



MITO  Led

Lighting to save

Precise circle of light

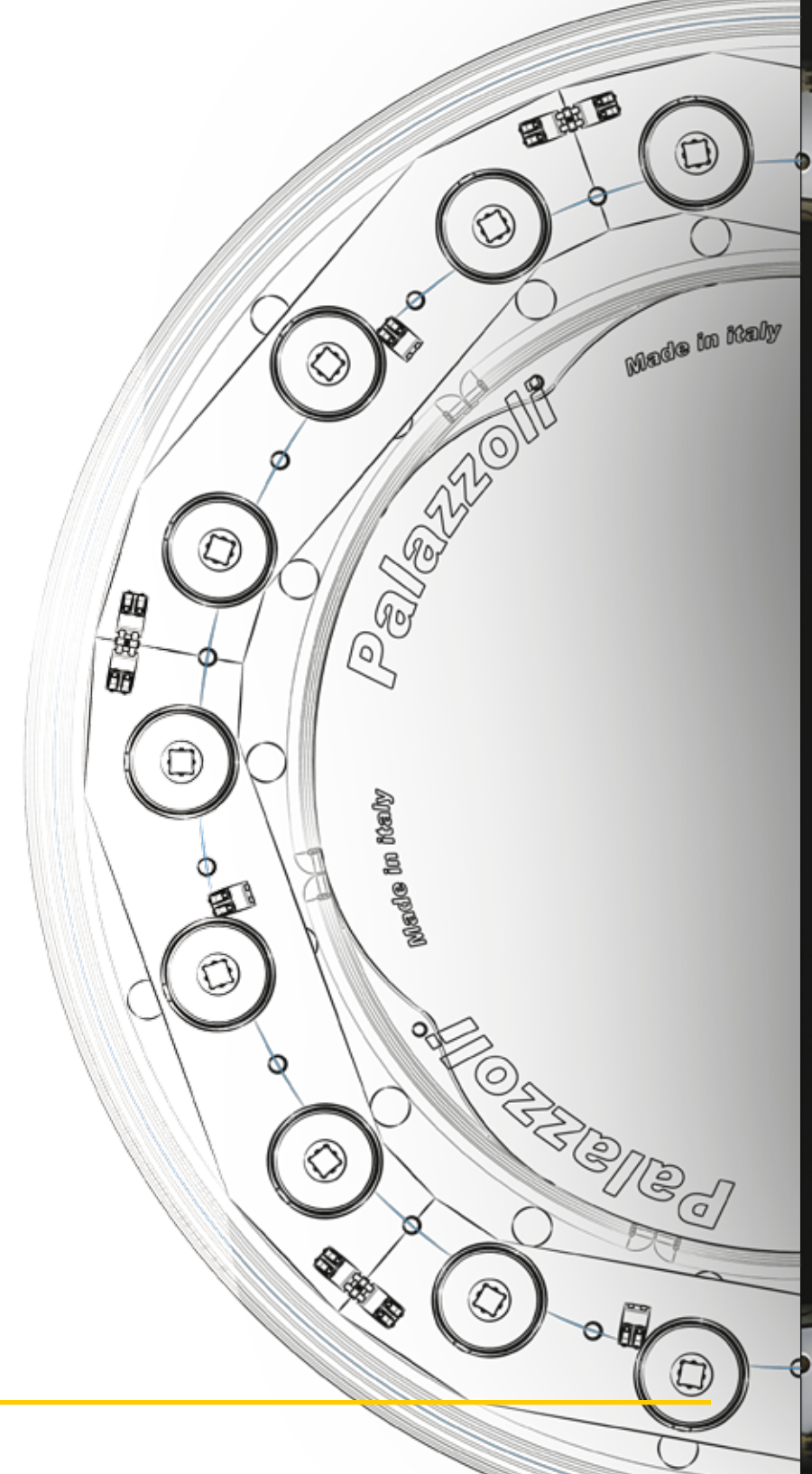
More to MITO Led than the eye can see

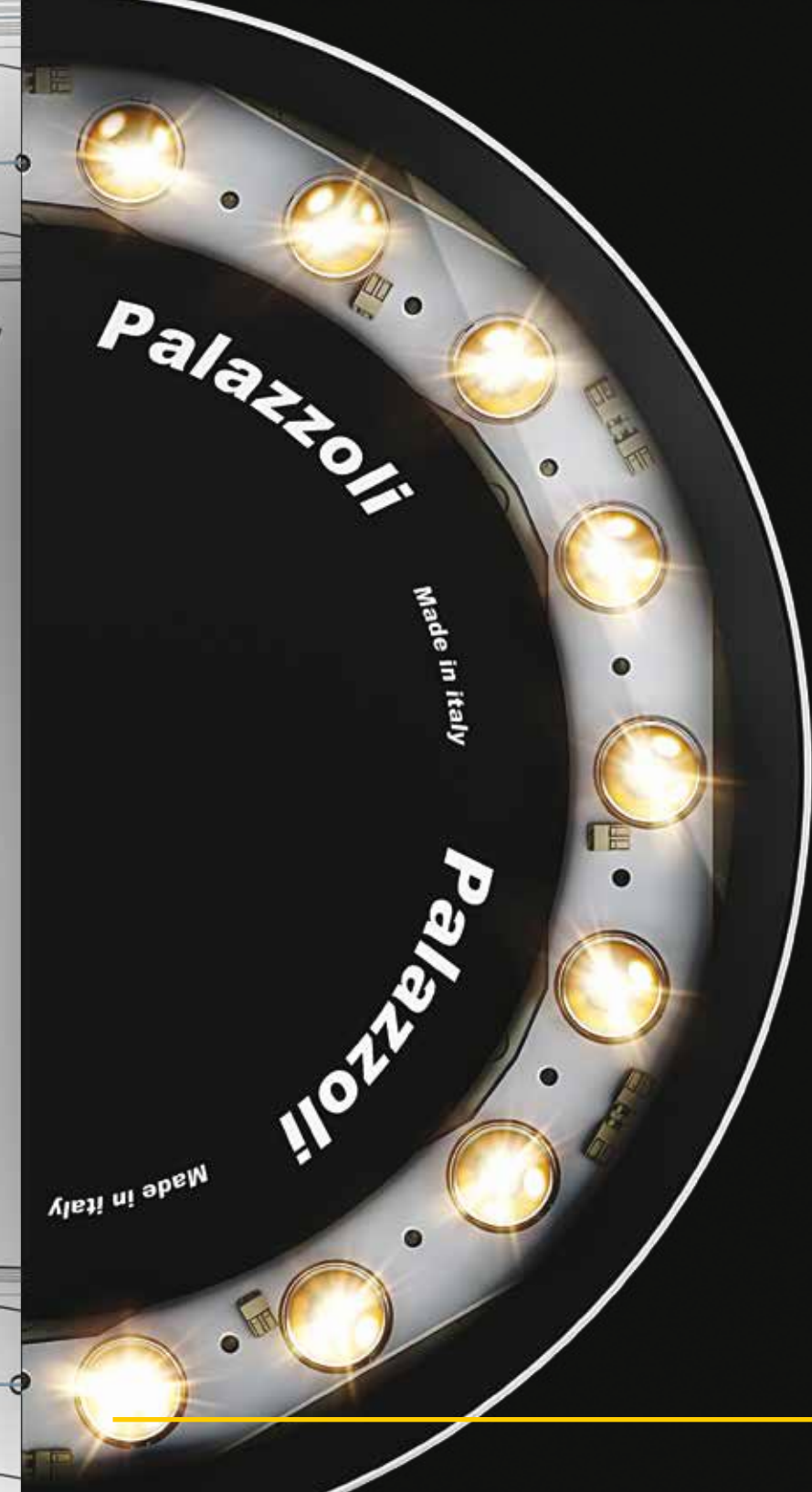
The circular shape of MITO Led

- provides visual comfort
- circular geometry means no need to orientate, making installation "right" first time
- provides ideal heat dissipation, extending life.

MITO Led has been designed to meet the various needs of industrial, storage, indoor sport, retail and food production areas and so

- removes the need of maintenance (for up to 15 years)
- guarantees a long life: after 50.000 operating hours, the luminous flux is still more than 80% of the original
- ensures the maximum energy and economical saving.





Power distribution

Light source (LED) configuration

- improves heat dissipation
- improves reliability of control components
- provides flexibility of light distribution, unique to MITO Led
- smooth "lines" makes cleaning maintenance simple.

Versatile and functional

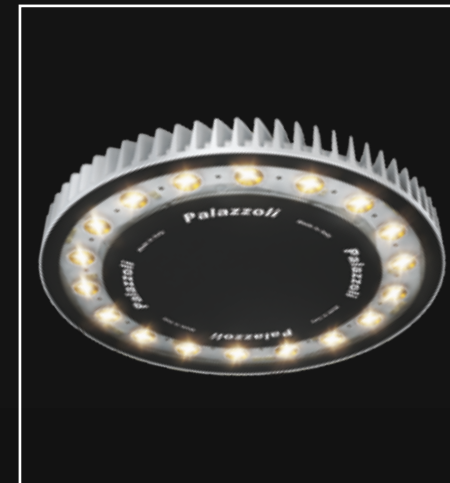
The die cast aluminium body acts as a heat sink and together with the RAL 7011 grey finishing and fluoro-zirconium treatment it enhances the aesthetic characteristics of the luminaire over its life. The various light distribution options make MITO Led both functional and versatile.

Simple to retro fit

Thanks to the new pendant suspension fixing, replacing the old lighting fixtures becomes an easy "remove and replace" operation without the need of adaptation and regulation. By replacing the old fixture, MITO Led guarantees many benefits:

- energy savings up to 50%
- zero cost of maintenance
- comfort and health protection (no mercury)
- clean light (no UV and IR)
- flexibility: many solutions for all environments.

MITO Led offers many solutions for the light distribution (symmetrical, asymmetrical, elliptical, etc.) whilst maintaining the traditional circular shape of industrial high bay lighting fixtures.



Solutions for all applications

Pendant suspension



The fixing system allows for a quick installation of the MITO Led without using tools and keeping the same light distribution (even for the emergency versions).

Double chain suspension



For those installations where a double fixing is needed, MITO Led has a double-chain system that can be used also with cable trays (even for the emergency versions).

Adjustable suspension



The adjustable bracket of MITO Led optimizes the light distribution allowing for a 0 to 90° orientation.

Ceiling mounting



MITO Led can be directly mounted on the ceiling thanks to a bracket with self-centring system.

Horizontal pole mounted



MITO Led can be directly mounted on horizontal poles with a diameter of 60 mm thanks to the saddle support accessory.

Adjustable bracket



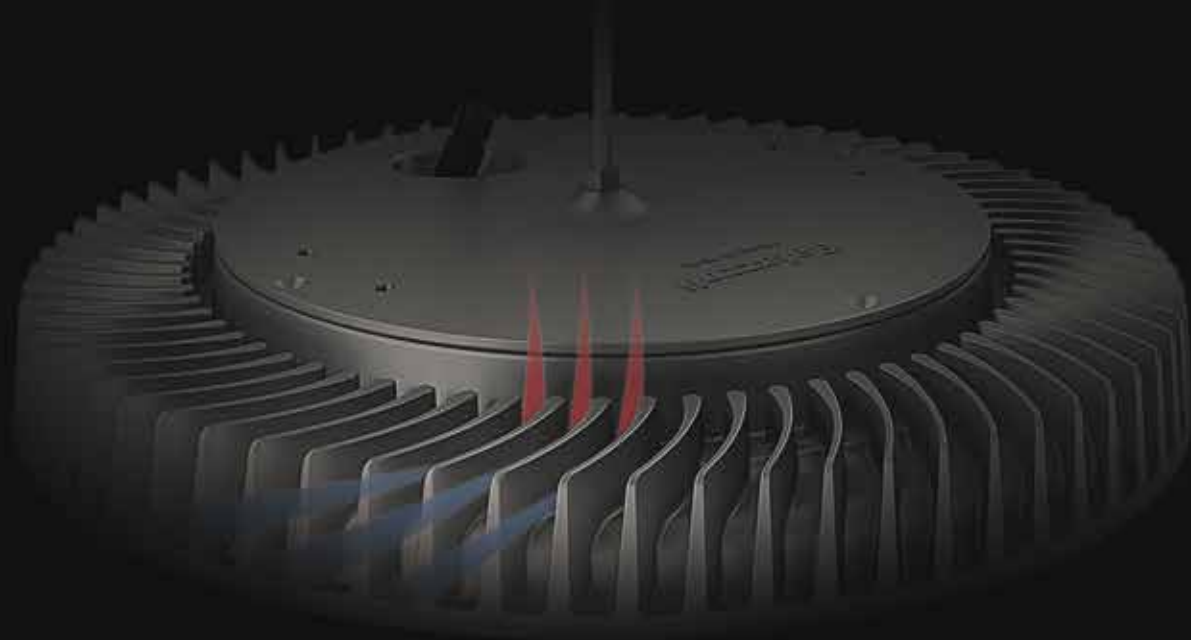
MITO Led is suitable to be mounted on wall or on supporting structures (poles, lighting towers, etc.) thanks to an adjustable bracket accessory.

Catenary wire



MITO Led can be mounted on catenary wire thanks to a bracket system that allows for fine adjustment.

Safe and long life



MITO Led long life is guaranteed due to the circular positioning of the LEDs remote from the control gear heat source and directly connected to the unique helical heat sink.

The control gear is protected against surge discharges up to 6kV between phases and 10kV phase to earth and is remote from the LED housing, extending product life.



- After 50.000 operating hours luminous flux is at least 80% of initial lumens.
- There is no degradation to plastic components, as LEDs have no UV or IR emissions.
- The body is made of die cast aluminium alloy to EN 46100 with anti-scratch powder coating – colour as RAL 7011.

Quality Control

The sensitivity of LEDs requires the absence of electrostatic discharges; therefore the manufacturing and assembly processes are carried out in a dedicated and strictly controlled area with severe conformity testing.



Economic and energy saving

The need to reduce environmental pollution and energy costs is universally accepted.

This is driving the development of economic solutions that reduce energy consumption, and therefore pollution without compromising performance.

MITO Led was designed to allow for high energy saving, playing its part in reducing carbon emissions and protecting our planet.

Replacing your old inefficient fixtures with MITO Led significantly reduces the CO₂ emissions into our environment.

A reduction of 10 KWh will save 5 kg of CO₂.



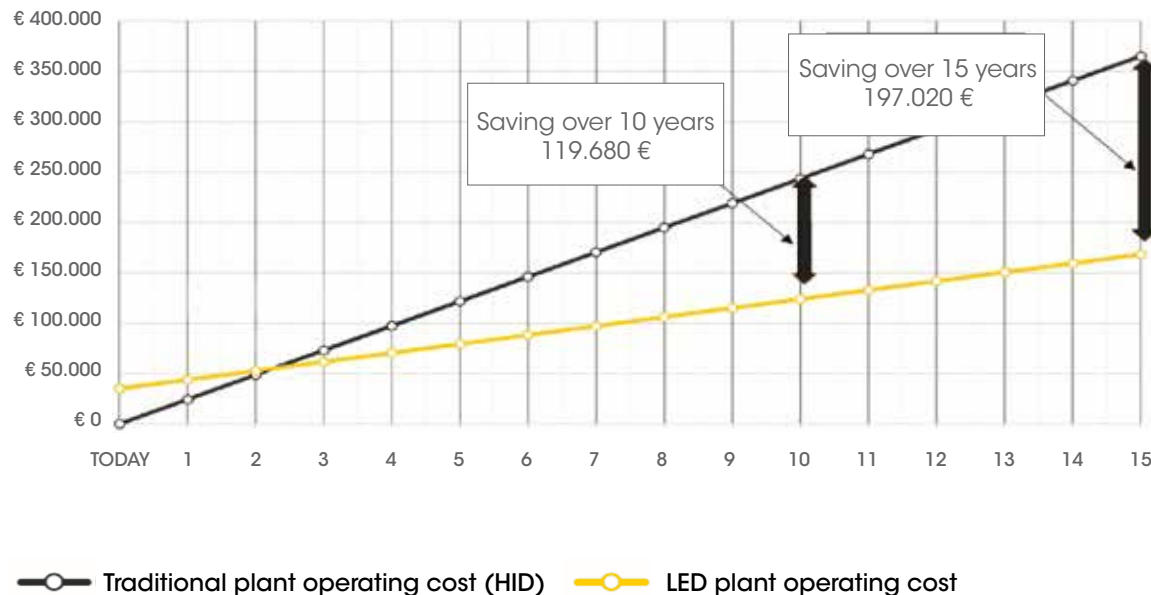
Cost savings

MITO Led reduces the lighting management costs whilst guaranteeing the best quality lighting performance. Below is an example of a typical industrial installation. The comparison is between MITO Led and a High Intensity Discharge lighting installation, with an assumed energy cost of 0,13€/kWh. To calculate the savings www.mitoled.com

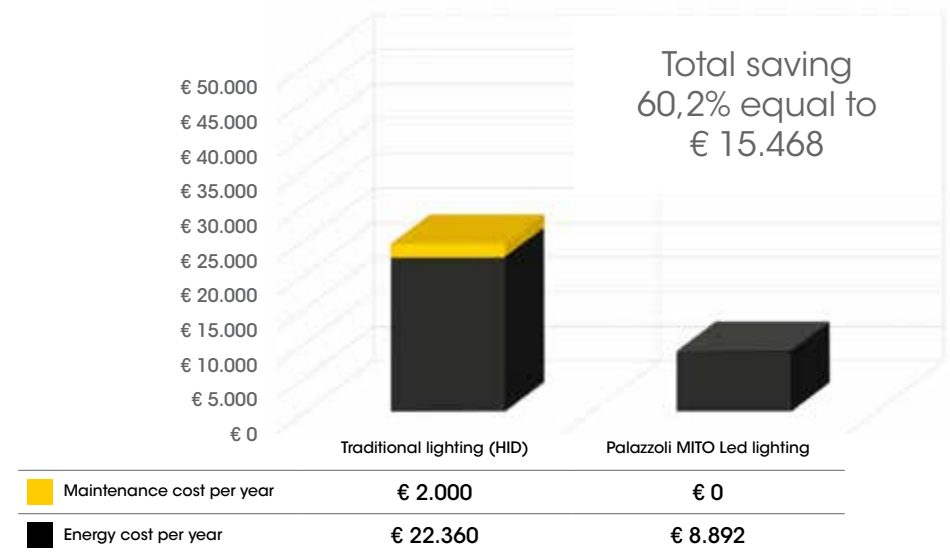
| | Traditional lighting (HID) | MITO Led lighting |
|-------------------------------|----------------------------|-------------------|
| Number of lighting fixtures | 100 pcs | 100 pcs |
| Lighting fixture power | 400 W* | 171 W |
| Plant total power | 43 kW | 17,1 kW |
| Electric energy cost | 0,13 €/kWh | 0,13€/kWh |
| Working hours in 2 shifts | 4.000 hours | 4.000 hours |
| Total consumption in 2 shifts | 172.000 kWh/year | 68.400 kWh/year |

*losses of the ballast must be added (about +30 W)

Progressive working cost of the lighting plant in 2 shifts



Comparison of operating cost per year in 2 shifts



The controls systems

Smart system

MITO Led smart management system makes it compatible with all types of smart control systems.

Either using stand alone or centralised detection and control systems MITO Led offers modularity and compatibility. The wireless technology enables the system smart and easy to programme.



Energy saving



Wireless antenna



Presence detector



Twilight sensor



DALI and 1-10 V receiver



Design support service

Our Lighting Professionals can support you step by step through all aspects of the project from designing the best lighting solution for the installation to final installation and commissioning.

masterPROJECTS

On www.mitoled.com the photometric curves, datasheets and instruction literature for all the product range are available. On www.palazzoli.com you can find the new software masterPROJECTS to measure and design the lighting installation.

Using the electronic catalogue, you can select the lighting fixtures, see the features and make a detailed schedule with codes and product descriptions to request for a quotation.

Fast audit

MITO Led has been designed to easily replace the traditional lighting fixtures and get immediate energy savings. Our Lighting Specialists will be happy to inspect the existing installation and create the best technical and economic proposal.

The ideal lighting for every environment

MITO Led guarantees the lighting performance and fixture characteristics for installation in industrial, food preparation, sport centres and external areas.

The die cast aluminium body is treated to prevent corrosion and the 4 mm extra clear tempered glass diffuser ensures maximum resistance to chemical substances.

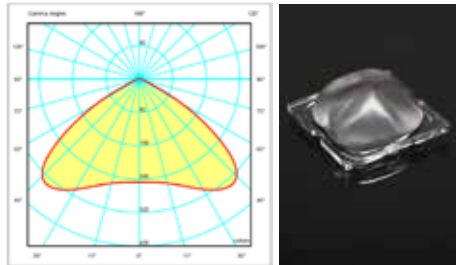
The different light distributions (extra wide, narrow, elliptical and asymmetrical) allow for finding the best solution for the different working applications, guaranteeing the visual comfort and best light performance.

The MITO Led range is equipped with 1-10 V dimmable control gear. DALI or other wireless systems are available on request.

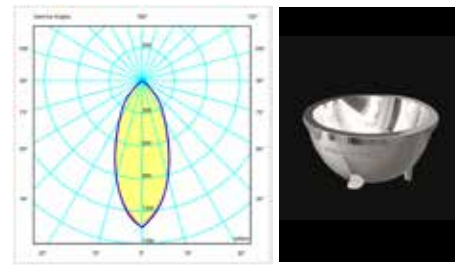
For the installation in food industries, the MITO Led range can be equipped with a diffuser made of UV-resistant polycarbonate satisfying the HACCP requirements.



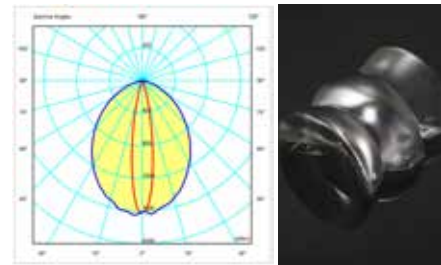
Better lighting for all applications



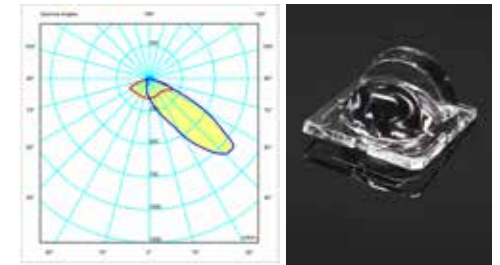
SYMMETRICAL LIGHT DISTRIBUTION
EXTRA WIDE BEAM
between 5 and 9 meters



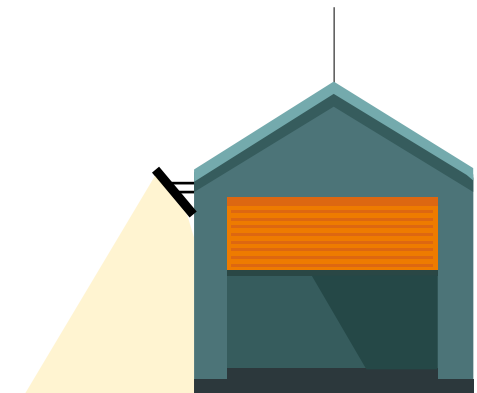
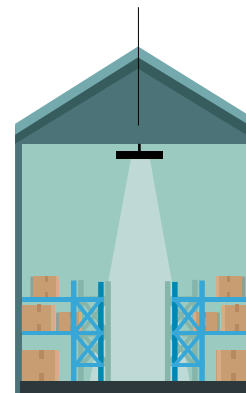
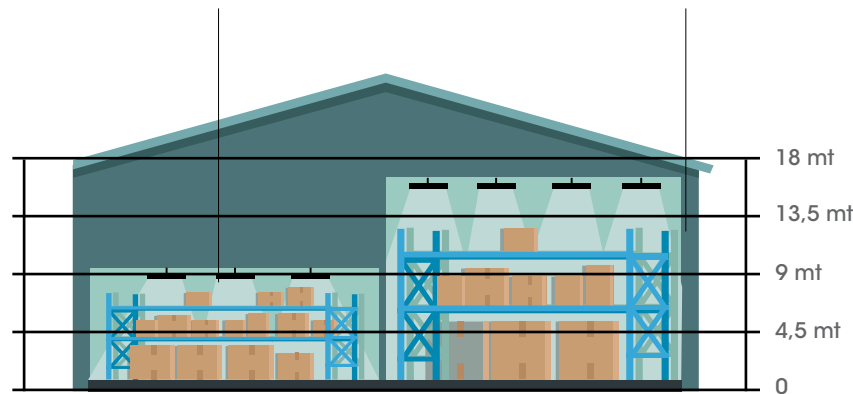
SYMMETRICAL LIGHT DISTRIBUTION
NARROW BEAM
above 9 meters



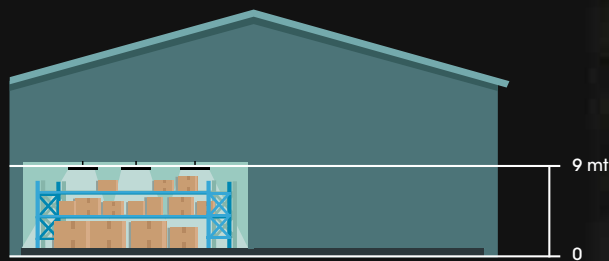
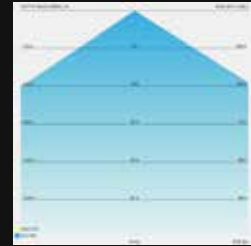
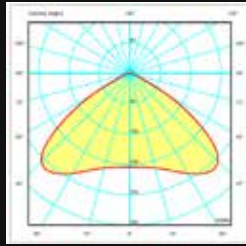
ELLIPTICAL LIGHT DISTRIBUTION
for narrow corridors



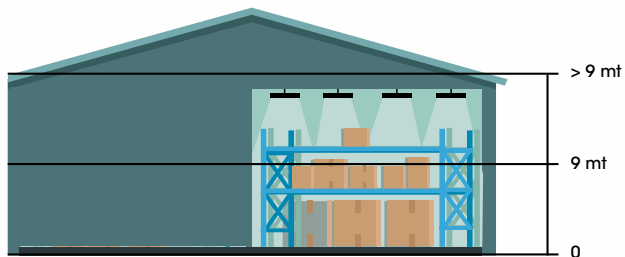
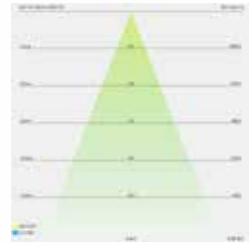
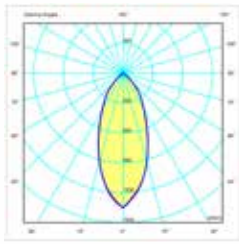
ASYMMETRICAL LIGHT DISTRIBUTION
for external areas (bracket fixing)



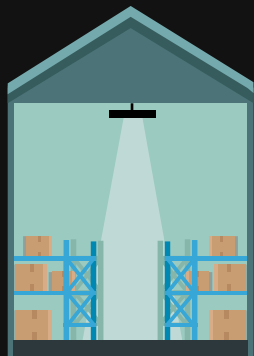
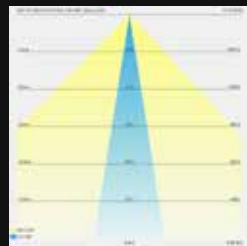
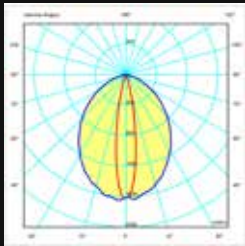
For heights between 5 and 9 meters
with symmetrical light distribution 100° extra wide



For heights above 9 meters
with symmetrical light distribution 60° narrow

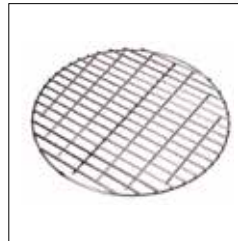
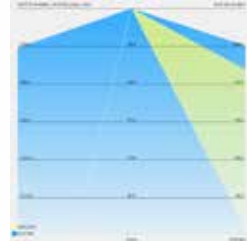
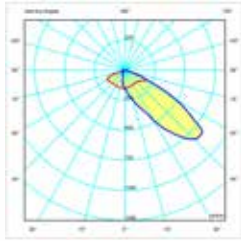


For the warehouse aisles with elliptical light distribution

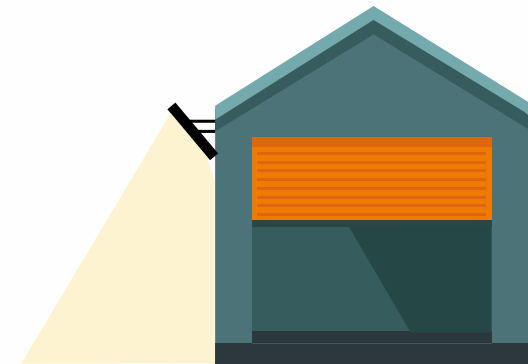


For external areas and sport centres

with roadway light distribution and asymmetrical light distribution



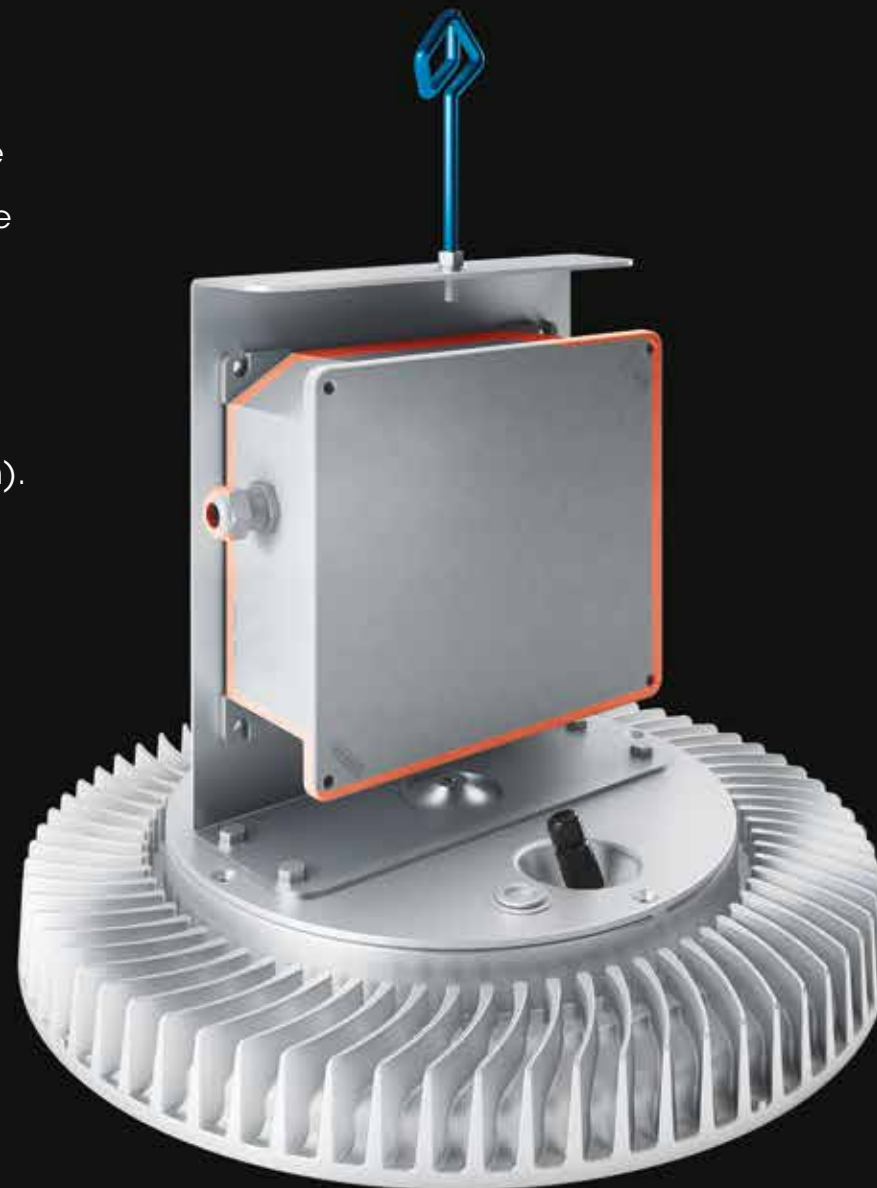
For a better resistance to impacts the protective guard is available as an accessory.



Also in emergency

All the versions of MITO Led can be equipped with the emergency module. The inverter and battery pack are located within an IP66/IP67 box complete with connectors, and can be mounted on the back of the fixture (a purpose made bracket is supplied as standard on emergency versions) or separate from the fixture.

This configuration allows the quick installation of the emergency kit (for 1-3h).



Technical datasheet



MITO Led guarantees the lighting performance and fixture characteristics for installation in industrial, food preparation, sport centres and external areas.

The die cast aluminium body is treated to prevent corrosion and the 4 mm extra clear tempered glass diffuser ensures maximum resistance to chemical substances.

The polycarbonate diffuser version makes the device suitable to be installed in food industries compliant with the HACCP standards. The different light distributions (extra wide, narrow, elliptical and asymmetrical) allow for finding the best solution for the different working applications, guaranteeing the visual comfort and best light performance.

The photometric curves (LDT files) and the latest release of MITO Led are available on www.mitoled.com

Conformity to standards

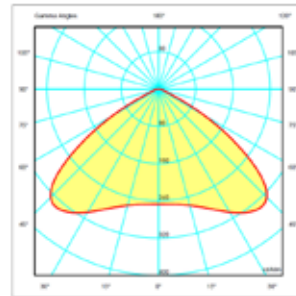
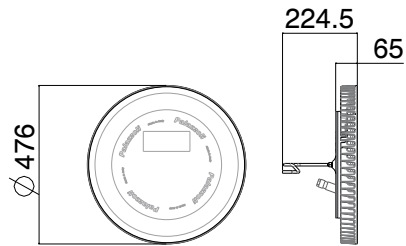
Directive 2014/35/EU
EN 60598-1: 2015
EN 60598-2-1:1997
EN 60598-2-5: 2015
EN 60598-2-22: 2014
EN 62471: 2008
Directive 2014/30/EU
EN 62493: 2015
Directive 2011/65/EU
ENEC in progress for approval

| | |
|---|---|
| Body material | Aluminium alloy |
| Surface treatment | Passivation with fluoro-zirconium |
| Diffuser material | Extraclear tempered glass or polycarbonate |
| Protection rating (IP as per IEC/EN 60529) | IP66/IP67 |
| Painting | Hot polymerized non-toxic polyester |
| Colour | RAL 7011 |
| Resistance to impacts (IK rating as per IEC/EN 62262) | IK08 |
| Weight | 9,5 Kg max |
| LED device efficiency | 106 lm/W |
| Colour temperature | 4000 K |
| CRI | ≥ 80 |
| Insulation class | I (II on request) |
| Rated voltage | 200-240 V |
| Frequency | 50-60 Hz |
| Power factor | ≥ 0,95 |
| Protection against surge discharges | 10 kV common mode 6 kV differential mode EN 61000 |
| Max cable section | 1,5 mm ² |
| Entry cable diameter | 7-13 mm |
| Emergency battery lifetime | 1-3 h |
| Emergency battery recharging time | 30 h |
| Estimated device lifetime | L80/B20 @50.000h Ta=25 °C |
| Storage temperature | -40 °C - +70 °C |
| Operating temperature | -30 °C - +40 °C Up to +55 °C with power derating |

For industrial application



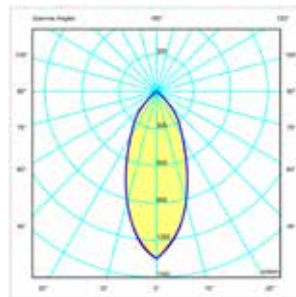
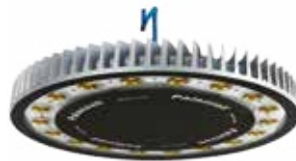
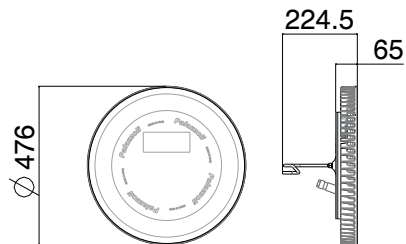
High bay LED lighting fixtures
glass diffuser
 symmetrical light distribution
extra wide beam IP66/IP67



| Power (W) | Nominal flux (lm) | Photometric curve version | Palazzoli code | Pack Q.ty |
|-----------|-------------------|-----------------------------|----------------|-----------|
| 102 | 13230 | 1-10 V dimmable as standard | 810090 | 1 |
| 135 | 17640 | | 810020 | 1 |
| 169 | 22050 | | 810050 | 1 |
| 203 | 26460 | | 810080 | 1 |
| 102 | 13230 | emergency | 810190 | 1 |
| 135 | 17640 | | 810120 | 1 |
| 169 | 22050 | | 810150 | 1 |
| 203 | 26460 | | 810180 | 1 |

Characteristics: typical height of installation between 5 and 9 meters.
 Equipment included: support for rapid pendant suspension.
 Note: the luminous flux may be subject to a tolerance of +/- 7%.

High bay LED lighting fixtures
glass diffuser
 symmetrical light distribution
narrow beam IP66/IP67



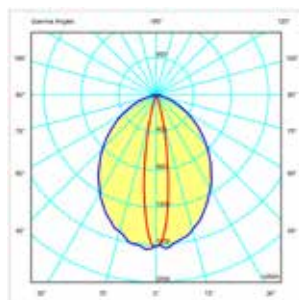
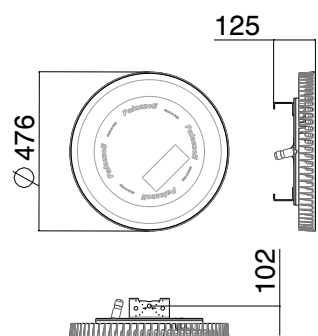
| Power (W) | Nominal flux (lm) | Photometric curve version | Palazzoli code | Pack Q.ty |
|-----------|-------------------|-----------------------------|----------------|-----------|
| 102 | 13230 | 1-10 V dimmable as standard | 810091 | 1 |
| 135 | 17640 | | 810021 | 1 |
| 169 | 22050 | | 810051 | 1 |
| 203 | 26460 | | 810081 | 1 |
| 102 | 13230 | emergency | 810191 | 1 |
| 135 | 17640 | | 810121 | 1 |
| 169 | 22050 | | 810151 | 1 |
| 203 | 26460 | | 810181 | 1 |

Characteristics: typical height of installation above 9 meters.
 Equipment included: support for rapid pendant suspension.
 Note: the luminous flux may be subject to a tolerance of +/- 7%.

For industrial application



High bay LED lighting fixtures
glass diffuser
elliptical light distribution
IP66/IP67



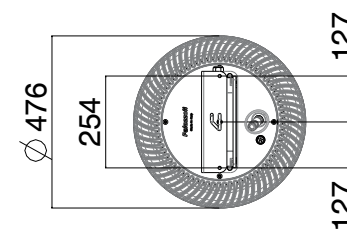
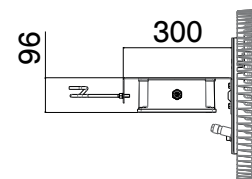
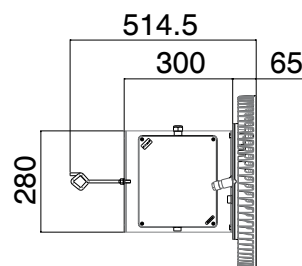
| Power (W) | Nominal flux (lm) | Photometric curve version | Palazzoli code | Pack Q.ty |
|-----------|-------------------|-----------------------------|----------------|-----------|
| 102 | 13230 | 1-10 V dimmable as standard | 810092 | 1 |
| 135 | 17640 | | 810022 | 1 |
| 169 | 22050 | | 810052 | 1 |
| 203 | 26460 | | 810082 | 1 |
| 102 | 13230 | emergency | 810192 | 1 |
| 135 | 17640 | | 810122 | 1 |
| 169 | 22050 | | 810152 | 1 |
| 203 | 26460 | | 810182 | 1 |

Characteristics: suitable to be installed between the aisles of industrial warehouses, etc.
 Equipment included: support for double chain suspension.
 Note: the luminous flux may be subject to a tolerance of +/- 7%.



EMERGENCY

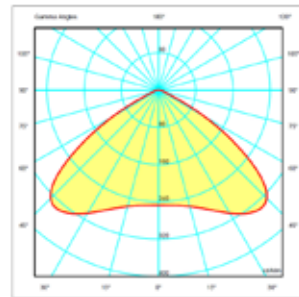
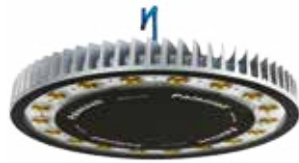
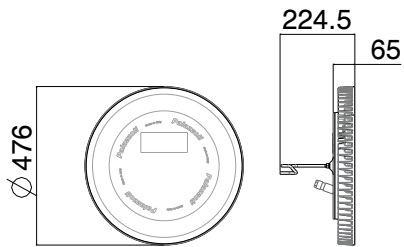
In case of emergency lighting fixtures without UPS, you need:
 code 810992 for 1h
 code 810991 for 3h



For use in food industry



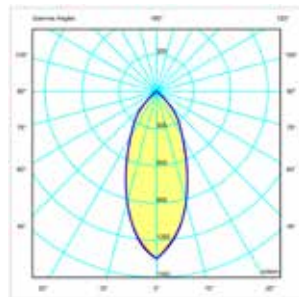
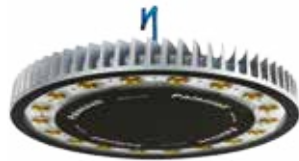
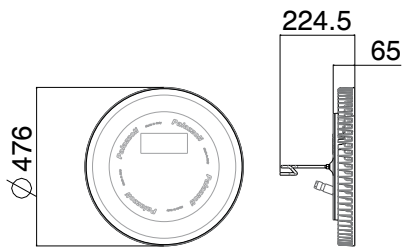
High bay LED lighting fixtures
HACCP for food industry
polycarbonate diffuser
symmetrical light distribution
extra wide beam IP66/IP67



| Power (W) | Nominal flux (lm) | Photometric curve version | Palazzoli code | Pack Q.ty |
|-----------|-------------------|-----------------------------|----------------|-----------|
| 102 | 13230 | 1-10 V dimmable as standard | 810093 | 1 |
| 135 | 17640 | | 810023 | 1 |
| 169 | 22050 | | 810053 | 1 |
| 203 | 26460 | | 810083 | 1 |
| 102 | 13230 | emergency | 810193 | 1 |
| 135 | 17640 | | 810123 | 1 |
| 169 | 22050 | | 810153 | 1 |
| 203 | 26460 | | 810183 | 1 |

Characteristics: typical height of installation between 5 and 9 meters.
Equipment included: support for rapid pendant suspension.
Note: the luminous flux may be subject to a tolerance of +/- 7%.

High bay LED lighting fixtures
HACCP for food industry
polycarbonate diffuser
symmetrical light distribution
narrow beam IP66/IP67



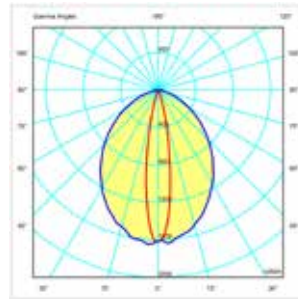
| Power (W) | Nominal flux (lm) | Photometric curve version | Palazzoli code | Pack Q.ty |
|-----------|-------------------|-----------------------------|----------------|-----------|
| 102 | 13230 | 1-10 V dimmable as standard | 810094 | 1 |
| 135 | 17640 | | 810024 | 1 |
| 169 | 22050 | | 810054 | 1 |
| 203 | 26460 | | 810084 | 1 |
| 102 | 13230 | emergency | 810194 | 1 |
| 135 | 17640 | | 810124 | 1 |
| 169 | 22050 | | 810154 | 1 |
| 203 | 26460 | | 810184 | 1 |

Characteristics: typical height of installation between above 9 meters.
Equipment included: support for rapid pendant suspension.
Note: the luminous flux may be subject to a tolerance of +/- 7%.

For use in food industry

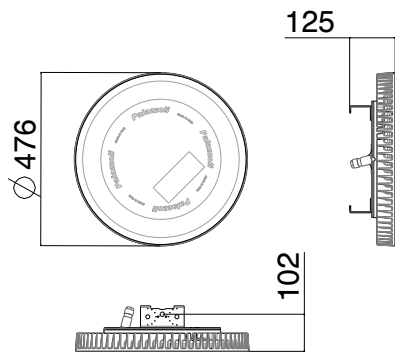


High bay LED lighting fixtures
 HACCP for food industry
polycarbonate diffuser
elliptical light
 distribution **IP66/IP67**



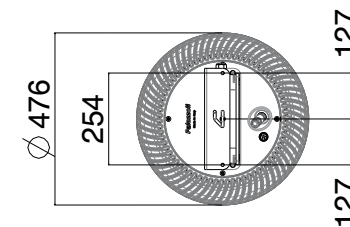
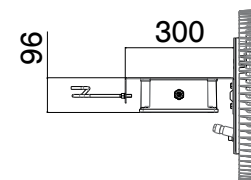
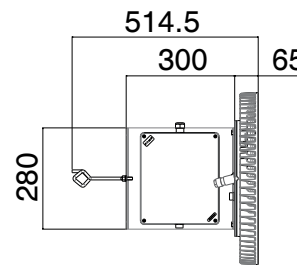
| Power (W) | Nominal flux (lm) | Photometric curve version | Palazzoli code | Pack Q.ty |
|-----------|-------------------|-----------------------------|----------------|-----------|
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| 135 | 17640 | | 810025 | 1 |
| 169 | 22050 | | 810055 | 1 |
| 203 | 26460 | | 810085 | 1 |
| 102 | 13230 | emergency | 810195 | 1 |
| 135 | 17640 | | 810125 | 1 |
| 169 | 22050 | | 810155 | 1 |
| 203 | 26460 | | 810185 | 1 |

Characteristics: suitable to be installed between the aisles of grocery stores, etc.
 Equipment included: support for double chain suspension.
 Note: the luminous flux may be subject to a tolerance of +/- 7%.



EMERGENCY

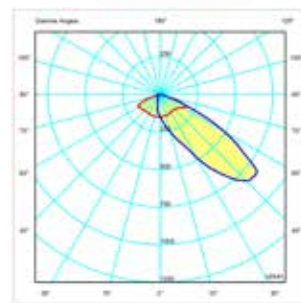
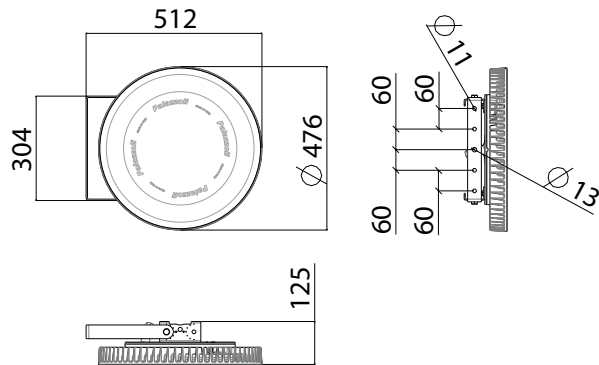
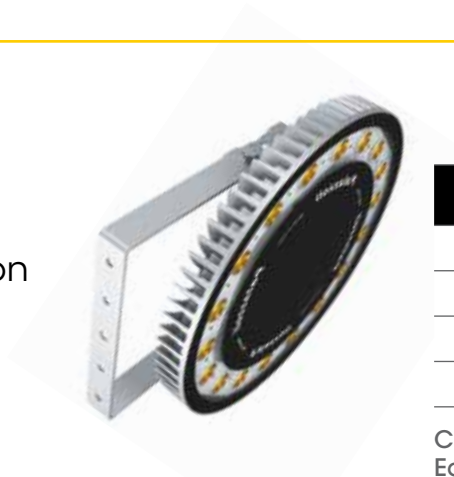
In case of emergency lighting fixtures without UPS, you need:
 code 810992 for 1h
 code 810991 for 3h



For external use



LED floodlights
glass diffuser
asymmetrical light distribution
IP66/IP67



| Power (W) | Nominal flux (lm) | Photometric curve version | Palazzoli code | Pack Qty |
|-----------|-------------------|-----------------------------|----------------|----------|
| 102 | 13230 | 1-10 V dimmable as standard | 810296 | 1 |
| 135 | 17640 | | 810226 | 1 |
| 169 | 22050 | | 810256 | 1 |
| 203 | 26460 | | 810286 | 1 |

Characteristics: suitable for external areas and sport centres.
 Equipment included: adjustable support for mounting on wall or on supporting structures (poles, lighting towers).
 Note: the luminous flux may be subject to a tolerance of +/- 7%.

Accessories



Support brackets for double chain suspension and cable tray suspension

| Manufacturing material | Palazzoli code | Pack Q.ty |
|------------------------|----------------|-----------|
| zincod steel | 810997 | 1 |



Support bracket for 0 - 90° adjustable double chain suspension

| Manufacturing material | Palazzoli code | Pack Q.ty |
|------------------------|----------------|-----------|
| zincod steel | 810996 | 1 |



Support brackets for ceiling mounting

| Manufacturing material | Palazzoli code | Pack Q.ty |
|------------------------|----------------|-----------|
| zincod steel | 810998 | 1 |



Support brackets for horizontal pole mounting 60 mm diameter

| Manufacturing material | Palazzoli code | Pack Q.ty |
|------------------------|----------------|-----------|
| zincod steel | 810995 | 1 |



Adjustable bracket for wall mounting, poles and lighting towers

| Manufacturing material | Palazzoli code | Pack Q.ty |
|------------------------|----------------|-----------|
| zincod steel | 810999 | 1 |



Support for mounting on catenary wire 0 - 90° adjustable

| Manufacturing material | Palazzoli code | Pack Q.ty |
|------------------------|----------------|-----------|
| zincod steel | 810994 | 1 |



Protective guard

| Manufacturing material | Palazzoli code | Pack Q.ty |
|------------------------|----------------|-----------|
| zincod steel | 810993 | 1 |



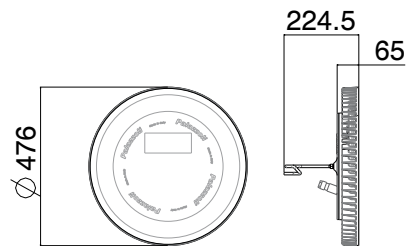
Kit for emergency 1- 3h

| Manufacturing material | Emergency lifetime | Palazzoli code | Pack Q.ty |
|------------------------|--------------------|----------------|-----------|
| aluminium alloy | 1h | 810992 | 1 |
| aluminium alloy | 3h | 810991 | 1 |

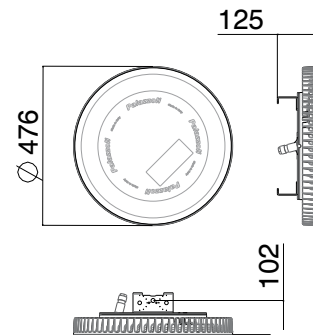
Equipment included: the emergency kit is complete with junction box, battery, inverter and support for rapid pendant suspension. Characteristics: No. 1 M20 entry and No. 1 fast connector output. Note: the support is suitable for double chain suspension.

Dimensions

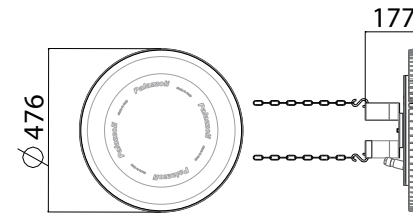
Pendant suspension



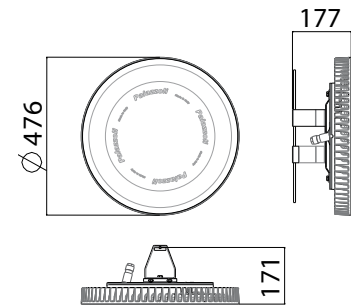
Double chain suspension



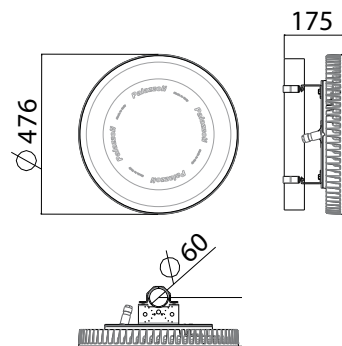
Adjustable double chain suspension



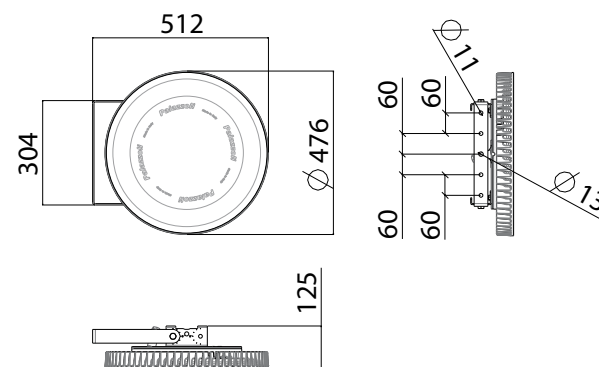
Catenary wire suspension



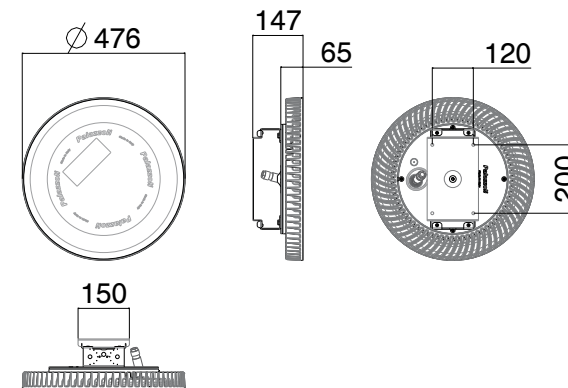
Horizontal pole mounting



Wall mounting with bracket





Ceiling mounting



Other LED solutions





For the industrial application

| | | | | Lumen range | | |
|--|---------------------------|---------------------------------|--------------------|-------------|--------|--------|
| | | | | 3.170 | 5.900 | 8.000 |
| Body | Diffuser | Version | Light distribution | 22 W | 48 W | 58 W |
|  <p>Stainless steel AISI 304</p> | Glass* | Electronic | Extra wide | 822142 | 822242 | 822342 |
| | | | Narrow | | 820242 | 820342 |
| | | 1h emergency (3h on request) | Extra wide | 822140 | 822240 | 822340 |
| | | | Narrow | | 820240 | 820340 |
| | Transparent polycarbonate | Electronic | Extra wide | 828142 | 828242 | |
| | | | Narrow | | 825242 | |
| 1h emergency (3h on request) | | Extra wide | 828140 | 828240 | | |
| | | Narrow | | 825240 | | |
|  <p>Zinc and powder coated steel</p> | Glass* | Electronic | Extra wide | 842142 | 842242 | 842342 |
| | | | Narrow | | 843242 | 843342 |
| | | 1h emergency (3h on request) | Extra wide | 842140 | 842240 | 842340 |
| | | | Narrow | | 843240 | 843340 |
| | Transparent polycarbonate | Electronic | Extra wide | 847142 | 847242 | |
| | | | Narrow | | 845242 | |
| | | 1h emergency (3h on request) | Extra wide | 847140 | 847240 | |
| | | | Narrow | | 845240 | |

*Satin finish glass with extra wide beam, transparent glass with narrow beam

For explosive atmosphere zones 2 and 22

| | | | | Lumen range | | |
|---|-------------------|---------------------------------|--------------------|-------------------------|-------------------------|----------|
| | | | | 3.170 | 5.900 | 8.000 |
| Body | Diffuser | Version | Light distribution | 24 W | 38 W | 44 W |
|  <p>Stainless steel AISI 304</p> | Transparent glass | Electronic | Extra wide | 822142EX | 822242EX | 822342EX |
| | | 1h emergency (3h on request) | Extra wide | 19 W 822140EX | 36 W 822240EX | 822340EX |
|  <p>Zinc coated and powder coated steel</p> | Transparent glass | Electronic | Extra wide | 842142EX | 842242EX | 842342EX |
| | | 1h emergency (3h on request) | Extra wide | 19 W 842140EX | 36 W 842240EX | 842340EX |



Lighting since 1904

High performances and reliability are well-recognized values of all the Palazzoli product range: electrical and lighting equipment for Industrial, Hazardous areas (Atex), Tunnel and Marine applications.

Inside the headquarters of Brescia, located in the north of Italy, our staff of over 300 people serve 5000 dealers worldwide.

The Palazzoli Group, including our two partners in UK, Lewden and CGD, produces a turnover of more than 60 million Euros.

With a comprehensive range of continuously updated products, designers and installers can find solutions incorporating the latest technology, engineered to give long life and durability. Products that maintain their characteristics even in the most demanding areas. LED lighting fixtures for potentially explosive atmospheres (ATEX) and multi-chip LED lighting fixtures for tunnels are clear examples of these features.



Experience and reliability

Our team of experienced lighting product designers, continue to work with specifiers, architects, installers in the public and private sectors looking for excellence in the materials and technological innovation, to meet the ever-changing needs of our customers. The highly skilled services supporting before and after sales make Palazzoli the most reliable partner in the provision of LED lighting with energy saving.

Certified quality

Palazzoli is ISO 9001 certified. All the lighting fixtures are made in Italy and certified for different applications by ENEC, CESI, RINA, ATEX, IECEx and QL (LEDs certified with photobiological safety standards).



Industry



Atex



Tunnel



Marine



MITO  Led

mitoled.com

palazzoli.com

