inside, LED systems are mounted which, thanks to excellent heat dissipation, maintain the luminous flux unaltered, guaranteeing optimal operating conditions.



Certified quality

The pursuit of the highest quality objectives has distinguished Palazzoli over the years, a company that has always been careful to offer consumers the best guarantees in terms of design criteria, production processes, product safety and durability.
All light fixtures are manufactured in Italy and certified, depending on the application, by ENEC, CESI, RINA, ATEX, IECex, NEMKO and QL (LEDs certified against photobiological risk).

Warehouse

The light fixtures are transferred from the production plant to the warehouse by AGVs (Automated Guided Vehicles), autonomous vehicles that contribute to a significant reduction in ancillary costs.
In addition, in order to make logistics more efficient and increase the level of service, Palazzoli has equipped itself with a fully automated 50,000 cubic metre warehouse, which has drastically reduced preparation and delivery times and increased the quality of service.

50,000 cubic metres of warehouse space, fully automated to improve services offered by Palazzoli every day

Distribution

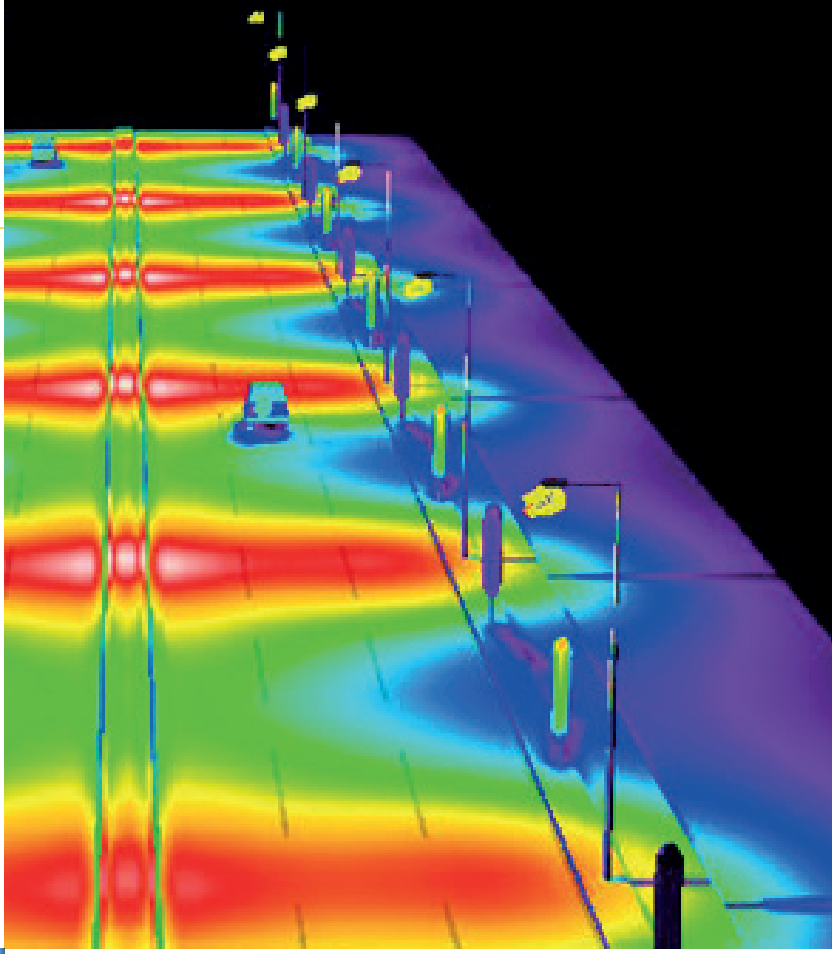
From production to delivery to the customer in a timely manner and with reduced costs. The automated system also allows us to drastically reduce the preparation, packing and dispatch times for each order taken.


COLLO Nr.
PESO LORDO Kg.
Palazzoli
TOYOTA

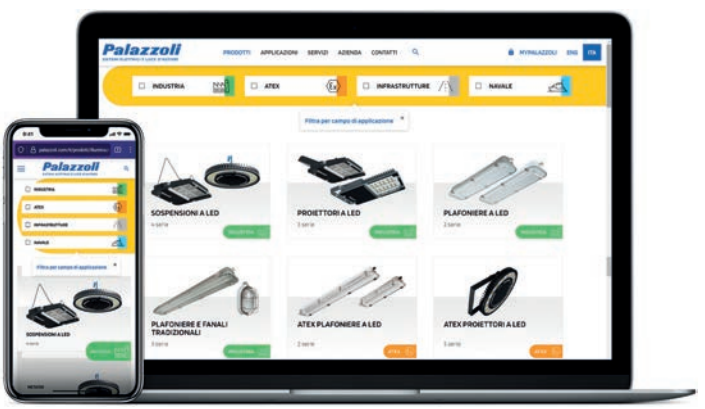
Customer services

Designing

The technical department is constantly at the designer's side to identify the solutions that best meet the specifications and peculiarities of each project.
Professionals specialised in the field of lighting technology support the designer from the early stages of the project through to its completion.



Lighting calculations are carried out using special software, the most suitable products are identified and an offer is made, including all relevant data for the implementation of the lighting system.
The company uses 3D modelling with CATIA CAD software. Thermal simulations are carried out with Comsol software for sizing heat sinks. The company is also available for field application lighting testing.
On palazzoli.com the data sheets of the light fixtures and all other information useful to determine the best solution are available. To support the designer, the BIM product library is now also available on the site.



Installation and testing

Attention to the customer makes Palazzoli irreplaceable as it is able to create high quality industrialised products and customised solutions. Even during the construction phase of a plant, when it is necessary to check the works on site, the company provides specialised technicians to assist the customer during the installation and testing phases of the products, in order to guarantee their perfect commissioning.

Energy saving

The luminous efficacy of Palazzoli's LED devices is high with reduced consumption and a considerable reduction in CO_2 emissions. With the same lighting, our technology allows energy savings of up to 70% compared to conventional technologies.

Product warranty

Palazzoli is able to guarantee 2 + 5 years of warranty on all products upon specific request.

7-YEAR WARRANTY

2 + 5 years on all LED products

Training

In order to promote the culture of lighting in every field of application, the company organises training and technical updates for designers, installers and architects. Every year, training seminars are planned under the patronage of the Engineers' and Surveyors' Associations, with the precise aim of establishing a profitable and continuous dialogue with the professional world, at which they pass on technical knowledge and regulatory updates relating to lighting.

A solution for every sector

Palazzoli provides customers with a range of solutions specifically designed to meet the needs of the most complex fields of application

Industry

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INDUSTRIAL INTERIORS
OUTDOOR AREAS
SPORTS FACILITIES
WAREHOUSES
HANGARS
SHOPPING CENTRES

Atex

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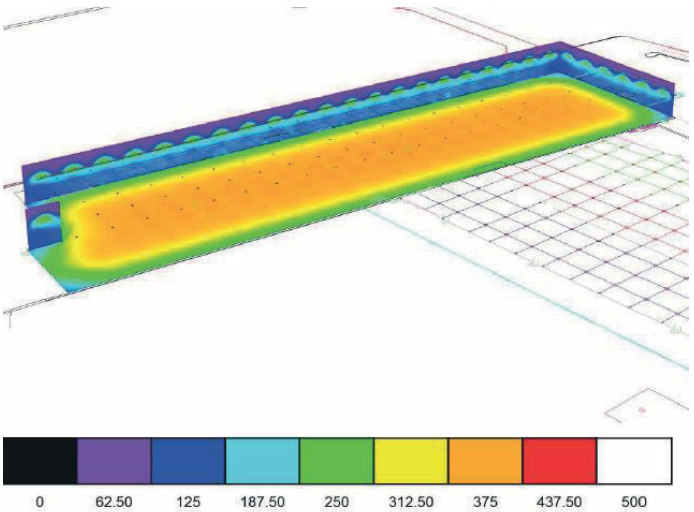


Cipriani Profilati

Cipriani Profilati is a leading company in the manufacture of metal frames for plasterboard and false ceilings.

Project data:

- Installation height: 9.2 m
- Light fixture spacing (one-to-one replacement):
  X approx. 7.10 m
  Y approx. 6.50 m

Values required by regulations:

- Average Illuminance: 300 lux
- General uniformity: 0.40

Values obtained by Palazzoli:

- Average Illuminance: 343 lux
- General uniformity: 0.64
- Installed power per m^2: 3.85 W/m^2

Energy saving:

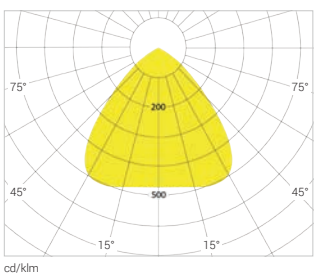
The light fixture chosen for this type of environment belongs to the META150 family.
This light fixture is equipped with highly energy-efficient LED sources that allow energy consumption to be halved compared to conventional lighting.

Specifically, META150 has achieved these annual values:

- 58,800 KWh saved
- 31 tonnes CO_2 saved
- 2400 equivalent trees planted.

The cost of maintenance has also been drastically reduced thanks to the 230,000-hour life time L90B10.

META150 pendant light fixture

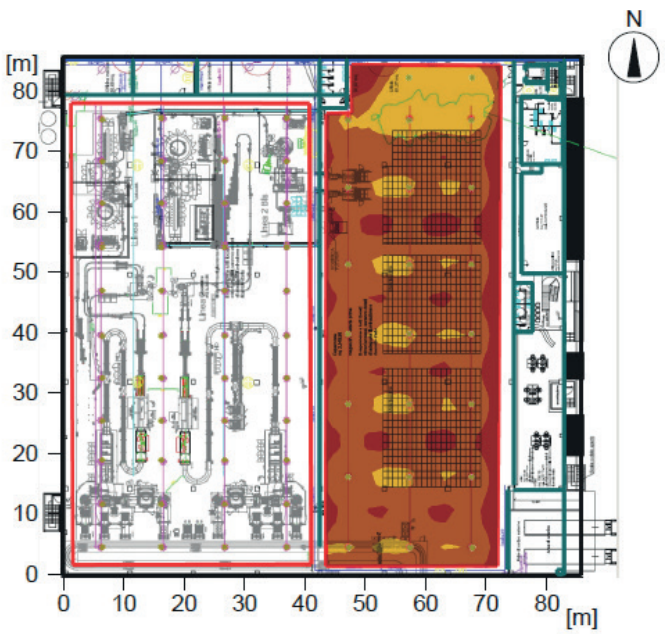


Comfort 90°
extra wide beam optics

The final advantages of META150

META150 has made it possible to improve work processes:

- The reduced thickness of 22 cm, including the bracket, ensures unobstructed passage of the overhead crane.
- The diffuser, made of unbreakable glass, is anchored to the die-cast aluminium body with 4 safety hooks and glued to the body with an antioxidant silicone glue.



Fonte Tavina

The new Tavina Spa factory was built applying all the principles of Industry 4.0. The new production site will produce around 400 million bottles a year.

Project data:

- Installation height: 6.5 m
- Light fixture spacing (point-to-point replacement):
  X approx. 10 m
  Y approx. 7 m

Values required by regulations:

- Average illuminance: 200 lux
- General uniformity: 0.40

Values obtained by Palazzoli:

- Average illuminance: 284 lux
- General uniformity: 0.64

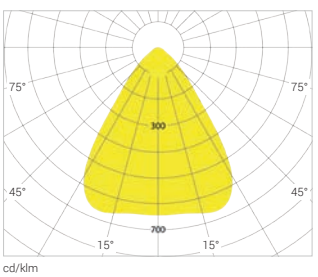
Energy saving and visual comfort

The light fixture chosen for this type of environment belongs to the META150 family.
This light fixture is equipped with highly energy-efficient LED sources that allow electrical consumption to be halved compared to conventional lighting.
Specifically, META150 has achieved these annual values:

- 98,000 kWh/year saved
- 52 tonnes CO_2 saved
- 4000 equivalent trees planted.

The cost of maintenance has also been drastically reduced thanks to the 230,000-hour life time L90B10.

META150 pendant light fixture



75° medium beam optics

The final advantages of META150

META150 has made it possible to improve work processes:

- Equipped with a gore-tex anti-condensation valve that allows heat exchange between the technical compartment and the external environment and guarantees IP66/IP67 protection rating
- The diffuser is anchored to the body with 4 safety hooks and glued to the body with an antioxidant silicone glue.
- The diffuser can be in polycarbonate, in compliance with HACCP standards (for applications in food and similar environments).

Case studies

Catania Airport

The project concerns the lighting of the newly opened P44 long-stay car park. The new, completely renovated area has 517 parking spaces and two entrances, one of which is equipped with Telepass.

Project data:

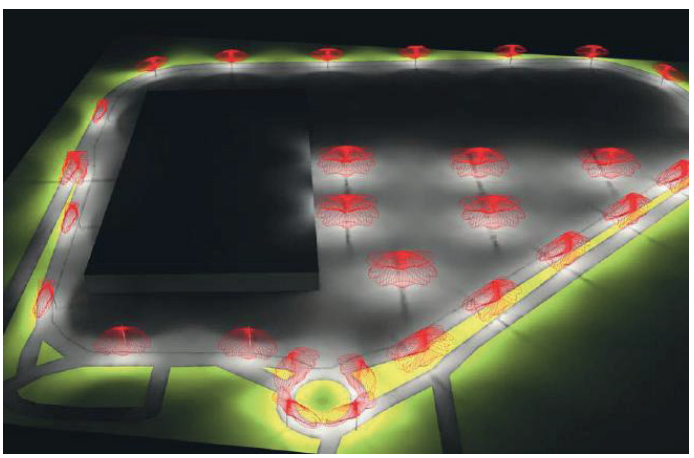
- Installation height: 10 m

Values required by regulations:

- Average required illuminance: 15 lux
- General uniformity required: 0.40

Values obtained by Palazzoli:

- Average illuminance: 15 lux
- General uniformity: 0.52



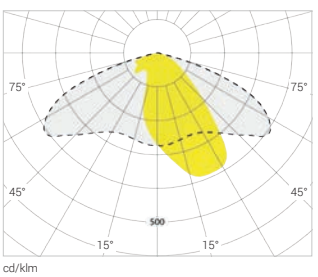
Energy saving:

The light fixture chosen for this type of environment belongs to the TIGUA family. This device is equipped with highly energy-efficient LED sources.
Specifically, TIGUA has achieved these annual values:

- 10,000 kWh/year saved
- 5 tonnes CO_2 saved
- 408 equivalent trees planted

The cost of maintenance has also been drastically reduced thanks to the 110,000-hour life time L80B20.

TIGUA floodlight



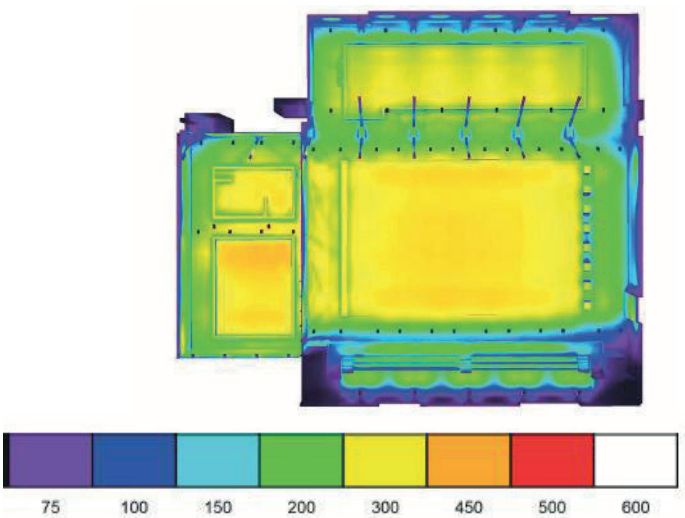
Roadway 65°
wide beam optics

The final advantages of TIGUA

TIGUA has made it possible to improve the reliability and safety of the system through:

- Equipped with a gore-tex anti-condensation valve that allows heat exchange between the technical compartment and the external environment and guarantees IP66/IP67 protection rating
- Made of EN 44300 aluminium alloy with a low copper content to resist highly aggressive environments;
- Equipped with heat sink system for thermal management that keeps semiconductors unaltered over time;

Equipped with dimmable power supplies for flux control.



Maranello municipal swimming pool

The lighting design for the municipal swimming pool in Maranello combines energy saving LED sources with the visual comfort of the optics.

Project data:

- Installation height: 7.3 m
- Light fixture positions along the longitudinal axis: 3 m

Values required by CONI (Italian National Olympic Committee) regulations:

- Average illuminance: 300 lux
- General uniformity: 0.50

Values obtained by Palazzoli:

- Average illuminance: 340 lux
- General uniformity: 0.82

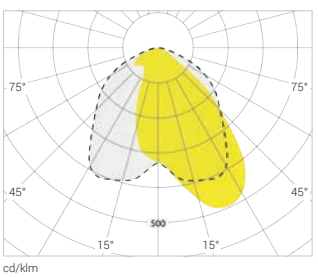
Energy saving:

The light fixture chosen for this type of environment belongs to the TIGUA family. This light fixture is equipped with highly energy-efficient LED sources that allow energy consumption to be halved compared to a conventional lighting system. Specifically, TIGUA has achieved these annual values:

- 20,000 kWh/year saved
- 11 tonnes CO_2 saved
- 816 equivalent trees planted

The cost of maintenance has also been drastically reduced thanks to the 110,000-hour life time L80B20.

TIGUA floodlight



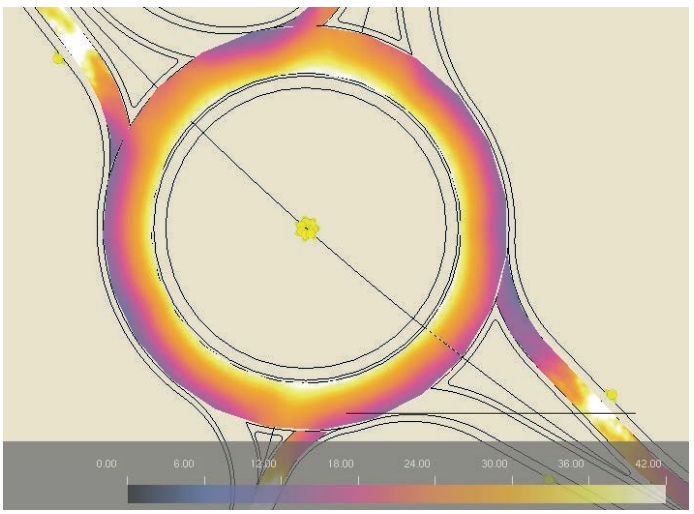
Asymmetrical 23°
extra wide beam optics

The final advantages of TIGUA

TIGUA has made it possible to improve the reliability and safety of the system through:

- Equipped with a gore-tex anti-condensation valve that allows heat exchange between the technical compartment and the external environment and guarantees IP66/IP67 protection rating
- The body is made of aluminium with a low copper content, suitable for aggressive environments;
- The thermal management system keeps semiconductors unaltered over time.
- 1h emergency kit installed on board.

Case studies



SS 470 Val Brembana Roundabout

The project concerns the lighting of a typical roundabout connection between a main suburban road and the respective secondary road.

Project data:

- Light tower height: 20 m
- Number of light fixtures on light tower: 7

Values required by regulations:

- Average required illuminance: 20 lux
- General uniformity required: 0.40

Values obtained by Palazzoli:

- Average illuminance: 25 lux
- General uniformity: 0.44

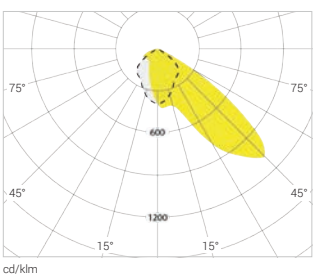
Energy sustainability and visual comfort:

the light fixture chosen for this type of environment belongs to the XTIGUA family.
This light fixture is equipped with highly energy-efficient LED sources:

- Luminous flux 41,160 lm
- Efficiency: 133 lm/W
- Light intensity class: G6
- Colour rendering CRI > 70

The asymmetrical narrow beam optic makes it possible to optimise the ratio between installation height and number of light fixtures on the light tower.

XTIGUA floodlight

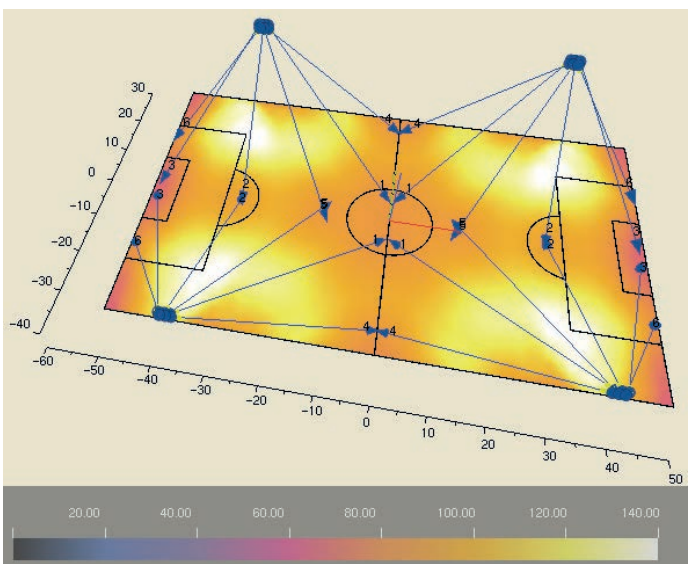


Asymmetrical 55°
narrow beam optics

The final advantages of XTIGUA:

X-TIGUA has made it possible to improve reliability through:

- It uses the latest generation of LEDs with a life of more than 100,000 hours at ambient temperatures of + 55° C.
- IT ISmade of EN 44300 aluminium alloy with a low copper content to resist highly aggressive environments
- The bracket is equipped with a goniometer, allowing the floodlight to be adjusted around -110° to +110°
- IT ISequipped with dimmable power supplies for flux control.



Henningsvaer Stadium in Norway

The project concerns the lighting of an amateur football pitch on the Lofoten Islands in Norway.

Project data:

- Playing area: 105x65 m
- Installation height: 15 m;
- 4 symmetrical light towers with 6 light fixtures per tower:
  X approx. 15 m from the goal line
  Y approx. -7 m from the side line

Values required by regulations:

- Average illuminance: 75 lux
- General uniformity: 0.50
- Number of calculation points: 19x13
- E_{min}/E_{max} Uniformity: 0.50
- Glare GR: 55

Values obtained by Palazzoli:

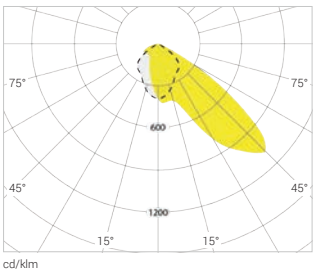
- Average illuminance: 106 lux;
- General uniformity: 0.66
- E_{min}/E_{max} Uniformity: 0.50
- Glare GR: 55

Energy sustainability and visual comfort:

The light fixture chosen for this type of environment belongs to the X-TIGUA family.
This device is equipped with highly energy-efficient LED sources:

- Residual flicker <1%
- Photobiological risk RG0
- Efficiency: 133 lm/W
- Colour rendering CRI > 70

XTIGUA floodlight



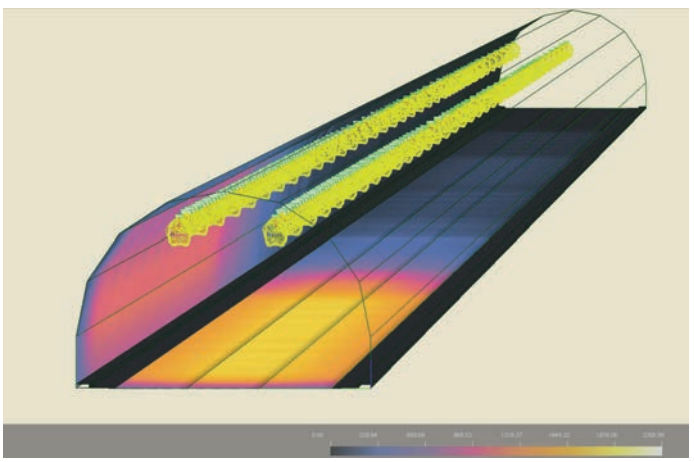
Asymmetrical 55°
narrow beam optics

The final advantages of XTIGUA:

X-TIGUA allows a reduction in installation times for the following reasons:

- It can be mounted onto poles or on fixed platforms on light towers.
- The body of each floodlight has a built-in bracket for tilting it into the optimal position, from -110° to +110°
- The driver, built into the light fixture, allows for fast and secure wiring.

Case studies



Brenner Tunnel

Reinforcement lighting

Project data:

- Reinforcement circuit length 300 m
- Number of lanes: 2 + emergency lane
- Installation heights: 5.70 m
- Speed: 130 Km/h
- Type of road: A1
- Lighting technology category: M1 2 cd/m^2

Values required by UNI11095 regulations:

- Entrance luminance: 140.8 cd/m^2
- Stopping distance: 109 m

Values obtained by Palazzoli:

- Entrance luminance: 145.5 cd/m^2
- Stopping distance: 109 m

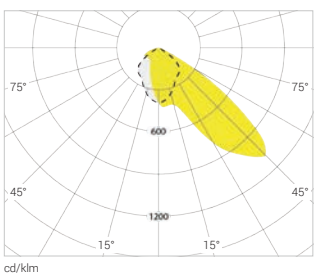
Adopted solution:

- N.360 XTIGUA-T54
- Asymmetrical counterbeam optics

Energy saving for reinforcement lighting:

- 22,900 kWh/year saved
- 12 tonnes CO_2 saved
- 468 trees planted

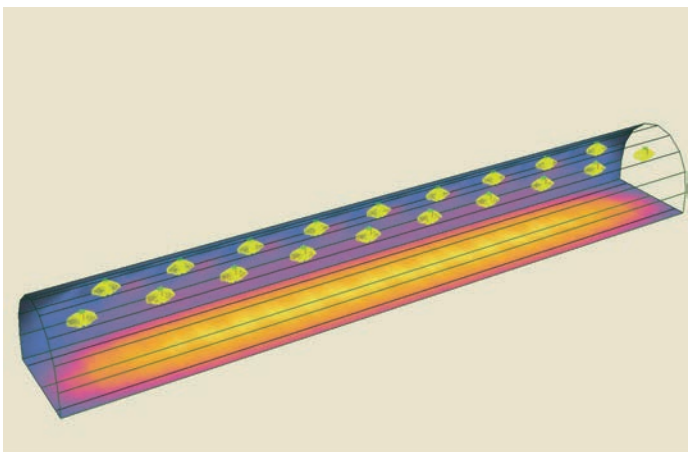
XTIGUA-T54



Asymmetrical
counterbeam optics

The final advantages of XTIGUA-T54

- Improved visual comfort when entering and exiting the tunnel thanks to multifocal optics.
- Clear tunnel lighting allows motorists to travel at a constant speed, reducing the risk of traffic jams and road accidents.



Brenner Tunnel

Permanent lighting

Project data:

- Permanent circuit length 2800 m
- Number of lanes: 2 + emergency lane
- Installation heights: 5.70 m
- Type of road: A1
- Lighting technology category: M1 2 cd/m^2

Values required by UNI11095 regulations:

- Regulatory luminance value: > 3 cd/m^2
- Longitudinal uniformity Ul: 0.7
- General uniformity Uo: 0.6
- Transversal Uniformity Ut: 0.6

Values obtained by Palazzoli:

- Luminance value obtained: 3.18 cd/m^2
- Longitudinal uniformity Ul: 0.85
- General uniformity Uo: 0.67
- Transversal Uniformity Ut: 0.73

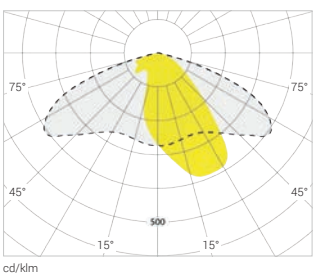
Adopted solution:

- Longitudinal symmetrical optics, transversal asymmetrical
- Interdistance between light fixtures: 14 m
- Installation: quincunx
- N.806 TIGUA-T54
- Installed power: 40.4 kW

Energy saving for permanent lighting:

- 36,000 kWh/year saved
- 19 tonnes CO_2 saved
- 764 trees planted

TIGUA-T54



Longitudinal symmetrical optics, transversal asymmetrical

The final advantages of TIGUA-T54

- Uniform distribution of the light beam in the roadway and on the walls even with large distances between light fixtures.
- PS3 optics designed for maximum utility to minimise stray light.
- Reduced glare thanks to high visual comfort.

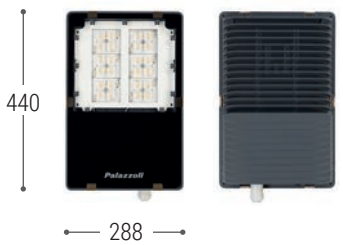
TIGUA

reddot design award

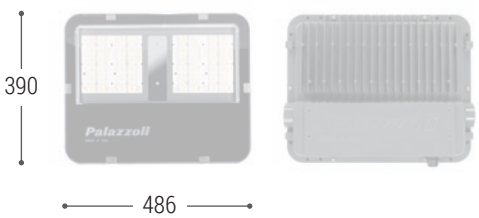
The series

A range of floodlights designed to provide the best solutions for roadway, motorway, tunnel and car park applications. The body is made in die-cast aluminium alloy EN44300 with very low copper content, with anti-corrosion treatment for maximum resistance even in harsh environments. The rear cooling fins are designed to best dissipate heat and ensure optimal operating temperature. The wide variety of optical solutions available makes it possible to solve any lighting problem and implement customised solutions.
The light fixtures with DALI power supply can be used with the Imperium wireless or wired control system.

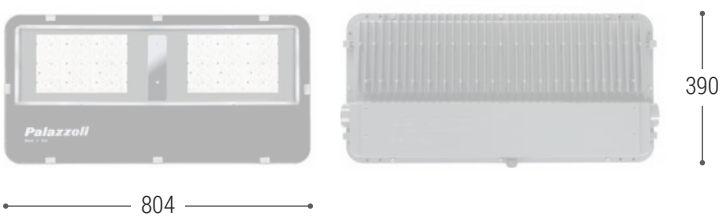
TIGUA **S**



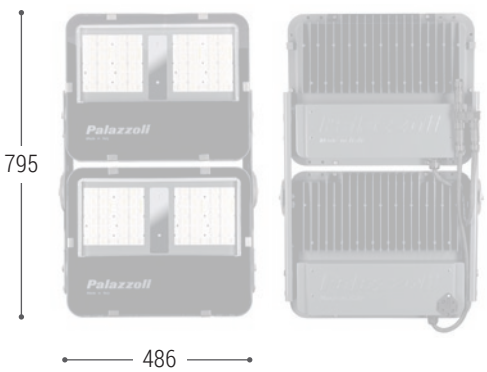
XTIGUA **M**



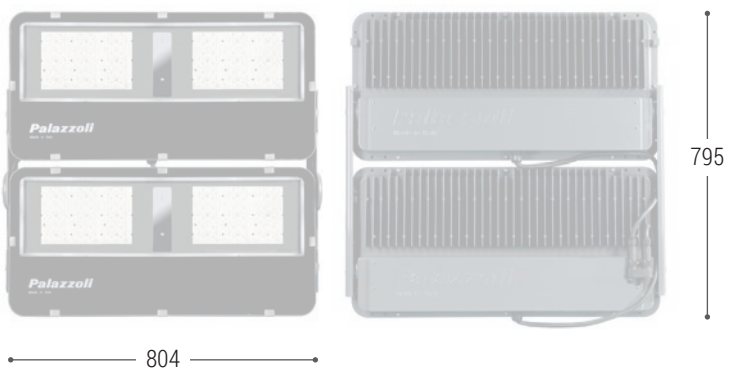
XTIGUA **L**



XTIGUA **XL**



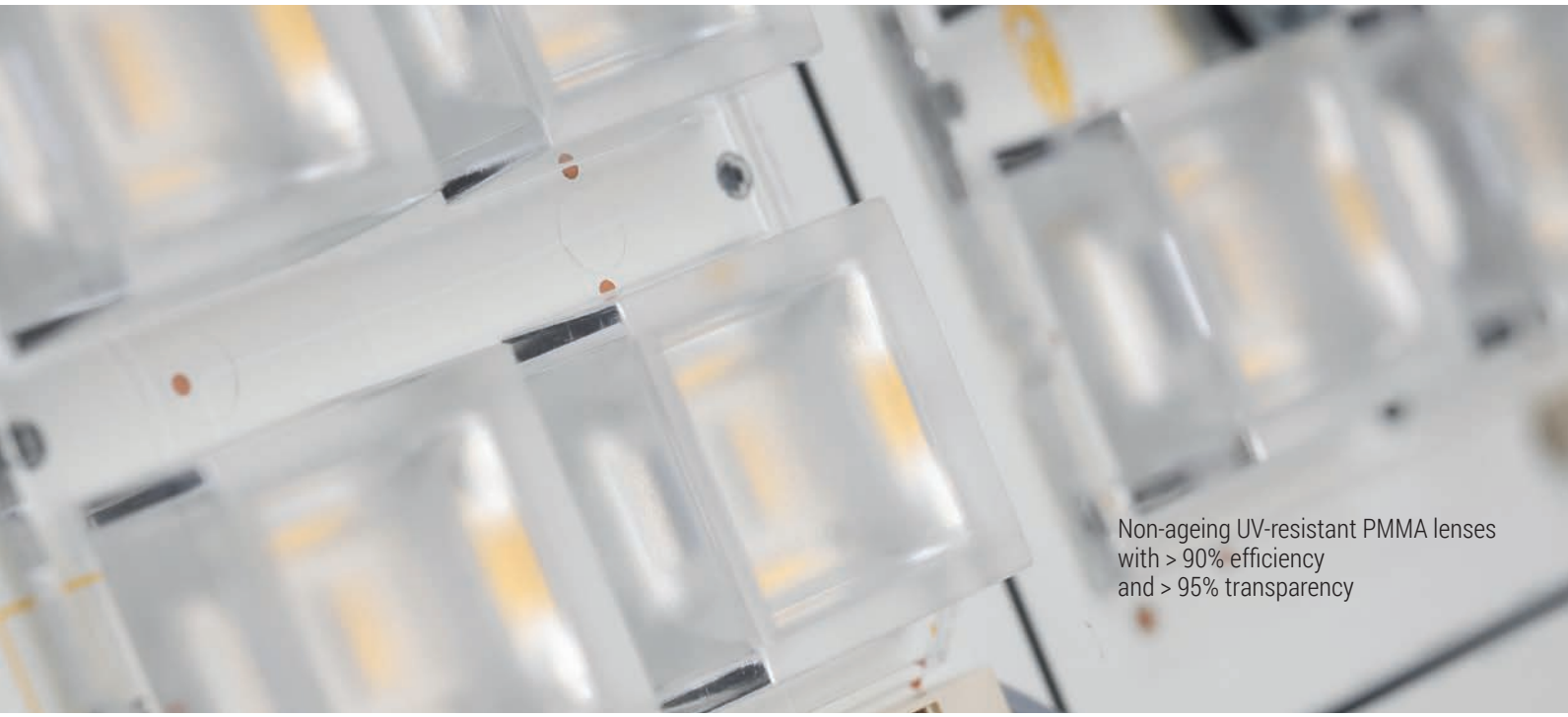
XTIGUA **XXL**



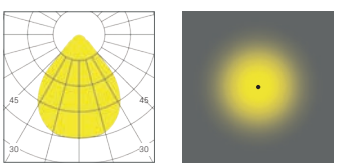
The range

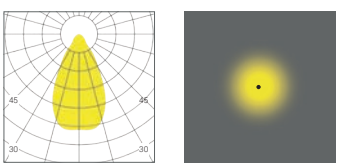
	TIGUA floodlights	**TIGUA** pendant light fixtures	**TIGUA-T54** floodlights
			
	→ Page 78	→ Page 119	→ Page 204
Nominal flux	7000 lm to 27500 lm	4630 lm to 27750 lm	5220 lm to 15600 lm
Output flux	5830 lm to 22900 lm	3300 lm to 22100 lm	4160 lm to 15600 lm
Power	up to 188 W	up to 182 W	up to 124 W
Efficacy	up to 131 lm/W	up to 122 lm/W	up to 130 lm/W
Control systems	On/Off	1 - 10 V DALI	On/Off
Versions	Standard	Standard Emergency High temperature (+55 °C) HACCP food safety	Standard
Optics	Symmetrical 81° extra wide beam Symmetrical 36° narrow beam Asymmetrical 23° extra wide beam Asymmetrical 50° extra wide beam Asymmetrical 43° narrow beam Asymmetrical 55° narrow beam Roadway 65° wide beam	Symmetrical 81° extra wide beam Symmetrical 55° medium beam Symmetrical 36° narrow beam Elliptical 95° x 41°	Symmetrical axial and symmetrical transverse – PS3 Axial counterbeam 52° and symmetrical transverse – RS1

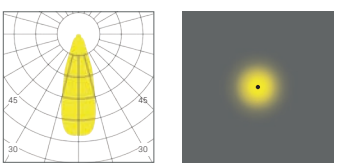
	TIGUA-EX floodlights	**TIGUA-EX** floodlights	**TIGUA-EX** pendant light fixtures
			
	→ Page 152	→ Page 156	→ Page 172
Nominal flux	6980 lm to 19850 lm	7600 lm to 21600 lm	6980 lm to 19850 lm
Output flux	5800 lm to 16560 lm	6300 lm to 18000 lm	5800 lm to 16560 lm
Power	up to 141 W	up to 141 W	up to 141 W
Efficacy	up to 115 lm/W	up to 125 lm/W	up to 115 lm/W
Control systems	DALI	DALI	On/Off DALI
Versions	2G - 2D	3G - 2D	2G - 2D
Optics	Symmetrical 81° extra wide beam Asymmetrical 50° extra wide beam	Symmetrical 81° extra wide beam Asymmetrical 23° extra wide beam	Symmetrical 81° extra wide beam

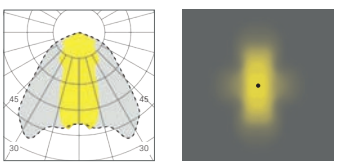


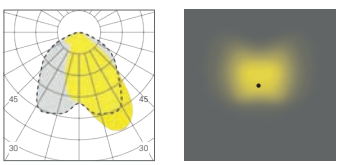
Optics

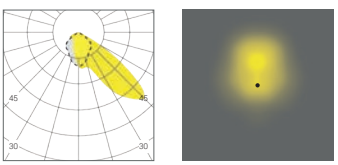

Symmetrical 81° extra wide beam

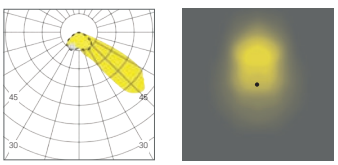

Symmetrical 55° medium beam

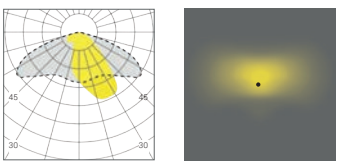

Symmetrical 36° narrow beam

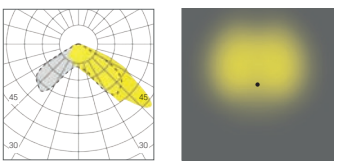

Elliptical 95° x 41°

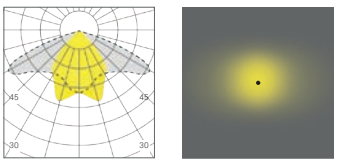

Asymmetrical 23° extra wide beam

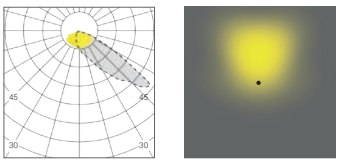

Asymmetrical 43° narrow beam


Asymmetrical 55° narrow beam


Roadway 65° wide beam


Asymmetrical 50° extra wide beam

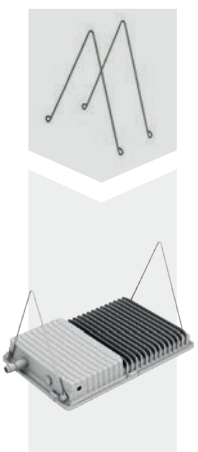

Symmetrical axial and symmetrical transverse – PS3


Axial counterbeam 52° and symmetrical transverse – RS1

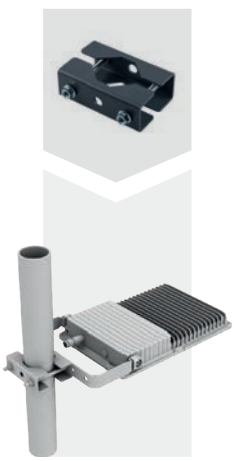
Fastening systems

ADJUSTABLE BRACKET

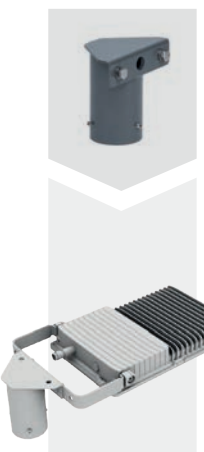
PENDANT MOUNTING



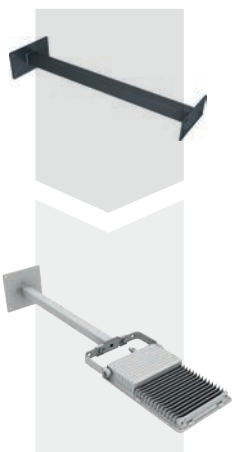
POLE-MOUNTED



POLE-TOP

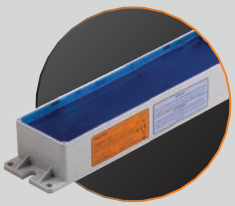


PROJECTING

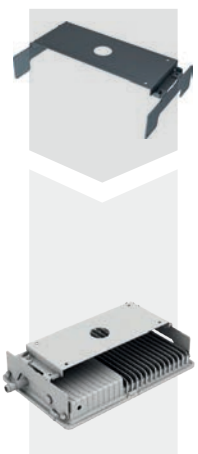


Power supply built into the body and connected directly to the plug and play connector for faster wiring.

In the ATEX version, the input is via a cable gland; the power supply is resinated and certified for explosive environments.

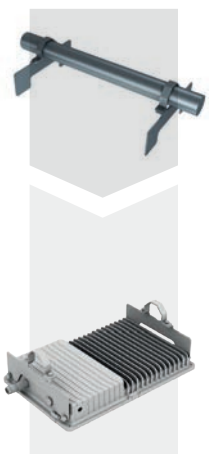


CEILING MOUNTING



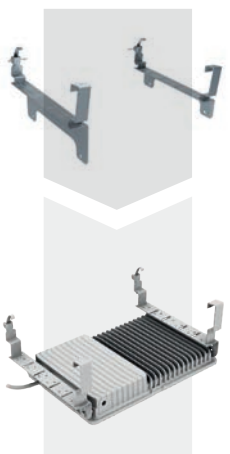
ADJUSTABLE PENDANT MOUNTING

HORIZONTAL POLE



CATENARY WIRE

CHANNEL



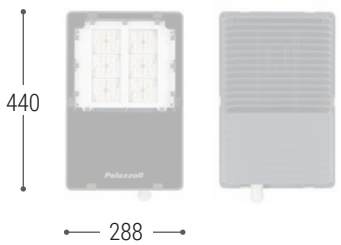
XTIGUA

reddot design award

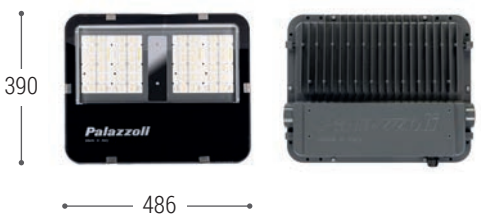
The series

A range of floodlights suitable for providing solutions where high luminous flux and power are required: optimum response in road, sports and parking areas.
The body is made in die-cast aluminium alloy EN44300 with very low copper content, with anti-corrosion treatment for maximum resistance even in harsh environments. The rear cooling fins are designed to best dissipate heat and ensure optimal operating temperature. The wide variety of optical solutions available makes it possible to solve any lighting problem and implement customised solutions.
The light fixtures with DALI power supply can be used with the Imperium wireless or wired control system.

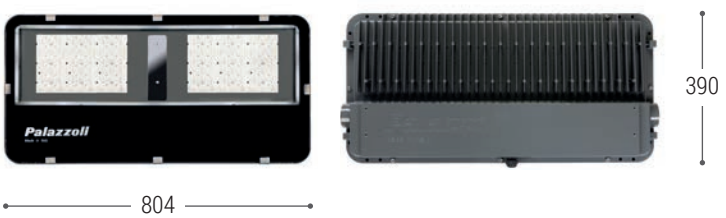
TIGUA **S**



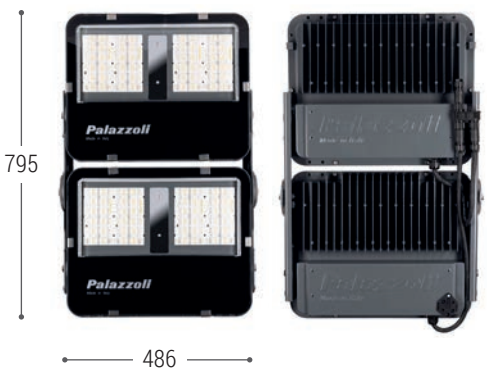
XTIGUA **M**



XTIGUA **L**



XTIGUA **XL**

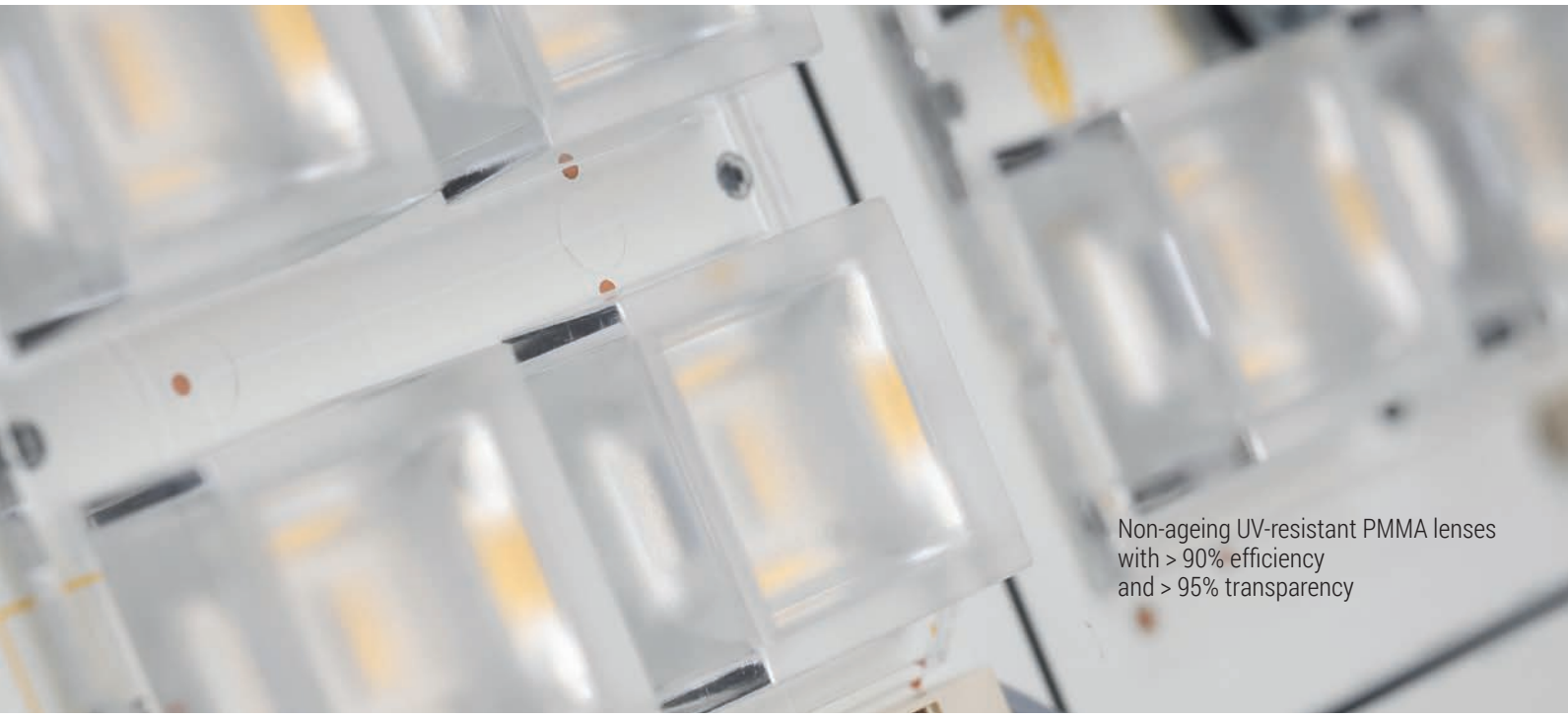


XTIGUA **XXL**

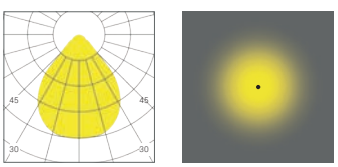
The range

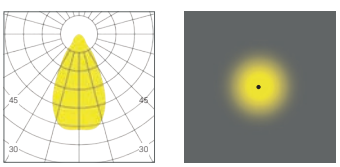
	XTIGUA floodlights	**XTIGUA** pendant light fixtures	**XTIGUA-T54** floodlights
			
	→ Page 84	→ Page 125	→ Page 206
Nominal flux	37665 lm to 141000 lm	27000 lm to 46300 lm	23490 lm to 62640 lm
Output flux	31390 lm to 118460 lm	21580 lm to 48800 lm	19470 lm to 49660 lm
Power	up to 884 W	up to 400 W	up to 397 W
Efficacy	up to 133 lm/W	up to 130 lm/W	up to 130 lm/W
Control systems	DALI	DALI	On/Off
Versions	Standard	Standard High temperature (+55 °C) High temperature (+70° C)	Standard
Optics	Symmetrical 81° extra wide beam Symmetrical 36° narrow beam Asymmetrical 23° extra wide beam Asymmetrical 50° extra wide beam Asymmetrical 43° narrow beam Asymmetrical 55° narrow beam	Symmetrical 81° extra wide beam Symmetrical 55° medium beam Symmetrical 36° narrow beam Elliptical 95° x 41°	Symmetrical axial and symmetrical transverse – PS3 Axial counterbeam 52° and symmetrical transverse - RS1

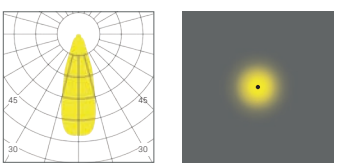
	XTIGUA-EX floodlights	**XTIGUA-EX** floodlights	**XTIGUA-EX** pendant light fixtures
			
	→ Page 154	→ Page 158	→ Page 174
Nominal flux	20900 lm to 39800 lm	23600 lm to 44300 lm	20900 lm to 39800 lm
Output flux	17360 lm to 33120 lm	19630 lm to 36870 lm	17360 lm to 33120 lm
Power	up to 211 W	up to 211 W	up to 211 W
Efficacy	up to 121 lm/W	up to 128 lm/W	up to 115 lm/W
Control systems	DALI	DALI	DALI
Versions	2G - 2D	3G - 2D	2G - 2D
Optics	Symmetrical 81° extra wide beam Asymmetrical 50° extra wide beam	Symmetrical 81° extra wide beam Asymmetrical 23° extra wide beam	Symmetrical 81° extra wide beam

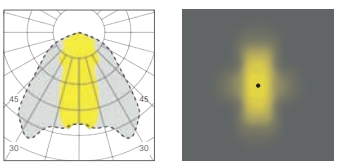


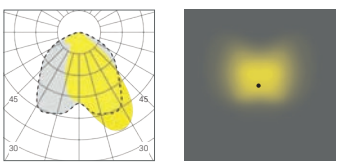
Optics

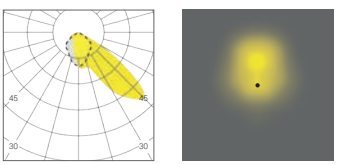

Symmetrical 81° extra wide beam

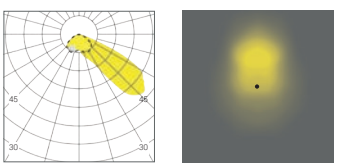

Symmetrical 55° medium beam

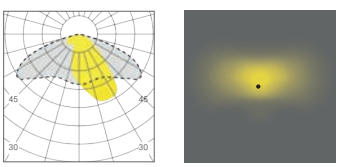

Symmetrical 36° narrow beam

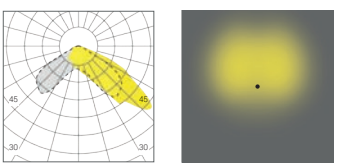

Elliptical 95° x 41°

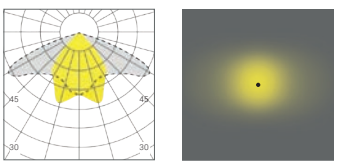

Asymmetrical 23° extra wide beam

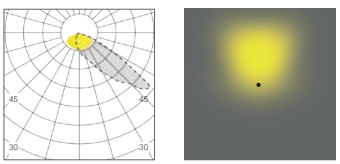

Asymmetrical 43° narrow beam

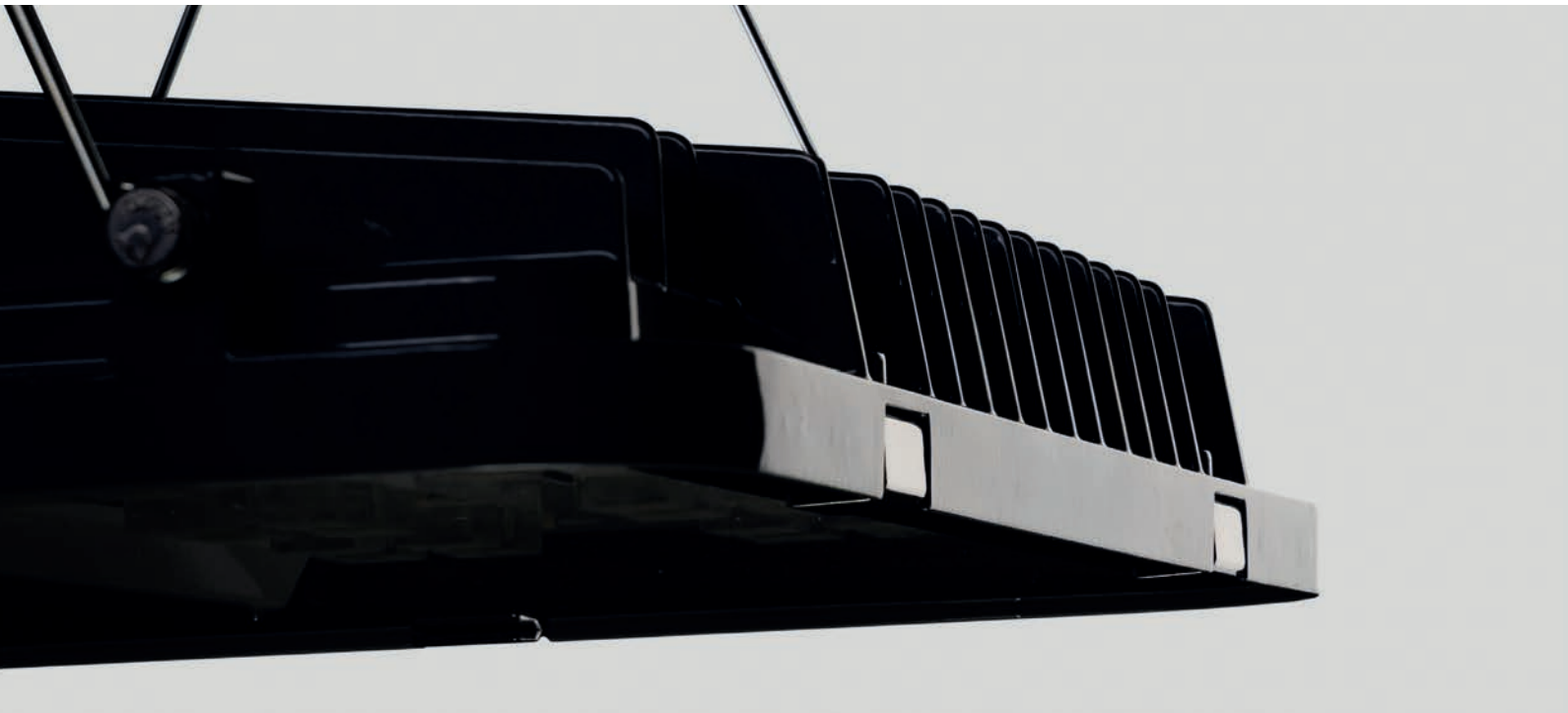

Asymmetrical 55° narrow beam


Roadway 65° wide beam


Asymmetrical 50° extra wide beam


Symmetrical axial and symmetrical transverse – PS3

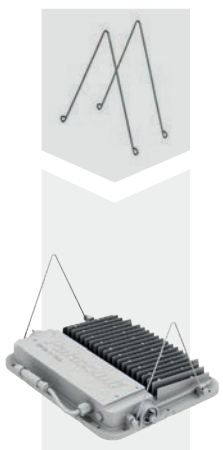

Axial counterbeam 52° and symmetrical transverse – RS1



Fastening systems

ADJUSTABLE BRACKET

PENDANT MOUNTING

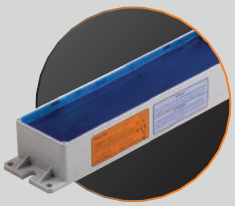


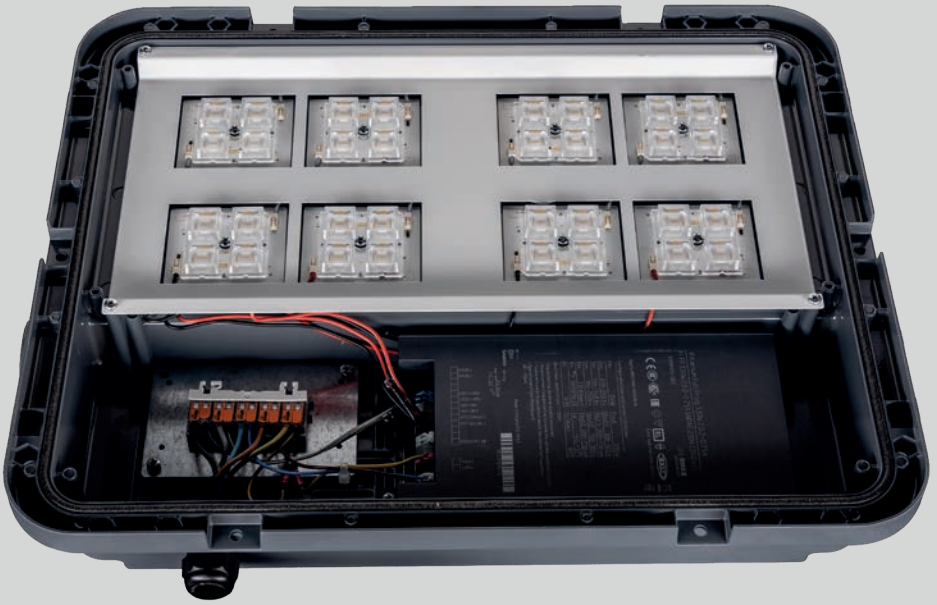
CROSS BEAM

POLE-TOP

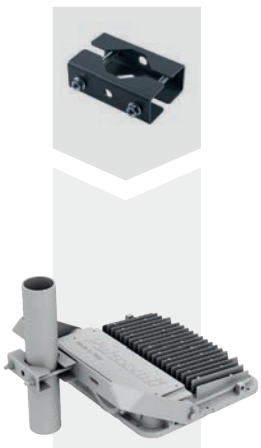
Power supply built into the body and connected directly to the plug and play connector for faster wiring.

In the ATEX version, the input is via a cable gland; the power supply is resinated and certified for explosive environments.

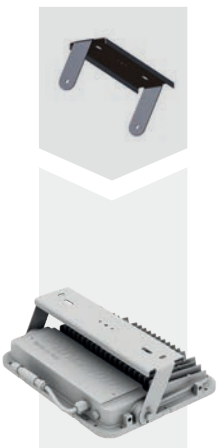




POLE-MOUNTED

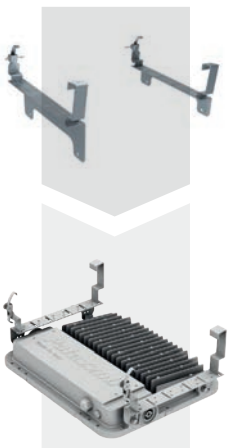


CEILING MOUNTING



ADJUSTABLE PENDANT MOUNTING

CHANNEL



META

reddot design award

The series

META is a family of light fixtures whose lighting and mechanical characteristics are designed for industrial, commercial, sports and food environments, both indoors and outdoors, as well as in explosion-hazardous environments in accordance with the ATEX 2014/34/EU directive.
The body is made of die-cast aluminium and, thanks to the subsequent anti-corrosion treatment, can be installed in any type of environment. Finished with a scratch-resistant powder coating, the light fixture is provided with a glass or polycarbonate diffuser. The glass diffuser ensures maximum resistance in aggressive environments where chemicals are present, while the polycarbonate diffuser makes the device suitable for use in food environments in compliance with HACCP regulations.
Thanks to rotosymmetrical photometry, the light fixtures are easy to install and always aligned, significantly reducing installation time.
The light fixtures with DALI power supply can be used with the Imperium wireless or wired control system.

META150

Ø 476

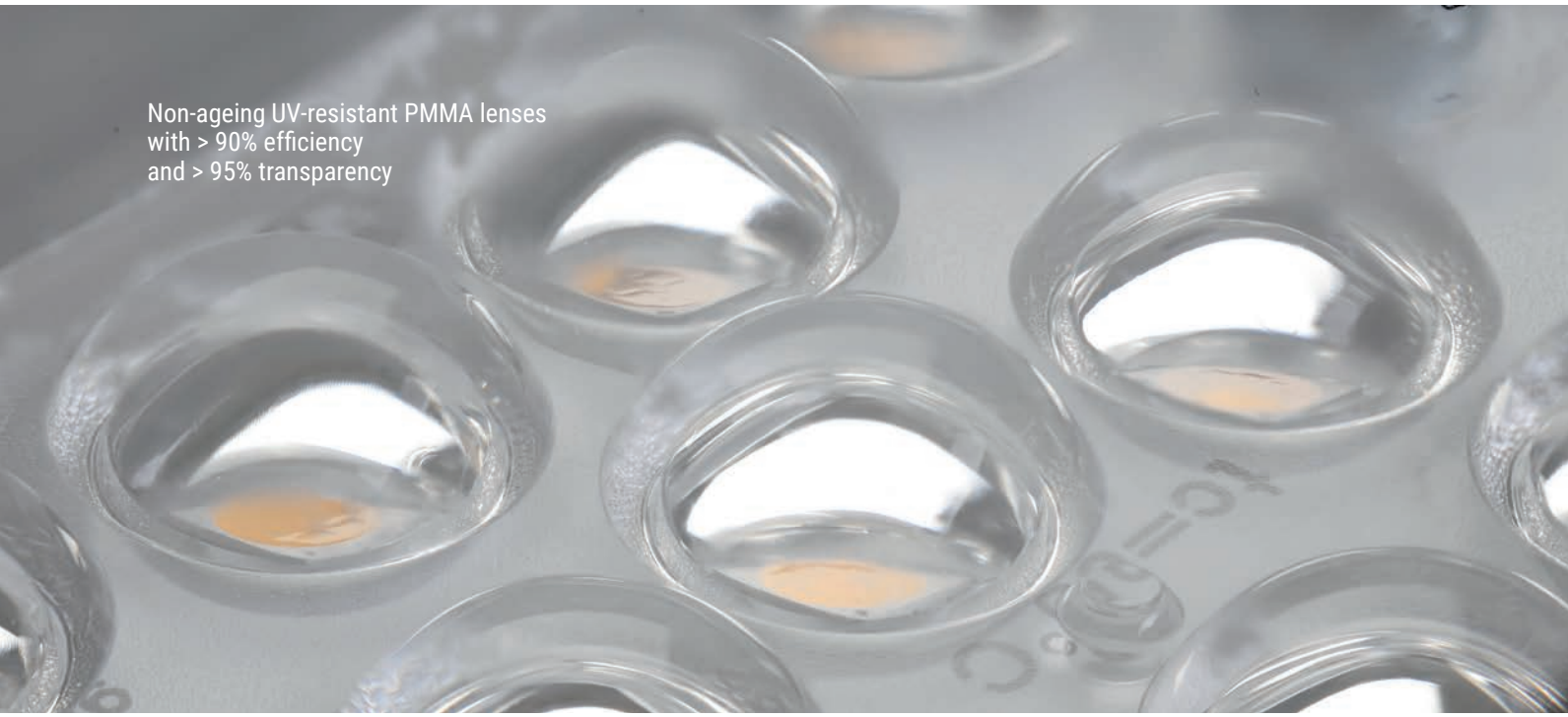
META

Ø 476

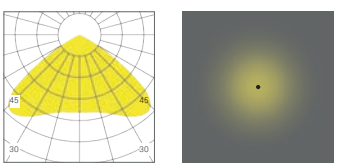
The range

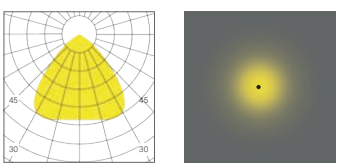
	META floodlights	**META150** pendant light fixtures	**META** pendant light fixtures
			
	→ Page 98	→ Page 112	→ Page 115
Nominal flux	13230 lm to 26460 lm	12700 lm to 37000 lm	10190 lm to 26460 lm
Output flux	9190 lm to 18390 lm	10600 lm to 30880 lm	8140 lm to 21660 lm
Power	up to 199 W	up to 215 W	up to 199 W
Efficacy	up to 110 lm/W	up to 151 lm/W	up to 110 lm/W
Control systems	1 - 10 V	DALI	1 - 10 V
Versions	Standard	Standard High temperature (+60° C) High efficiency HACCP food safety	Standard Emergency High temperature (+55 °C)
Optics	Asymmetrical 50° narrow beam	90° comfort extra wide beam Average 75°	110° extra wide beam Narrow beam 41° Elliptical 92° x 20°

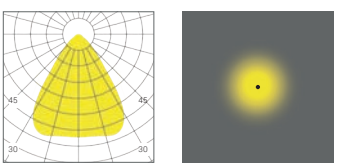
	META150-EX pendant light fixtures
	
	→ Page 176
Nominal flux	10300 lm to 24200 lm
Output flux	8580 lm to 19830 lm
Power	up to 215 W
Efficacy	up to 151 lm/W
Control systems	DALI
Versions	3G - 2D
Optics	90° comfort extra wide beam Average 75°

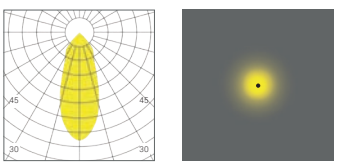


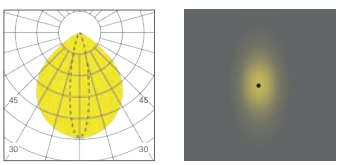
Optics

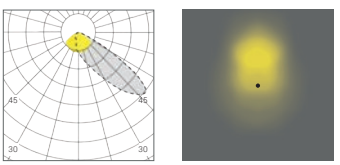

110° extra wide beam

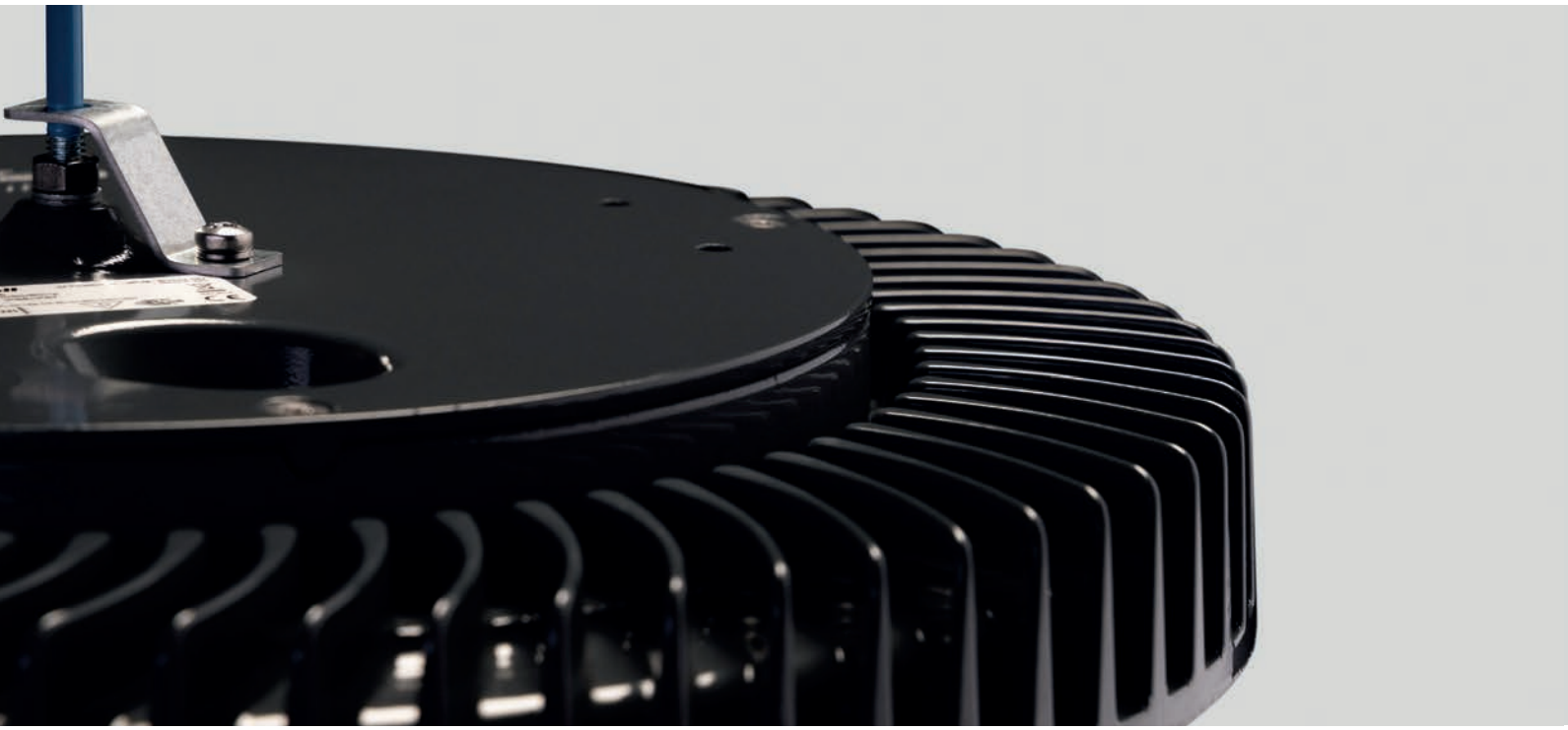

90° comfort extra wide beam


Average 75°


Narrow beam 41°

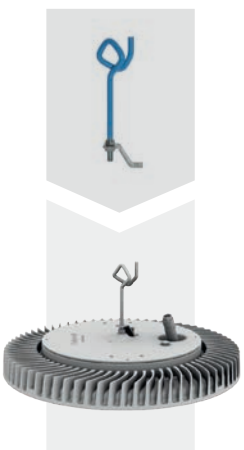

Elliptical 92° x 20°


Asymmetrical 50° narrow beam

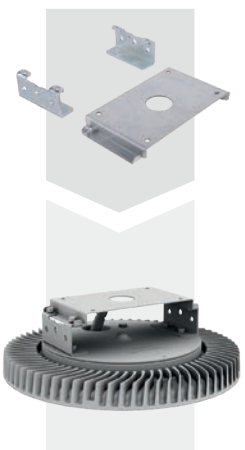


Fastening systems

PENDANT MOUNTING

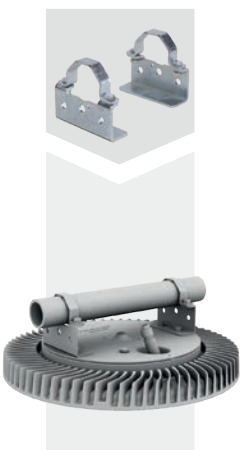


CEILING MOUNTING



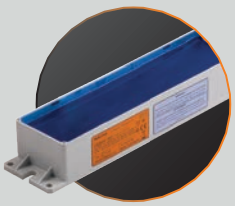
ADJUSTABLE PENDANT MOUNTING

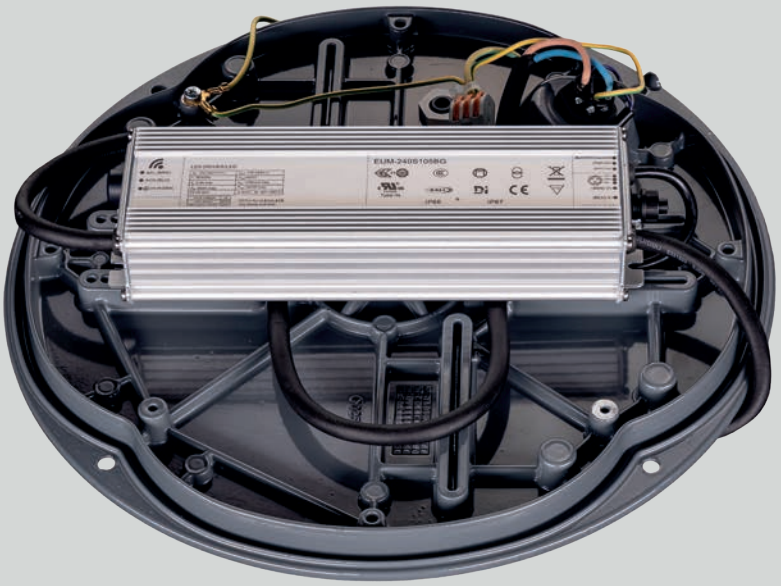
HORIZONTAL POLE



Power supply built into the body and connected directly to the plug and play connector for faster wiring.

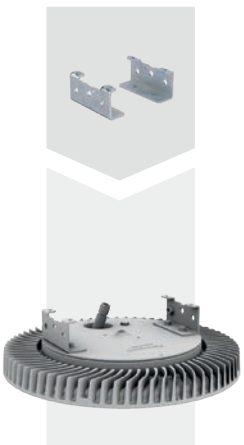
In the ATEX version, the input is via a cable gland; the power supply is resinated and certified for explosive environments.



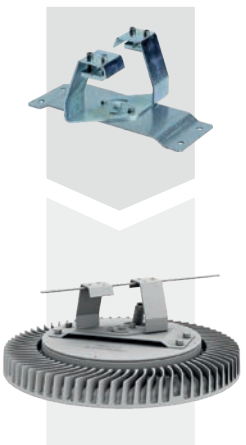


ADJUSTABLE BRACKET

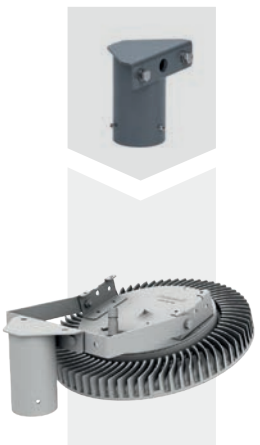
DOUBLE CHAIN



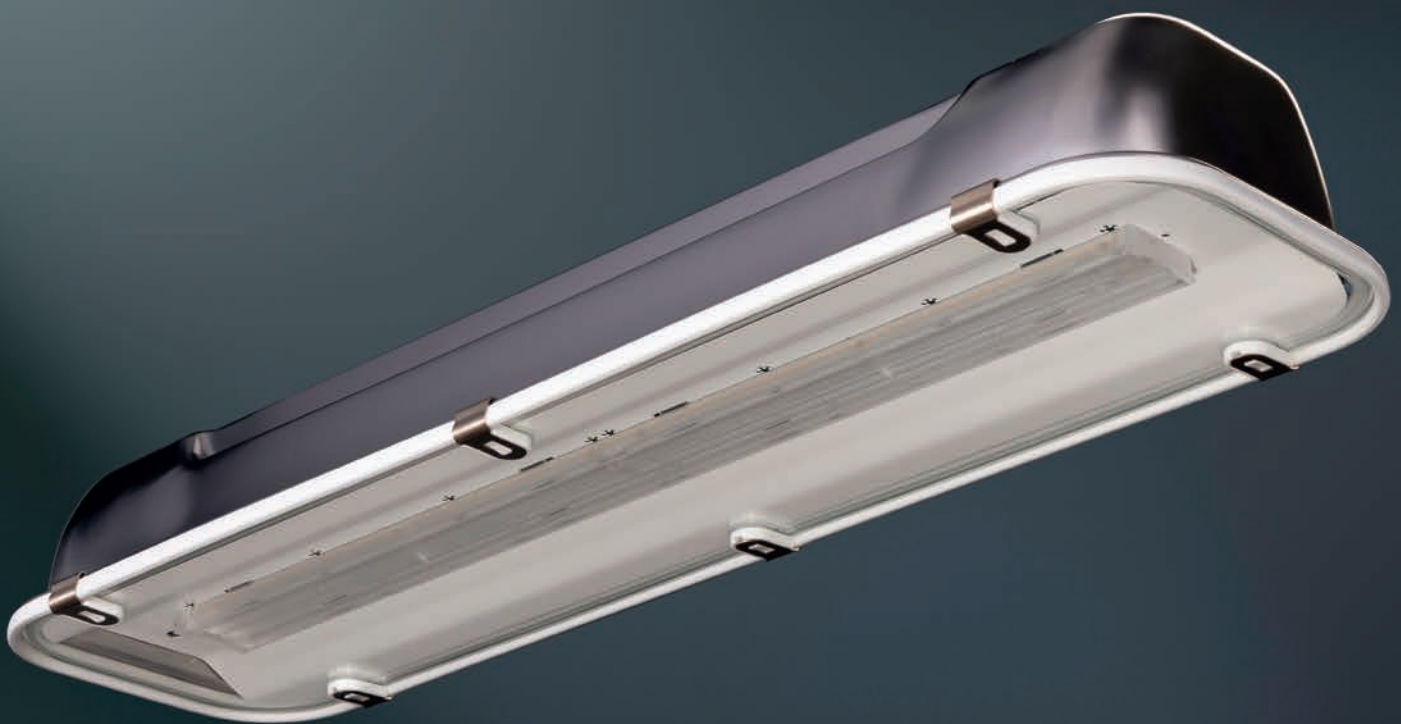
CATENARY WIRE



POLE-TOP



RINO

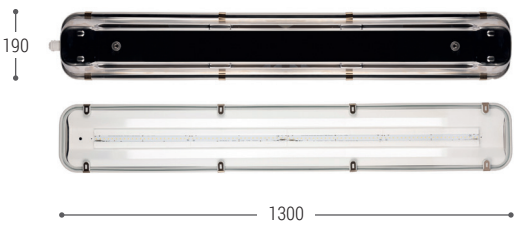


The series

Series of light fixtures suitable for use in the food industry, chemical industry, mining and environments where cutting oils are present. The light fixtures meet the highest quality standards to ensure reliability and superior performance, such as the construction of the body in a single cold-drawn piece with high photometric performance.
The AISI 304 stainless steel body is suitable for use in harsh industrial environments, with explosion hazards and in motorway tunnels. The painted galvanised steel or AISI 316L stainless steel body is suitable for marine applications with saline atmosphere. The special Non-ageing elastomer reinforced seal and the stainless steel fixing hooks guarantee IP66 protection on the entire series. The range guarantees excellent vibration resistance thanks to the blind fastening pins and the pre-mounted vibration damping system.
Light fixtures with DALI power supply can be used with Imperium wireless or wired control system.

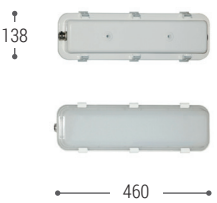
RINOLED **690 mm**

RINOLED **1300 mm**

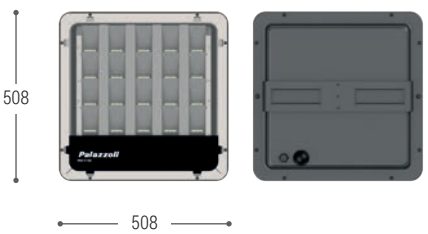


RINO-T54 **650 mm**

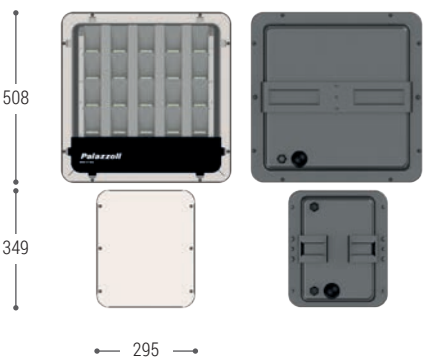
RINO-NAVE LED **460 mm**



XRINO-T54 - **Reinforcement**



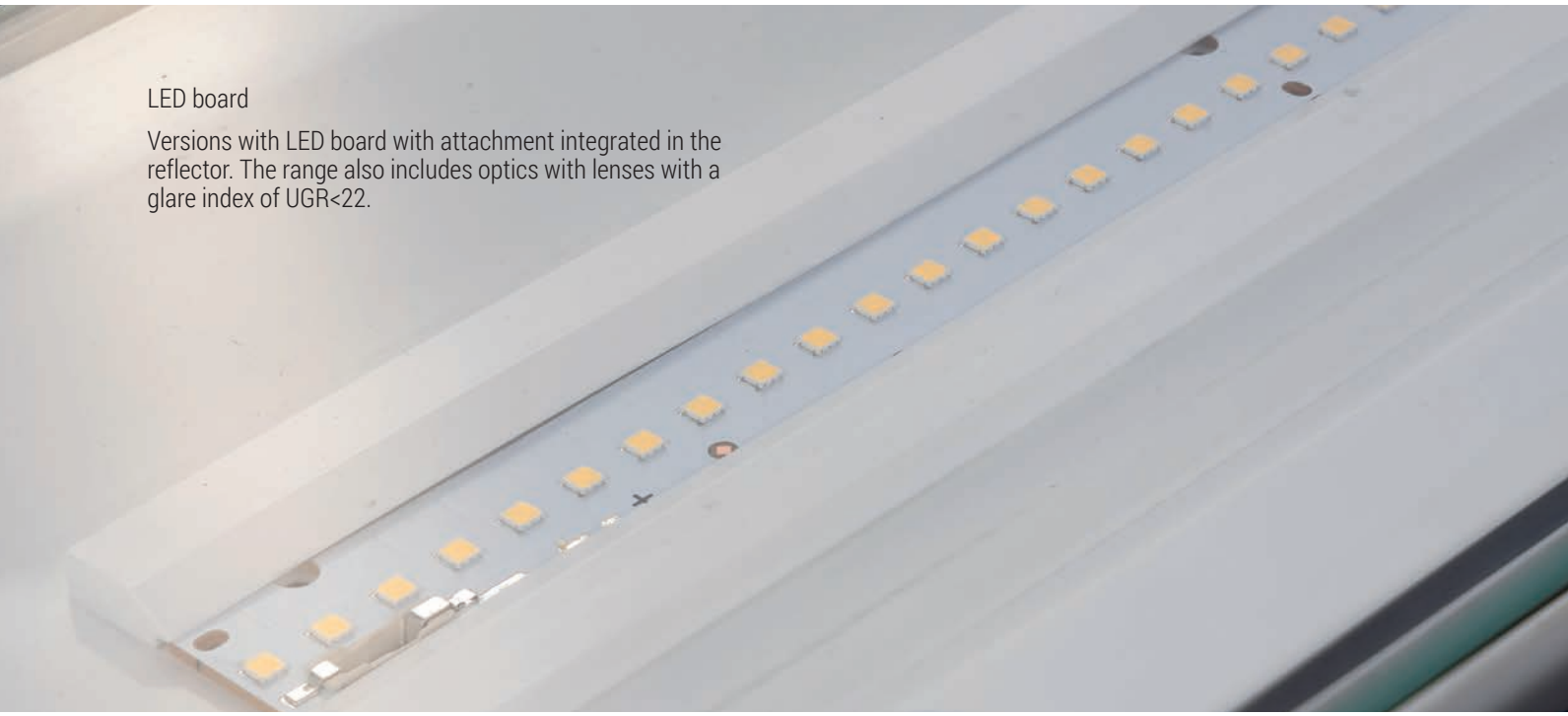
XRINO-T54 - **Reinforcement with power supply box**



The range

	RINOLED light fixtures	**RINO**LED-**EX** light fixtures	**RINO**LED-**EX** light fixtures
			
	→ Page 102	→ Page 162	→ Page 165
Nominal flux	4100 lm to 12200 lm	4000 to 14800 lm	4100 lm to 11620 lm
Output flux	3560 lm to 10575 lm	3400 to 12350 lm	3560 lm to 9430 lm
Power	up to 75 W	up to 86 W	up to 71 W
Efficacy	up to 142 lm/W	up to 148 lm/W	up to 137 lm/W
Control systems	On/Off DALI	On/Off DALI	On/Off
Versions	Standard Emergency High temperature (+55 °C) HACCP food safety	2G - 2D Emergency	3G - 2D Emergency
Optics	110° extra wide beam Comfort 88° extra wide beam Narrow beam 30° x 90°	110° extra wide beam	Comfort 88° extra wide beam Narrow beam 30° x 90°

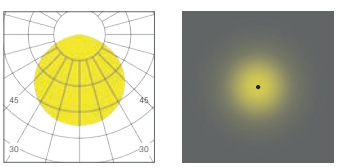
	RINOLED-**T54** light fixtures	**XRINO**-**T54** light fixtures	**RINO**LED-**NAVE** light fixtures
			
	→ Page 210	→ Page 212	→ Page 222
Nominal flux	4300 to 7200 lm	9600 to 50400 lm	2500 lm to 4400 lm
Output flux	3630 to 6000 lm	8000 to 42000 lm	2100 lm to 4240 lm
Power	up to 45 W	up to 300 W	up to 40 W
Efficacy	up to 145 lm/W	up to 153 lm/W	up to 110 lm/W
Control systems	1-10 V dimmable	1-10 V dimmable	On/Off
Versions	Permanent	Reinforcement	Standard Emergency
Optics	Symmetrical axial and asymmetrical transverse – PA5	Axial counterbeam 55° and symmetrical transverse – RS5 Axial counterbeam 55° and asymmetrical transverse – RA5	110° extra wide beam



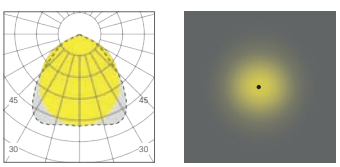
LED board

Versions with LED board with attachment integrated in the reflector. The range also includes optics with lenses with a glare index of UGR<22.

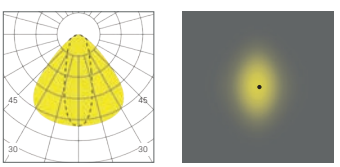
Optics



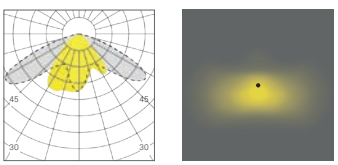
110° extra wide beam



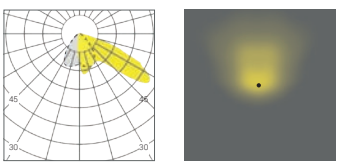
Comfort 88° extra wide beam°



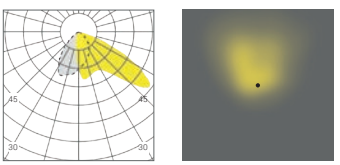
Narrow beam 30°x90°



Symmetrical axial and asymmetrical transverse – PA5



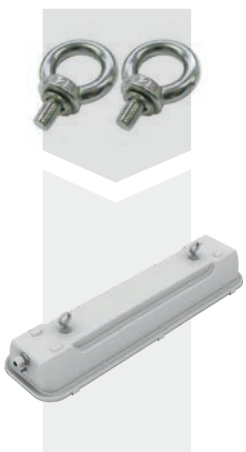
Axial counterbeam 55° and symmetrical transverse – RS5



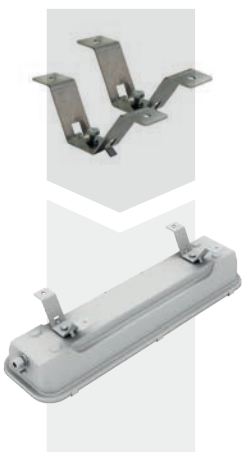
Axial counterbeam 55° and asymmetrical transverse – RA5

Fastening systems

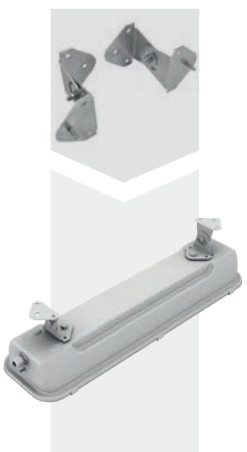
PENDANT MOUNTING



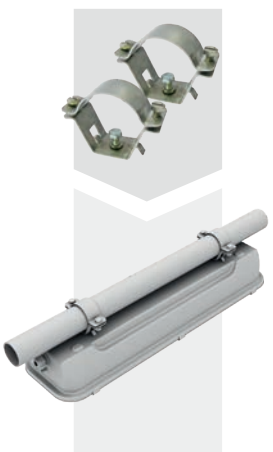
CEILING



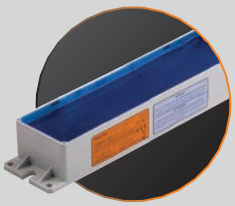
WALL-MOUNTED

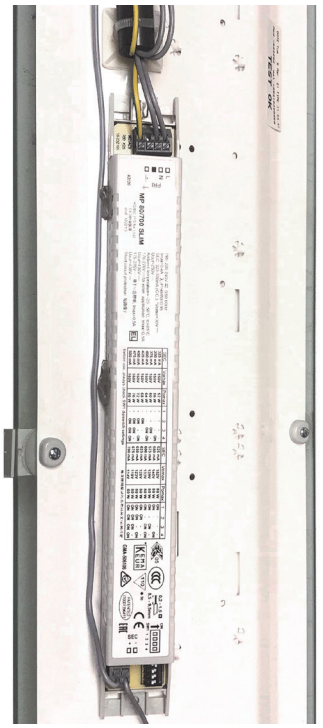


HORIZONTAL POLE



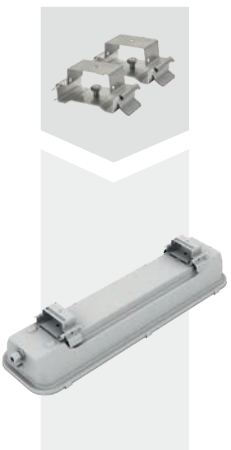
AC-DC power supply integrated in the body with direct connection to the connector for quick wiring.
The driver adaptor has a low ripple < 3% and high working efficiency.
It has thermal protection against short circuit, overload and overvoltage.
In the ATEX version, the input is via a cable gland; the power supply is resined and certified for explosive environments.



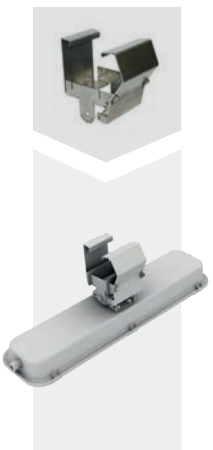


PENDANT-MOUNTING AND CEILING

QUICK CEILING ATTACHMENT



QUICK COUPLING TO CHANNEL



FIT 55

The series

New street light fixtures consisting of a die-cast aluminium housing. Electronic control unit with proprietary LED modules, equipped with isolator switch, short-circuit protection, overvoltage protection and overtemperature protection. The isolator switch guarantees safe maintenance even without cutting of the power. The optical unit consists of reflectors made of 99.9% pure aluminium for high, long-lasting photometric efficiency and perfect glare control. FIT 55 provides the best lighting for different traffic areas thanks to its STR-AM and STR-ST reflectors. The extra clear flat glass diffuser is 4 mm thick, tempered, and impact and UV resistant. Flapless cover with removable plate that can be snapped off the body without tools. Universal adjustable system for pole-top mounting and projection suitable for poles from min. 42 mm to max. 76 mm.
FIT 55 uses white light LEDs with a colour temperature of 2200K to 5700K and achieves an efficacy of 166 lm/W.
FIT 55 complies with zone 1 (highly protected zone against light pollution) and is therefore also suitable for lighting in the vicinity of astronomical observatories.
Upon request, FIT 55 can be equipped or designed for the installation of NEMA or ZHAGA SOCKET, to centrally monitor and manage public lighting through wireless control that will allow integration with the IoT world.

FIT 55 **S**

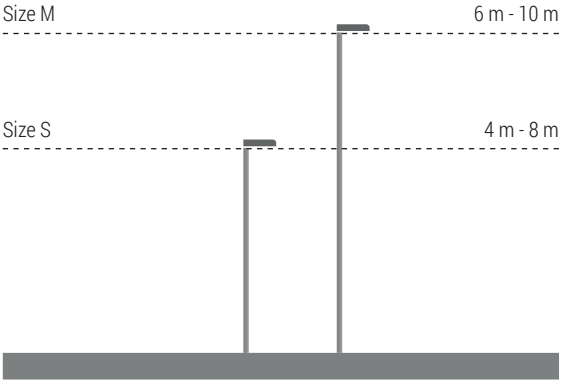
FIT 55 **M**

The range

FIT 55
Roadway lighting systems

→ Page 192

Nominal flux	3390 lm to 35900 lm
Output flux	2820 lm to 29920 lm
Power	up to 209 W
Efficacy	up to 166 lm/W
Control systems	On/Off Virtual midnight
Versions	Standard
Optics	Roadway wide beam, adjustable in 3 positions Roadway narrow beam, adjustable in 5 positions



FIT 55 SIZE S

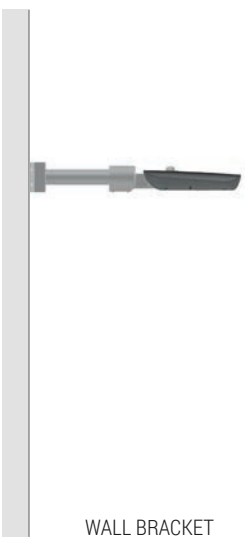
Up to 85 W
Up to 12000 lm/W
8 lenses
For minor roads, roundabouts, residential streets, cycle paths, pedestrian crossings and car parks.

FIT 55 SIZE M

Up to 209 W
Up to 30000 lm/W
8 lenses
For main roads and motorways.

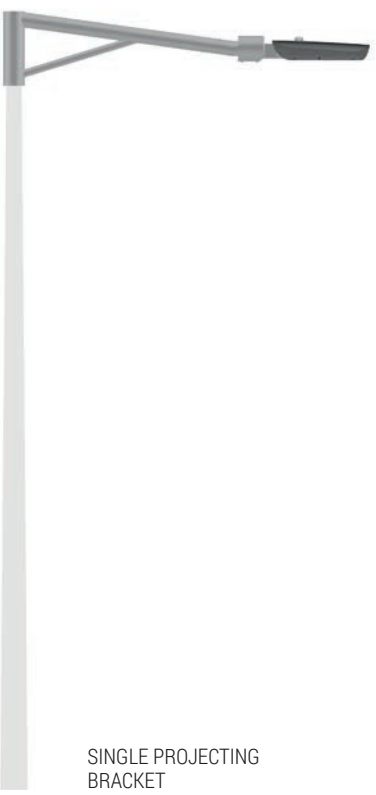
Reflectors made of 99.9% pure aluminium with silver PVD coating for high, long-lasting photometric efficiency and perfect glare control.

Fastening systems



WALL BRACKET

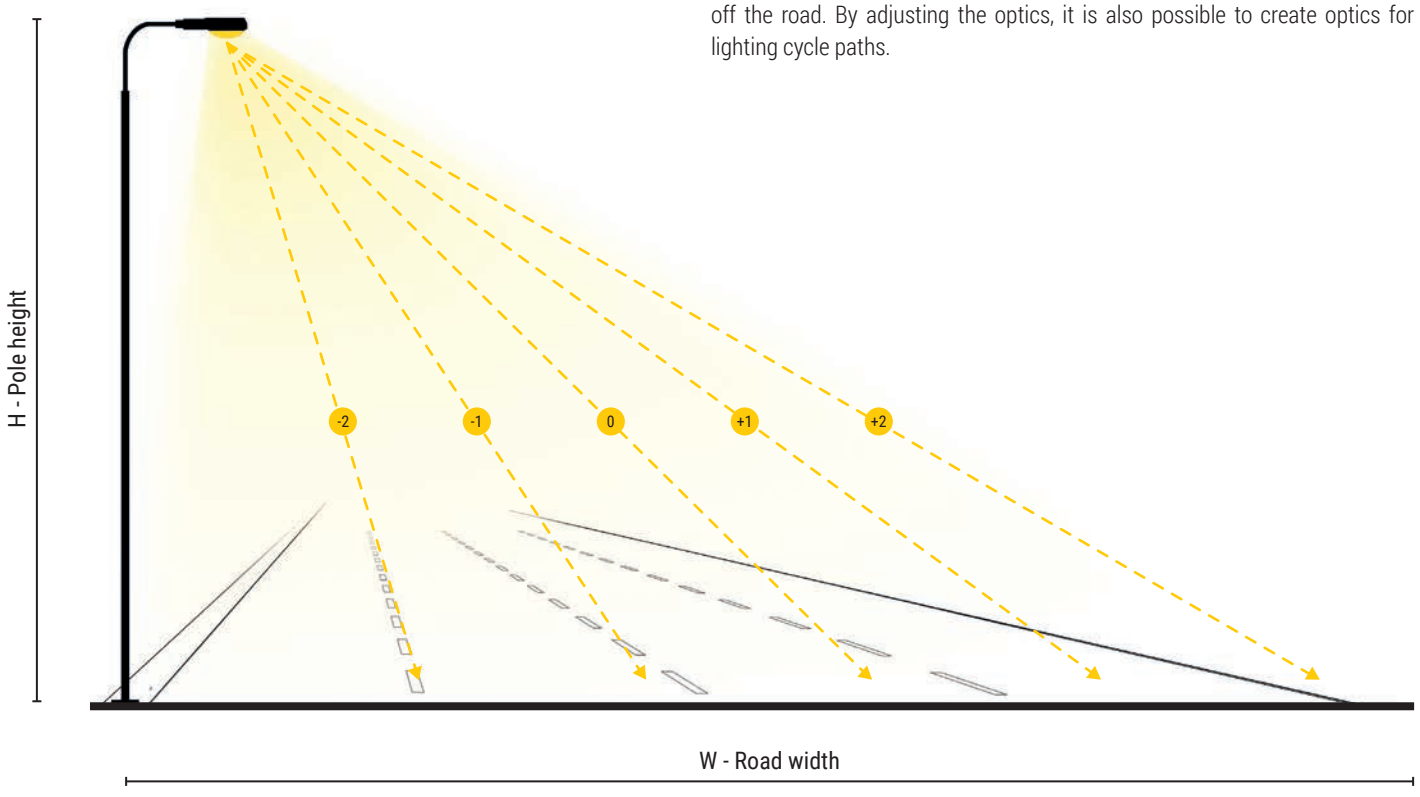
DOUBLE PROJECTING BRACKET

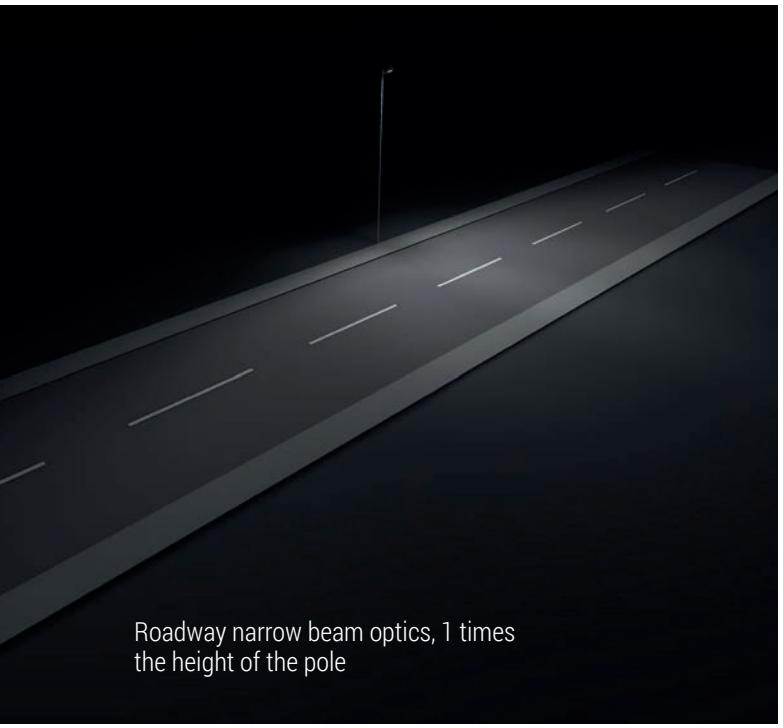


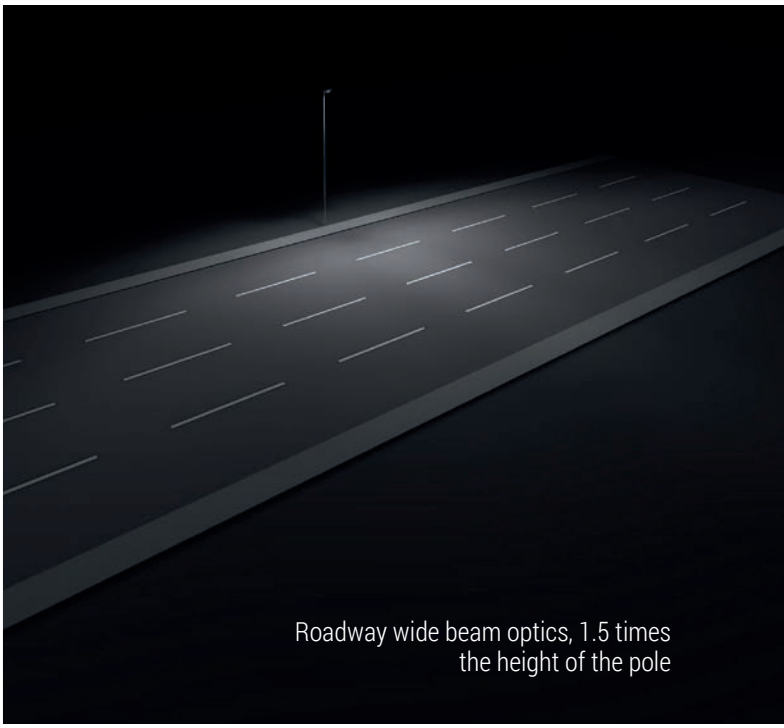
SINGLE PROJECTING BRACKET

FOS - FIT 55 Optical System

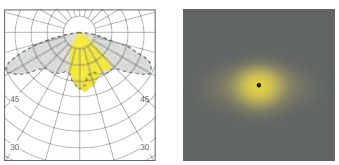
FOS (FIT 55 Optical System) is Palazzoli's system that allows the optics to be adjusted in up to 5 positions, even when the product is already installed, to modify the front and side light emission. This makes it possible to improve uniformity between poles or to adjust the optics if the luminous flux glares off the road. By adjusting the optics, it is also possible to create optics for lighting cycle paths.



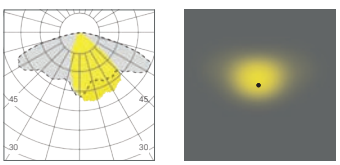

Roadway narrow beam optics, 1 times the height of the pole


Roadway wide beam optics, 1.5 times the height of the pole

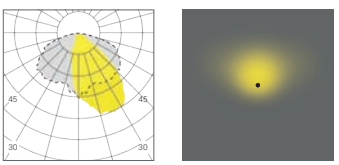
Roadway narrow beam optics



STR-ST roadway narrow beam optics maximum backward travel -2



STR-ST roadway narrow beam optics in position 0

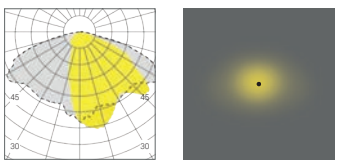


STR-ST roadway narrow beam optics maximum forward movement +2

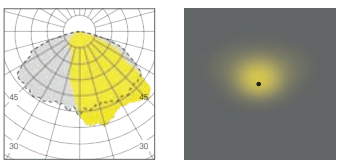
W/H ratio

0.6	0.8	1	1.3	1.5
Translation **-2**	Translation **-1**	No translation	Translation **+1**	Translation **+2**

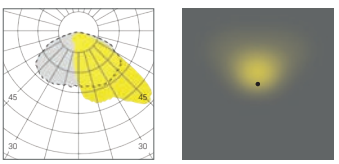
Roadway wide beam optics



STR-AM roadway wide beam optics maximum backward travel -1



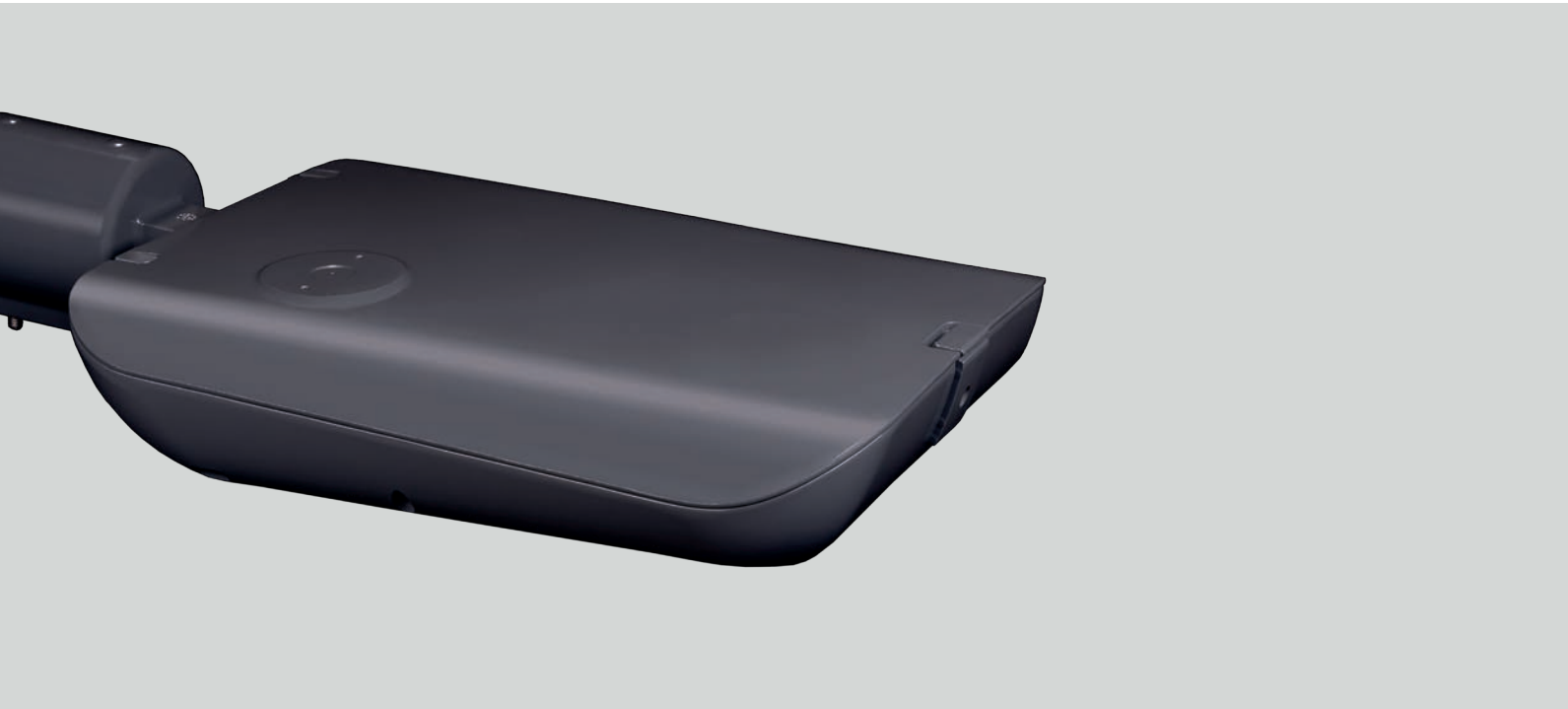
STR-AM roadway wide beam optics in position 0



STR-AM roadway wide beam optics maximum forward movement +1

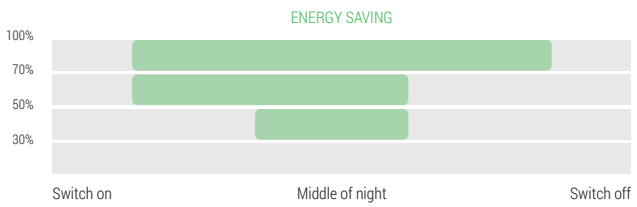
W/H ratio

1.6	1.8	2
Translation **-1**	No translation	Translation **+1**



Ready for smart cities

In addition to the dimming solution for the luminous flux in the catalogue based on internal timer settings, FIT 55 can be equipped with wireless controls for integration into the IoT world to monitor and manage public lighting in real time, reduce operating costs and dynamically programme light levels. The light fixture housing can be fitted with two different solutions for the connection to lighting management devices: with ZHAGA socket and with NEMA socket.



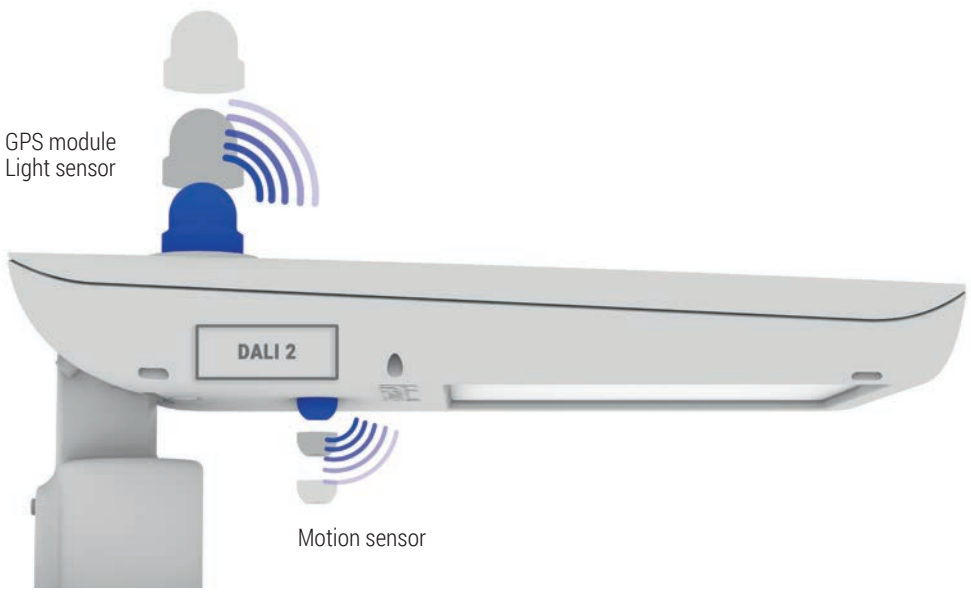
ZHAGA Socket (ZHAGA Book 18): is a new standardised sealed socket powered at very low voltage by the internal driver of the Dali2 device, suitable for handling modern wireless remote management systems;
UV-resistant materials and resistance to strong impacts complete the features of this robust connector.

NEMA Socket (ANSI C136.41): is a sealed powered socket, located on the cover of the unit to simplify maintenance by avoiding access to internal electrical parts. It is the ideal interface for installing conventional light sensors and is equipped with 5 or 7 poles: 3 for the electrical connection, the remaining 2 or 4 pins to carry the signal with 1/10V or DALI protocol.

System architecture

Electronic control unit with proprietary LED modules, equipped with isolator switch, short-circuit protection, overvoltage protection and overtemperature protection. The isolator switch guarantees safe maintenance even without cutting of the power.

A solution with an additional Zhaga Book18 socket at the bottom of the light fixture to power a motion sensor is also available.



IMPERIUM

To switch **the light on only when needed**
and adjust the light intensity in relation to
the contribution of daylight

Control systems

To reduce energy consumption by more than 50%, Palazzoli provides IMPERIUM, the intelligent lighting management system. Light fixture control, switching and dimming, is automated using motion sensors, light sensors and control algorithms based on time schedules. Palazzoli guarantees the compatibility of its DALI light fixtures with the IMPERIUM system. If sensors other than those in the catalogue are used, check compatibility with Palazzoli.

IMPERIUM WITH DALI WIRING

IMPERIUM WIRELESS

Palazzoli can provide consultancy on request for the integration of more complex functions, such as consumption monitoring, access control and implementation in building automation systems, and management of situations with obstacles to the transmission of wireless signals.

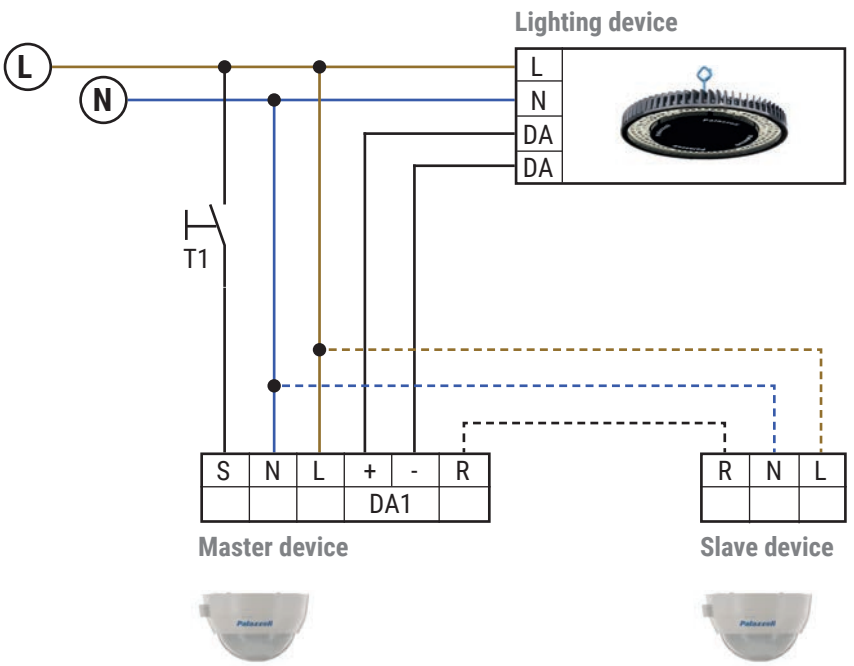
IMPERIUM with DALI wiring

It is a solution whereby light and motion sensors (excludable) interact with light fixtures equipped with DALI drivers (*). The sensors regulate the artificial lighting of an installation by maintaining the set light value on the work surface according to the presence of people (this function can also be excluded) and according to the contribution of artificial light. The sensors automatically switch off the light after 5 minutes if the amount of daylight in the installation is greater than the pre-set illuminance value and/or if no presence is detected after the set delay time.

How to create an intelligent lighting system

1. Choose light fixtures equipped with DALI driver;
2. Install a wired light and/or presence sensor (code 836001 for max. 40 devices) at strategic points in the installation (near windows and/or staff passage);
3. Configure the system via remote control (code 836002) to set the desired brightness level to be maintained.

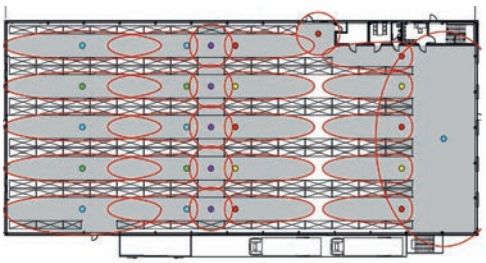
The architecture of the wired system



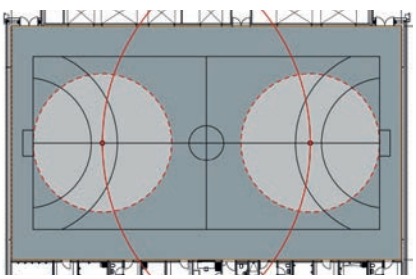
(*) DALI (Digital Addressable Lighting Interface) is a standard digital technology that can uniquely address up to 64 light fixtures on a single bus. All modules can communicate with each other in a bidirectional way because each one has a unique address, called a short address. To send a command to several modules at the same time, the group address is used.

IMPERIUM with DALI wiring

LOGISTICS AREAS (e.g. warehouse)
Presence and light sensors are positioned near the transition zones between the racking and the external handling areas.



WITH LARGE SPACES (e.g. gyms)
The sensors are positioned on the ceiling on half of the playing area (e.g. 2 sensors per basketball court) to cover large areas. With the addition of daylight, energy savings of up to 20 % can be achieved compared to sports facilities without sensors.



IMPERIUM wireless

It is a solution for managing a lighting system without the need for a wired BUS connection between light fixtures. The system architecture is based on lighting devices with an internal DALI driver to which wireless nodes are externally added which use radio wave transmission at a frequency of 868 MHz (a radio technology that is robust against interference and suitable for covering long distances in "noisy" environments such as industrial ones, avoiding the 2.4 GHz band, which is too crowded and underperforming). The radio nodes create a Mesh Network so that each node that receives the signal regenerates it and retransmits it to neighbouring nodes to ensure extensive coverage.

How to create an intelligent lighting system

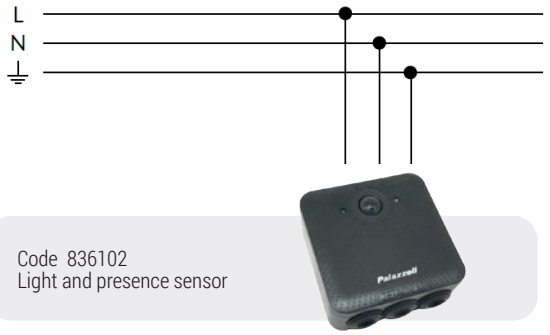
1. Choose light fixtures equipped with DALI driver;
2. Place a wireless sensor, called node (code 836101), near each light fixture;
3. Install a wireless brightness and/or presence sensor (code 836102 for max 40 light fixtures) at strategic points of the installation (near windows and/or personnel passage);
4. Configure the system via the Handheld Gateway (code 836103) to set the desired brightness level to be maintained;
5. Install the ZQ LIGHT LINK app to manage the system via the gateway and access other system functions.

(ZQ LIGHT LINK is an application for smartphones and tablets with Android and iOS systems that allows the configuration and supervision of lighting control systems).

Thanks to this App it is possible:
- Create groups of light fixtures and wireless sensors;
- Configure the working parameters of each group;
- Remote management of lighting installations

The ZQ LIGHT LINK app can be downloaded free of charge from the Google Play Store and is compatible with Bluetooth low energy smartphones. This interface is required to use the application in conjunction with the Gateway (device that allows connection with the 868 MHz wireless network used by the nodes).

The architecture of the wireless system

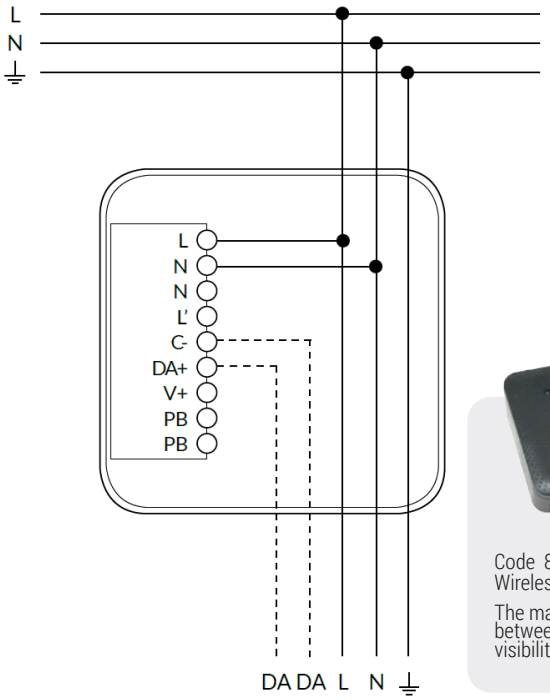


Code 836102
Light and presence sensor

Code 836103
Bluetooth/wireless gateway

App ZQ LIGHT LINK

It can be downloaded from the Google Play Store



Code 836101
Wireless node

The maximum range between two nodes with visibility is 200 m

DALI light fixture

The biggest advantage of using wireless systems is the possibility of not changing the electrical installation in relamping projects. Even for new installations it could be convenient as it avoids laying dedicated cables for regulation.

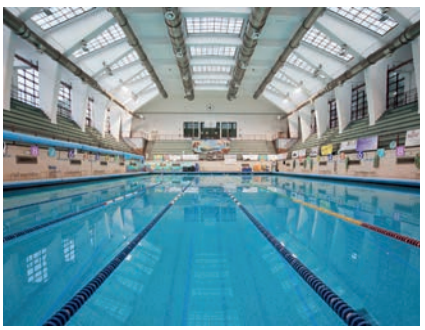
Industry

Industrial plants, storage warehouses, sports and commercial centres and the food sectors are the fields of application for which Palazzoli has designed products with high lighting performance, great ease of installation and total absence of maintenance.
Thanks to the many mounting accessories available, the light fixtures can be installed in any environment, both indoors and outdoors.

Industrial interiors

Outdoor areas

Sports facilities

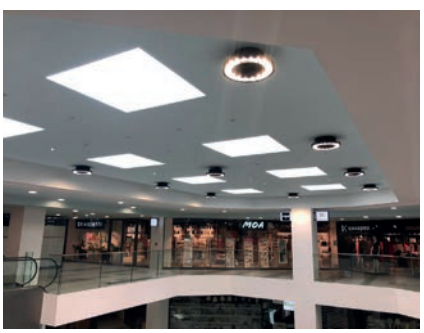


Industrial plants, storage warehouses, sports and commercial centres, and the food sectors are a field of application for which Palazzoli has designed products with high lighting performance, energy saving, extreme ease of installation and total absence of maintenance.

Warehouses

Hangars

Shopping centres



Floodlights Page 77

Light fixtures Page 101

Pendant light fixtures Page 111

Control systems Page 131

Traditional Page 137

Floodlights

Industrial interiors
Outdoor areas
Sports facilities
Warehouses
Hangars
Shopping centres

Industry

TIGUA
5830 lm to 22900 lm
Page 78

XTIGUA
31390 lm to 118460 lm
Page 84

META
9190 lm to 18390 lm
Page 98

TIGUA floodlight

Body material	**Low-copper aluminium alloy EN 44300**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic polyester, anti UV, kilnpolymerised coating**
Colour	**RAL 7011**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 as per IEC 60598-1**
Impact resistance	**IK08 according to IEC/EN 62262**
Corrosion class	**C5-M / C4-H (ISO 9223)**
Mounting system	**U bracket with adjustment range of -135° to 135°**
Ambient operating temperature	**-30 °C - +40 °C**
Ambient storage temperature	**-40 °C - +70 °C**
Actual efficacy of the device	**Up to 131 lm/W**
Colour temperature	**4000 K**
Optics features	**Non-ageing, UV-resistant PMMA lenses with >90% efficiency and >95% transparency**
Colour rendering index values	**CRI ≥ 70 according to EN 62717**
Colour consistency	**MacAdam 4-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**< 1%**
Luminous flux maintenance	**L90 B10 110,000h Tq= +40 °C L90 B10 230,000h Tq= +25 °C**
Insulation class	**I**
Supply voltage	**200-240 V 0/50/60 Hz**
Surge protection	**8 kV common mode 6 kV differential mode (EN 61000-4-5)**
Power factor	**≥ 0.95**
Type of power supply	**Quick connector**
Max. conductor cross-section	**2.5 mm²**
Entry cable diameter	**7 - 13 mm**

7-YEAR WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

DIRECTIVES

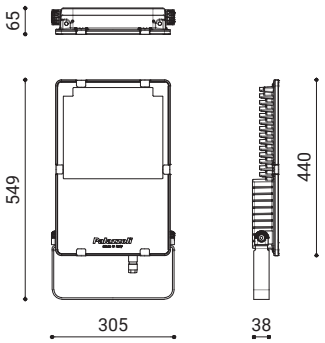
2014/30/EU (EMC)
2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)
2009/125/EC (ErP)
EU Reg. 2019/2020 (EcoDesign)

PRODUCT STANDARDS

EN 55015
EN 60598-1
EN 60598-2-1
EN 60598-2-5
EN 60598-2-22
EN 60598-2-24
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Special versions with operating temperatures up to +55 °C and colour temperatures from 3000K to 6500K can be made.

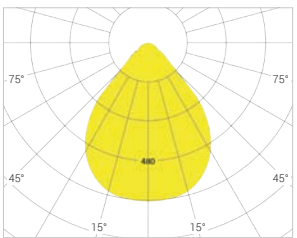
TIGUA floodlight



IP66 IK08

Flicker <1%

Class I



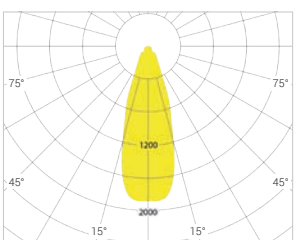
cd/klm

Symmetrical 81° extra wide beam optics

Included: wall bracket. Power supply with 2P quick connector.
The stated flux and power values may be subject to a +/- 7% tolerance.

+ 40 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
12	48	7002	5835	Glass	122	On/Off	6.41	**837011**
24	95	14004	11670	Glass	123	On/Off	6.46	**837012**
36	130	19369	16141	Glass	124	On/Off	6.48	**837013**
24	140	21958	18298	Glass	131	On/Off	6.41	**837024**
24	188	27480	22900	Glass	122	On/Off	7.30	**837025**



cd/klm

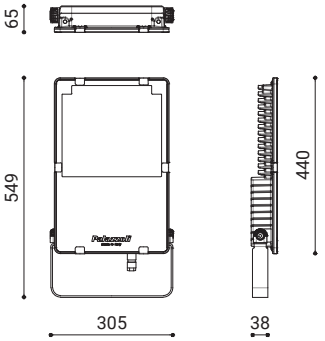
Symmetrical 36° narrow beam optics

Included: wall bracket. Power supply with 2P quick connector.
The stated flux and power values may be subject to a +/- 7% tolerance.

+ 40 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
12	48	7002	5835	Glass	122	On/Off	6.41	**837111**
24	95	14004	11670	Glass	123	On/Off	6.46	**837112**
36	130	19369	16141	Glass	124	On/Off	6.49	**837113**
24	140	21958	18298	Glass	131	On/Off	6.41	**837124**
24	188	27480	22900	Glass	122	On/Off	7.30	**837125**

TIGUA floodlight

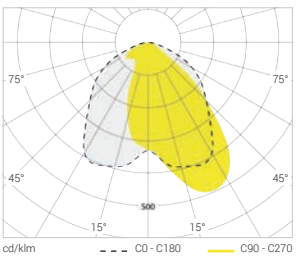


Flicker <1%

Class I

IP66

IK08

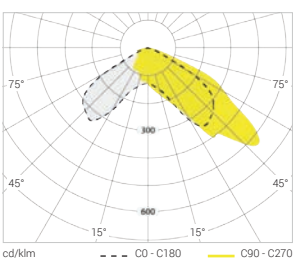


Asymmetrical 23° extra wide beam optics

Included: wall bracket. Power supply with 2P quick connector.
The stated flux and power values may be subject to a +/- 7% tolerance.

+ 40 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
12	48	7002	5835	Glass	122	On/Off	6.41	**837211**
24	95	14004	11670	Glass	123	On/Off	6.21	**837212**
36	130	19369	16141	Glass	124	On/Off	6.19	**837213**
24	140	21958	18298	Glass	131	On/Off	6.99	**837224**
24	188	27480	22900	Glass	122	On/Off	7.69	**837225**



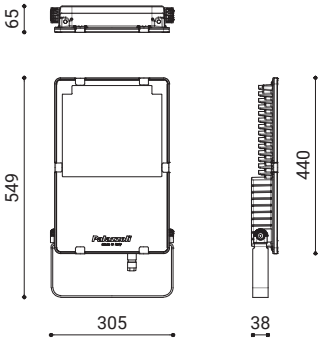
Asymmetrical 50° extra wide beam optics

Included: wall bracket. Power supply with 2P quick connector.
The stated flux and power values may be subject to a +/- 7% tolerance.

+ 40 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
12	48	7002	5835	Glass	122	On/Off	6.41	**837711**
24	95	14004	11670	Glass	123	On/Off	6.45	**837712**
36	130	19369	16141	Glass	124	On/Off	6.49	**837713**
24	140	21958	18298	Glass	131	On/Off	6.87	**837724**
24	188	27480	22900	Glass	122	On/Off	7.13	**837725**

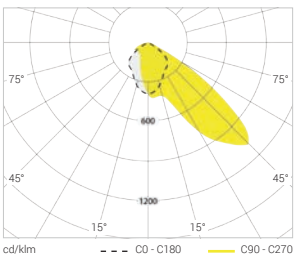
TIGUA floodlight



IP66 IK08

Flicker <1%

Class I

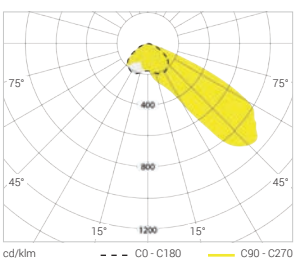


Asymmetrical 43° narrow beam optics

Included: wall bracket. Power supply with 2P quick connector.
The stated flux and power values may be subject to a +/- 7% tolerance.

+ 40 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
12	48	7002	5835	Glass	122	On/Off	6.41	**837311**
24	95	14004	11670	Glass	123	On/Off	6.35	**837312**
36	130	19369	16141	Glass	124	On/Off	6.49	**837313**
24	140	21958	18298	Glass	131	On/Off	6.87	**837324**
24	188	27480	22900	Glass	122	On/Off	7.13	**837325**



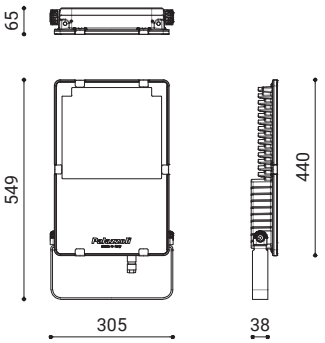
Asymmetrical 55° narrow beam optics

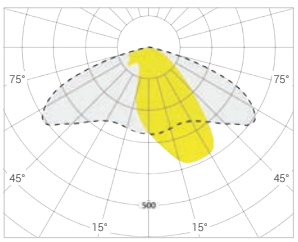
Included: wall bracket. Power supply with 2P quick connector.
The stated flux and power values may be subject to a +/- 7% tolerance.

+ 40 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
12	48	7002	5835	Glass	122	On/Off	6.41	**837511**
24	95	14004	11670	Glass	123	On/Off	6.46	**837512**
36	130	19369	16141	Glass	124	On/Off	6.48	**837513**
24	140	21958	18298	Glass	131	On/Off	6.98	**837524**
24	188	27480	22900	Glass	122	On/Off	7.30	**837525**

TIGUA floodlight





cd/klm

Roadway optics

Included: wall bracket. Power supply with 2P quick connector.
The stated flux and power values may be subject to a +/- 7% tolerance.

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
12	48	7002	5835	Glass	122	On/Off	6.41	**837411**
24	95	14004	11670	Glass	123	On/Off	6.46	**837412**
36	130	19369	16141	Glass	124	On/Off	6.21	**837413**
24	140	21958	18298	Glass	131	On/Off	6.98	**837424**
24	188	27480	22900	Glass	122	On/Off	7.30	**837425**

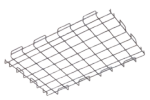
+ 40 °C
- 30°C

Version with built in pole-top mounting available on request

Accessories TIGUA floodlight

TIGUA floodlight equipped with **pole-top mounting**

Protection guard



Material:
Galvanised steel

Code: **811911**

Universal mounting bracket for pole-top installation for 60 mm and 76 mm nominal pole diameters

Material:
Painted galvanised steel

Code: **811908**

Support for wall mounting with projecting arm 750 mm projection

Material:
Painted galvanised steel

Code: **811914**

Kit consisting of collar and plate for 60 mm and 76 mm nominal diameter poles

Material:
Painted galvanised steel

Code: **811912**

XTIGUA floodlight

Body material	**Low-copper aluminium alloy EN 44300**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic polyester, anti UV, kilnpolymerised coating**
Colour	**RAL 7011**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 as per IEC 60598-1**
Impact resistance	**IK08 according to IEC/EN 62262**
Corrosion class	**C5-M / C4-H (ISO 9223)**
Mounting system	**U bracket with adjustment range of -110° to 110°**
Ambient operating temperature	**-30 °C - +35 °C**
Ambient storage temperature	**-40 °C - +70 °C**
Actual efficacy of the device	**Up to 133 lm/W**
Colour temperature	**4000 K**
Optics features	**Non-ageing, UV-resistant PMMA lenses with >90% efficiency and >95% transparency**
Colour rendering index values	**CRI ≥ 70 according to EN 62717**
Colour consistency	**MacAdam 4-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**< 1%**
Luminous flux maintenance	**L90 B10 110,000h Tq= +40 °C L90 B10 230,000h Tq= +25 °C**
Insulation class	**I**
Supply voltage	**200-240 V 0/50/60 Hz**
Surge protection	**10kV common mode 6 kV differential mode (EN 61000-4-5)**
Power factor	**≥ 0.95**
Type of power supply	**Quick connector**
Max. conductor cross-section	**2.5 mm²**
Entry cable diameter	**7 - 13 mm**

Special versions with operating temperatures up to +55 °C and colour temperatures from 3000K to 6500K can be made.

7-YEAR WARRANTY

WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

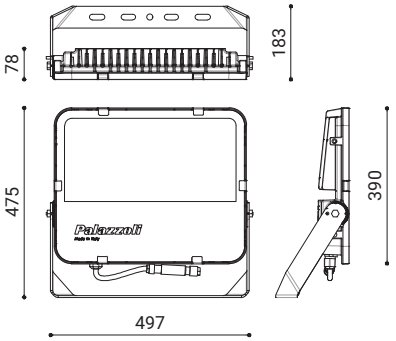
DIRECTIVES

2014/30/EU (EMC)
2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)
2009/125/EC (ErP)
EU Reg. 2019/2020 (EcoDesign)

PRODUCT STANDARDS

EN 55015
EN 60598-1
EN 60598-2-1
EN 60598-2-5
EN 60598-2-22
EN 60598-2-24
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

XTIGUA floodlight | size M

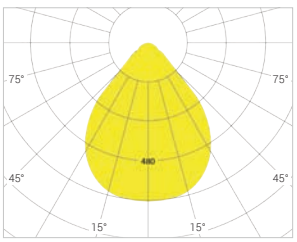


Flicker <1%

Class I

IP66

IK08



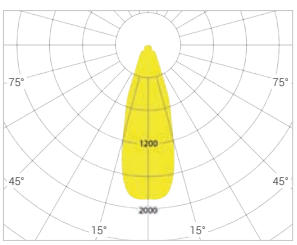
cd/klm

Symmetrical 81° extra wide beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

+ 35°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/)	Version	Weight (kg)	Code
36	236	37665	31388	Glass	133	DALI	9.50	**838036DA**
48	309	49316	41097	Glass	133	DALI	9.50	**838048DA**



cd/klm

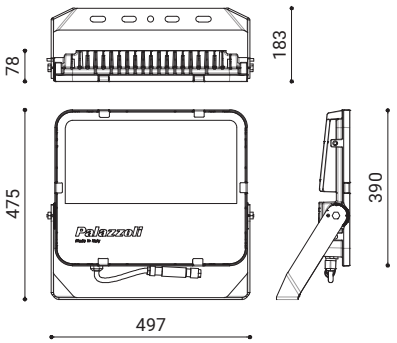
Symmetrical 36° narrow beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

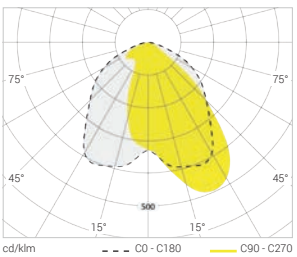
+ 35 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
36	236	37665	31388	Glass	133	DALI	9.50	**838136DA**
48	309	49316	41097	Glass	133	DALI	9.50	**838148DA**

XTIGUA floodlight | size M



IK05 | Flicker <1% | Class I | IP66 | IK08

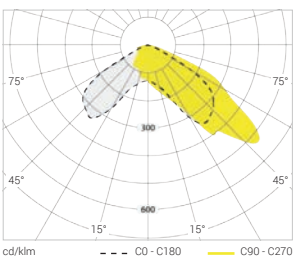


Asymmetrical 23° extra wide beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

+35°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
36	236	37665	31388	Glass	133	DALI	9.50	**838236DA**
48	309	49316	41097	Glass	133	DALI	9.50	**838248DA**



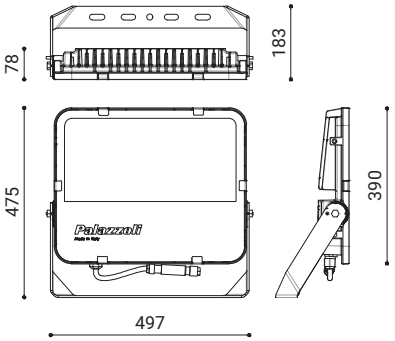
Asymmetrical 50° extra wide beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

+35°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
36	236	37665	31388	Glass	133	DALI	9.50	**838736DA**
48	309	49316	41097	Glass	133	DALI	9.50	**838748DA**

XTIGUA floodlight | size M



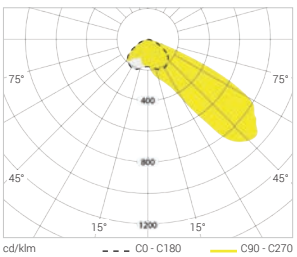
05

Flicker <1%

Class I

IP66

IK08

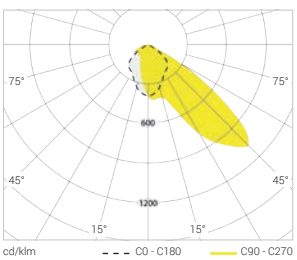


Asymmetrical 43° narrow beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
36	236	37665	31388	Glass	133	DALI	9.50	**838336DA**
48	309	49316	41097	Glass	133	DALI	9.50	**838348DA**

+ 35°C
- 30°C



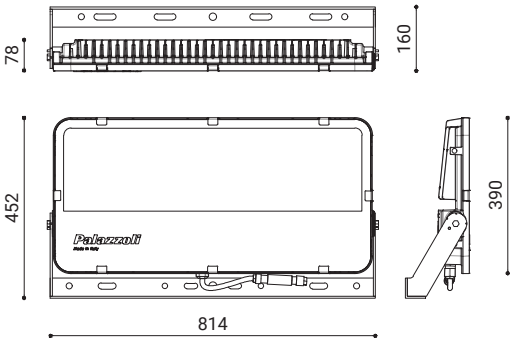
Asymmetrical 55° narrow beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
36	236	37665	31388	Glass	133	DALI	9.50	**838536DA**
48	309	49316	41097	Glass	133	DALI	9.50	**838548DA**

+ 35°C
- 30°C

XTIGUA floodlight | size L

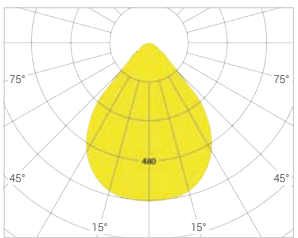


Flicker <1%

Class I

IP66

IK08



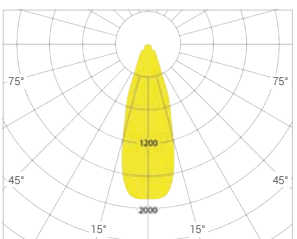
cd/klm

Symmetrical 81° extra wide beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

+35°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
60	368	58733	48944	Glass	133	DALI	13.40	**838060DA**
72	442	70543	59228	Glass	134	DALI	13.40	**838072DA**



cd/klm

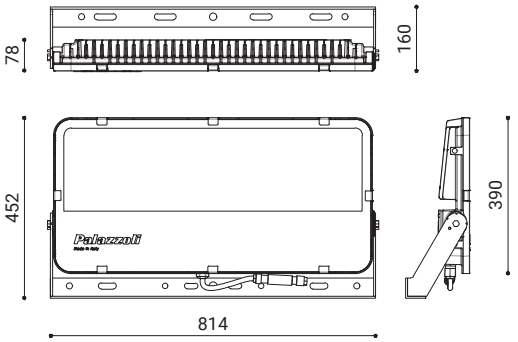
Symmetrical 36° narrow beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

+35°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
60	368	58733	48944	Glass	133	DALI	13.40	**838160DA**
72	442	70543	59228	Glass	134	DALI	13.40	**838172DA**

XTIGUA floodlight | size L

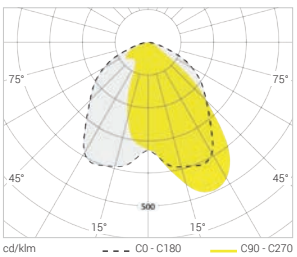


Flicker <1%

Class I

IP66

IK08

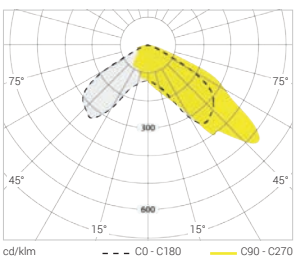


Asymmetrical 23° extra wide beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

+ 35°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
60	368	58733	48944	Glass	133	DALI	13.40	**838260DA**
72	442	70543	59228	Glass	134	DALI	13.40	**838272DA**



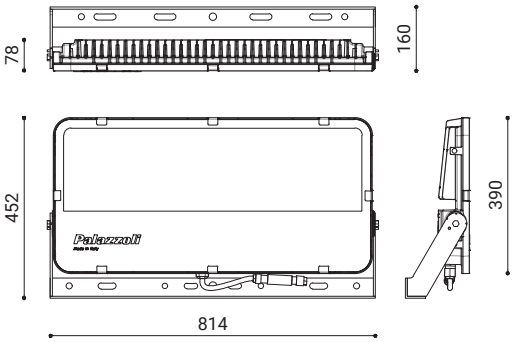
Asymmetrical 50° extra wide beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

+ 35°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
60	368	58733	48944	Glass	133	DALI	13.40	**838760DA**
72	442	70543	59228	Glass	134	DALI	13.40	**838772DA**

XTIGUA floodlight | size L

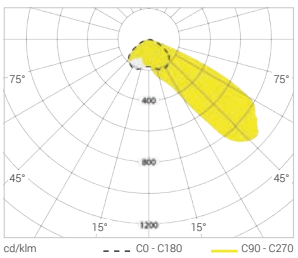


Flicker <1%

Class I

IP66

IK08

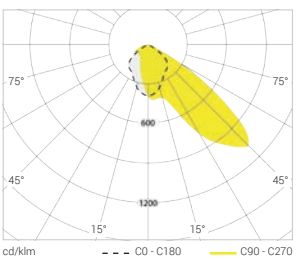


Asymmetrical 43° narrow beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

+35°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
60	368	58733	48944	Glass	133	DALI	13.40	**838360DA**
72	442	70543	59228	Glass	134	DALI	13.40	**838372DA**



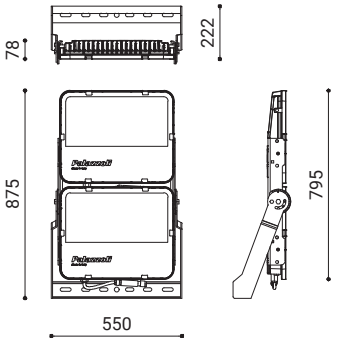
Asymmetrical 55° narrow beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

+35°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
60	368	58733	48944	Glass	133	DALI	13.40	**838560DA**
72	442	70543	59228	Glass	134	DALI	13.40	**838572DA**

XTIGUA floodlight | size XL



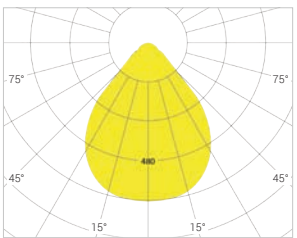
05

Flicker <1%

Class I

IP66

IK08



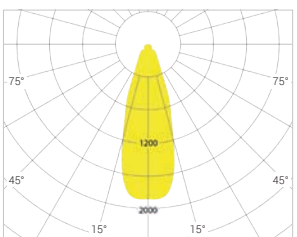
cd/klm

Symmetrical 81° extra wide beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
96	618	98632	82194	Glass	133	DALI	23.20	**838096DA**

+ 35°C
- 30°C



cd/klm

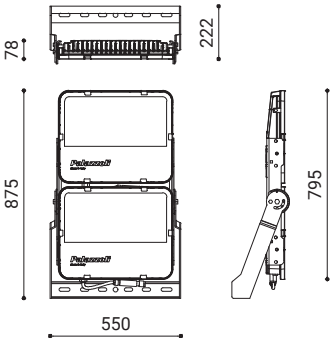
Symmetrical 36° narrow beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
96	618	98632	82194	Glass	133	DALI	23.20	**838196DA**

+ 35°C
- 30°C

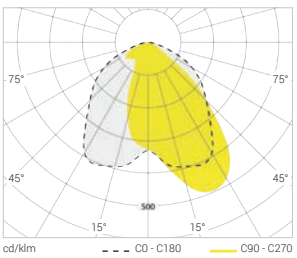
XTIGUA floodlight | size XL



IP66 IK08

Flicker <1%

Class I

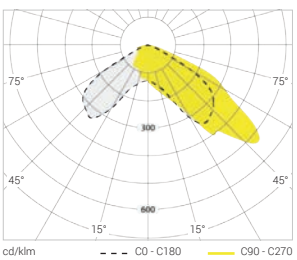


Asymmetrical 23° extra wide beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
96	618	98632	82194	Glass	133	DALI	23.20	**838296DA**

+ 35°C
- 30°C



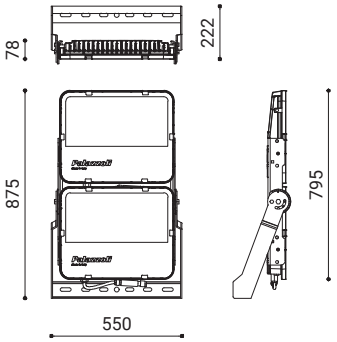
Asymmetrical 50° extra wide beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
96	618	98632	82194	Glass	133	DALI	23.20	**838796DA**

+ 35°C
- 30°C

XTIGUA floodlight | size XL



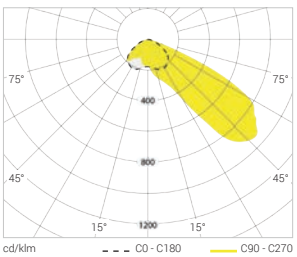
05

Flicker <1%

Class I

IP66

IK08

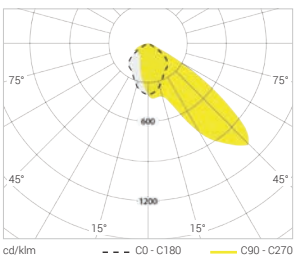


Asymmetrical 43° narrow beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
96	618	98632	82194	Glass	133	DALI	23.20	**838396DA**

+ 35°C
- 30°C



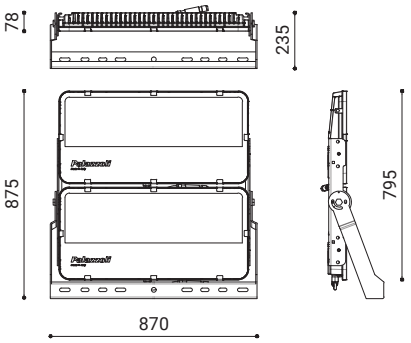
Asymmetrical 55° narrow beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
96	618	98632	82194	Glass	133	DALI	23.20	**838596DA**

+ 35°C
- 30°C

XTIGUA floodlight | size XXL



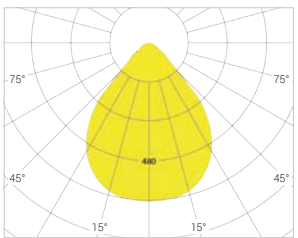
05

Flicker <1%

Class I

IP66

IK08



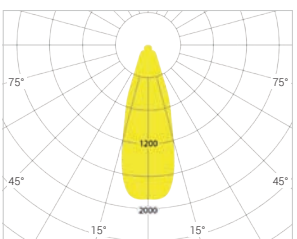
cd/klm

Symmetrical 81° extra wide beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

+35°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
120	736	117500	97888	Glass	133	DALI	35.00	**838012DA**
144	884	141000	118456	Glass	134	DALI	35.00	**838014DA**



cd/klm

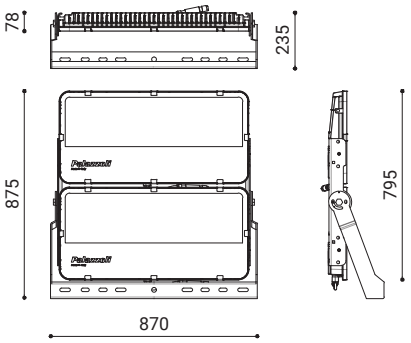
Symmetrical 36° narrow beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

+35°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
120	736	117500	97888	Glass	133	DALI	35.00	**838112DA**
144	884	141000	118456	Glass	134	DALI	35.00	**838114DA**

XTIGUA floodlight | size XXL



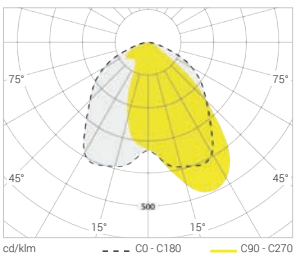
05

Flicker <1%

Class I

IP66

IK08

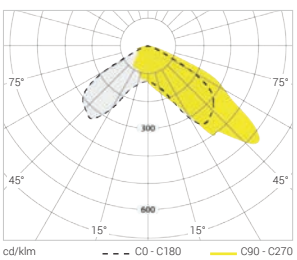


Asymmetrical 23° extra wide beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
120	736	117500	97888	Glass	133	DALI	35.00	**838212DA**
144	884	141000	118456	Glass	134	DALI	35.00	**838214DA**

+ 35°C
- 30°C



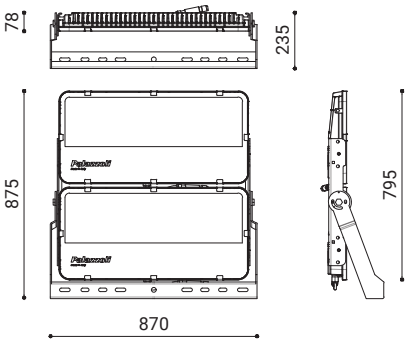
Asymmetrical 50° extra wide beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
120	736	117500	97888	Glass	133	DALI	35.00	**838712DA**
144	884	141000	118456	Glass	134	DALI	35.00	**838714DA**

+ 35°C
- 30°C

XTIGUA floodlight | size XXL



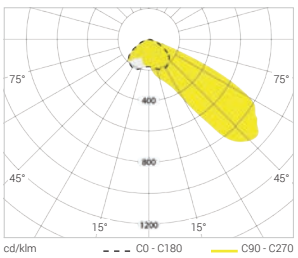
05

Flicker <1%

Class I

IP66

IK08

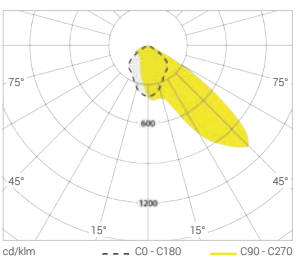


Asymmetrical 43° narrow beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

+35°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
120	736	117500	97888	Glass	133	DALI	35.00	**838312DA**
144	884	141000	118456	Glass	134	DALI	35.00	**838314DA**



Asymmetrical 55° narrow beam optics

Included: wall bracket.
Power supply with 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

+35°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
120	736	117500	97888	Glass	133	DALI	35.00	**838512DA**
144	884	141000	118456	Glass	134	DALI	35.00	**838514DA**

Accessories XTIGUA floodlight

X-TIGUA floodlight fitted with **crossbar for pole-top installation**

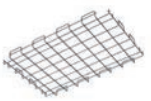
Protective grille for X-TIGUA floodlights size M, XL

Material:
Galvanised steel

Code: **818992**

Note: for sizes XL and XXL use 2 grids.

Protective grille for X-TIGUA floodlights size L, XXL



Material:
Galvanised steel

Code: **818993**

Note: for sizes XL and XXL use 2 grids.

Crossbar for pole-top installation for 1 X-TIGUA floodlight

Material:
Painted galvanised steel

Code: **818990**

Note: crossbar suitable for mounting up to 2 floodlights size M, L, XL. for size XXL the crossbar code is 818991.
The crossbar can be installed on ø 60 to ø 76 mm poles.

Crossbar for pole-top installation for 2 or 4 X-TIGUA floodlights

Material:
Painted galvanised steel

Code: **818991**

Note: crossbar suitable for mounting up to 2 floodlights size L, XXL or 4 floodlights size M, XL.
The crossbar can be installed on ø 60 to ø 76 mm poles.

META floodlight

Body material	**EN 46100 aluminium alloy**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic polyester, anti UV, kilnpolymerised coating**
Colour	**RAL 7011**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66/IP67 according to IEC 60598-1**
Impact resistance	**IK08 according to IEC/EN 62262**
Corrosion class	**C4-M / C3-H (ISO 9223)**
Mounting system	**U-bracket with adjustment**
Ambient operating temperature	**-30 °C - +40 °C**
Ambient storage temperature	**-40 °C - +70 °C**
Actual efficacy of the device	**Up to 93 lm/W**
Colour temperature	**4000 K**
Optics features	**Non-ageing, UV-resistant PMMA lenses with >90% efficiency and >95% transparency**
Colour rendering index values	**CRI ≥ 80 according to EN 62717**
Colour consistency	**MacAdam 4-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**< 1%**
Luminous flux maintenance	**L80 B20 @ 110.000h Tq= +40 °C**
Insulation class	**I**
Supply voltage	**200-240 V 0/50/60 Hz**
Surge protection	**10kV common mode 6 kV differential mode (EN 61000-4-5)**
Power factor	**≥ 0.95**
Type of power supply	**Quick connector**
Max. conductor cross-section	**2.5 mm²**
Entry cable diameter	**7 - 13 mm**

7-YEAR WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

DIRECTIVES

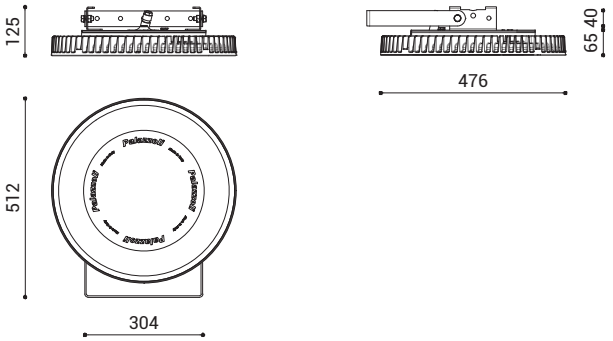
2014/30/EU (EMC)
2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)
2009/125/EC (ErP)
EU Reg. 2019/2020 (EcoDesign)

PRODUCT STANDARDS

EN 55015
EN 60598-1
EN 60598-2-1
EN 60598-2-5
EN 60598-2-22
EN 60598-2-24
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Special versions with operating temperatures up to +55 °C and colour temperatures from 3000K to 6500K can be made.

META floodlight

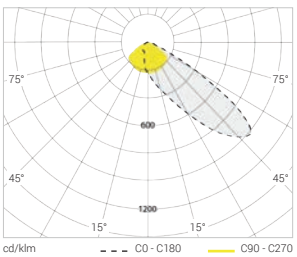


Flicker <1%

Class I

IP66

IK08



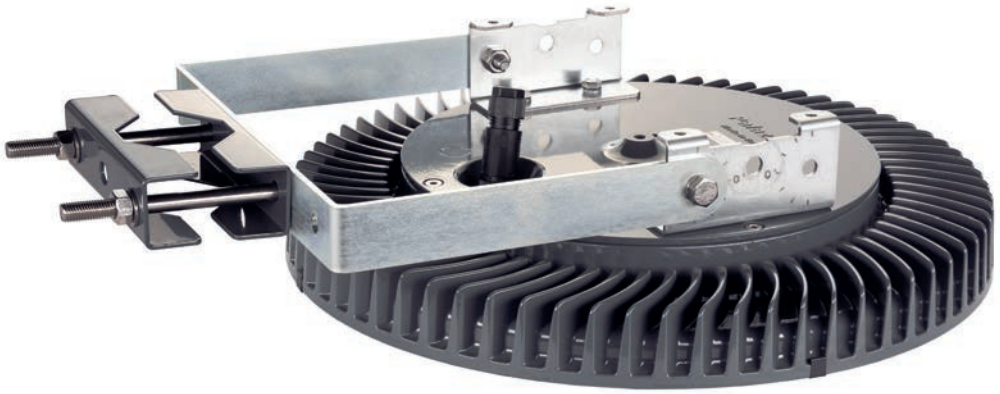
Asymmetrical 50° narrow beam optics

Included: adjustable bracket for installation on walls or supporting structures (poles, light towers).
Power supply with 5P quick connector. Suitable for lighting outdoor areas and sports facilities.
The stated flux and power values may be subject to a +/- 7% tolerance.

+ 40 °C
- 30°C

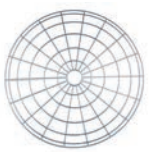
No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
9	99	13230	9193	Glass	93	1-10V dimmable	10.56	**810296**
12	133	17640	12258	Glass	92	1-10V dimmable	10.67	**810226**
15	168	22050	15322	Glass	91	1-10V dimmable	10.98	**810256**
18	199	26460	18387	Glass	92	1-10V dimmable	11.15	**810286**

Accessories META floodlight



META floodlight fitted with **collar and plate for pole mounting**

Protection guard



Material:
Galvanised steel

Code: **810993**

Universal mounting bracket
for pole-top installation for 60 mm and 76 mm nominal pole diameters

Material:
Painted galvanised steel

Code: **811908**

Kit consisting of collar and plate
for pole mounting, diameters 60 mm to 80 mm

Material:
Painted galvanised steel

Code: **811912**

Light fixtures

Industrial interiors
Outdoor areas
Sports facilities
Warehouses
Hangars
Shopping centres

Industry

RINOLED
3560 lm to 10575 lm
Page 102

RINOLED

Body material	**AISI 304 stainless steel Painted galvanised steel**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic polyester, anti UV, kilnpolymerised coating**
Colour	**RAL 9016 (painted galvanised steel version)**
Diffuser material	**Tempered glass and UV stabilised polycarbonate**
Protection rating	**IP66 as per IEC 60598-1**
Impact resistance	**IK09 as per IEC/EN 62262**
Corrosion class	**C5 AISI 304 stainless steel C5-M / C4-H painted galvanised steel (ISO 9223)**
Mounting system	**Pair of eyebolts in AISI 304 stainless steel**
Ambient operating temperature	**-30 °C - +45 °C 0 °C - +35 °C (emergency versions) -30 °C - +55 °C (HT version)**
Ambient storage temperature	**-40°C - +70°C -30 °C - +50 °C (emergency versions)**
Actual efficacy of the device	**Up to 142 lm/W**
Colour temperature	**4000 K**
Optics features	**Non-ageing, UV-resistant PMMA lenses with >90% efficiency and >95% transparency**
Colour rendering index values	**CRI ≥ 80 according to EN 62717**
Colour consistency	**MacAdam 3-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**< 3%**
Luminous flux maintenance	**L80 B10 @50.000h Tq=25 °C Tq= +55 °C (HT version)**
Emergency battery lifetime	**1h-3h**
Emergency battery charging time	**24h**
Insulation class	**I**
Supply voltage	**200-240 V 0/50/60 Hz**
Surge protection	**2 kV (EN 61000-4-5)**
Power factor	**≥ 0.95**
Type of power supply	**Quick connector**
Max. conductor cross-section	**1.5 mm²**
Entry cable diameter	**9 to 12 mm**

Special versions can be made by combining materials, optics, power supplies and operating temperatures. Feed-through wiring versions, in AISI 316L STAINLESS steel and with colour temperatures from 3000K to 6500K, are available.

WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

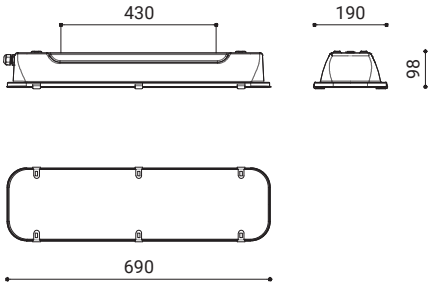
DIRECTIVES

2014/30/EU (EMC)
2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)
2009/125/EC (ErP)
EU Reg. 2019/2020 (EcoDesign)

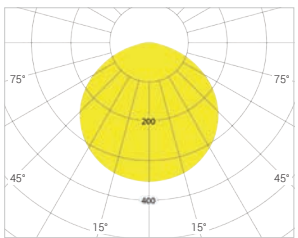
PRODUCT STANDARDS

EN 55015
EN 60598-1
EN 60598-2-1
EN 60598-2-22
EN 60598-2-24
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

RINOLED | 690 mm



IP66 IK09 Class I



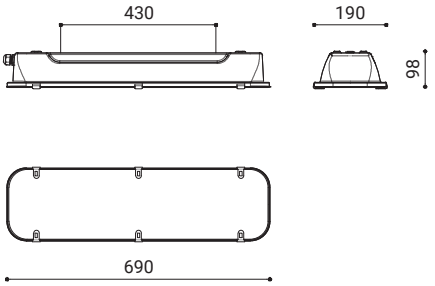
cd/klm

110° symmetrical optics

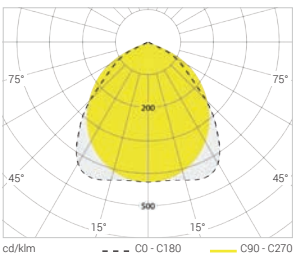
Included: pair of eyebolts in AISI 304 STAINLESS STEEL for pendant mounting.
Power supply with quick connector.
The stated flux and power values may be subject to a +/- 7% tolerance.

	No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
Stainless steel + 45 °C - 30°C	48	26	4100	3692	Glass	142	On/Off	3.47	**822182**
	72	40	6440	5640	Glass	141	On/Off	3.35	**822282**
Painted galvanised steel + 45 °C - 30°C	48	26	4100	3692	Glass	142	On/Off	3.47	**842182**
	72	40	6440	5640	Glass	141	On/Off	3.56	**842282**
Painted galvanised steel Emergency + 35 °C 0 °C	48	26	4100	3692 (770 in EM)	Glass	142	On/Off Emergency 1h	3.80	**842180**
	72	40	6440	5640 (940 in EM)	Glass	141	On/Off Emergency 1h	3.96	**842280**

RINOLED | 690 mm



IP66 IK09 Class I

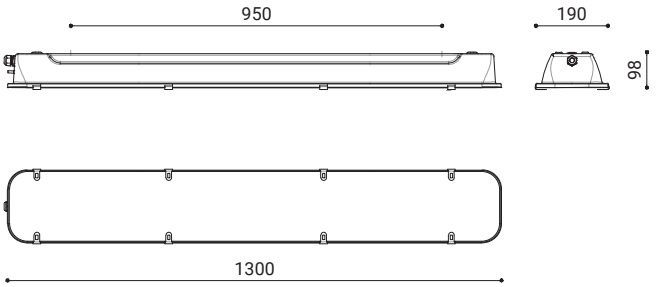


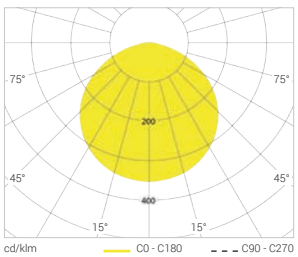
88° symmetrical optics

Included: pair of AISI 304 STAINLESS steel eyebolts for pendant mounting.
Power supply with quick connector.
The stated flux and power values may be subject to a +/- 7% tolerance.

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
Stainless steel + 45 °C - 30°C The polycarbonate diffuser makes the device suitable for use in the food industry in accordance with HACCP regulations								
48	26	4100	3562	Glass	137	On/Off	3.38	**821182**
72	40	6440	5400	Glass	135	On/Off	3.47	**821282**
48	26	4100	3562	Polycarbonate	137	On/Off	2.63	**826182**
72	40	6440	5400	Polycarbonate	135	On/Off	2.64	**826282**
Stainless steel Emergency + 35 °C 0°C°								
48	26	4100	3562 (770 in EM)	Glass	137	On/Off Emergency 1h	3.59	**821180**
72	40	6440	5400 (940 in EM)	Glass	135	On/Off Emergency 1h	3.70	**821280**
48	26	4100	3562 (770 in EM)	Glass	137	On/Off Emergency 3h	3.90	**821183**
72	40	6440	5400 (940 in EM)	Glass	135	On/Off Emergency 3h	3.84	**821283**
Painted galvanised steel + 45 °C - 30°C The polycarbonate diffuser makes the device suitable for use in the food industry in accordance with HACCP regulations								
48	26	4100	3562	Glass	137	On/Off	3.50	**841182**
72	40	6440	5400	Glass	135	On/Off	3.52	**841282**
48	26	4100	3562	Polycarbonate	137	On/Off	2.71	**846182**
72	40	6440	5400	Polycarbonate	135	On/Off	2.76	**846282**

RINOLED | 1300 mm



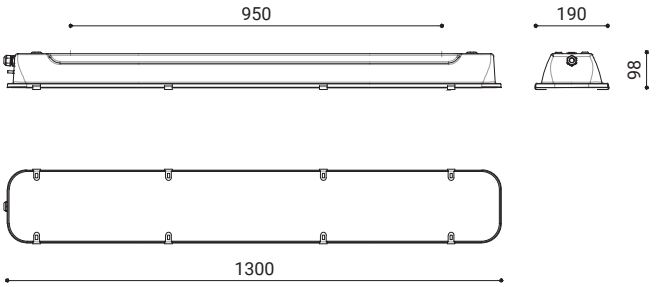


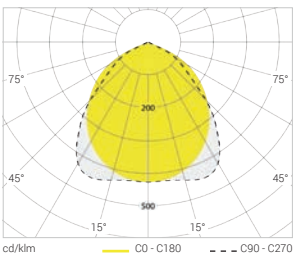
110° symmetrical optics

Included: pair of AISI 304 STAINLESS steel eyebolts for pendant mounting.
Power supply with quick connector.
The stated flux and power values may be subject to a +/- 7% tolerance.

	No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
Stainless steel + 45 °C - 30°C	96	52	8200	7384	Glass	142	On/Off	6.23	**822382**
	144	63	11000	8946	Glass	142	On/Off	6.20	**822482**
	144	75	12200	10575	Glass	141	On/Off	6.20	**822582**
Painted galvanised steel + 45 °C - 30°C	96	52	8200	7384	Glass	142	On/Off	6.33	**842382**
	144	63	11000	8946	Glass	142	On/Off	6.30	**842482**
	144	75	12200	10575	Glass	141	On/Off	6.30	**842582**
Painted galvanised steel Emergency + 35 °C 0°C°	96	52	8200	7384 (940 in EM)	Glass	142	On/Off Emergency 1h	6.64	**842380**

RINOLED | 1300 mm





88° symmetrical optics

Included: pair of AISI 304 STAINLESS steel eyebolts for pendant mounting.
Power supply with quick connector.
The stated flux and power values may be subject to a +/- 7% tolerance.

Stainless steel

+ 45 °C
- 30°C

The polycarbonate diffuser makes the device suitable for use in the food industry in accordance with HACCP regulations

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
96	52	8200	7072	Glass	136	On/Off	6.24	**821382**
144	63	11000	8631	Glass	137	On/Off	6.35	**821482**
144	75	12200	9900	Glass	132	On/Off	6.20	**821582**
96	52	8200	7072	Polycarbonate	136	On/Off	4.12	**826382**
144	63	11000	8631	Polycarbonate	137	On/Off	4.00	**826482**
144	75	12200	9900	Polycarbonate	132	On/Off	4.00	**826582**
96	52	8200	7072	Glass	136	DALI	6.20	**821382DA**
144	55	9547	7518	Glass	137	DALI	6.20	**821482DA**
144	71	11947	9428	Glass	132	DALI	6.20	**821582DA**
96	52	8200	7072	Polycarbonate	136	DALI	4.13	**826382DA**
144	55	9547	7518	Polycarbonate	137	DALI	4.00	**826482DA**
144	71	11947	9428	Polycarbonate	132	DALI	4.00	**826582DA**

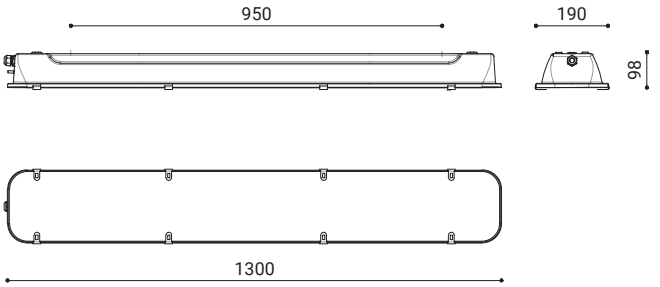
Painted galvanised steel

+ 45 °C
- 30°C

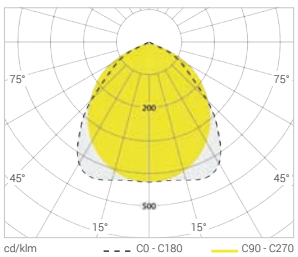
The polycarbonate diffuser makes the device suitable for use in the food industry in accordance with HACCP regulations

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
96	52	8200	7072	Glass	136	On/Off	6.30	**841382**
144	63	11000	8631	Glass	137	On/Off	6.30	**841482**
144	75	12200	9900	Glass	132	On/Off	6.30	**841582**
96	52	8200	7072	Polycarbonate	136	On/Off	4.10	**846382**
144	63	11000	8631	Polycarbonate	137	On/Off	4.10	**846482**
144	75	12200	9900	Polycarbonate	132	On/Off	2.41	**846582**

RINOLED | 1300 mm



IP66 IK09 Class I



88° symmetrical optics

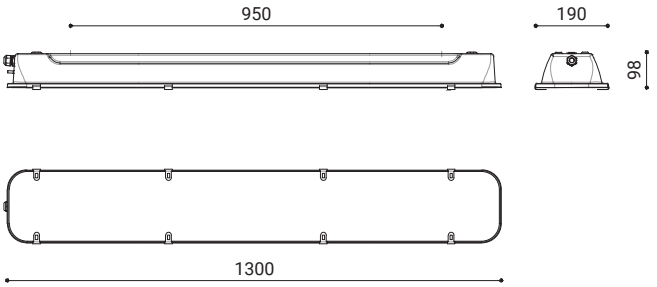
Included: pair of AISI 304 STAINLESS steel eyebolts for pendant mounting.
Power supply with quick connector.
The stated flux and power values may be subject to a +/- 7% tolerance.

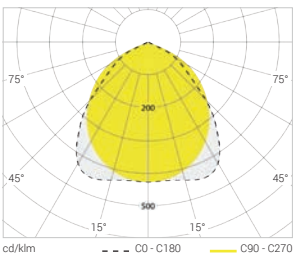
Stainless steel Emergency

+ 35°
0°C°

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
96	52	8200	7072 (940 in EM)	Glass	136	On/Off Emergency 1h	6.58	**821380**
144	63	11000	8631 (940 in EM)	Glass	137	On/Off Emergency 1h	6.63	**821480**
144	75	12200	9900 (940 in EM)	Glass	132	On/Off Emergency 1h	6.50	**821580**
96	52	8200	7072 (940 in EM)	Glass	136	On/Off Emergency 3h	6.70	**821383**
144	63	11000	8631 (940 in EM)	Glass	137	On/Off Emergency 3h	6.70	**821483**
144	75	12200	9900 (940 in EM)	Glass	132	On/Off Emergency 3h	6.70	**821583**
96	52	8200	7072 (940 in EM)	Polycarbonate	136	On/Off Emergency 1h	4.30	**826380**
144	63	11000	8631 (940 in EM)	Polycarbonate	137	On/Off Emergency 1h	4.30	**826480**
144	75	12200	9900 (940 in EM)	Polycarbonate	132	On/Off Emergency 1h	4.30	**826580**
96	52	8200	7072 (940 in EM)	Polycarbonate	136	On/Off Emergency 3h	4.50	**826383**
144	63	11000	8631 (940 in EM)	Polycarbonate	137	On/Off Emergency 3h	4.50	**826483**
144	75	12200	9900 (940 in EM)	Polycarbonate	132	On/Off Emergency 3h	4.50	**826583**

RINOLED | 1300 mm





88° symmetrical optics

Included: pair of AISI 304 STAINLESS steel eyebolts for pendant mounting.
Power supply with quick connector.
The stated flux and power values may be subject to a +/- 7% tolerance.

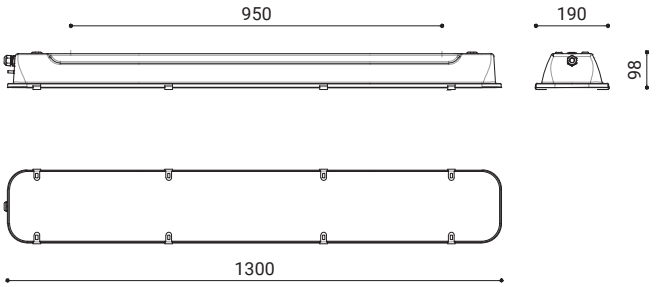
High temperature

+ 55 °C
- 30°C

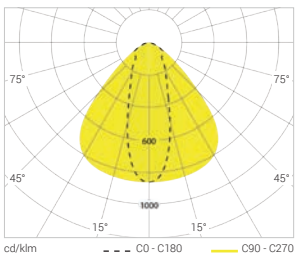
The polycarbonate diffuser makes the device suitable for use in the food industry in accordance with HACCP regulations

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
96	33	5738	4700	Glass	142	On/Off	4.12	**821382HT**
144	45	7919	6404	Glass	142	On/Off	4.12	**821482HT**
144	54	8830	7600	Glass	141	On/Off	4.12	**821582HT**
96	33	5738	4700	Polycarbonate	142	On/Off	4.00	**826382HT**
144	45	7919	6404	Polycarbonate	142	On/Off	4.14	**826482HT**
144	54	8830	7600	Polycarbonate	141	On/Off	4.32	**826582HT**

RINOLED | 1300 mm



IP66 IK09 Class I



Narrow beam optic 30° x 90°

Included: pair of AISI 304 STAINLESS steel eyebolts for pendant mounting.
Power supply with quick connector.
The stated flux and power values may be subject to a +/- 7% tolerance.

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
Stainless steel + 45 °C - 30°C The polycarbonate diffuser makes the device suitable for use in the food industry in accordance with HACCP regulations								
96	52	8200	6500	Glass	125	On/Off	6.56	**820382**
144	63	11000	8001	Glass	127	On/Off	6.29	**820482**
144	75	12200	9375	Glass	125	On/Off	6.20	**820582**
96	52	8200	6500	Polycarbonate	125	On/Off	3.67	**825382**
144	63	11000	8001	Polycarbonate	127	On/Off	4.00	**825482**
144	75	12200	9375	Polycarbonate	125	On/Off	4.00	**825582**
Painted galvanised steel + 45 °C - 30°C The polycarbonate diffuser makes the device suitable for use in the food industry in accordance with HACCP regulations								
96	52	8200	6500	Glass	125	On/Off	6.30	**840382**
144	63	11000	8001	Glass	127	On/Off	6.34	**840482**
144	75	12200	9375	Glass	125	On/Off	6.30	**840582**
96	52	8200	6500	Polycarbonate	125	On/Off	4.10	**845382**
144	63	11000	8001	Polycarbonate	127	On/Off	4.10	**845482**
144	75	12200	9375	Polycarbonate	125	On/Off	4.10	**845582**

Accessories RINOLED

RINO LED equipped with **pair of adjustable brackets for wall or ceiling installation**

Pair of adjustable supports for wall or ceiling installation

Material:
STAINLESS steel
AISI 304

Code: **820010**

Pairs of "V" supports for ceiling installation

Material:
STAINLESS steel
AISI 304

Code: **820017**

Pairs of hooks for pendant mounting

Material:
STAINLESS steel
AISI 304

Code: **820011**

Pendant mounting and ceiling adaptation kit

Material:
STAINLESS steel
AISI 304

Code: **820018**

Note: in the case of relamping, the adapter kit enables to adjust the fixing distances of the light fixture to those already present in the system.

Pair of collars for mounting steel light fixtures on tube

Material:
STAINLESS steel
AISI 304

Code: **820016**

Quick fastening kit for ceiling mounting

Material:
STAINLESS steel
AISI 304

Code: **820019**

Retrofit kit

For sizes 690 - 1300

Material:
Extra clear tempered glass

Device power	Length (mm)	Nominal flux	Output flux	Version	Code
26 W	690	4100	3562 lm	On/Off	**821184**
52 W	1300	8200	7072	On/Off	**821384**

Pendant light fixtures

Industrial interiors
Outdoor areas
Sports facilities
Warehouses
Hangars
Shopping centres

Industry

META150
10600 lm to 30880 lm
Page 112

META
8140 lm to 21660 lm
Page 115

TIGUA
3300 lm to 22100 lm
Page 119

XTIGUA
21580 lm to 48800 lm
Page 125

META150 pendant mounting

Body material	**EN 46100 aluminium alloy**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 7011**
Diffuser material	**Extra clear tempered glass or polycarbonate**
Protection rating	**IP66/IP67 according to IEC 60598-1**
Impact resistance	**IK08 according to IEC/EN 62262**
Corrosion class	**C4-M / C3-H (ISO 9223)**
Mounting system	**Quick connection for pendant mounting**
Ambient operating temperature	**-30 °C - +40 °C -30 °C - +50 °C (HE version) -30 °C - +60 °C (HT version)**
Ambient storage temperature	**-40 °C - +70 °C**
Actual efficacy of the device	**Up to 151 lm/W**
Colour temperature	**4000 K**
Optics features	**Non-ageing, UV-resistant PMMA lenses with >90% efficiency and >95% transparency**
Colour rendering index values	**CRI ≥ 80 according to EN 62717**
Colour consistency	**MacAdam 3-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Glare index	**UGR < 22**
Residual flicker	**< 1%**
Luminous flux maintenance	**L90 B10 110,000h Tq= +40 °C L90 B10 230,000h Tq= +25 °C**
Insulation class	**I**
Supply voltage	**200-240 V 0/50/60 Hz**
Surge protection	**10kV common mode 6 kV differential mode (EN 61000-4-5)**
Power factor	**≥ 0.95**
Type of power supply	**Quick connector**
Max. conductor cross-section	**2.5 mm²**
Entry cable diameter	**7 - 13 mm**

WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

DIRECTIVES

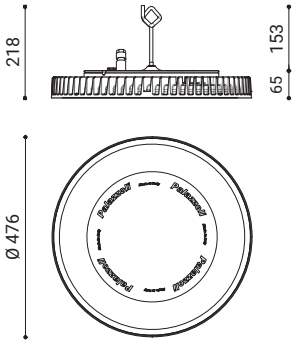
2014/30/EU (EMC)
2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)
2009/125/EC (ErP)
EU Reg. 2019/2020 (EcoDesign)

PRODUCT STANDARDS

EN 55015
EN 60598-1
EN 60598-2-1
EN 60598-2-5
EN 60598-2-22
EN 60598-2-24
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Special versions can be made by combining materials, optics and operating temperatures. It is possible to supply products with insulation class II and colour temperatures from 3000K to 6500K.

META150 pendant mounting

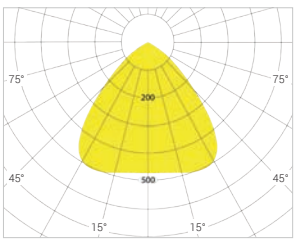


Class I

Flicker <1%

IP66

IK08



cd/klm

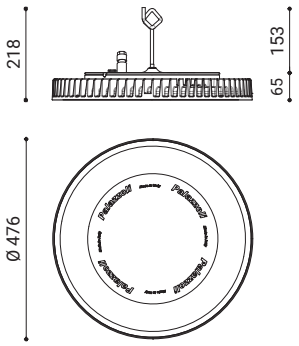
Comfort 90° extra wide beam optics

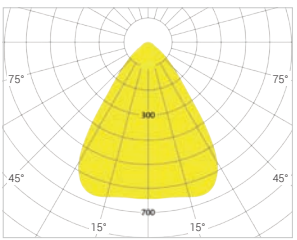
Supplied with quick connection for pendant mounting. Power supply with 5P quick connector.
Recommended installation height: between 5 m and 8 m.
The stated flux and power values may be subject to a +/- 7% tolerance.

	No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
+ 40 °C - 30 °C	84	117	19600	16349	Glass	140	DALI	8.59	**810630DA**
	112	156	26100	21798	Glass	140	DALI	8.74	**810640DA**
	140	179	30800	25712	Glass	144	DALI	8.94	**810650DA**
	168	215	37000	30883	Glass	144	DALI	9.31	**810660DA**
High temperature + 60 °C - 30°C	84	73	12700	10775	Glass	148	DALI	8.59	**810430HT**
	112	97	16900	14317	Glass	148	DALI	8.74	**810440HT**
	140	112	20300	16912	Glass	151	DALI	8.94	**810450HT**
	168	134	24200	20234	Glass	151	DALI	9.31	**810460HT**
High efficiency + 50°C - 30°C	84	96	16300	13632	Glass	142	DALI	8.59	**810430DA**
	112	129	21900	18318	Glass	142	DALI	8.74	**810440DA**
	140	151	26600	22197	Glass	147	DALI	8.94	**810450DA**
	168	181	31700	26426	Glass	146	DALI	9.31	**810460DA**
HACCP food safety + 40°C - 30°C	84	117	19600	16349	Polycarbonate	140	DALI	8.59	**810432DA**
	112	156	26100	21798	Polycarbonate	140	DALI	8.74	**810442DA**
	140	179	30800	25712	Polycarbonate	144	DALI	8.94	**810452DA**
	168	215	37000	30883	Polycarbonate	144	DALI	9.31	**810462DA**

Devices designed for operation in centralised emergency lighting systems (Vac/Vdc).
Special versions with the stand-alone emergency kit can be requested, page 118.

META150 pendant mounting





cd/klm

75° medium beam optics

Supplied with quick connection for pendant mounting. Power supply with 5P quick connector.
Recommended installation height: between 6 m and 9 m.
The stated flux and power values may be subject to a +/- 7% tolerance.

	No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
+ 40 °C - 30°C	84	117	19600	16022	Glass	137	DALI	8.59	**810631DA**
	112	156	26100	21362	Glass	137	DALI	8.74	**810641DA**
	140	179	30800	25193	Glass	141	DALI	8.94	**810651DA**
	168	215	37000	30260	Glass	141	DALI	9.31	**810661DA**
High temperature + 60 °C - 30°C	84	73	12700	10600	Glass	145	DALI	8.59	**810431HT**
	112	97	16900	14085	Glass	145	DALI	8.74	**810441HT**
	140	112	20300	16576	Glass	148	DALI	8.94	**810451HT**
	168	134	24200	19832	Glass	148	DALI	9.31	**810461HT**
High efficiency + 50°C - 30°C	84	96	16300	13440	Glass	140	DALI	8.59	**810431DA**
	112	129	21900	18060	Glass	140	DALI	8.74	**810441DA**
	140	151	26600	21895	Glass	145	DALI	8.94	**810451DA**
	168	181	31700	26064	Glass	144	DALI	9.31	**810461DA**
HACCP food safety + 40°C - 30°C	84	117	19600	16022	Polycarbonate	137	DALI	8.59	**810433DA**
	112	156	26100	21362	Polycarbonate	137	DALI	8.74	**810443DA**
	140	179	30800	25193	Polycarbonate	141	DALI	8.94	**810453DA**
	168	215	37000	30260	Polycarbonate	141	DALI	9.31	**810463DA**

Devices designed for operation in centralised emergency lighting systems (Vac/Vdc).
Special versions with the stand-alone emergency kit can be requested, page 118.

META pendant mounting

Body material	**EN 46100 aluminium alloy**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 7011**
Diffuser material	**Extra clear tempered glass or polycarbonate**
Protection rating	**IP66/IP67 according to IEC 60598-1**
Impact resistance	**IK08 according to IEC/EN 62262**
Corrosion class	**C4-M / C3-H (ISO 9223)**
Mounting system	**Quick connection for pendant mounting**
Ambient operating temperature	**-30 °C - +40 °C** **-30 °C - +55 °C (HT version)**
Ambient storage temperature	**-40 °C - +70 °C**
Actual efficacy of the device	**Up to 110 lm/W**
Colour temperature	**4000 K**
Optics features	**Non-ageing, UV-resistant PMMA lenses with >90% efficiency and >95% transparency**
Colour rendering index values	**CRI ≥ 80 according to EN 62717**
Colour consistency	**MacAdam 4-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**< 1%**
Luminous flux maintenance	**L80 B20 @ 110.000h Tq= +40 °C** **Tq= +55 °C (HT version)**
Emergency battery lifetime	**1h-3h**
Emergency battery charging time	**24h**
Insulation class	**I**
Supply voltage	**200-240 V 0/50/60 Hz**
Surge protection	**10kV common mode** **6 kV differential mode (EN 61000-4-5)**
Power factor	**≥ 0.95**
Type of power supply	**Quick connector**
Max. conductor cross-section	**2.5 mm²**
Entry cable diameter	**7 - 13 mm**

WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

DIRECTIVES

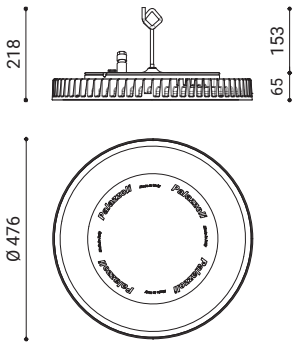
2014/30/EU (EMC)
2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)
2009/125/EC (ErP)
EU Reg. 2019/2020 (EcoDesign)

PRODUCT STANDARDS

EN 55015
EN 60598-1
EN 60598-2-1
EN 60598-2-5
EN 60598-2-22
EN 60598-2-24
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Special versions can be requested by combining materials, optics and operating temperatures.

META pendant mounting



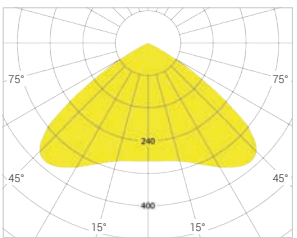
05

Class I

Flicker <1%

IP66

IK08



cd/klm

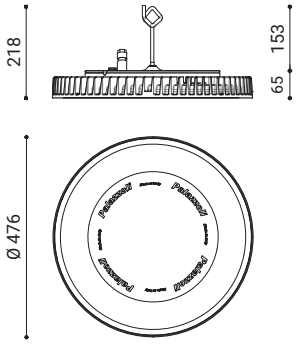
110° extra wide beam optics

Supplied with quick connection for pendant mounting. Power supply with 5P quick connector.
Recommended installation height: between 4 m and 8 m.
The stated flux and power values may be subject to a +/- 7% tolerance.

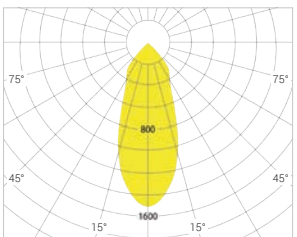
No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
+ 40°C / - 30°C								
9	99	13230	10830	Glass	109	1-10V dimmable	8.59	**810090**
12	133	17640	14439	Glass	109	1-10V dimmable	8.74	**810020**
15	168	22050	18049	Glass	107	1-10V dimmable	8.94	**810050**
18	199	26460	21659	Glass	109	1-10V dimmable	9.31	**810080**
Emergency								
+ 40°C / - 30°C								
9	99	13230	10830 (770 in EM)	Glass	109	Emergency	9.24	**810190**
12	133	17640	14439 (770 in EM)	Glass	109	Emergency	9.39	**810120**
15	168	22050	18049 (770 in EM)	Glass	107	Emergency	0.10	**810150**
18	199	26460	21659 (770 in EM)	Glass	109	Emergency	9.96	**810180**
High temperature								
+ 55 °C / - 30°C								
9	76	10187	8339	Glass	110	1-10V dimmable	8.59	**810090HT**
12	102	13583	11118	Glass	109	1-10V dimmable	8.74	**810020HT**
15	128	16979	13898	Glass	108	1-10V dimmable	8.94	**810050HT**
18	153	20374	16677	Glass	109	1-10V dimmable	9.31	**810080HT**

to be completed with the kit on page 118

META pendant mounting



05 | D | Class I | Flicker <1% | IP66 | IK08



cd/klm

41° narrow beam optics

Supplied with quick connection for pendant mounting. Power supply with 5P quick connector.
Recommended installation height: between 6 m and 9 m.
The stated flux and power values may be subject to a +/- 7% tolerance.

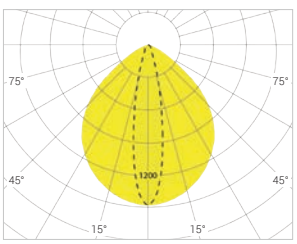
+ 40°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
9	99	13230	10572	Glass	107	1-10V dimmable	8.59	**810091**
12	133	17640	14096	Glass	106	1-10V dimmable	8.74	**810021**
15	168	22050	17620	Glass	105	1-10V dimmable	8.94	**810051**
18	199	26460	21144	Glass	106	1-10V dimmable	9.31	**810081**

High temperature

+ 55 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
9	76	10187	8140	Glass	107	1-10V dimmable	8.59	**810091HT**
12	102	13583	10854	Glass	106	1-10V dimmable	8.74	**810021HT**
15	128	16979	13567	Glass	105	1-10V dimmable	8.94	**810051HT**
18	153	20374	16281	Glass	106	1-10V dimmable	9.31	**810081HT**



cd/klm — C0 - C180 — C90 - C270

92° x 20° elliptical optics

Supplied with double-chain bracket connection. Power supply with 5P quick connector.
Recommended installation height: between 6 m and 9 m.
The stated flux and power values may be subject to a +/- 7% tolerance.

+ 40 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
9	99	13230	9965	Glass	101	1-10V dimmable	8.59	**810092**
12	133	17640	13287	Glass	100	1-10V dimmable	8.74	**810022**
15	168	22050	16609	Glass	99	1-10V dimmable	8.94	**810052**
18	199	26460	19931	Glass	100	1-10V dimmable	9.31	**810082**

Accessories META150 and META pendant mounting

META150 fitted with **bracket for ceiling installation**

Adjustable bracket for wall installation, poles and light towers

Material: Galvanised steel

Code: **810999**

Bracket for installation with 0-90° adjustable catenary wire

Material: Galvanised steel

Code: **810994**

Bracket for double chain and busbar installation

Material: Galvanised steel

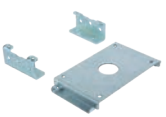
Code: **810997**

0-90° swivelling attachment for double chain and busbar installation

Material: Galvanised steel

Code: **810996**

Bracket for ceiling installation



Material: Galvanised steel

Code: **810998**

Bracket for horizontal Ø 60 mm pole installation

Material: Galvanised steel

Code: **810995**

Emergency kit 1h

Material: Aluminium alloy

Code: **810992**

+ 40 °C
0°C

Emergency kit 3h

Material: Aluminium alloy

Code: **810991**

+ 40 °C
0°C

Emergency kit

Features: 1 M20 entry and 1 exit with connector.
Notes: the interface bracket is suitable for a double fixed chain connection and for quick connection for pendant mounting. When performing the horizontal pole mounting, adjustable mounting, ceiling mounting and adjustable bracket mounting, the emergency kit must be mounted close to the device (max. 1.5 m).

TIGUA pendant mounting

WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

DIRECTIVES

2014/30/EU (EMC)
2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)
2009/125/EC (ErP)
EU Reg. 2019/2020 (EcoDesign)

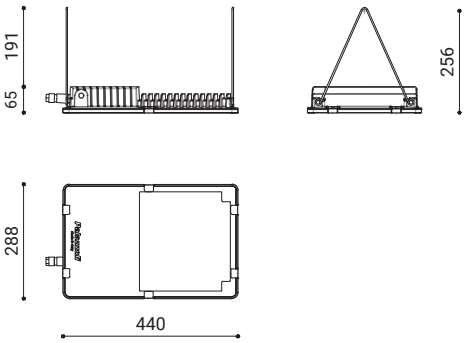
PRODUCT STANDARDS

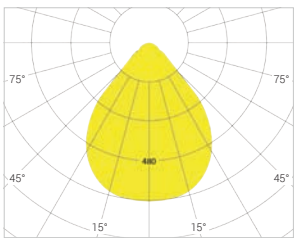
EN 55015
EN 60598-1
EN 60598-2-1
EN 60598-2-5
EN 60598-2-22
EN 60598-2-24
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Body material	**EN 44300 die-cast aluminium (aeronautical grade alloy)**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 7011**
Diffuser material	**Extra clear tempered glass or polycarbonate**
Protection rating	**IP66 as per IEC 60598-1**
Impact resistance	**IK08 according to IEC/EN 62262**
Corrosion class	**C5-M / C4-H (ISO 9223)**
Mounting system	**Pendant mounting**
Ambient operating temperature	**-30 °C - +40 °C -30 °C - +55 °C (HT version)**
Ambient storage temperature	**-40 °C - +70 °C**
Actual efficacy of the device	**Up to 122 lm/W**
Colour temperature	**4000 K**
Optics features	**Non-ageing, UV-resistant PMMA lenses with >90% efficiency and >95% transparency**
Colour rendering index values	**CRI ≥ 80 according to EN 62717**
Colour consistency	**MacAdam 4-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**< 1%**
Luminous flux maintenance	**L80 B20 @ 120,000h Tq= +40 °C Tq= +55 °C (HT version)**
Emergency battery lifetime	**1h-3h**
Emergency battery charging time	**24h**
Insulation class	**I**
Supply voltage	**200-240 V 0/50/60 Hz**
Surge protection	**8 kV common mode 6 kV differential mode (EN 61000-4-5)**
Power factor	**≥ 0.95**
Type of power supply	**Quick connector**
Max. conductor cross-section	**1.5 mm²**
Entry cable diameter	**9 to 12 mm**

Special versions can be made by combining materials, optics and operating temperatures. It is possible to supply products with insulation class II and colour temperatures from 3000K to 6500K.

TIGUA pendant mounting





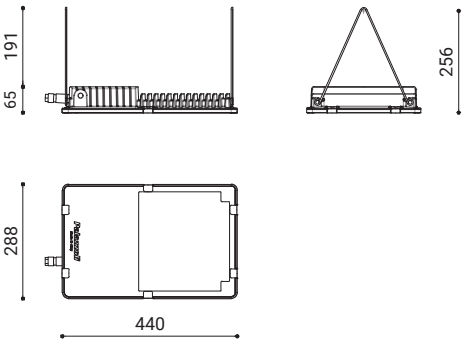
cd/klm

Symmetrical 81° extra wide beam optics

Included: double chain bracket and busbar. Power supply with 5P quick connector.
Recommended installation height: between 4 m and 7 m.
The stated flux and power values may be subject to a +/- 7% tolerance.

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
+ 40°C - 30°C								
4	33	4625	3958	Glass	120	1-10V dimmable	5.36	**817304**
8	67	9250	8064	Glass	120	1-10V dimmable	5.82	**817308**
12	99	13875	11944	Glass	121	1-10V dimmable	5.86	**817312**
16	132	18500	15926	Glass	121	1-10V dimmable	5.88	**817316**
20	153	23125	18032	Glass	118	1-10V dimmable	6.38	**817320**
24	182	27750	22100	Glass	121	1-10V dimmable	6.50	**817324**
4	33	4625	3958	Glass	120	DALI	5.35	**817304DA**
8	67	9250	8064	Glass	120	DALI	5.81	**817308DA**
12	99	13875	11944	Glass	121	DALI	5.78	**817312DA**
16	132	18500	15926	Glass	121	DALI	5.88	**817316DA**
20	153	23125	18032	Glass	118	DALI	6.17	**817320DA**
24	182	27750	22100	Glass	121	DALI	6.44	**817324DA**
High temperature								
+ 55 °C - 30°C								
4	33	4625	3477	Glass	105	1-10V dimmable	5.35	**817304HT**
8	67	9250	6954	Glass	104	1-10V dimmable	5.81	**817308HT**
12	74	11575	8593	Glass	116	1-10V dimmable	5.86	**817312HT**
16	94	15434	10990	Glass	117	1-10V dimmable	5.88	**817316HT**
20	112	18135	13292	Glass	119	1-10V dimmable	6.38	**817320HT**
24	133	21761	15746	Glass	118	1-10V dimmable	6.73	**817324HT**

TIGUA pendant mounting

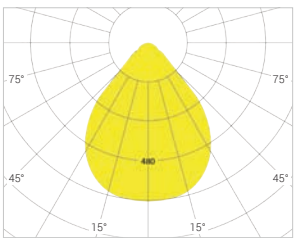


Flicker <1%

Class I

IP66

IK08



cd/klm

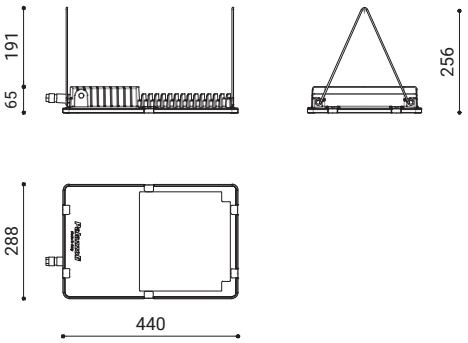
Symmetrical 81° extra wide beam optics

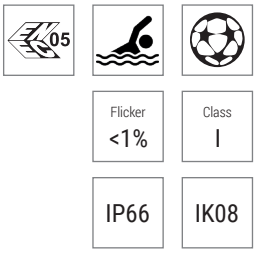
Included: double chain bracket and busbar. Power supply with 5P quick connector.
Recommended installation height: between 4 m and 7 m.
The stated flux and power values may be subject to a +/- 7% tolerance.

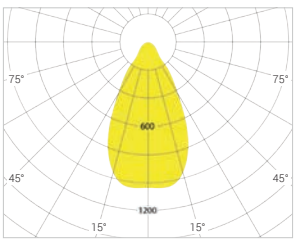
No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
HACCP food safety + 40°C - 30°C								
4	33	4625	3958	Polycarbonate	120	1-10V dimmable	4.88	**817504**
8	67	9250	8064	Polycarbonate	120	1-10V dimmable	5.34	**817508**
12	99	13875	11944	Polycarbonate	121	1-10V dimmable	5.39	**817512**
16	132	18500	15926	Polycarbonate	121	1-10V dimmable	5.88	**817516**
20	153	23125	18032	Polycarbonate	118	1-10V dimmable	5.91	**817520**
24	182	27750	22100	Polycarbonate	121	1-10V dimmable	5.94	**817524**
Emergency + 40°C 0 °C								
4	33	4625	3958 (995 in EM)	Glass	120	Emergency	5.65	**817305**
8	67	9250	8064 (995 in EM)	Glass	120	Emergency	6.11	**817309**
12	99	13875	11944 (995 in EM)	Glass	121	Emergency	6.16	**817313**
16	132	18500	15926 (995 in EM)	Glass	121	Emergency	6.18	**817317**
20	153	23125	18032 (995 in EM)	Glass	118	Emergency	6.68	**817321**
24	182	27750	22100 (995 in EM)	Glass	121	Emergency	6.73	**817325**

to be completed with the kit on page 124

TIGUA pendant mounting







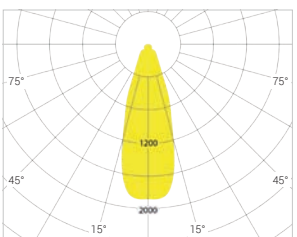
cd/klm

55° medium symmetric optics

Included: double chain bracket and busbar. Power supply with 5P quick connector.
Recommended installation height: between 5 m and 8 m.
The stated flux and power values may be subject to a +/- 7% tolerance.

+ 40°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
4	33	4625	3789	Glass	115	1-10V dimmable	6.70	**817354**
8	67	9250	7577	Glass	113	1-10V dimmable	5.81	**817358**
12	99	13875	11218	Glass	113	1-10V dimmable	5.86	**817362**
16	132	18500	14957	Glass	113	1-10V dimmable	6.18	**817366**
20	145	23125	17069	Glass	118	1-10V dimmable	6.68	**817370**
24	170	27750	20208	Glass	119	1-10V dimmable	6.73	**817374**



cd/klm

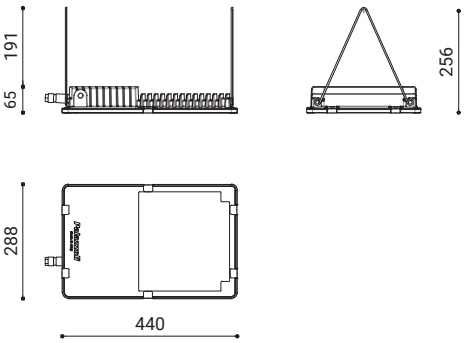
Symmetrical 36° narrow beam optics

Included: double chain bracket and busbar. Power supply with 5P quick connector.
Recommended installation height: over 6 m.
The stated flux and power values may be subject to a +/- 7% tolerance.

+ 40°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
4	33	4625	3757	Glass	114	1-10V dimmable	5.35	**817404**
8	67	9250	7515	Glass	112	1-10V dimmable	5.78	**817408**
12	99	13875	11123	Glass	112	1-10V dimmable	5.81	**817412**
16	132	18500	14831	Glass	112	1-10V dimmable	5.88	**817416**
20	145	23125	16924	Glass	117	1-10V dimmable	6.38	**817420**
24	170	27750	20034	Glass	118	1-10V dimmable	6.73	**817424**

TIGUA pendant mounting

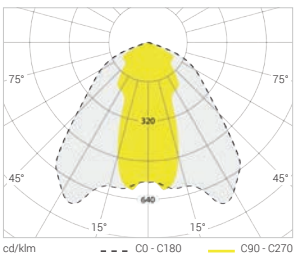


Flicker <1%

Class I

IP66

IK08



95° x 41° elliptical optics

Included: double chain bracket and busbar. Power supply with 5P quick connector.
Recommended installation: suitable for installation between the aisles of industrial warehouses.
The stated flux and power values may be subject to a +/- 7% tolerance.

+ 40°C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
4	33	4625	3864	Glass	117	1-10V dimmable	5.35	**817454**
8	67	9250	7728	Glass	115	1-10V dimmable	5.81	**817458**
12	99	13875	11444	Glass	116	1-10V dimmable	5.86	**817462**
16	132	18500	15258	Glass	116	1-10V dimmable	5.88	**817466**
20	153	23125	17418	Glass	114	1-10V dimmable	6.38	**817470**
24	182	27750	20627	Glass	113	1-10V dimmable	6.73	**817474**

Accessories TIGUA pendant mounting

TIGUA for pendant mounting provided with **0 - 90° adjustable connection for double chain and busbar installation**

0 - 90° adjustable connection for catenary wire installation

Material:
Galvanised steel

Code: **811921**

Swivelling connection 0 - 90° for double chain and busbar installation

Material:
Galvanised steel

Code: **811919**

Kit with bracket for ceiling installation

Material:
Galvanised steel

Code: **811916**

Set of brackets for pole installation diam. 60mm

Material:
Galvanised steel

Code: **811920**

Emergency kit 1h

Material:
Aluminium alloy

Code: **811923**

+ 40 °C
0°C

Emergency kit 3h

Material:
Aluminium alloy

Code: **811924**

+ 40 °C
0°C

Emergency kit

Features: 1 M20 entry and 1 exit with connector.
Notes: the interface bracket is suitable for a double fixed chain connection and for quick connection for pendant mounting. When performing the horizontal pole mounting, adjustable mounting, ceiling mounting and adjustable bracket mounting, the emergency kit must be mounted close to the device (max. 1.5 m).

XTIGUA pendant mounting

Body material	**Low-copper aluminium alloy EN 44300**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic polyester, anti UV, kilnpolymerised coating**
Colour	**RAL 7011**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 as per IEC 60598-1**
Impact resistance	**IK08 according to IEC/EN 62262**
Corrosion class	**C5-M / C4-H (ISO 9223)**
Mounting system	**Pendant mounting**
Ambient operating temperature	**-30 °C - +35 °C -30 °C - +55 °C (HT version) -30 °C - +70 °C (VHT version)**
Ambient storage temperature	**-40 °C - +70 °C**
Actual efficacy of the device	**Up to 130 lm/W**
Colour temperature	**4000 K**
Optics features	**Non-ageing, UV-resistant PMMA lenses with >90% efficiency and >95% transparency**
Colour rendering index values	**CRI ≥ 80 according to EN 62717**
Colour consistency	**MacAdam 4-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**< 1%**
Luminous flux maintenance	**L80 B20 @ 120,000h Tq= +40 °C L80 B20 @ 120,000h Tq= +55 °C (HT version) L80 B20 @ 100,000h Tq= +70 °C (VHT version)**
Insulation class	**I**
Supply voltage	**200-240 V 0/50/60 Hz**
Surge protection	**8 kV common mode 6 kV differential mode (EN 61000-4-5)**
Power factor	**≥ 0.95**
Type of power supply	**Quick connector**
Max. conductor cross-section	**2.5 mm²**
Entry cable diameter	**7 - 13 mm**

WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

DIRECTIVES

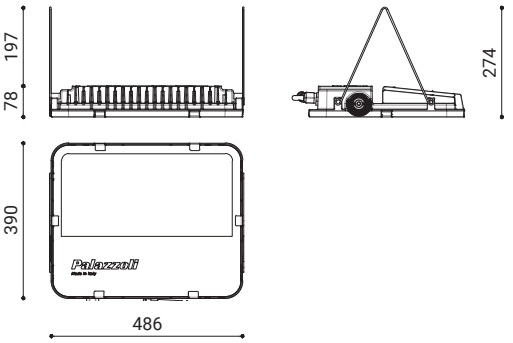
2014/30/EU (EMC)
2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)
2009/125/EC (ErP)
EU Reg. 2019/2020 (EcoDesign)

PRODUCT STANDARDS

EN 55015
EN 60598-1
EN 60598-2-1
EN 60598-2-5
EN 60598-2-22
EN 60598-2-24
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Special versions can be made by combining materials, optics and operating temperatures. It is possible to supply products with insulation class II and colour temperatures from 3000K to 6500K.

XTIGUA pendant mounting | size M



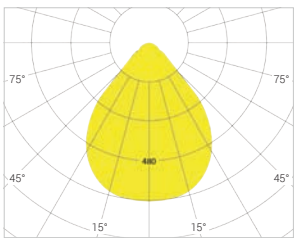
05

Flicker <1%

Class I

IP66

IK08



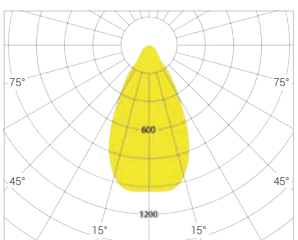
cd/klm

Symmetrical 81° extra wide beam optics

Included: double chain bracket and busbar. Recommended installation height between 9 m and 15 m.
Power supply via 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
28	235	33250	28787	Glass	123	DALI	7.50	**819328DA**
32	270	38000	32940	Glass	122	DALI	7.60	**819332DA**

+ 35°C
- 30°C



cd/klm

55° medium symmetric optics

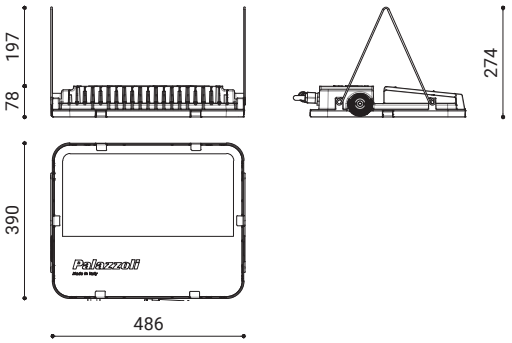
Included: double chain bracket and busbar. Recommended installation height between 9 m and 15 m.
Power supply via 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
28	166	27009	21580	Glass	130	DALI	7.50	**819428HT**
32	189	30867	24532	Glass	130	DALI	7.60	**819432HT**

High temperature

+ 55°C
- 30°C

XTIGUA pendant mounting | size M



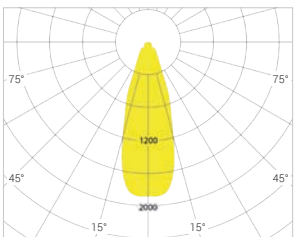
05

Flicker <1%

Class I

IP66

IK08



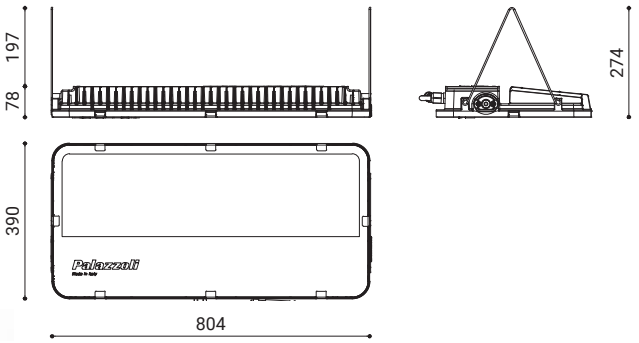
cd/klm

Symmetrical 36° narrow beam optics

Included: double chain bracket and busbar. Recommended installation height between 9 m and 15 m.
Power supply via 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.

	No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
+35°C - 30°C	28	235	33250	28670	Glass	122	DALI	7.50	**819528DA**
	32	270	38000	32805	Glass	122	DALI	7.60	**819532DA**
Very high temperature	28	166	27009	21580	Glass	130	DALI	8.60	**819528VHT**
	32	189	30867	24570	Glass	130	DALI	8.70	**819532VHT**
+70°C - 30°C									

XTIGUA pendant mounting | size L



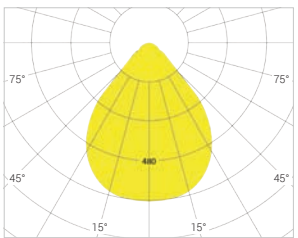
05

Flicker <1%

Class I

IP66

IK08



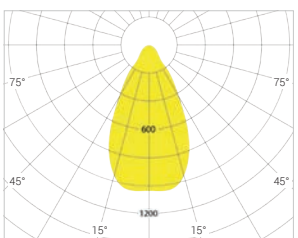
cd/klm

Symmetrical 81° extra wide beam optics

Included: double chain bracket and busbar. Recommended installation height between 9 m and 15 m.
Power supply via 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
40	336	47500	41160	Glass	123	DALI	12.00	**819340DA**
48	400	57000	48800	Glass	122	DALI	12.10	**819348DA**

+ 35°C
- 30°C



cd/klm

55° medium symmetric optics

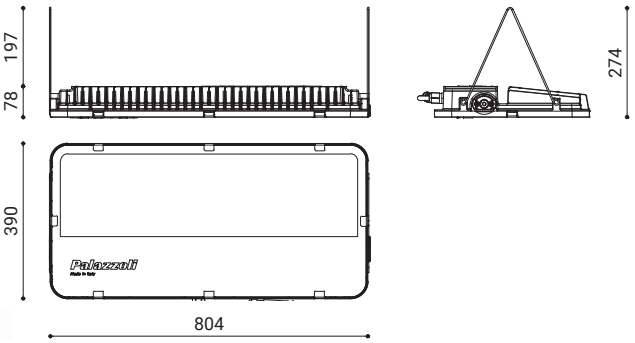
Included: double chain bracket and busbar. Recommended installation height between 9 m and 15 m.
Power supply via 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
40	237	38584	30810	Glass	130	DALI	12.00	**819440HT**
48	284	46301	36579	Glass	129	DALI	12.10	**819448HT**

High temperature

+ 55°C
- 30°C

XTIGUA pendant mounting | size L



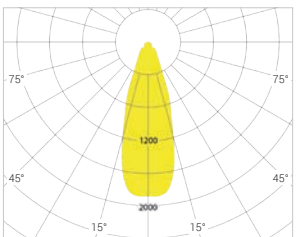
05

Flicker <1%

Class I

IP66

IK08



cd/klm

Symmetrical 36° narrow beam optics

Included: double chain bracket and busbar. Recommended installation height between 9 m and 15 m.
Power supply via 5Px1.5mm² quick connector and 1.5mm² H07RN-F cable.

	No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
+ 35°C - 30°C	40	336	47500	40992	Glass	122	DALI	12.00	**819540DA**
	48	400	57000	48600	Glass	122	DALI	12.10	**819548DA**
Very high temperature	40	237	38584	30810	Glass	130	DALI	14.30	**819540VHT**
	48	284	46301	36920	Glass	130	DALI	14.40	**819548VHT**
+ 70°C - 30°C									

Accessories XTIGUA pendant mounting

X-TIGUA pendant mounting fitted with **Kit with bracket for ceiling installation - size L**

Adjustable connection 0 - 90°
for double chain installation - size M

Material:
Galvanised steel

Code: **819994**

Adjustable connection 0 - 90°
for double chain installation - size L

Material:
Galvanised steel

Code: **819995**

Kit with bracket for ceiling installation - size M

Material:
Galvanised steel

Code: **819996**

Note: cannot be used on the VHT 70 °C version

Kit with bracket for ceiling installation - size L

Material:
Galvanised steel

Code: **819997**

Note: cannot be used on the VHT 70 °C version

Control systems

For light fixtures with
DALI power supply

Industry

IMPERIUM
with DALI wiring
Page 132

IMPERIUM
wireless
Page 134

IMPERIUM with DALI wiring

DALI SENSOR, CODE 836001	
Addressable DALI sensor for surface mounting in large areas	**Power supply 110-240V Vac - 50/60Hz**
Maximum installation height	**14 m**
Protection rating	**IP20**
Electrical insulation class	**II**
Brightness setting value of twilight sensor	**10 - 2000 lux**
Absorbed power	**1 W**
Detection area	**Vertical 360°**
Operating temperature	**-25 °C – +50 °C**
Casing material	**Polycarbonate**
Max. no. of controllable light fixtures per sensor	**40 META light fixtures 40 TIGUA light fixtures 40 XTIGUA M light fixtures 20 XTIGUA L light fixtures 40 RINO light fixtures**

CE

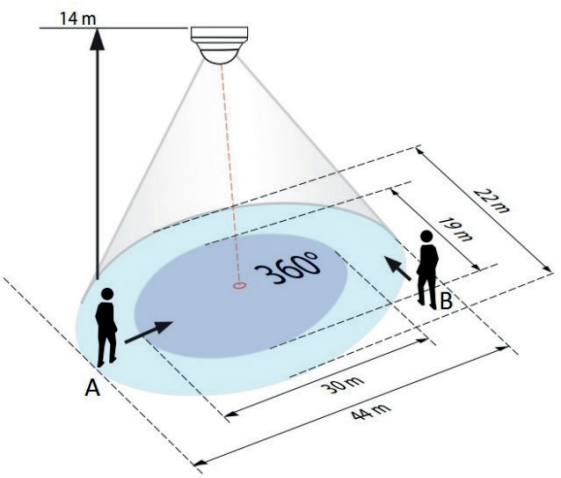
DIRECTIVES

2014/53/EU (RED)
2014/30/EU (EMC)
2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)

PRODUCT STANDARDS

EN 55022
EN 50491-2
EN 50491-3
EN 50491-5-1
EN 50491-5-2
EN 50491-5-3
EN 61000-3-2
EN 61000-3-3
EN 62386-101
EN 62386-103
EN 63000

SENSING RANGE

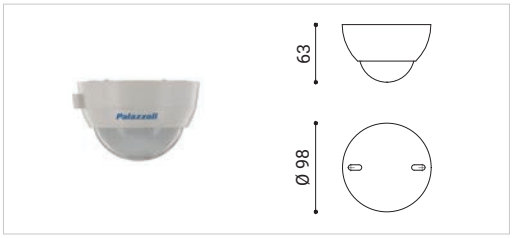


A: frontal approach to the sensor
B: side approach to the sensor

Palazzoli is able to provide light and presence sensors with reading heights suitable for different applications and protocols.

IMPERIUM with DALI wiring

Class II



DALI brightness and presence sensor

For adjusting artificial lighting depending on the daylight.

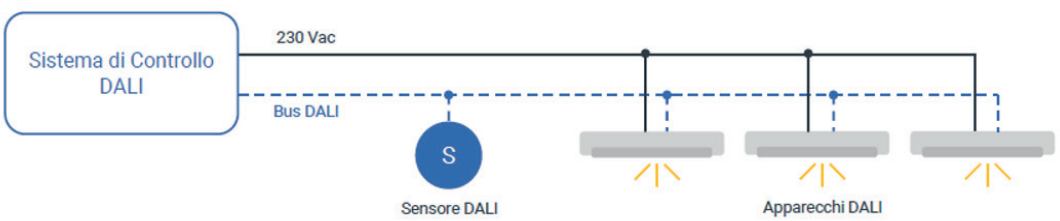
	Interface	Maximum manageable light fixtures (No.)	Weight (kg)	Colour	Code
Standard + 50 °C - 25 °C	DALI/DSI	40	0.125	White	**836001**

IR remote control

For programming the switching threshold of light sensors.

	Detector type	Detection	Max. reception distance (m)	Included	Light measurement	Code
Standard + 50 °C - 25 °C	Movement and natural light	Automatic and semi-automatic	17	Wall bracket	Via test button or automatically when the light is less than 50 LUX for 1 hour	**836002**

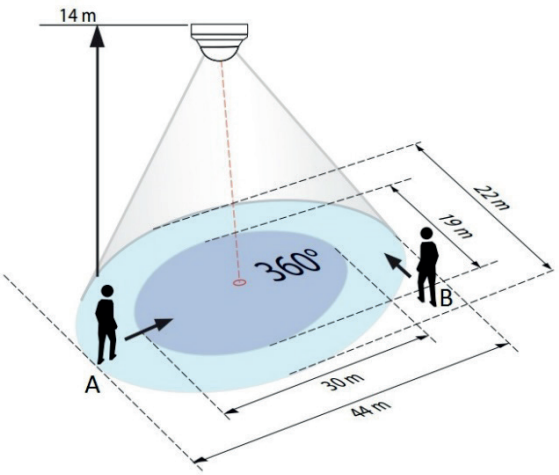
SYSTEM ARCHITECTURE



The DALI sensor constantly measures the ambient brightness value and compares this value with the value set in the presence detector. If the natural light value is sufficient, artificial lights will not be switched on. If the daylight value is lower than the set value, the sensor switches on the light and adjusts it to the set light level. The detector automatically switches off the light after 5 minutes if the daylight present is greater than the set Lux value and/or if no presence is detected after the set delay time.

IMPERIUM Wireless

SENSING RANGE



A: frontal approach to the sensor
B: side approach to the sensor

DIRECTIVES

2014/53/EU (RED)
2014/30/EU (EMC)
2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)

PRODUCT STANDARDS

EN 55015
EN 61000-3-2
EN 61000-3-3
EN 61347-1
EN 61347-2-11
EN 61547
EN 63000
EN 300 220-2
EN 301 489-1
EN 301 489-3

IMPERIUM GATEWAY

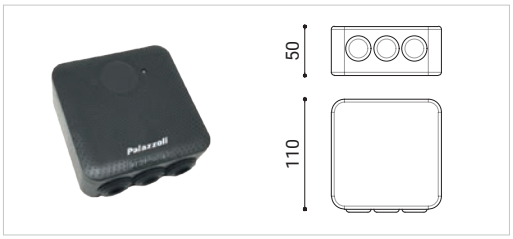
Input voltage	**9V battery - portable**
IP rating	**IP40**
Weight	**200 gr**
Node dimensions	**120x76x28mm**
Operating temperature	**0 °C - +60 °C**

IMPERIUM NODE AND SENSOR

Input voltage	**85 - 305 Vac 47-63 Hz**
Absorbed power	**2W**
IP rating	**IP54**
Weight	**200 gr**
Input-output isolation	**4KV**
Node dimensions	**109x109x50mm**
Operating temperature	**-10 °C - +65 °C**

Palazzoli can provide consultancy on request for the integration of more complex functions, such as consumption monitoring, access control and implementation in building automation systems, and management of situations with obstacles to the transmission of wireless signals.

IMPERIUM Wireless



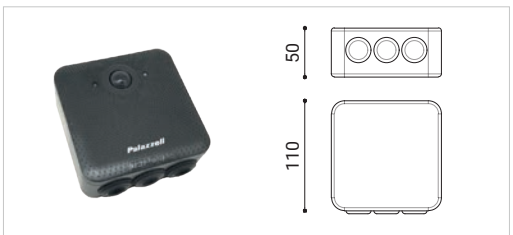
Node

Controls and powers up to 4 standard DALI or 1/10V drivers,
500VA normally closed (NC) relay output, digital input.
The IMPERIUM NODE can be centralised and integrated with third-party systems via Modbus TCP.

Wireless network (MHZ)	Antenna	Power supply (V)	Dimensions (mm)	Code
868	Internally built-in	85-305	109 x 109 x 46	**836101**

Standard

+ 65 °C
-10 °C



Sensor

It manages the regulation and power of up to 4 standard DALI or 1/10V drivers, 500VA normally closed (NC) relay output, digital input.
Light and motion sensor Mid Bay (Hmax 10m – FOV 108°) and High Bay (Hmax 17m – FOV 69°). IP54.
The IMPERIUM SENSOR can be centralised and integrated with third-party systems via Modbus TCP.

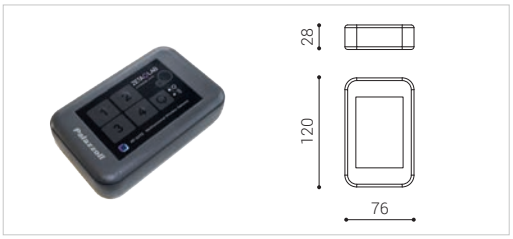
Wireless network (MHZ)	Antenna	Power supply (V)	Dimensions (mm)	Code
868	Internally built-in	85-305	109 x 109 x 46	**836102**

Standard

+ 65 °C
-10 °C

IMPERIUM Wireless

Class II



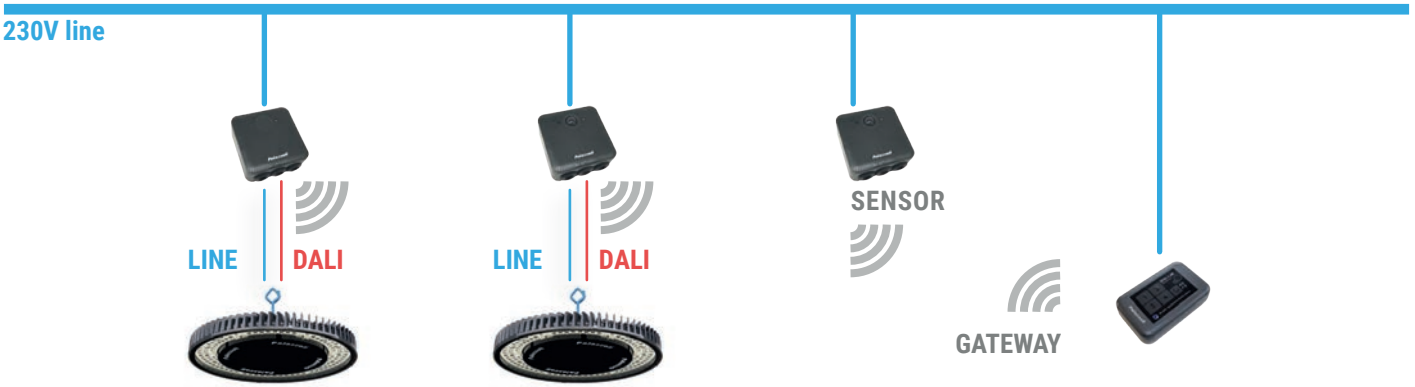
Gateway

It allows you to configure wireless systems via the ZQ Light Link App, compatible with Bluetooth Low Energy Android and iOS smartphones.

	Wireless network (MHZ)	Battery	Protocol	Dimensions (mm)	Code
Standard	868	9 V included	Mesh Network, LBT and AFA	120 x 76 x 28	**836103**

+ 50 °C
- 25 °C

SYSTEM ARCHITECTURE



Traditional

Industrial interiors
Outdoor areas
Sports facilities
Warehouses
Hangars
Shopping centres

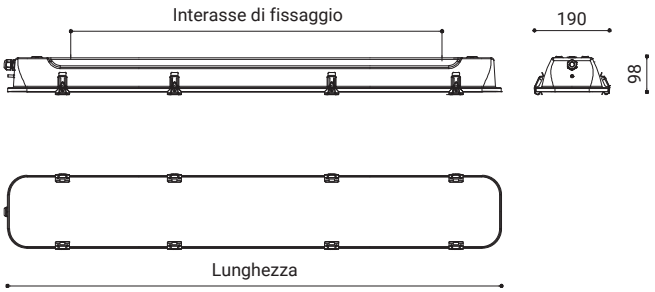
Industry

RINO
fluorescent
Page 138

RINO
E27, G23
Page 140

RINO
E27
Page 143

RINO fluorescent



Length (mm)	Fixing centre distance (mm)
690	480
1300	1090

Body material	**AISI 304 stainless steel Painted galvanised steel**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 9016**
Diffuser material	**Extra clear tempered glass or polycarbonate**
Protection rating	**IP66/IP67 according to IEC 60598-1 (glass diffuser) IP66 according to IEC 60598-1 (polycarbonate diffuser)**
Impact resistance	**IK09 as per IEC/EN 62262**
Corrosion class	**C5 AISI 304 stainless steel (ISO 9223)**
Mounting system	**Pair of AISI 304 stainless steel hooks**
Ambient operating temperature	**-25 °C - +50 °C**
Ambient storage temperature	**-40°C - +70°C**
Lamp holder type	**G13 T8 / G5 T5**
Emergency battery lifetime	**1 h**
Emergency battery charging time	**24 h**
Insulation class	**I**
Supply voltage	**220V-240V 0/50/60Hz**
Power factor	**>0.90**
Type of power supply	**Spring clamps and M20 cable gland**
Max. conductor cross-section	**2.5 mm²**
Entry cable diameter	**7-14 mm**

DIRECTIVES

2014/30/EU (EMC)
2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)
2009/125/EC (ErP)
EU Reg. 2019/2020 (EcoDesign)

PRODUCT STANDARDS

EN 55015
EN 60598-1
EN 60598-2-1
EN 60598-2-22
EN 60598-2-24
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 63000

RINO fluorescent

IK09

Class I

	Length (mm)	Power (W)	Tube type	Diffuser	Version	Weight (kg)	Code
Stainless steel White reflector	690	1x18	T8	Glass	On/Off	3.28	**822131**
	690	2x18	T8	Glass	On/Off	3.33	**822132**
	1300	1x36	T8	Glass	On/Off	5.41	**822231**
	1300	2x36	T8	Glass	On/Off	5.82	**822232**
	1300	1+1x36	T8	Glass	Emergency	6.73	**822211**
	1300	2x54	T5	Glass	On/Off	5.91	**822962**
Stainless steel Symmetrical aluminium reflector	690	2x18	T8	Polycarbonate	On/Off	2.84	**825132**
	1300	2x36	T8	Polycarbonate	On/Off	4.85	**825232**
	1300	1+1x36	T8	Polycarbonate	Emergency	5.67	**825211**
Galvanised steel White reflector	690	2x18	T8	Polycarbonate	On/Off	2.57	**847132**
	1300	2x36	T8	Polycarbonate	On/Off	4.70	**847232**
	1300	1+1x36	T8	Polycarbonate	Emergency	5.58	**847211**

Accessories RINO fluorescent

Pairs of hooks for pendant mounting

Material: STAINLESS steel AISI 304

Code: **820001**

Pair of adjustable supports for wall and ceiling installation

Material: STAINLESS steel AISI 304

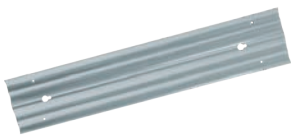
Code: **820000**

Pair of collars for installation on pipe

Material: STAINLESS steel AISI 304

Code: **820006**

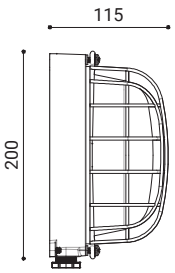
High-performance mirror-polished aluminium reflector

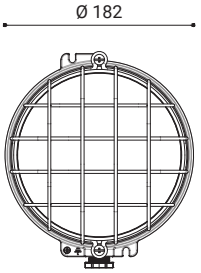


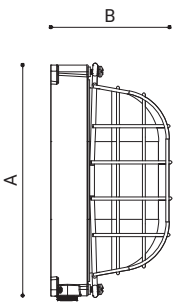
Material: Aluminium

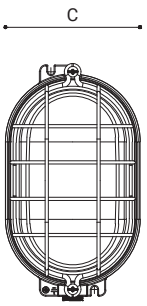
Length (mm)	Manufacturing material	For light fixtures (W)	Weight (kg)	Code
690 mm	Aluminium	18	0.16	**820002**
1300 mm	Aluminium	36, 54	0.20	**820003**

RINO light fixtures E27, G23









P max (W)	A (mm)	B (mm)	C (mm)
60	199	119	112
75	226	122	130
100	295	142	170

Body material	**EN 46100 aluminium alloy**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 7035**
Diffuser material	**Prismatic tempered glass**
Protection rating	**IP66 as per IEC 60598-1**
Impact resistance	**IK07 according to IEC/EN 62262**
Mounting system	**Ready for wall installation**
Ambient operating temperature	**-40°C - +70°C**
Ambient storage temperature	**-50°C - +80°C**
Lamp holder type	**Type E27 in porcelain and type G23 in technopolymer**
Insulation class	**I**
Supply voltage	**230V 0/50/60 Hz**
Type of power supply	**M20 cable gland**
Max. conductor cross-section	**2.5 mm²**
Entry cable diameter	**7 - 13 mm**

DIRECTIVES

2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)
2009/125/EC (ErP)
EU Reg. 2019/2020 (EcoDesign)

PRODUCT STANDARDS

EN 60598-1
EN 60598-2-1
EN 63000

RINO light fixtures E27, G23 | Oval

Class I | IP66 | IK07

	Power (W)	Dimensions (mm)	Version	No. of entries	Weight (kg)	Code
Aluminium alloy	60	199 x 112	E27	1	0.80	**831071**
	60	199 x 112	E27	2	0.78	**831091**
	75	226 x 130	E27	1	1.58	**831171**
	75	226 x 130	E27	2	1.41	**831191**
	100	295 x 170	E27	1	1.95	**831271**
	100	295 x 170	E27	2	1.81	**831291**
	5-7-9	295 x 170	G23	1	2.18	**831914**
With protective steel cage	60	199 x 112	E27	1	0.85	**831072**
	60	199 x 112	E27	2	0.83	**831092**
	75	226 x 130	E27	1	1.75	**831172**
	75	226 x 130	E27	2	1.95	**831192**
	100	295 x 170	E27	1	1.95	**831272**
	100	295 x 170	E27	2	1.91	**831292**
	5-7-9	295 x 170	G23	1	2.28	**831934**
With molten cage	60	199 x 112	E27	1	0.87	**831075**
	60	199 x 112	E27	2	0.87	**831095**
	75	226 x 130	E27	1	1.11	**831175**
	75	226 x 130	E27	2	1.12	**831195**
	100	295 x 170	E27	1	2.35	**831275**
	100	295 x 170	E27	2	2.00	**831295**
	5-7-9	295 x 170	G23	1	2.33	**831954**

RINO light fixtures E27, G23 | Round

Class I | IP66 | IK07

	Power (W)	Dimensions (mm)	Version	No. of entries	Weight (kg)	Code
Aluminium alloy	75	200 x 182	E27	1	0.98	**830071**
With steel cage	75	200 x 182	E27	1	1.23	**830072**

LIGHT FIXTURES/LAMPS CORRESPONDENCE	Maximum power (W)	LED (W)	Nominal flux (lm)		Halogen (W)
			Warm white 3000K	Neutral white 4000K	
	60	8.7	630	640	42
	75	8.7	940	960	53
	100	13	1200	1250	72
	75	17	1530	1590	53

Accessories RINO E27, G23 | Oval and round

Swann bayonet lamp holder

Material: Brass

Code: **859412**

RINO cylindrical well glass fixtures E27

E27 | Class I | IP66 | IK07

	Power (W)	No. of entries	Installation type (mm)	Weight (kg)	Code
Aluminium alloy	60	1	ceiling-mounted	0.86	**810071**
	75	1	ceiling-mounted	1.32	**810171**
	100	1	ceiling-mounted	2.87	**810271**
	60	1	pendant mounting	0.86	**812071**
	75	1	pendant mounting	1.18	**812171**
	100	1	pendant mounting	1.94	**812271**
	60	1	wall-mounted, 90° angled	0.82	**811071**
	75	1	wall-mounted, 90° angled	1.40	**811171**
	100	1	wall-mounted, 90° angled	2.13	**811271**
	60	1	wall-mounted, angled	0.82	**813071**
	75	1	wall-mounted, angled	1.34	**813171**
	100	1	wall-mounted, angled	2.24	**813271**
Thermosetting material	60	1	portable	0.97	**814052**

WELL GLASS FIXTURES / LAMPS CORRESPONDENCE	Maximum power (W)	LED (W)
	60	10
	75	11
	100	16

Accessories RINO well glass fixtures

Junction box for ceiling installation Ø 62 mm

Material: Aluminium alloy

Code: **812988**

RINO cylindrical lamp bodies E27

E27 | Class I | IP66 | IK07

	Power (W)	No. of entries	Installation type (mm)	Weight (kg)	Code
Aluminium alloy	60	1	ceiling-mounted	0.38	**810060**
	75	1	ceiling-mounted	0.50	**810100**
	100	1	ceiling-mounted	0.89	**810200**
	60	1	pendant mounting	0.36	**812060**
	75	1	pendant mounting	0.58	**812100**
	100	1	pendant mounting	1.62	**812200**
	60	1	wall-mounted, 90° angled	0.39	**811060**
	75	1	wall-mounted, 90° angled	0.54	**811100**
	100	1	wall-mounted, 90° angled	0.88	**811200**
	60	1	wall-mounted, angled	0.41	**813060**
	75	1	wall-mounted, angled	0.51	**813100**
	100	1	wall-mounted, angled	0.95	**813200**

Accessories RINO well glass fixtures

Transparent diffusers

Material:
Clear ribbed glass

Max power (W)	Code
60	**819012**
75	**819112**
100	**819212**

Coloured diffusers

Material:
Smooth glass

Max power (W)	Colour	Code
60	Transparent	**850060**
40	blue	**850061**
40	Yellow	**850062**
40	Red	**850063**
40	Green	**850064**

Coloured diffusers

Material:
coloured polycarbonate

Max power (W)	Colour	Code
40	Transparent	**819015**
40	Yellow	**819017**
40	Red	**819018**
40	Green	**819019**

Swann bayonet lamp holder with fins

Material: Brass

Type	Code
B22d 4A 250C	**859400**

Protection cages

Material:
Galvanised and tropical-ised steel wire

Max power (W)	Code
60	**819020**
75	**819120**
100	**819220**

Protection cages

Material:
Stainless Steel wire

Max power (W)	Code
60	**819022**
75	**850172**

Reflectors

Material:
Galvanised and stove-enamelled steel

Max power (W)	Code
60	**819030**
75	**819130**
100	**819230**

Atex

The company has extensive experience in extreme environments where flammable materials, oxidising chemicals, salt solutions, acids and motor and vegetable oils are handled. Palazzoli is the absolute market leader in Atex products, explosion-proof equipment for high-risk environments. Power plants, chemical industries, oil platforms, military bases and refineries are just a few areas where lighting devices must prevent any propagation of sparks and ensure safe and reliable operation over time.

The company has consolidated experience in extreme environments, where the presence of oxidising chemicals, saline solutions, acids and motor and vegetable oils has forged the products for which Palazzoli is the absolute market leader.

The IE regulatory system, in particular with the IEC 60079-10 series of standards, which establishes the basic rules for electrical installations in places where there is a danger of explosion due to the presence of both gas and combustible dust, with regard to the classification of hazardous areas, refers to a particular calculation model, called the I IEC zone system.
This model is based on the determination of the probability of the formation of an explosive atmosphere and its persistence over time in the environments, which thus become fundamental parameters for the classification of hazardous areas.

Danger	Gases - vapours	Dusts
Permanent	**ZONE 0**	**ZONE 20**
Occasional	**ZONE 1**	**ZONE 21**
Not likely	**ZONE 2**	**ZONE 22**

Floodlights Page 151

Light fixtures Page 161

Pendant light fixtures Page 171

Traditional Page 179

Floodlights

For environments where flammable gases and combustible dusts are present

Atex

TIGUA-EX
zone 1, 2, 21, 22
5800 lm to 16550 lm
Page 152

XTIGUA-EX
zone 1, 2, 21, 22
17350 lm to 33100 lm
Page 154

TIGUA-EX
zone 2, 21, 22
6300 lm to 18000 lm
Page 156

XTIGUA-EX
zone 2, 21, 22
19600 lm to 36900 lm
Page 158

TIGUA-EX | Zone 1, 2, 21, 22 | floodlight

Atex execution - Gas	**II 2G - Ex eb mb IIC T5 Gb**
Atex execution - Dust	**II 2D Ex tb IIIC T 85 °C Db**
Body material	**Low-copper aluminium alloy EN 44300**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 9005**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 according to IEC 60079-0 and 60598-1**
Impact resistance	**IK08 according to IEC 62262**
Corrosion class	**C5-M / C4-H (ISO 9223)**
Mounting system	**U-bracket with -135° to +135° adjustment**
Ambient operating temperature	**-35 °C - +50 °C (-40 °C on request)**
Ambient storage temperature	**-40°C - +70°C**
Actual efficacy of the device	**Up to 115 lm/W**
Colour temperature	**4000K**
Optics features	**UV-stabilised polycarbonate lens sealed to LED module by silicone resin**
Colour rendering index values	**CRI≥80 according to EN 62717**
Colour consistency	**MacAdam 4-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**<4%**
Luminous flux maintenance	**L90 B10 110,000 h Tq=+40 °C L90 B10 230,000 h Tq=+25 °C**
Insulation class	**I**
Supply voltage	**110V-277V 50W/72W/101W 160V 144W 0/50/60 Hz**
Surge protection	**6 kV common and differential modes according to EN61000-4-5**
Power factor	**>0.95**
Type of power supply	**Spring clamps and M20 cable gland**
Max. conductor cross-section	**1-2.5 mm²**
Entry cable diameter	**10-14 mm**

7-YEAR WARRANTY

WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

DIRECTIVES

2014/30/EU (EMC)
2014/34/EU (ATEX)
2011/65/EU (RoHS)
2012/19/EU (WEEE)

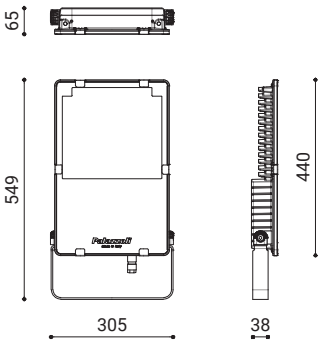
PRODUCT STANDARDS

EN 55015
EN 60079-0
EN 60079-18
EN 60079-31
EN 60079-7
EN 60598-1
EN 60598-2-1
EN 60598-2-5
EN 60598-2-22
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Versions with colour temperatures from 3000K to 6500K and ambient temperatures down to -40°C are available.

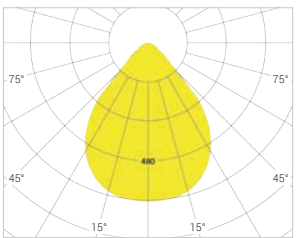
PALAZZOLI ATEX junction boxes certified for zone 1, 2, 21, 22, complete with cable glands and terminals for the entry of cables with larger diameters and/or for through wiring, are available.

TIGUA-EX | Zone 1, 2, 21, 22 | floodlight



Class I

IP66 IK08



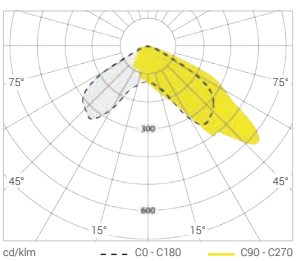
Symmetrical 81° extra wide beam optics

Included: wall bracket.
The stated flux and power values may be subject to a +/- 7% tolerance.

2G - 2D

+ 50 °C
- 35 °C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Max. ambient temperature (°C)	Version	Weight (kg)	Code
12	50	6980	5808	Glass	115	+50	DALI	6.50	**817021EX**
12	72	9950	8280	Glass	115	+40	DALI	6.50	**817022EX**
24	101	13950	11615	Glass	115	+50	DALI	7.10	**817023EX**
24	144	19850	16560	Glass	115	+40	DALI	7.10	**817024EX**



Asymmetrical 50° extra wide beam optics

Included: wall bracket.
The stated flux and power values may be subject to a +/- 7% tolerance.

2G - 2D

+ 50 °C
- 35 °C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Max. ambient temperature (°C)	Version	Weight (kg)	Code
12	50	6980	5808	Glass	115	+50	DALI	6.50	**817221EX**
12	72	9950	8280	Glass	115	+40	DALI	6.50	**817222EX**
24	101	13950	11615	Glass	115	+50	DALI	7.10	**817223EX**
24	144	19850	16560	Glass	115	+40	DALI	7.10	**817224EX**

Accessories TIGUA-EX on page 83

XTIGUA-EX | Zone 1, 2, 21, 22 | floodlight

Atex execution - Gas	**II 2G - Ex eb mb IIC T5 Gb**
Atex execution - Dust	**II 2D Ex tb IIIC T 85 °C Db**
Body material	**Low-copper aluminium alloy EN 44300**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 9005**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 according to IEC 60079-0 and 60598-1**
Impact resistance	**IK08 according to IEC 62262**
Corrosion class	**C5-M / C4-H (ISO 9223)**
Mounting system	**U-bracket with -110° to +110° adjustment**
Ambient operating temperature	**-35 °C - +50 °C (-40 °C on request)**
Ambient storage temperature	**-40°C - +70°C**
Actual efficacy of the device	**Up to 115 lm/W**
Colour temperature	**4000K**
Optics features	**UV-stabilised polycarbonate lens sealed to LED module by silicone resin**
Colour rendering index values	**CRI≥80 according to EN 62717**
Colour consistency	**MacAdam 4-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**<4%**
Luminous flux maintenance	**L90 B10 110,000 h Tq=+40 °C L90 B10 230,000 h Tq=+25 °C**
Insulation class	**I**
Supply voltage	**110V-277V 151W/216W/201W 160V-277V 288W 0/50/60Hz**
Surge protection	**6 kV common and differential modes according to EN61000-4-5**
Power factor	**>0.95**
Type of power supply	**Spring clamps and M20 cable gland**
Max. conductor cross-section	**1-2.5 mm²**
Entry cable diameter	**10-14 mm**

7-YEAR WARRANTY

WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

DIRECTIVES

2014/30/EU (EMC)
2014/34/EU (ATEX)
2011/65/EU (RoHS)
2012/19/EU (WEEE)

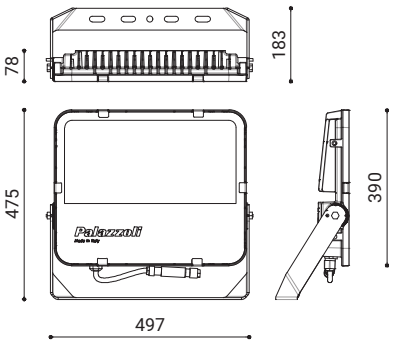
PRODUCT STANDARDS

EN 55015
EN 60079-0
EN 60079-18
EN 60079-31
EN 60079-7
EN 60598-1
EN 60598-2-1
EN 60598-2-5
EN 60598-2-22
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Versions with colour temperatures from 3000K to 6500K and ambient temperatures down to -40°C are available.

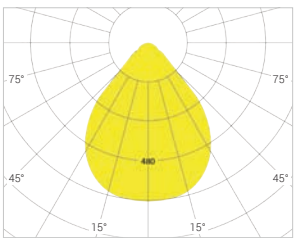
PALAZZOLI ATEX junction boxes certified for zone 1, 2, 21, 22, complete with cable glands and terminals for the entry of cables with larger diameters and/or for through wiring, are available.

XTIGUA-EX | Zone 1, 2, 21, 22 | floodlight



Class I

IP66 IK08



cd/klm

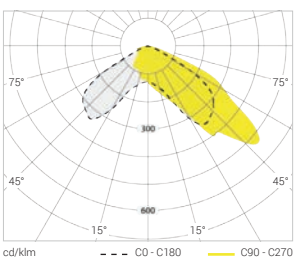
Symmetrical 81° extra wide beam optics

Included: wall bracket.
The stated flux and power values may be subject to a +/- 7% tolerance.

2G - 2D

+ 50 °C
- 35 °C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Max. ambient temperature (°C)	Version	Weight (kg)	Code
36	151	20900	17365	Glass	115	+50	DALI	9.00	**818021EX**
36	216	29800	24840	Glass	115	+40	DALI	9.00	**818022EX**
48	201	27800	23115	Glass	115	+50	DALI	9.50	**818023EX**
48	288	39800	33120	Glass	115	+40	DALI	9.50	**818024EX**



cd/klm — C0 - C180 — C90 - C270

Asymmetrical 50° extra wide beam optics

Included: wall bracket.
The stated flux and power values may be subject to a +/- 7% tolerance.

2G - 2D

+ 50 °C
- 35 °C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Max. ambient temperature (°C)	Version	Weight (kg)	Code
36	151	20900	17365	Glass	115	+50	DALI	9.00	**818221EX**
36	216	29800	24840	Glass	115	+40	DALI	9.00	**818222EX**
48	201	27800	23115	Glass	115	+50	DALI	9.50	**818223EX**
48	288	39800	33120	Glass	115	+40	DALI	9.50	**818224EX**

Accessories XTIGUA-EX on page 97

TIGUA-EX | Zone 2, 21, 22 | floodlight

Atex execution - Gas	**II 3G - Ex ec mc IIC T5 Gc**
Atex execution - Dust	**II 2D - Ex tb IIIC T 85 °C Db**
Body material	**Low-copper aluminium alloy EN 44300**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 9005**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 according to IEC 60079-0 and 60598-1**
Impact resistance	**IK08 according to IEC 62262**
Corrosion class	**C5-M / C4-H (ISO 9223)**
Mounting system	**U-bracket with -135° to +135° adjustment**
Ambient operating temperature	**-35 °C - +50 °C (-40 °C on request)**
Ambient storage temperature	**-40°C - +70°C**
Actual efficacy of the device	**Up to 125 lm/W**
Colour temperature	**4000K**
Optics features	**Non-ageing, UV-resistant PMMA lenses with > 90% efficiency and > 95% transparency**
Colour rendering index values	**CRI≥70 according to EN 62717**
Colour consistency	**MacAdam 4-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**<4%**
Luminous flux maintenance	**L90 B10 110,000 h Tq=+40 °C L90 B10 230,000 h Tq=+25 °C**
Insulation class	**I**
Supply voltage	**110V-277V 50W/72W/101W 160V-277V 144W 0/50/60Hz**
Surge protection	**6 kV common and differential modes according to EN61000-4-5**
Power factor	**>0.95**
Type of power supply	**Spring clamps and M20 cable gland**
Max. conductor cross-section	**1-2.5 mm²**
Entry cable diameter	**10-14 mm**

WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

DIRECTIVES

2014/30/EU (EMC)
2014/34/EU (ATEX)
2011/65/EU (RoHS)
2012/19/EU (WEEE)

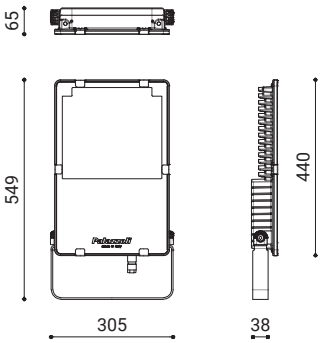
PRODUCT STANDARDS

EN 55015
EN 60079-0
EN 60079-18
EN 60079-31
EN 60079-7
EN 60598-1
EN 60598-2-1
EN 60598-2-5
EN 60598-2-22
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Versions with colour temperatures from 3000K to 6500K and ambient temperatures down to -40°C are available.

PALAZZOLI ATEX junction boxes certified for zone 1, 2, 21, 22, complete with cable glands and terminals for the entry of cables with larger diameters and/or for through wiring, are available.

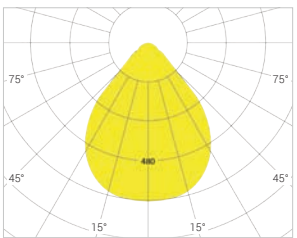
TIGUA-EX | Zone 2, 21, 22 | floodlight



Class I

IP66

IK08



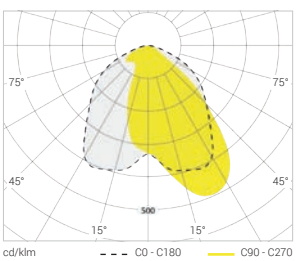
Symmetrical 81° extra wide beam optics

Included: wall bracket.
The stated flux and power values may be subject to a +/- 7% tolerance.

3G - 2D

+ 50 °C
- 35 °C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Max. ambient temperature (°C)	Version	Weight (kg)	Code
12	50	7600	6312	Glass	125	+50	DALI	6.50	**837021EX**
12	72	10800	9000	Glass	125	+40	DALI	6.50	**837022EX**
24	101	15150	12625	Glass	125	+50	DALI	7.10	**837023EX**
24	144	21600	18000	Glass	125	+40	DALI	7.10	**837024EX**



Asymmetrical 23° extra wide beam optics

Included: wall bracket.
The stated flux and power values may be subject to a +/- 7% tolerance.

3G - 2D

+ 50 °C
- 35 °C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Max. ambient temperature (°C)	Version	Weight (kg)	Code
12	50	7600	6312	Glass	125	+50	DALI	6.50	**837221EX**
12	72	10800	9000	Glass	125	+40	DALI	6.50	**837222EX**
24	101	15150	12625	Glass	125	+50	DALI	7.10	**837223EX**
24	144	21600	18000	Glass	125	+40	DALI	7.10	**837224EX**

Accessories TIGUA-EX on page 83

XTIGUA-EX | Zone 2, 21, 22 | floodlight

Atex execution - Gas	**II 3G - Ex ec mc IIC T5 Gc**
Atex execution - Dust	**II 2D Ex tb IIIC T 85 °C Db**
Body material	**Low-copper aluminium alloy EN 44300**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 9005**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 according to IEC 60079-0 and 60598-1**
Impact resistance	**IK08 according to IEC 62262**
Corrosion class	**C5-M / C4-H (ISO 9223)**
Mounting system	**U-bracket with -110° to +110° adjustment**
Ambient operating temperature	**-35 °C - +50 °C (-40 °C on request)**
Ambient storage temperature	**-40°C - +70°C**
Actual efficacy of the device	**Up to 130 lm/W**
Colour temperature	**4000K**
Optics features	**Non-ageing, UV-resistant PMMA lenses with > 90% efficiency and > 95% transparency**
Colour rendering index values	**CRI≥70 according to EN 62717**
Colour consistency	**MacAdam 4-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**<4%**
Luminous flux maintenance	**L90 B10 110,000 h Tq=+40 °C L90 B10 230,000 h Tq=+25 °C**
Insulation class	**I**
Supply voltage	**110V-277V 151W/201W 160V-277V 216W/288W 0/50/60Hz**
Surge protection	**6 kV common and differential modes according to EN61000-4-5**
Power factor	**>0.95**
Type of power supply	**Spring clamps and M20 cable gland**
Max. conductor cross-section	**1-2.5 mm²**
Entry cable diameter	**10-14 mm**

7-YEAR WARRANTY

WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

DIRECTIVES

2014/30/EU (EMC)
2014/34/EU (ATEX)
2011/65/EU (RoHS)
2012/19/EU (WEEE)

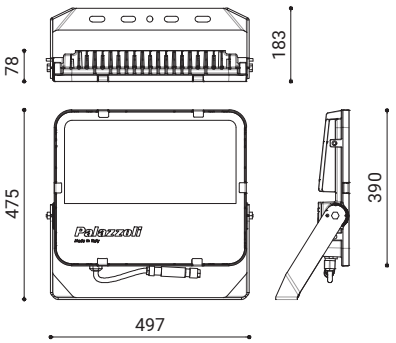
PRODUCT STANDARDS

EN 55015
EN 60079-0
EN 60079-18
EN 60079-31
EN 60079-7
EN 60598-1
EN 60598-2-1
EN 60598-2-5
EN 60598-2-22
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Versions with colour temperatures from 3000K to 6500K and ambient temperatures down to -40°C are available.

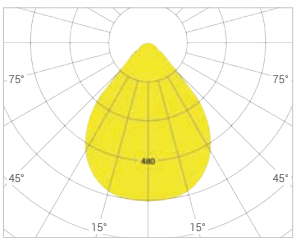
PALAZZOLI ATEX junction boxes certified for zone 1, 2, 21, 22, complete with cable glands and terminals for the entry of cables with larger diameters and/or for through wiring, are available.

XTIGUA-EX | Zone 2, 21, 22 | floodlight



Class I

IP66 IK08



cd/klm

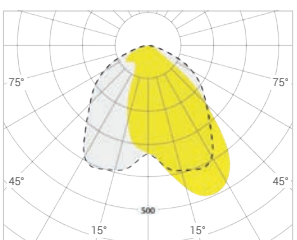
Symmetrical 81° extra wide beam optics

Included: wall bracket.
The stated flux and power values may be subject to a +/- 7% tolerance.

3G - 2D

+ 50 °C
- 35 °C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Max. ambient temperature (°C)	Version	Weight (kg)	Code
36	151	23600	19630	Glass	130	+50	DALI	9.00	**838021EX**
36	216	33200	27648	Glass	128	+40	DALI	9.00	**838022EX**
48	201	31500	26208	Glass	130	+50	DALI	9.50	**838023EX**
48	288	44300	36864	Glass	128	+40	DALI	9.50	**838024EX**



cd/klm — C0 - C180 — C90 - C270

Asymmetrical 23° extra wide beam optics

Included: wall bracket.
The stated flux and power values may be subject to a +/- 7% tolerance.

3G - 2D

+ 50 °C
- 35 °C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Max. ambient temperature (°C)	Version	Weight (kg)	Code
36	151	23600	19630	Glass	130	+50	DALI	9.00	**838221EX**
36	216	33200	27648	Glass	128	+40	DALI	9.00	**838222EX**
48	201	31500	26208	Glass	130	+50	DALI	9.50	**838223EX**
48	288	44300	36864	Glass	128	+40	DALI	9.50	**838224EX**

Accessories XTIGUA-EX on page 97


211
212
D 1706
D 1707

Light fixtures

For environments where flammable gases and combustible dusts are present

Atex

RINOLED-EX
zone 1, 2, 21, 22
3400 lm to 12350 lm
Page 162

RINOLED-EX
zone 2, 21, 22
3560 lm to 9430 lm
Page 165

RINOLED-EX | Zone 1, 2, 21, 22

Atex execution - Gas	**II 2G - Ex eb mb IIC T6/T5 Gb**
Atex execution - Dust	**II 2D - Ex tb IIIC T 85 °C Db**
Body material	**AISI 304 stainless steel**
Surface treatment	**Natural finish**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 - IP65 according to IEC 60079-0 and 60598-1**
Impact resistance	**IK09 as per IEC 62262**
Corrosion class	**C5 AISI 304 stainless steel (ISO 9223)**
Mounting system	**Pair of eyebolts in AISI 304 stainless steel**
Ambient operating temperature	**-35 °C - +60 °C (-40 °C on request) 0 °C - +45 °C (emergency versions)**
Ambient storage temperature	**-40°C - +75°C -20°C - +60°C (emergency versions)**
Actual efficacy of the device	**Up to 148 lm/W**
Colour temperature	**4000K**
Optics features	**Non-ageing- and UV-resistant silicone resin with > 95% efficiency**
Colour rendering index values	**CRI≥80 according to EN 62717**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**<4%**
Luminous flux maintenance	**L80 B10 50,000 h Tq=+25°C**
Insulation class	**I**
Supply voltage	**220V-240V~ - 180-240Vdc 0/50/60Hz**
Surge protection	**6 kV common and differential modes according to EN61000-4-5**
Power factor	**>0.95**
Type of power supply	**Spring clamps and M20 cable gland**
Max. conductor cross-section	**1-2.5 mm²**
Entry cable diameter	**10-14 mm**

WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

DIRECTIVES

2014/30/EU (EMC)
2014/34/EU (ATEX)
2011/65/EU (RoHS)
2012/19/EU (WEEE)

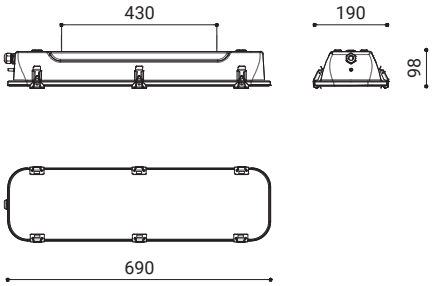
PRODUCT STANDARDS

EN 55015
EN 60079-0
EN 60079-18
EN 60079-31
EN 60079-7
EN 60598-1
EN 60598-2-1
EN 60598-2-22
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Feed-through wiring versions in AISI 316L stainless steel and with colour temperatures from 3000K to 6500K are available.

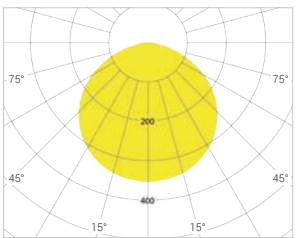
PALAZZOLI ATEX junction boxes certified for zone 1, 2, 21, 22, complete with cable glands and terminals for the entry of cables with larger diameters and/or for through wiring, are available.

RINOLED-EX | Zone 1, 2, 21, 22 | 690 mm



Class I

IP65 IP66 IK09



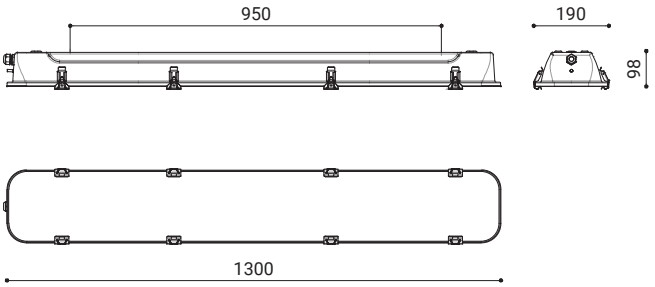
cd/klm

Symmetrical 110° extra wide beam optics

Included: pair of AISI 304 stainless steel eyebolts for pendant mounting.
The stated flux and power values may be subject to a +/-7% tolerance.

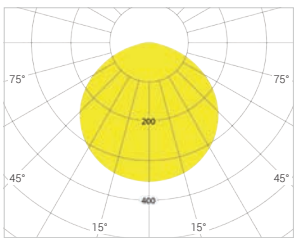
	No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Max. ambient temperature (°C)	Version	Weight (kg)	Code
2G - 2D Stainless steel + 60 °C - 35 °C	192	23	4080	3400	Glass	148	+60	On/Off	4.60	**821172EX**
	192	36	6200	5180	Glass	144	+50	On/Off	4.60	**821272EX**
	192	56	9450	7870	Glass	140	+45	On/Off	4.60	**821372EX**
	192	71	11550	9623	Glass	136	+35	On/Off	4.60	**821472EX**
2G - 2D Stainless steel Emergency + 45 °C 0 °C	192	36	6200	5180 (967 in EM)	Glass	144	+45	On/Off Emergency 1h	5.30	**821270EX**
	192	71	9450	9623 (912 in EM)	Glass	136	+35	On/Off Emergency 1h	5.30	**821470EX**
	192	36	6200	5180 (420 in EM)	Glass	144	+45	On/Off Emergency 3h	5.30	**821273EX**
	192	71	9450	9623 (414 in EM)	Glass	136	+35	On/Off Emergency 3h	5.30	**821473EX**

RINOLED-EX | Zone 1, 2, 21, 22 | 1300 mm



Class I

IP65 IP66 IK09



cd/klm

Symmetrical 110° extra wide beam optics

Included: pair of AISI 304 stainless steel eyebolts for pendant mounting.
The stated flux and power values may be subject to a +/-7% tolerance.

	No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Max. ambient temperature (°C)	Version	Weight (kg)	Code
2G - 2D Stainless steel + 60 °C - 35 °C	192	47	8200	6831	Glass	145	+60	On/Off	7.20	**821572EX**
	192	71	11690	9736	Glass	137	+45	On/Off	7.20	**821672EX**
	384	86	14800	12353	Glass	144	+45	DALI	7.20	**821772EX**
2G - 2D Stainless steel Emergency + 45 °C 0 °C	192	71	11690	9736 (925 in EM)	Glass	137	+45	On/Off Emergency 1h	7.80	**821670EX**
	384	86	14800	12353 (930 in EM)	Glass	144	+45	On/Off Emergency 1h	7.80	**821770EX**
	192	71	11690	9736 (420 in EM)	Glass	137	+45	On/Off Emergency 3h	7.80	**821673EX**
	384	86	14800	12353 (400 in EM)	Glass	144	+45	On/Off Emergency 3h	7.80	**821773EX**

Accessories RINOLED-EX on page 169

RINOLED-EX | Zone 2, 21, 22

Atex execution - Gas	**II 3G - Ex ec mc IIC T6/T5 Gc**
Atex execution - Dust	**II 2D Ex tb IIIC T 85 °C Db**
Body material	**AISI 304 stainless steel Painted galvanised steel**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 9016**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 - IP65 according to IEC 60079-0 and 60598-1**
Impact resistance	**IK09 as per IEC 62262**
Corrosion class	**C5 AISI 304 stainless steel (ISO 9223)**
Mounting system	**Pair of eyebolts in AISI 304 stainless steel**
Ambient operating temperature	**-35 °C - +55°C (-40°C on request) 0 °C - +45 °C (emergency versions)**
Ambient storage temperature	**-40°C - +70°C -30 °C - +50 °C (emergency versions)**
Actual efficacy of the device	**Up to 137 lm/W**
Colour temperature	**4000K**
Optics features	**Non-ageing, UV-resistant PMMA lenses with > 90% efficiency and > 95% transparency**
Colour rendering index values	**CRI≥80 according to EN 62717**
Colour consistency	**MacAdam 3-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**<4%**
Luminous flux maintenance	**L80 B10 50,000 h Tq=+25°C**
Insulation class	**I**
Supply voltage	**220V-240V~ - 180-240Vdc 0/50/60Hz**
Surge protection	**6 kV common and differential modes according to EN61000-4-5**
Power factor	**>0.95**
Type of power supply	**Spring clamps and M20 cable gland**
Max. conductor cross-section	**1-2.5 mm²**
Entry cable diameter	**10-14 mm**

WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

DIRECTIVES

2014/30/EU (EMC)
2014/34/EU (ATEX)
2011/65/EU (RoHS)
2012/19/EU (WEEE)

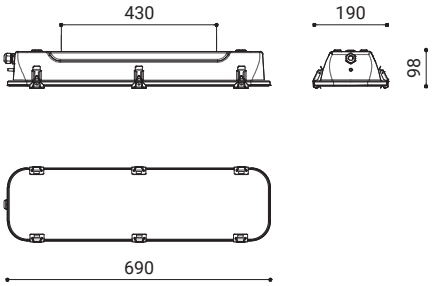
PRODUCT STANDARDS

EN 55015
EN 60079-0
EN 60079-18
EN 60079-31
EN 60079-7
EN 60598-1
EN 60598-2-1
EN 60598-2-22
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Special versions can be made by combining materials and optics. Versions are available with ambient temperatures down to -40 °C and up to +60 °C; with feed-through wiring, in AISI 316L stainless steel and with colour temperatures from 3000K to 6500K.

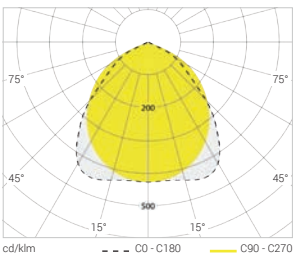
PALAZZOLI ATEX junction boxes certified for zone 1, 2, 21, 22, complete with cable glands and terminals for the entry of cables with larger diameters and/or for through wiring, are available.

RINOLED-EX | Zone 2, 21, 22 | 690 mm



Class I

IP65 IP66 IK09

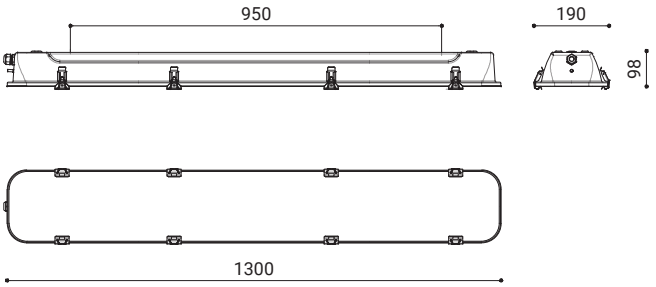


88° symmetrical optics

Included: pair of AISI 304 stainless steel eyebolts for pendant mounting.
The stated flux and power values may be subject to a +/-7% tolerance.

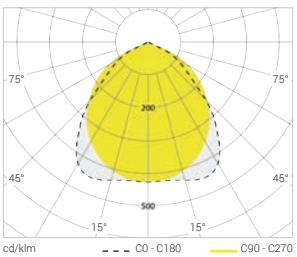
	No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
3G - 2D Stainless steel + 55 °C - 35 °C	48	26	4100	3562	Glass	137	On/Off	4.58	**821192EX**
	72	38	6133	5130	Glass	135	On/Off	4.62	**821292EX**
3G - 2D Stainless steel Emergency + 35° 0°C°	48	26	4100	3562 (770 in EM)	Glass	137	On/Off Emergency 1h	5.26	**821190EX**
	72	38	6133	5130 (940 in EM)	Glass	135	On/Off Emergency 1h	5.30	**821290EX**
	48	26	4100	3562 (770 in EM)	Glass	137	On/Off Emergency 3h	3.90	**821193EX**
	72	38	6133	5130 (940 in EM)	Glass	135	On/Off Emergency 3h	3.90	**821293EX**
3G - 2D Painted galvanised steel + 55 °C - 35 °C	48	26	4100	3562	Glass	137	On/Off	4.96	**841192EX**
	72	38	6133	5130	Glass	135	On/Off	4.62	**841292EX**

RINOLED-EX | Zone 2, 21, 22 | 1300 mm



Class I

IP65 IP66 IK09

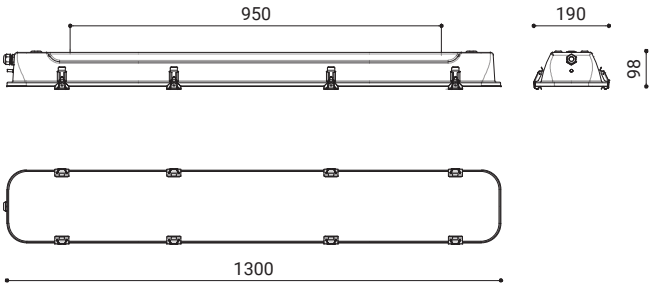


88° symmetrical optics

Included: pair of AISI 304 stainless steel eyebolts for pendant mounting.
The stated flux and power values may be subject to a +/-7% tolerance.

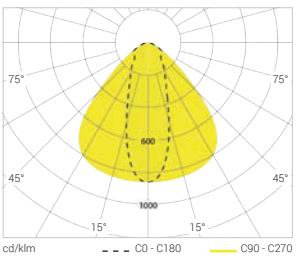
	No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
3G - 2D Stainless steel + 55 °C - 35 °C	96	52	8200	7072	Glass	136	On/Off	7.23	**821392EX**
	144	75	12260	10050	Glass	134	On/Off	6.27	**821492EX**
3G - 2D Stainless steel Emergency + 35° 0°C°	96	52	8200	7072 (940 in EM)	Glass	136	On/Off Emergency 1h	7.76	**821390EX**
	144	75	12260	10050 (940 in EM)	Glass	134	On/Off Emergency 1h	6.58	**821490EX**
	96	52	8200	7072 (940 in EM)	Glass	136	On/Off Emergency 3h	8.54	**821393EX**
	144	75	12260	10050 (940 in EM)	Glass	134	On/Off Emergency 3h	6.70	**821493EX**
3G - 2D Painted galvanised steel + 55 °C - 35 °C	96	52	8200	7072	Glass	136	On/Off	6.37	**841392EX**
	144	75	12260	10050	Glass	134	On/Off	7.96	**841492EX**

RINOLED-EX | Zone 2, 21, 22 | 1300 mm



Class I

IP65 IP66 IK09



Narrow beam optic 30° x 90°

Included: pair of AISI 304 stainless steel eyebolts for pendant mounting.
The stated flux and power values may be subject to a +/-7% tolerance.

	No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
3G - 2D Stainless steel + 55 °C - 35 °C	96	52	8200	6500	Glass	125	On/Off	6.20	**820392EX**
	144	75	12260	9525	Glass	127	On/Off	7.76	**820492EX**
3G - 2D Painted galvanised steel + 55 °C - 35 °C	96	52	8200	6500	Glass	125	On/Off	6.30	**840392EX**
	144	75	12260	9525	Glass	127	On/Off	6.30	**840492EX**

Accessories RINO LED-EX

Rino LED-EX with **hooks for pendant mounting**

Pair of adjustable supports for wall or ceiling installation

Material:
Stainless steel
AISI 304

Code: **820010**

Pairs of "V" supports for ceiling installation

Material:
Stainless steel
AISI 304

Code: **820017**

Pairs of hooks for pendant mounting

Material:
Stainless steel
AISI 304

Code: **820011**

Pendant mounting and ceiling adaptation kit

Material:
Stainless steel
AISI 304

Code: **820018**

Pair of collars for installation on pipe

Material:
Stainless steel
AISI 304

Code: **820016**

Quick fastening kit for ceiling mounting

Material:
Stainless steel
AISI 304

Code: **820019**

Note: in the case of relamping, the adapter kit enables to adjust the fixing distances of the light fixture to those already present in the system.

Pendant light fixtures

For environments where flammable gases and combustible dusts are present

Atex

TIGUA-EX
zone 1, 2, 21, 22
5800 lm to 16550 lm
Page 172

XTIGUA-EX
zone 1, 2, 21, 22
17350 lm to 33100 lm
Page 174

META150-EX
zone 2, 21, 22
8580 lm to 19830 lm
Page 176

TIGUA-EX | Zone 1, 2, 21, 22 | pendant mounting

Atex execution - Gas	**II 2G - Ex eb mb IIC T5 Gb**
Atex execution - Dust	**II 2D - Ex tb IIIC T 85 °C Db**
Body material	**Low-copper aluminium alloy EN 44300**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 9005**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 according to IEC 60079-0 and 60598-1**
Impact resistance	**IK08 according to IEC 62262**
Corrosion class	**C5-M / C4-H (ISO 9223)**
Mounting system	**Pendant mounting**
Ambient operating temperature	**-35 °C - +50 °C (-40 °C on request)**
Ambient storage temperature	**-40°C - +70°C**
Actual efficacy of the device	**Up to 115 lm/W**
Colour temperature	**4000K**
Optics features	**UV-stabilised polycarbonate lens sealed to LED module by silicone resin**
Colour rendering index values	**CRI≥80 according to EN 62717**
Colour consistency	**MacAdam 4-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**<4%**
Luminous flux maintenance	**L90 B10 110,000 h Tq=+40 °C L90 B10 230,000 h Tq=+25 °C**
Insulation class	**I**
Supply voltage	**110V-277V 50W/72W/101W 160V-277V 144W 0/50/60Hz**
Surge protection	**6 kV common and differential modes according to EN61000-4-5**
Power factor	**>0.95**
Type of power supply	**Spring clamps and M20 cable gland**
Max. conductor cross-section	**1-2.5 mm²**
Entry cable diameter	**10-14 mm**

7-YEAR WARRANTY

WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

DIRECTIVES

2014/30/EU (EMC)
2014/34/EU (ATEX)
2011/65/EU (RoHS)
2012/19/EU (WEEE)

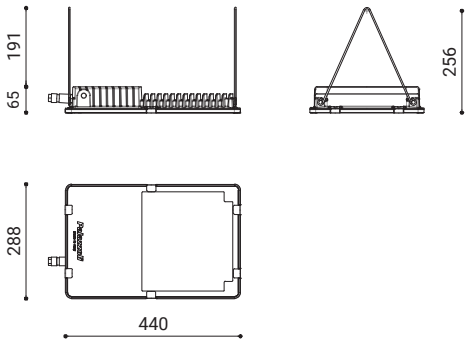
PRODUCT STANDARDS

EN 55015
EN 60079-0
EN 60079-18
EN 60079-31
EN 60079-7
EN 60598-1
EN 60598-2-1
EN 60598-2-5
EN 60598-2-22
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Versions with dedicated optics, colour temperatures from 3000K to 6500K and ambient temperatures down to -40°C are available.

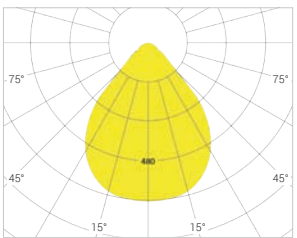
PALAZZOLI ATEX junction boxes certified for zone 1, 2, 21, 22, complete with cable glands and terminals for the entry of cables with larger diameters and/or for through wiring, are available.

TIGUA-EX | Zone 1, 2, 21, 22 | pendant mounting



Class I

IP66 IK08



cd/klm

Symmetrical 81° extra wide beam optics

Included: double chain bracket and busbar.
Recommended installation height: between 4 m and 7 m.
The stated flux and power values have tolerances of +/- 7%.

2G - 2D

+ 50 °C
- 35 °C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Max. ambient temperature (°C)	Version	Weight (kg)	Code
12	50	6980	5808	Glass	115	+50	DALI	6.50	**817031EX**
12	72	9950	8280	Glass	115	+40	DALI	6.50	**817032EX**
24	101	13950	11615	Glass	115	+50	DALI	7.10	**817033EX**
24	144	19850	16560	Glass	115	+40	DALI	7.10	**817034EX**

Accessories TIGUA-EX | pendant mounting

0 - 90° adjustable connection for catenary wire installation

Material: Galvanised steel

Code: **811921**

Swivelling connection 0 - 90° for double chain and busbar installation

Material: Galvanised steel

Code: **811919**

Kit with bracket for ceiling installation

Material: Galvanised steel

Code: **811916**

Set of brackets for pole installation diam. 60mm

Material: Galvanised steel

Code: **811920**

XTIGUA-EX | Zone 1, 2, 21, 22 | pendant mounting

Atex execution - Gas	**II 2G - Ex eb mb IIC T5 Gb**
Atex execution - Dust	**II 2D - Ex tb IIIC T 85 °C Db**
Body material	**Low-copper aluminium alloy EN 44300**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 9005**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 according to IEC 60079-0 and 60598-1**
Impact resistance	**IK08 according to IEC 62262**
Corrosion class	**C5-M / C4-H (ISO 9223)**
Mounting system	**Pendant mounting**
Ambient operating temperature	**-35 °C - +50 °C (-40 °C on request)**
Ambient storage temperature	**-40°C - +70°C**
Actual efficacy of the device	**Up to 115 lm/W**
Colour temperature	**4000K**
Optics features	**UV-stabilised polycarbonate lens sealed to LED module by silicone resin**
Colour rendering index values	**CRI≥80 according to EN 62717**
Colour consistency	**MacAdam 4-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**<4%**
Luminous flux maintenance	**L90 B10 110,000 h Tq=+40 °C L90 B10 230,000 h Tq=+25 °C**
Insulation class	**I**
Supply voltage	**110V-277V 151W/201W 160V-277V 216W/288W 0/50/60Hz**
Surge protection	**6 kV common and differential modes according to EN61000-4-5**
Power factor	**>0.95**
Type of power supply	**Spring clamps and M20 cable gland**
Max. conductor cross-section	**1-2.5 mm²**
Entry cable diameter	**10-14 mm**

WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

DIRECTIVES

2014/30/EU (EMC)
2014/34/EU (ATEX)
2011/65/EU (RoHS)
2012/19/EU (WEEE)

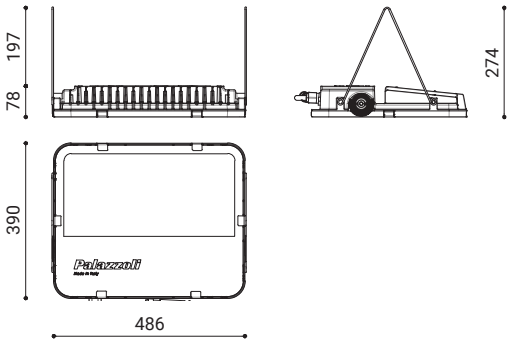
PRODUCT STANDARDS

EN 55015
EN 60079-0
EN 60079-18
EN 60079-31
EN 60079-7
EN 60598-1
EN 60598-2-1
EN 60598-2-5
EN 60598-2-22
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Versions with dedicated optics, colour temperatures from 3000K to 6500K and ambient temperatures down to -40°C are available.

PALAZZOLI ATEX junction boxes certified for zone 1, 2, 21, 22, complete with cable glands and terminals for the entry of cables with larger diameters and/or for through wiring, are available.

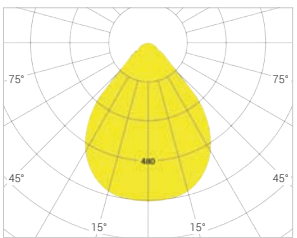
XTIGUA-EX | Zone 1, 2, 21, 22 | pendant mounting



Class I

IP66

IK08



cd/klm

Symmetrical 81° extra wide beam optics

Included: double chain bracket and busbar.
Recommended installation height: between 9 m and 15 m.
The stated flux and power values may be subject to a +/- 7% tolerance.

2G - 2D

+ 50 °C
- 35 °C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Max. ambient temperature (°C)	Version	Weight (kg)	Code
36	151	20900	17365	Glass	115	+50	DALI	9.00	**818031EX**
36	216	29800	24840	Glass	115	+40	DALI	9.00	**818032EX**
48	201	27800	23115	Glass	115	+50	DALI	9.50	**818033EX**
48	288	39800	33120	Glass	115	+40	DALI	9.50	**818034EX**

Accessories TIGUA-EX | pendant mounting

Adjustable connection 0 - 90° for double chain installation - size M

Material: Galvanised steel

Code: **819994**

Adjustable connection 0 - 90° for double chain installation - size L

Material: Galvanised steel

Code: **819995**

Kit with bracket for ceiling installation - size M

Material: Galvanised steel

Code: **819996**

Note: cannot be used on the VHT 70 °C version

Kit with bracket for ceiling installation - size L

Material: Galvanised steel

Code: **819997**

Note: cannot be used on the VHT 70 °C version

META150-EX | Zone 2, 21, 22 | pendant mounting

Atex execution - Gas	**II 3G - Ex ec mc IIC T5 Gc**
Atex execution - Dust	**II 2D - Ex tb IIIC T 85 °C Db**
Body material	**EN 46100 aluminium alloy**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 9005**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 according to IEC 60079-0 and 60598-1**
Impact resistance	**IK08 according to IEC 62262**
Corrosion class	**C4-M / C3-H (ISO 9223)**
Mounting system	**Quick connection for pendant mounting**
Ambient operating temperature	**-35° C - +40° C (-40°C; +50°C on request)**
Ambient storage temperature	**-40°C - +70°C**
Actual efficacy of the device	**Up to 148 lm/W**
Colour temperature	**4000K**
Optics features	**Non-aging UV-resistant polycarbonate lenses with > 90% efficiency and > 95% transparency**
Colour rendering index values	**CRI≥80 according to EN 62717**
Colour consistency	**MacAdam 3-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**<4%**
Luminous flux maintenance	**L90 B10 110,000 h Tq=+40 °C L90 B10 230,000 h Tq=+25 °C**
Insulation class	**I**
Supply voltage	**200V-240V 60W 110V-277V 97W 160V-277V 112W/134W 0/50/60Hz**
Surge protection	**6 kV common and differential modes according to EN61000-4-5**
Power factor	**>0.95**
Type of power supply	**Spring clamps and M20 cable gland**
Max. conductor cross-section	**1-2.5 mm²**
Entry cable diameter	**10-14 mm**

WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

DIRECTIVES

2014/30/EU (EMC)
2014/34/EU (ATEX)
2011/65/EU (RoHS)
2012/19/EU (WEEE)

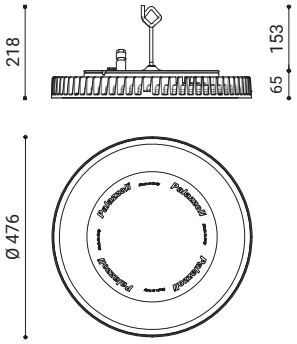
PRODUCT STANDARDS

EN 55015
EN 60079-0
EN 60079-18
EN 60079-31
EN 60079-7
EN 60598-1
EN 60598-2-1
EN 60598-2-5
EN 60598-2-22
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Versions with colour temperatures from 3000K to 6500K and ambient temperatures down to -40° C and up to +50° C are available.

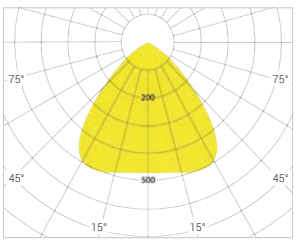
PALAZZOLI ATEX junction boxes certified for zone 1, 2, 21, 22, complete with cable glands and terminals for the entry of cables with larger diameters and/or for through wiring, are available.

META150-EX | Zone 2, 21, 22 | pendant mounting



Class I

IP66 IK08

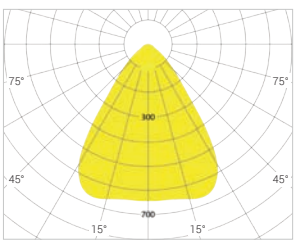


cd/klm

90° comfort symmetrical optics

Included: quick connection for pendant mounting.
Recommended installation height: between 5 m and 8 m. The indicated flux and power values have tolerances of +/- 7%.

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
3G - 2D + 40 °C - 35 °C								
84	60	10296	8748	Glass	146	On/Off	8.60	**810430EX**
112	97	17227	14356	Glass	148	DALI	8.74	**810440EX**
140	112	20300	16576	Glass	148	DALI	8.94	**810450EX**
168	134	24200	19832	Glass	148	DALI	9.31	**810460EX**



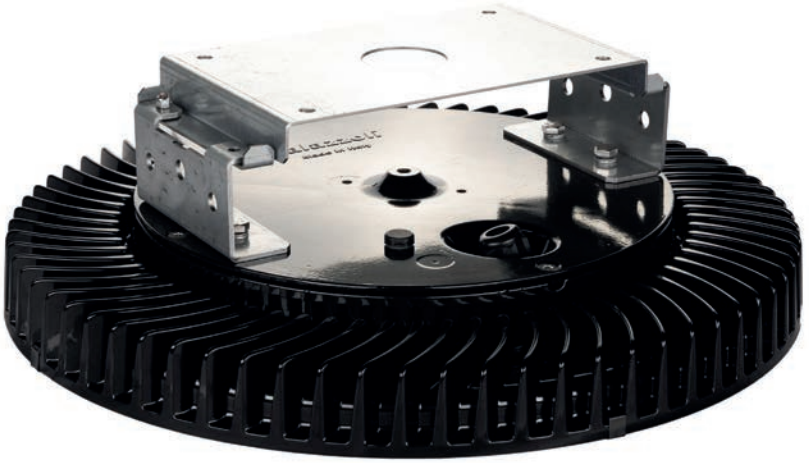
cd/klm

75° medium symmetric optics

Included: quick connection for pendant mounting.
Recommended installation height: between 5 m and 8 m. The indicated flux and power values have tolerances of +/- 7%.

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
3G - 2D + 40 °C - 35 °C								
84	60	10296	8580	Glass	143	On/Off	8.60	**810431EX**
112	97	17227	14065	Glass	145	DALI	8.74	**810441EX**
140	112	20300	16352	Glass	146	DALI	8.94	**810451EX**
168	134	24200	19564	Glass	144	DALI	9.31	**810461EX**

Accessories META150-EX pendant mounting



META150-EX fitted with **Bracket for ceiling installation**

Adjustable bracket for wall, pole and light-tower installation.

Material:
Galvanised steel

Code: **810999**

Bracket for installation with 0-90° adjustable catenary wire

Material:
Galvanised steel

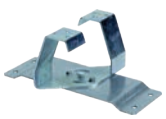
Code: **810994**

Bracket for double chain and busbar installation

Material:
Galvanised steel

Code: **810997**

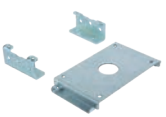
0-90° swivelling attachment for double chain and busbar installation



Material:
Galvanised steel

Code: **810996**

Bracket for ceiling installation



Material:
Galvanised steel

Code: **810998**

Bracket for horizontal Ø 60 mm pole installation

Material:
Galvanised steel

Code: **810995**

Traditional

For environments where flammable gases and combustible dusts are present

Atex

RINO-EX
fluorescent
zone 1, 2, 21, 22
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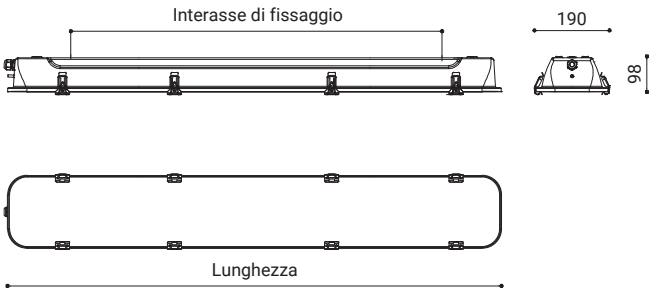
RINO-EX
fluorescent
zone 2, 21, 22
Page 182

RINO-EX
E27
zone 22
Page 184

RINO-EX fluorescent | Zone 1, 2, 21, 22



Length (mm)	Fixing centre distance (mm)
690	480
1300	1090

Atex execution - Gas	**II 2G - Ex e mb IIC T4 Gb**
Atex execution - Dust	**II 2D - Ex tb IIIC T70°C Db**
Body material	**AISI 304 stainless steel**
Surface treatment	**Natural finish**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 according to IEC 60079-0 and 60598-1**
Impact resistance	**IK09 as per IEC 62262**
Corrosion class	**C5 AISI 304 stainless steel (ISO 9223)**
Mounting system	**Provided with 2 M8 threaded holes**
Ambient operating temperature	**-40 °C - +55 °C**
Ambient storage temperature	**-40°C - +70°C**
Lamp holder type	**G13 T8 preventing the unhooking**
Insulation class	**I**
Supply voltage	**110V-230V-240V 0/50/60Hz**
Power factor	**>0.97**
Type of power supply	**Spring clamps and M20 cable gland**
Max. conductor cross-section	**1 - 2.5 mm²**
Entry cable diameter	**10 - 14 mm**

DIRECTIVES

2014/30/EU (EMC)
2014/34/EU (ATEX)
2011/65/EU (RoHS)
2012/19/EU (WEEE)

PRODUCT STANDARDS

EN 55015
EN 60079-0
EN 60079-18
EN 60079-31
EN 60079-7
EN 60598-1
EN 60598-2-1
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 63000

RINO-EX fluorescent | Zone 1, 2, 21, 22

Class I | T8 | IP66 | IK09

2G - 2D
Stainless steel

Length (mm)	Power (W)	Tube type	Diffuser	Version	Weight (kg)	Code
690	1x18	T8	Glass	On/Off	3.88	**822181EX**
690	2x18	T8	Glass	On/Off	3.97	**822182EX**
1300	1x36	T8	Glass	On/Off	6.47	**822281EX**
1300	2x36	T8	Glass	On/Off	6.52	**822282EX**

Accessories RINO-EX fluorescent | Zone 1, 2, 21, 22

Pairs of hooks for pendant mounting

Material:
Stainless steel
AISI 304

Code: **820001**

Pair of adjustable supports for wall and ceiling installation

Material:
Stainless steel
AISI 304

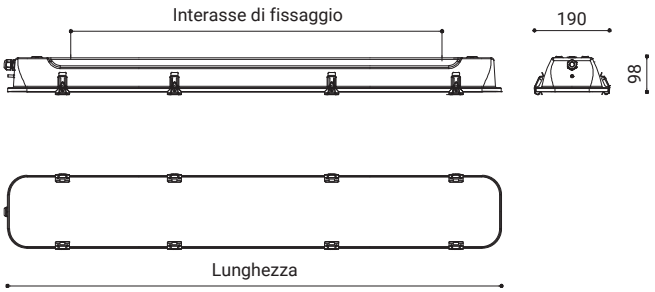
Code: **820000**

Pair of collars for installation on pipe

Material:
Stainless steel
AISI 304

Code: **820006**

RINO-EX fluorescent | Zone 2, 21, 22



Length (mm)	Fixing centre distance (mm)
690	480
1300	1090

Atex execution - Gas	**II 3G - Ex nA IIC T4 Gc**
Atex execution - Dust	**II 2D - Ex tb IIIC T85°C Db**
Body material	**AISI 304 stainless steel**
Surface treatment	**Natural finish**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 according to IEC 60079-0 and 60598-1**
Impact resistance	**IK09 as per IEC 62262**
Corrosion class	**C5 AISI 304 stainless steel (ISO 9223)**
Mounting system	**Pair of AISI 304 stainless steel hooks**
Ambient operating temperature	**-20 °C - +40 °C 2 tubes** **-20 °C - +50 °C 1 tube**
Ambient storage temperature	**-40°C - +70°C**
Lamp holder type	**G13 T8**
Insulation class	**I**
Supply voltage	**230V 50-60Hz**
Power factor	**>0.90**
Type of power supply	**Spring clamps and M20 cable gland**
Max. conductor cross-section	**2.5 mm²**
Entry cable diameter	**10-14 mm**

DIRECTIVES

2014/30/EU (EMC)
2014/34/EU (ATEX)
2011/65/EU (RoHS)
2012/19/EU (WEEE)

PRODUCT STANDARDS

EN 55015
EN 60079-0
EN 60079-15
EN 60079-31
EN 60079-7
EN 60598-1
EN 60598-2-1
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 63000

RINO-EX fluorescent | Zone 2, 21, 22

Class I | T8 | IP66 | IK09

	Length (mm)	Power (W)	Tube type	Diffuser	Version	Weight (kg)	Code
3G - 2D Stainless steel	690	1x18	T8	Glass	On/Off	3.36	**822131EX**
	690	2x18	T8	Glass	On/Off	3.44	**822132EX**
	1300	1x36	T8	Glass	On/Off	5.82	**822231EX**
	1300	2x36	T8	Glass	On/Off	5.79	**822232EX**

Accessories RINO-EX fluorescent | Zone 2, 21, 22

Pairs of hooks for pendant mounting

Material: Stainless steel AISI 304

Code: **820001**

Pair of adjustable supports for wall and ceiling installation

Material: Stainless steel AISI 304

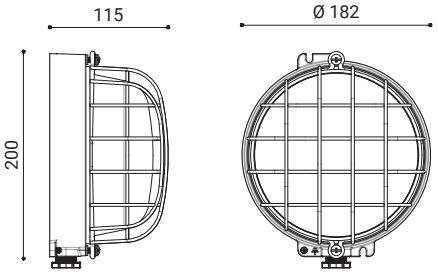
Code: **820000**

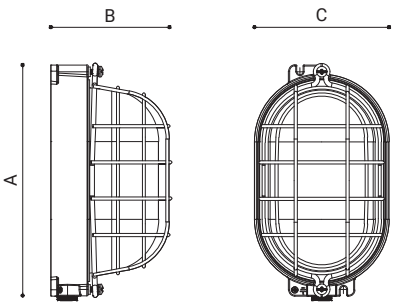
Pair of collars for installation on pipe

Material: Stainless steel AISI 304

Code: **820006**

RINO-EX E27 | Zone 22





P max (W)	A (mm)	B (mm)	C (mm)
60	199	119	112
75	226	122	130
100	295	142	170

Atex execution - Dust	**II 3D - Ex tc IIIC T75°C Dc**
Body material	**Aluminium alloy**
Surface treatment	**Fluorozirconate passivation**
Diffuser material	**Prismatic tempered glass**
Protection rating	**IP65 according to IEC 60079-0 and 60598-1**
Impact resistance	**IK07 according to IEC 62262**
Mounting system	**Ready for wall installation**
Ambient operating temperature	**-20 °C - +40 °C**
Ambient storage temperature	**-40°C - +70°C**
Lamp holder type	**E27 porcelain**
Insulation class	**I**
Supply voltage	**230V 50-60Hz**
Type of power supply	**Spring clamps and M20 cable gland**
Max. conductor cross-section	**2.5 mm²**
Entry cable diameter	**10-14 mm**

DIRECTIVES

2014/34/EU (ATEX)
2011/65/EU (RoHS)
2012/19/EU (WEEE)

PRODUCT STANDARDS

EN 60079-0
EN 60079-31
EN 60598-1
EN 60598-2-1
EN 63000

RINO-EX E27 | Zone 22

E27 IP65

	Power (W)	Lamp holder	No. of inputs	Version	Weight (kg)	Code
3D Aluminium alloy	18	E27	1	On/Off	0.92	**831072EX**
	28	E27	1	On/Off	1.28	**831172EX**
	53	E27	1	On/Off	2.23	**831272EX**

	Power (W)	Lamp holder	No. of inputs	Version	Weight (kg)	Code
3D Aluminium alloy	28	E27	1	On/Off	0.94	**830072EX**

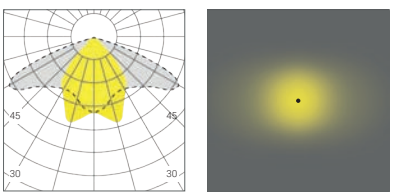
Infrastructure

Excellent lighting performance, high mechanical standards and product reliability are the basis of the success of Palazzoli's lighting solutions for roads and tunnels.
Thanks to the wide variety of optical solutions developed, which allow for maximum versatility and customised solutions, the company can meet any need, whatever the road cross-sections or installation heights of roads and motorways, roundabouts, junctions and car parks.
The use of the latest LED technology gives the system economic and technical advantages.

Optics

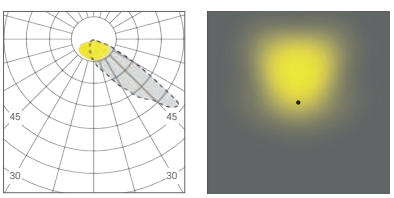
Type of lighting

PS3



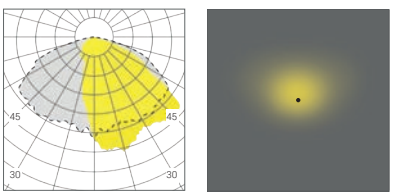
Permanent lighting: is evenly distributed from the entrance area to the exit area.

RS1



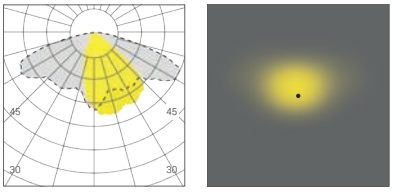
Reinforcement lighting:
is placed in the entrance area up to the transition area. In the entrance area, the reinforcement lighting shall have the same level of luminance as the environment outside the tunnel, so that the driver can detect an obstacle within the route. In the transition area, luminance levels are lower than the input values, allowing the driver to adapt to the lower levels in the inner area.

STR-AM

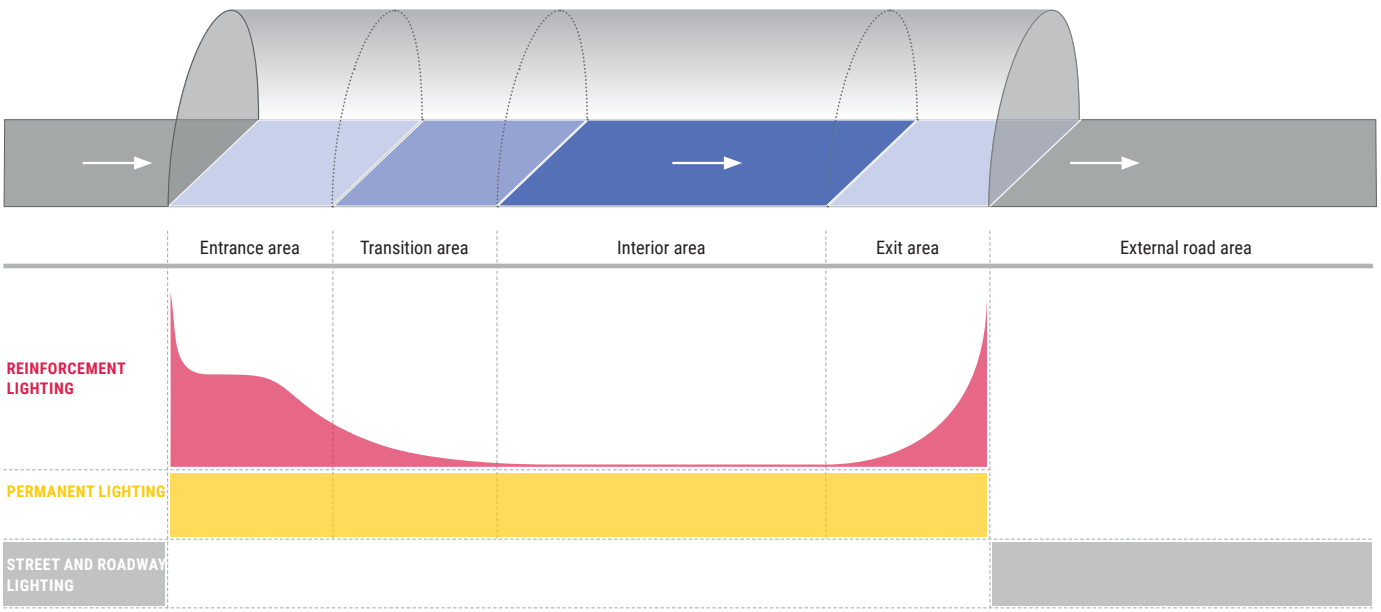


Roadway wide beam:
lighting of wide, urban and suburban roads
(1.5 times the pole height).

STR-ST



Narrow roads:
Lighting of narrow, urban and suburban roads
(1 times the pole height).



Roadway Page 191

Tunnels Page 203

Roadway

Roundabouts
Roads
Motorways

Infrastructure

FIT 55
2820 lm to 29920 lm
Page 192

FIT 55

Body material	**Aluminium alloy EN 46100**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 7011**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 as per IEC 60598-1**
Impact resistance	**IK08 according to IEC 62262**
Corrosion class	**C4-M / C3-H (ISO 9223)**
Mounting system	**Pole attachment 42 to 76 mm Pole-top - 5° to +20° -20° to +5° projecting bracket**
Ambient operating temperature	**-30 °C - +40 °C**
Ambient storage temperature	**-40°C - +70°C**
Wind load surface	**Size S side 0.03 m² - front 0.13 m² Size M side 0.04 m² - front 0.18 m²**
Actual efficacy of the device	**Up to 166 lm/W**
Colour temperature	**4000K - 3000K**
Optics features	**High efficiency 99.9% aluminium reflector**
Colour rendering index values	**CRI≥70 according to EN 62717**
Colour consistency	**MacAdam 4-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**<1%**
Luminous flux maintenance	**L80 B10 150,000 h Tq=+25 °C**
Insulation class	**II - I**
Supply voltage	**200-240V 50-60Hz**
Surge protection	**10 kV common mode and 6 kV differential mode according to EN61000-4-5**
Power factor	**>0.95**
Type of power supply	**M20 cable gland with internal isolator switch for connection**
Max. conductor cross-section	**1-2.5 mm²**
Entry cable diameter	**7- 13 mm**

7-YEAR WARRANTY

WARRANTY
2 YEARS OPTIONALLY EXTENDABLE TO 7

DIRECTIVES

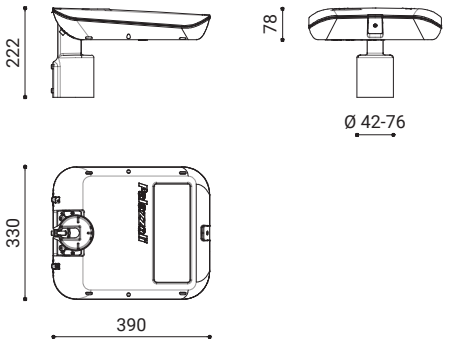
2014/30/EU (EMC)
2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)
2009/125/EC (ErP)
EU Reg. 2019/2020 (EcoDesign)

PRODUCT STANDARDS

EN 55015
EN 60598-1
EN 60598-2-1
EN 60598-2-3
EN 60598-2-5
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Special versions can be made by combining optics, power supplies and colour temperatures. NEMA, ZHAGA socket and CRI 80 versions are available.

FIT 55 | size S

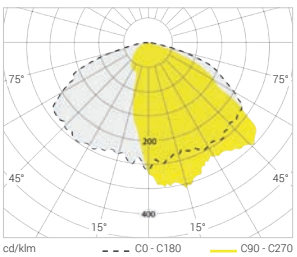


05

Flicker <1%

IP66

IK08

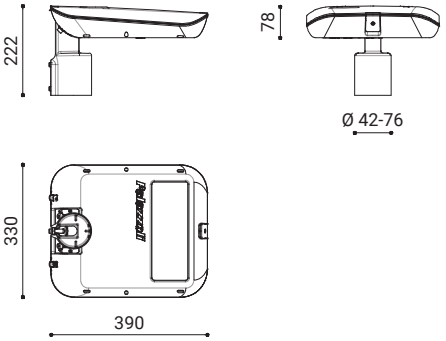


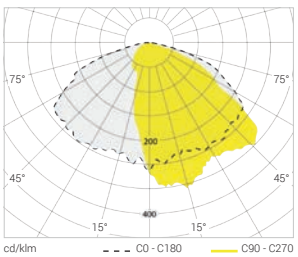
STR-AM roadway wide beam optics

Included: adjustable pole mount
-5° to + 20° for pole-top application;
-20° to + 5° for wall mounting with projecting arm.
Suitable for pole diameters from 42 mm to 76 mm.

	No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
4000 K Class II	14	17	3386	2822	Glass	166	Virtual midnight	4.50	**834110MV**
	14	34	5983	4986	Glass	147	Virtual midnight	4.50	**834120MV**
	14	54	8693	7244	Glass	134	Virtual midnight	4.50	**834130MV**
	14	17	3386	2822	Glass	166	On/Off	4.50	**834110**
	14	34	5983	4986	Glass	147	On/Off	4.50	**834120**
	14	54	8693	7244	Glass	134	On/Off	4.50	**834130**
	28	37	6906	5755	Glass	156	Virtual midnight	5.00	**834210MV**
	28	69	11966	9972	Glass	145	Virtual midnight	5.00	**834220MV**
	28	86	14520	12100	Glass	141	Virtual midnight	5.00	**834230MV**
	28	37	6906	5755	Glass	156	On/Off	5.00	**834210**
	28	69	11966	9972	Glass	145	On/Off	5.00	**834220**
	28	86	14520	12100	Glass	141	On/Off	5.00	**834230**
4000 K Class I	14	17	3386	2822	Glass	166	Virtual midnight	4.50	**854110MV**
	14	34	5983	4986	Glass	147	Virtual midnight	4.50	**854120MV**
	14	54	8693	7244	Glass	134	Virtual midnight	4.50	**854130MV**
	28	37	6906	5755	Glass	156	Virtual midnight	5.00	**854210MV**
	28	69	11966	9972	Glass	145	Virtual midnight	5.00	**854220MV**
	28	86	14520	12100	Glass	141	Virtual midnight	5.00	**854230MV**

FIT 55 | size S





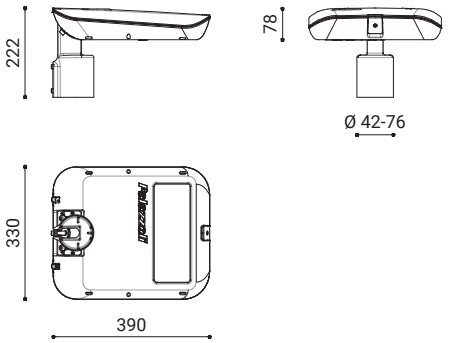
STR-AM roadway wide beam optics

Included: adjustable pole mount
-5° to + 20° for pole-top application;
-20° to + 5° for wall mounting with projecting arm.
Suitable for pole diameters from 42 mm to 76 mm.

3000 K
Class II

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
14	34	5342	4452	Glass	131	Virtual midnight	4.50	**833120MV**
14	54	7764	6470	Glass	122	Virtual midnight	4.50	**833130MV**
28	69	11248	9373	Glass	136	Virtual midnight	5.00	**833220MV**
28	86	13644	11370	Glass	132	Virtual midnight	5.00	**833230MV**

FIT 55 | size S

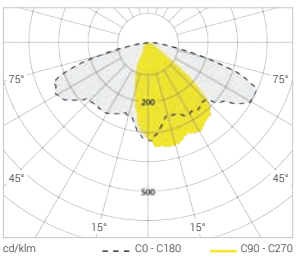


05

Flicker <1%

IP66

IK08

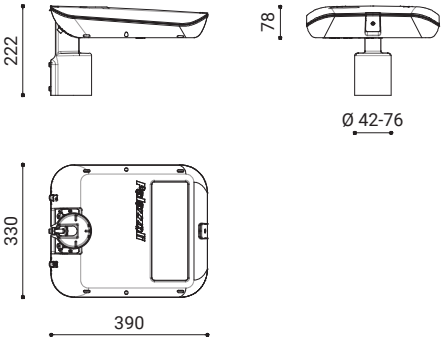


STR-ST roadway narrow beam optics

Included: adjustable pole mount
-5° to + 20° for pole-top application;
-20° to + 5° for wall mounting with projecting arm.
Suitable for pole diameters from 42 mm to 76 mm.

	No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
4000 K Class II	14	17	3386	2822	Glass	166	Virtual midnight	4.50	**834111MV**
	14	34	5983	4986	Glass	147	Virtual midnight	4.50	**834121MV**
	14	54	8693	7244	Glass	134	Virtual midnight	4.50	**834131MV**
	14	17	3386	2822	Glass	166	On/Off	4.50	**834111**
	14	34	5983	4986	Glass	147	On/Off	4.50	**834121**
	14	54	8693	7244	Glass	134	On/Off	4.50	**834131**
	28	37	6906	5755	Glass	156	Virtual midnight	5.00	**834211MV**
	28	69	11966	9972	Glass	145	Virtual midnight	5.00	**834221MV**
	28	86	14520	12100	Glass	141	Virtual midnight	5.00	**834231MV**
	28	37	6906	5755	Glass	156	On/Off	5.00	**834211**
	28	69	11966	9972	Glass	145	On/Off	5.00	**834221**
	28	86	14520	12100	Glass	141	On/Off	5.00	**834231**
4000 K Class I	14	17	3386	2822	Glass	166	Virtual midnight	4.50	**854111MV**
	14	35	5983	4986	Glass	142	Virtual midnight	4.50	**854121MV**
	14	54	8693	7244	Glass	134	Virtual midnight	4.50	**854131MV**
	28	37	6906	5755	Glass	156	Virtual midnight	5.00	**854211MV**
	28	69	11966	9972	Glass	145	Virtual midnight	5.00	**854221MV**
	28	86	14520	12100	Glass	141	Virtual midnight	5.00	**854231MV**

FIT 55 | size S

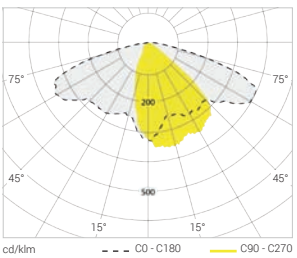


05

Flicker <1%

IP66

IK08



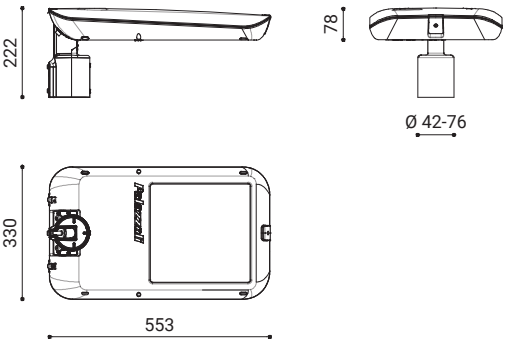
STR-ST roadway narrow beam optics

Included: adjustable pole mount
-5° to + 20° for pole-top application;
-20° to + 5° for wall mounting with projecting arm.
Suitable for pole diameters from 42 mm to 76 mm.

3000 K
Class II

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
14	34	5342	4452	Glass	131	Virtual midnight	4.50	**833121MV**
14	54	7764	6470	Glass	122	Virtual midnight	4.50	**833131MV**
28	69	11248	9373	Glass	136	Virtual midnight	5.00	**833221MV**
28	86	13644	11370	Glass	132	Virtual midnight	5.00	**833231MV**

FIT 55 | size M

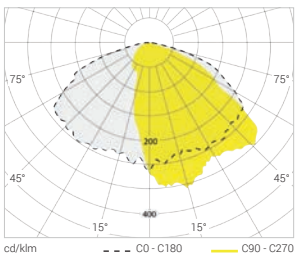


05

Flicker <1%

IP66

IK08



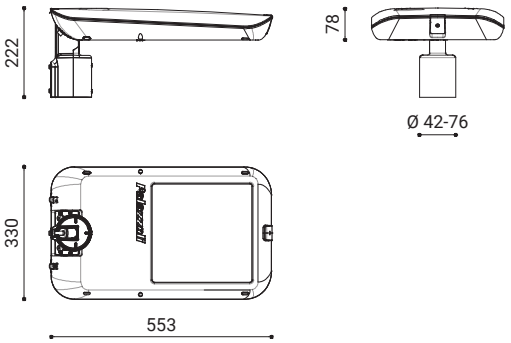
STR-AM roadway wide beam optics

Included: adjustable pole mount
-5° to + 20° for pole-top application;
-20° to + 5° for wall mounting with projecting arm.
Suitable for pole diameters from 42 mm to 76 mm.

4000 K
Class II

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
42	54	10160	8467	Glass	157	Virtual midnight	7.50	**834310MV**
42	104	17950	14958	Glass	144	Virtual midnight	7.50	**834320MV**
42	145	24060	20050	Glass	138	Virtual midnight	7.50	**834330MV**
42	54	10160	8467	Glass	157	On/Off	7.50	**834310**
42	104	17950	14958	Glass	144	On/Off	7.50	**834320**
42	145	24060	20050	Glass	138	On/Off	7.50	**834330**
56	72	13547	11289	Glass	157	Virtual midnight	8.00	**834410MV**
56	139	23933	19944	Glass	143	Virtual midnight	8.00	**834420MV**
56	177	29352	24460	Glass	139	Virtual midnight	8.00	**834430MV**
56	72	13547	11289	Glass	157	On/Off	8.00	**834410**
56	139	23933	19944	Glass	143	On/Off	8.00	**834420**
56	177	29352	24460	Glass	139	On/Off	8.00	**834430**
70	92	16933	14111	Glass	154	Virtual midnight	8.50	**834510MV**
70	128	23194	19328	Glass	151	Virtual midnight	8.50	**834520MV**
70	174	29916	24930	Glass	144	Virtual midnight	8.50	**834530MV**
70	92	16933	14111	Glass	154	On/Off	8.50	**834510**
70	128	23194	19328	Glass	151	On/Off	8.50	**834520**
70	174	29916	24930	Glass	144	On/Off	8.50	**834530**
84	101	18665	15554	Glass	154	Virtual midnight	9.00	**834610MV**
84	153	28448	23707	Glass	155	Virtual midnight	9.00	**834620MV**
84	209	35899	29916	Glass	143	Virtual midnight	9.00	**834630MV**

FIT 55 | size M

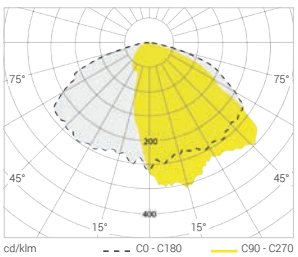


05

Flicker <1%

IP66

IK08

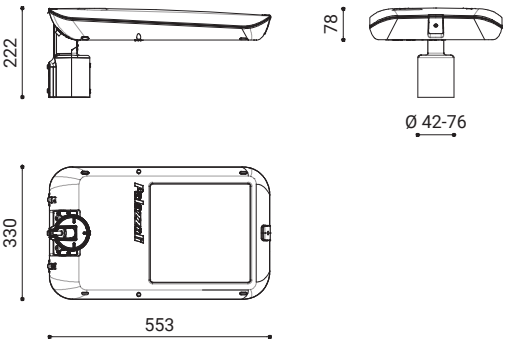


STR-AM roadway wide beam optics

Included: adjustable pole mount
-5° to + 20° for pole-top application;
-20° to + 5° for wall mounting with projecting arm.
Suitable for pole diameters from 42 mm to 76 mm.

	No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
4000 K Class I	42	54	10160	8467	Glass	157	Virtual midnight	7.50	**854310MV**
	42	104	17950	14958	Glass	144	Virtual midnight	7.50	**854320MV**
	42	145	24060	20050	Glass	138	Virtual midnight	7.50	**854330MV**
	56	72	13547	11289	Glass	157	Virtual midnight	8.00	**854410MV**
	56	139	23933	19944	Glass	143	Virtual midnight	8.00	**854420MV**
	56	177	29352	24460	Glass	139	Virtual midnight	8.00	**854430MV**
	70	91.5	16933	14111	Glass	154	Virtual midnight	8.50	**854510MV**
	70	128	23194	19328	Glass	151	Virtual midnight	8.50	**854520MV**
	70	174	29916	24930	Glass	144	Virtual midnight	8.50	**854530MV**
	84	101	18665	15554	Glass	154	Virtual midnight	9.00	**854610MV**
	84	153	28448	23707	Glass	155	Virtual midnight	9.00	**854620MV**
	84	209	35899	29916	Glass	143	Virtual midnight	9.00	**854630MV**
3000 K Class II	42	104	16872	14060	Glass	135	Virtual midnight	7.50	**833320MV**
	42	145	22620	18850	Glass	130	Virtual midnight	7.50	**833330MV**
	56	139	22728	18940	Glass	136	Virtual midnight	8.00	**833420MV**
	56	177	27884	23237	Glass	132	Virtual midnight	8.00	**833430MV**
	70	128	22522	18768	Glass	147	Virtual midnight	8.50	**833520MV**
	70	174	28420	23683	Glass	136	Virtual midnight	8.50	**833530MV**
	84	153	27025	22521	Glass	147	Virtual midnight	9.00	**833620MV**
	84	209	34104	28420	Glass	136	Virtual midnight	9.00	**833630MV**

FIT 55 | size M

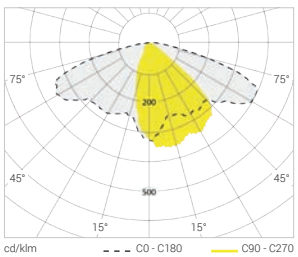


05

Flicker <1%

IP66

IK08



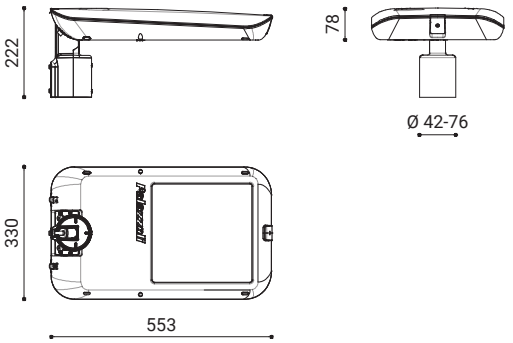
STR-ST roadway narrow beam optics

Included: adjustable pole mount
-5° to + 20° for pole-top application;
-20° to + 5° for wall mounting with projecting arm.
Suitable for pole diameters from 42 mm to 76 mm.

4000 K
Class II

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
42	54	10160	8467	Glass	157	Virtual midnight	7.50	**834311MV**
42	104	17950	14958	Glass	144	Virtual midnight	7.50	**834321MV**
42	145	24060	20050	Glass	138	Virtual midnight	7.50	**834331MV**
42	54	10160	8467	Glass	157	On/Off	7.50	**834311**
42	104	17950	14958	Glass	144	On/Off	7.50	**834321**
42	145	24060	20050	Glass	138	On/Off	7.50	**834331**
56	72	13547	11289	Glass	157	Virtual midnight	8.00	**834411MV**
56	139	23933	19944	Glass	143	Virtual midnight	8.00	**834421MV**
56	177	29352	24460	Glass	139	Virtual midnight	8.00	**834431MV**
56	72	13547	11289	Glass	157	On/Off	8.00	**834411**
56	139	23933	19944	Glass	143	On/Off	8.00	**834421**
56	177	29352	24460	Glass	139	On/Off	8.00	**834431**
70	92	16933	14111	Glass	154	Virtual midnight	8.50	**834511MV**
70	128	23194	19328	Glass	151	Virtual midnight	8.50	**834521MV**
70	174	29916	24930	Glass	144	Virtual midnight	8.50	**834531MV**
70	92	16933	14111	Glass	154	On/Off	8.50	**834511**
70	128	23194	19328	Glass	151	On/Off	8.50	**834521**
70	174	29916	24930	Glass	144	On/Off	8.50	**834531**
84	101	18665	15554	Glass	154	Virtual midnight	9.00	**834611MV**
84	153	28448	23707	Glass	155	Virtual midnight	9.00	**834621MV**
84	209	35899	29916	Glass	143	Virtual midnight	9.00	**834631MV**

FIT 55 | size M

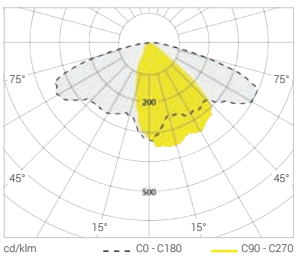


05

Flicker <1%

IP66

IK08



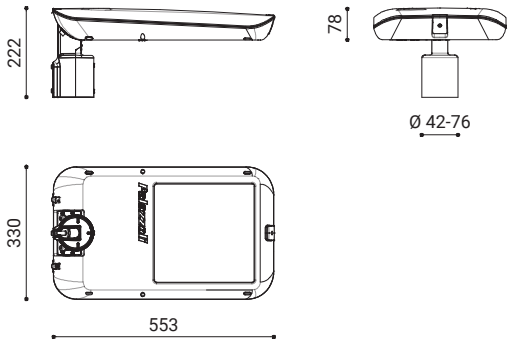
STR-ST roadway narrow beam optics

Included: adjustable pole mount
-5° to + 20° for pole-top application;
-20° to + 5° for wall mounting with projecting arm.
Suitable for pole diameters from 42 mm to 76 mm.

4000 K
Class I

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
42	54	10160	8467	Glass	157	Virtual midnight	7.50	**854311MV**
42	104	17950	14958	Glass	144	Virtual midnight	7.50	**854321MV**
42	145	24060	20050	Glass	138	Virtual midnight	7.50	**854331MV**
56	72	13547	11289	Glass	157	Virtual midnight	8.00	**854411MV**
56	139	23933	19944	Glass	143	Virtual midnight	8.00	**854421MV**
56	177	29352	24460	Glass	139	Virtual midnight	8.00	**854431MV**
70	91.5	16933	14111	Glass	154	Virtual midnight	8.50	**854511MV**
70	128	23194	19328	Glass	151	Virtual midnight	8.50	**854521MV**
70	174	29916	24930	Glass	144	Virtual midnight	8.50	**854531MV**
84	101	18665	15554	Glass	154	Virtual midnight	9.00	**854611MV**
84	153	28448	23707	Glass	155	Virtual midnight	9.00	**854621MV**
84	209	35899	29916	Glass	143	Virtual midnight	9.00	**854631MV**

FIT 55 | size M

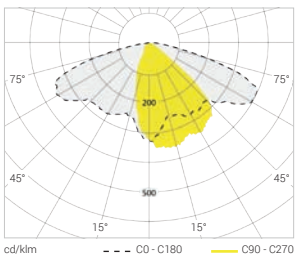


05

Flicker <1%

IP66

IK08



STR-ST roadway narrow beam optics

Included: adjustable pole mount
-5° to + 20° for pole-top application;
-20° to + 5° for wall mounting with projecting arm.
Suitable for pole diameters from 42 mm to 76 mm.

3000 K
Class II

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
42	104	16872	14060	Glass	135	Virtual midnight	7.50	**833321MV**
42	145	22620	18850	Glass	130	Virtual midnight	7.50	**833331MV**
56	139	22728	18940	Glass	136	Virtual midnight	8.00	**833421MV**
56	177	27884	23237	Glass	132	Virtual midnight	8.00	**833431MV**
70	128	22522	18768	Glass	147	Virtual midnight	8.50	**833521MV**
70	174	28420	23683	Glass	136	Virtual midnight	8.50	**833531MV**
84	153	27025	22521	Glass	147	Virtual midnight	9.00	**833621MV**
84	209	34104	28420	Glass	136	Virtual midnight	9.00	**833631MV**

Accessories FIT 55

META150-EX equipped with **Double projecting bracket**

Single projecting bracket

Material:
Painted galvanised steel

Code: **834901**

Double projecting bracket

Material:
Painted galvanised steel

Code: **834902**

Wall installation bracket

Material:
Painted galvanised steel

Code: **834903**

Tunnels

Road and motorway tunnels

Infrastructure

TIGUA-T54
4160 lm to 15600 lm
Page 204

XTIGUA-T54
19470 lm to 49660 lm
Page 206

RINO-T54
3630 lm to 4835 lm
Page 210

XRINO-T54
8000 lm to 42000 lm
Page 212

TIGUA-T54 and **XTIGUA**-T54

WARRANTY
2 YEARS WITH OPTIONAL EXTENSION TO 10

DIRECTIVES

2014/30/EU (EMC)
2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)
2009/125/EC (ErP)
EU Reg. 2019/2020 (EcoDesign)

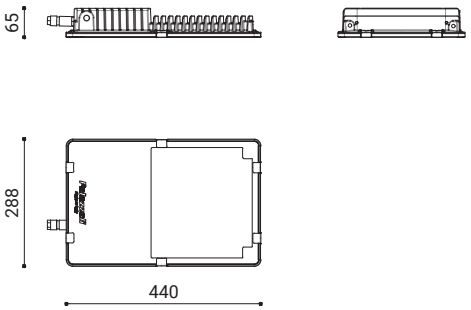
PRODUCT STANDARDS

EN 55015
EN 60598-1
EN 60598-2-1
EN 60598-2-3
EN 60598-2-5
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Body material	**Low-copper aluminium alloy EN 44300**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**GREY RAL 7011**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 according to IEC 60079-0 and 60598-1**
Impact resistance	**IK08 according to IEC 62262**
Corrosion class	**C5-M / C4-H (ISO 9223)**
Mounting system	**Designed to accommodate supports for attachment to the channel**
Ambient operating temperature	**-30 °C - +45 °C**
Ambient storage temperature	**-40°C - +70°C**
Actual efficacy of the device	**Up to 119 lm/W**
Colour temperature	**4000K**
Optics features	**Non-ageing, UV-resistant PMMA lenses with > 90% efficiency and > 95% transparency**
Colour rendering index values	**CRI≥70 according to EN 62717**
Colour consistency	**MacAdam 5-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**<1%**
Luminous flux maintenance	**L80 B20 100,000 h Tq=+25 °C**
Insulation class	**II**
Supply voltage	**220V-240V 50/60Hz**
Surge protection	**8 kV common mode and 10 kV differential mode according to EN61000-4-5**
Power factor	**>0.98**
Type of power supply	**Plug 16A 2P IP67 IEC EN 60309-1/-2**

Special versions for remote control of the system can be made.

TIGUA-T54

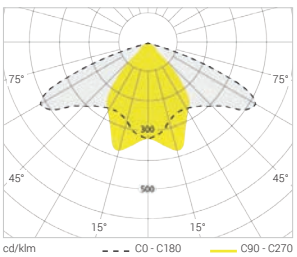


Flicker <1%

Class II

IP66

IK08



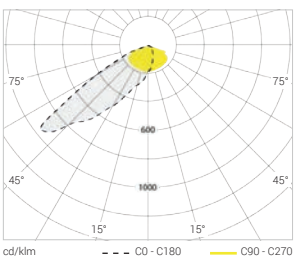
Symmetrical axial and symmetrical transverse optics – PS3

Included: power supply with 16A 2P IP67 plug according to IEC EN 60309-1/-2, with 1.5 mm² FTG18OM16 cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

Permanent and reinforcement

+ 45 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
4	35	5220	4160	Glass	119	1-10 dimmable	5.50	**811404**
6	51	7830	6240	Glass	122	1-10 dimmable	5.70	**811406**
8	67	10440	8320	Glass	124	1-10 dimmable	5.90	**811408**
9	75	11745	9360	Glass	125	1-10 dimmable	6.00	**811409**
12	100	15660	12480	Glass	125	1-10 dimmable	6.20	**811412**
14	116	18270	14560	Glass	126	1-10 dimmable	6.40	**811414**
15	124	19575	15600	Glass	126	1-10 dimmable	6.50	**811415**



Axial counterbeam 52° and symmetrical tranverse optics – RS1

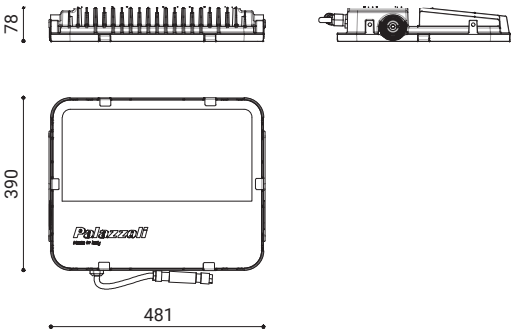
Included: power supply with 16A 2P IP67 plug according to IEC EN 60309-1/-2, with 1.5 mm² FTG18OM16 cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

Permanent and reinforcement

+ 45 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
4	35	5220	4160	Glass	119	1-10 dimmable	5.50	**811504**
6	51	7830	6240	Glass	122	1-10 dimmable	5.70	**811506**
8	67	10440	8320	Glass	124	1-10 dimmable	5.90	**811508**
9	105	15171	12643	Glass	121	1-10 dimmable	6.00	**811509**
12	100	15660	12480	Glass	125	1-10 dimmable	6.20	**811512**
14	116	18270	14560	Glass	125	1-10 dimmable	6.40	**811514**
15	124	19575	15600	Glass	125	1-10 dimmable	6.50	**811515**

XTIGUA-T54 | size M

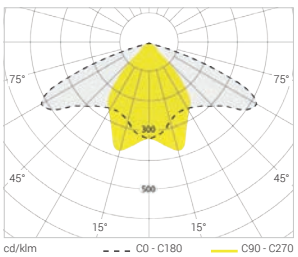


Flicker <1%

Class II

IP66

IK08



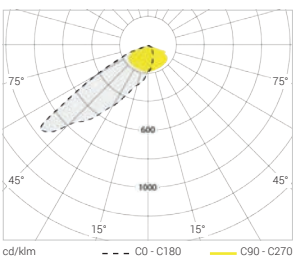
Symmetrical axial and symmetrical transverse optics – PS3

Included: power supply with 16A 2P IP67 plug according to IEC EN 60309-1/-2, with 1.5 mm² FTG18OM16 cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

Permanent and reinforcement

+ 45 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
18	152	23490	19468	Glass	128	1-10 dimmable	7.20	**812418**
24	203	31320	25388	Glass	125	1-10 dimmable	7.30	**812424**
30	253	39150	31850	Glass	126	1-10 dimmable	7.40	**812430**



Axial counterbeam 52° and symmetrical transverse optics – RS1

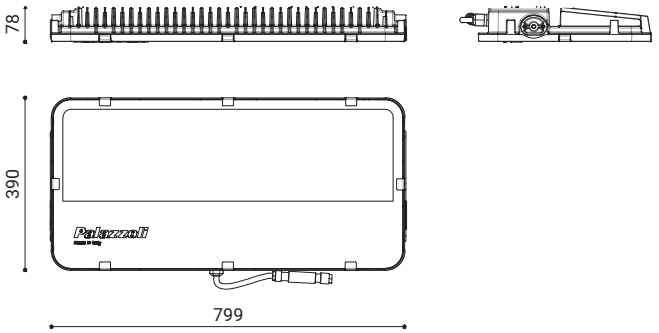
Included: power supply with 16A 2P IP67 plug according to IEC EN 60309-1/-2 with 1.5 mm² FTG18OM16 cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

Permanent and reinforcement

+ 45 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
18	152	23490	19275	Glass	126	1-10 dimmable	7.20	**812518**
24	203	31320	25137	Glass	126	1-10 dimmable	7.30	**812524**
30	253	39150	31535	Glass	126	1-10 dimmable	7.40	**812530**

XTIGUA-T54 | size L



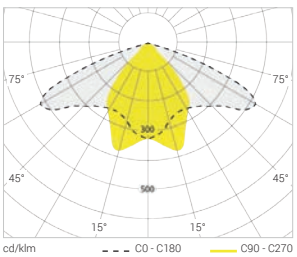
05

Flicker <1%

Class II

IP66

IK08



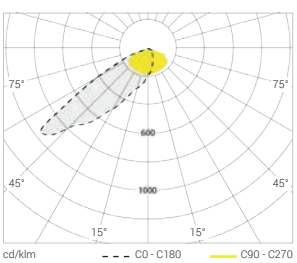
Symmetrical axial and symmetrical transverse optics – PS3

Included: power supply with 16A 2P IP67 plug according to IEC EN 60309-1/-2, with 1.5 mm² FTG180M16 cable.
The stated flux and power values may be subject to a +/- 7% tolerance.
Dimmable version on request

Permanent and reinforcement

+ 45 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
36	303	46980	38220	Glass	126	1-10 dimmable	12.00	**812436**
42	349	54810	43863	Glass	126	1-10 dimmable	12.20	**812442**
48	397	62640	49663	Glass	125	1-10 dimmable	12.40	**812448**



Axial counterbeam 52° and symmetrical transverse optics – RS1

Included: power supply with 16A 2P IP67 plug according to IEC EN 60309-1/-2 with 1.5 mm² FTG180M16 cable.
The stated flux and power values may be subject to a +/- 7% tolerance.
Dimmable version on request

Permanent and reinforcement

+ 45 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)	Output flux (lm)	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
36	303	46980	37841	Glass	126	1-10 dimmable	12.00	**812536**
42	349	54810	43429	Glass	126	1-10 dimmable	12.20	**812542**
48	397	62640	48171	Glass	126	1-10 dimmable	12.40	**812548**

Accessories TIGUA-T54 and XTIGUA-T54

X-TIGUA T-54 equipped with **quick-connect supports to the channel**

Pair of quick-release supports

Material:
AISI 304 stainless steel

Channel dimensions	Code
100 x 75	**811900**
200 x 75	**811901**
300 x 75	**811902**
100 x 100	**811903**
200 x 100	**811904**
300 x 100	**811905**

Pair of quick-release supports

Material:
AISI 304 stainless steel

Channel dimensions	Code
100 x 75	**811925**
200 x 75	**811926**
300 x 75	**811927**
100 x 100	**811928**
200 x 100	**811929**
300 x 100	**811930**

Pair of screw mounting supports

Material:
AISI 304 stainless steel

Channel dimensions	Code
100 x 75	**811906**

Pair of adjustable supports for screw coupling

Material:
AISI 304 stainless steel

Channel dimensions	Code
100 x 75	**811907**

Accessories TIGUA-T54 and XTIGUA-T54

Pair of quick-release brackets for axial adjustment

For size S

Material:
Stainless steel
AISI 304

Axial adjustment	Channel dimensions (mm)	Code
6°	100 x 75	**811931**
6°	200 x 75	**811932**
6°	300 x 75	**811933**
6°	100 x 100	**811934**
6°	200 x 100	**811935**
6°	300 x 100	**811936**
8°	100 x 75	**811937**
8°	200 x 75	**811938**
8°	300 x 75	**811939**
8°	100 x 100	**811940**
8°	200 x 100	**811941**
8°	300 x 100	**811942**
10°	100 x 75	**811943**
10°	200 x 75	**811944**
10°	300 x 75	**811945**
10°	100 x 100	**811946**
10°	200 x 100	**811947**
10°	300 x 100	**811948**

Pair of quick-release brackets for axial adjustment

For size M

Material:
Stainless steel
AISI 304

Axial adjustment	Channel dimensions (mm)	Code
6°	100 x 75	**812931M**
6°	200 x 75	**812932M**
6°	300 x 75	**812933M**
6°	100 x 100	**812934M**
6°	200 x 100	**812935M**
6°	300 x 100	**812936M**
8°	100 x 75	**812937M**
8°	200 x 75	**812938M**
8°	300 x 75	**812939M**
8°	100 x 100	**812940M**
8°	200 x 100	**812941M**
8°	300 x 100	**812942M**
10°	100 x 75	**812943M**
10°	200 x 75	**812944M**
10°	300 x 75	**812945M**
10°	100 x 100	**812946M**
10°	200 x 100	**812947M**
10°	300 x 100	**812948M**

For size L

Material:
Stainless steel
AISI 304

6°	100 x 75	**812931L**
6°	200 x 75	**812932L**
6°	300 x 75	**812933L**
6°	100 x 100	**812934L**
6°	200 x 100	**812935L**
6°	300 x 100	**812936L**
8°	100 x 75	**812937L**
8°	200 x 75	**812938L**
8°	300 x 75	**812939L**
8°	100 x 100	**812940L**
8°	200 x 100	**812941L**
8°	300 x 100	**812942L**
10°	100 x 75	**812943L**
10°	200 x 75	**812944L**
10°	300 x 75	**812945L**
10°	100 x 100	**812946L**
10°	200 x 100	**812947L**
10°	300 x 100	**812948L**

RINO-T54 and **XRINO**-T54

Body material	**AISI 316L stainless steel**
Surface treatment	**Natural finish**
Diffuser material	**Extra clear tempered glass**
Protection rating	**IP66 as per IEC 60598-1**
Impact resistance	**IK09 as per IEC 62262**
Corrosion class	**C5 AISI 304 stainless steel (ISO 9223)**
Mounting system	**Designed to accommodate supports for attachment to the channel**
Ambient operating temperature	**-30 °C - +40 °C**
Ambient storage temperature	**-30°C - +70°C**
Actual efficacy of the device	**Up to 145 lm/W**
Colour temperature	**4000K**
Optics features	**High efficiency 99.9% aluminium reflector**
Colour rendering index values	**CRI≥70 according to EN 62717**
Colour consistency	**MacAdam 5-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**<3%**
Luminous flux maintenance	**L80 B10 240,000 h Tq=+25 °C**
Insulation class	**II**
Supply voltage	**220V-240V 50/60Hz**
Surge protection	**10kV common mode and differential mode according to EN61000-4-5**

10-YEAR WARRANTY

WARRANTY
2 YEARS WITH OPTIONAL EXTENSION TO 10

DIRECTIVES

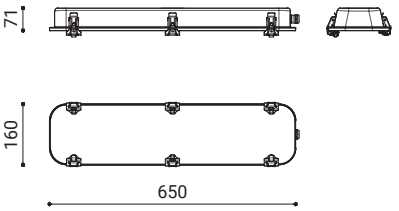
2014/30/EU (EMC)
2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)
2009/125/EC (ErP)
EU Reg. 2019/2020 (EcoDesign)

PRODUCT STANDARDS

EN 55015
EN 60598-1
EN 60598-2-1
EN 60598-2-3
EN 60598-2-5
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

Special versions for remote control of the system can be made.

RINO-T54 | size S



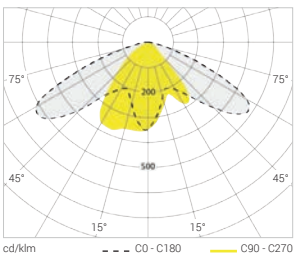
05

Flicker <1%

Class II

IP66

IK08



Symmetrical axial and asymmetrical transverse optics – PA5

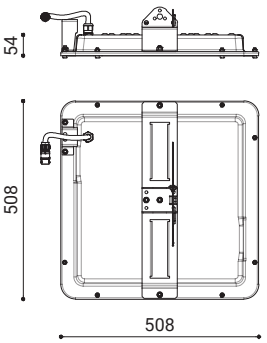
Included: power supply with 16A 2P IP67 plug according to IEC EN 60309-1/-2 with 1.5 mm² FTG18OM16 cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

Permanent

+ 40 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
14	25	4353	3628	Glass	145	1-10 dimmable	6.00	**829110**
14	35	5800	4827	Glass	138	1-10 dimmable	6.00	**829120**
14	45	7200	6000	Glass	133	1-10 dimmable	6.00	**829130**

XRINO-T54 | size M



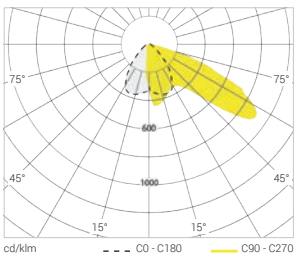
05

Flicker <1%

Class II

IP66

IK08



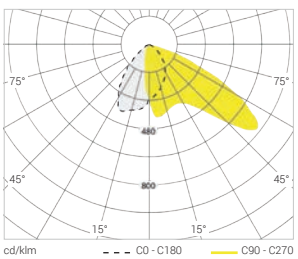
Axial counterbeam 55° and symmetrical transverse optics – RS5

Included: power supply with 16A 2P IP67 plug according to IEC EN 60309-1/-2 with 1.5 mm² FTG18OM16 cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

Reinforcement

+ 40 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
24	56	9600	8000	Glass	143	1-10 dimmable	12.00	**829211**
24	75	12,000	10000	Glass	134	1-10 dimmable	12.00	**829212**
80	104	19200	16000	Glass	153	1-10 dimmable	12.00	**829221**
80	158	27600	23000	Glass	145	1-10 dimmable	12.00	**829222**



Axial counterbeam 55° and asymmetrical transverse optics – RA5

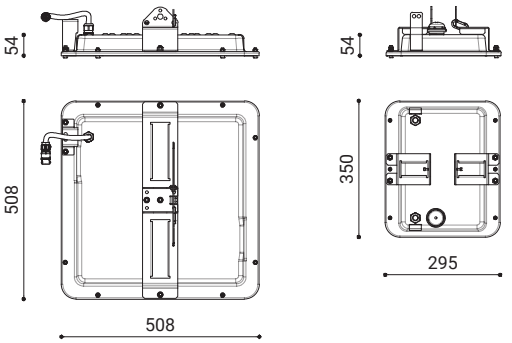
Included: power supply with 16A 2P IP67 plug according to IEC EN 60309-1/-2 with 1.5 mm² FTG18OM16 cable.
The stated flux and power values may be subject to a +/- 7% tolerance.

Reinforcement

+ 40 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
24	56	9600	8000	Glass	143	1-10 dimmable	14.50	**829311**
24	75	12,000	10000	Glass	134	1-10 dimmable	14.50	**829312**
80	104	19200	16000	Glass	153	1-10 dimmable	14.50	**829321**
80	158	27600	23000	Glass	145	1-10 dimmable	14.50	**829322**

XRINO-T54 | size L

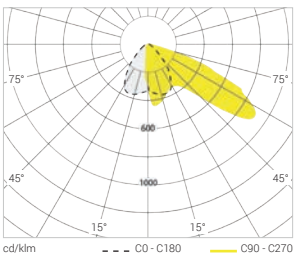


Flicker <1%

Class I

IP66

IK08



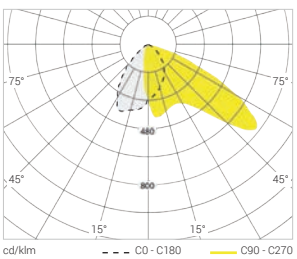
Axial counterbeam 55° and symmetrical transverse optics – RS5

Included: power supply with 16A 2P IP67 plug according to IEC EN 60309-1/-2 with 1.5 mm² FTG18OM16 cable.
The stated flux and power values may be subject to a +/- 7% tolerance.
The supply unit is made of AISI 316L stainless steel.

Reinforcement

+ 40 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
160	197	36000	30000	Glass	153	1-10 dimmable	22.50	**829231**
160	260	45600	38000	Glass	146	1-10 dimmable	22.50	**829232**
160	300	50400	42000	Glass	140	1-10 dimmable	22.50	**829233**



Axial counterbeam 55° and asymmetrical transverse optics – RA5

Included: power supply with 16A 2P IP67 plug according to IEC EN 60309-1/-2 with 1.5 mm² FTG18OM16 cable.
The stated flux and power values may be subject to a +/- 7% tolerance.
The supply unit is made of AISI 316L stainless steel.

Reinforcement

+ 40 °C
- 30°C

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
160	197	36000	30000	Glass	153	1-10 dimmable	22.50	**829331**
160	260	45600	38000	Glass	146	1-10 dimmable	22.50	**829332**
160	300	50400	42000	Glass	140	1-10 dimmable	22.50	**829333**

Accessories RINO-T54 and XRINO-T54

RINO T-54 fitted with **bracket for quick fastening to the channel**

Bracket for quick fastening to floodlight channel – size S

Material:
316L stainless steel

Channel dimensions (mm)	Code
100X75/100X100	**829001**
200X75/200X100	**829002**
300X75/300X100	**829003**

Bracket for quick fastening to floodlight channel – size M

Material:
316L stainless steel

Channel dimensions (mm)	Code
100X75/100	**829101**
200X75/100	**829102**
300X75/100	**829103**

Bracket for quick fastening to floodlight channel – size L

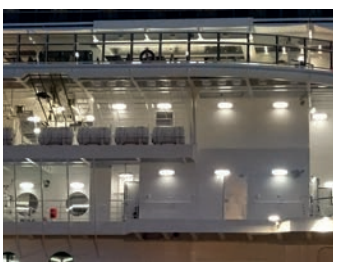
Material:
316L stainless steel

Channel dimensions (mm)	Code
100X75/100	**829201**
200X75/100	**829202**
300X75/100	**829203**

Marine

Thanks to the knowledge acquired in more than one hundred years of experience on military ships and submarines, oil platforms and cruise ships, Palazzoli is now able to offer a series of products whose technology meets all the requirements of the sector. The ceiling lights are available in stainless steel for outdoors or galvanised steel for indoors. They are corrosion resistant thanks to the buttons that replace the welds and guarantee high performance over time thanks to the materials used.

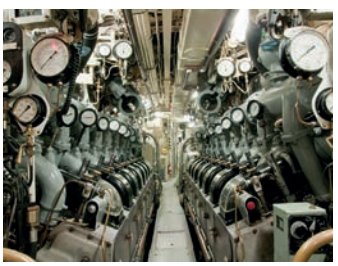
Lifeboat decks

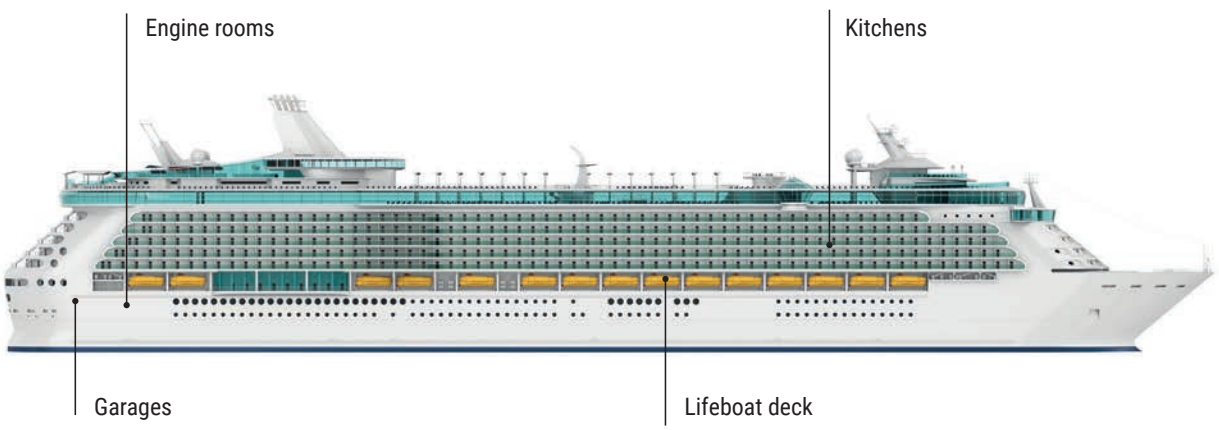


Kitchens

Garages

Engine rooms





From over one hundred years of experience with military ships and submarines, oil platforms and cruise ships, Palazzoli has built its in-depth knowledge of a sector to which it is now able to offer technology suitable for any application.
Stainless steel versions for outdoors or galvanised steel versions for indoors are the company's workhorse.

Light fixtures Page 221

Traditional Page 227

Light fixtures

Cruise ships
Military vessels
Ferries
Cargo ships
Offshore platforms
Submarines

Marine

RINO-NAVE
LED
930 lm to 4240 lm
Page 222

RINO-WELL GLASS FIXTURE
LED
1000 lm
Page 226

LED**RINO-NAVE**

Body material	**Painted AISI 316L stainless steel Painted galvanised steel**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 9016**
Diffuser material	**Transparent and opal polycarbonate**
Protection rating	**IP66/IP67 according to IEC 60598-1**
Impact resistance	**IK09 as per IEC 62262**
Corrosion class	**C5 AISI 304 stainless steel (ISO 9223)**
Mounting system	**Provided with 2 M8 threaded holes**
Ambient operating temperature	**-25 °C - +50 °C 0 °C - +35 °C (emergency versions)**
Ambient storage temperature	**-40°C - +70°C -30 °C - +50 °C (emergency versions)**
Actual efficacy of the device	**Up to 106 lm/W**
Colour temperature	**4000K**
Optics features	**Non-ageing and UV-resistant PMMA lenses**
Colour rendering index values	**CRI≥90 according to EN 62717**
Colour consistency	**MacAdam 3-step**
Photobiological risk	**RG0 - Exempt Group (EN 62471)**
Residual flicker	**<1%**
Luminous flux maintenance	**L80 B20 50,000 h Tq=+25 °C**
Emergency battery lifetime	**1h-3h**
Emergency battery charging time	**24h**
Insulation class	**I**
Supply voltage	**220V-240V 0/50/60Hz**
Surge protection	**2 kV common and differential mode according to EN61000-4-5**
Power factor	**>0.90**
Type of power supply	**Spring clamp terminals and M20 cable glands**
Max. conductor cross-section	**2.5 mm²**
Entry cable diameter	**7-15 mm**

WARRANTY
2 YEARS WITH OPTIONAL EXTENSION TO 4

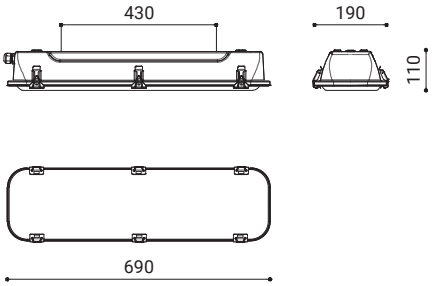
DIRECTIVES

2014/30/EU (EMC)
2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)
2009/125/EC (ErP)
EU Reg. 2019/2020 (EcoDesign)

PRODUCT STANDARDS

EN 55015
EN 60598-1
EN 60598-2-1
EN 60598-2-22
EN 60598-2-24
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 62471
IEC/TR 62778
EN 63000

RINO-NAVE LED | 690 mm



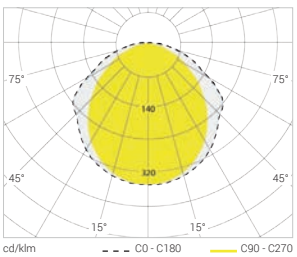
RINA

Flicker <1%

Class I

IP66 IP67

IK09

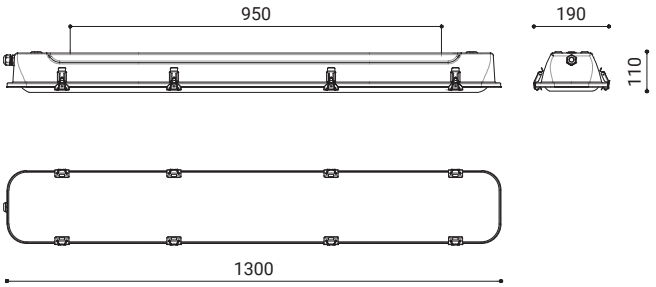


Symmetrical 110° extra wide beam optics

Included: 2 terminal blocks 2P+T for supply line entry/exit.
2 cable glands and 1 nickel-plated brass cap.
The indicated flux and power values have tolerances of +/-7%.

	No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
Painted galvanised steel + 50 °C - 25 °C	50	20	2200	2123	Transparent polycarbonate	106	On/Off	3.27	**849141**
	100	40	4400	4244	Transparent polycarbonate	106	On/Off	3.41	**849142**
	50	20	2200	1935	Opal polycarbonate	97	On/Off	3.27	**841141**
	100	40	4400	3870	Opal polycarbonate	97	On/Off	3.41	**841142**
Painted galvanised steel – emergency	50	20	2200	2123 (962 in EM)	Transparent polycarbonate	106	On/Off Emergency 3h	3.51	**849171**
	100	40	4400	4244 (945 in EM)	Transparent polycarbonate	106	On/Off Emergency 3h	4.01	**849172**
	50	20	2200	1935 (962 in EM)	Opal polycarbonate	97	On/Off Emergency 3h	3.51	**841171**
Painted 316L stainless steel + 50 °C - 25 °C	50	20	2200	1935	Opal polycarbonate	97	On/Off	3.51	**878141**
	50	40	4400	3870	Opal polycarbonate	97	On/Off	4.01	**878142**
Painted 316L stainless steel for bulkhead + 50 °C - 25 °C	50	20	2200	1935	Opal polycarbonate	97	On/Off	3.51	**878741**
	100	40	4400	3870	Opal polycarbonate	97	On/Off	4.01	**878742**

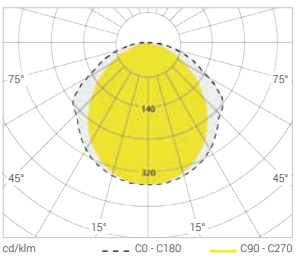
RINO-NAVE LED | 1300 mm



RINA

Flicker	Class
<1%	I

IP66 IP67	IK09



Symmetrical 110° extra wide beam optics

Included: 2 terminal blocks 2P+T for supply line entry/exit.
2 cable glands and 1 nickel-plated brass cap.
The indicated flux and power values have tolerances of +/-7%.

	No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
Painted galvanised steel + 45 °C - 30°C	100	40	4400	4244	Transparent polycarbonate	106	On/Off	5.45	**849243**
	100	40	4400	4244	Transparent polycarbonate	106	On/Off	5.45	**849273**
	100	40	4400	3870	Opal polycarbonate	97	On/Off	5.45	**841243**
	100	40	4400	3870	Opal polycarbonate	97	On/Off	5.45	**841273**
Painted stainless steel + 45 °C - 30°C	100	40	4400	3870	Opal polycarbonate	97	On/Off	5.45	**878243**

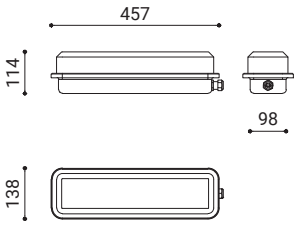
Accessories RINO-NAVE LED

Pair of supports for bulkhead installation

Material:
Stainless steel
AISI 316L

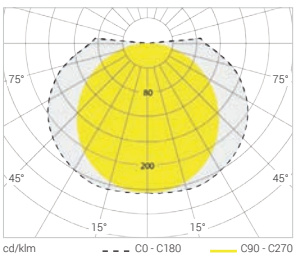
Code: **820007**

RINO-NAVE LED | 460 mm



Flicker	Class
<1%	I

IP66	IK08



Symmetrical 110° extra wide beam optics

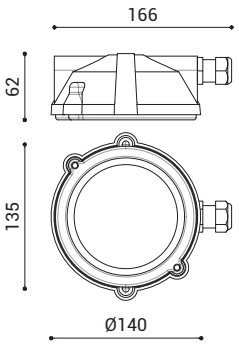
Included: 1 cable glands and 1 nickel-plated brass cap.
The declared flux and power values have tolerances of +/- 7%.

No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
48	21	2646	2205	Opal polycarbonate	105	On/Off	3.00	**841040**

Painted galvanised steel

+ 45 °C
- 30°C

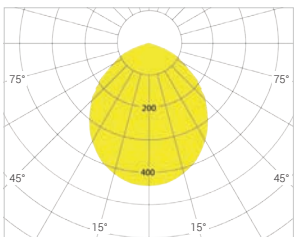
RINO-WELL GLASS FIXTURELED



Class
I

IP66

IK08



cd/klm

Symmetrical 110° extra wide beam optics

Included: 1 connector.
The declared flux and power values have tolerances of +/- 7%.

	No. of LEDs	Power (W)	Nominal flux (lm)Tj=25 °C	Output flux (lm)Tq=25 °C	Diffuser	Efficacy (lm/W)	Version	Weight (kg)	Code
Die-cast aluminium + 45 °C - 30°C	1	10	1200	1,000	Glass	100	On/Off	2.00	**813001**

Accessories RINO-LED WELL GLASS FIXTURE

Wall installation bracket

Material:
Stainless steel
AISI 316L

Code: **813101**

Traditional

Cruise ships
Military vessels
Ferries
Cargo ships
Offshore platforms
Submarines

Marine

RINO
fluorescent
Page 228

NAVE
E27
Page 230

RINO-NAVE fluorescent

Body material	**Painted AISI 316L stainless steel Painted galvanised steel**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 9016**
Protection rating	**IP66/IP67 according to IEC 60598-1**
Impact resistance	**IK09 as per IEC/EN 62262**
Corrosion class	**C5 AISI 304 stainless steel (ISO 9223)**
Mounting system	**Provided with 2 M8 threaded holes**
Ambient operating temperature	**-25 °C - +50 °C 0 °C - +35 °C (emergency versions)**
Ambient storage temperature	**-40°C - +70°C -30 °C - +50 °C (emergency versions)**
Lamp holder type	**G5 T5**
Insulation class	**I**
Supply voltage	**220V-240V 0/50/60Hz**
Power factor	**>0.90**
Type of power supply	**Spring clamp terminals and M20 cable glands**
Max. conductor cross-section	**2.5 mm²**
Entry cable diameter	**7-15 mm**

DIRECTIVES

2014/30/EU (EMC)
2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)
2009/125/EC (ErP)
EU Reg. 2019/2020 (EcoDesign)

PRODUCT STANDARDS

EN 55015
EN 60598-1
EN 60598-2-1
EN 60598-2-22
EN 60598-2-24
EN 61000-3-2
EN 61000-3-3
EN 61547
EN 62311
EN 62493
EN 63000

RINO-NAVE fluorescent

T5 | Class I | IP66 IP67 | IK09

	Length (mm)	Power (W)	Diffuser	Version	Weight (kg)	Code
Painted galvanised steel	690	2x14	Transparent polycarbonate	On/Off	3.88	**849062**
	690	2x24	Transparent polycarbonate	On/Off	3.92	**849562**
	690	1+1x14	Transparent polycarbonate	Emergency	4.00	**849011**
	690	1+1x24	Transparent polycarbonate	Emergency	4.10	**849511**
	1300	2x28	Transparent polycarbonate	On/Off	5.40	**849462**
	1300	1+1x28	Transparent polycarbonate	Emergency	5.86	**849411**
	690	2x14	Opal polycarbonate	On/Off	3.88	**841062**
	690	2x24	Opal polycarbonate	On/Off	3.92	**841562**
	690	1+1x14	Opal polycarbonate	Emergency	4.00	**841011**
	1300	2x28	Opal polycarbonate	On/Off	5.40	**841462**
	1300	1+1x28	Opal polycarbonate	Emergency	5.86	**841411**
Painted AISI 316L stainless steel	690	2x14	Opal polycarbonate	On/Off	3.88	**879062**
	690	2x24	Opal polycarbonate	On/Off	3.92	**879562**
	1300	2x28	Opal polycarbonate	On/Off	5.86	**879462**
Painted AISI 316L stainless steel for bulkhead connections	690	2x14	Opal polycarbonate	On/Off	3.88	**881062**
	690	2x24	Opal polycarbonate	On/Off	3.92	**881562**

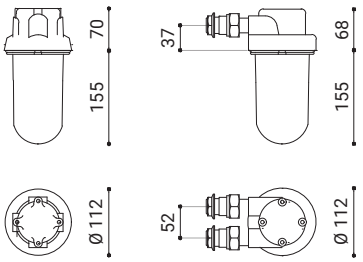
Accessories RINO-NAVE fluorescent

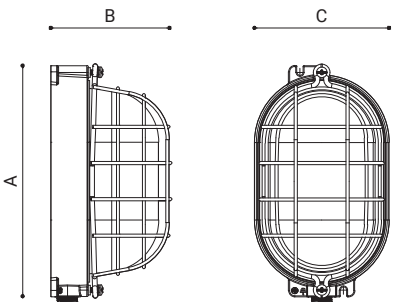
Pair of STAINLESS steel supports for bulkhead installation

Material:
Stainless steel
AISI 316L

Code: **820007**

NAVE traditional





P max (W)	A (mm)	B (mm)	C (mm)
60	199	119	112
75	226	122	130
100	295	142	170

Body material	**Brass**
Surface treatment	**Fluorozirconate passivation**
Surface finish	**Non-toxic, hot-polymerised polyester paint**
Colour	**RAL 7035**
Diffuser material	**Prismatic tempered glass**
Protection rating	**IP66 as per IEC 60598-1**
Impact resistance	**IK07 according to IEC 62262**
Mounting system	**Ready for wall installation**
Ambient operating temperature	**-40°C - +70°C**
Ambient storage temperature	**-50°C - +80°C**
Lamp holder type	**Type E27 in porcelain and type G23 in technopolymer**
Insulation class	**I**
Supply voltage	**230V 0/50/50Hz**
Type of power supply	**M20 cable gland**
Max. conductor cross-section	**2.5 mm²**
Entry cable diameter	**7 - 13 mm**

CE

DIRECTIVES

2014/35/EU (LVD)
2011/65/EU (RoHS)
2012/19/EU (WEEE)
2009/125/EC (ErP)
EU Reg. 2019/2020 (EcoDesign)

PRODUCT STANDARDS

EN 60598-1
EN 60598-2-1
EN 63000

NAVE E27

E27 | Class I | IP66 | IK09

	Power (W)	No. of cable glands	Diffuser	Version	Weight (kg)	Code
Brass	60	2	Glass	UNAV 2135	1.10	**831089**
	75	2	Glass	UNAV 2135	1.20	**831189**
	100	2	Glass	UNAV 2135	1.35	**831289**

Accessories NAVE E27

Stainless steel wire protection cage for oval light fixtures type UNAV 2135

Material:
STAINLESS steel

Light fixture power (W)	Code
60	**831527**
75	**831627**
100	**831727**

Anti-vibrating bayonet lamp holder, Swann type for oval light fixtures UNAV 2135

Material:
Brass

Light fixture power (W)	Code
B22d 4A 250V	**859412**

NAVE well glass fixture E27

E27 | Class I | IP66 | IK09

Painted brass

Power (W)	No. of cable glands	Diffuser	Version	Weight (kg)	Code
75	2 opposite	Glass	UNAV 2132	2.26	**850143**
60	2 combined – bulkhead	Glass	UNAV 2133	2.72	**850054**

Navy grey painted brass body

Power (W)	No. of cable glands	Version	Weight (kg)	Code
60	2 opposite	UNAV 2133	1.15	**850045**
60	2 combined	UNAV 2134	1.15	**815161**

Diffuser

Power (W)	Colour	Diffuser	Version	Weight (kg)	Code
60	Transparent	Smooth glass	UNAV 1268	0.43	**850060**
40	blue	Smooth glass	UNAV 1268	0.43	**850061**
40	Yellow	Smooth glass	UNAV 1268	0.43	**850062**
40	Red	Smooth glass	UNAV 1268	0.43	**850063**
40	Green	Smooth glass	UNAV 1268	0.43	**850064**

Portable light in thermosetting material

Power (W)	Colour	Cable gland	Version	Weight (kg)	Code
60	Transparent	M20	UNAV 2137	0.97	**814052**

Diffuser

Well glass fixture power (W)	Colour	Diffuser	Weight (kg)	Code
60	Transparent	Ribbed glass	0.42	**819012**

Accessories NAVE well glass fixture E27

E27 | Class I | IP66 | IK09

Globe-holder ring for watertight cylindrical well glass fixtures, type UNAV 2133

Material:
Nickel-plated brass

Code: **850050**

Ceiling installation bases for cylindrical well glass fixture, UNAV 2132, 2122, 2134

Material:
Galvanised and tropicalised steel

Code: **850090**

Wall mounting bases for cylindrical well glass fixtures type UNAV 2132, 2122, 2134

Material:
Galvanised and tropicalised steel

Code: **850091**

Swann lamp holder with fins

Material:
Brass

Code: **859400**

Cable gland UNAV 1062

Material:
Brass

Code: **585480**

Screw cap complete with gaskets

Material:
Brass

Code: **585490**

Accessories NAVE well glass fixture E27

E27 | Class I | IP66 | IK09

Protection cage in stainless steel wire for watertight cylindrical well glass fixtures type UNAV 2132

Material:
STAINLESS steel

By power (W)	Code
60	**819022**
75	**850172**

Reflectors for cylindrical well glass fixtures

Material:
Painted galvanised steel

By power (W)	Code
60	**819030**
75	**819130**
100	**819230**

Washers with seals

Material:
Brass

Diameter (mm)	Code
10	**585408**
13	**585412**
16	**585415**

Spares

Traditional light fixtures

Spares

DIFFUSERS
GASKETS
LAMP HOLDERS

Page 236

SPARE PARTS traditional light fixtures

Spare gaskets for oval light fixtures

Material:
Elastomer

Light fixture max. power (W)	Code
60	**831540**
75 and 5-7	**831640**
100 and 5-7-9	**831740**

Replacement diffusers for oval light fixtures

Material:
Striped clear glass

Light fixture max. power (W)	Colour	Code
60	Transparent	**831512**
75	Transparent	**831612**
100	Transparent	**831712**

Spare gaskets for round light fixtures

Material:
Elastomer

Light fixture max. power (W)	Code
75	**830540**

Spare diffuser for round light fixtures

Material:
Striped clear glass

Light fixture max. power (W)	Colour	Code
75	Transparent	**830512**

Replacement seals for cylindrical well glass fixtures, RINO series

Material:
Elastomer

Well glass fixture max. power (W)	Well glass fixture type	Code
60	Cylindrical	**819040**
75	Cylindrical	**819140**
100	Cylindrical	**831640**
60	UNAV 2133	**850080**

Spare diffusers for painted galvanised stainless steel fluorescent light fixtures

Length (mm)	Material	Diffuser colour	Code
690	Polycarbonate	Transparent	**820020**
690	Polycarbonate	opaline	**820021**
1300	Polycarbonate	Transparent	**820030**
1300	Polycarbonate	opaline	**820031**
690	Glass	Transparent	**820022**
1300	Glass	Transparent	**820032**

SPARE PARTS traditional light fixtures

Replacement ring for watertight well glass fixtures with cylindrical diffuser, Nave series, type UNAV 2134

Material:
Grey brass

Code: **819001**

Well glass fixture,
max. power:60 W

Replacement bracket UNAV 1236.1 for watertight well glass fixtures, Nave series, type UNAV 2132

Material:
Steel

Code: **859188**

Well glass fixture,
max. power: 75 W

Cylindrical diffuser for watertight well glass fixtures, nave series, type UNAV 2132

Material:
Smooth glass

Code: **819160**

Well glass fixture,
max. power: 75 W

Safety lamp holder E27 with bracket, for RINO series cylindrical well glass fixtures and portable well glass fixture, nave series, type UNAV 2137

Material:
Porcelain

Code: **819055**

Replacement lamp holders with bracket for oval and round light fixtures

Material:
Porcelain

Code: **819056**

Replacement E27 lamp holder for well glass fixtures, nave series, type UNAV 2132, 2133 and 2134

Material:
Porcelain

Code: **859180**

PICTOGRAMS

CE marking. Indicates that a product can circulate freely within the European Union. Guarantees that the product meets the essential safety requirements.

Eurasian Economic Union (EEU) compliance, identifies that the product has been verified by a third party in accordance with EEU regulations.

Certification of compliance of equipment with European EN safety standards.

UK Conformity Assessed, identifies that the product has been assessed in accordance with UK regulations following Brexit.

International Electrotechnical Commission for the Certification of Equipment for Use in Explosive Atmospheres, identifies that the product has been certified by an Ex Certification Body.

Device suitable for installation in environments with a potentially explosive atmosphere.

Registro Italiano Navale, maritime certification of products for installation in recreational vessels.

Resistant to ball strikes, suitable for installation in sports halls.

Limited surface temperature, device suitable for installation in environments where there is a risk of thermal effects, e.g. combustion or degradation of materials, but where there is no risk of explosion.

IP__

The IP code classifies and evaluates the degree of protection provided by the enclosures against the ingress of solids and water.

IK__

The IK code is the degree of protection of the equipment against external mechanical impacts.

Class II

Insulation classes are defined by electrical safety standards and establish the protection characteristics of equipment against electrical shock.

Flicker <1%

Flicker (variation in light intensity over time) perceptible or not perceptible to the human eye.

4000K

Correlated colour temperature.

T8

Device fitted with G13 connection for T8 fluorescent tubes.

E27

Type of light source screw connection.

Indicates the possibility of shifting the position of the optics.

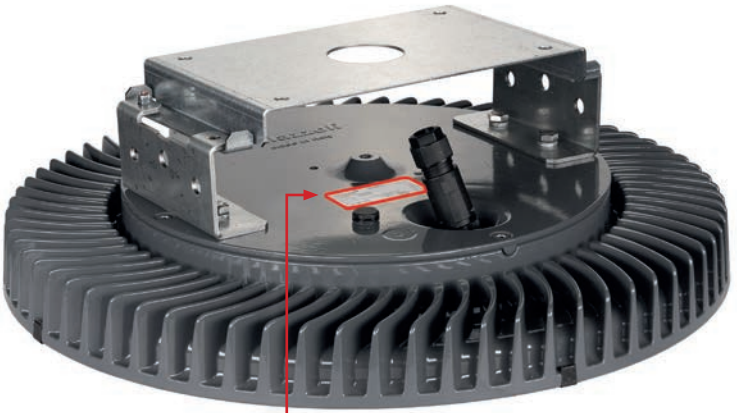
+ 55°
- 30°

Ambient temperature range within which correct operation of the product is guaranteed.

Digital Addressable Lighting Interface. Digital transmission protocol.

Indicates the possibility of installation in environments with swimming pools.

HOW TO READ THE PRODUCT CODES



810630 DA

Unique product code consisting of 6 numbers

Suffix to the code consisting of letters identifying the characteristics:

DA	DALI
HT	HIGH TEMPERATURE
VHT	VERY HIGH TEMPERATURE
EX	EXPLOSIVE ATMOSPHERE
MV	VIRTUAL MIDNIGHT
L-M	BRACKETS

COMPANY CERTIFICATIONS

QUALITY

ENVIRONMENT

SAFETY

QAN

QAR

CTF 2

For customer satisfaction, protection and respect of workers and the territory, Palazzoli uses a quality management system, voluntarily subjected to annual checks by independent third parties to verify its full compliance with international standards:
ISO 9001 (Quality), ISO 14001 (Environment) and ISO 45001 (Occupational Health and Safety).

As regards ATEX environments, Palazzoli has obtained the "Notification of Product Quality Assurance" from IMQ and the "Quality Assessment Report" (IECEx QAR) for the production of electrical and lighting systems intended for potentially explosive atmospheres.

PRODUCT CERTIFICATIONS

DEKRA

TUV

RINA

INMETRO

INTERTEK

IMQ

Every Palazzoli product is designed to guarantee total protection for those who will use it.

The accredited Palazzoli Laboratory constantly collaborates with other laboratories and institutional bodies and universities.
It also regularly takes part in CEI and UNI Technical Committees.

GLOSSARY

A

Accommodation (of the eye). Modification of internal components of the visual organ, usually by spontaneous reaction, in order to have maximum visual acuity at different viewing distances.

Accuracy (of a measurement). Approximate match between the result of a measurement and a true value of the measurand. This is a qualitative term: the term "precision" should not be used as a synonym.

Adaptation (of the eye). Spontaneous process by which the state of the visual organ is altered to match the luminance and colour stimuli present in the field of observation.

Ambient temperature (LED). Air temperature around the device.

Ampere (A). The unit of measurement of the rate of flow of electric current:
Current [A] = Power [W] / voltage [V].

ANSI. American National Standards Institute. A non-profit organisation that develops voluntary consensus standards and conformity assessment systems for products, services, processes, systems and personnel in the United States.

ANSI Binning. The system defined by the American National Standards Institute for the categorisation specifications of light emitting diodes.

B

Bin - categorisation (LED). The systematic distribution of performance parameters (flux, wavelength or CCT, and Vf) for small finite groups that can be selected to optimise assembly performance.

Black body. Ideal thermal radiator that completely absorbs all incident radiation, whatever its wavelength, direction and polarisation. The radiance spectral density of a black body depends only on its absolute temperature and is described by Plank's law.

Brilliance. Attribute of a visual sensation whereby a surface appears to emit more or less light. This term should not be used as a synonym for luminance (see).
Brilliance (UNI 10530): Attribute of visual sensation whereby an area appears to emit, transmit and reflect visible radiation.

Brightness. Often incorrectly used in relation to lighting as a synonym for luminous flux, an objective measurement of the visibility of a light source. The term is used to correctly describe the screen brightness in a screen or television.

C

Candela. SI unit of luminous intensity: The candela is the luminous intensity, in a given direction, of a light source emitting monochromatic radiation with a frequency of 540 THz and whose energy intensity in that direction is equal to 1/683 W per steradian.
Unit: cd.
Symbol: cd

Candela per square metre [cd/m2]. SI units of luminance.

Chromaticity. Attribute of a colour stimulus defined by its trichromatic coordinates or by the combination of dominant, or complementary, wavelength and purity.

CIE. Commission Internationale de l'Éclairage.

CIE 1931 Colorimetric Observer. Ideal observer whose colorimetric properties conform to the CIE colorimetric functions x(λ), y(λ), z(λ), adopted by the CIE in 1931.

CIE 1931 Colorimetric System. A system for determining the tristimulus values of any spectral distribution using the set of reference colour stimuli X, Y, Z and the three CIE colorimetric functions x(λ), y(λ), z(λ) adopted by the CIE in 1931.

CIE photometric reference observer. An ideal observer whose spectral sensitivity curve conforms to the function V(λ) for photopic vision or to the function V'(λ) for scotopic vision, and which satisfies the additive law implicit in the definition of luminous flux.

CIE standard clear sky. Cloudless sky whose relative luminance distribution is described in CIE publication No. 22 (1973).

CIE standard overcast sky. Totally overcast sky for which the ratio of the luminance Lγ in the direction making an angle γ above the horizon and the luminance Lz at the zenith is given by the relation:
Lγ= Lz (I +2 sinγ)/3.

Colour. Visual perception generated by the nerve signals that photoreceptors in the retina send to the brain when they absorb electromagnetic radiation of certain wavelengths and intensities in the so-called visible spectrum.

Colour rendering index. Quantitative evaluation of the degree of matching between the psychophysical colour of an object illuminated by the illuminant under test and that of the same object illuminated by the reference illuminant, taking into account the state of chromatic adaptation.

Colour temperature Temperature of the Planck's radiator whose radiation has the same chromaticity as that of a given stimulus.

Colorimetry. Colour measurement, based on a set of conventions.

D

Diffuser. A device used to change the spatial distribution of radiation by means of the diffusion phenomenon.

Diffusion. Phenomenon whereby the spatial distribution of a radiation beam changes when the beam is deflected in multiple directions, by a surface or medium, without frequency changes in its monochromatic components.

Direct glare. Glare produced by light sources in the field of vision.
Reflected glare. Glare caused by the specular reflection of one or more objects receiving light from sources inside or outside the field of vision.

E

Efficacy. The light output of a light source divided by the total electrical energy to that source, expressed in lumens per watt [lm/W].
Luminous efficiency. Ratio between the emitted luminous flux and the power of the light source.
Unit: lm/W
Symbol: E.

Electromagnetic radiation. Emission or transfer of energy in the form of electromagnetic waves via their associated photons.

Electromagnetic spectrum. The set of all possible frequencies of electromagnetic radiation.

Energy flow. Power emitted, transmitted or received in the form of radiation.
Unit: W
Symbol: Φ.

F

Flux maintained (LED). The luminous flux, which represents the life time of an LED, is expressed as a percentage of the initial flux.

G

Glare. Glare is the sensation generated by excessive luminance values within the field of vision (far greater than the luminance to which the visual system has adapted).

I

Illuminance (at a point on a surface).
Quotient between the luminous flux dΦυ, received by a surface element containing the point, and the area dA of that element.
Unit: lux = lm/m2.
Symbol: E

Infrared radiation. Optical radiation with wavelengths longer than those of visible radiation.

J

Junction temperature (LED). The term junction temperature Tj is attributed to the temperature measured at the junction between the two semiconductor types p and n, which also forms the core of the LED.

L

Lambertian surface. Surface whose distribution of diffuse light rays composes a perfectly spherical volume. Calling Im the maximum intensity of the ray along the normal at the point of incidence of the light and Iα the intensities, along the directions forming angles α with the normal, they respect the cosine law or Lambert's law: Iα = Im cosα

Led Array. A set of LEDs or diodes on a printed circuit board or substrate, possibly with optical elements and additional thermal, mechanical, electrical interfaces and which are intended to connect to the load side of an LED driver.

LED driver. An electronic circuit that converts the input power into a source current - a source in which the current remains constant despite voltage fluctuations. A driver protects the LEDs from normal voltage fluctuations, overvoltages and voltage peaks

Light intensity (of a source, in a given direction). Quotient between the luminous flux dΦυ emitted by the source within the solid angle element dΩ. containing the given direction and said solid angle element.
I=dΦυ/dΩ
Symbol: I.
Unit: cd = lm/sr.

Light intensity distribution.
Representation, by means of curves or tables, of the values of the luminous intensity of a light source as a function of directions in space.

Light (perceived). An indispensable attribute common to all perceptions and sensations that are peculiar to the visual system. This term is sometimes used as a synonym for visual radiation (see).

Lumen. SI unit of luminous flux: The lumen is the luminous flux emitted in a unit solid angle by a uniform point source with a luminous intensity of 1 candela.
Symbol: lm.

Luminance (in a given direction of a real or fictitious surface). Luminance is the ratio of the light intensity emitted, reflected or transmitted by the surface S in the assigned direction to the apparent area of the surface (the apparent area is the projection of the surface S in the plane normal to the direction of intensity I).
$L = I/S \cos^2$
Unit: cd/m2
Symbol: L

Luminous efficiency of the LED module. Quotient of the luminous flux emitted by the LED module divided by the electrical power consumed by the source including mechanical components such as, for example, any heat sink excluding the power dissipated by the power supply unit, at a specified ambient test temperature. It is expressed in lumens per watt.

Luminous flux Magnitude derived from the energy flux weighted according to its action on the CIE photometric reference observer.
Unit: lm.
Symbol: Φυ
(if not causing confusion, simply Φ)
For photopic vision:
Φυ = Km(dΦe(λ) / dλ) × V(λ) dλ
where V(λ) is the spectral visibility factor.

Lux. SI unit of illuminance: illuminance produced on a surface with an area of 1 square metre by a luminous flux of 1 lumen uniformly distributed over this surface.
Symbol: lx

M

Mesopic vision. It is the ability to see when the level of illumination is intermediate

N

NEMA. The **N**ational **E**lectrical **M**anufacturers **A**ssociation (NEMA) is a US regulatory body that draws up technical standards but does not test products or issue certifications.

P

Photometry. Measurement of quantities referring to radiation evaluated according to a given spectral visibility factor, e.g. V(λ).

Photopic vision. Normal eye vision when the eye is adapted to luminance levels of at least a few candelas per square metre.

Phosphorus. A chemical element, with the symbol P, used in LEDs to provide a wider overall emission spectrum and higher colour quality. For example, photons exiting a royal blue LED passing through this layer come out with different colour properties.

Phosphorus conversion. This is the process by which photons are converted from an LED chip to a different colour. The white and some coloured LEDs are made with phosphorus conversion.

Photometric axes. Orthogonal axes containing the photometric centre of the device and that are used to correlate photometric measurements with device performance.

Planck – Black Body Locus. The line on the CIE colorimetric diagram describing the colour temperature of an object when heated from about 1000 K to over 10000 K

Power LEDs. Those LEDs whose drivers are powered by 350 mA or more.

Primary light source. Surface or object that emits light produced by a transformation of energy.
Secondary light source. Surface or object not emitting any light which receives light and returns it, at least partially, by reflection or transmission.

Q

Quantity. Attribute of a phenomenon, body or substance that can be identified qualitatively and determined quantitatively.

GLOSSARY

R

Reflection. Return of radiation from a surface or medium without change in frequency of its monochromatic components.

Reflection factor (for incident radiation of given spectral composition, polarisation and spatial distribution). Ratio of the luminous flux leaving the surface to the luminous flux incident on it under the given conditions.
Symbol ρ.
Visibility spectral factor (of a monochromatic radiation of wavelength λ). Ratio of the energy flux of wavelength λm to that of wavelength λ, when the two radiations produce luminous sensations of equal intensity under the specified photometric conditions and λm is chosen in such a way that the maximum value of this ratio is equal to 1. Unless otherwise stated, the values of the spectral factor of visibility under photopic vision are those recommended by the International Committee on Weights and Measures in 1972 and given in CIE-ISO Standard No. 10527.
Symbol: V(λ).

Regular reflection; specular reflection. Reflection according to the laws of geometric optics, without diffusion.

Refraction. Change in the direction of a radiation as a result of changes in its propagation velocity, passing through an optically inhomogeneous medium, or crossing the separation surface between different media.

S

Shielding angle (uni 12464). Angle between the horizontal plane and the first line of sight from which the luminous parts of the lamps in the device are directly visible.

Solid angle. Geometric quantity used to measure angles in space. The unit solid angle is that enclosed by a cone that has its vertex in a sphere of radius r and that intercepts an area of extension r2 on the same sphere. In the international system, the unit of measurement of the solid angle is the steradian (sr).

Steradian. SI unit derivative of solid angle: a solid angle which, having its vertex in the centre of a sphere, cuts off an area of the spherical surface equal to that of a square whose side is the radius of the sphere.

T

Transmission. Passage of a radiation through a medium without change in frequency of its monochromatic components.

Transmission factor (for incident radiation of given spectral composition, polarisation and geometric distribution). Ratio of transmitted energy or luminous flux to incident flux under the given conditions.

U

Ultraviolet radiation. Optical radiation with wavelengths shorter than those of visible radiation. In the range between 100 and 400 nm, ultraviolet radiation is generally indicated by the symbols UVA between 315 and 400 nm, UVB between 280 and 315 nm and UVC between 100 and 280 nm.

Unit (of measurement). A particular quantity, defined and adopted by convention, against which other quantities of the same kind are compared in order to obtain a quantitative value.

V

Visibility coefficient of a radiation. Quotient between the luminous flux Φv and the corresponding energy flux Φe.
Unit: lm/W
Symbol: K.
When considering monochromatic radiation, the maximum value of K(k) is referred to as Km and, by definition, is 683 lm/W at a radiation frequency of 540 THz (λm ~ 555 nm) for photopic vision.

Visible radiation. Optical radiation that directly causes a visual sensation. Although the range of wavelengths affected by vision depends on the individual and on the illuminance on the retina, the lower limit is normally between 360 nm and 400 nm and the upper limit between 760 nm and 830 nm.

Visible spectrum. The visible spectrum is the portion of the electromagnetic spectrum that is visible to the human eye, typically between 380 nm and 780 nm.

Visual acuity (UNI 10530). Ability to clearly perceive objects which are very close to each other. Reciprocal of the value of the angular separation of two neighbouring objects that the eye can perceive as separate.

Z

ZHAGA. Consortium aiming to standardise the specification of interfaces between LED light fixtures and lighting engines. The aim is to allow interchangeability between products from different manufacturers. Zhaga defines test procedures for light fixtures and LED lighting motors so that luminaires are compatible with LED motor

Palazzoli S.p.A.
Single-member company subject to coordination by LMH S.r.l.

Via F. Palazzoli, 31 - 25128 Brescia - Italia
Tel. +39 030 2015.1 - export@palazzoli.it
www.palazzoli.com

Tax code and registration number with the Brescia Register of Companies 04452750484
VAT number 03316260177

GENERAL TERMS AND CONDITIONS OF SALE

1. GENERAL

Unless specifically waived in writing, these General Conditions of Sale and Supply (hereinafter "General Conditions) constitute an integral part of all sale and supply contracts entered into by Palazzoli S.p.A. (hereinafter “Palazzoli” or the “Company”) and the Customer is considered to have accepted them through the Order Confirmation. All Palazzoli offers, order confirmations, deliveries and invoices are governed by these General Conditions, unless explicitly and specifically waived by Palazzoli in writing. The Customer is considered to have accepted these General Conditions even if they differ from any general or specific purchase conditions issued by the Customer itself, which shall in no way be binding on Palazzoli, unless the latter has specifically approved them in writing. The General Conditions are published on the Palazzoli website (www.palazzoli.com) and can be consulted and printed by Customers at any time. Through the Order Confirmation, Customer declares to have viewed and fully accepted the contents of these General Conditions. Palazzoli may update, supplement and/or amend these Conditions at any time, giving written notice of any such changes on its website (www.palazzoli.com). Any such updates, amendments and/or supplements shall apply to supply and sale Orders received by Palazzoli on dates after that on which they were published on the website. If any of the provisions of these General Conditions is null, void or invalid, including due to legislation introduced over time, this shall not affect the validity or efficacy of the other provisions. In the event that the Company tolerates behaviour by the Customer in breach of any provisions of the General Conditions, this shall not constitute a waiver of the rights deriving from the said provisions, or prejudice Palazzoli's right to demand the exact fulfilment of the terms and provisions contained in the General Conditions.

2. OFFERS, ORDERS AND FINALISATION OF THE CONTRACT

Every sale and supply contract is not finalised until the moment when the Customer receives the Order Confirmation from Palazzoli. As soon as the Order Confirmation is received, the Customer is responsible for checking all the data it contains; they shall be considered as accepted if not disputed in writing within 3 working days after the date of receipt. Orders and Order Confirmations must be issued in writing. Palazzoli may accept orders conferred by other means at its own discretion. If the Customer receives an Order Confirmation from Palazzoli containing terms and/or conditions which differ from the Order sent, the contract shall still be considered finalised on the conditions envisaged by the Order Confirmation if the Customer has not submitted written objections to Palazzoli within 3 working days after receipt of the same. Any Offers issued to the Customer by Palazzoli shall only be valid for the period stated therein, after which they shall expire with no need for revocation. Unless otherwise specified, Offers shall be valid for sixty days after the date of sending by Palazzoli. In the event that the Order is preceded by a Palazzoli Offer, the Customer shall refer to it in the Order, on the understanding that the terms and conditions of sale and/or supply specified in the Offer shall only become binding on the Company if and to the extent which the Order is subsequently confirmed by Palazzoli in writing. Collection of an Order down payment by Palazzoli shall not constitute acceptance of the Order unless followed by an Order Confirmation. Any cancellations and/or amendments and/or supplements to the Order as set forth in the Order Confirmation by the Company shall only be valid if previously authorised or subsequently accepted by Palazzoli in writing. Customers shall not be entitled to request cancellation of Orders for products specifically developed on the Customer's instructions, unless specifically authorised by Palazzoli in writing. Therefore, the Company shall not implement requests for suspension of deliveries for "custom-produced articles". In the event that Palazzoli authorises the cancellation of an Order for products to be manufactured to the Customer's specifications, the latter shall undertake to purchase all the products procured by Palazzoli in order to fulfil the individual orders or in order to meet any continuous supply commitments agreed with the Customer. The place of finalisation of the sale and/or supply contract is conventionally established at Palazzoli's registered office. Any quotations, outline designs, etc. annexed to the Offer and/or Order are the sole property of Palazzoli and the Customer shall not disclose them to third parties, including subcontractors, without specific written authorisation.

3. PRODUCT CHARACTERISTICS

The Products covered by these General Conditions are those included in Palazzoli's catalogues or similar documents, with the technical and performance characteristics stated therein or which may be agreed and specified in writing on finalisation of the contract. Any indication that the Product is available shall not be binding on Palazzoli until the Order is placed, and refers to normal working and procurement conditions. Any information and/or data on the characteristics and/or specifications of the Products contained in catalogues or similar documents are guideline and not binding, and Palazzoli may modify them at any moment, without prior notice of any kind. Palazzoli reserves the right to make any non-substantial changes to the Products which, without altering the essential characteristics of the Products themselves, should prove necessary or appropriate, without this constituting grounds for any claims or complaints on the part of the Customer. Regardless of the Products' final destination, unless otherwise agreed in writing, Palazzoli only guarantees the Products' compliance with the technical and safety standards enforced by Italian legislation, and the legislation of the European Union, to the extent that these have been incorporated into Italian law and are binding for the purposes of the Products' sale and/or installation in Italy. Any further or different requirements enforced by the local legislation of the Products' country of destination must be specified and stated by the Customer in writing, on its sole responsibility, at the time of the Order, and shall only be binding on Palazzoli if expressly and specifically accepted by the latter. The Customer confirms that it is informed concerning the safety regulations regarding the use and application of the Products offered by Palazzoli.

4. PRICES

Unless otherwise agreed between the Parties in writing, all orders will be regulated by the prices and discounts stated in the relevant Order Confirmation or, failing this, the prices stated in the price lists supplied by Palazzoli and in force at the time of finalisation of the contract as per art. 2 above. Palazzoli may modify the prices stated in the price list unilaterally and with immediate effect, by giving notification on the website. If, during supply of the Products, subsequent to the Order Confirmation, the prices stated in the price list are increased due to circumstances beyond Palazzoli's control (for example, increases in the price of raw materials or labour costs, or changes in exchange rates, amongst other possible factors), Palazzoli reserves the right to modify the list prices and/or those of the Order Confirmation, with written notification to the Customer, which shall have the option of withdrawing from the contract for supplies of goods subject to price increases by notifying Palazzoli in writing within no more than 3 days, and simultaneously paying for all goods already supplied.

Prices are net of VAT and any other tax to be applied on the basis of specific legal provisions. Unless otherwise agreed in writing, prices are intended ex Palazzoli's works (Via F. Palazzoli 31, Brescia, Italy) and include standard packaging. Palazzoli shall use the type of packaging it considers most appropriate for the transportation method agreed on each occasion with the Customer, and the latter shall have no grounds for complaint or claims for this reason. Freight and customs expenses, duties, taxes and fees of any kind, including any inspection, installation, start-up and testing costs, shall always be payable by the Customer, unless otherwise agreed in writing. Any special packaging must be requested by the Customer in advance and

For CUSTOMER SATISFACTION, PROTECTION AND RESPECT OF EMPLOYEES AND THE TERRITORY, the company uses a quality management system in accordance with the international standard UNI EN ISO 9001 and an environmental management system, certified in accordance with the international standard UNI EN ISO 14001.

Palazzoli's focus is also on human capital. The ISO 45001-certified Occupational Health and Safety Management System is dedicated to this.

As regards ATEX environments, Palazzoli has obtained the "Notification of the guarantee of PRODUCT QUALITY" from IMQ and the "Quality Assessment Report" (IECEx QAR) for the production of electrical and lighting systems intended for potentially explosive atmospheres.

in good time and confirmed in writing by Palazzoli, which shall notify the Customer of the price supplement due. If considered feasible by Palazzoli and authorised by the latter in writing, any expenses and increased costs relating to modifications and/or supplements to the Products requested by the Customer and not covered by the Order Confirmation shall be entirely at the Customer's expense. In the event of changes to the quantity and/or type of the Products covered by the Order Confirmation, requested by the Customer and authorised by Palazzoli in writing, and in the event of extension of the delivery terms for the reasons envisaged by article 6 of these General Conditions, Palazzoli may modify the prices stated in the Order Confirmation, notifying the Customer.

5. PACKAGING-TRANSFER OF RISKS

Regardless of the agreements reached with regard to freight or insurance costs (specifically or through reference to an Incoterms delivery term), in all cases and to all intents and purposes delivery and the consequent transfer of risks shall be considered to take place on collection of the Products from the Palazzoli premises by the Customer or, for shipments, on consignment of the goods to the carrier. Palazzoli may not be held in any way responsible for any damage occurring during the loading of the Products onto the means of transport. The Customer shall be responsible for disposing of the Products' packaging, at its own expense. Under no circumstances shall Palazzoli be held responsible for failure to deliver or defects in delivery by carriers, since it is specifically understood that even if, further to special agreements, goods are sold freight prepaid or are delivered to the location specified by the Customer, they always travel at the risk of the Customer, which is responsible for inspecting the goods received on delivery. In the event that the Customer does not arrange collection or accept delivery of the Products, once fifteen days have passed after a formal demand to comply, the Company shall be permitted, without prejudice to the legal remedies available to it, to terminate the contract and to sell the uncollected Products as best it can, while definitively retaining the down payment already paid by the Customer as a penalty. The difference between the contract price (plus costs of storage and safekeeping) and the price received from the sale to third parties shall be payable by the Customer, and shall be subject to interest at the rate stated in art. 7. Palazzoli shall, however, retain the right to compensation for any greater damages incurred. Any returns of Products must be authorised by Palazzoli in advance, and the Products shall be consigned to the stores of the Palazzoli Plant by the Customer, at its expense and on its responsibility. All returns shall be accompanied by a regular transport document and shall carry the original shipment identification label, together with the authorisation number provided by Palazzoli. Under no circumstances shall the authorisation to return goods be understood to constitute recognition of faults and/or defects or of the Customer's warranty entitlement.

6. DELIVERY TERMS

The delivery terms stated in the Order Confirmation always refer to the date of preparation of the Products by Palazzoli and do not consider the times required for transportation or any testing at destination. In all cases, delivery terms shall be considered merely guideline and they shall never constitute an essential contract condition. Therefore, except in case of malpractice or serious negligence, any late or partial shipments shall not give rise to any liability on the part of Palazzoli, and shall not entitle the Customer to cancel the Order or to receive compensation or damages of any kind. In all cases, by collecting and/or accepting goods delivered late, the Customer renounces all claims relating to the delay. In the event that, during fulfilment of the Order, the Customer requests changes to the quantity and/or type of the Products covered by the Order Confirmation, and these are authorised by Palazzoli in writing, the latter shall inform the Customer of the new delivery terms, which shall again be merely guideline. Any penalties for delay must be specifically accepted by Palazzoli in writing in the Customer's Order and, if envisaged, shall be considered to include all forms of damage; therefore, no claims for any further damages shall be permitted.

7. PAYMENT AND BILLING

The Customer shall make payments by the terms and procedures specified in the Order Confirmation or, failing this, in the invoice; if no specification is made, full payment shall be made on delivery of the Products. Payment terms constitute an essential condition of the contract. If payment by direct transfer is agreed, it shall be made by bank transfer with fixed value for the beneficiary on the day on which the payment is due. In case of delay in payments, the Customer shall be bound to pay interest on the arrears with effect from the dates and at the rates specified by Italian Legislative Decree no 231/2002, as amended by Legislative decree 192/2012 and subsequent amendments and supplements, as well as paying compensation for any additional damages caused. The Customer may not derogate from Legislative Decree No. 231/2002, as amended by Legislative Decree No. 192/2012 and subsequent amendments and additions, nor suspend or delay the payment of the price for any reason whatsoever, nor validly raise any objection before the price has been paid in full.

8. SUSPENSION OF DELIVERIES

In the event of failure to pay or late or partial payment, at the due date, of a Palazzoli invoice or debit note, the occurrence of events which adversely impact the Customer's financial soundness (such as one or more protested bills, attachment procedures, the registration of liens and/or mortgages, applications for receivership or bankruptcy protection, or the cessation of business) and any other event constituting default on the part of the Customer, the latter shall forfeit all entitlement to any delayed payments agreed and Palazzoli shall therefore have the right to act immediately to recover all existing receivables, even those which are not liquid or due, at any time, without any obligation to provide notice and/or other formalities. In any of the above circumstances, Palazzoli shall have the right, at its own absolute discretion, and without incurring any liability for damages, as alternatives: (i) to proceed with fulfilment of the Order in spite of the circumstances; (ii) to suspend and/or refuse delivery of the Products ordered and not yet delivered, even in the case of Products not relating to the default or delayed payment concerned, until the Customer has made full payment of all sums due; (iii) to request payment guarantees and/or different modes of payment from the Customer, for both current and subsequent contracts.

9. LIABILITY LIMITATION

Palazzoli's guarantees and liabilities arising from and in relation to sale and supply contracts agreed on the basis of these General Conditions are restricted to those specifically established by these General Conditions, except as envisaged by regulations which are binding or compulsory by the decision of the parties. Except in cases of malpractice and/or serious negligence, under no circumstances shall Palazzoli be considered liable in relation to the Customer, on contractual, extra-contractual or other grounds, for loss of earnings, direct, incidental or consequential damage, damage to property and/or personal injury, or direct or indirect losses of any kind (including personal injury and damage to property) deriving from the Products sold and supplied.

The Customer acknowledges and agrees that the total amount of Palazzoli's liability (contractual, precontractual, extra-contractual or of any other kind) in relation to the Customer for direct, indirect, consequential or other damage, as damages or compensation, envisaged by the law and/or these General Conditions and/or the Order Confirmation, shall in no case exceed an amount of 100% of the price of the Products ordered by the Customer. In no circumstances shall Palazzoli be required to compensate and/or relieve and/or refund the Customer any sum it is required to pay as compensation or damages to third parties, on any grounds. The provisions of this article shall prevail, in all case, over any other conflicting provision contained in the Customer's Order.

10. CHANCE EVENTS AND FORCE MAJEURE

Palazzoli is not liable in relation to the Customer for any default, including late delivery or failure to deliver, due to circumstances beyond its reasonable control or in any way arising from chance circumstances or force majeure, such as (but not limited to) failure to deliver materials outsourced for processing, failures of machinery, strikes and other trade union actions, acts of terrorism, interruptions in the supply of gas or electricity, transport problems, natural events, administrative attachments, and laws or regulations of any central or local government body or administrative authority.

11. REGULATORY COMPLIANCE OF PRODUCT

Subject to the provisions of art. 3, Palazzoli guarantees that all products meet the requirements necessary for their placing on the market under the national legislation in force at the time of the Order Confirmation. Palazzoli does not accept any liability in the event of installation, maintenance or use which is incorrect and/or not in accordance with the relevant legal requirements and the instructions for use supplied by Palazzoli. If the Customer exports, re-exports, imports or any way transfers Products supplied by Palazzoli, the former has sole responsibility for compliance with the requirements in force in the destination country and for obtaining the authorisations necessary for this purpose. The Customer shall also inform Palazzoli without delay, and in all cases before shipment of the Products, of any modifications requested for this purpose. Palazzoli is entitled to refuse the request and to complete the Order as agreed in the initial Order Confirmation, or to agree to make the modifications, charging the additional cost to the Customer and providing a new indicative delivery term. Quality and certification marks which appear in paper material are valid at the time of printing of the documentation. The updated list of quality marks is available on the www.palazzoli.com website and through the After-Sales Service.

12. COMPLAINTS

On delivery, the Customer shall inspect or arrange the inspection of the individual Products, and immediately notify the Company or, in the case of shipment, the carrier, of any discrepancies in the quantity or type of Products. In all cases, in order to maintain the warranty entitlement it shall notify Palazzoli in writing within no more than the next seven days of any faults or discrepancies found, precisely specifying the faulty Product or lot, the relative delivery date and the nature of the defect. Any hidden defects must be reported within no more than seven days after their discovery, by the same procedure, in order to maintain warranty cover. Under no circumstances shall the Customer be entitled to warranty cover if the complaint is submitted after the expiry of the warranty as specified in art. 13. In case of complaints due to faults or conformity defects in the Products, the Customer shall keep the disputed Products at Palazzoli's disposal and, if requested by the Company, return them as instructed for the necessary checks. Returns shall be subject to the provisions of art. 5 of the General Conditions. Palazzoli may activate the relevant warranties in accordance with article 13 of these General Conditions, at its own absolute discretion. In all cases, no expenses incurred for repairs, modifications or work of any kind on the Products undertaken without Palazzoli's specific prior written authorisation will be refunded. Except with Palazzoli's specific written authorisation, the submission of the complaint shall not entitle the Customer to suspend or delay the payments due for the Products which are the subject of the complaint, or for other past or future deliveries, and nor shall it entitle the Customer to suspend or cancel other Orders already confirmed.

13. WARRANTIES

Palazzoli guarantees, on the terms and conditions set forth in art.11, that the Products are free from defects in material and workmanship and compliant with the technical characteristics required by the regulations in force as of the date of sale or supply, within the standard tolerances and in conditions of correct installation and use of the Products. Palazzoli's Warranty is only valid in relation to the Customer and only the latter may submit claims under it. The Warranty is valid or one year from delivery of the Product to the Customer. Under no circumstances shall the Warranty validity terms be considered suspended or extended further to failure to install or delayed installation and/or commissioning of the Product by the Customer or its assigns. Any replacements and/or repairs performed by Palazzoli within the warranty period shall not trigger an extension or renewal of the warranty. Palazzoli's Warranty shall never apply in the following circumstances: (i) damage to the Products in transit; (ii) unsuitability or unfitness for purpose of the Products due to an error on the part of the Customer or its technical advisers; (iii) failure of the Products to conform to technical or functional characteristics additional to and/or different from those specifically stated in the technical information; (iv) damage deriving from installation or use which is incorrect or any way in breach of the instructions supplied in the Use and Maintenance Manual, if provided, or misuse in general; (v) failure to perform ordinary and extraordinary maintenance procedures; (vi) damage caused by electrical overload, chance circumstance, negligence or any other cause not due to a defect in the Product at origin; (vii) defects or damage arising from modifications, alterations or repairs performed by the Customer or its assigns; (viii) normal wear and tear of parts of the Products, to be assessed on the basis of their ordinary conditions of use; (ix) aggravation of damage caused by additional use of the Products once the defect has appeared; (x) even partial default by the Customer on its payment obligations; (xi) delay in reporting the faults or defects by the Customer; (xii) faults, defects or shortcomings in the raw materials or materials or components supplied by the Customer itself and/or procured by Palazzoli on the Customer's instructions. In the event of faults or defects in the Products, of any kind, Palazzoli's warranty obligations shall be limited to the replacement free of charge, ex-works Palazzoli, of the parts or Products acknowledged to be faulty, to be performed within the normal operating times to be agreed between the Parties, bearing in mind Palazzoli's needs, the procurement times of the Products and components to be replaced, and the complexity of any activity required to eliminate the defect. Palazzoli shall not undertake any activity (including repair or replacement) at places other than its own premises, unless otherwise agreed with the Customer in writing. In the event of replacement or return of a faulty Product, the Customer shall receive the repaired or replaced Product on the conditions and by the procedures specified in art. 5 and 6 of these General Conditions. In case of replacement of spare parts, Palazzoli reserves the right to supply material which is corresponding or equivalent in terms of functional performances, even if it is not identical to the product replaced in terms of dimensional and/or design characteristics. If replaced with others, the Products which the Customer returns to Palazzoli are considered to be definitively transferred to the Company's ownership. The Warranty contained in this article constitutes Palazzoli's complete warranty obligations in case of faults or defects in the Products, with the specific exclusion - to the extent that this is not

precluded by essential legal provisions - of any other liability or specific or tacit warranty (including the warranty referred to by art. 1490 of the Italian Civil Code) in any way related to faults and/or malfunctions of the Products, on a contractual or extra-contractual basis, and as principal or through recourse. If the repair or replacement of the faulty and/or defective Products is not possible, the Customer shall be entitled to a price refund for the faulty and/or defective Products only, with no further entitlement on the part of the Customer to compensation for direct, indirect or consequential damages of any kind, loss of earnings or losses arising from and/or related to the faults or defects in the Products. Any free replacement of parts, components or Products claimed to be defective, or the granting to the Customer of any amount in relation to presumed faults or defects, to which Palazzoli agrees outside the terms and conditions of validity of this Warranty, shall be considered merely discretionary and exceptional and shall in no case constitute an extension of the Warranty beyond the term established by these General Conditions, or justify further or subsequent demands by the Customer in breach of the aforesaid provisions. Unless Palazzoli specifically recognises the Customer's entitlement to the Warranty, all Products and/or components which the Company sends to the Customer to replace those claimed to be defective shall be supplied against payment, unless Palazzoli subsequently decides that the Warranty applies. The Customer shall be obliged to make full payment of the invoice issued by Palazzoli for the replacement Products or components supplied if Palazzoli decides that the claimed faults or defects are unsubstantiated, or that the Warranty was inapplicable or had expired, and in all cases when the Customer fails to return the Products or components claimed to be faulty within the terms specified by Palazzoli or, if not specified, within thirty days after the Company's request.

14. EXPRESS TERMINATION CLAUSE

For the intents and purposes of article 1456 of the Italian Civil Code, Palazzoli may terminate the Contract, by means of a written declaration to be sent to the Customer by registered letter with return receipt or by certified e-mail, in the event of the following non-fulfilments: - non-payment by the Customer within the agreed terms of the price and/or of the relevant adjustments of the same as provided for by Article 4 of these General Terms; - violation of the limitations and prescriptions by the Customer as provided for by Article 11; - violation of the provisions provided for by Article 17 and/or Article 18.

15. TERMINATION

In the event that either Party requests termination of the contract under art. 1453 of the Italian Civil Code, it must notify the other Party in writing by registered letter with return receipt or certified email, at the same time granting the party at fault a period of at least 30 days to remedy the situation. The Customer shall not be permitted to request termination of the Contract if Palazzoli has begun to fulfil the contract during the period granted. In the event that the contract is terminated, the Customer shall consign the designs, the relevant drawings and the technical documentation it holds, and all other Palazzoli documents, to Palazzoli within no more than 15 days after the end of the term granted for the fulfilment of its obligations, without any entitlement to compensation or refunds of any kind.

16. WITHDRAWAL

In addition to the cases envisaged by the law, Palazzoli will be entitled to withdraw from the Contract in the event of: - changes in the Customer's ownership or corporate structure; - an event of force majeure/unforeseeable circumstances. The Customer shall be notified of the withdrawal by registered letter with return receipt or certified email with 15 days' notice. The Customer shall return the designs, the relevant drawings and the technical documentation it holds, and all other Palazzoli documents, to Palazzoli within 15 days of the date when the withdrawal comes into effect, without any entitlement to compensation or refunds of any kind.

17. INTELLECTUAL PROPERTY RIGHTS

Palazzoli retains exclusive ownership of the patents, drawings, designs and everything used for the realisation of the products sold and/or supplied, and the Customer undertakes not to disclose them and/or consign them to third parties, or to copy and/or use them. In the case of products manufactured to specific request using documentation supplied by the Customer, Palazzoli does not accept any liability for breach of third-party industrial property rights, which shall be the sole responsibility of the Customer, which undertakes to relieve Palazzoli of any claims made against it. The Customer undertakes not to use the documentation received from Palazzoli for purposes other than those envisaged by the Contract, and not to disclose to third parties, copy or grant under licence the documentation received, without Palazzoli's specific prior written authorisation. The Customer undertakes to return the documentation received and any copies made to Palazzoli on the latter's simple request if the said documentation is no longer necessary for the fulfilment of the Supply contract.

18. NON-DISCLOSURE

Any documentation or information supplied to the Customer by Palazzoli, of a commercial or technical nature, including Offer terms and conditions, drawings, designs and price lists not published on the Company's website, is strictly confidential and, therefore, the Customer undertakes not to disclose or communicate it to third parties, including any subcontractors, or to use it for purposes other than the conclusion and fulfilment of the supply and/or sale contract, even after the termination of the business relationship, unless specifically authorised by Palazzoli in writing. Palazzoli retains the right to prosecute the Customer for any breach of its non-disclosure and confidentiality obligations, including before the courts.

19. PROCESSING OF PERSONAL DATA

The Customer authorises the processing of personal data in accordance with current personal data protection legislation and in accordance with security and non-disclosure obligations, in order to enable the Company to fulfil its contractual and regulatory obligations, and for administrative and accounting purposes in all cases. The Customer confirms that it has read and understood the privacy policy statement published on the Company's website at the address www.palazzoli.com and approves its contents; it issues its consent to the processing of its personal data.

20. APPLICABLE LAW - LEGAL JURISDICTION

Any dispute between the Company and Customers regarding the interpretation and/or application of these General Conditions and/or relating to the individual sales and/or supplies which it governs shall be subject solely to Italian law and shall be under the sole jurisdiction of Brescia Law Court; the Customer shall not be permitted to bring cases before other judicial authorities, even in the event of actions to obtain guarantees or connected suits. The Company retains the right to file suits against the Customer before any other judicial authority which has jurisdiction and competence over the Customer.

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810091	1	117
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810256	1	99
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819532DA	1	127
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831172EX	1	185
831272EX	1	185
837021EX	1	157
837022EX	1	157
837023EX	1	157
837024EX	1	157
837221EX	1	157
837222EX	1	157
837223EX	1	157
837224EX	1	157
838021EX	1	159
838022EX	1	159
838023EX	1	159
838024EX	1	159
838221EX	1	159
838222EX	1	159
838223EX	1	159
838224EX	1	159
840392EX	1	168
840492EX	1	168
841192EX	1	166
841292EX	1	166
841392EX	1	167
841492EX	1	167

8 HIGH TEMPERATURE

Palazzoli code	Pack Qty	Catalogue page
810020HT	1	116
810021HT	1	117
810050HT	1	116
810051HT	1	117
810080HT	1	116
810081HT	1	117
810090HT	1	116
810091HT	1	117
810430HT	1	113
810431HT	1	114
810440HT	1	113
810441HT	1	114
810450HT	1	113
810451HT	1	114
810460HT	1	113
810461HT	1	114
817304HT	1	120
817308HT	1	120
817312HT	1	120
817316HT	1	120
817320HT	1	120
817324HT	1	120
819428HT	1	126
819432HT	1	126
819440HT	1	128
819448HT	1	128
821382HT	1	108
821482HT	1	108
821582HT	1	108
826382HT	1	108
826482HT	1	108
826582HT	1	108

8 XTIGUA-T54 BRACKETS

Palazzoli code	Pack Qty	Catalogue page
812931L	1	209
812932L	1	209
812933L	1	209
812934L	1	209

Palazzoli code	Pack Qty	Catalogue page
812935L	1	209
812936L	1	209
812937L	1	209
812938L	1	209
812939L	1	209
812940L	1	209
812941L	1	209
812942L	1	209
812943L	1	209
812944L	1	209
812945L	1	209
812946L	1	209
812947L	1	209
812948L	1	209
812931M	1	209
812932M	1	209
812933M	1	209
812934M	1	209
812935M	1	209
812936M	1	209
812937M	1	209
812938M	1	209
812939M	1	209
812940M	1	209
812941M	1	209
812942M	1	209
812943M	1	209
812944M	1	209
812945M	1	209
812946M	1	209
812947M	1	209
812948M	1	209

8 VIRTUAL MIDNIGHT

Palazzoli code	Pack Qty	Catalogue page
833120MV	1	194
833121MV	1	196
833130MV	1	194
833131MV	1	196
833220MV	1	194

SEQUENTIAL INDEX

Palazzoli code	Pack Qty	Catalogue page
833221MV	1	196
833230MV	1	194
833231MV	1	196
833320MV	1	198
833321MV	1	201
833330MV	1	198
833331MV	1	201
833420MV	1	198
833421MV	1	201
833430MV	1	198
833431MV	1	201
833520MV	1	198
833521MV	1	201
833530MV	1	198
833531MV	1	201
833620MV	1	198
833621MV	1	201
833630MV	1	198
833631MV	1	201
834110MV	1	193
834111MV	1	195
834120MV	1	193
834121MV	1	195
834130MV	1	193
834131MV	1	195
834210MV	1	193
834211MV	1	195
834220MV	1	193
834221MV	1	195
834230MV	1	193
834231MV	1	195
834310MV	1	197
834311MV	1	199
834320MV	1	197
834321MV	1	199
834330MV	1	197
834331MV	1	199
834410MV	1	197
834411MV	1	199
834420MV	1	197
834421MV	1	199
834430MV	1	197
834431MV	1	199

Palazzoli code	Pack Qty	Catalogue page
834510MV	1	197
834511MV	1	199
834520MV	1	197
834521MV	1	199
834530MV	1	197
834531MV	1	199
834610MV	1	197
834611MV	1	199
834620MV	1	197
834621MV	1	199
834630MV	1	197
834631MV	1	199
854110MV	1	193
854111MV	1	195
854120MV	1	193
854121MV	1	195
854130MV	1	193
854131MV	1	195
854210MV	1	193
854211MV	1	195
854220MV	1	193
854221MV	1	195
854230MV	1	193
854231MV	1	195
854310MV	1	198
854311MV	1	200
854320MV	1	198
854321MV	1	200
854330MV	1	198
854331MV	1	200
854410MV	1	198
854411MV	1	200
854420MV	1	198
854421MV	1	200
854430MV	1	198
854431MV	1	200
854510MV	1	198
854511MV	1	200
854520MV	1	198
854521MV	1	200
854530MV	1	198
854531MV	1	200
854610MV	1	198

Palazzoli code	Pack Qty	Catalogue page
854611MV	1	200
854620MV	1	198
854621MV	1	200
854630MV	1	198
854631MV	1	200

8 VERY HIGH TEMPERATURE

Palazzoli code	Pack Qty	Catalogue page
819528VHT	1	127
819532VHT	1	127
819540VHT	1	129
819548VHT	1	129

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Palazzoli S.p.a
Via F. Palazzoli, 31 - 25128 Brescia - Italy
Tel. +39 030 2015.1
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