



Lighting Assessment: New Works:

Formation of charging zone, erection of EV chargers, erection of canopy, Substation enclosure, one jet wash bay and associated forecourt works.

Marston Green Service Station, 53 Station Road, Marston Green, Solihull, B37 7AB

(Please refer to drawings ref: DM190.1 and DM 190.2)

Exterior Lighting for New Works:

The new lighting is indicated on drawing SH190.1 (A,B, C1 and C2).

A product description for each new luminaire type is included within the key. All exterior lighting is specified with an LED beam control system enabling sharp cut off and control of beam direction (below 70 degrees), avoiding glare, trespass and night sky pollution. Lighting Product datasheets are included for reference.

Impact on neighbouring property by the new scheme and compliance.

The LPA has stated: Before any development scheme lighting is used on the premises, it shall be subject to a lighting assessment, which shall be submitted for approval by the Local Planning Authority.

The scheme shall assess and quantify light levels and show contoured light impact (lux levels) that indicate light overspill e.g. Illuminance in the vertical plane (Ev).

The scheme shall demonstrate compliance with relevant guidance (e.g. The institution of Lighting Professionals Guidance Note GN01/21 - The Reduction of Obtrusive Light (2021)).

The installation and subsequent operation of lighting on site shall be in accordance with the approved scheme which shall thereafter be maintained.

Illuminance contours for the new luminaires and locations, are shown on drawing DM190.1 and the resulting illuminance values for the new site lighting for horizontal levels across the subject area and vertical levels (Lux) on the front face of adjacent receptor boundaries/residential properties are shown on drawing DM190.2.

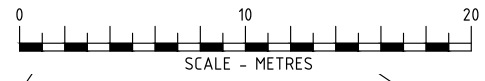
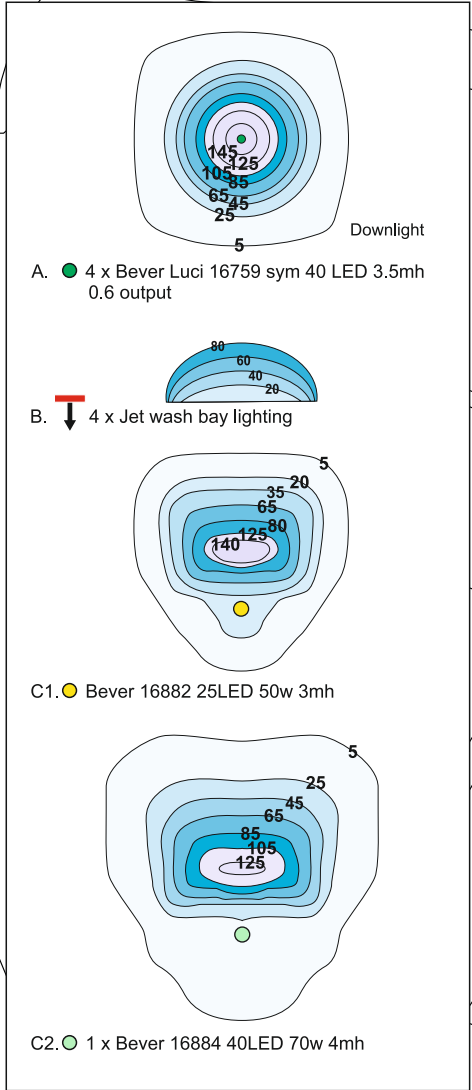
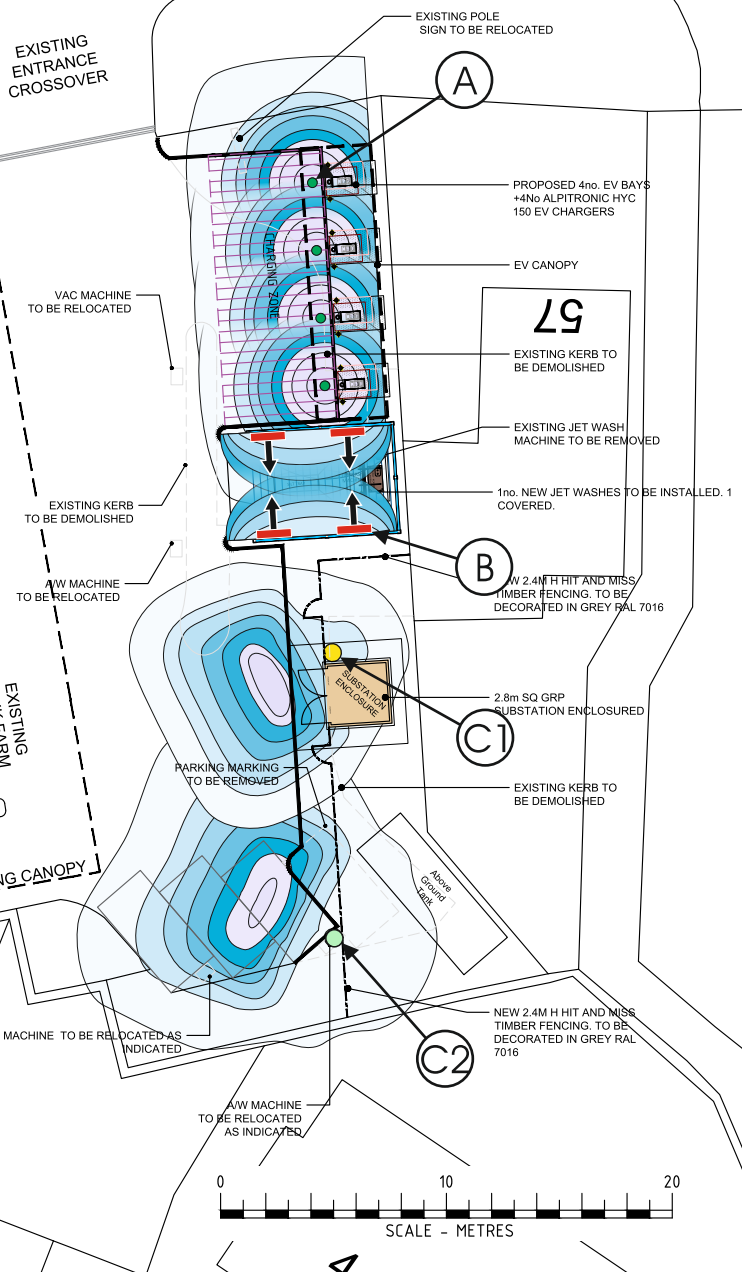
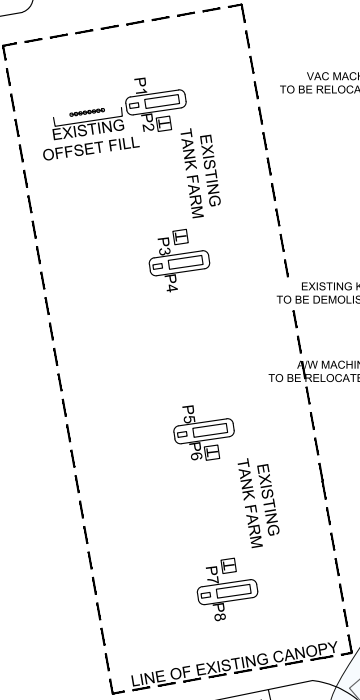
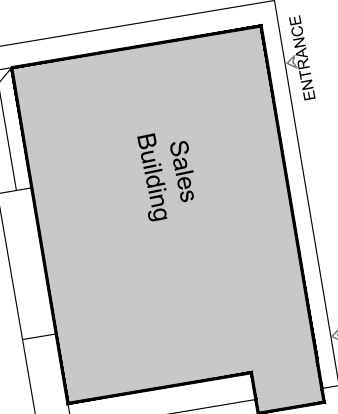
I can confirm tested compliance compatible with ILP GN01/21, Environmental Zone E3, Table 3 - Limitation of Illumination on Surrounding Premises.

Existing and proposed boundary treatment to adjacent property along with the benefit of good lighting design with new LED technology will provide a high degree of control to restrict any boundary spillage of light and eliminate nuisance to neighbouring residents, highways and any adjacent wildlife habitats.

STATION ROAD



ELM FARM AVENUE



The lighting information provided on this drawing is for planning purposes only. The specified product manufacturer must be contacted for a comprehensive design and limited warranty information prior to product procurement. Emergency and Escape Lighting (not shown) is to be installed and compliant with BS5266-1 and The Regulatory Reform (Fire Safety) Order 2005 respectively.

TITLE: Proposed new works lighting plan - MARSTON GREEN

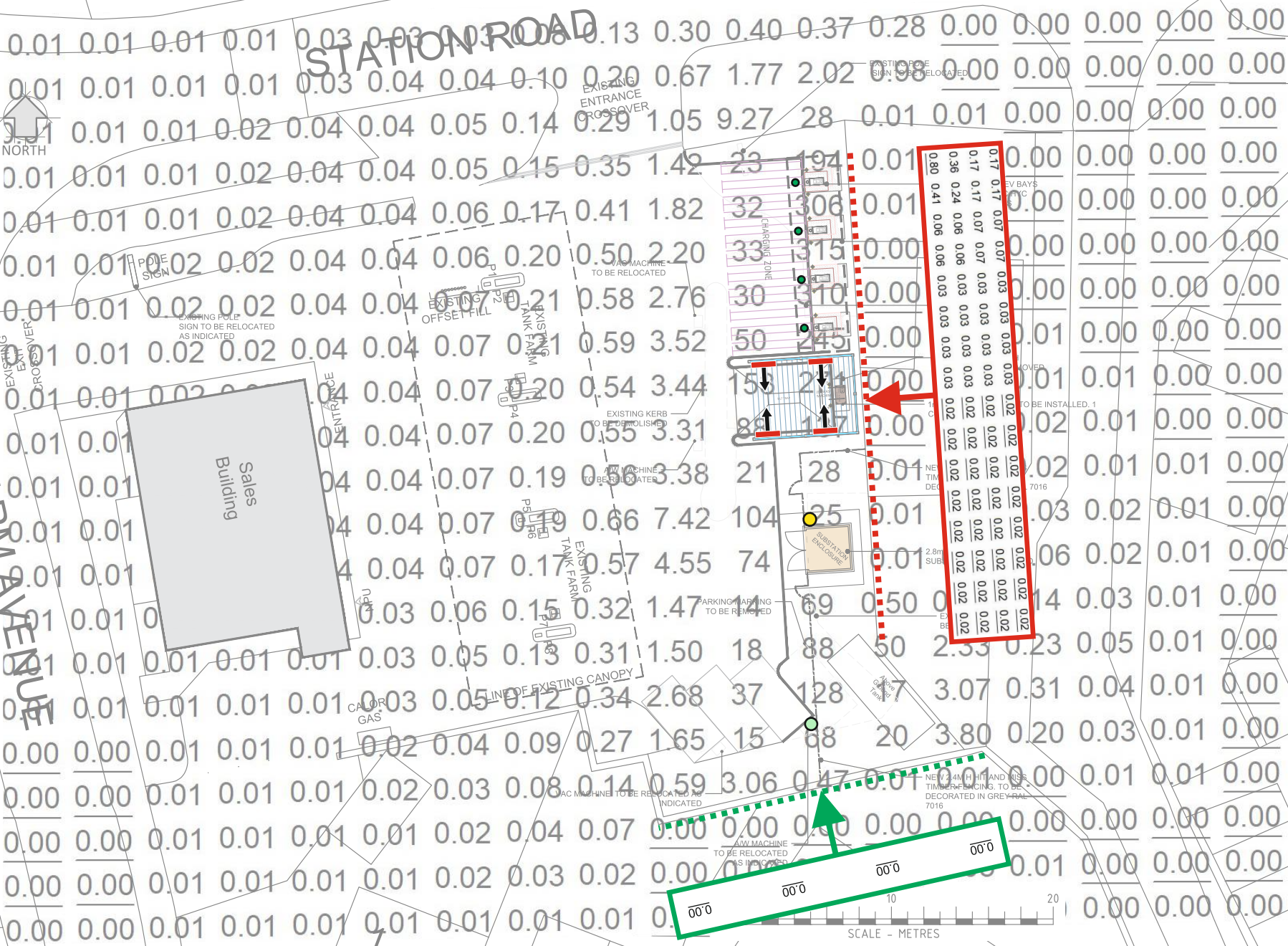
FILE REF: DM190.1

CLIENT: MBH/MFG

THE GRAHAM WHITE LIGHTING CONSULTANCY
 20 Ribston Road, Farnham, Surrey. GU9 7GR
 Mobile: 07778 523667 | e-mail: design@gwlc.co.uk
 www.gwlc.co.uk



Lighting Solutions that Care for the Environment



The lighting information provided on this drawing is for planning purposes only. The specified product manufacturer must be contacted for a comprehensive design and limited warranty information prior to product procurement. Emergency and Escape Lighting (not shown) is to be installed and compliant with BS5266-1 and The Regulatory Reform (Fire Safety) Order 2005 respectively.

TITLE: Horizontal and Vertical value charts - MARSTON GREEN

FILE REF: DM190.2

CLIENT: MBH/MFG




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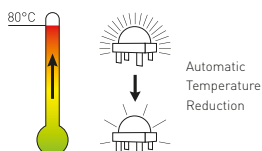
Luci Series EOS²


Benefits

- + Flexible luminaire. Select the number of LED's and optic for an ideal lighting solution.
- + Easy Installation. Click & Lock surface mounting plate.
- + Intelligent output control using integrated Motion and Daylight sensor.
- + Self-controlled operating conditions:
 - Luminaire Intelligent Protection System (LIPS). 
 - Active Overheat Protection (AOP). 
 - Light Normalizer – No Lumen drop during lifetime.
- + Integrated EOS technology: 
 - Plug-and-play self-organizing wireless network.
 - Encrypted communication.
 - Advised maximum spacing for network: 25 meter.
- + Intuitive control and analysis with the EOS Manager app:
 - User authentication and data encryption.
 - Visual representation of your EOS network.
 - Extensive configuration, information, and usage statistics.
 - Share sensor information between EOS devices.
- + Protected against dust and water intrusions, IP67

Features

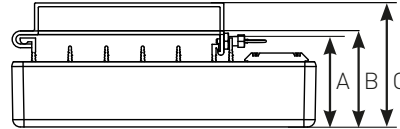
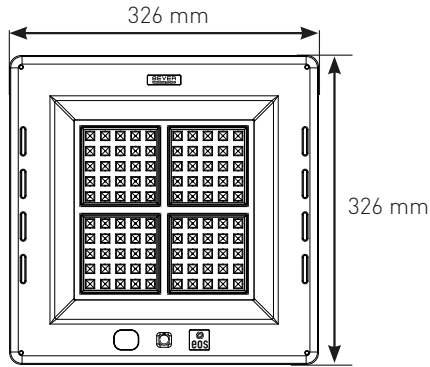
Number of LED's	40 / 50 / 80
Lumen Output	Up to 19.617 lm
Input Power	Up to 180 W
Efficacy	Up to 127 lm/W
Colour Temperature (CCT)	4000K / 5700K
Colour Rendering Index (CRI)	83+ / 73+
Rated Life	100.000+ Hours*
Daylight Sensor (DLS)	Integrated
Motion Sensor (PIR)	Integrated. Range: 7 meter**
Housing	PC-ABS white, Anodized Aluminium
Optic	PMMA
Mounting Options	Surface, Recessed
Dimensions	326 x 326 x 98 mm
Operating Temperature	-30 °C to +60 °C***
Connection cable	1500 mm EPR extra flexibility (-40 °C + 90 °C), UV resistant
Voltage	90 - 305 VAC @ 47 - 63 Hz 127 - 431 VDC
Rated Input Current	120 V - 1.25 A 305 V - 0.54 A
Power Factor	0.97 typical
IEC Safety Class	I
Weight	7.2 kg
AC Harmonics	Less than 10% THD compliant to EN55015



* L80/B10 at 25 °C constant ambient temperature, constant full power.
 ** Detected temperature difference 8 °C @ 1 m/s
 *** Active Overheat Protection above 80 °C at PCB 



Dimensions



- A recessed* = 98 mm
- B surface mounted = 103 mm (low profile)
- C surface mounted = 133 mm (standard profile)

* Optional recessed brackets available.

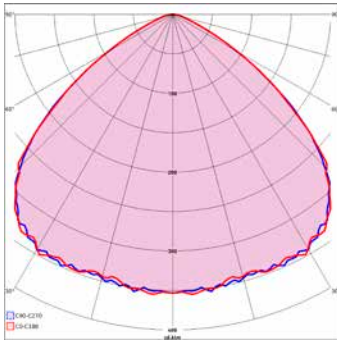
Ordering information

Article number	Nomenclature	Number of LED's	Optic	Default Power	Default Lumen	Max. Power	Max. Lumen	Max. Efficacy	CCT	CRI
Luci Series EOS 40 LED										
16759	Luci02-S-MB01-40LED-N0-93W (EOS ² , 5700K)	40		75W	8645 lm	93W	10382 lm	127 lm/W	5700K	73+
Luci Series EOS 50 LED										
16764	Luci02-S-MB01-50LED-N0-125W (EOS ² , 4000K)	50		100W	11155 lm	125W	13300 lm	117 lm/W	4000K	83+
16760	Luci02-S-MB01-50LED-N0-125W (EOS ² , 5700K)	50		100W	11552 lm	125W	13626 lm	125 lm/W	5700K	73+
16868	Luci02-A-MB02-50LED-N0-125W (EOS ² , 4000K)	50		100W	11279 lm	125W	13309 lm	116 lm/W	4000K	83+
16762	Luci02-A-MB02-50LED-N0-125W (EOS ² , 5700K)	50		100W	11691 lm	125W	13790 lm	123 lm/W	5700K	73+
Luci Series EOS 80 LED										
16765	Luci02-S-MB01-80LED-N0-180W (EOS ² , 4000K)	80		145W	15636 lm	180W	18790 lm	120 lm/W	4000K	83+
16761	Luci02-S-MB01-80LED-N0-180W (EOS ² , 5700K)	80		145W	16358 lm	180W	19496 lm	127 lm/W	5700K	73+
16766	Luci02-A-MB02-80LED-N0-180W (EOS ² , 4000K)	80		145W	16074 lm	180W	19240 lm	119 lm/W	4000K	83+
16763	Luci02-A-MB02-80LED-N0-180W (EOS ² , 5700K)	80		145W	16341 lm	180W	19617 lm	121 lm/W	5700K	73+

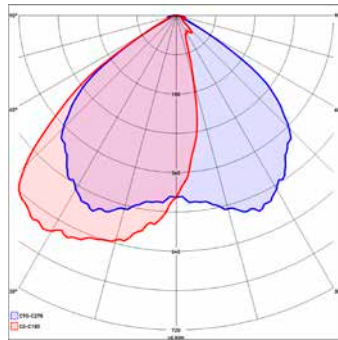
▶ Asymmetrical

▶ Symmetrical

Optic



Symmetrical



Asymmetrical

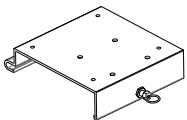
Accessories

Surface Mounted

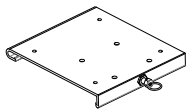
- 13135 High Mounting plate for Surface mounting
- 12996 Low Mounting plate for Surface mounting

Recessed Mounted

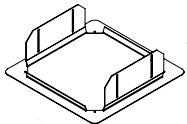
- 13406 Recessed frame for new canopies and retrofit of Philips Mini 300 (hole 360x360 mm)
- 11726 Recessed frame for retrofit of Philips MPF (hole 470x470 mm)
- 13742 Recessed frame for retrofit of Cube (hole 380x380 mm)
- 13746 Recessed frame for retrofit (hole 600x600 mm)
- 13738 Recessed frame for retrofit of Parkersell Canolux (hole 560x410 mm)



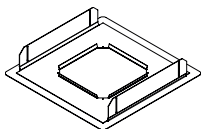
13135 Luci Series + High Mounting Plate = 133 mm high



12996 Luci Series + Low Mounting Plate = 103 mm high



13406 Philips Mini 300 (hole 360x360 mm)



11726 Philips MPF (hole 470x470 mm)

13742 Cube (hole 380x380 mm)

13746 Retrofit (hole 600x600 mm)

13738 Parkersell Canolux (hole 560x410 mm)

Compliances Luci Series EOS

IEC 60598-1

IEC 60598-2-1

IEC 60598-2-2

IEC 62471:2008

EMC directive 2004/108/EC:

- EN 55015:2006 +A1:2007, +A2:2009

- EN 61000-3-2:2006 +A1:2009, +A2:2009

- EN 61000-3-3:2008

- EN 61547:2009

o EN 61000-4-2:2009

o EN 61000-4-3:2006 +A1:2008, +A2:2010

o EN 61000-4-4:2004, +A1:2010

o EN 61000-4-5:2006

o EN 61000-4-6:2009

o EN 61000-4-11:2004

Luminaires - Part 1: General requirements and tests

Luminaires - Part 2-1: Particular requirements - Fixed general purpose luminaires

Luminaires - Part 2-2: Particular requirements - Recessed luminaires

Photobiological safety of lamps and lamp systems

Limits and methods of measurement of radio disturbance of electrical lighting and similar equipment

Harmonic current emissions

Limitation of voltage fluctuations

Equipment for general lighting purposes. EMC immunity requirements. From which:

Electrostatic discharge (ESD) immunity

Radiated EM field immunity

Electrical fast transient (EFT) immunity

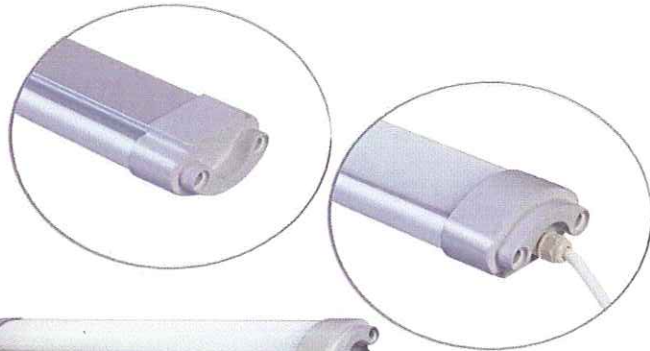
Surge transient immunity

Conducted Radio-frequency disturbance immunity

Immunity to voltage dips and short interrupts.

PANTALLA ESTANCA LED D IP65 · Multiusos (exterior o interior)

Parkings, almacenes, fábricas, maquinaria, ascensores, oficinas, cocinas, jardines y terrazas, etc.



IP65
IK08 **120°**



Especificaciones técnicas

Referencia	W	Equivalente	Temperatura de color	Dimensiones	Lúmenes nominales	Flujo luminoso	PVP*
PED10W/865 PED10W/840	10W	1x18W (600mm)	6500K-4000K	600x80x36mm	1100 Lm 1100 Lm	950 Lm 950 Lm	
PED18W60/865 PED18W60/840	18W	2x18W (600mm)	6500K-4000K	600x80x36mm	1980 Lm 1980 Lm	1834 Lm 1834 Lm	
PED18W120/865 PED18W120/840	18W	1x36W (1200mm)	6500K-4000K	1200x80x36mm	1980 Lm 1980 Lm	1834 Lm 1834 Lm	
PED36W/865 PED36W/840	36W	2x36W (1200mm)	6500K-4000K	1200x80x36mm	3960 Lm 3960 Lm	3808 Lm 3808 Lm	
PED22W/865 PED22W/840	22W	1x58W (1500mm)	6500K-4000K	1500x80x36mm	2420 Lm 2420 Lm	2100 Lm 2100 Lm	
PED45W/865 PED45W/840	45W	2x58W (1500mm)	6500K-4000K	1500x80x36mm	4950 Lm 4950 Lm	4528 Lm 4528 Lm	
Radar Apagado al 20%							
PEDR10W/865 PEDR10W/840	10W Radar	1x18W (600mm)	6500K-4000K	600x80x36mm	1100 Lm 1100 Lm	950 Lm 950 Lm	
PEDR18W60/865 PEDR18W60/840	18W Radar	2x18W (600mm)	6500K-4000K	600x80x36mm	1980 Lm 1980 Lm	1834 Lm 1834 Lm	
PEDR36W/865 PEDR36W/840	36W Radar	2x36W (1200mm)	6500K-4000K	1200x80x36mm	3960 Lm 3960 Lm	3808 Lm 3808 Lm	
PEDR45W/865 PEDR45W/840	45W Radar	2x58W (1500mm)	6500K-4000K	1500x80x36mm	4950 Lm 4950 Lm	4528 Lm 4528 Lm	



*Impuestos no incluidos. Tensión: 85-265V (50-60 Hz) PF>0,9. CRI>80.

Disponible desde Julio 2016

Instalación rápida en superficie o colgada

ledsmax MI-LED



ESADECREAPOLIS
OPEN INNOVATION COMMUNITY





SKU: 16882

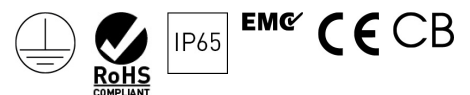
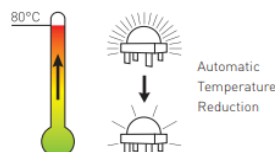
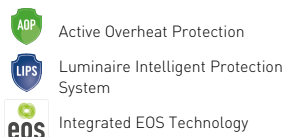
Ambiente. A-Symm. Wide Beam. 25LED - N0. 50W default. 5700K. CRI73+. EOS.

Features

Productgroup	Ambiente
Power supply	Integrated
Input voltage	90 - 305 Vac 127 - 431 VDC
Frequency	47 - 63 Hz
Input Power (default)	50 Watt
Maximum allowed power (EU directive 2019/2020)	53 Watt
Lumen output (up to)	5527 lm
Efficacy (default)	110 lm/W
Colour temperature (CCT)	5700 K
Colour rendering index (CRI)	73+
Colour consistency	5 Macadam Ellipses
Upward light ratio (ULR)	< 1%
LED-count	25
Optic	PMMA
Beam optics	Wide area
Housing	Diecast aluminium / tempered safety glass
Mounting	Suits straight and angled poles
Pole diameter	48 - 60 mm
Dimensions	644 x 303 x 132 mm
Adjustable angle	-5° to +10°, bended or straight poles
EOS wireless technology	Yes
Motion sensor (PIR)	Available
Ingress protection	IP65
Mechanical impact resistance	IK08
Max SCx	0.0432 m²
IEC safety class	I
Power factor	0.96 typical
AC harmonics	Less than 10% THD compliant to EN55015
Inrush current	65 A 1.2 ms
B-16A fuse	10 pcs
C-16A fuse	14 pcs
Operating temperature	-40°C to +60°C
Rated life (L80B10)	100,000+ hours
Weight	7.20 kg

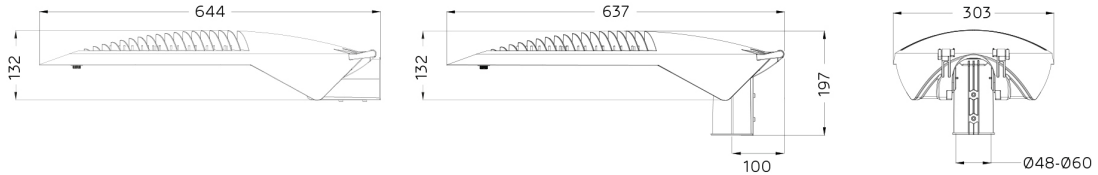
Benefits

- + Increases visibility and comfort
- + Most advanced LED-technology
- + High efficient design: up to 114 lm/W luminaire efficacy
- + Outdoor ambient resistant -40°C to +60°C
- + Integrated die cast aluminium housing ensures good thermal management maximizing life and LED performance
- + Protected on against moisture, power dips or surges
- + Same model for straight or bended poles, easy finetuning of angle
- + Easy to install by one person
- + Attractive design
- + Mounting height: max. 18 meter
- + Night-time dimming. Configurable dusk till dawn dimming schedule
- + Self-controlled operating conditions:
 - Luminaire Intelligent Protection System (LIPS)
 - Active Overheat Protection (AOP)
 - Light Normalizer - No Lumen drop during lifetime
- + Integrated EOS technology:
 - Plug-and-play self-organizing wireless network
 - Encrypted communication
 - Advised maximum spacing for network: 30 meter
- + Intuitive control and analysis with the EOS Manager app:
 - User authentication and data encryption
 - Visual representation of your EOS network
 - Extensive configuration, information, and usage statistics
 - Share sensor information between EOS devices

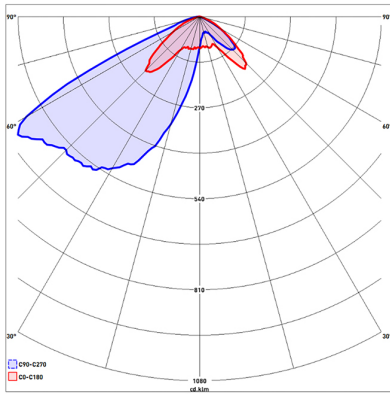


Bever_SPEC_Ambiente EOS2 Area_01-02-22

Dimensions



Optic



Ordering information

Name	SKU	Optic	Power	Lumen	Efficacy	CCT	CRI	Weight
Ambiente EOS2 Area 25 LED								
Ambiente 25LED 50W 3000K PIR	19381	Wide area	50 W	5527 lm	110 lm/W	3000 K	73+	7.20 kg
Ambiente 25LED 50W 4000K	16881	Wide area	50 W	5128 lm	102 lm/W	4000 K	83+	7.20 kg
Ambiente 25LED 50W 4000K PIR	19284	Wide area	50 W	5128 lm	102 lm/W	4000 K	83+	7.20 kg
Ambiente 25LED 50W 5700K	16882	Wide area	50 W	5527 lm	110 lm/W	5700 K	73+	7.20 kg
Ambiente 25LED 50W 5700K PIR	19380	Wide area	50 W	5527 lm	110 lm/W	5700 K	73+	7.20 kg
Ambiente EOS2 Area 40 LED								
Ambiente 40LED 70W 3000K	18609	Wide area	70 W	8122 lm	115 lm/W	3000 K	73+	7.20 kg
Ambiente 40LED 70W 3000K PIR	19379	Wide area	70 W	7558 lm	107 lm/W	3000 K	73+	7.20 kg
Ambiente 40LED 70W 4000K	16883	Wide area	70 W	7558 lm	107 lm/W	4000 K	83+	7.20 kg
Ambiente 40LED 70W 4000K PIR	19378	Wide area	70 W	7558 lm	107 lm/W	4000 K	83+	7.20 kg
Ambiente 40LED 70W 5700K	16884	Wide area	70 W	8122 lm	115 lm/W	5700 K	73+	7.20 kg
Ambiente 40LED 70W 5700K PIR	18626	Wide area	70 W	8122 lm	115 lm/W	5700 K	73+	7.20 kg

Accessoires



60 - 76 adapter

15354 Ambiente. Pole adapter 76=>60mm. Galvanised steel.



19376 Ambiente. Wall bracket. 110mm arm 0° angle. Steel (galvanized)

Compliances

IEC 60598-1

IEC 60598-2-3 +A1:2011

IEC 62471:2008

IEC 60068-2-52

EN 50102

EN 55015: 2013

EN 61000-3-2: 2014

EN 61000-3-3: 2013

Luminaires - Part 1: General requirements

Luminaires - Part 2-3: Particular requirements – Luminaires for road and street lighting

Photobiological safety of lamps and lamp systems

Environmental tests - Salt mist

Degree of protection by enclosures for electrical equipment against external mechanical impacts (IK Code)

Emission - Electrical lighting and similar equipment

Limits for harmonic currents emissions

Limitation of voltage fluctuations and flicker



SKU: 16884

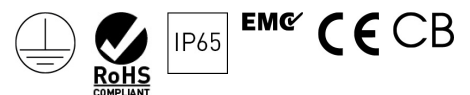
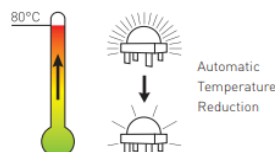
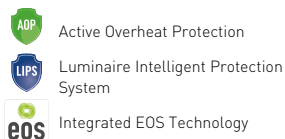
Ambiente. A-Symm. Wide Beam. 40LED - NO. 70W default. 5700K. CRI73+. EOS.

Features

Productgroup	Ambiente
Power supply	Integrated
Input voltage	90 - 305 Vac 127 - 431 VDC
Frequency	47 - 63 Hz
Input Power (default)	70 Watt
Maximum allowed power (EU directive 2019/2020)	77 Watt
Lumen output (up to)	8122 lm
Efficacy (default)	115 lm/W
Colour temperature (CCT)	5700 K
Colour rendering index (CRI)	73+
Colour consistency	5 Macadam Ellipses
Upward light ratio (ULR)	< 1%
LED-count	40
Optic	PMMA
Beam optics	Wide area
Housing	Diecast aluminium / tempered safety glass
Mounting	Suits straight and angled poles
Pole diameter	48 - 60 mm
Dimensions	644 x 303 x 132 mm
Adjustable angle	-5° to +10°, bended or straight poles
EOS wireless technology	Yes
Motion sensor (PIR)	Available
Ingress protection	IP65
Mechanical impact resistance	IK08
Max SCx	0.0432 m ²
IEC safety class	I
Power factor	0.96 typical
AC harmonics	Less than 10% THD compliant to EN55015
Inrush current	65 A 1.2 ms
B-16A fuse	10 pcs
C-16A fuse	14 pcs
Operating temperature	-40°C to +60°C
Rated life (L80B10)	100,000+ hours
Weight	7.20 kg

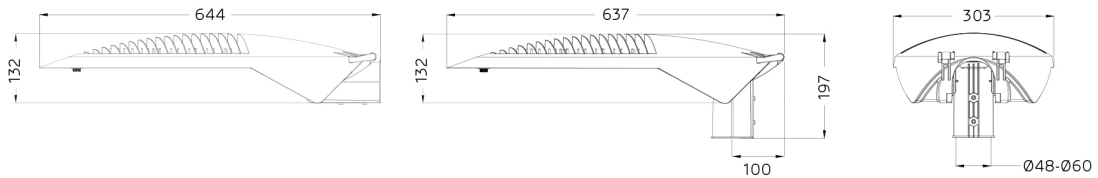
Benefits

- + Increases visibility and comfort
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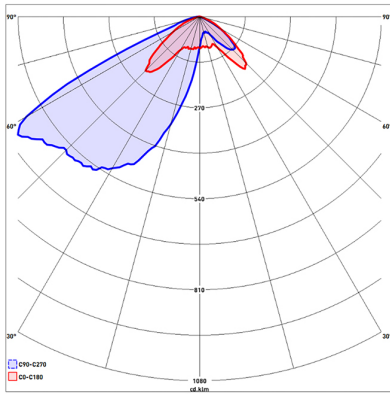


Bever_SPEC_Ambiente EOS2 Area_01-02-22

Dimensions



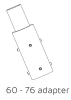
Optic



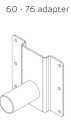
Ordering information

Name	SKU	Optic	Power	Lumen	Efficacy	CCT	CRI	Weight
Ambiente EOS2 Area 25 LED								
Ambiente 25LED 50W 3000K PIR	19381	Wide area	50 W	5527 lm	110 lm/W	3000 K	73+	7.20 kg
Ambiente 25LED 50W 4000K	16881	Wide area	50 W	5128 lm	102 lm/W	4000 K	83+	7.20 kg
Ambiente 25LED 50W 4000K PIR	19284	Wide area	50 W	5128 lm	102 lm/W	4000 K	83+	7.20 kg
Ambiente 25LED 50W 5700K	16882	Wide area	50 W	5527 lm	110 lm/W	5700 K	73+	7.20 kg
Ambiente 25LED 50W 5700K PIR	19380	Wide area	50 W	5527 lm	110 lm/W	5700 K	73+	7.20 kg
Ambiente EOS2 Area 40 LED								
Ambiente 40LED 70W 3000K	18609	Wide area	70 W	8122 lm	115 lm/W	3000 K	73+	7.20 kg
Ambiente 40LED 70W 3000K PIR	19379	Wide area	70 W	7558 lm	107 lm/W	3000 K	73+	7.20 kg
Ambiente 40LED 70W 4000K	16883	Wide area	70 W	7558 lm	107 lm/W	4000 K	83+	7.20 kg
Ambiente 40LED 70W 4000K PIR	19378	Wide area	70 W	7558 lm	107 lm/W	4000 K	83+	7.20 kg
Ambiente 40LED 70W 5700K	16884	Wide area	70 W	8122 lm	115 lm/W	5700 K	73+	7.20 kg
Ambiente 40LED 70W 5700K PIR	18626	Wide area	70 W	8122 lm	115 lm/W	5700 K	73+	7.20 kg

Accessoires



15354 Ambiente. Pole adapter 76=>60mm. Galvanised steel.



19376 Ambiente. Wall bracket. 110mm arm 0° angle. Steel (galvanized)

Compliances

IEC 60598-1

IEC 60598-2-3 +A1:2011

IEC 62471:2008

IEC 60068-2-52

EN 50102

EN 55015: 2013

EN 61000-3-2: 2014

EN 61000-3-3: 2013

Luminaires - Part 1: General requirements

Luminaires - Part 2-3: Particular requirements – Luminaires for road and street lighting

Photobiological safety of lamps and lamp systems

Environmental tests - Salt mist

Degree of protection by enclosures for electrical equipment against external mechanical impacts (IK Code)

Emission - Electrical lighting and similar equipment

Limits for harmonic currents emissions

Limitation of voltage fluctuations and flicker