



MITO  *Led*

Lighting to save

Precise circle of light

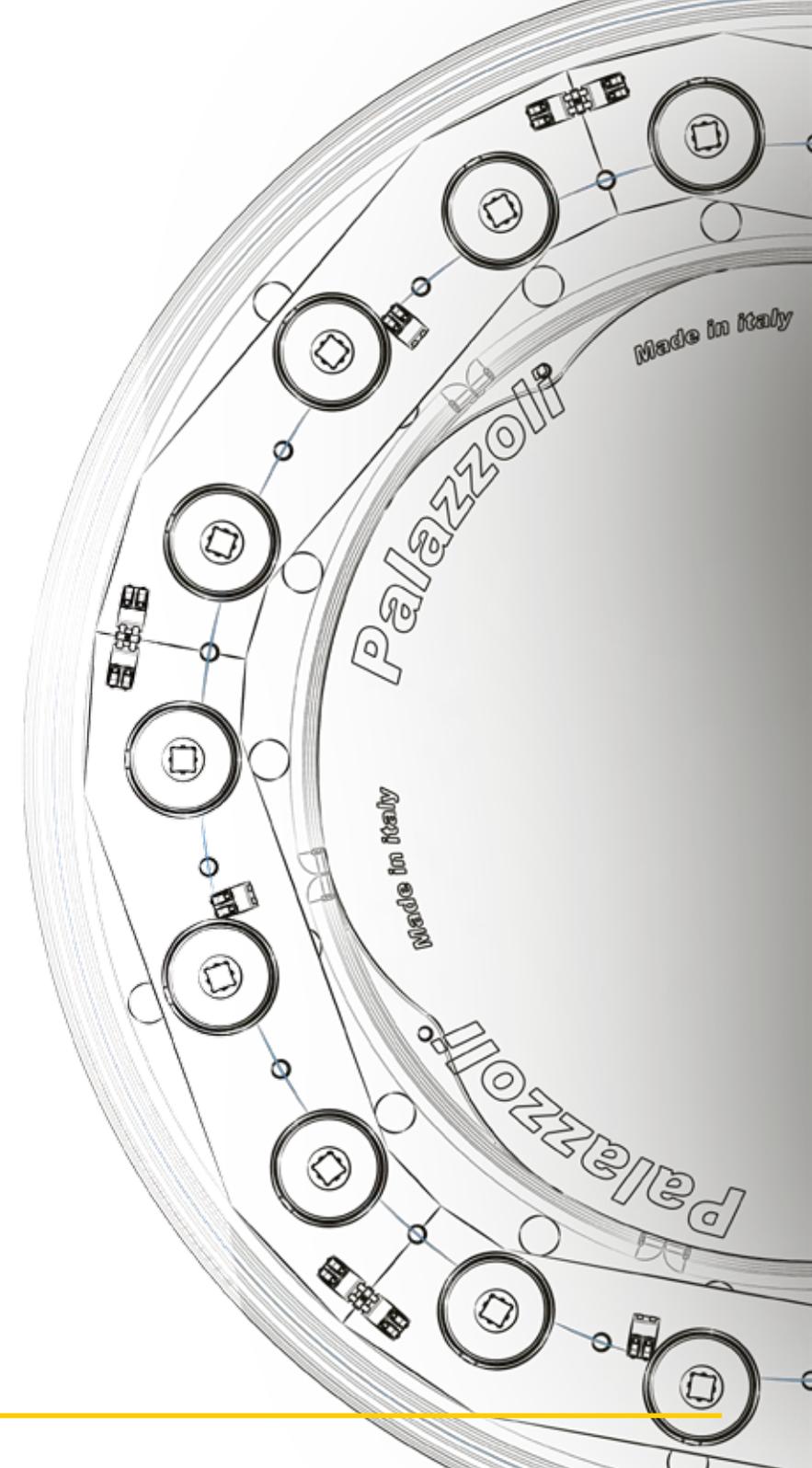
More to MITO Led than the eye can see

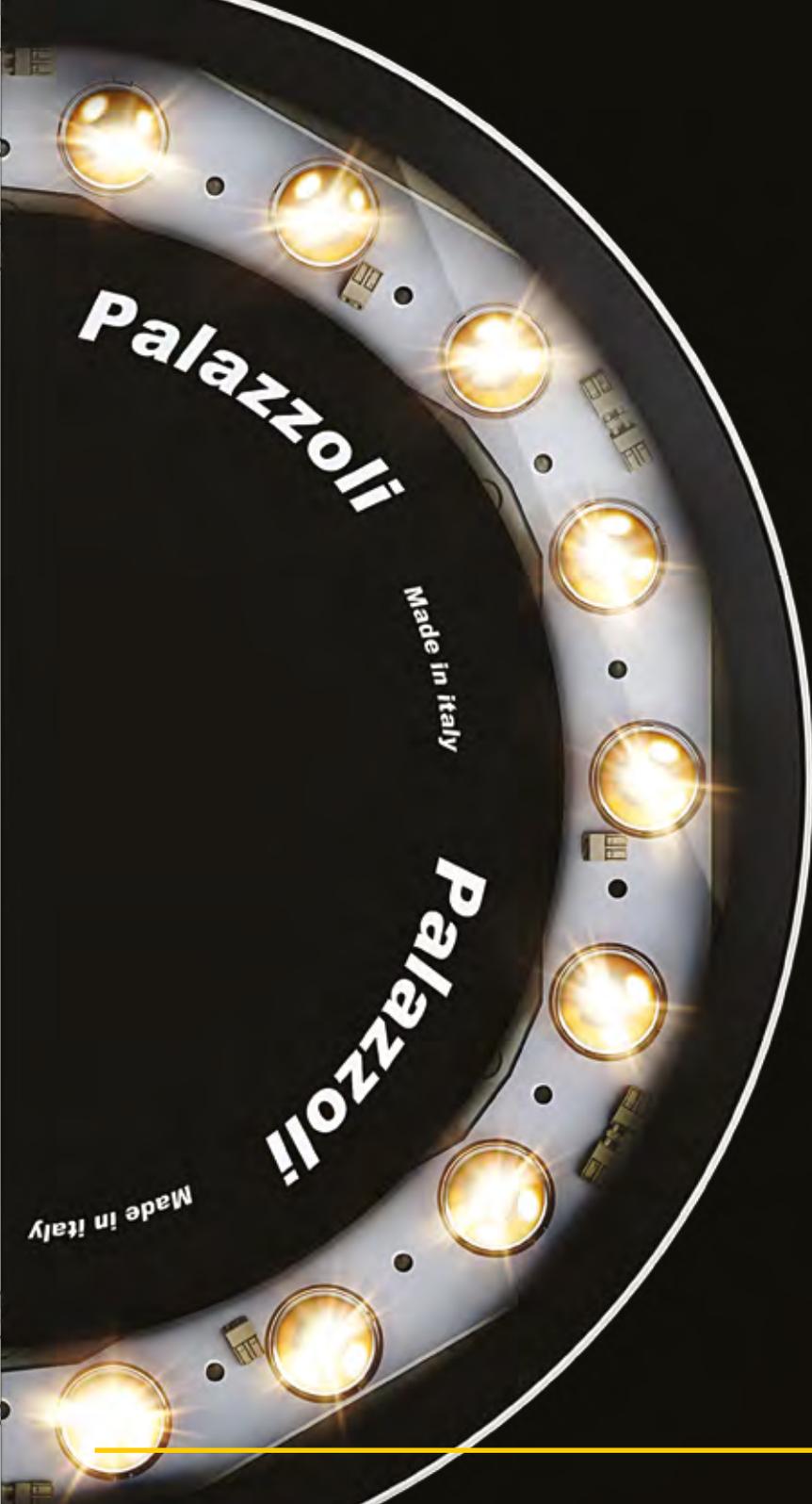
The circular shape of MITO Led

- provides visual comfort
- makes installation "right" first time since circular geometry means no need to orientate
- 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 110.000 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 a number of features:

- selected electronic components
- exclusive heat sink system and thermal management that keep the semiconductors unaltered
- X-ray test for the LED weldings
- severe tests on the 100% with 24h burn-in cycles
- anti-condensation gore-tex® breather valve.

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 110.000 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 – color 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.



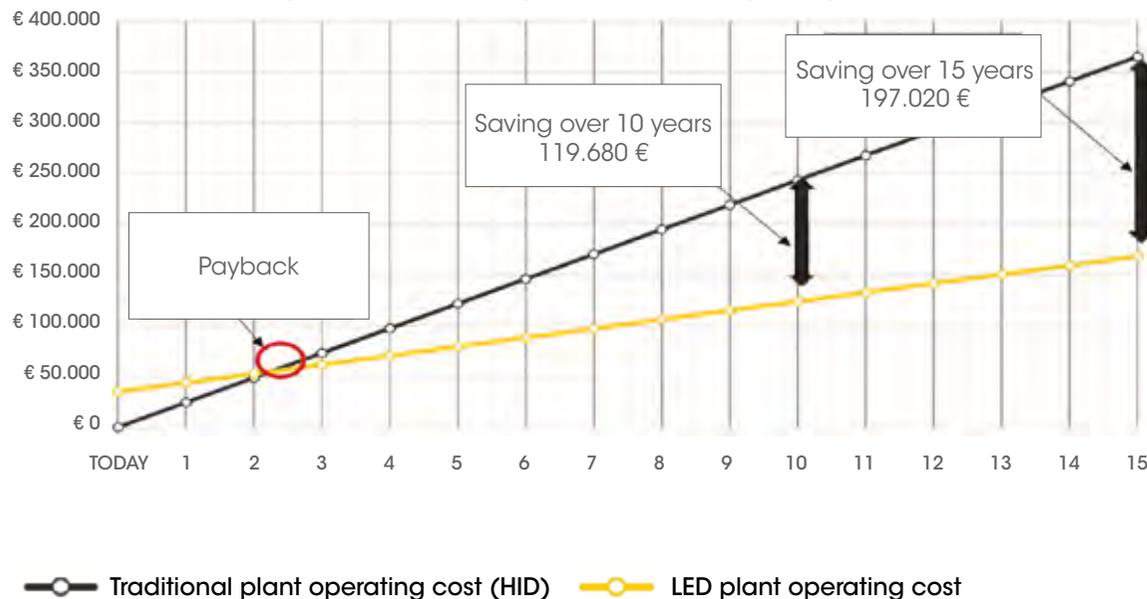
Cost savings

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.palazzolilux.com

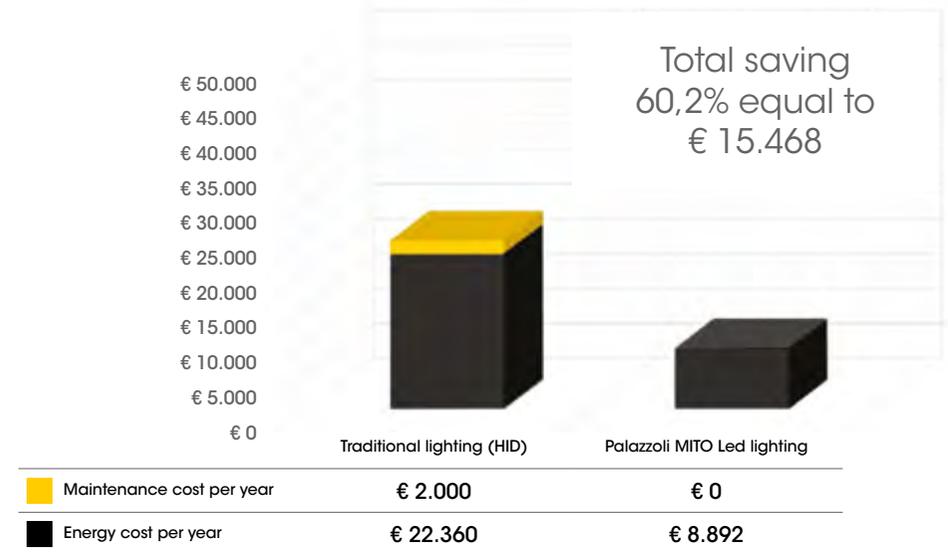
	Traditional lighting (HID)	MITO Led lighting
Number of lighting fixtures	100 pcs	100 pcs
Lighting fixture power	400 W*	171 W
Plant total power	43 kW	17,1 kW
Electric energy cost	0,13 €/kWh	0,13€/kWh
Working hours in 2 shifts	4.000 hours	4.000 hours
Total consumption in 2 shifts	172.000 kWh/year	68.400 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 control 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.palazzolilux.com the photometric curves, datasheets and instruction literature for all the product ranges are available. On www.palazzoli.com you can find the new software masterPROJECTS V 2.0 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.

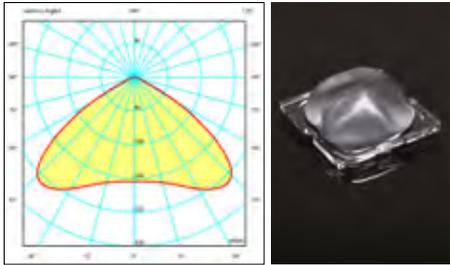
The different light distributions (extra wide, narrow, elliptical and asymmetrical) allow for finding the best solution for the different working applications, guaranteeing the visual comfort and best light performance.

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

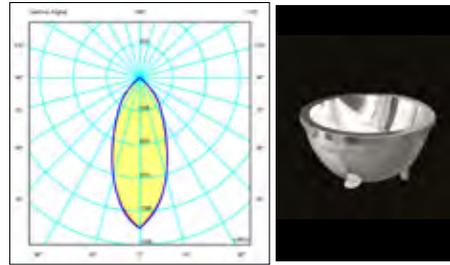
For the installation in food industries, the MITO Led range can be equipped with a diffuser made of UV-resistant polycarbonate satisfying the HACCP requirements.



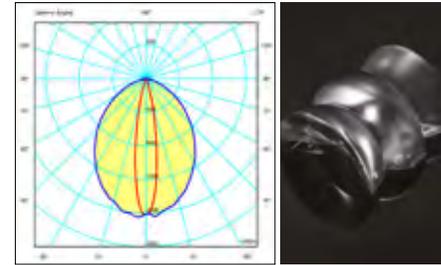
Better lighting for all applications



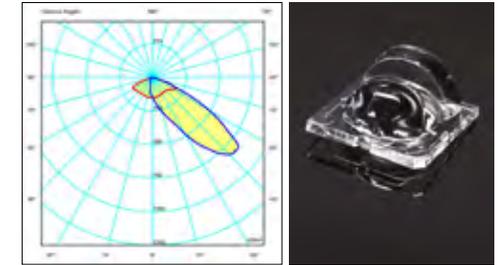
SYMMETRICAL LIGHT DISTRIBUTION
EXTRA WIDE BEAM
 between 5 and 9 meters



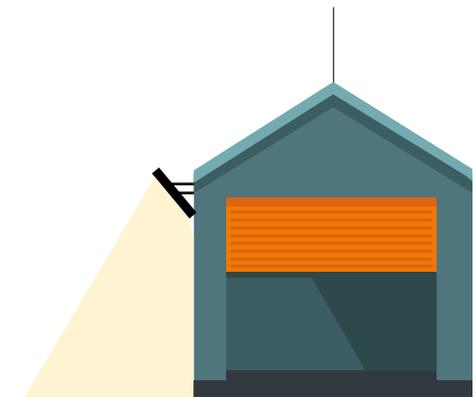
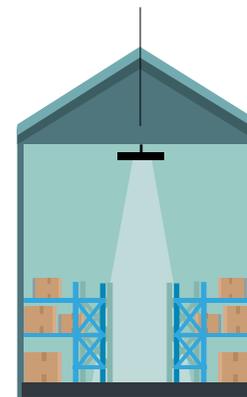
SYMMETRICAL LIGHT DISTRIBUTION
NARROW BEAM
 above 9 meters



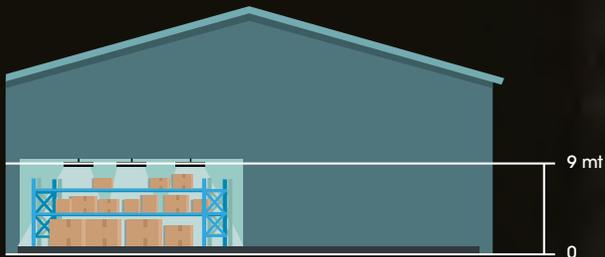
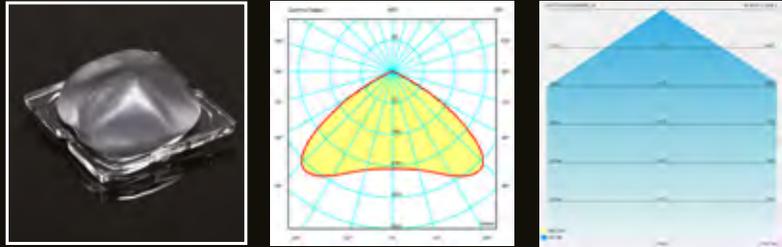
ELLIPTICAL LIGHT DISTRIBUTION
 for narrow corridors



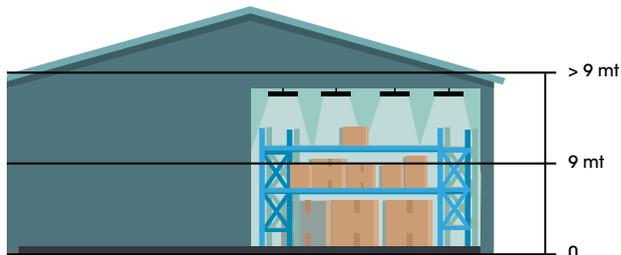
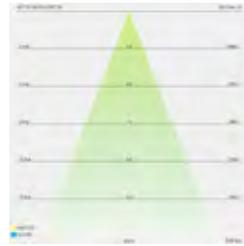
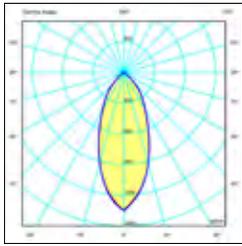
ASYMMETRICAL LIGHT DISTRIBUTION
 for external areas (bracket fixing)



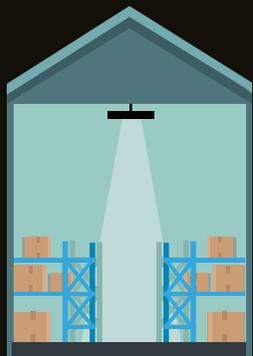
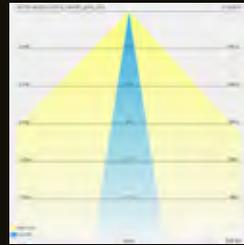
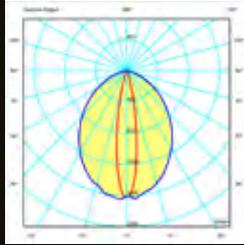
For heights between 5 and 9 meters
with symmetrical light distribution 100° extra wide



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

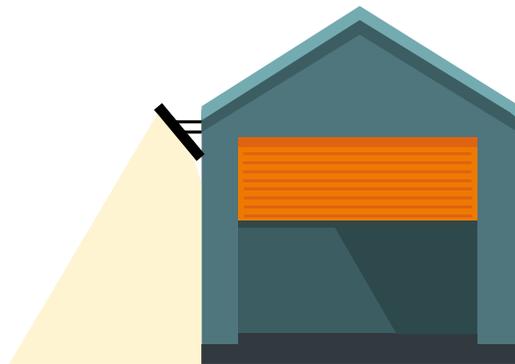
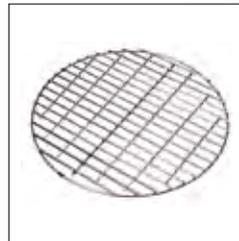
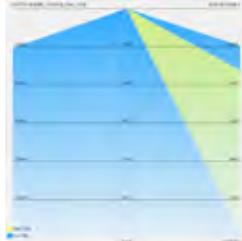
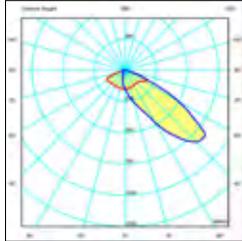


For the warehouse aisles with elliptical light distribution



For external areas and sport centres

with roadway light distribution and asymmetrical light distribution



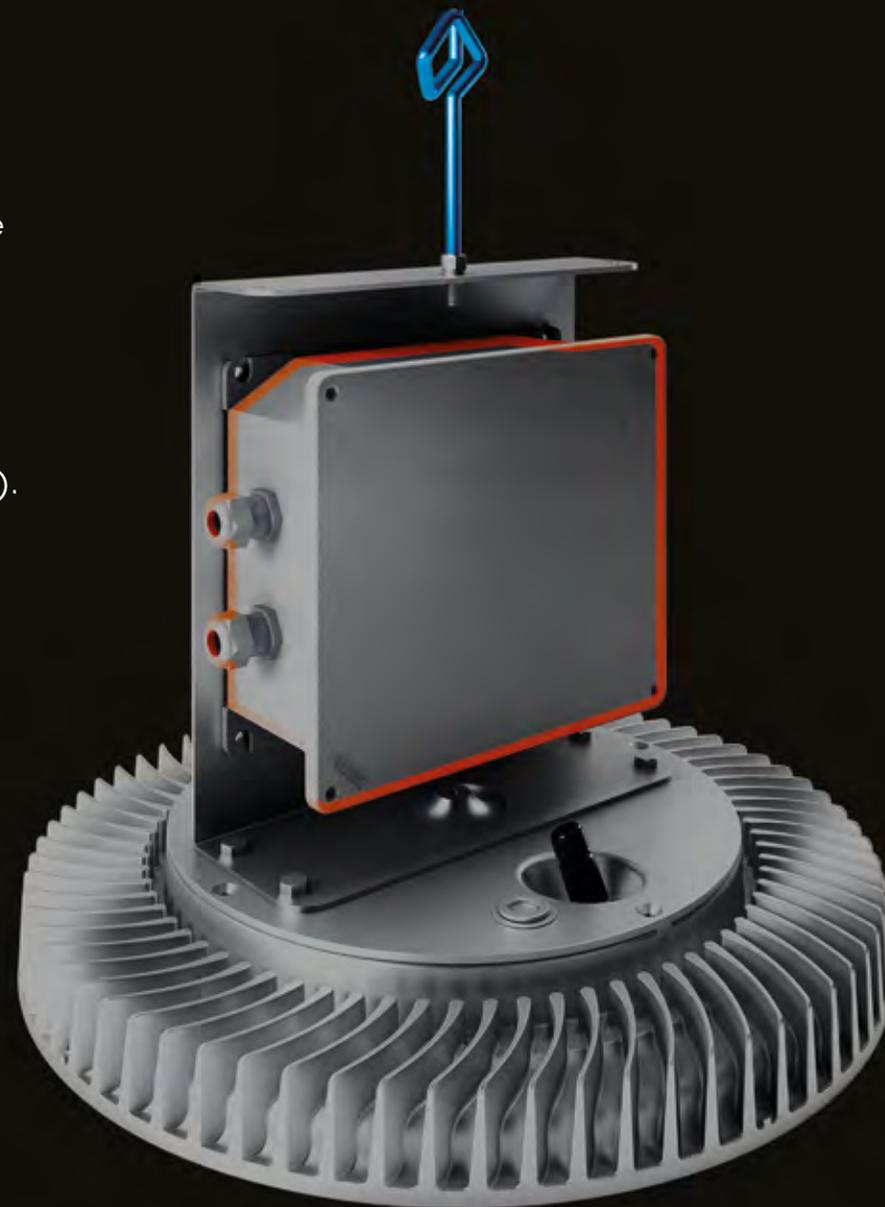
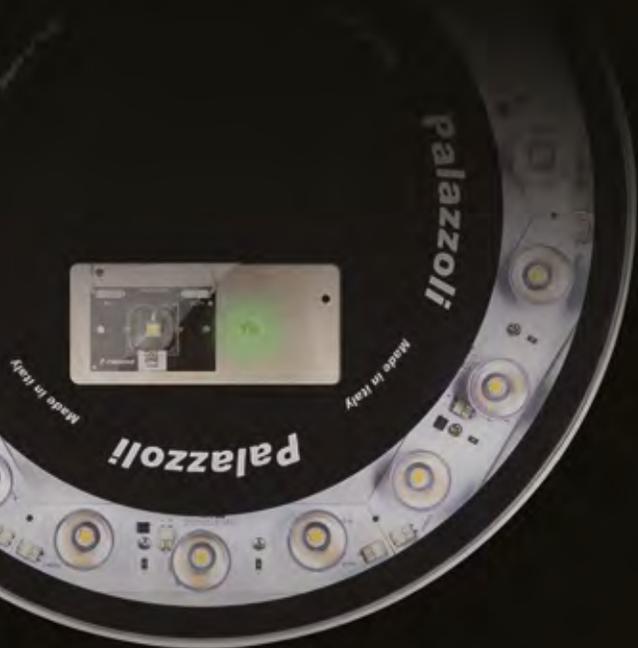
For a better resistance to impacts the protective guard is available as an accessory.



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.

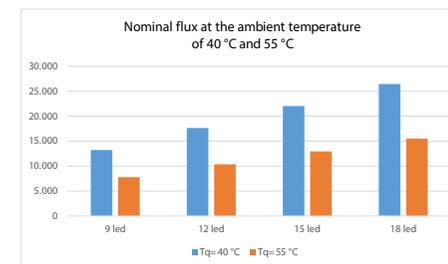
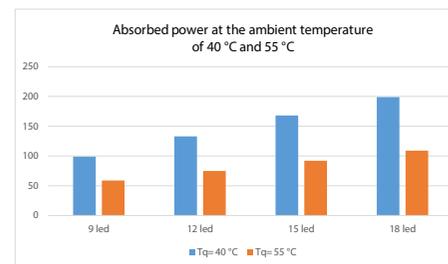
The polycarbonate diffuser version makes the device suitable to be installed in food industries compliant with the HACCP standards. The different light distributions, extra wide, narrow, elliptical and asymmetrical, with UGR < 22, allow for finding the best solution for the different working applications, guaranteeing the visual comfort and best light performance.

Conformity to standards

Directive 2014/35/UE
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/UE
EN 62493: 2015
Directive 2011/65/UE
ENEC approval in progress

The photometric curves (LDT files) are available on www.palazzolilux.com

Body material	Aluminium alloy EN 46100
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
Color	RAL 7011
Resistance to impacts (IK rating as per IEC/EN 62262)	IK08
Corrosion class	C3 as per ISO 9223
Weight	9,5 Kg max
LED device efficiency	≥ 106 lm/W
Color temperature	4000 K (other temperatures on request)
CRI	≥ 80
Insulation class	I (II on request)
Rated voltage	200-240 V 50-60 Hz (others on request)
Protection against surge discharges	10 kV common mode 6 kV differential mode EN 61000 (10 kV on request)
Residual flicker	≥ 1
Photobiological risk	RG0
Unified Glare Rating (UGR)	UGR < 22
Power factor	≥ 0,95
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 @110.000h Tq=-30 °C - +40 °C
Storage temperature	-40 °C - +70 °C
Operating temperature	-30 °C - +40 °C on request up to +55 °C or other special configurations



For industrial application



DALI AND 1-10 V
DIMMABLE

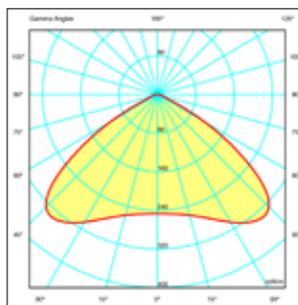
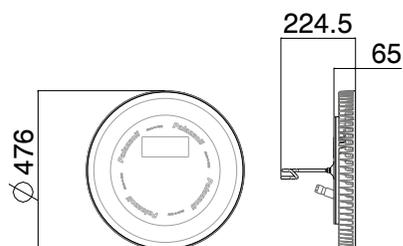


5 YEARS
WARRANTY



ENERGY SAVING
UP TO 60%

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



Power (W)	Nominal flux (lm) Tj= 25 °C	Version	Palazzoli code	Pack Q.ty
99	13.230	1-10 V dimmable as standard	810090	1
133	17.640		810020	1
168	22.050		810050	1
199	26.460	emergency	810080	1
99	13.230		810190	1
133	17.640		810120	1
168	22.050		810150	1
199	26.460		810180	1

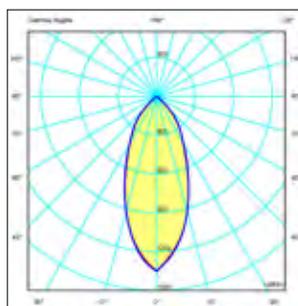
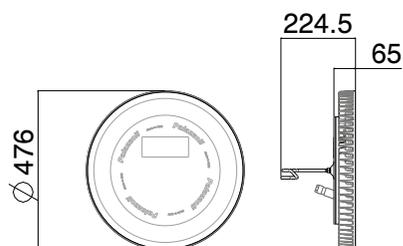
Equipment included: support for rapid pendant suspension.

Electrical supply through rapid connector.

Characteristics: typical height of installation between 5 and 9 meters.

Note: the luminous flux may be subject to a tolerance of +/- 7%.

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



Power (W)	Nominal flux (lm) Tj= 25 °C	Version	Palazzoli code	Pack Q.ty
99	13.230	1-10 V dimmable as standard	810091	1
133	17.640		810021	1
168	22.050		810051	1
199	26.460	emergency	810081	1
99	13.230		810191	1
133	17.640		810121	1
168	22.050		810151	1
199	26.460		810181	1

Equipment included: support for rapid pendant suspension.

Electrical supply through rapid connector.

Characteristics: typical height of installation above 9 meters.

Note: the luminous flux may be subject to a tolerance of +/- 7%.

For industrial application



DALI AND 1-10 V
DIMMABLE



5 YEARS
WARRANTY

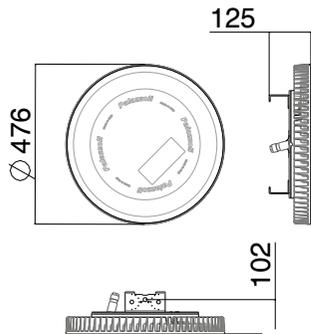
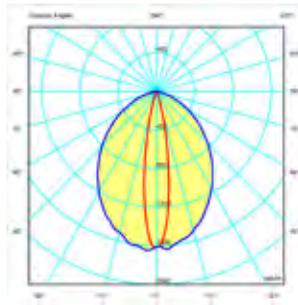


IP66
IP67



ENERGY SAVING
UP TO 60%

High bay LED lighting fixtures
glass diffuser
elliptical light distribution
IP66



Power (W)	Nominal flux (lm) Tj= 25 °C	Version	Palazzoli code	Pack Q.ty
99	13.230	1-10 V dimmable as standard	810092	1
133	17.640		810022	1
168	22.050		810052	1
199	26.460	emergency	810082	1
99	13.230		810192	1
133	17.640		810122	1
168	22.050		810152	1
199	26.460	810182	1	

Equipment included: support for double chain suspension.

Electrical supply through rapid connector.

Characteristics: suitable to be installed between the aisles of industrial warehouses, etc.

Note: the luminous flux may be subject to a tolerance of +/- 7%.

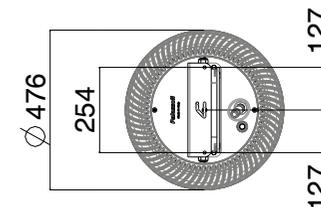
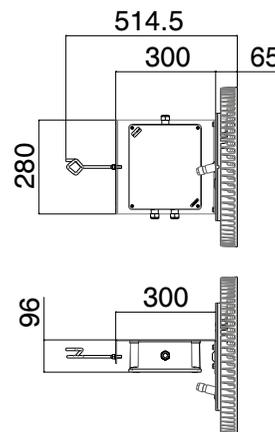


EMERGENCY

In case of emergency lighting fixtures without UPS, you need:

code 810992 for 1h

code 810991 for 3h



For use in food industry



DALI AND 1-10 V
DIMMABLE

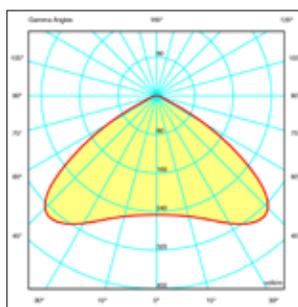
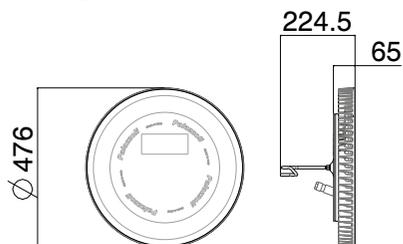


5 YEARS
WARRANTY



ENERGY SAVING
UP TO 60%

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



Power (W)	Nominal flux (lm) Tj= 25 °C	Version	Palazzoli code	Pack Q.ty
99	13.230	1-10 V dimmable as standard	810093	1
133	17.640		810023	1
168	22.050		810053	1
199	26.460	emergency	810083	1
99	13.230		810193	1
133	17.640		810123	1
168	22.050		810153	1
199	26.460	810183	1	

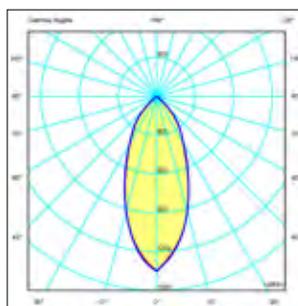
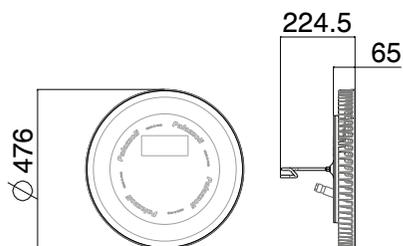
Equipment included: support for rapid pendant suspension.

Electrical supply through rapid connector.

Characteristics: typical height of installation between 5 and 9 meters.

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
IP66/IP67



Power (W)	Nominal flux (lm) Tj= 25 °C	Version	Palazzoli code	Pack Q.ty
99	13.230	1-10 V dimmable as standard	810094	1
133	17.640		810024	1
168	22.050		810054	1
199	26.460	emergency	810084	1
99	13.230		810194	1
133	17.640		810124	1
168	22.050		810154	1
199	26.460	810184	1	

Equipment included: support for rapid pendant suspension.

Electrical supply through rapid connector.

Characteristics: typical height of installation between above 9 meters.

Note: the luminous flux may be subject to a tolerance of +/- 7%.

For use in food industry



DALI AND 1-10 V
DIMMABLE



5 YEARS
WARRANTY

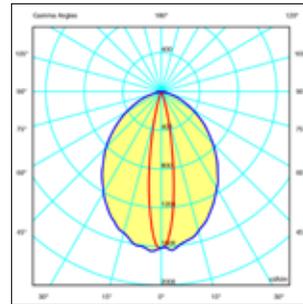
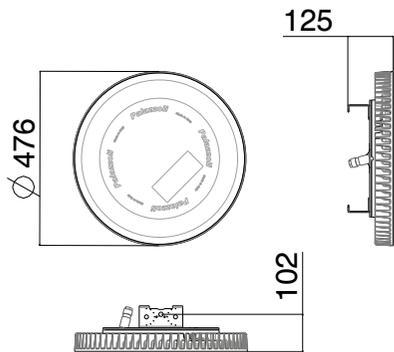


IP66
IP67



ENERGY SAVING
UP TO 60%

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



Power (W)	Nominal flux (lm) T _j = 25 °C	Version	Palazzoli code	Pack Q.ty
99	13.230	1-10 V dimmable as standard	810095	1
133	17.640		810025	1
168	22.050		810055	1
199	26.460		810085	1
99	13.230	emergency	810195	1
133	17.640		810125	1
168	22.050		810155	1
199	26.460		810185	1

Equipment included: support for double chain suspension.

Electrical supply through rapid connector.

Characteristics: suitable to be installed between the aisles of grocery stores, etc.

Note: the luminous flux may be subject to a tolerance of +/- 7%.

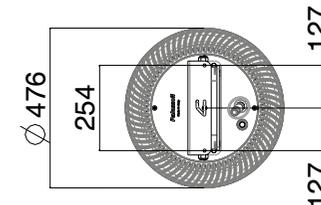
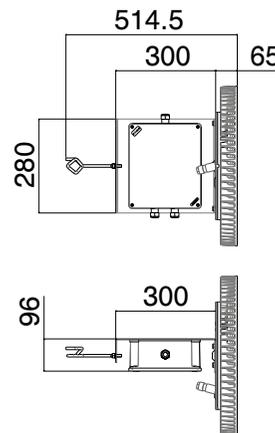


EMERGENCY

In case of emergency lighting fixtures
without UPS, you need:

code 810992 for 1h

code 810991 for 3h



For external use



DALI AND 1-10 V
DIMMABLE



5 YEARS
WARRANTY



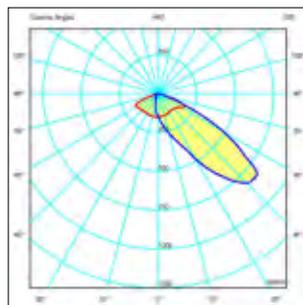
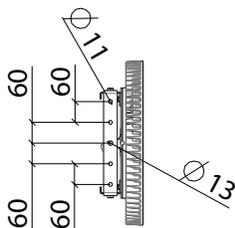
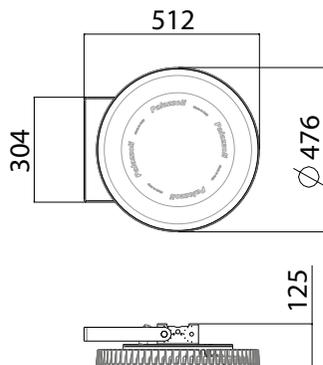
ENERGY SAVING
UP TO 60%

LED floodlights

glass diffuser

asymmetrical light distribution

IP66/IP67



Power (W)	Nominal flux (lm) T _j = 25 °C	Version	Palazzoli code	Pack Q.ty
99	13.230		810296	1
133	17.640	1-10 V dimmable as standard	810226	1
168	22.050		810256	1
199	26.460		810286	1

Equipment included: adjustable support for mounting on wall or on supporting structures (poles, lighting towers). Electrical supply through rapid connector.

Characteristics: suitable for external areas and sport centres.

Note: the luminous flux may be subject to a tolerance of +/- 7%.

For ATEX zone 22



DALI AND 1-10 V
DIMMABLE



5 YEARS
WARRANTY



ENERGY SAVING
UP TO 60%

ZONE	GAS			DUST		
	0	1	2	20	21	22
USABLE						X



MITO Led EX lighting fixtures in aluminium alloy are suitable for applications in areas at risk of explosive atmospheres as defined in ATEX Directive 2014/34/EU.

MITO Led EX 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.

Conformity
to ATEX
standards

Directive 2014/34/UE
EN 60079-0: 2012 + A11:2013
EN 60079-31:2014
Directive 2011/65/UE

ATEX
execution

II 3D
Ex tc IIIC T100 °C Dc

Protection rating
(IP as per
IEC/EN 60529)

IP66

Colour RAL 9005

Entry cable M20 ATEX cable gland



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

Power (W)	Nominal flux (lm) Tj= 25 °C	Version	Palazzoli code	Pack Q.ty
99	13230	1-10 V dimmable as standard	810090EX	1
133	17.640		810020EX	1
168	22.050		810050EX	1
199	26.460		810080EX	1

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

Power (W)	Nominal flux (lm) Tj= 25 °C	Version	Palazzoli code	Pack Q.ty
99	13.230	1-10 V dimmable as standard	810091EX	1
133	17.640		810021EX	1
168	22.050		810051EX	1
199	26.460		810081EX	1

High bay LED lighting fixtures glass diffuser elliptical distribution IP66

Power (W)	Nominal flux (lm) Tj= 25 °C	Version	Palazzoli code	Pack Q.ty
99	13.230	1-10 V dimmable as standard	810092EX	1
133	17.640		810022EX	1
168	22.050		810052EX	1
199	26.460		810082EX	1

LED floodlights glass diffuser asymmetrical distribution IP66

Power (W)	Nominal flux (lm) Tj= 25 °C	Version	Palazzoli code	Pack Q.ty
99	13.230	1-10 V dimmable as standard	810296EX	1
133	17.640		810226EX	1
168	22.050		810256EX	1
199	26.460		810286EX	1

The other technical characteristics are the same of the standard product, please see page 19.

The technical data sheets are available on the website www.palazzoli.com

Accessories



Support brackets for double chain suspension and cable tray suspension

Manufacturing material	Palazzoli code	Pack Q.ty
zinc steel	810997	1



Support bracket for 0 - 90° adjustable double chain suspension

Manufacturing material	Palazzoli code	Pack Q.ty
zinc steel	810996	1



Support brackets for ceiling mounting

Manufacturing material	Palazzoli code	Pack Q.ty
zinc steel	810998	1



Support brackets for horizontal pole mounting 60 mm diameter

Manufacturing material	Palazzoli code	Pack Q.ty
zinc steel	810995	1



Adjustable bracket for wall mounting, poles and lighting towers

Manufacturing material	Palazzoli code	Pack Q.ty
zinc steel	810999	1



Support for mounting on catenary wire 0 - 90° adjustable

Manufacturing material	Palazzoli code	Pack Q.ty
zinc steel	810994	1



Protective guard

Manufacturing material	Palazzoli code	Pack Q.ty
zinc steel	810993	1



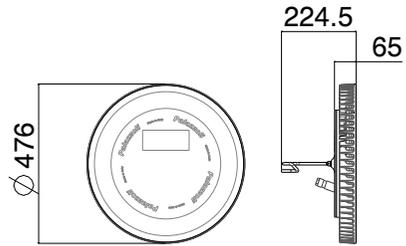
Kit for emergency 1- 3h

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

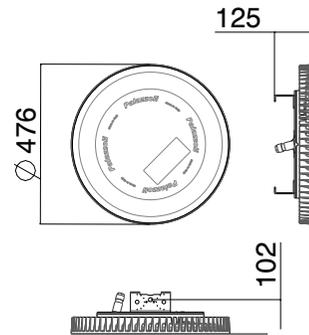
Equipment included: the emergency kit is complete with junction box, battery, inverter and support for rapid pendant suspension.
Characteristics: No. 1 M20 entry and No. 1 fast connector output.
Note: the support is suitable for double chain suspension.

Dimensions

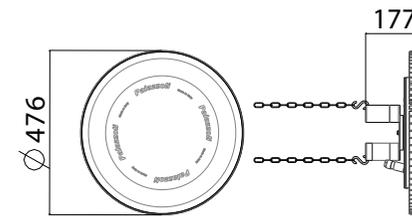
Pendant suspension



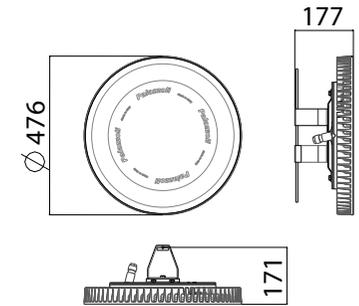
Double chain suspension



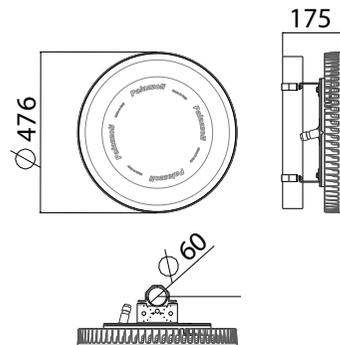
Adjustable double chain suspension



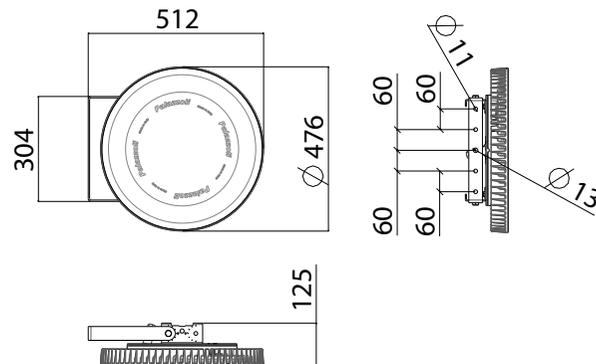
Catenary wire suspension



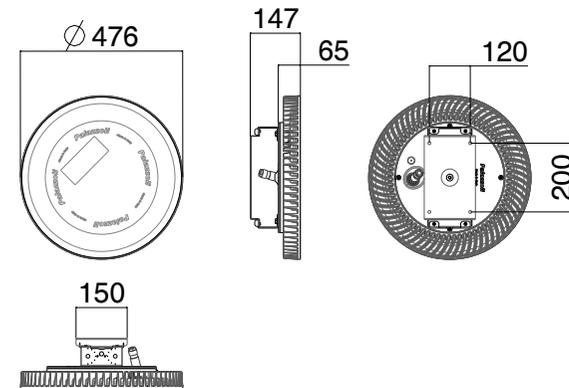
Horizontal pole mounting



Wall mounting with bracket



Ceiling mounting



Other LED solutions

For industrial applications

				Lumen range		
				3.170	5.900	8.000
Body	Diffuser	Version	Light distribution	22 W	48 W	58 W
 Stainless steel AISI 304	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		
 Zinced and powder coated steel	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 ranges: 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, 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