

HEALTHY, EFFICIENT AND QUALITY LIGHTING

WE ARE THE PLAN B



ISSOP CERTIFICATES

Certi	ficado			Certi	ficate
Normativa de aplicació	ISO 9001:2015			Standard	ISO 9001:2015
N° registro certificado	0.04.22023			Certificate Registr. No	. 0.04.22023
Titular del certificado:	Oep Electrics World Corpora C/ Montseny, 3-11 C-5 08229 Toia España	ttion S.L.		Certificate Holder:	Oep Electrics World Corporation S.L. C/ Montseny, 3-11 C-5 08329 Teia Spain
Ámbito de aplicación:	luminarias LED para Interior Programada.	y exterior sin Obsolescencia rrfficó el cumplimiento de los	yead	Scope:	Design, production management and marketing of LED luminaires for indoors and outdoors without programmed obsolescence. Proof has been furnished byeans of an audit that the requirements of ISO 9001:2015 are met.
Validez:	Este certificado es válido de Primera auditoria de certifica	sde 2022-04-28 hasta 2025-04-27. ación 2022	application to application	Validity:	The certificatids valid from 2022-04-28 until 2025-04-27. First certification 2022
	2022-05-09	TÜV Rheinand Ibérica Inspection, Cortification & Testing S.A. Garrotxa, 10-12 – E-08820 EPrat de Liobregat	to och sion six Little alcone o		2022-05-09 TÜV Rieliand berica Insp. Certification & Testin Garrotza, 10-12 – E48320 EP-n Libb
ww.tuv.com	LAF ENAC	TÜVRheinland®	EV and TUV are regist	www.tuv.com	TÜVRheinland Precisely Right.

	CERTIFICADO
	2016/2022 INNOVACIÓN SOSTENIBLE SIN OBSOLESCENCIAPROGRAMADA
АСТА	DE COMPROMISO
	a firma asu mi mos la responsa b ili dad de m antener los valores nibilidad, respeto por el medio ambien te y por las personas.
te ne r i novació	erdo con los objettivos de Feniss, nos comprometemos a man uestra empresa libre de obsolescencia program ada, con in n soste nible, así como a trabajar activa mente y ha cer pá us acciones concretas que configuran nuestra contribución a dad.
Barcelo	na, 28 de Enero de 2016
Nom br	e de la organización Oep Electrics World Corporation S.L.
Firma (Brganización : Firma 4860 P: 1550 P 1550 P Totoporto
	FENISS



BULB E27 BE - A6009

Thanks to the form-fitting shape of a conventional incandescent lamp and a warm light colour of 3,000 K and a neutral white light colour of 6,500 K, this LED lamp is particularly suitable for use in living rooms, corridors, bedrooms and offices and replaces a conventional incandescent lamp of up to 100 W. The light source impresses with its high efficiency and at the same time very low energy consumption as well as a very long service life of up to 30,000 hours.

Other features include mercury-free production, minimum start-up time (<; 1 second - up to 100% brightness) as well as low heat emission.



BE - A6009	BE - A6012		
Power: 9W	Power: 12W	A60 Bulb LED	Lifetime: 30.000 hours (15 years)
Lumens: 850	Lumens: 1.250	Color: Natural and warm white	Guarantee: 5 years
Presentation: Box	Presentation: box	Socket: E27	Material: Aluminium + PC Material
Und / Box: 1	Und / Box: 1	CRI >80	Non Dimmable
Temperature: 3000K to 6500K	Temperature: 3.000 / 4.000 K	IP: 20	Indoor product





BULB **T100**

BE - A6009 / BE - A6015

The T100 LED Bulb with E27 Socket compared to an incandescent lamp, is more powerful and consumes up to 85% less and lasts up to 25 times longer. It stands out for its luminosity 900 Lumens in 9W and 1500 lumens with 15W, an opening angle of 200°. It is powerful, economical and sustainable, greater efficiency at the lowest price.

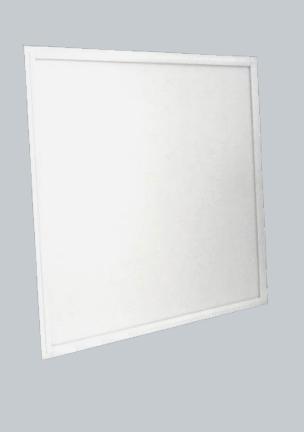
Our industrial Globo T100 model is top quality in the professional market, where thousands of units provide their high luminous power for hours and hours without failures. We are endorsed by thousands of installed units where our lamp leads the ranking of satisfaction.

Our LED light bulbs have an exceptional lifespan estimated at 30,000 hours, thanks to the quality of the materials, such as PC and aluminium used. Recommended for business, industrial or domestic lighting. Gardens, sheds, workshops, farms, large rooms, etc.



BE - A6009	BE - A6015		
Power: 9W	Power: 15W	Bulb LED T100	Lifetime: 30.000 hours (15 years)
Lumens: 900	Lumens: 1.500	Color: Natural and warm white	Guarantee: 5 years
Presentation: Box	Presentation: Box	Socket: E27	Material: Aluminium + PC Material
Und / Box: 1	Und / Box: 1	CRI >80	Non Dimmable
Temperature: 3000K to 6500K	Temperature: 3.000 / 4.000 K	IP: 20	Indoor Product





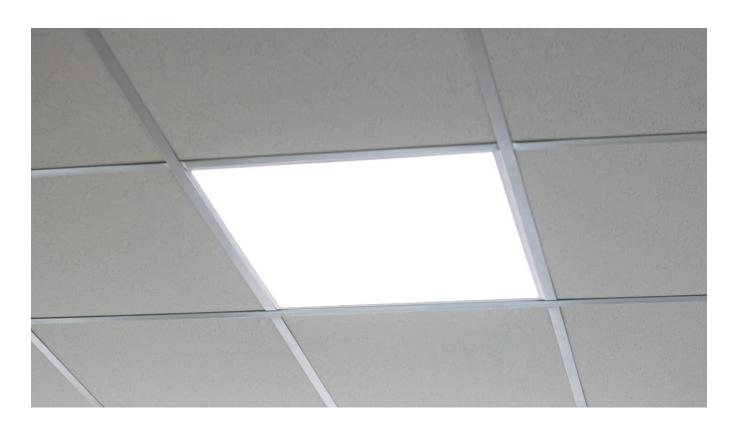


The Panel Led model is specially designed for interior lighting in open-plan spaces such as offices, offices, convention halls, etc.

Developed with an average life of more than 30,000 hours. Its energy consumption is only 36W ($\pm5\%$). It is ideal to replace the typical 2x26W CFL (low consumption) downlight and also to replace the 4 fluorescent tube ceiling lights with 18W consumption.



Power: 36W	LED Panel	Lifetime: 30.000 hours (15 years)
Lumens: 3.000	Color: Natural and warm white	Guarantee: 5 years
Presentation: Box	Socket: Direct grid connection	Material: Aluminium + PC Material
Und / Box: 1	CRI >80	Non Dimmable
Temperature: 3000K to 6500K	IP: 20	Indoor Product





SMD DOWNLIGHT

BE-M1101

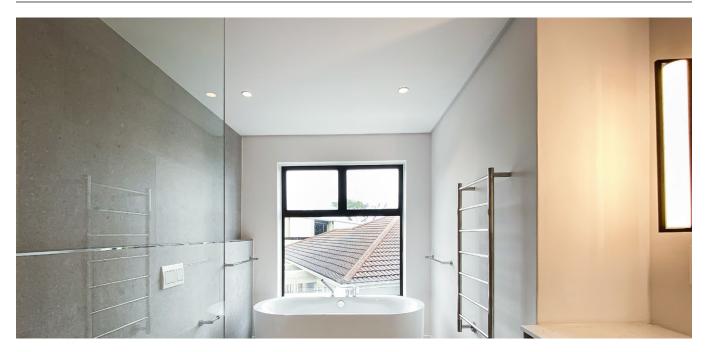
The SuperSlim circular LED downlight is defined by its extreme slimness, innovative design and energy efficiency. Features of the SuperSlim circular LED downlight Capable of replacing a luminaire up to 150W, this LED luminaire withstands input voltage variations from 85V to 265V AC. As a class II LED lighting element, it does not require connection to earth.

Thanks to the quality of its materials and the aluminium heatsink it incorporates, it dissipates heat excellently. Although it is designed for indoor use, it can work in environments with a temperature range from -20°C to 45°C. Designed as a general lighting element, the SuperSlim circular LED panel has a light opening angle of 120° and has an opal diffuser that offers a very pleasant light.



BE - M1101	BE - M1101	BE - M1101	BE - M1101	BE - M1101	BE - M1101	BE - M1101
Power: 5W	Power: 10W	Power: 12W	Power: 15W	Power: 18W	Power: 24W	Power: 32W
Lumens: 400	Lumens: 800	Lumens: 960	Lumens: 1.200	Lumens: 1.440	Lumens: 1.920	Lumens: 2.560
Measures (mm): 100x30x75	Measures (mm): 120x30x95	Measures (mm): 145x30x115	Measures (mm): 100x30x75	Measures (mm): 170x30x140	Measures (mm): 230x30x190	Measures (mm) 230x30x190

Voltage: 85-265VAC	BE-M1101	Lifetime: 30.000 hours (15 years)
Opening angle: 120°	Color: White / Black	Guarantee: 5 years
Presentation: box	Socket: External driver direct to mains	Material: Aluminium + PC Material
Und / Box: 1	CRI >80	Non Dimmable
Temperature: 3000K to 6500K	IP: 44	Indoor Product





SMD DOWNLIGHT

BE-M1102

Its large depth ensures low glare. It has an internal reflector to optimise light distribution. Ideal for corridors, meeting rooms, offices, etc.



BE-M1102	BE - M1102	BE - M1102
Power: 8W	Power: 12W	Powert: 18W
Lumens: 640	Lumens: 960	Lumens: 1.440
Measures (mm): 90x50x75	Measures (mm): 102x52x95	Measures (mm): 126x66x95
Voltage: 85-265VAC	BE-M1102	Lifetime: 30.000 hours (15 years)
Opening angle: 120°	Color: White / Black	Guarantee: 5 years
Presentation: Box	Socket: External driver direct to mains	Material: Aluminium + PC Material
Und / Box: 1	CRI >80	Non Dimmable
Temperature: 3000K to 6500K	IP: 44	Indoor Product





COB SPOT DOWNLIGHT

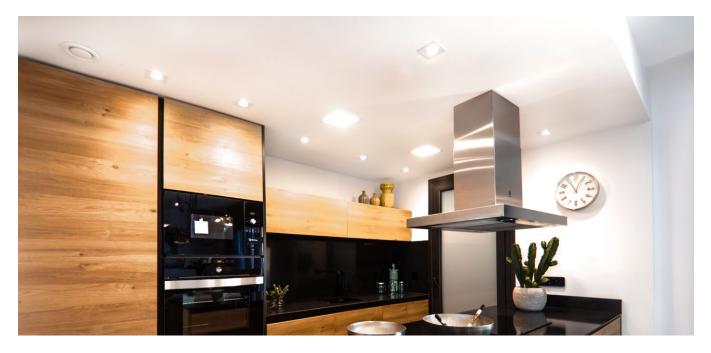
BE-M1104

Description The White Circular Directional COB LED Downlight, in its different sizes and powers. No Flicker is a very versatile product that will allow us to direct the light towards specific points depending on the needs of the moment, providing significant savings in electricity consumption. Characteristics of the White Circular Directional COB LED Downlight, It incorporates LED optics in its different powers, with which we obtain a high luminosity to replace conventional spotlights with a saving of over 90%. The high quality light it emits is centred at an angle of 60° and has a colour rendering index of over 80. All the characteristics of this LED lighting product mean that it has a good performance. Ideal for use in interior spaces where the use of a large amount of light is not necessary. It is mainly used in transit areas such as hallways, corridors or stairways.



BE - M1104	BE - M1104	BE - M1104	BE - M1104	BE - M1104
Power: 5W	Power: 7W	Power: 12W	Power: 15W	Power: 20W
Lumens: 400	Lumens: 560	Lumens: 960	Lumens: 1.200	Lumens: 1.600
Measures (mm): 68x38x55	Measures (mm): 90x46x75	Measures (mm): 110x60x95	Measures (mm): 140x68x120	Measures (mm) 180x100x160
Voltage: 85-265VAC		BE-M1104	Lifetime:	30.000 hours (15 years)
Opening angle: 15° / 24° / 38°		Color: White / Black	Guarante	e: 5 años

Opening angle. 13 / 24 / 38	COIDI. WITILE / DIACK	Guarantee. 5 anos
Presentation: Box	Socket: External driver direct to mains	Material: Aluminium + PC Material
Und / Box: 1	CRI >80	No Dimable
Temperature: 3000K to 6500K	IP: 44	Indoor Product





COB LED DOWNLIGHT

BE-D8309

Description The LED Plate or Downlight CCT Selectable Circular Micro prismatic (UGR17) stands out for its minimalist design, and its opal diffuser, which offers a semi-diffused light, ideal for both commercial and domestic use. Features of the Micro Prismatic Circular LED Downlight (UGR17). Equipped with a COB chip, it offers great luminosity, distributed at an angle of 120°, which makes it perfect as a general lighting source. It is able to withstand variations between 85- 265V AC. In addition, it is connected directly to the mains as it includes a driver that adapts the mains voltage to the input voltage of the luminaire. It is very easy to install and, as it is so slim, it can be installed in low false ceilings where more voluminous solutions could not be used. It is designed for use in interior spaces.



BE - D8309	BE - D8309	BE - D8309	BE - D8309	BE - D8309
Power: 5W	Power: 10W	Power: 15W	Power: 20W	Power: 30W
Lumens: 450	Lumens: 900	Lumens: 1.350	Lumens: 1.800	Lumens: 2.700
Measures (mm): 90x50x75	Measures (mm): 120x65x105	Measures (mm): 150x85x125	Measures (mm): 200x110x210	Measures (mm) 230x110x210

Voltage: 85-265VAC	BE-D8309	Lifetime: 30.000 hours (15 years)
Opening angle: 60°	Color: White / Black	Guarantee: 5 years
Presentation: Box	Socket: External driver direct to mains	Material: Cast Aluminium
Und / Box: 1	CRI >80	Non Dimmable
Temperature: 3000K to 6500K	IP: 20	Indoor Product



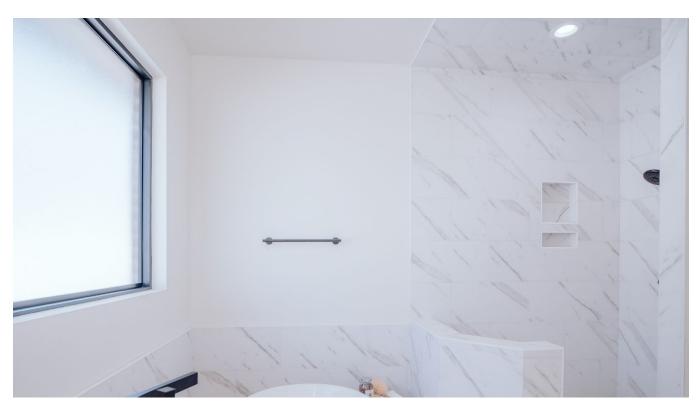


BULB GU10 LED BE-G5005

LED Retrofit product for the replacement of halogen bulbs and lamps, with a saving of more than 85% and an estimated lifetime of 30,000 hours or more than 15 years.



Power: 5W	BE-G5005	Lifetime: 30.000 hours (15 years)
Lumens: 450	Color Natural white / Warm	Guarantee: 5 years
Presentation: Box	Socket: GU10	Material: Aluminium + PC Material
Und / Box: 1	CRI >80	Non Dimmable
Temperature: 3000K to 6500K	IP: 20	Indoor Product
Measures (mm): 50x56	Voltage: 85-265VAC	Opening angle: 50°





LED SPOTLIGHT RETAIL

BE-G2570

The Black or White LED Track Spotlight provides versatile lighting perfect for ever-changing spaces where decorative elements or products on display need to be highlighted. Features of the LED Track Spot 30W Black/White Integrates a high performance COB technology light source. It provides a high quality light that ensures a very natural reproduction of colours. It is mainly used in the tertiary sector in spaces such as shops, exhibition halls, commercial galleries, hotels, etc. Places that require a versatile accent light that adapts to the arrangement of the products on display. In these types of spaces where activity takes place over many hours, LED lighting brings considerable savings in terms of energy consumption and helps to minimise maintenance costs. *For prolonged use of more than 8 hours, we recommend spotlights made of Aluminium material such as ours.



BE-G2570	Lifetime: 35.000 hours
Color: White	Guarantee: 5 years
Socket: Three-phase rail	Material: Aluminium
CRI >80	Non Dimmable
IP: 25	Indoor Product
Voltage: 85-265VAC	Opening angle: 38°
	Color: White Socket: Three-phase rail CRI >80 IP: 25





LED TUBE **T8**

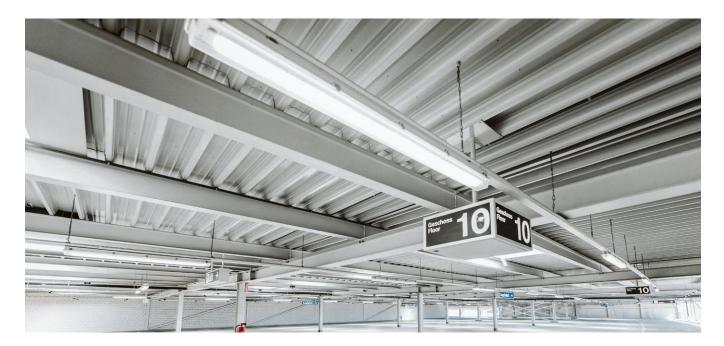
BE-T8D

T8 LED tube with single-ended connection and SMD2835 light source. Its direct connection to the mains eliminates the residual consumption of ballasts and starters, allowing greater durability and less maintenance, instant switching on and the absence of the flicker effect (light flickering). No noise. It has a high efficacy (100 Lm/W) with a low consumption by means of SMD2835 LEDs providing a very high luminous flux distributed uniformly by an opal diffuser from which a colour rendering index of 80 is obtained.

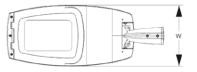
Its consumption represents a value of 18kWh/1000h, (9kWh/1000h, 22kWh/1000h) reducing the amount of energy billed and the emissions of polluting gases into the atmosphere. It has an IP25 degree of protection (valid for indoor dust and humidity), as well as being sufficiently robust for the required mechanical requirements.



BE-T8D	BE-T8D	BE-T8D
Power: 9W	Power: 18W	Power: 22W
Lumens: 900	Lumens: 1.800	Lumens: 2.200
Measures (mm): 	Measures (mm): 1200	Measures (mm): 1500
Voltage: 85-265VAC	BE-T8D	Lifetime: 30.000 hours (15 years)
Opening angle: 120°	Color: White / Cold White	Guarantee: 5 years
Presentation: Box	Socket: External driver direct to mains	Material: Aluminium + PC Material
Und / Box: 1	CRI >70	Non Dimmable
Temperature: 3000K to 6500K	IP: 40	Indoor Product

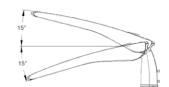












STREET LAMP

MO-WSTR-A01

Belenus LED Luminaire from 75W to 260W Dimmable 1-10V Street lighting. This is one of the latest generation luminaires, offering instant switching on thanks to its LED technology, as well as great power. It is the ideal replacement for the old discharge lamps, improving the quality of light and significantly reducing energy consumption.

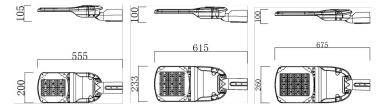
Features of the Belenus Dimmable LED Luminaire 1-10V Public Lighting The body of the luminaire has been manufactured in aluminium using the injection moulding method to guarantee optimum quality and facilitate heat dissipation. Once the driver is powered, the voltage will be automatically adjusted and the output voltage will be constant. The entire power range incorporates an IP65 enclosure that protects against moisture, vibration and temperature, ensuring maximum durability.



MO-50WSTR-A01	MO-60WSTR-A01	MO-100WSTR-A01	MO-120WSTR-A	01 MO-150WSTR-A01
Power: 50W	Power: 60W	Power: 100W	Power: 120W	Power: 150W
Lumens: 7.000	Lumens: 8.400	Lumens: 14.000	Lumens:16.800	Lumens: 21.000
Measures (mm): 500x168x90	Measures (mm): 500x168x90	Measures (mm): 600x200x100	Measures (mm): 600x200x100	Measures (mm): 680x220x100
Input: AC100-277V, 50/60	Hz	MO-WSTR-A01		Lifetime: 50.000 hours (15 years)
Opening angle: 155*80°		Color: Natural and Warm Whi	ite	Guarantee: 5 years
Presentation: Box		Chip: Philips SMD2835, Ra>7	70	Material: Aluminum housing + PMMA cove
Und / Box: 1		Diver: TUV driver, PF>0.9		Non Dimmable
Temperature: 3000K to 65	00K	IP: 66 Waterproof		Outdoor Product







PUBLIC ROADS

Mo-LSP50W-L01 / Mo-LSP100W-L02 / Mo-LSP150W-L03

The Belenus Street Dimmable 1-10V LED luminaire for public and street lighting. This is a state-of-the-art luminaire, offering instant switching on thanks to its LED technology, as well as high power. It is the ideal replacement for the old discharge lamps, improving the quality of light and significantly reducing energy consumption. Features of the LED Street Belenus Dimmable 1-10V Street Lighting Luminaire The body of the luminaire has been manufactured in aluminium using the injection moulding method to guarantee optimum quality and facilitate heat dissipation. It has an easy locking system that improves handling and functionality. Its design guarantees an IP66 protection factor perfect for outdoor installation. The PCB is covered with high quality transparent glass. Equipped with the latest lighting technologies, this lantern incorporates a light source with high power SMD5050 LED technology, with a high luminous efficiency. Features of the XITANIUM Driver Dimmable 1-10V A LED driver is responsible for transforming the alternating current from the mains into direct current suitable for making the LED chips shine. Belenus By ISSOP Technology offers unique

reliability and flexibility, providing high performance and optimum efficiency of the equipment. The Driver has a multi-voltage input. This means that it is able to withstand line voltage surges and dips for a short period of time without damage. In addition, its output is also multi-voltage which means that it can deliver a constant voltage within a range allowing the same driver to be used for a variety of applications with different current and voltage requirements. Once the driver is powered, the voltage will automatically adjust and the output voltage will be constant. The entire range of drivers we use at Belenus By ISSOP Technology incorporates an IP65/IP66 enclosure that protects against moisture, vibration and temperature, ensuring maximum durability. The 1-10V dimmable driver should be used in conjunction with a desired dimmer, offering Smart city applications. Its power factor is very high, making it a very efficient 1-10V LED driver that allows us to easily select the desired light intensity.



Mo-LSP50W-L01	Mo-LSP100W-L02	Mo-LSP150W-L03
Power: 50W	Power: 100W	Power: 150W
Power: 8.000	Power: 16.000	Power: 24.000
Measures (mm): 555x200x105	Measures (mm): 615x233x100	Measures (mm): 675x260x100
Voltage: 100-277VAC	Adapted to Smart City	Lifetime: 85.000 hours
Opening angle: 120°	Color: Natural and Warm White	Guarantee: 5 years
Presentation: Box	Socket: Direct to mains	Material: Aluminium + Glass
Und / Box: 1	CRI >75	Dimmable: adjustable from 1-10V
Temperature: 3000K to 6500K	IP: 66	Outdoor Product



OUTDOOR LED FLOODLIGHTS

MO-10WFL-B01 / MO-200WFL-B01

The Dimmable Premium LED Floodlight specifically designed for outdoor lighting, sports, facades, etc. provides high performance features covering adequately and optimally the most demanding courts, courts and fields, combining its incredible features with a simple yet elegant design. Features of the floodlight, equipped with powerful 5050 LEDs, can be used to illuminate paddle and tennis courts using 130x60° T3-S1 type lenses. In addition, these floodlights are also used for road lighting. Single lane roads need a narrower light distribution to illuminate the road efficiently, Type T1 lenses would be used. Two-lane roads would use Type T2 lenses.

tion to illuminate a larger area, in this case we would use a Type T4 or T5 lens. This Premium Floodlight is designed to suit the lighting conditions required for each application. Aperture angles are measured in degrees and refer to the angle formed by the beam of light leaving the floodlight. The wider the opening angle, the wider the light distribution and vice versa. It has an adjustable driver, making it very versatile and offering protection against short circuits, overvoltage, overload and overheating. The aluminium housing incorporates heatsinks that optimise the cooling of the luminaire, allowing it to be used in unusual hot or cold conditions. Advantages of the LED Project Floodlight: The luminaire allows us to enjoy quality lighting, reducing energy consumption by up to 80%. The IP66 protection factor of the Premium LED Projector Spotlight makes it perfect for lighting outdoor spaces, where it can replace halogen spotlights.

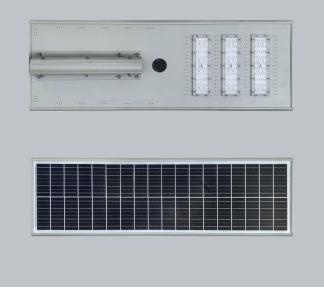


MO-10WFL-B01	MO-20WFL-B01	MO-30WFL-B01	MO-50WFL-B01
Power: 10W	Power: 20W	Power: 30W	Power: 50W
Lumens: 1.400	Lumens: 2.800	Lumens: 4.200	Lumens: 7.000
Measures (mm): 131x128x47	Measures (mm): 176x175x56	Measures (mm): 220x205x60	Measures (mm): 280x255x70
MO-100WFL-B01	MO-150WFL-B01	MO-200WFL-B01	
Power: 100W	Power: 150W	Power: 200W	
Lumens: 140.000	Lumens: 21.000	Lumens: 28.000	
Measures (mm): (mm): 286x282x72	Measures (mm): (mm): 346x335x83	Measures (mm): (mm): 413x388x93	
Voltage: 100-277VAC	EMC driver		Lifetime: 60.000 hours
Opening angle: 120°	Color: Natural and Warm White		Guarantee: 5 years
Presentation: Box	Socket: Epistar SMD2835		Material: Aluminium + Glass
Und / Box: 1	CRI >70		Non Dimmable
Temperature: 3000K to 6500K	IP: 66		Outdoor Product



16.





SOLAR LED STREET LIGHT

BE-MO-YTHST20W-A01

The Belenus By ISSOP Technology solar luminaire makes it easier than ever to meet your sustainability goals. With an integrated solar panel, and Lithium Ferrophosphate (LFP) battery, these solar street lights feature off-grid versions, also available in a wide range of colour temperatures from 3000K to 6500K with specific light prescriptions that help to avoid light pollution in protected areas. All this in a distinctive aluminium housing design (PDC) that is robust and durable. So you can bring light to off-grid areas for years and years to come. The Belenus solar luminaire uses the latest LED technology to achieve a long life of over 200,000 hours with best-in-class L95 light maintenance. The mounting

spigot offers different tilt angles and the option of side and post-top mounting. With our optimised optics you can also increase the distance between poles to reduce the total cost of ownership in a wide range of applications. We have created the Belenus solar luminaire for quick and easy installation, with access to the equipped compartment from above and without the need for tools, for easy mounting and maintenance. Connectivity and dimming options are available, including a radar motion sensor to automatically increase light levels when presence is detected. There is also the option to group and control neighbouring lanterns via an internal network to increase light levels in a coordinated manner in the event of presence or activity detection.



BE-MO-YTHST20W-A01	BE-MO-YTHST40W-A03	BE-MO-YTHST60W-A05	
Power: 20W	Power: 40W	Power: 60W	
Lúmens: 3.400-3.600	Lúmens: 6.800-7.200	Lúmens: 10.200-10.800	
Voltage: 6-40VAC	Voltage: 18-60VAC	Voltage: 18-100VAC	
BE-MO-YTHST80W-A07	BE-MO-YTHST100W-A08	MO-YTHST120W-A09	
Power: 80W	Power: 100W	Power: 120W	
Lúmens: 13.600-14.400	Lúmens: 17.000-18.000	Lúmens: 20.400-21.600	
Voltage: 18-120VAC	Voltage: 36-150VAC	Voltage: 36-200VAC	
 LiFePO4 Battery	Charging time: 6-8 Hours	Usage time: 12-15 Hours	
Opening angle: T2	Color: Natural and Warm White	Guarantee: 7 years	
Presentation: Box	Socket: Philips Lumileds or SEUL 5050LEDs	Material: Aluminium alloy	
Und / Box: 1	CRI >70	Non Dimmable	
Temperature: 3000K to 6500K	IP: 66	Outdoor Product	



SOLAR LED STREET LIGHT

BE-MS-SSL15WZ-L01

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BE-MS-SSL15WZ-L01	BE-MS-SSL20WZ-L02	BE-MS-SSL30WZ-L03
Power:15W	Power: 20W	Power: 30W
Lúmens: 2.550-2.700	Lúmens: 3.400-3.600	Lúmens: 5.100-5.400
Voltage: 6-40VAC	Voltage: 6-50VAC	Voltage: 6-60VAC
LiFePO4 Battery	Charging time: 6-8 Hours	Usage time: 12-15 Hours
Opening angle: T2	Color: Natural and Warm White	Guarantee: 5 years
Presentation: Box	Socket: Philips Lumileds Or Seul 5050LEDs	Material: Aluminium alloy
Und / Box: 1	CRI >70	Non Dimmable
Temperature: 3000K to 6500K	IP: 66	Outdoor Product



COMPARATIVE TECHNICAL REPORT

Most consumer goods are designed to stop working after a certain period of time. It is necessary to promote the change towards a sustainable and supportive economic model through ethical and environmentally responsible products.

This is the raison d'être of BELENUS By ISSOP Technology, which has created the first and only line of domestic, professional, industrial and public administration lighting without programmed obsolescence, i.e. all its components are designed not to fail, to reduce energy consumption and to achieve the maximum durability allowed by current technology.

By adding to the design the concepts of easily repairable and upgradable with the most advanced technological improvements, we achieve a lower consumption of raw materials, less waste generation and therefore be more respectful with the environment. Oep Electrics World Corporation SL is the first company in the world to be certified by TuvRheinland as a manufacturer of LED technology without programmed obsolescence.





COMPARATIVE TECHNICAL REPORT

BELENUS By ISSOP Technology entire family of luminaires is available for public bodies, industry, commerce and also private individuals. This equipment stands out because it has been manufactured without programmed obsolescence, because of the ease and speed of assembly, low energy consumption thanks to our use of LED technology and its high luminous efficiency.

All BELENUS By ISSOP Technology luminaires are designed without programmed obsolescence. The most technologically advanced components are used to guarantee the highest luminous efficiency with the longest durability allowed by the current state of the art:

- Latest generation LED chips.
- LEDs on aluminium or ceramic base.
- The operating current of the LED chips is a maximum of 60 to 70% of the design current stated by the manufacturer.
- The Printed Circuit Board (PCB), where the LED chips are inserted to generate
- the light emitting surface, is made of aluminium with a heat dissipation capacity of 3
- with the inclusion of materials that increase it by 20% to 30% more.
- Aluminium housings with maximum dissipation and durability.

With these measures alone, we have an assembly that limits the temperature of the LED junction to below the thresholds established as harmful and can guarantee almost zero luminous depreciation for its entire lifetime, between 250,000 and 350,000 operating hours.

The power supply system of the light modules are manufactured according to BELENUS By ISSOP Technology standards:

- Electronic components without programmed obsolescence and oversized to guarantee a useful life of 250,000 to 350,000 hours, along the same lines as the luminous modules.
- Electronics designed to eliminate any flickering of the LEDs during their lifetime (flickering).

Flickering occurs because the intensity of the current reaching the emitting diode (LED) is not constant and therefore there are discontinuities in the flow of electrons passing through it.

It should be remembered that, like any diode, the current passing through an LED can only pass in one direction (from cathode to anode); if we connect the diode to a source of alternating current of, say, 60Hz, the light emitted by the LED would be interrupted 60 times every minute. This is because the LEDs are not connected to alternating current but to **direct current of constant intensity** by means of the conversion from AC to DC carried out by the electronic system designed for this purpose (the so-called "driver").

Therefore, if we notice flickering in an LED luminaire, it is because the driver does not perform its function optimally and the intensity of the current generated is not totally constant (it has ups and downs) and/or this intensity does not flow sufficiently so that the lighting generated by the diode chains light emission in a sufficiently continuous manner so that the eye does not perceive this flickering.

In short, the perceived flickering of LED lighting is "eliminated" by using a driver that keeps the current intensity constant. It is a question of technique (and cost, as more elements must be incorporated to make this constancy really stable).

- To achieve this, we use high quality, oversized, civil aviation electronic components, which remain stable over time throughout their service life.
- Range adaptable to any public luminaire management system.

This is why the product offers an initial warranty of 7 years with no small print, extendable to 10 years if the quality of the electrical supply panel is guaranteed by the incorporation of suitable surge protectors.

In this way we can guarantee a sustainable, environmentally and socially friendly product.

- It will generate minimal waste at the end of its useful life as it can be refurbished using many of the original elements.
- It will help to reduce the consumption of raw materials and CO2 emissions into the atmosphere by avoiding the unnecessary manufacture of elements that are 100% reusable due to their quality.



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COMPARATIVE SUMMARY

Manufacturing Conventional LED Technology

- 1. LEDs generally manufactured with a plastic base
- 2. The LED works between 90 and 100% in mA
- **3.** PCB generally made of FR4 material or aluminium with dissipation capacity 1, low dissipation.
- Housing construction with low dissipation capacity and limited quality, also limiting ease of repair.
- Life-limited drivers, such as electrolytic capacitors and other undersized components.
- 6. They shut off incoming and outgoing current, in order to avoid future electronics upgrades, and therefore repairs, by designing housings that are either beyond repair or very expensive to repair.
- 7. Warranties of between 2 and 5 years, with much shorter actual durability. Warranties often have small print that benefits the manufacturer.
- 8. Often equipment from the beginning or within a short time suffers from flickering.
- 9. Light decay from the first year onwards, on average 2.5% per 1,000 hours of use.
- Without certificates guaranteeing a certain durability, such as TM21.

BELENUS By ISSOP Technology, no planned obsolescence

- 1. LED made of aluminium or ceramic base with maximum dissipation capacity.
- 2. The LED is never subjected to a pressure of more than 60 or 70% in mA.
- PCB made of aluminium with maximum dissipation capacity, the three and inclusion of material that increase the dissipation, depending on the power of the equipment, between 20 and 50 30%.
- Aluminium housing construction with maximum dissipation capacity and durability, including innovative materials to allow for repairability.
- 5. Driver made in-house or with over-dimensioned and tested components from civil aviation.
- We leave all possibilities open so that equipment can be repaired and upgraded.
- 7. Minimum guarantee of 7 years, extendable to 10 years depending on the zones and checking the maintenance of the electrical panels and the protections in terms of overvoltage. 8. Total absence of flickering throughout its useful life.
- 9. Virtually no light decay during its lifetime.

 First company in the world to be certified by TuvRheinland as a manufacturer of LED technology without planned obsolescence.



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