



External Lighting - Technical Submittal (TSE)

Project: Angel Meadows, Plot 2 & 3
Project No: MC1120
TSM No: MC1120/TSE006
Revision: -
Date: 25/10/2019

Notes:

- All external lighting is to be controlled via photocell.
- Handrail LED Is to be supplied to Handrail manufacturer for installation

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CARBONCONSULTANTS



ameon
Building Services Engineering

External Lighting - Technical Submittal



Project	Angel Meadows
Project No.	MC1120
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Revision	-
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[illegible]

Notes:

- 1) B14 original specified fitting is now obsolete, the above proposal is as per specification, however we are currently seeking a cost neutral replacement
2) L2 Cannot be detailed until the handrail information is available.
3)
4)
5)



Luma Micro

BGP615 LED10-4S/740 PSU I DM10 GR 62

LUMA MICRO - LED Module 1000 lm - 740 neutral white -
Power supply unit - Safety class I - Distribution medium 10 -
Grey - Spigot for diameter 62 mm

Luma is a high-performance road-lighting luminaire with a clear design identity, offering a perfectly cooled, fit-and-forget solution for all streets and roads. The lumen package, lifetime and energy profile can be tuned to create the desired solution in terms of energy and cost savings. Luma can be programmed to keep the flux of the LEDs at a predefined constant level over the lifetime of the luminaire – by increasing the operating current over time to compensate for the LED lumen depreciation. This eliminates over-lighting at the beginning, enabling additional extra energy savings. Luma uses the high-performance LEDGINE-O engine with the latest LED performance and a wide range of optics to the latest standards. Moreover, Luma's truly flat design prevents upward light. To optimise the light distribution for varying road geometries and/or glare restrictions, the tilt angle can easily be adjusted on installation.

Product data

General Information			
Number of light sources	12 [12 pcs]	Embedded control	No [-]
Lamp family code	LED10 [LED Module 1000 lm]	Control interface	-
Light source colour	740 neutral white	Connection	Screw connection block
Light source replaceable	Yes	Cable	-
Number of gear units	1 unit	Protection class IEC	Safety class I
Driver/power unit/transformer	PSU [Power supply unit]	Glow-wire test	Temperature 850 °C, duration 5 s
Driver included	Yes	Flammability mark	NO [-]
Optical cover/lens type	FG [Flat glass]	CE mark	-
Luminaire light beam spread	157° - 33° x 55°	ENEC mark	ENEC mark
		Warranty period	5 years

Luma Micro

Outdoor optic type	Distribution medium 10
Remarks	*-Per Lighting Europe guidance paper "Evaluating performance of LED based luminaires - January 2018": statistically there is no relevant difference in lumen maintenance between B50 and for example B10. Therefore the median useful life (B50) value also represents the B10 value. * At extreme ambient temperatures the luminaire might automatically dim down to protect components
Constant light output	No
Number of products on MCB	20
RoHS mark	-
WEEE mark	-
LED engine type	LED
Product Family Code	BGP615 [LUMA MICRO]

Light Technical

Upward light output ratio	0
Standard tilt angle post-top	0°
Standard tilt angle side entry	0°

Operating and Electrical

Input voltage	220 to 240 V
Input frequency	50 to 60 Hz
Initial CLO power consumption	- W
Average CLO power consumption	- W
End CLO power consumption	- W
Inrush current	15 A
Inrush time	0.36 ms
Driver current	216 mA
Power factor (min.)	0.93

Controls and Dimming

Dimmable	No
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Mechanical and Housing

Housing material	Aluminium
Reflector material	Polycarbonate
Optic material	Polycarbonate
Optical cover/lens material	Glass
Fixation material	Aluminum
Mounting device	62 [Spigot for diameter 62 mm]
Optical cover/lens shape	Flat
Optical cover/lens finish	Clear

Torque	20
Overall length	622 mm
Overall width	290 mm
Overall height	130 mm
Effective projected area	0.049 m²
Colour	Grey

Approval and Application

Ingress protection code	IP66 [Dust penetration-protected, jet-proof]
Mech. impact protection code	IK09 [10 J]
Surge protection (common/differential)	Philips standard surge protection level kV

Initial Performance (IEC Compliant)

Initial luminous flux	900 lm
Luminous flux tolerance	+/-7%
Initial LED luminaire efficacy	125 lm/W
Init. Corr. colour temperature	4000 K
Init. colour rendering index	70
Initial chromaticity	(0.381, 0.379) SDCM <5
Initial input power	7.2 W
Power consumption tolerance	+/-11%

Over Time Performance (IEC Compliant)

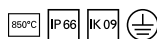
Control gear failure rate at median useful life 100000 h	10 %
Lumen maintenance at median useful life* 100000 h	L96

Application Conditions

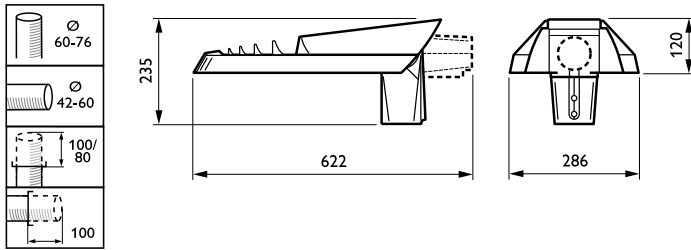
Ambient temperature range	-40 to +50 °C
Performance ambient temperature Tq	25 °C
Maximum dimming level	Not applicable

Product Data

Full product code	871869637310100
Order product name	BGP615 LED10-4S/740 PSU I DM10 GR 62
EAN/UPC – product	8718696373101
Order code	37310100
Numerator – quantity per pack	1
Numerator – packs per outer box	1
Material no. (12NC)	910925452183
Net weight (piece)	6.750 kg

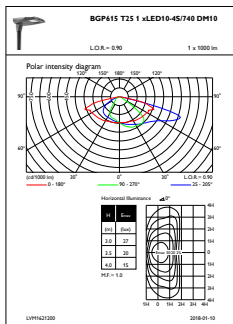


Dimensional drawing

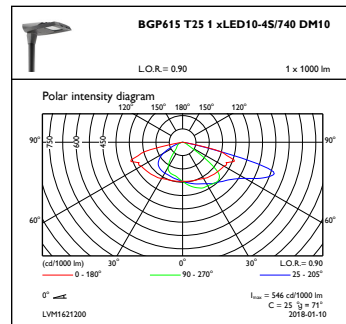


Luma Micro (DACH) BGP615

Photometric data



OFPL1_BGP615T251xLED10-4S740DM10



OFPC1_BGP615T251xLED10-4S740DM10





Date: _____ Type: _____

Firm Name: _____

Project: _____

eW Graze MX Powercore

2700 K, 10° x 60° beam angle

Premium linear exterior LED wall grazing fixture with solid white light

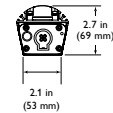
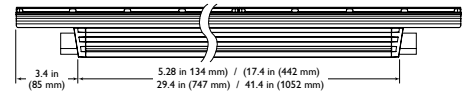
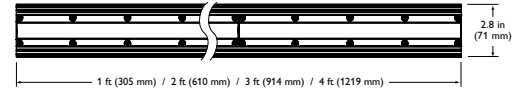


The DesignLights Consortium® (DLC) administers the Qualified Products List, a leading resource

that identifies quality, high-efficiency LED products and sets the bar for efficiency program incentives in the U.S. and Canada.

Visit designlights.org/qpl for a complete list of qualified eW Graze Powercore products.

eW Graze MX Powercore features the most light output in our line of solid white light grazing fixtures for high-intensity multi-story façade and surface illumination. Featuring Powercore technology, fixtures process power directly from line voltage, eliminating the need for external power supplies. Fixtures are available in standard color temperatures of 2700 K, 4000 K, and 5500 K, with additional custom color temperatures available, ranging from 3000 K to 6500 K. Four fixture lengths and five beam angles support a large range of façade or surface illumination applications.



- Tailor light output to specific applications — Available in four standard lengths, with standard 9° x 9°, 10° x 60°, 15° x 30°, 30° x 60° and 60° x 30° beam angles.
- High-performance illumination and beam quality — eW Graze Powercore fixtures deliver up to 876 lumens of high-quality white light per foot. Superior beam quality offers striation-free saturation for several feet from fixture placement with no visible light scalloping between fixtures.
- Integrates Powercore technology — Powercore technology rapidly, efficiently, and accurately controls power output to fixtures directly from line voltage over a single standard cable, dramatically simplifying installation and lowering total system cost.
- Versatile installation options — Convenient push-and-click connectors let you easily and rapidly install Leader Cables and Jumper Cables. Multiple cable lengths support a variety of layouts. Constant torque locking hinges offer simple and consistent position control from various angles. The low-profile aluminum housing accommodates placement within most architectural niches.
- Superior color consistency and accuracy — Optibin, an advanced binning algorithm, sets a new standard for the color consistency and uniformity of LED sources used in manufacturing.
- Universal power input range — Fixtures accept a universal power input range of 100 – 277 VAC for consistent installation anywhere in the world.
- “Cool lighting” functionality — eW Graze Powercore fixtures do not heat illuminated surfaces, discharge infrared radiation, or emit ultraviolet light.
- Dimming capability — Patented DIMand technology offers smooth dimming capability with selected commercially available reverse-phase ELV-type dimmers.

For detailed product information, please refer to the eW Graze Powercore Family Product Guide at www.philipscolorkinetics.com/ls/essentialwhite/ewgrazeqlxpowercore/

PHILIPS

Specifications

Due to continuous improvements and innovations, specifications may change without notice.

Item	Specification	1 ft (305 mm)	2 ft (610 mm)	3 ft (914 mm)	4 ft (1219 mm)
Output	Lumens*	645	1290	1935	2580
	Efficacy (lm / W)	47.1			
	CRI	81			
	Lumen Maintenance†	60,000 hours L70 @ 25° C 60,000 hours L70 @ 50° C 60,000 hours L50 @ 25° C 60,000 hours L50 @ 50° C			
Electrical	Input Voltage	100 – 277 VAC, auto-ranging, 50 / 60 Hz			
	Power Consumption	15 W	30 W	45 W	60 W
Control	Dimming	Compatible with selected commercially available reverse-phase ELV-type dimmers‡			
Physical	Dimensions (Height x Width x Depth)	2.7 x 12 x 2.8 in (69 x 305 x 71 mm)	2.7 x 24 x 2.8 in (69 x 610 x 71 mm)	2.7 x 36 x 2.8 in (69 x 914 x 71 mm)	2.7 x 48 x 2.8 in (69 x 1219 x 71 mm)
	Weight	2.1 lb (1.0 kg)	4.6 lb (2.1 kg)	7.1 lb (3.2 kg)	9.3 lb (4.2 kg)
	Housing	Extruded anodized aluminum			
	Lens	Clear polycarbonate			
	Fixture Connectors	Integral male / female waterproof connectors			
	Mounting	Multi-positional, constant torque locking hinges			
	Temperature	-40° – 122° F (-40° – 50° C) Operating -4° – 122° F (-20° – 50° C) Startup -40° – 176° F (-40° – 80° C) Storage			
	Humidity	0 – 95%, non-condensing			
	Vibration Resistance♣	Complies with ANSI C136.31			
Certification and Safety	Fixtures Run Lengths	To calculate fixture run lengths and total power consumption for your specific installation, download the Configuration Calculator from www.philipscolorkinetics.com/support/install_tool/			
	Certification	UL / cUL, FCC Class A, CE, PSE, C-Tick			
	Environment	Dry / Damp / Wet Location, IP66			

* 1 ft (305 mm) lumen output measurements comply with IES LM-79-08 testing procedures. 2 ft (610 mm), 3 ft (914 mm), and 4 ft (1219 mm) measurements are estimated based on the 1 ft (305 mm) measurements.

† L70 = 70% lumen maintenance (when light output drops below 70% of initial output). L50 = 50% lumen maintenance (when light output drops below 50% of initial output). Ambient luminaire temperatures specified. Lumen maintenance calculations are based on lifetime prediction graphs supplied by LED source manufacturers. Calculations for white-light LED fixtures are based on measurements that comply with IES LM-80-08 testing procedures. Refer to www.philipscolorkinetics.com/support/appnotes/lm-80-08.pdf for more information.

‡ Refer to www.philipscolorkinetics.com/support/appnotes/ for more information.

♣ eW Graze 1 ft (305 mm) and 2 ft (610 mm) fixture models conform to ANSI C136.31 roadway and area lighting luminaire vibration standards. eW Graze 3 ft (914 mm) and 4 ft (1219 mm) fixtures can be customized for conformance. Please contact your Philips Color Kinetics Lighting Sales group for custom configurations.



Fixtures

Item	Beam Angle	2700 K		4000 K		5500 K	
		Item Number	Philips 12NC	Item Number	Philips 12NC	Item Number	Philips 12NC
eW Graze MX Powercore 1 ft (305 mm)	9° x 9°	523-000080-00	910503703152	523-000080-01	910503703688	523-000080-02	910503703689
	10° x 60°	523-000080-03	910503703690	523-000080-04	910503703691	523-000080-05	910503703692
	15° x 30°	523-000080-06	910503703693	523-000080-07	910503703694	523-000080-08	910503703695
	30° x 60°	523-000080-09	910503703696	523-000080-10	910503703697	523-000080-11	910503703698
	60° x 30°	523-000080-12	910503703699	523-000080-13	910503703701	523-000080-14	910503703702
eW Graze MX Powercore 2 ft (610 mm)	9° x 9°	523-000080-15	910503703703	523-000080-16	910503703704	523-000080-17	910503703705
	10° x 60°	523-000080-18	910503703706	523-000080-19	910503703707	523-000080-20	910503703708
	15° x 30°	523-000080-21	910503703709	523-000080-22	910503703710	523-000080-23	910503703711
	30° x 60°	523-000080-24	910503703712	523-000080-25	910503703713	523-000080-26	910503703714
	60° x 30°	523-000080-27	910503703715	523-000080-28	910503703716	523-000080-29	910503703717
eW Graze MX Powercore 3 ft (914 mm)	9° x 9°	523-000080-30	910503703718	523-000080-31	910503703719	523-000080-32	910503703720
	10° x 60°	523-000080-33	910503703721	523-000080-34	910503703722	523-000080-35	910503703723
	15° x 30°	523-000080-36	910503703724	523-000080-37	910503703725	523-000080-38	910503703726
	30° x 60°	523-000080-39	910503703727	523-000080-40	910503703728	523-000080-41	910503703729
	60° x 30°	523-000080-42	910503703730	523-000080-43	910503703731	523-000080-44	910503703732
eW Graze MX Powercore 4 ft (1219 mm)	9° x 9°	523-000080-45	910503703733	523-000080-46	910503703734	523-000080-47	910503703735
	10° x 60°	523-000080-48	910503703736	523-000080-49	910503703737	523-000080-50	910503703738
	15° x 30°	523-000080-51	910503703739	523-000080-52	910503703740	523-000080-53	910503703741
	30° x 60°	523-000080-54	910503703742	523-000080-55	910503703743	523-000080-56	910503703744
	60° x 30°	523-000080-57	910503703745	523-000080-58	910503703746	523-000080-59	910503703747

Use Item Number when ordering in North America.

Accessories

Item	Type		Item Number	Philips 12NC
Leader Cable with Terminator	UL / cUL	10 ft (3.0 m)	108-000056-03	910503704071
		50 ft (15.2 m)	108-000056-00	910503703138
	CE / PSE	10 ft (3.0 m)	108-000056-04	910503704072
		50 ft (15.2 m)	108-000056-01	910503704069
Jumper Cable	UL / cUL	End-to-End	108-000057-00	910503703139
		1 ft (305 mm)	108-000057-03	910503704076
		5 ft (1.5 m)	108-000057-06	910503704079
		10 ft (3.0 m)	108-000057-09	910503704082
		20 ft (6.1 m)	108-000057-12	912400130304
		30 ft (9.1 m)	108-000057-15	912400130306
	CE / PSE	End-to-End	108-000057-01	910503704074
		1 ft (305 mm)	108-000057-04	910503704077
		5 ft (1.5 m)	108-000057-07	910503704080
		10 ft (3.0 m)	108-000057-10	910503704083
		20 ft (6.1 m)	108-000057-13	912400130299
		30 ft (9.1 m)	108-000057-16	912400130307
Glare Shield		1 ft (305 mm)	120-000081-00	910503700745
		2 ft (610 mm)	120-000081-01	910503700746
		3 ft (914 mm)	120-000081-02	910503700747
		4 ft (1219 mm)	120-000081-03	910503700748
Additional Terminators		Quantity 10	120-000157-00	910503703142
Additional Hinge		Quantity 1	120-000098-00	910503700772

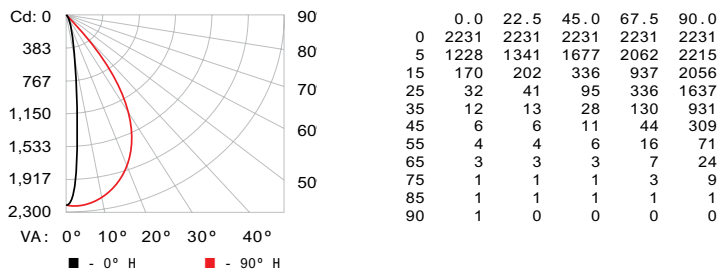
Use Item Number when ordering in North America.

DIMAND | **OPTIBIN** | **POWERCORE**
CK TECHNOLOGY | CK TECHNOLOGY | CK TECHNOLOGY

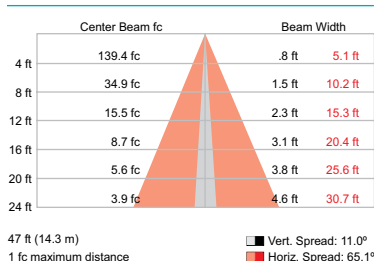
Photometrics

eW Graze MX Powercore
2700 K, 1 ft, 10° × 60° beam angle

Polar Candela Distribution



Illuminance at Distance



Lumens	Efficacy
645	47.1 lm / W

For lux multiply fc by 10.7



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DAS-000117-02 R01 10-14



LED Uplite BBP330

BBP330 9xLED-HP/NW 220-240V 24

9 pcs - LED High Power - Medium beam angle 24°

Property owners and developers want to create a pleasant environment at minimum cost, but without compromising on the quality of the lighting. Vaya LED Uplite is an affordable, highly reliable solution that minimizes the initial investment while offering a choice of attractive lighting effects that can bring a property to life.

Product data

General Information	
Number of light sources	9 pcs
Lamp family code	LED-HP [LED High Power]
Light source color	Neutral white
Number of gear units	1 unit
Driver/power unit/transformer	Power supply unit
Driver included	Yes
Protection class IEC	Safety class I
Glow-wire test	Temperature 850 °C, duration 5 s
Flammability mark	For mounting on normally flammable surfaces
Safety device	HCC [Housing closing cap]
CE mark	CE mark
Optic type outdoor	Medium beam angle 24°
Constant light output	No
Operating and Electrical	
Input Voltage	220 to 240 V
Input Frequency	50 to 60 Hz

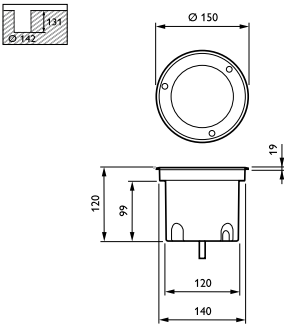
Controls and Dimming	
Dimmable	No
Mechanical and Housing	
Housing Material	Aluminum
Approval and Application	
Ingress protection code	IP67 [Dust penetration-protected, watertight]
Mech. impact protection code	IK10 [20 J vandal-resistant]
Initial Performance (IEC Compliant)	
Init. Corr. Color Temperature	4000 K
Initial input power	16 W
Application Conditions	
Ambient temperature range	-20 to +40 °C
Product Data	
Full product code	871016329884999
Order product name	BBP330 9xLED-HP/NW 220-240V 24

LED Uplite BBP330

EAN/UPC - Product	8710163298849
Order code	911401691802
Numerator - Quantity Per Pack	1
Numerator - Packs per outer box	6
Material Nr. (12NC)	911401691802

Net Weight (Piece)	1.250 kg
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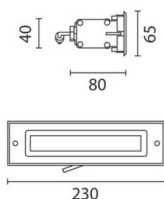
Dimensional drawing



LED Uplite BBP330/331



Last information update: March 2019

**small body for floor-white washer effect****Product code**

BB57

Technical description

Luminaire designed to use white LEDs for floor washing/signalling purposes that can be recessed, wall-mounted, applied to the floor or into a garden. It is made up of main body, closing glass, frame and outer casing (upon request). The small linear body is made of extruded aluminium with diecast-aluminium end caps painted black. The AISI 304-stainless-steel frame is 2.5 mm thick. It has two AISI 304-stainless-steel captive screws (used to anchor the body to the outer casing) and welded stud bolts. The outer casing used for installation must be ordered separately from the optical assembly. It is made of extruded aluminium and stainless steel (wall or floor application). The optical assembly is closed at the top by a transparent hardened sodium-lime glass fixed to the body by means of silicone. The body is fixed to the frame/glass unit by means of turned elements in stainless steel AISI 304. A stainless-steel cable clamp PG11 is used on the wiring system. The product comes complete with power supply cable L = 300 mm type H05RN-F 2x1 mm². The power supply cable includes an anti-transpiration device. The unit made up of frame, glass, optical assembly and outer casing ensures resistance to 1000-kg static load in compliance with Standard EN60598-2-13. The LEDs are controlled by means of Effect Equalizer. Maximum glass surface temperature is lower than 40°C. All external screws are made of stainless steel AISI 304.

Installation

Recessed application by means of an outer casing for embedding (to be ordered separately). The outer casing is available in the 100-mm painted cast-aluminium version complete with end cap (application to the wall or into the ground) or in the 150-mm plastic version (garden installation).

Dimension (mm)

230x65x80

Colour

Steel (13)

Weight (Kg)

0.82

Mounting

wall recessed/ground recessed

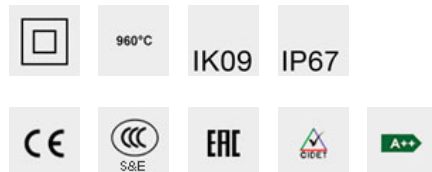
Wiring

The fitting may have the following ballasts: traditional, for DIN bar (1-10W, 20-30W, 60-120W), water-tight resin-coated. The product comes complete with an outgoing power-supply cord (L = 300 mm) H05RNF 2x1 mm² type and an electronic plate with LED 24V DC.

Notes

Fitting complete with lamp. Cool white (6700K), Green and amber colours available upon request.

Complies with EN60598-1 and pertinent regulations

**Product configuration: BB57****Product characteristics**

Total lighting output [Lm]: 23
Total power [W]: 2.7
Luminous efficacy [Lm/W]: 8.6
Life Time: 66,000h - L80 - B10 (Ta 25°C)
Number of optical assemblies: 1

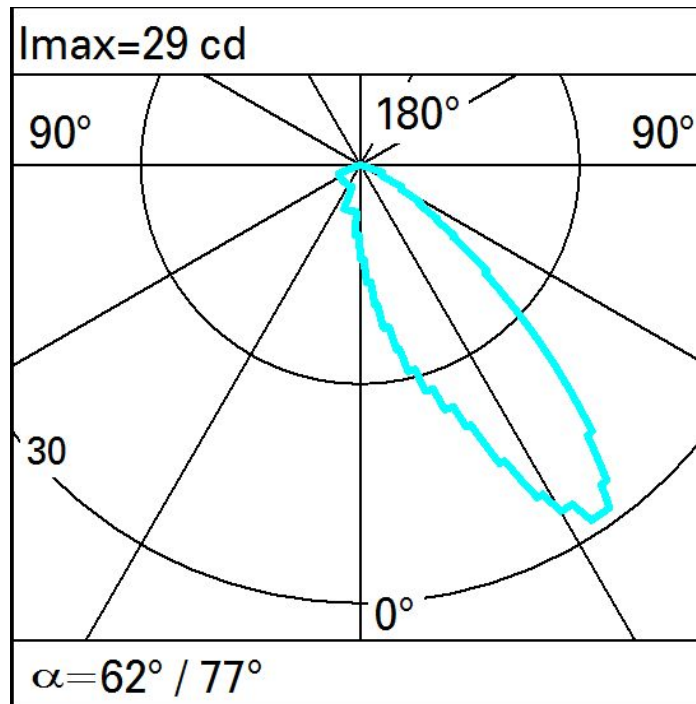
Total luminous flux at or above an angle of 90° [Lm]: 0
Emergency luminous flux [Lm]: /
Voltage [V]: -
Ambient temperature range: from -20°C to +35°C.

Optical assembly Characteristics Type 1

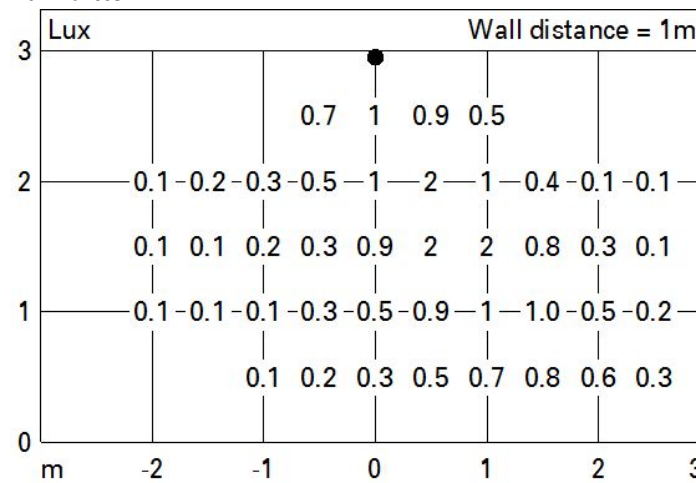
Light Output Ratio (L.O.R.) [%]: 12
Lamp code: LED
ZVEI Code: LED
Nominal power [W]: 2
Nominal luminous [Lm]: 190
Lamp maximum intensity [cd]: /
Beam angle [°]: /

Number of lamps for optical assembly: 1
Socket: /
Ballast losses [W]: 0.7
Colour temperature [K]: 4000
CRI: 80
Wavelength [nm]: /
MacAdam Step: 3

Polar



Illuminances



Pencil rectangular

Design Jean Michel Wilmotte

iGuzzini

Last information update: July 2019



Rectangular bollard H=350mm, Warm White Leds, integrated electronic control gear, single emission, diffusing optic.

Product code

BN39

Technical description

Outdoor, direct light, pavement-mounted luminaire, designed to use Warm White LED lamps with a single emission, diffusing optic. The product consists of a body, an upper cover, a fixing base, a white screen and a watertight reglette containing the control gear and a led circuit. The rectangular body is made of extruded aluminium with an upper cover and includes a die-cast aluminium lower base. The painting process includes a multi-step, pre-treatment process, in which the main phases are degreasing, fluorozirconation (a protective surface film) and sealing (with a nano-structured silane layer). The following painting stage consists of a primer and a liquid acrylic paint, cured at 150°C, with a high level of weather and UV ray resistance. The inside of the body houses four stainless steel rods fixed to the base that give the product a high level of impact resistance. The product is anchored to the ground by the fixing base made of corrosion-resistant low copper content die-cast aluminium alloy. The diffuser screen is made of opal white anti-UV polycarbonate. The body contains a watertight, satin-finish methacrylate, reglette luminaire, with plastic caps and captive stainless steel screws, a PG9 cable gland and a single output cable. The Warm White Led circuit and the electronic control gear are positioned inside the reglette luminaire. The upper cover is fixed to the body with stainless steel bolts. All accessible parts have a top temperature of 50°C. All external screws used are made of A2 stainless steel. The luminaire technical characteristics conform to EN 60598-1 standards and all special requirements.

Installation

The device can be applied directly to the pavement using the lower fixing base and screw anchors (Fisher type or similar) or using a fixing plate with Dakromet coated brackets, to further protect against corrosion (to be ordered separately). When installing the device a drainage pipe and a gravel base for drainage should be installed under the pavement and/or concrete to guarantee the required level of protection: for more information see the instruction sheet.

Dimension (mm)

76x203x330

Colour

Grey (15)

Weight (Kg)

4

Mounting

ground surface|ground anchored

Wiring

The 20-240V ac control gear is housed inside the watertight reglette luminaire. Complete with rubber output cable H05RN-F 2x1mm². An IP66 wiring box fitted with a double PG for pass-through wiring can be ordered separately.

Notes

Product complete with LED lamp.

Complies with EN60598-1 and pertinent regulations



IK10

IP65



Product configuration: BN39

Product characteristics

Total lighting output [Lm]: 202
Total power [W]: 7.8
Luminous efficacy [Lm/W]: 25.9
Life Time: 50,000h - L80 - B10 (Ta 25°C)
Number of optical assemblies: 1

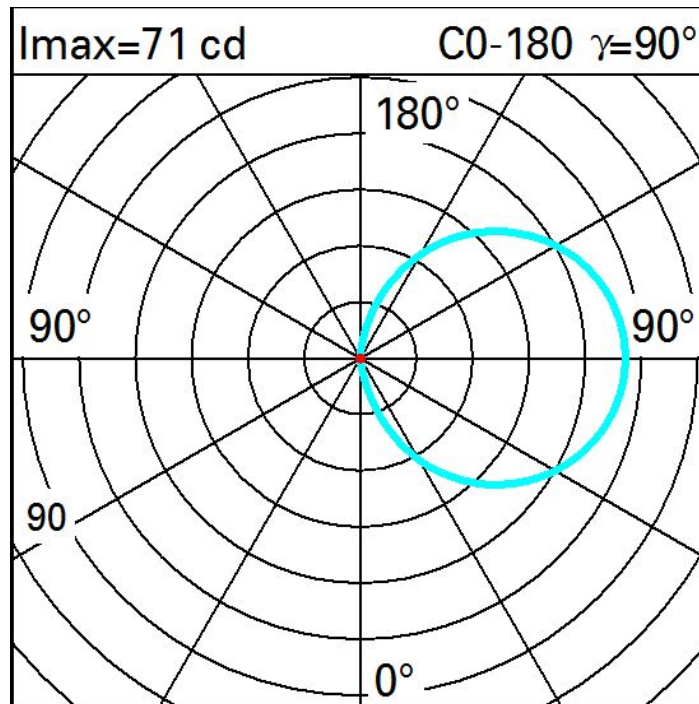
Total luminous flux at or above an angle of 90° [Lm]: 102
Emergency luminous flux [Lm]: /
Voltage [V]: -
Ambient temperature range: from -20°C to +35°C.

Optical assembly Characteristics Type 1

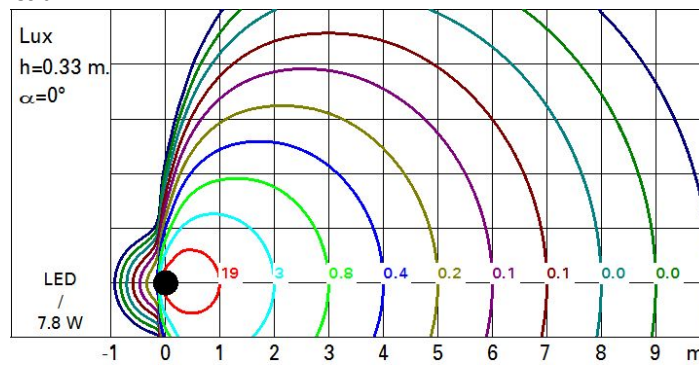
Light Output Ratio (L.O.R.) [%]: 23
Lamp code: LED
ZVEI Code: LED
Nominal power [W]: 6
Nominal luminous [Lm]: 880
Lamp maximum intensity [cd]: /
Beam angle [°]: /

Number of lamps for optical assembly: 1
Socket: /
Ballast losses [W]: 1.8
Colour temperature [K]: 3000
CRI: 80
Wavelength [nm]: /
MacAdam Step: 3

Polar



Isolux



Last information update: October 2019

**Recessed rectangular ceiling-mounted IP65 luminaire, compact body, Warm White LEDs, Wide Flood optic.****Product code**

BX80

Technical description

Miniaturised recessed rectangular luminaire with fifteen optical elements with Warm White LED light sources - fixed Wide Flood optic. Comprises a (round) optical compartment, frame, glass, outgoing cable and installation accessories to be ordered separately, where necessary. The optical compartment and frame are made of aluminium alloy and subjected to a multi-step pre-treatment process, the main phases of which include degreasing, fluorozirconic coating (a surface protective coat) and sealing (silane-based nanostructured coat). The successive painting phase is completed using primer and liquid acrylic paint, baked at 150°C, guaranteeing excellent resistance to atmospheric agents and UV rays. The glass-holder frame has plastic end caps. Tempered soda-lime closing glass, transparent with black screen-printing on the edge, 3mm thickness, attached to the frame with silicone. Silicone seals are placed between the glass-holder frame and the optical compartment. High-definition optic made of metallic thermoplastic, integrated into the black anti-glare screen towards the rear. Grade 304 stainless steel supporting springs. Equipped with IP65 control gear with outgoing cable for connection. The optical compartment and control gear are connected through IP68 quick-fit connectors. All external screws are made of A2 stainless steel.

Installation

Recessed installation with protruding frame on 1-20mm-thick suspended ceilings. Recess opening on suspended ceiling, size 406x37. Recessed installation with flush frame on 12.5mm- or 15mm-thick suspended ceilings, through adapter frame to be ordered separately. Installation on concrete ceilings using an outer casing to be ordered separately (flush and protruding frame).

Dimension (mm)

423x49x65

Colour

Black / White (47) | Grey / Black (74)

Weight (Kg)

1.37

Mounting

ceiling recessed

Wiring

Power supply unit inclusive of electronic control gear (220-240VAC 50/60Hz) with outgoing connection cable. IP68 connectors, to be ordered separately, are available for the electrical connections.

Notes

Versions with black painted frame, DALI or with Neutral White LEDs (Wide Flood optic) are available on request.

Complies with EN60598-1 and pertinent regulations



IK06

IP65

**Product configuration: BX80****Product characteristics**

Total lighting output [Lm]: 2202
Total power [W]: 35.4
Luminous efficacy [Lm/W]: 62.2
Life Time: 50,000h - L90 - B10 (Ta 25°C)
Number of optical assemblies: 1

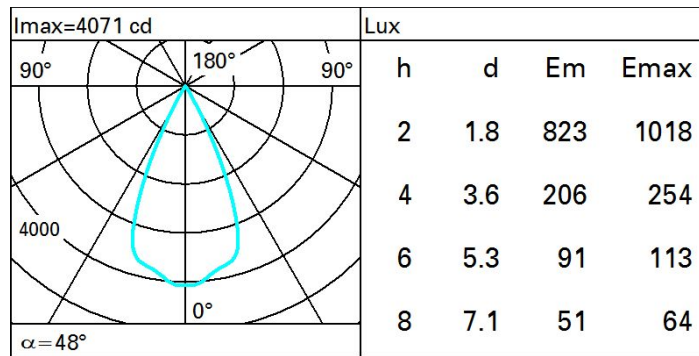
Total luminous flux at or above an angle of 90° [Lm]: 0
Emergency luminous flux [Lm]: /
Voltage [V]: -
Ambient temperature range: from -20°C to +35°C.

Optical assembly Characteristics Type 1

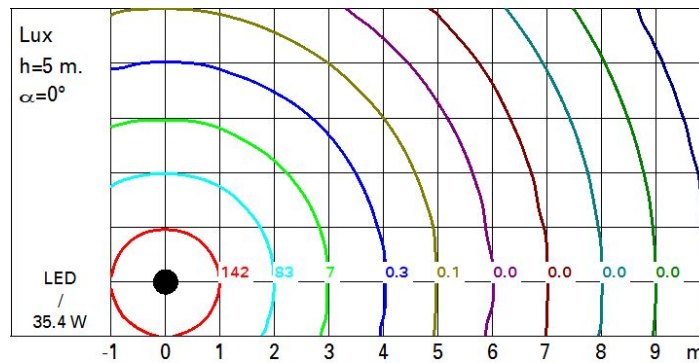
Light Output Ratio (L.O.R.) [%]: 76
Lamp code: LED
ZVEI Code: LED
Nominal power [W]: 30
Nominal luminous [Lm]: 2900
Lamp maximum intensity [cd]: /
Beam angle [°]: 48°

Number of lamps for optical assembly: 1
Socket: /
Ballast losses [W]: 5.4
Colour temperature [K]: 3000
CRI: 90
Wavelength [nm]: /
MacAdam Step: 3

Polar



Isolux



UGR diagram

Corrected UGR values (at 2900 lm bare lamp luminous flux)											
Reflect.: ceiling/cav walls work pl. Room dim x y		0.70	0.70	0.50	0.50	0.30	0.70	0.70	0.50	0.50	0.30
		0.50	0.30	0.50	0.30	0.30	0.50	0.30	0.50	0.30	0.30
		0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
		viewed crosswise					viewed endwise				
2H	2H	1.3	1.8	1.6	2.0	2.3	1.3	1.8	1.6	2.0	2.3
	3H	1.3	1.7	1.6	2.0	2.2	1.2	1.7	1.5	1.9	2.2
	4H	1.2	1.6	1.5	1.9	2.2	1.2	1.6	1.5	1.9	2.1
	6H	1.2	1.5	1.5	1.9	2.2	1.1	1.5	1.4	1.8	2.1
	8H	1.2	1.5	1.5	1.8	2.2	1.1	1.4	1.4	1.7	2.1
	12H	1.1	1.5	1.5	1.8	2.2	1.0	1.4	1.4	1.7	2.0
4H	2H	1.2	1.6	1.5	1.9	2.1	1.2	1.6	1.5	1.9	2.2
	3H	1.1	1.4	1.5	1.8	2.1	1.1	1.5	1.5	1.8	2.1
	4H	1.0	1.3	1.4	1.7	2.1	1.0	1.3	1.4	1.7	2.1
	6H	1.0	1.3	1.4	1.7	2.1	1.0	1.2	1.4	1.6	2.1
	8H	1.0	1.3	1.4	1.7	2.1	0.9	1.2	1.4	1.6	2.0
	12H	1.0	1.2	1.5	1.7	2.1	0.9	1.1	1.3	1.5	2.0
8H	4H	0.9	1.2	1.4	1.6	2.0	1.0	1.3	1.4	1.7	2.1
	6H	0.9	1.1	1.4	1.6	2.0	1.0	1.2	1.4	1.6	2.1
	8H	0.9	1.1	1.4	1.6	2.1	0.9	1.1	1.4	1.6	2.1
	12H	1.0	1.1	1.5	1.6	2.1	0.9	1.1	1.4	1.5	2.1
12H	4H	0.9	1.1	1.3	1.5	2.0	1.0	1.2	1.5	1.7	2.1
	6H	0.9	1.1	1.4	1.5	2.0	1.0	1.1	1.5	1.6	2.1
	8H	0.9	1.1	1.4	1.5	2.1	1.0	1.1	1.5	1.6	2.1
Variations with the observer position at spacing:											
S =		6.2 / -0.5					6.2 / -0.5				
		9.0 / -0.9					9.0 / -0.9				
		11.0 / -7.2					11.0 / -7.2				