

CATALOGUE

For further information: www.greenledindustry.com Data subject to change Updated: March,10 2017 Last Printed in 2017

GREENLED INDUSTRY AN ITALIAN SUCCESS STORY





Has its origins in a research project carried out by the company TSI SrI that develops innovative LED luminaires. The heart of this appliance "beats" in a different way and allows to a well-established lighting system to achieve excellent performances.

The TSI research project has soon turned into a real industrial project, the small research company was taken over by Business Italeaf Spa, the holding company listed on the Nasdaq on the Stockholm exchange that is now holding the majority stake of Terni Energia SpA, a leader in the sector of energy in Italy.

In 2012, from JV, the fusion of TSI and Italeaf gave birth to Greenled SrI that, thanks to the financial resources of Italeaf SpA, received the capital required for the development of its first product. Now, that innovative beating heart is surrounded by further lighting technologies able to guarantee duration and operation in extreme conditions.

In 2013, the company was pushed further by changing its face with new industrial products under the brand Greenled Industry SpA. They can be applied in the most extreme conditions: steelworks and glassworks, thus showing that real performances can even exceed the laboratory ones.

From then on, a series of successes followed one another: thanks to an internationalization process, the company of Italeaf has opened its international sites in London and Hong Kong and maintained its productive factory in the Green Heart of Italy. Greenled Industry, a well-established company on the national and European market, has recently opened a new production plant in Novara, with the development of product lines known as Office, Commercial and Torri Faro.

Thanks to the acquisition of new know-how, continuous research and development of new technologies, today the product range offered by Greenled Industry is able to meet all the lighting needs of industries and the service sector, thus achieving a leading position in the most extreme applications of the LED technology.



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THE HISTORY OF THE LED

LED stands for Light Emitting Diode, a semiconductor diode able to generate instantly a light radiation with the passage of electrical charges. After several years of experimentation, the Power LED was developed: a particular type of diode, powered by higher driving currents than a traditional LED (> 700mA), which allows to dissipate in a more efficient way the heat produced by the light source making it especially appropriate for professional applications or high level lighting. This technology and a strong spirit of experimentation gave life to the Greenled Industry products, leaders in the sector in terms of long lifetime and extreme applications.

HOW TO CHOOSE A LED LUMINAIRE?

LUMINOUS EFFICIENCY (Lm/W) The REAL light output compared to the energy

consumed is the first assessment parameter for a luminaire. The plate data are in fact less important than the real consumption measured as a function of the yield of lumens.

OPERATING TEMPERATURE RANGE

Many LED luminaires stop working in extreme working conditions, such as high or low temperatures. It is in these very conditions that the use of heat-sinks and the driving currents of the power supplies start to make a difference.

ENERGY CONSUMPTION DURING THE SERVICE LIFE

The real system luminous efficiency, together with the lifetime of the lamp, are the real values that you buy when you choose a LED luminaire. The economic benefit can be easily calculated by multiplying the savings obtained from every hour of power on, compared to the traditional technology, for the useful life of the luminaire itself.

WARRANTY

Today, all producers of LED luminaires like to say that their luminaires have a lumen maintenance equal to 50,000 hours. Yet, how many of them can achieve 150,000?

As a matter of fact, this is the main parameter to be taken into account when choosing a new lighting system, otherwise that will only be true theoretically.

CERTIFICATIONS



CERTIFICATION UNI EN ISO 9001:2008 "Quality Management Systems"

CEI EN 62471 Photo-biological safety for lamps and lamp systems

CEI EN 55015 Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment and of similar equipment

CEI EN 61000-3-2 Electromagnetic compatibility (EMC) – Part 3-2 Limits – Limits for harmonic current emissions (input current equipment <=16A per phase)

CEI EN 61000-3-3 Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limits for voltage variations, voltage fluctuations and of the flicker in low-voltage supply systems for equipment with rated current <= 16A per phase and not subject to conditional connection

CEI EN 61000-4-2 Electromagnetic compatibility (EMC) Part 4-2: Testing and measurement techniques - Immunity tests with discharges of static electricity

CEI EN 61000-4-3 Electromagnetic compatibility(EMC) – Part 4-3: Testing and measurement techniques – Test of immunity to electromagnetic fields to electromagnetic radiation

CEI EN 61000-4-4 Electromagnetic compatibility(EMC) – Part 4 - 4: Testing and measurement techniques – Test of immunity to transients/ fast electrical pulses

CEI EN 61000-4-5 Electromagnetic compatibility (EMC) – Part 4-5: Testing and measurement techniques – Test of immunity to pulse

CEI EN 61000-4-6 Electromagnetic compatibility (EMC) Part 4-6: Testing and measurement techniques – Immunity to disturbances conducted, induced by radiofrequency fields

CEI EN 61000-4-11 Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Tests of immunity to voltage dips, short interruptions and voltage variations

CEI EN 61547 Equipment for general lighting purposes – EMC Immunity prescriptions

CEI EN 60598-1 Lighting equipment - Part 1: General prescriptions and tests

CEI EN 60598-2-3 Lighting equipment – Part 2-3: Special prescriptions – Road lighting equipment

CEI EN 60598-2-3/EC Lighting equipment- Part 2-3: Special prescriptions- Lighting equipment

CEI EN 62031 LED modules for general lighting purposes - Safety specifications

CEI EN 61347-2-13 Lamp control gear. Part 2-13: Special prescriptions for electronic supply units supplied by direct or alternating current for LED modules

CEI EN 60529 Degrees of protection provided by enclosures (IP code)

UNI EN 13032-1:2012 Light and lighting solutions – Measurement and presentation of photometric data of lamps and luminaires – Part 1: Measurement and file format

Directive 2004/108/CE DIRECTIVE 2004/108/CE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of February 11th 2004 regarding the approximation of the laws of the Member States, related to the electromagnetic compatibility and repealing directive 89/336/CEE.



"THE LED FACTORY THAT YOU CAN VISIT WITHOUT TAKING A FLIGHT"

Letter from the President

Dear Customer,

the catalogue you are about to read is not just a conventional technical and institutional catalogue to which you have been quite probably used so far. We have been presenting you our company, our history, a brief overview of the LED world and our quality certifications, which is all quite normal, let me say, or even trivial.

What you are going to see now are instead our FLAGSHIPS, the way we make a difference on the market, the best possible use that we can make and the added value we can bring to our customers and their companies. From this page on, you can understand what buying a Greenled Industry product means, not just any LED ceiling light.

Besides the technical features of our products and services useful to your work described in the following pages, in every technical file of our catalogue, you'll find:

WARRANTIES

Thanks to the type of components used and to the top design, Greenled Industry can guarantee a duration of its luminaires higher than 3 times compared to the market standard. Besides the product warranty, Greenled Industry is able to guarantee a light efficiency performance higher than 80% with up to 150,000 hours of power on.

PLUS

ECONOMIC SAVINGS

Thanks to the Greenled Industry warranties, when you choose one of our products, you are actually buying a GUARAN-TEED SAVE. If you compare the lumen yield of a Greenled ceiling light with a traditional ceiling light, you will see that in order to generate the same amount of light, at least 50% less of energy will be consumed. If you multiply this save by the SERVICE LIFE GUARANTEED of the appliance, you will find out how much saving we are buying with the selection of a Greenled Industry product.

PLUS

REAL LUMEN/WATT RATIO

What is often reported in the catalogues on the market are the plate "data" of the marketed products. Many companies market products coming from Eastern Asia without even checking if these data are real. If you buy a Greenled Industry product, you can be sure that the ratio between the light output and energy consumption is actually the one stated, measured in a laboratory with the right advanced instruments.

OPERATIONAL TEMPERATURE RANGE

PLUS



Before being marketed, all Greenled Industry products must pass a very strict validation stage.

From design to sale, up to 18-24 months can go by, during which our products are tested both in a laboratory and in the most extreme use conditions, where they undergo the strictest tests. The temperature range reported in the catalogue does not result from the laboratory tests but from REAL tests.

TECHNOLOGY

In the Green Heart of Italy, the beating heart of all Greenled Industry luminaires was developed. In our laboratories, advanced technologies have been developed and patented that allow us to beat the main competitors in terms of light output, consumption and duration.

These are our secret ingredients:

ITR PERFORMANCE DRIVER

Built-in energy storage for the line "Industrial", designed to be exclusively used for supplying power LEDs. Thanks to the design technology of the double-sided PCS, to the use of electronic components with an extended temperature range and the lack of electrolytic capacitors, the storage guarantees high standards in terms of efficiency and duration, with more than 150.000 hours of operation in extreme environments.

The energy storage module is provided with two independent protections against short circuits and excessive power absorption, such protections prevent from any breakage and guarantee the operation once the errors have been eliminated.

ULTRA STRENGHT SYSTEM

The innovative design of the systems "Industrial" consists in using a high heat dissipation resin in which all the electrical and electronic components are plunged.

Such a process avoids the need to use glass and allows an efficient heat dissipation guaranteeing at the same time maximum efficiency, duration and strength to shocks and vibrations, as well as total protection against dust and water, by ensuring also the electrical isolation of the equipment.

ITRPLED CONTROL SYSTEM

The luminaires can be provided with remote control functions, as well as with the possibility to regulate the luminous flux integrated in the remote control system. If requested by the customer, luminaires can communicate among each other through a new wireless ZigBee technology.

The ZigBee technology is based on radio connection with 2.4 GHz ISM band, thus overcoming all problems related to traditional analog and/or digital cabling; the ZigBee solution allows to reduce installation costs and guarantees higher reliability of the luminaire. The functions implemented in the remote control are:

- 1. **Constant maintenance of the brightness** through the automatic management of the LEDs (recovery of 1% every 12 months);
- 2. **Automatic dimming** of the brightness according to semi-static calendar. The possibility of changing dimming (optional) from remote control and/or a laptop is also provided;
- 3. Executing commands (Power on , power off, partialization) sent from remote center;
- 4. **Operational data detection** (Voltage, Current, Temperatures, Worked Hours) to be communicated day by day to the remote center;
- 5. Self-testing and automatic sending of alarms to remote center in case of partial/total malfunction;
- 6. **Total operational autonomy from the remote center**, it can work correctly with the parameters set in the factory also in case of absence of communication (in this case, only telemetry and management of the ON/OFF function as per calendar) are excluded.

SERVICES

Nowadays, a product company cannot only take care of the product, that's why Greenled Industry completes its line with two important services for LED technology:

FINANCE CARE SERVICE

Greenled Industry allows you to get profits out of your lighting appliance through financing solutions that combine efficiency-related savings and profits.

Thanks to agreements with the main Bank Institutes and Operating Leasing Companies, Greenled Industry provides its customers with the customized financing solutions able to support the final customer's needs.

In times as the one we are living when liquidity means to a company as much as oxygen to human beings, being able to innovate without resorting to one's own financial resources is the base for an excellent investment.

For this very reason, Greenled Industry has defined two support lines:

Operational leasing

With this solution, the final customer can have design, supply and installation of the new collection of turn-key lamps without having to worry about the financial resources required. Moreover, thanks to a service of 0&M and all-risk insurance, the investment has no technological risks. The initial cost will be divided in constant monthly **customized instalments**, so to be totally covered by the energy savings obtained. Moreover, the fee may be completely deductible for Irap tax purposes and the costs incurred will have no impact on the company's balance sheet.

Third-party financing

For bigger interventions, customers can avail themselves of primary partner ESCo, allowing to upgrade the lighting plant at no cost. The ESCo will invest directly, by financing the whole intervention thus guaranteeing its own gain on the investment thanks to the energy savings obtained. The savings obtained are calculated and paid back with a guaranteed result by ESCo.

The final customer could benefit from a turn-key solution that includes the supply, design, installation, maintenance and financing of the appliance, all without any risk for its activity. This solution will also give the opportunity to obtain Energy Efficiency Certificates, the so-called White Certificates, trying to further optimize the operation profitability.

PROJECT CARE SERVICE

A well-conceived lighting project can contribute enormously to the comfort and quality of the environments and allows to obtain important efficiency results.

Our Design Office, composed of a staff of experts with high multidisciplinary skills is able to design and make appliances that guarantee efficiency, lighting and safety of the environments. Starting from the analysis and the characteristics of the place and objects to be illuminated, we develop a customized product by defining the number, type, power, distribution of the light sources required to achieve the result desired by the customer.

The technical evaluations, developed through the use of the lighting simulation software, specific to the levels of lighting, the luminance and homogeneity of the luminous flux required, help establish the best distance between the light sources, the energy consumption and the luminous efficiency of the appliance. There is also the possibility to implement the system through remote control and dimming of the luminaires based on specific needs. We give you a fast design of the solution to guarantee a top quality result.

REFERENCES

Greenled Indyustry offers Made in Italy LED lighting solutions that provide superior performance, reliability and durability to illuminate industries and public spaces.

With Greenled Industry solutions our customers dramatically reduce the cost of lighting, increase the quality of the environments and slash their carbon footprint.

For further information please visit our website www.greenledindustry.com



WHY GREENLED INDUSTRY?

We offer the most efficient lighting solutions combining a deep understanding of customers needs with our high expertise in lighting projects.

Greenled Industry is one of the few companies able to offer LED lighting solutions for industrial environments with extreme conditions such as foundires, glass works, cement plants, paper works, characterized by high and low temperatures ($-40^{\circ}C + 75^{\circ}C$) and high concentration of dust and humidity. In this environments traditional and also LED lighting systems are not able to guarantee the energy and lighting performance.

With our continue innovation focus and high-quality materials, we are able to offer excellent products and superior performance.

Our goal is to improve the lives and well-being of people both in industrial and public environments, ensuring safety and comfort in every space.

6 REASONS TO CHOOSE OUR LED LIGHTING SOLUTIONS

1 ENERGY EFFICIENCY

The best LEDs and drivers to provide maximum luminous flux with minimum power consumption

2 QUALITY

Selected components, made in Italy products ensuring reliability and durability

3 STRENGHT

Robust and resistance lighting fixtures, even in extreme environments

4 INTELLIGENCE

Through intelligent lighting control systems and occupancy sensors you can make the light smartand functional to the specific needs, while reducing further energy and maintenance costs

5 РАУВАСК

With our lighting solutions payback time results very fast, reducing TCO (Total Cost of Ownership) of the entire lighting system.

6 FLEXIBILITY & CUSTOMIZATION

Greenled Industry offers a comprehensive range of solutions for industrial and public environments that meet each specific customer need, with the option to customize the luminaires according to the need.







VOLTA



The luminaire "Volta" has been designed to guarantee a high quality light, efficient and functional to the needs of several industrial environments.

The long-life supply technology and the high-efficiency LEDs guarantee the maximum luminous intensity with the minimum power absorbed and lighting levels, ideal and uniform over the time. The Greened solutions allow a high reduction of operational costs related to energy and maintenance and influence positively the company's goals of sustainability.

Thanks to the "instant on" LED function and to the iTRPLED Control System to optimize the light where and when needed, the luminaires "Volta" allow to create safe and efficient environments, that increase health and productivity at work.

FEATURES

- > High luminous efficiency
- > Excellent thermal performances
- Appropriate for industrial contexts with extreme temperatures (-40° C/75°C), humid and dusty conditions (IP67)
- > Reduced decrease of the luminous flux (L/70)> 150.000 h
- > Wide range of photometric symmetrical curves
- > Photo-biological safety group 0 (N.a.)
- > Wide range of models
- > Ceiling, wall or suspended installation

APPLICATIONS

- > Environments for metal working and transformation
- > Foundries, mills
- > Glassworks
- > Cement plants
- > Farms
- > Plants
- > Warehouses and refrigerating rooms
- > Lighting of open spaces and parking lots

VOLTA



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FEATURES

	VL-55	VL-76	VL-102	VL-118	VL-152	VL-178
Luminous flux 5000K (lm)	8.400	10.700	13.400	15.000	20.100	22.500
Power Consumption (W)	55	76	102	118	152	178
Power Factor (cos Fi)			2	0.9		-
Operating Voltage(V)			AC10	0~240		
LEDs number		24 CREE	power led		36 CREE	power led
LEDs current (mA)	0750	1.000	1.300	1.500	1.300	1.500
Photometric curves	FWHM 60° - FWHM 90° - FWHM 30°+106°					
Color Temperature CCT (K)	4000K/ 5000K / 5700K					
CRI	>75					
LifetimeL70)	150.000h					
Operating temperature	-40°C/+75°C					
Rating	IP67					
Material	Anodized aluminum- Staniless Steel					
Cable Lenght (m)	2					
Installation	Mounting bracket					
Dimension (mm)	200x487x205 325x487x205					
Weight (Kg)			7			11

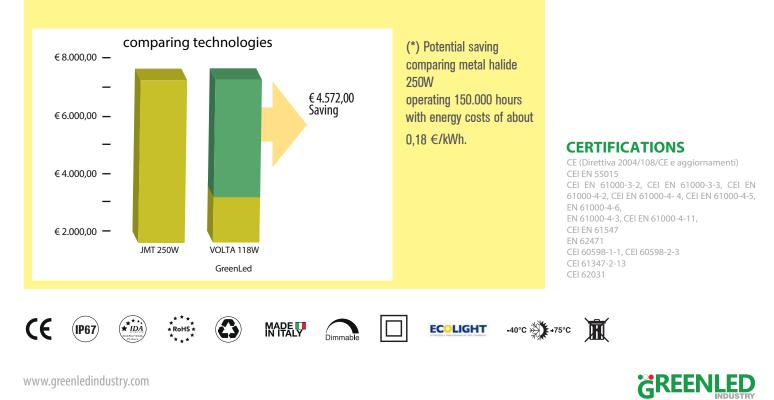
warranty

> 10 - YEARS

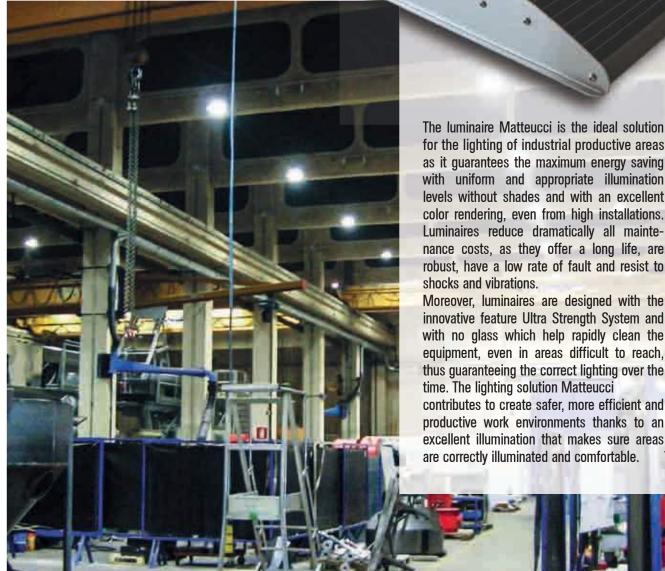


- Accessories included
- Mounting bracket
- iTR Performance Driver

energy saving



MATTEUCCI



for the lighting of industrial productive areas as it guarantees the maximum energy saving with uniform and appropriate illumination levels without shades and with an excellent color rendering, even from high installations. Luminaires reduce dramatically all maintenance costs, as they offer a long life, are robust, have a low rate of fault and resist to

Moreover, luminaires are designed with the innovative feature Ultra Strength System and with no glass which help rapidly clean the equipment, even in areas difficult to reach, thus guaranteeing the correct lighting over the time. The lighting solution Matteucci

contributes to create safer, more efficient and productive work environments thanks to an excellent illumination that makes sure areas are correctly illuminated and comfortable.

FEATURES

- > High luminous efficiency
- > Excellent thermal performances
- > Appropriate for industrial contexts with extreme temperatures (-40° C/75°C), humid and dusty conditions (IP67)
- Reduced decrease of the luminous flux (L/70)> 150.000 h
- > Wide range of photometric symmetrical curves
- > Photo-biological safety group 0 (N.a.)
- > Ceiling, wall or suspended installation

APPLICATIONS

- > Environments for metal working and transformation
- > Foundries. mills
- > Glassworks
- > Cement plants
- > Farms
- > Warehouses and plants
- > Lighting of open spaces and parking lots
- > Roundabouts



MATTEUCCI

TECHNICAL CHARACTERISTICS

MATTEUCCI product family	MT-200	MT-238				
Luminous flux at 5000K	26.40	30.000				
(www) Consumption (W)	200	238				
Power Factor (cos Fi)	≥().9				
Operating voltage (V)	AC10	0~240				
(aaa) Number of LEDs	48 CREE	power led				
Driving current (mA)	1.300	1.500				
(dd) Photometric curves	01 : FWHM 60° - 02 : FWHM 90° - 03 : FWHM 30°+106°					
(mmmm) CCT (K)	4000 / 5000 / 5700					
Color rendering	>75					
Luminous flux duration (L70)	150.000h					
Working temperature	-40°C/+75°C					
Protection level	IP67					
Material	6063 Anodized Aluminium – Stainless steel					
Standard Cable Length (ml)	2					
(h) Installation type	1: With fixing bracket					
Sizes (mm)	564x487x205mm					
Weight (Kg)	18 kg					

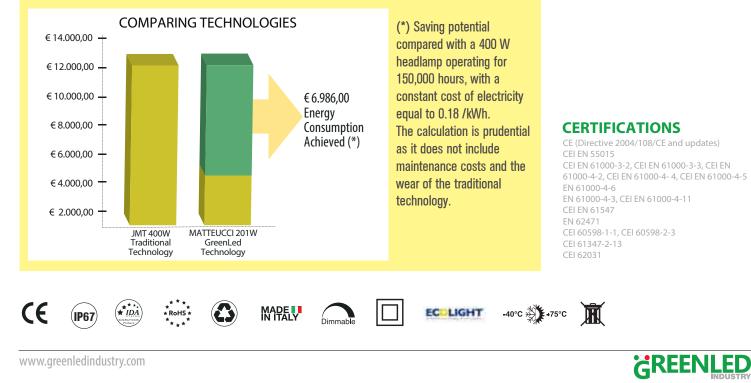
WARRANTY

> 10 years warranty



ENERGY SAVINGS

SAVING GENERATED DURING THE PRODUCT SERVICE LIFE [150,000 hours]



B BLOCK

The luminaire BBlock is a modular unit designed to offer high-efficiency solutions to industrial applications, interiors and exteriors. Provided with a modern design and available in a wide range of power and values of luminous flux, the unit is extremely flexible and functional to the needs of different environments.

The robust BBlock offers high-quality light, long life, excellent thermal performances and high luminous efficiencies with remarkable energy savings.

Installation is simple and fast thanks to the easy connections and different types of installation. In order to further reduce costs and make the light system more functional and efficient, the luminaires BBlock can be equipped with the system of remote control, thus allowing to manage and regulate the luminous flux according to the needs and to obtain further savings.

FEATURES

- > IP20 (IP66 on request) and IK08
- > Symmetrical luminous fluxes for the industrial sector Wide
- > range of luminous fluxes
- > High luminous efficiency
- > Energy savings up to 80%
- > Excellent thermal performances
- Reduced decrease of the luminous flux (L/70)> 100,000 h
- > Photo-biological safety group 0 (N.a.)
- > Available in the models with 1, 2 and 3 modules

APPLICATIONS

- > Industrial buildings
- > Warehouses and storage rooms
- > Logistic sector
- > Service stations, petrol stations

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B BLOCK

TECHNICAL CHARACTERISTICS

BBLOCK family product	BB-65	BB-130	BB-195			
Luminous flux at 5000K (lm)	7.570	15.140	22.710			
(www) Consumption (W)	65	130	195			
Power Factor (cos Fi)		≥0.9				
Operating voltage (V)		AC100~240				
(aaa) Number of LEDs	36	72	108			
Driving current (mA)		600				
(dd) Photometric curves	Symmetrical ID					
(mmmm) CCT (K)	4000 / 5000 / 5700					
Color rendering	>70					
Luminous flux duration (L70)	>100.000h					
Working temperature		- 20°C ~ +45°C				
Protection level		IP66				
Material	6063 Anodized Aluminium – Stainless steel					
Standard Cable Length (ml)		2				
(h) Installation type	ceiling - suspension					
Sizes (mm)	311,3x184,3x86,5	357x166x71	496x166x186			
Weight (Kg)	4 kg	6,55 kg	10,5 kg			

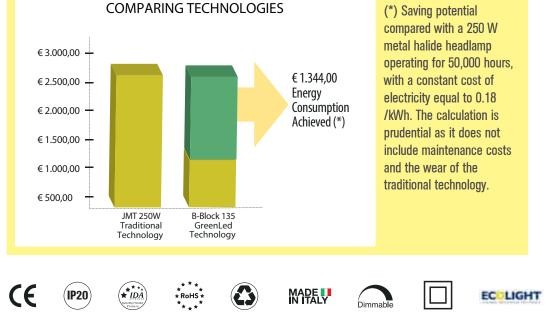
WARRANTY

> 6 years warranty against manufacturing defects



ENERGY SAVINGS

SAVING GENERATED DURING THE PRODUCT SERVICE LIFE [50,000 hours]



CERTIFICATIONS

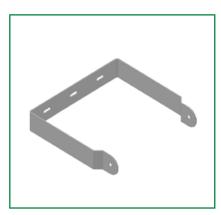
EN 60598-1:2008 A11:2009, EN 60598-2-5:1999, IEC 61347-1:2008 IEC 61347-2-13:2006 IEC 62031:2008 CEI EN 60529 (CEI 70-1) EN 62471:2008 EN 55015:2006 EN 61547:1995

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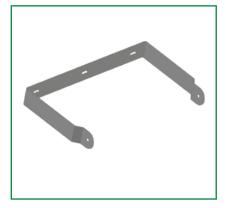


Industrial

ACCESSORIES INCLUDED



MOUNTING BRACKET Volta



MOUNTING BRACKET MATTEUCCI

INTELLIGENT CONTROL SYSTEM - optional

Intelligent lighting control and management systems allow you to set the lighting of the different areas, providing maximum flexibility in different industrial environments. Thanks to smart lighting control you can optimize energy efficiency, reducing costs without wastes of energy.

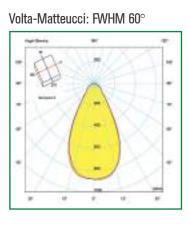
LIGHT WHERE AND WHEN YOU NEED IT

With Greenled Industry smart lighting control systems the environment become more efficient. The luminaires can be equipped with occupancy sensors and the smart lighting control systems. The result? Greater efficiency, high savings and the proper lighting that ensures safety and visual comfort.

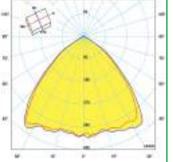
For further information, please contact Greenled Industry.



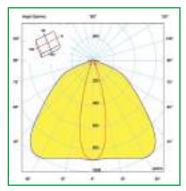
PHOTOMETRIC INFORMATION



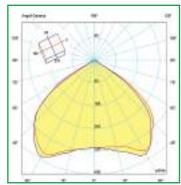
Volta-Matteucci: FWHM 90°



Volta-Matteucci: FWHM 30°+106°



BBlock: SYMMETRICAL ID



ORDER INFORMATION

The table below provides the useful information to get the order code. Select the type of luminaire power (W), the optical configuration and the color temperature desired. In case of options, please indicate the type.

SER	IE S	POW	ER		OPTICAL	C	ст	(OPTION
	/olta	-55 -76 -102 -118 -152 -178	55W 76W 102W 118W 152W 178W	-01 -02 -03	FWHM 60° FWHM 90° FWHM 30°+106°	-40 -50 -57	4000K 5000K 5700K	-Т	Remote control
MT N	<i>l</i> latteucci	-202 -236	202W 236W	-03					
BB B	Block	-65 -130 -195	65W 130W 195W	-06	SIMMETRYCAL ID				



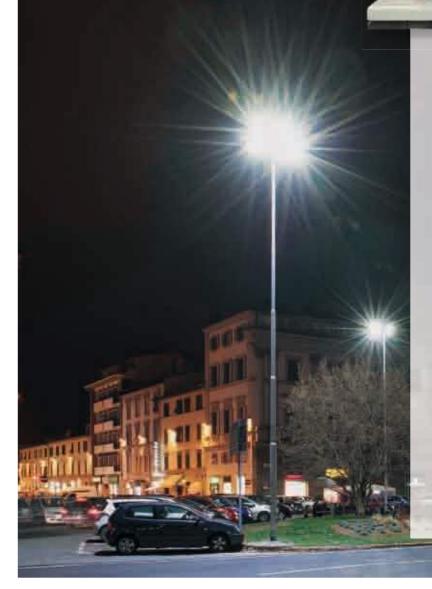
TOWERLIGHT

111



SPARTA

26



The luminaire Sparta is a modular unit designed to offer high-efficiency solutions for large areas and open spaces, especially for applications even on very high light towers. The luminaires allow to illuminate large areas from remarkable heights, by sending the light evenly where needed and without any waste. Thanks to the modular system and the wide range of luminous fluxes, you can have your own customized solution according to the needs of the area to be illuminated thus ensuring the correct illumination and the maximum visibility and safety of the places. The reliability, the product long life and the excellent energy and lighting performances, make this solution very competitive with excellent times of return on the investment and significant savings in terms of energy and maintenance costs. In order to further reduce costs and make the light system more functional and efficient, the luminaires Sparta can be equipped with the remote control system that allows to manage and regulate the luminous flux according to the needs and to achieve further savings.

FEATURES

- > IP66 and IK08
- Wide range of symmetrical luminous fluxes (industrial sector) and asymmetrical luminous fluxes (road sector)
- > Wide range of luminous fluxes
- > High Luminous efficiency
- > Excellent thermal performances
- \blacktriangleright Reduced decrease of the luminous flux (L/ 70)> 100.000 h
- > Photo-biological safety Group 0 (No)
- > Installation on a light tower (height up to 40m)

APPLICATIONS

- > Industrial buildings
- Large areas lighting
- > Parking areas
- > Light Tower
- > Roundabouts
- > Motorway links

SPARTA



FEATURES

	SP-65	SP-130	SP-260	SP-390	SP-520		
Luminous flux 5000K (lm)	7.450	14.900	29.790	44.680	59.570		
Power Consumption (W)	65	130	260	390	520		
Power Factor (cos Fi)			≥0.9		1		
Operating Voltage (V)			AC100~240				
LEDs number	36	72	144	216	288		
LEDs current (mA)	600						
Photometric curves	06: Symmetrical ID 07: Asymmetrical AU - 08: Asymmetrica IPM						
Color Temerature CCT (K)	40: 4000K/ 50: 5000K/ 57: 5700K						
CRI	>70						
Lifetime (L70)	> 100.000h						
Operating Temperature	-30°C/+45°C						
Rating	IP66						
Material	Cover: ABS+PMMA -anodized aluminum						
Cable Lenght (m)	1						
Installation	Mounting bracket						
Dimension (mm)	472x363x322	567x363x322	723x363x322	723x363x322	723x363x322		
Weight (Kg)	18	22	24	24	24		

WARRANTY

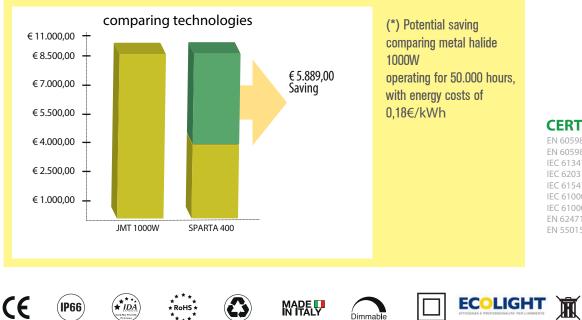
> 6 -YEARS



Accessories Included

- Mounting bracket
- INVENTRONICS driver

energy saving



/ Dimmable

CERTIFICATIONS

GREENLED

EN 60598-1:2008 EN 60598-2-3:2012 IEC 61347-2-13:2006 IEC 62031:2012 IEC 61547:2009 IEC 61000-3-2:2009 IEC 61000-3-3:2013 EN 62471:2006 EN 55015:2013

RoHS

Tower Light

28

ACCESSORIES INCLUDED



SPARTA S Mounting Bracket



SPARTA M Mounting Bracket



SPARTA L Mounting Bracket

INTELLIGENT CONTROL SYSTEM - optional

Intelligent lighting control and management systems allow you to set the lighting of the different areas, providing maximum flexibility in different outdoor environments.

LIGHT WHERE AND WHEN YOU NEED IT

With Greenled Industry smart lighting control systems the environment become more efficient.

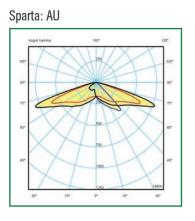
The luminaires can be equipped with smart lighting control systems.

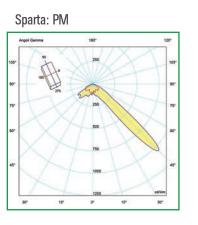
What is the result? Greater efficiency, high savings and the proper lighting that ensures safety and visual comfort.

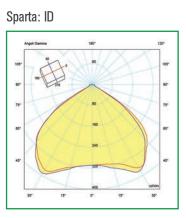
For further information, please contact Greenled Industry.











ORDER INFORMATION

The table below provides the useful information to get the order code. Select the type of luminaire power (W), the optical configuration and the color temperature desired. In case of options, please indicate the type.

SERIES	POWER	OPTIC	ССТ	OPTION
SP Sparta	-65 65W -130 130W -260 260W -390 390W -505 505W	-06 ID -07 AU -08 PM	- 40 4000K - 50 5000K - 57 5700K	-T Remote Control

More optics are available on request.



STREET & URBAN





LÙMINO



The Lùmino series is one of the best solution that meets the need of most modern Smart Cities with mininum investment.

Unique design, high perfomance, reliable, Lùmino ensures the proper distribution of luminance, according to the requirements set by the standards. The high luminous efficiency guaranteed over the time and the reduced need of maintenance interventions, allow the Lùmino fixture to maximize the energy saving and the return on investment. A wide range of power and optic options, Lùmino is a versatile solution perfectly suitable to any street and outdoor application.

With Lùmino we can make our cities more livable, sustainable and efficient, increasing visibility and safety for citizens.

FEATURES

- > Modern design
- > High energy efficiency
- **>** IP66
- > High resistance (IK08)
- Energy saving over 50% than traditional technologies
- > Wide optic options to accomodate a wide range of applications. Quick
- > and easy installation and maintenance
- \blacktriangleright Long lifetime, with over 100.000 hours of high quality luminous flux.

APPLICATIONS

- > Street and urban road
- > Highway, Crossroad
- > Parking, Large area

LÙMINO



FEATURES

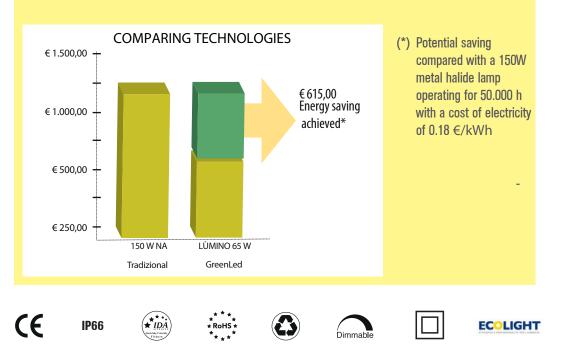
	LM-35	LM-50	LM-65	LM-80	LM-100	LM-135	LM-165	LM-200	
Luminous flux (lm) +/- 5%	4.200	6.000	7.800	9.600	12.000	16.200	19.800	24.000	
Power consumption (W)	35	50	65	80	100	135	165	200	
Power Factor (cos Fi)			·	≥0	.95				
Operating Voltage (V)				AC220)~240				
Number of LEDs	14		28		42	56	70	84	
(ff) Photometric curves				1M, 2N	, 3M, 5S				
(kk) CCT (K)		30: 3000K / 40: 4000K / 50: 5000K / 57: 5700K							
Color rendering		>70							
Lifetime (L70)		> 100.000h							
Operating Temperature		-40°C/+50°C							
Protection Level		IP66							
Material		die-cast aluminum, anodized aluminum							
Standard cable lenght (m)		1							
Installation		Pole connection							
Dimensions (mm)	431x316x136		504x316x136		577x316x136	650x316x136	723x316x136	796x316x136	
Weight (Kg)	5,3		6,1		7,3	8,2	9,0	9,9	

PLUS

WARRANTY

> 6-year

ENERGY SAVINGS



CERTIFICATIONS

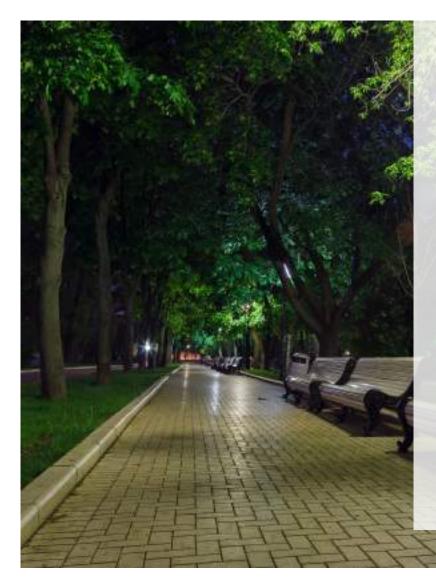
EN 55015:2013 EN 61000-3-2:2006 +A1:2009 + A2:2009 EN 61000-3-3:2013 EN 60598-2-1:1989 EN 61547:2009 EN 60598-1:2008 +A11:2009 EN 61347-2-13:2006 EN 61347-1:2008 +A1:2011 EN 62031:2008 EN 62493:2010





www.greenledindustry.com

URBAN RELAMPING KIT



Kit Retrofit alows you tu upgrade the lighting of urban areas and historical centers using flexibility and the superior performance of LED technology while preserving the cultural and historical value of the lantern.

The KIT RETROFIT fits perfectly inside the existing fixture, without structural changes and allows for quick and easy maintenance of all electrical accessories.

The Kit Retrofit is available in two power range and with different optical configurations to optimize the distribution of light and illuminate any space properly.

FEATURES

High flexibility High energy efficiency IP66 Instant on with 100% of luminous flux Long lifetime, with over 100.000 hours of high quality luminous flux Riduction of maintenance costs Quick and easy installation

APPLICATIONS Urban and residential areas Historical centers



URBAN RELAMPING KIT

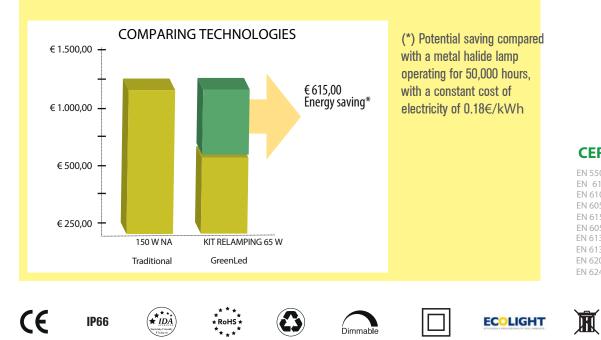
FEATURES

	KR-35	KR-50	KR-65			
Luminous flux (lm) +/- 5%	4.200	6.000	7.800			
Power Consumption (W)	35	50	65			
Power Factor (cos Fi)		≥0.95				
Operating Voltage (V)		AC220~240				
Number of LEDs	14	28				
(ff) Photometric Curves	1M, 2M, 3M, 5S					
(kk) CCT (K)	30: 3000K / 40: 4000K / 50: 5000K / 57: 5700K					
Color rendering	>70					
Lifetime (L70)	> 100.000h					
Operating Temperature	-40°C/+50°C					
Protection Level	IP66					
Material	Fe 360 galvanized metal sheet. White powder coated RAL 9003					
Standard cable lenghts (m)						
Installation						
Dimensions (mm)	337x337x62	337x337x100,5				

WARRANTY

> 6- year

ENERGY SAVINGS



CERTIFICATIONS

EN 55015:2013 EN 61000-3-2:2006 +A1:2009 + A2:2009 EN 61000-3-3:2013 EN 60598-2-1:1989 EN 61547:2009 EN 60598-1:2008 +A11:2009 EN 61347-2-13:2006 EN 61347-2:2008 +A1:2011 EN 62031:2008 EN 62493:2010







Street & Urban

MAIN CHARACTERISTICS LÙMINO



Innovative pole fitter design not only achieve the horizontal and vertical installation features, also has $0-15^{\circ}$ adjustable function for each installation direction.

Resonable heat sink design, not only keep ventilation but also avoid laceration. Gaps between each module are increased heat dissipation speed and solved the problem of dust deposition.

INTELLIGENT CONTROL SYSTEM - optional

Intelligent lighting control and management systems allow you to set the lighting of the different areas, providing maximum flexibility in different outdoor and urban environments.

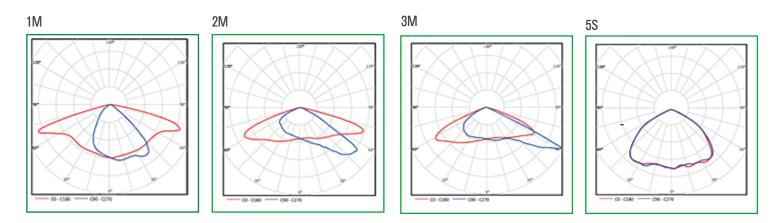
LIGHT WHERE AND WHEN YOU NEED IT

With Greenled Industry smart lighting control systems the environment become more efficient. The luminaires can be equipped with smart lighting control systems. WHat is the result? Greater efficiency, high savings and the proper lighting that ensures safety and visual comfort.

For further information, please contact Greenled Industry.



PHOTOMETRIC INFORMATION



ORDER INFORMATION

The table below provides guidelines for encoding item numbers when ordering Lùmino fixtures. Select a fixture power, optic and CCT, using character codes in bold when ordering. In case of optional, select the type.

SERIES	POW	ER	OPTICAL		ССТ	OPTION
LM Lùmino	-35 -50	35W 50W	-1M	-30	3000K	
KR Kit Relamping	-65	65W	-2M	-40	4000K	-T Remote control
	-80	80W	-3M	-50	5000K	-D Stand Alone*
	-100	100W	-5S	-57	5700K	
LM Lùmino	-135	135W				
	-165	165W				
	-200	200W				

* Option available for Lùmino serie







COMMERCIAL





MERCURY

40

The luminaire Mercury is an extremely flexible and functional solution to well illuminate interiors, exteriors and covered spaces.

Provided with a minimalist design and a diffusion optical system, Mercury offers a bright light and high quality, excellent thermal performances and high luminous efficiency contributing to reduce energy consumption and achieve significant savings.

Installation is rapid and simple and the equipment can be provided with luminous flux control systems and motion sensors allowing to regulate the light wherever and whenever needed, according to needs thus allowing further savings.

AVAILABLE:

STANDARD VERSION DIMMING VERSION EMERGENCY VERSION OCCUPANCY SENSOR VERSION

FEATURES

- ➤ IP65 and IK10
- > Beam angle 130°
- > Luminous efficiency up to 100 lm/W
- > Excellent light diffusion and aesthetic qualities
- > Excellent thermal performances
- > Reduced decrease of the luminous flux (L/ 70)> 60.000 h
- > Self-extinguishing degree "V2" and UV resistance
- > Available in the models MR12 with 40W/50W and MR15 with 50W/65W
- > Ceiling or suspended installation
- > Recessed or pendant execution

GREENLED

APPLICATIONS

- > Covered car parks
- > Piers and docks
- > Bus stations
- > Schools
- > Railway stations
- > Farms
- > Sports facilities
- > Logistic sector
- > Plants

MERCURY

TECHNICAL CHARACTERISTICS

Product prodotto	MR	12-40	MR	12-50	MR15-50		MR15-65	
Diffuser Type	White	Trasparent	White	Trasparent	WHite	Trasparent	White	Trasparent
Luminous flux at 5700K (Im)	3.240	3.920	4.050	4.900	4.050	4.900	5.265	6.370
Consumption (W)	4	-	5	60	50		65	
Power Factor (cos Fi)	≥0.9							
Operating voltage (V)				AC100	~277			
Numerbers of LEDs	2	16	252		252		324	
Photometric curves		symmetrical 130°. Transparent diffuser, White diffuser						
CCT (K)		3000 / 4200 / 6000						
Color rendering		>80						
Duration of luminous flux (L70)		> 60.000h						
Operating temperature		-20°C/+45°C						
Protection level		IP65						
Materials		Policarbonato (classe V2 resistente UV)						
Installations				ceiling, suspend	ded			
Dimensions (mm)	1123x103x93 1423x103x93							
Weight (Kg)	3,2 4							

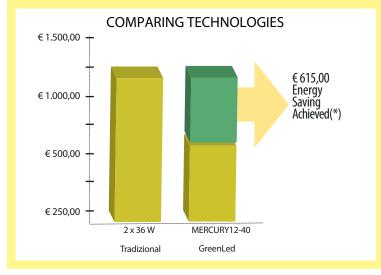
WARRANTY

> 3 years warranty against manufacturing defects



ENERGY SAVINGS

SAVING GENERATED DURING THE PRODUCT SERVICE LIFE [50,000 hours]



(*) Saving potential compared with a metal halide headlamp operating for 50,000 hours, with a constant cost of electricity equal to 0.18 /kWh. The calculation is prudential as it does not include maintenance costs and the use of the traditional technology.

CERTIFICATIONS

EN 55015:2013 EN 61000-3-2:2006 +A1:2009 + A2:2009 EN 61000-3-3:2013 EN 60598-2-1:1989 EN 61547:2009 EN 60598-1:2008 +A11:2009 EN 61347-2-13:2006 EN 61347-2:2008 +A1:2011 EN 62031:2008 EN 62493:2010











, Dimmab







GEMINI



The LED luminaires GEMINI are the simple, sustainable and high-efficient solution to illuminate indoor and outdoor spaces replacing traditional technologies.

The luminaire has an excellent quality of light to ensure the proper lighting in every environment while significantly reducing energy and maintenance costs.

Gemini are available in three different lenghts and in a wide range of power. The luminaires are suitable to replace conventional lighting ensuring maintenance-free installation and a long lifetime.

You can also connect devices with waterproof push-in connectors for end-to-end installation.

FEATURES

- > Modern design
- > Diffuser system
- > High energy efficiency
- > IP65
- > High resistance (IK09)
- > Energy saving over 50% than traditional
- > Long lifetime, over 60.000 hours of luminous flux

RECOMMENDED APPLICATIONS

- > Shoping center, Supermarket
- > Transition areas
- > Warehouses
- > Parking garages
- > Airport, Subways



GEMIN



Product	G	M06	GN	112-20	GM12-36		GM15-25		GM15-42	
Diffuser Type	White	Trasparent	White	Trasparent	White	Trasparent	White	Trasparent	White	Trasparent
Luminous flux at 5700K (lm)	1.785	2.182	1.785	2.182	3.203	3.928	2.205	2.728	3.675	4.583
Consumption (W)		20 20 36			25 42					
Power Factor (cos Fi)	≥0.9									
Operating Voltage (V)		AC100~277								
Numbers of LEDs		60	1	120	120		150		150	
Photometric curves		symmetrical 170°. Transparent and white diffuser								
CCT (K)		3000 / 4000 / 5700								
Color rendering		>80								
Duration Luminous flux(L70)		> 60.000h								
Operating Temperature		-20°C/+45°C								
Protection Level		IP65								
Materials		Polycarbonate (class V2 UV resistance)								
Installation					ceiling, susper	nded				
Dimensions (mm)	600	600x80x56 1200x80x56 1500x80x56					x80x56			
Weight (Kg)	0), 7	1,2					1,5		

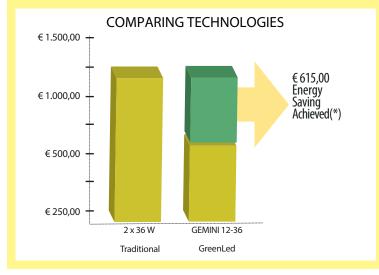
WARRANTY

> 3 years warranty against manufacturing defects



ENERGY SAVING

ENERGY SAVING GENERATED DURING THE PRODUCT SERVICE LIFE [50,000 hours]



(*) Saving potential compared with a metal halide headlamp operating for 50,000 hours, with a constant cost of electricity equal to 0.18 /kWh. The calculation is prudential as it does not include maintenance costs and the use of the traditional

CERTIFICATIONS

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IP65



SATURN

44



The luminaire Saturn is the ideal solution for general lighting purposes of interiors and offers high energy performances while guaranteeing appropriate lighting levels and an excellent color rendering able to improve the visual perception and allowing to enhance the objects in the environments.

Thanks to its elegant look and its easy installation, Saturn is extremely flexible and functional for different applications. This high-efficiency LED solution ensures the maximum energy saving as well as excellent illuminance uniformity everywhere.

Ideal for those customers who want to save energy and create efficient and comfortable environments, the luminaire can be equipped with luminous flux control systems and motion sensors that allow to regulate light according to the needs, while ensuring further savings.

FEATURES

- > IP20, versatile system for several applications in closed spaces
- > High luminous efficiency (85lm/W)
- > Excellent Illuminance Uniformity
- > Easy ceiling or suspended installation
- > Reduced decrease of the luminous flux (L/ 70)> 60.000 h 60%
- > of energy saving

APPLICATIONS

- > Malls
- > Large-scale retails
- > Common areas
- > Schools
- > Logistic sector
- > Offices



SATURN

TECHNICAL CHARACTERISTICS

Product Family	ST-40	ST-50				
Luminous flux at 4000K (lm)	3.600	4.500				
(www) Consumption (W)	40	50				
Power Factor (cos Fi)	2	0.9				
Operating voltage (V)	oltage (V) A C100~240					
(aaa) Number of LEDs	240	288				
(dd) Photometric curves	Symmetrical 120°, White diffuser					
(mmmm) CCT (K)	3000/4000/5700					
Color rendering	>80					
Luminous flux duration (L70)	60.000h					
Working temperature	-20°C/+45°C					
Protection level	IP20					
Material	Aluminium - PMMA					
Standard Cable Length (ml)	2					
(h) Installation type	Ceiling Suspended					
Sizes (mm)	1200x160x68,5	1500x160x68,5				
Weight (Kg)	4,2	5,2				

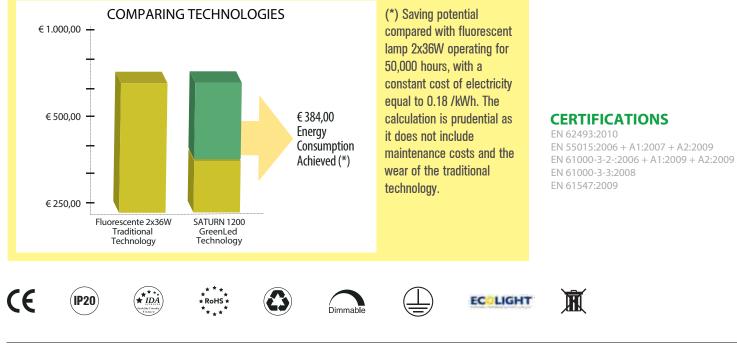
WARRANTY

> 3 years warranty against manufacturing defects



ENERGY SAVINGS

SAVING GENERATED DURING THE PRODUCT SERVICE LIFE [50,000 hours]







iPANEL

46

The luminaire iPanel is a highly efficient and elegant solution to illuminate spaces and interiors.

Thanks to its modern ultra-slim design and high energy and duration performances much higher than fluorescent lamps - iPanel luminaires are the ideal solution to illuminate environments and to dramatically reduce operational costs, with an excellent return on investments.

The luminaire offers excellent light quality without glare and flickering, everywhere, while increasing comfort and visibility. Thanks to multiple installation solutions and a rapid and easy installation, iPanel is an extremely flexible and functional solution for several applications.



- > Technology, design and high quality
- > Ultra-slim laser light guide panel
- > High luminous efficiency, higher than 70 lm/W
- > Protection degree IP52
- Solare control for BAP (VDU writing)
- $L < 200 \text{ cd/sqm A } 60^{\circ}$
- > Energy saving higher than 40% compared to fluorescent lamps T5
- > Eco-friendly materials
- Solutions for multiple installation solutions (wall, ceiling, pendant, false ceiling, etc.)

APPLICATIONS

- > Malls
- > Large-scale retails
- ➤ Common areas
- > Schools
- > Logistic sector
- > Offices



iPANE

TECHNICAL CHARACTERISTICS

Product code	PN03	PN06	PN12			
Luminous flux at 4000K (lm)	1.600	3.500	3.500			
(www) Consumption (W)	22	42	42			
Power Factor (cos Fi)	≥0.93					
Operating voltage (V)		AC220~240				
(aaa) Number of LEDs	112	210	224			
(dd) Photometric curves	Symmetrical 112°					
(mmmm) CCT (K)	3000/4000/5000					
Color rendering	>80					
Luminous flux duration (L70)	60.000h					
Working temperature	-20°C/+40°C					
Protection level	IP52					
Material	Aluminium Frame – PMMA Screen					
Standard Cable Length (ml)	2					
(h) Installation type	Ceiling - Suspended - Recessed					
Sizes (mm)	600x300x10,4	600x600x10,4	1200x300x10,4			
Weight (Kg)	2	4	4			

DRIVER not included

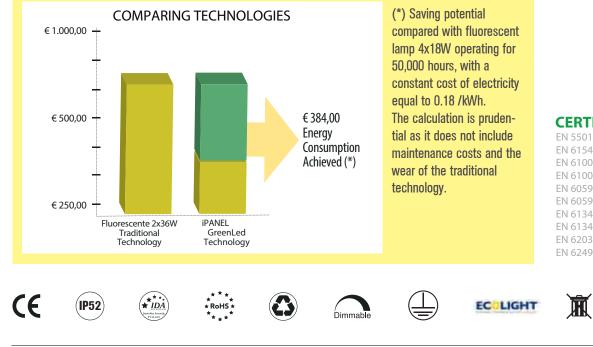
WARRANTY

> 3 years warranty against manufacturing defects



ENERGY SAVINGS

SAVING GENERATED DURING THE PRODUCT SERVICE LIFE [50,000 hours]



CERTIFICATIONS

EN 55015:2013 EN 61547:2209 EN 61000-3-2:2006 + A1:2009 + A2:2009 EN 61000-3-3:2013 EN 60598-2-1:1989 EN 60598-1:2008 + A11:2009 EN 61347-2-13:2006 EN 61347-1:2008 + A1:2011 EN 62031:2008 EN 62493:2010

GREENLED

Commercial & Office

ACCESSORIES

MERCURY

Suspended mounting kit Cod. A-000299

GEMINI

Cod. A-000720

Cod. A-000721

Cod. A-000722

Cod. A-000723

Cod. A-000724

Cod. A-000795

Suspended mounting kit Cod. A-000663

SATURN

Suspended mounting kit Cod. A-000735

iPANEL | PN03

Box for ceiling mounting
Wall mounting kit
Suspended mounting kit
Recessed mounting kit
Ceiling mounting kit
Driver MEANWELL LPV-35-24

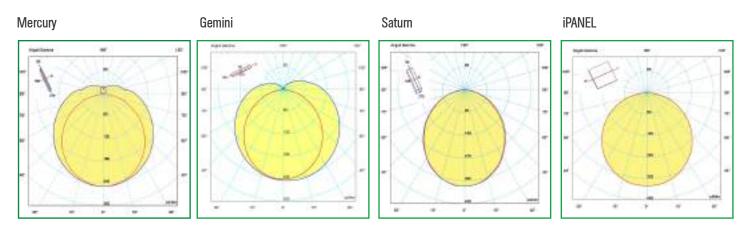
iPANEL | PN12

Box for ceiling mounting	Cod. A-000730
Wall mounting kit	Cod. A-000731
Suspended mounting kit	Cod. A-000732
Recessed mounting kit	Cod. A-000733
Ceiling mounting kit	Cod. A-000734
Driver MEANWELL LPV-60-24	Cod. A-000750

iPANEL | PN06 . £.

Cod. A-000725
Cod. A-000726
Cod. A-000727
Cod. A-000728
Cod. A-000729
Cod. A-000750

PHOTOMETRIC DATA





ORDER INFORMATION

The table below provides guidelines for encoding item numbers when ordering fixtures. Select a fixture power, optic and CCT, using character codes in bold when ordering. In case of optional, select the type.

	SERIES	POV	VER	OPTICAL	ССТ	OPTIONAL	
MR12	Mercury 1200mm	-40 -50	40W 50W	- 11 Trasparent Diffuser	- 30 3000K - 42 4200K	- R dimmable 0-10V - X emergency	
MR15	Mercury 1500mm	-50 -65	50W 65W	-10 White Diffuser	- 60 6000K	-M occupancy sensors	
GM06	Gemini 600mm	-20	20W				
GM12	Gemini 1200mm	-20 -36	20W 36W	-11 Trasparent Diffuser -10 White Diffuser	- 30 3000K - 40 4000K - 57 5700K	-W1 waterproof connector -W2 two WP connector	
GM15	Gemini 1500mm	-25 -42	25W 42W				
ST	Satum	-40 -50	40W 50W	-10 White Diffuser	- 30 3000K - 40 4000K - 57 5700K		
PN03	iPanel 300x600mm	-22	22W		- 30 3000K		
PN06 PN12	iPanel 600x600mm iPanel 300x1200mm	-42	42W	- 12 Symmetrical 112°	- 40 4000K - 50 5000K		

WARRANTY FOR LAMPS GREENLED INDUSTRY S.P.A.

This limited warranty is provided by the company **GREENLED Industry SpA** (hereafter referred to as "GREENLED" or "Seller") to the original Buyer of the LED luminaire defined in the invoice issued by the Seller in case of a purchase of the Product.

GREENLED makes sure that the Product, if delivered new and in its original packaging, will not have any material and manufacturing defect for a period of THREE (3) years for series MERCURY, GEMINI, SATURN, iPANEL; a period of SIX (6) years for series BBLOCK, SPARTA, LUMINO, URBAN RELAMPING KIT; a period of TEN (10) years for series VOLTA, MATTEUCCI. The period starts from the purchase date.

The Product is to be considered as defective when:

-The luminous flux is reduced by less than 70% compared to the one declared on the product label during the warranty period starting from the date in the invoice -and/or

-Is not free from design, material and manufacturing defects.

It is the Seller's responsibility and discretion to establish if the Product is defective based on the Product general performance.

In case of absence of light from one of the LED units, this will not represent a defect of the Product if the number of not working components results in a decrease in the nominal light flux equal at least to 10% of the one stated.

This warranty is not valid if the Product is used for purposes other than those for which it was made.

This warranty is applied to professional LED lamps made by **GREENLED** sold in Europe, Middle East and Africa starting from June 2013.

Applicability of this warranty

 \circ For a year of warranty, we mean a year of operation of 8,760 hours and a room temperature of 25 $^{\circ}{
m C}$.

• The Buyer will be entitled to ask for warranty conditions other than those reported in the previous point and they will be granted after assessing the specific application conditions.

• For the purposes of the application of the warranty, the Buyer could not refer to other information or documents.

This warranty covers exclusively the product used according to the following use conditions that must be fulfilled simultaneously for the purposes of the warranty:

• the Product operating temperature is compliant with the one in the technical data of each product;

- the relative humidity in the plant is not higher than the IP classification of the Product;
- Products are not subject to a value higher than 50,000 cycles (power on/off);

• Products must work within a voltage range of 230 V +/- 10%.

This summary includes but is not limited to the terms and conditions of the warranty.

• This warranty is valid only for the Products sold inside the EMEA area (Europe, Middle East and Africa). In other countries, different terms and conditions may be applied.

- This warranty is valid only if the Products have been sold directly by a Sales Department of GREENLED.
- The customer must have the document of delivery of the Product.
- This warranty is valid only if the Products have been correctly installed and used according to the instructions of the manufacturer.
- The operating modes must be registered and available for any inspection by the GREENLED representative.
- . Upon request, the GREENLED representatives must have access to the defective Product, system or application for a non-compliance check.
- The manufacturing costs for installing and uninstalling the Products are not covered by this warranty.

The warranty will be valid from the delivery date and/or the production lot reported on each Product and within the six months following the delivery.

In compliance with the provisions established in the Terms and Conditions of the warranty attached to this document, the Buyer receives the warranty for the applicable period.

WARRANTY TERMS AND CONDITIONS

1. Limited Warranty

The warranty, as described in this document, will be applied exclusively to the luminaires branded **GREENLED** sold by **GREENLED** in Europe, Middle East and Africa, (hereafter the "Product"). This warranty is applicable exclusively to the party buying the product directly from **GREENLED** (hereafter the: 'Buyer').

GREENLED makes sure that each Product is free from material and manufacturing defects.

This warranty will be valid for the period mentioned in the warranty applicable to the products as reported in the sales agreement. In case of Product failure according to this warranty, **GREENLED** will, in its sole discretion, replace or repair the defective product in compliance with the terms and conditions of the applicable limited warranty as established below.

2. Terms and conditions

• The **GREENLED** warranty is applied exclusively to the Buyer. If a Product covered by this warranty is returned by the Buyer in compliance with what provided and established in the section 3 and within the applicable warranty term and if, after examination, **GREENLED** will define that such a Product was not compliant with this warranty, at its sole discretion, **GREENLED** will repair or replace the Product or the defective part or will reimburse the sales price to the Buyer of the Product. Repairing or replacing the Product or the defective part will not include any removal or reinstallation activity, costs or charges, including but not limited to any costs and charges of expedition or manufacturing of the Product. In order to repair or replace the Product, as provided by this warranty, **GREENLED** reserves the right to use new, reconditioned, refurbished, repaired or transformed products. These products and components will be treated, in terms of functions and performances, as original products and components, according to what established by **GREENLED** in its sole discretion and covered by the warranty for the whole original warranty period.

• If **GREENLED** decides to replace the Product, but is not able to do it because it came out of production or is no longer available, **GREENLED** may reimburse the Buyer or replace the Product with a similar one (that could present slight differences in the design and specifications of the Product).

• No agent, distributor or dealer is authorized to change, modify or extend the terms of the limited warranty on behalf of **GREENLED**, in any matter.

• This limited warranty is applied exclusively if the Product has been correctly cabled, installed and used within the electrical values, the operating range and environmental conditions defined in the specifications, in the applicable guidelines, in the IEC standards or in any other document provided with the Product. If a Product is defective or non working based on the Product specifications, the Buyer must communicate it to **GREENLED** by writing.

• GREENLED will facilitate the technical solution of the problems. The products (or Product components) from third parties sold by GREENLED are not covered by this warranty, without prejudice to what established in section 5.

• This warranty does not apply to defects or non compliance resulting from any cause of force majeure or any other abuse, misuse, abnormal use or use violating any other standard, code or applicable use instructions including, but not limited to those contained in the safety standards, or the most recent relevant and/or electrical standards for the specific country/countries.

. This warranty will be invalid if the Product is repaired or changed, by any person not duly authorized by writing by GREENLED.

GREENLED reserves the right to definitively decide about the validity of any warranty claim.

. Upon request by GREENLED, non-compliant or defective products will become property of GREENLED as soon as they are replaced.

3. Calls on warranty

All the warranty periods mentioned are subject to the access to the defective Product or system in order to check for the non compliance by a representative of **GREENLED**. Calls on warranty must be reported and sent to **GREENLED** (Strada dello Stabilimento n.1 Nera Montoro – Narni) within 30 days of detecting the defect, by specifying the following information (additional information can be requested):

• Damaged products; for system warranties, specify also other components;

- Installation date and invoice date;
- Detailed description of the problem and number;
- Application, hours of operation and commutation cycles;

• If a call on a warranty is not justified, **GREENLED** may charge the Buyer with the costs for the Products returned that are not defective or not compliant, together with the related management, check and transportation costs.

4. Lack of implicit warranties or other warranties

• This limited warranty and the solutions included therein are the only warranties offered by **GREENLED** with relation to the Products, to replace and exclude any other warranty, whether explicit or implicit, to the extent permitted by law, including without limitation warranties of merchantability or fitness for a particular purpose: without prejudice to the case of fraud or gross negligence by **GREENLED**, all other warranties are therefore not applicable.

• These terms and conditions establish the maximum liability of **GREENLED**, its obligations towards the Buyer as well as the only remedy available to the Buyer in case of defective or non compliant Products provided by **GREENLED**, remedy to be meant as including and replacing any other form of warranty or liability, also by way of derogation from law standards, to the extent permitted by law, and excludes any other liability (whether contractual or non contractual) of **GREENLED** due to defects, non compliance or lack of quality, even if **GREENLED** has been informed or is aware of such defects.

5. Limitations and conditions

• This is a limited warranty and excludes, among other items, the installation, any access means to products (scaffolding, hoisting equipment, etc.), and special damages, whether incidental and consequential (such as the loss of economic profits/loss of profit, damage to property or other extended costs previously not mentioned), and is further defined by the limitations and conditions provided by the warranty and included in the terms and conditions.

Upon request, the GREENLED representatives must access the defective Product, system or application in order to check any lack of compliance.

• **GREENLED** cannot be held liable for the conditions of electricity, including power picks, over/under-voltage and systems of control of the ripple current that go beyond the limits specified of the products and beyond those defined by the specific power standards (i.e. compliance of the standard CEI EN 50160).

• With relation to the products sold to the Buyer by **GREENLED** that are not branded **GREENLED**, **GREENLED** does not offer any type of warranties, whether explicit or implicit, including without limitation any warranties of merchantability or fitness to a specific purpose, but will put at the Buyer's disposal upon request, exclusively to the maximum extent allowed by law and relevant agreements, the manufacturer's warranties of the Product.

• In no case, **GREENLED** shall be deemed as liable for any damages, whether they are accidental, compensatory, consequential, indirect, special or any other type of damage. The overall responsibility of **GREENLED** for a defective Product could not exceed, in any case, the amount paid by the Buyer for the above-mentioned defective Product.

• GREENLED reserves the right to modify this warranty over the time. Any change of this warranty shall be applied to all orders concluded with GREENLED starting from the date of validity of the modified warranty.

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GREENLED Industry S.p.A. Strada dello Stabilimento, n. 1 05035 - Nera Montoro – Narni (TR) C.F. e P.I.: 01493180556 - Phone: +39 0744 7581- Fax: + 39 0744 758205 www.greenledindustry.com