

Appendix 5 – Luminaire Schedule

Technical Submittal

Circle Square, Affinity Living - Technical Submission

Equipment:	Ref:	Date:
External Lighting Luminaires	TS-E-98	23/04/2020

Drawing Ref:	Specification Ref:
As below listed enclosed documents	Intech M&E Services Contractors Proposals 06/06/18 rev 08

The Information Enclosed Within This Technical Submission Is Issued for:

Tender	Information	Comment	Procurement	Construction
☐	☐	☒	☒	☒

Issued to (where applicable):

Main Contractor	BMS Specialist	Drawing Coordinator	O&M Technical Author	MEP Consultant	Other.....
☒	☐	☒	☐	☒	☐

Information provided encompasses the following elements (where applicable)

Building Work Requirements	Drainage Requirements	Electrical Requirements	Mechanical Requirements	BMS Requirements	Asset Register / Maintenance Required
☐	☐	☒	☐	☐	☐
Sample	Install Info	Co-ordination Info	O&M Info	Acoustic Info	Other.....
☒	☒	☒	☒	☐	☐

Technical Submission:

Introduction:

Please find attached a copy of the External Lighting Proposals for Blocks 5, 6 7 & 8.
This is based on the latest External Design drawings also attached

Please provide your comments on the following proposals:

Documents 'Enclosed':

As above PDF Document

Compliance/VE statement(s):

The equipment 'detailed' above is specification/ER's compliant and there are no cost (£nil) implications associated with this proposal.

Notes:

- Please be advised that in the absence of a response by the 'due date' stated below, it is our intention to proceed with the ordering/installation of the
- We believe that we have provided sufficient information for you to fully appraise our proposal(s), however, should you require anything further or would like to meet

Response required by: 07/05/2020

Raised By: W Grice

Response: (Please Feel Free To Mark Up Drawings With Any Comments)

A) No Comments	B) Minor Comments	C) Major Comments	D) Rejected
☐	☐	☐	☐

Response Date:

Completed By:

Signed:

			Buildings			Lighting Control		Comments
Reference	Manufacturer	Description	5 & 6 Qty	7 & 8 Qty	Total Qty	Dali	Electronic	
A	Erco	Product Name: Quintessence Downlight, IP65	94	81	175	Y		
		Mounting Type: Soffit recessed						
		Lamp Type: 6W 630lm 3000K LED						
		Optic: Spherolite lens, flood						
		Performance: 61lm/W						
		Dimensions: Cut-out 131mm, Bezel Dia 145mm. Height (incl air gap) 150mm						
G	We-eef	Product Name: CFT540 LED - Post Top	N/A	4	4		Y	
		Mounting Type: Column Top (76mm dia spigot, 80mm long minimum)						
		Lamp Type: 36W 4842lm 3000K LED						
		Optic: Rectangular						
		Performance: 107 Luminaire lm/Circuit W						
		Dimensions: 700mm (Dia) x 323mm (h)						
GC1	We-eef	Product Name: 6m Column - Tapered Column	N/A	4	4	N/A	N/A	
		Mounting Type: Root						
		Material: Galvanised Steel (Painted RAL9007)						
		Luminaire Mount: Suitable for Type G Luminaire (above)						
KA	Selux	Product Name: Lini LED	6 Pieces	6 Pieces	12 Pieces		Y	
		Mounting Type: Handrail						
		Lamp Type: 3000K LED						
		Optic: Asymmetric						
		Performance: TBC						
		Dimensions: Module increments of 300mm						
KS	Selux	Product Name: Lini LED	4 Pieces	N/A	4 Pieces		Y	
		Mounting Type: Handrail						
		Lamp Type: 3000K LED						
		Optic: Symmetric						
		Performance: TBC						
		Dimensions: Module increments of 300mm						
P1	Selux	Product Name: Olivio Medio - Spotlight SX 961 11-9	N/A	5No. Per PC1 Column	5No. Per PC1 Column		Y	
		Mounting Type: Column (10m)						
		Lamp Type: 41W 2925lm 3000K LED						
		Optic: Medium Beam						
		Performance: 71 Luminaire lm/W						
		Dimensions: 260mm (h) x 163mm (w) x 260mm (d)						
PC1	Selux	Product Name: 6m Column - Tapered Column includes 5No. P1 luminaires	N/A	5	5	N/A	N/A	
		Mounting Type: Root						
		Material: Galvanised Steel						
		Luminaire Mount:						
S1	Erco	Product Name: Midipoll Bollard - Illuminated Bollard	N/A	8	8	Y		
		Mounting Type: Ground Surface						
		Lamp Type: 8W 840lm 3000K LED						
		Optic: Symmetrical						
		Performance: 25 Luminaire lm/Circuit W						
		Dimensions: 120mm Dia x 800mm (h)						
S2	Erco	Product Name: Midipoll Bollard - Illuminated Bollard	N/A	8	8	Y		
		Mounting Type: Ground Surface						
		Lamp Type: 8W 840lm 3000K LED						
		Optic: Symmetrical						
		Performance: 25 Luminaire lm/Circuit W						
		Dimensions: 120mm Dia x 525mm (h)						
X1	LITE	Product Name: Maxi LED - Globe LED's	N/A	8	8		Y	
		Mounting Type: Tree (Specialist installation required)						
		Lamp Type: LED Cool White (4000K nominal)						
		Optic: Clear Globes						
		Performance: N/A						
X2	iGuzzini	Product Name: E157 + X209 + X188	4	N/A	4		Y	
		Mounting Type: Ground recessed						
		Lamp Type: 21.4W 2335lm 4000K LED						
		Optic: 32 degree beam						
		Performance: 109lm/W						
		Dimensions: Diameter 250mm, height 201mm (Excl cable)						
X15	Bega	Product Name: 33-058 Recessed Luminaire	12	N/A	12	Y		
		Mounting Type: Wall Recessed						
		Lamp Type: 14.8W 1100lm 3000K LED						
		Optic: Asymmetric forward throw						
		Performance: 74.3 Luminaire lm/CircuitW						
		Dimensions: 330mm (L) x 125mm (h) x 10mm (d)						

TYPE A

Compact Downlight oval flood



84435.000 Silver
LED 8W 840lm 3000K warm white
Phase dimmable
Version 5
Size 3
Lens system, oval flood

Product description

Housing with cover ring: corrosion-resistant cast aluminium, No-Rinse surface treatment. Silver, double powder-coated. Mounting with 2-point support and screw fixing, for ceiling thicknesses of 1-30mm. Side-mounted control gear: polymer, black.

ERCO control gear, dimmable. 2 cable entries. Through-wiring possible. 5-pole terminal block.

LED module: high-power LEDs on metal-core PCB. Lens system made of optical polymer.

Anti-glare ring with cross-baffle: polymer, aluminium vaporised, silver, ribbed. Optical cut-off 30°.

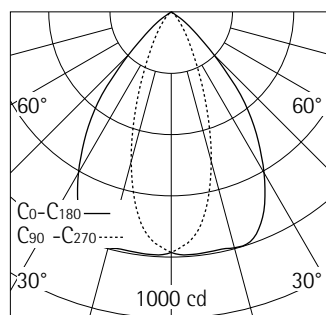
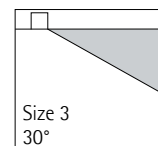
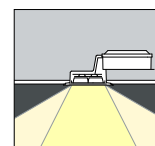
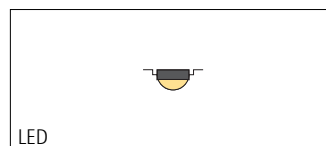
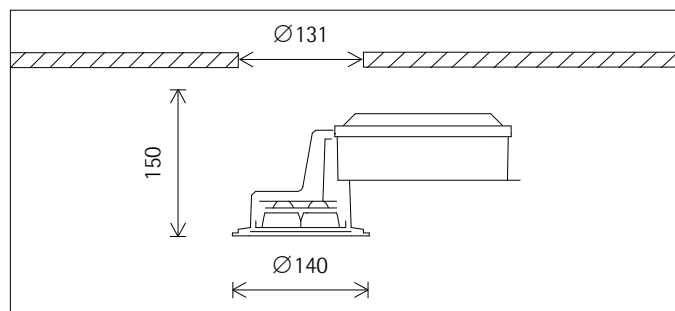
Non-reflective safety glass.

Dimming with external dimmers possible (trailing edge).

Protection mode IP65: dust-proof and water jet-proof.

Weight 1.30kg

Version with 3000K CRI 97 or 2700K, 3500K, 4000K CRI 92 available on request.



h(m)	E(lx)	D(m)	
		C0	C90
1	785	1.56	0.67
2	196	3.13	1.34
3	87	4.69	2.01
4	49	6.25	2.68
5	31	7.81	3.35

Technical data

Luminous flux of the luminaire	661lm
Connected load	11.0W
Luminaire efficacy	60lm/W
Colour deviation	1.5 SDCM
Colour rendition index	CRI 92
Lumen maintenance (LED manufacturer specifications)	L90/B10 ≤50000h L90 ≤100000h
LED failure rate	0.1% ≤50000h
Dimming range	1%-100%
Dimming method	CCR_PWM
LMF	E
Energy efficiency class	EEI A+
Standby power per control gear	--
Luminaires per circuit breaker B16	216

For your regional contact in the ERCO
Sales network click here
www.erco.com/contact

Technical Region:
220V-240V/50Hz-60Hz
We reserve the right to make technical
and design changes.
Edition: 29.01.2020
Current version under
www.erco.com/84435.000

Planning data

Cleaning (a)	1				2				3			
Ambient conditions	P	C	N	D	P	C	N	D	P	C	N	D
LMF	0.96	0.94	0.90	0.86	0.93	0.91	0.86	0.81	0.92	0.90	0.84	0.79
RSMF	0.97	0.95	0.91	0.86	0.97	0.94	0.90	0.86	0.97	0.94	0.90	0.86

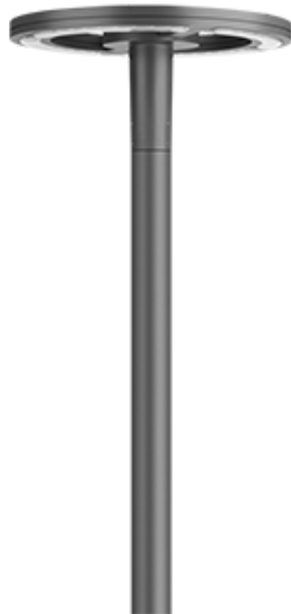
Hours of operation (h)	1000	5000	10000	20000	30000	40000	50000
LLMF	1.00	0.99	0.98	0.96	0.94	0.92	0.90
LSF	1	1	1	1	1	1	1

MF	LMFxRSMFxLLMFxLSF
MF	Maintenance Factor
LMF	Luminaire Maintenance Factor
RSMF	Room Surface Maintenance Factor
LLMF	Lamp Lumens Maintenance Factor
LSF	Lamp Survival Factor
P	Room pure
C	Room clean
N	Room normal
D	Room dirty

Technical data in accordance with international norms and standards

IEC 60598	Luminaires – Part 1+2: general requirements, specific requirements and tests
IEC 62031	LED modules for general lighting – safety requirements
IEC 62471	Photobiological safety of lamps and lamp systems
EN 13032-4	Light and lighting – measurement and representation of photometric data
CIE 13	Method of measuring and specifying colour rendering properties of light sources

All technical data is subject to industrially standard tolerances.
Also see www.ercos.com/ercos-led

**Description**

IP66. Class I. IK08. Marine-grade, die-cast aluminium alloy. 5CE superior corrosion protection including PCS hardware. Silicone CCG® Controlled Compression Gasket. RFC® Reflection Free Contour main lens. Integral EC electronic converter in thermally separated compartment. CAD-optimised optics for superior illumination and glare control. OLC® One LED Concept. Factory installed LED circuit board. The luminaire is factory-sealed and does not need to be opened during installation. Recommended mounting height 3.0-4.5 m, depending on wattage selected.

Beam Type	rectangular [R]
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Light Source	LED-36/36W / 350 mA - 3000 K
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CRI	80
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Gear Type	EC
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Nominal Luminous Flux (lm)

LED Lumens	134.5 lm
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LEDs	36
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Total Lumens	4842 lm
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Tj	85 °C
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Rated Luminous Flux (lm)

LED Lumens	125.5 lm
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Total Lumens	4519.8 lm
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Ta	25 °C
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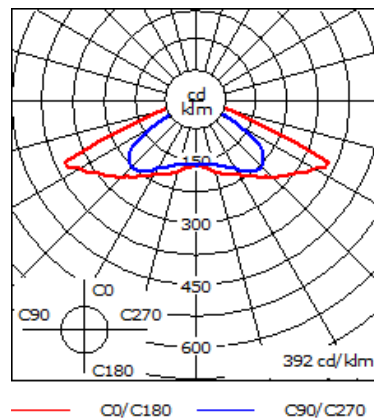
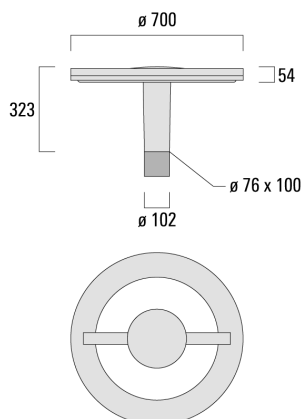
Rated Input Power	42 W
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CFT540 LED

105-0082

2/5

we-ef



CFT540 LED

105-0082

3/5

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Material Specification

Body:	Marine-grade, die-cast aluminium alloy
Weight (kg):	13.30
Lens:	PMMA RFC® Reflection Free Contour technology
Colours:	RAL9004 Signal black RAL9006 White aluminium RAL9007 Grey aluminium RAL7016 Anthracite grey RAL9016 Traffic white

⌘ Prepare to Connect	WE-EF luminaires that offer the option of P2C are, in principle, the precursor to the R2C. They are designed to accommodate the necessary equipment for integration into a light management system, yet only contain standard operating equipment. The IPX6 protected and standardized interface are also factory-installed at P2C stage and equipped with a robust protective cap. If a decision for a light management system is later made, only the necessary 'smart' LED driver, with communication interface and power supply for the controller/sensor, must be installed and connected. This P2C solution avoids having to make engineering adjustments to the luminaire housing, which can lead to damage and water ingress. On request.
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⌘ Ready to Connect	WE-EF luminaires that offer the option of R2C have all the necessary equipment and interfaces on board for integration into a light management system. DALI LED drivers with additional built-in power supply (12-24V DC) are the basic requirements for R2C. In addition, there is an IPX6 protected and standardized interface which is pre-wired and provided with a robust protective cap. Once the decision for a light management system has been made, a controller/sensor can simply be connected to the standardized (Zhaga Book18) interface via a bayonet lock. No additional work on the luminaire is required. On request.
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Gasket:	Silicone CCG® Controlled Compression Gasket
Fasteners:	PCS Polymer Coated Stainless Steel Hardware
Ingress protection:	IP66
Impact protection:	IK08
Corrosion protection:	5CE
Surge protection:	6/6 kV (optional SP10)
Windage (EPA):	0.065 m²

Electrical Specification

Power supply:	220-240V / 50-60 Hz
Power factor:	> 0.9
Driver / Ballast:	Integral EC electronic converter

Lifetime

LED 350mA: >80,000 h Ta 25°(L90/B10)

LED 700mA: >80,000 h Ta 25°(L80/B10)

LED 1050mA: >80,000 h Ta 25°(L90/B10)

LED 1400mA: >80,000 h Ta 25°(L80/B10)

Control gear: >50,000 h Ta 25°

Electrical Accessories

Surge Protection SP10

The luminaire is fitted with an electronic converter featuring high voltage surge protection 6/6kV exceeding the requirements of EN 61000-4-5. For installation in high-risk areas, the optional SP10 (10/10kV) surge protection accessory is recommended. For comprehensive protection of the luminaires with LED light sources and electronic drivers against the effects of lightning and electrical surges, we generally recommend primary (Type 1) and secondary (Type 2) surge arrestors be installed in the sub-distribution.

 **430-0020** SP10 Integral

Control

Eco Step Dim® Advanced LED

A factory programmed Electronic Controller is fitted in the luminaire to reduce the luminous flux and power. The luminaires are operated in stand-alone mode, so no special supply and/or control cables are required. Up to five different dimming levels (D1-D5) may be individually and optionally specified for a maximum of five time periods (T1-T5). Set and programmed at the factory by agreement. Reprogramming on site is also possible. Contact WE-EF direct or your local WE-EF sales representative for an individual solution designed to precisely meet your needs.

 **430-0002** Eco Step Dim® Advanced LED

Eco Step Dim® Basic LED

A factory programmed Electronic Controller is fitted in the luminaire to reduce luminous flux and power to a preset value. Control phases such as those that are, for example, used in networks using luminaires with two conventional lamps is required to activate the switch. One step dimming only is available. As standard, lumen output is reduced to 50 per cent. Intermediate values (e.g., 25 per cent) may also be optionally realised by agreement. Contact WE-EF direct or your local WE-EF sales representative for an individual solution designed to precisely meet your needs.

 **430-0001** Eco Step Dim® Basic LED

CFT540 LED

105-0082

5/5

we-ef

Photocell PV

Standard 70 lx 'on' / 105 lx 'off', other on request

430-0017 Photocell PV

P2C Prepare to Connect

Entry level conversion of the luminaire into a 'semi-smart' P2C luminaire, for future integration into a light management system. Factory installed IP-X6-protected and standardized interface (Zhaga Book18). For future integration into a light management system, the necessary 'smart' LED driver with built-in power supply for the controller / sensor (3rd party supplier) needs to be installed and connected. P2C allows for the future inclusion into a light management system without having to make engineering adjustments to the luminaire housing, which can lead to damage and water ingress. On request.

430-0023 P2C Prepare to Connect

R2C Ready to Connect

Complete conversion of the luminaire into a 'smart' R2C luminaire, for future integration into a light management system. Factory installed IP x6 protected and standardized interface (Zhaga Book18) with DALI LED driver including additional built-in power supply (24V DC) for end controller / sensor (3rd party supplier). Pre-wired and provided with a robust protective cap, the controller / sensor can simply be connected to the standardized interface via a bayonet lock. No additional work on the luminaire required.

430-0019 R2C Ready to Connect

Sicherheit

Der Hersteller übernimmt keine Haftung für Schäden, die durch unsachgemäßen Einsatz oder Montage entstehen.

Werden nachträglich Änderungen an Leuchten und/oder Zubehör vorgenommen, so gilt derjenige als Hersteller, der diese Änderungen vornimmt.

Safety indices

The manufacturer is then discharged from liability when damage is caused by improper use or installation.

If any luminaire and/or accessory is subsequently modified, the persons responsible for the modification shall be considered as manufacturer.

Produkthinweis / Überspannungsschutz

Diese Leuchte kann mit einem Überspannungsschutz Typ 2-3 ausgestattet sein. Die technischen Daten finden Sie in diesem Fall direkt auf dem eingebauten Gerät. Wurde der Überspannungsschutz im Schadensfall ausgelöst, wird die Leuchte automatisch vom Netz getrennt. Bei eingeschalteter Stromversorgung leuchtet dann die Leuchtdiode am Überspannungsschutz nicht mehr.

Zu einem umfassenden Schutz der Leuchte gegen Blitzeinwirkungen und Überspannungen ist es notwendig, zusätzlich einen Grob- (Typ 1) und Mittelschutzableiter (Typ 2) in die Stromversorgung einzubauen. Wir empfehlen einen Kombiableiter (Typ 1+2+3) für die Montage im Schaltschrank.

Der Fachplaner/Installateur ist für die fachgerechte Auswahl, Dimensionierung und die Montage der bauseits einzusetzenden Überspannungsschutzbausteine verantwortlich. Bitte beachten Sie die unterschiedlichen Schutzpegel für die Schutzklassen I und II sowie die geltenden gesetzlichen Vorschriften zum Überspannungsschutz. Die Installation und Wartung ist nur von einem entsprechend qualifiziertem Elektro-Fachbetrieb durchzuführen.

Product Information / Surge Protection

This luminaire can be fitted with a surge protection device of type 2-3. The technical data can be found directly on the installed device. If the surge protector has been triggered by an adverse event, the luminaire is automatically disconnected from the mains. In that case, the LED on the surge protector no longer lights up.

For comprehensive protection of the luminaire against lightning and electrical surges, primary (Type 1) and secondary (Type 2) surge arrestors must be installed into the power supply. We recommend a combination arrestor (Type 1+2+3), which is installed in the control cabinet.

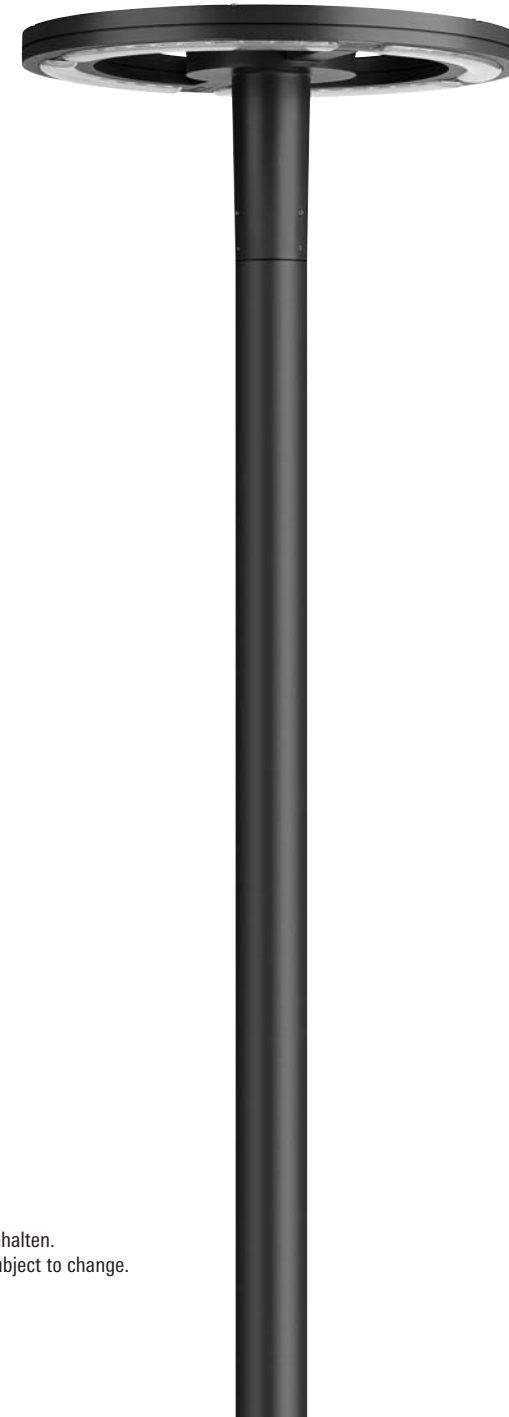
The technical planner/installer is responsible for the proper selection, sizing and installation of the surge protection modules that must be provided on site. Please note the various protection levels for Class I and II, as well as the applicable statutory provisions regarding surge protection. Installation and maintenance may only be performed by a qualified electrician.

we-ef

WE-EF LEUCHTEN

Montage- und
Wartungshinweise für
Mastaufsatzleuchte
Serie CFT500 LED

Installation and
Maintenance Instructions for
Post Top Luminaire
CFT500 LED Series



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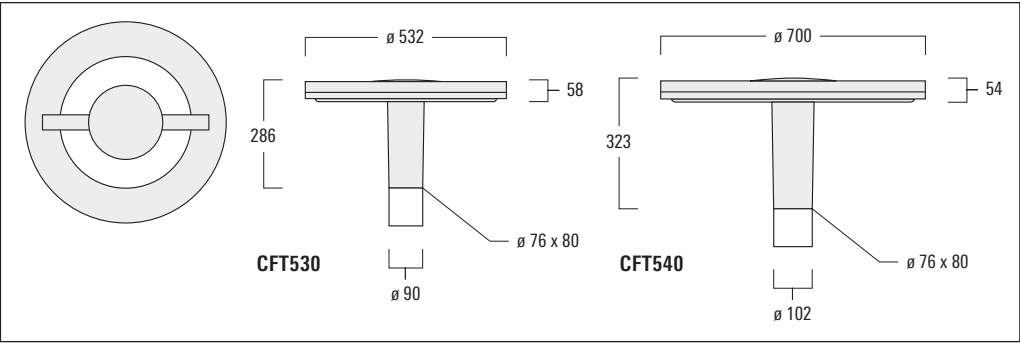
WE-EF HELVETICA Switzerland
Tel +41 22 752 49 94
info.switzerland@we-ef.com

CFT500_010320 / 006-1200

Technische Änderungen vorbehalten.
Technical specifications are subject to change.
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Mastaufsatzleuchten
IP66, IK08

Post Top Luminares
IP66, IK08



Leuchtmittel / Light source	
CFT530	24 LED 24W / 48W*
CFT540	36 LED 36W / 72W / 108W*
* Pour la puissance nominale, les données actualisées, voir www.we-ef.com	
* Nominal power, for latest data refer to www.we-ef.com	
Schutzklasse / Class I, II, ta = 25°C	
Lichtpunkthöhe / Mounting height: 3-6 m	
Gewicht / Weight:	
CFT530	9,8 kg
CFT540	13,3 kg
Windangriffsfläche / Windage area:	
CFT530	max. 0,16 m²
CFT540	max. 0,24 m²
Ø 9 – 14 mm  1 – 2,5 mm² 	

Benötigtes Werkzeug	Tools required
– Innensechskantschlüssel 4 mm	– 4 mm Allen key
– Seitenschneider	– diagonal cutting pliers
– Schraubendreher 4,0mm x 1,0 mm Klinge	– Screwdriver with 4.0 mm x 1.0 mm blade

Montage

Montage und Wartung des Produkts dürfen nur von Fachpersonal mit entsprechender beruflicher Qualifikation in Übereinstimmung mit den geltenden bautechnischen und/oder elektrischen Vorschriften durchgeführt werden.

Hinweis: Modifikationen an der Leuchte, die nicht durch den Originalhersteller erfolgen, führen zum Erlöschen der Garantie und Gewährleistung des Originalherstellers und zum vollständigen Übergang der Verpflichtungen daraus auf die modifizierende Person/Organisation. Ansprüche aufgrund von Mängeln, die direkt oder indirekt auf unsachgemäße Montage und/oder Anwendung zurückzuführen sind, sind ausgeschlossen.

Bei Ausfall von Komponenten, bei LED-Wechsel aufgrund ungewöhnlicher Umstände oder am Ende der Lebensdauer darf der Austausch nur von geschultem Fachpersonal mit entsprechender beruflicher Qualifikation ausgeführt werden.

Bei Fragen wenden Sie sich bitte an unsere technische Hotline unter +49 5194 909209 (Montag - Freitag von 08:00 Uhr bis 16:00 Uhr).

Wartung

Abgesehen von der äußerlichen Reinigung des Produkts ist keine besondere Wartung erforderlich. Keine Hochdruckreiniger verwenden.

Für die Entsorgung der LEDs sind die zur Zeit gültigen Umweltgesetze zu beachten.

Installation

The product must be installed and maintained by a suitably qualified professional in compliance with latest building/construction and/or electrical regulations and relevant legislation.

Notice: If the luminaire is modified by anybody other than the original manufacturer, then the warranty will no longer be valid and shall become the full responsibility of the modifying person/organisation. Claims based on defects attributable to improper installation and/or application, and the consequences thereof, are excluded.

In case of component failure, LED replacement due to abnormal circumstances or at end of life, replacement must be carried out by a suitably qualified and trained professional.

In case of questions please contact our technical hotline: +49 5194 909209 (from Monday - Friday from 08.00 until 16.00 hours).

Maintenance

Apart from cleaning the product's exterior surfaces, no special maintenance work is required. Do not use high-pressure cleaners.

Protect our environment: Discard used LEDs in compliance with the most recent environmental legislation.

Vorgehensweise

Leuchte ist vorverdrahtet, zum Anschließen nicht öffnen!

- 1) Spannungsfreiheit der Anschlussleitung herstellen. ⚡

OFF ON

- 2) Entsprechend der Masthöhe zugeschnittene Anschlussleitung an den Leitungsverbinder **A** anschließen (Abb. 1-6).

WE-EF Eco Step Dim® Advanced und nicht dimmbare Leuchten

SKI → Phase (L1) an 1, Neutralleiter (N) an 3 und Schutzleiter an ⊕

SKII → Phase (L1) an 1, Neutralleiter (N) an 3

WE-EF Eco Step Dim® Basic

SKI → Phase (L1) an 1, Steuerphase (L2) an 2, Neutralleiter (N) an 3 und Schutzleiter an ⊕

SKII → Phase (L1) an 1, Steuerphase (L2) an 2, Neutralleiter (N) an 3

1-10V / DALI

SKI → Phase (L1) an 1, Neutralleiter (N) an N, Steuerphase (+) an 2, Steuerphase (–) an 3 und Schutzleiter an ⊕

SKII → Phase (L1) an 1, Neutralleiter (N) an 3, Steuerphase (+) an 2, Steuerphase (–) an 4

Vergleichen Sie die örtliche Spannung und Frequenz mit den Daten auf dem Leistungsschild.

Verschrauben Sie die Überwurfmutter mit einem Anzugsdrehmoment von 5 Nm (Abb. 5).

- 3) Das Anschlusskabel durch den Mast ziehen. Die Leuchte auf den Mast aufsetzen und die Befestigungsschrauben **B** der Leuchte mit einem Anziehmoment von 10 Nm anziehen.

Installation Procedure

Luminaire prewired, do not open!

- 1) Switch off the mains electrical supply. ⚡

- 2) Cut cable to the corresponding height of the pole and connect cable to the connector **A** (fig. 1-6).

WE-EF Eco Step Dim® Advanced and not dimmable luminaires

Class I → Phase (L1) to 1, Neutral (N) to 3 and Earthing ⊕

Class II → Phase (L1) to 1, Neutral (N) to 3

WE-EF Eco Step Dim® Basic

Class I → Phase (L1) to 1, Control Phase (L2) to 2, Neutral (N) to 3 and Earthing ⊕

Class II → Phase (L1) to 1, Control Phase (L2) to 2, Neutral (N) to 3

1-10V / DALI

Class I → Phase (L1) to 1, Neutral (N) to N, Control Phase (+) to 2, Control Phase (–) to 3 and Earthing ⊕

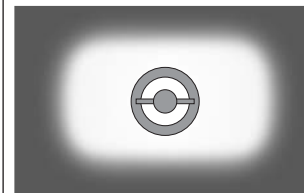
Class II → Phase (L1) to 1, Neutral (N) to 3, Control Phase (+) to 2, Control Phase (–) to 4

Compare the local voltage and frequency with data mentioned on the label of the luminaire.

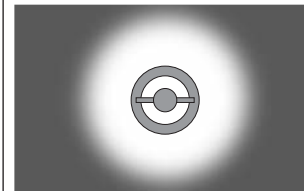
Screw the gland nut together, tightening to a torque of 5 Nm (fig. 5).

- 3) Pull the connecting cable through the pole. Put the luminaire on top of the pole and tighten the fixing screws **B**, tightening to a torque of 10 Nm.

Lichttechnische Orientierung der Leuchte Luminaire Orientation



mit [R] Linse
with [R] lens



mit [C50] Linse
with [C50] lens

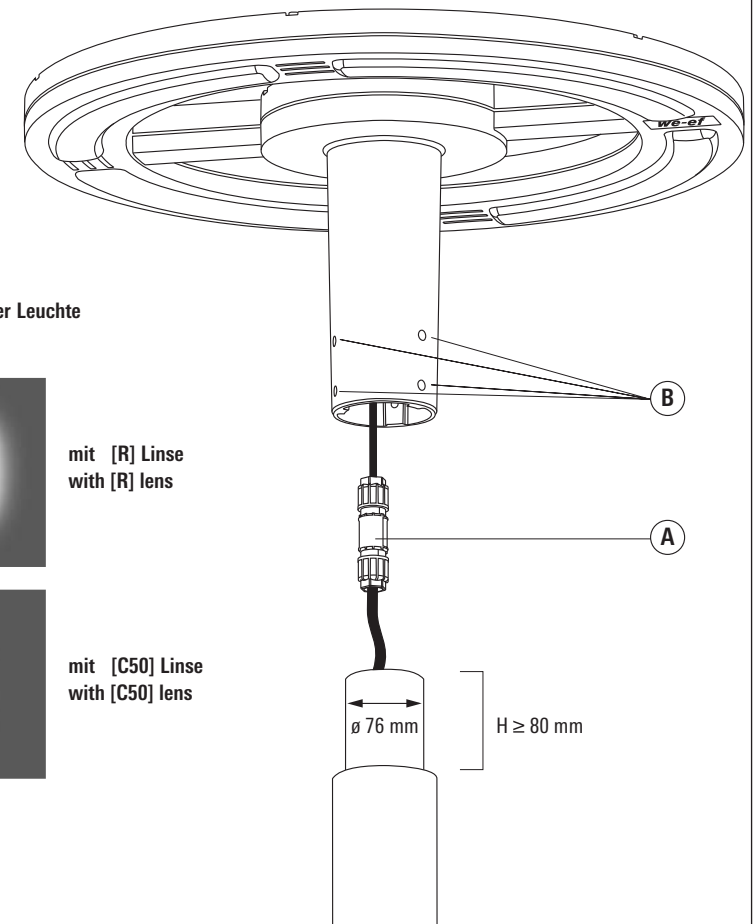




Abb. 1
fig. 1



Abb. 2
fig. 2



Abb. 3
fig. 3



Abb. 4
fig. 4



Abb. 5
fig. 5



Abb. 6
fig. 6



Abb. 7
fig. 7



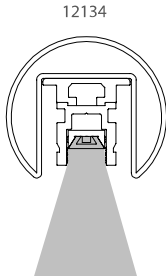
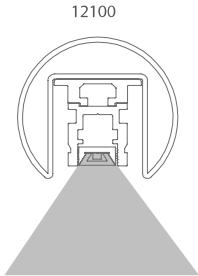
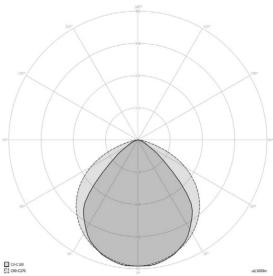
liniLED® Handrail 48.3

V0519



Product specifications Top LED strips

The high-quality, flexible liniLED® Top LED strips are fully integrated into the stainless steel handrail. With a unique co-extrusion technology, all the liniLED® Top LED strips realise an optimal light output (24 V DC). The LED strips are available several colours.



liniLED® Top Deco LED strips (IP40/65)					liniLED® Top Power LED strips (IP40/65)				
Colour	V DC	W/m	lm/m	Max. Length	Colour	V DC	W/m	lm/m	Max. Length
2400K	24	1.1	90	20 m	2400K	24	4.5	381	10 m
2700K	24	1.1	106	20 m	2700K	24	4.6	415	10 m
3000K	24	3.3	102	20 m	3000K	24	4.3	381	10 m
4000K	24	1.1	113	20 m	4000K	24	4.1	411	10 m
6500K	24	2.2	113	20 m	6500K	24	4.1	426	10 m
Red	24	4.4	55	20 m	Red	24	8.3	102	10 m
Green	24	2.5	106	20 m	Green	24	4.9	153	10 m
Blue	24	1.7	23	20 m	Blue	24	7.2	68	10 m
Amber	24	4.4	47	20 m	Amber	24	8.3	94	10 m

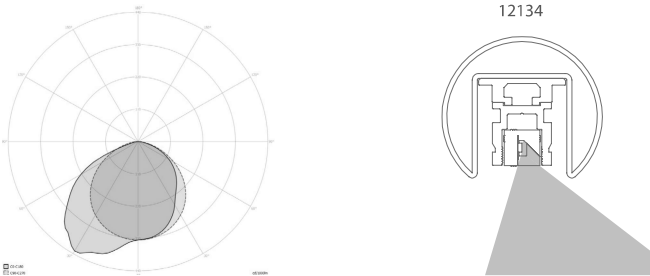
liniLED® Top High Power LED strips (IP40/65)					liniLED® Top Photon 1200 LED strips (IP40/65)				
Colour	V DC	W/m	lm/m	Max. Length	Colour	V DC	W/m	lm/m	Max. Length
2400K	24	8.9	623	10 m	2000K	24	10.6	811	9 m
2700K	24	8.9	703	10 m	2400K	24	10.6	958	9 m
3000K	24	8.3	617	10 m	2700K	24	8.9	997	9 m
4000K	24	8.6	711	10 m	3000K	24	8.9	1023	9 m
6500K	24	8.6	693	10 m	4000K	24	8.1	1008	9 m
					6500K	24	8.1	1003	9 m

liniLED® Top Tunable White LED 1200 strips (IP40)					liniLED® Top RGB 160/240 LED strips (IP40)				
Colour	V DC	W/m	lm/m	Max. Length	Colour	V DC	W/m	lm/m	Max. Length
2700K/ 6500K	24	10.5	838	9 m	RGB 160	24	4.8	139	10 m
					RGB 240	24	7.2	209	5 m

Product specifications Side LED strips

The high-quality, flexible liniLED® Side LED strips are fully integrated into the stainless steel handrail. With a unique co-extrusion technology, all the liniLED® Side LED strips realise an optimal light output (24 V DC). The LED strips are available several colours.

liniLED® Side LED strips can only be used in 48.3 Handrails.



liniLED® Side Deco LED strips (IP40)					liniLED® Side Power LED strips (IP40)				
Colour	V DC	W/m	lm/m	Max. Length	Colour	V DC	W/m	lm/m	Max. Length
2400K	24	1.1	81	20 m	2400K	24	4.5	316	10 m
2700K	24	1.1	84	20 m	2700K	24	4.6	320	10 m
3000K	24	3.3	91	20 m	3000K	24	4.3	290	10 m
4000K	24	1.1	92	20 m	4000K	24	4.1	324	10 m
6500K	24	2.2	93	20 m	6500K	24	4.1	298	10 m
Red	24	4.4	46	20 m	Red	24	8.3	84	10 m
Green	24	2.5	88	20 m	Green	24	4.9	126	10 m
Blue	24	1.7	19	20 m	Blue	24	7.2	56	10 m
Amber	24	4.4	39	20 m	Amber	24	8.3	77	10 m

liniLED® Side High Power LED strips (IP40)					liniLED® Side Photon 1200 LED strips (IP40)				
Colour	V DC	W/m	lm/m	Max. Length	Colour	V DC	W/m	lm/m	Max. Length
2400K	24	8.9	499	10 m	2000K	24	10.6	697	9 m
2700K	24	8.9	546	10 m	2400K	24	10.6	799	9 m
3000K	24	8.3	505	10 m	2700K	24	8.9	827	9 m
4000K	24	8.6	557	10 m	3000K	24	8.9	836	9 m
6500K	24	8.6	559	10 m	4000K	24	8.1	831	9 m
					6500K	24	8.1	830	9 m

liniLED® Side Tunable White 1200 LED strips (IP40)					liniLED® Side RGB 160/240 LED strips (IP40)				
Colour	V DC	W/m	lm/m	Max. Length	Colour	V DC	W/m	lm/m	Max. Length
2700K/ 6500K	24	10.5	838	9 m	RGB 160	24	4.8	97	10 m
					RGB 240	24	7.2	168	5 m

Material

AISI 316 L tube

Chemical composition										Mechanical Test		
Item No.	Polish	C	Si	Mn	P	S	Cr	Ni	Mo	T.S.	Y.S.	Elongation
		%	%	%	%	%	%	%	%	MPa	MPa	%
		≤ 0.080	≤ 0.75	≤ 2.000	≤ 0.040	≤ 0.030	16.0 - 18.0	10.0 - 14.0	2.0 - 3.0			
2004976	#320 satin	0.023	0.33	1.11	0.003	0.004	16.10	10.15	2.08	616	330	57
2004981	#320 satin	0.028	0.20	1.05	0.010	0.002	16.05	10.10	2.12	618	326	55

AISI 316 Brackets

Chemical composition									
Item No.	C	Si	Mn	P	S	Cr	Ni	Mo	
	%	%	%	%	%	%	%	%	
	≤ 0.080	≤ 0.75	≤ 2.000	≤ 0.040	≤ 0.030	16.0 - 18.0	10.0 - 14.0	2.0 - 3.0	
40-1287.1	0.002	0.500	1.020	0.041	0.008	16.219	10.275	2.099	
40-1285.1	0.032	0.604	0.0833	0.042	0.008	17.473	10.413	2.315	
40-1288.1	0.008	0.462	1.003	0.036	0.005	16.706	10.350	2.184	
40-1260.0	0.022	0.607	0.994	0.037	0.007	16.959	10.584	2.327	
40-1284.1	0.002	0.624	1.209	0.039	0.008	17.190	11.159	2.422	
40-1283.1	0.023	0.682	0.947	0.038	0.007	17.237	10.272	2.265	
40-1286.1	0.022	0.550	1.025	0.032	0.004	17.231	10.327	2.229	

Aluminium Alloy 6036-T6

Chemical composition							Mechanical Test			
Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	T.S.	Y.S.	Elongation
0.2- 0.6%	≤ 0.35%	≤ 0.10%	≤ 0.10%	0.45- 0.90%	≤ 0.10%%	≤ 0.10%%	≤ 0.10%%	min. 215	min. 170	min 8%

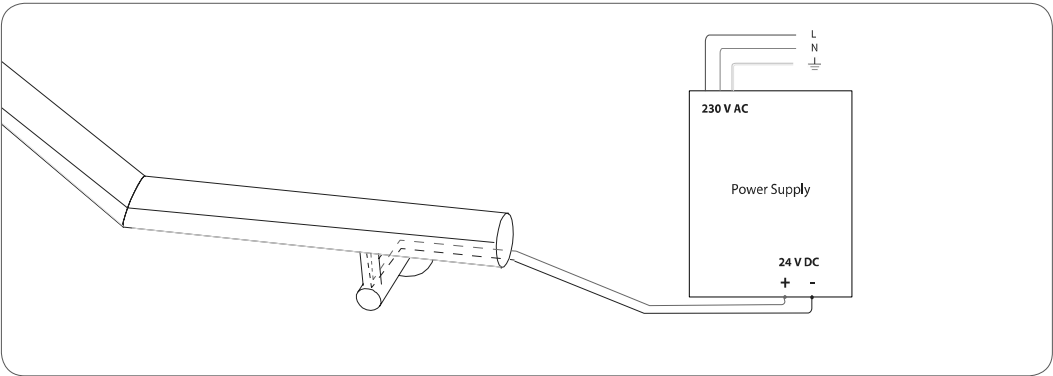


Danger! Danger electric shocks! Whenever this sign is shown, the user should be aware of dangerous situations, which can cause electric shocks. Follow the safety instructions to prevent physical injuries of life-threatening situations.



Warning! In soms cases the user can injure himself or damage the product. The warning sign points out such damage, when the user does nog follow the procedures.

Power Supply

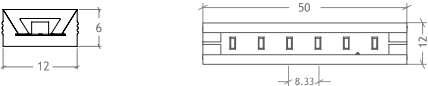


 **Warning!** The Power Supply and any Drivers are always connected externally. Always use a SELV Driver.

Technical specifications

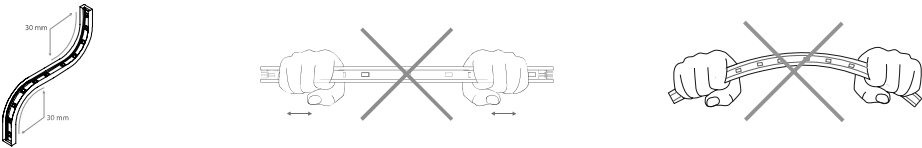
	Warm White
	3000K
Product code [m]	12321
Power (24 V DC)	7.0 W/m
Power (25 V DC)	7.3 W/m
CCT ¹	3052 K
CRI	>80
Luminous flux ¹	617 lm/m
Luminous efficiency ¹	88 lm/W
Spool length	Max. 50 m
Section length	50 mm
LED type	3014
Number of LEDs	6 per section/120 per metre
Max. connection length	10 m
Min. operating voltage	23 V DC
Max. operating voltage	25 V DC
Beam angle	110°
Dimensions	6 x 12 mm
Dimmable	PWM dimming, 24 V DC Common Anode
MacAdam Steps	3 steps
Weight	70 gram per metre
Expected lifetime	L80/B10 > 60000 hrs @ Tc = 40°C
Ingress protection	IP40/IP67/IP68
Storage temperature	-30°C ... 55°C
Operating temperature ²	-30°C ... 55°C
Minimum bending radius	30 mm

¹ Calculated values are given, which due to tolerances in components and production process can vary up to 10%.
² Max. connection length between -30°C and -20°C is 7 metres.



Bending radius

Maximum bending radius is 30 mm. Solely bend up or downward. Do not compress, stretch or bend the LED strip sideways.

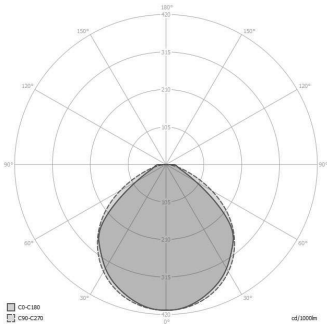


Photometric information (preliminary)

In the process of lighting design and calculations, the luminous flux and beam angle alone are not enough information to create a representative and realistic calculation or render. There is one set of photometric files for a one metre length of LED strip and one for a segment length, that corresponds to the cutting length of each LED strip type. Using the one metre data, quick calculations and long lengths can be simulated with photometric software. The segment data allows very detailed simulations, even curved lines can be approached in high detail.

The information on the website is available in two different file formats:

- Eulumdat (.ldt)
- IES LM-63-1995 (.ies)



Power consumption

To power the liniLED® LED strips and lighting fixtures, a power supply from the liniLED® Power assortment can be selected. Selection of the correct power supply must be done by taking the total requested power and the environment into account.

The total power consumption can be calculated by summing the requested power of all connected products. To calculate the power consumption of a single length of LED strip, use the equation below. The typical equation is valid if the product is supplied by a 24 V DC constant voltage power supply. If the output voltage of a power supply is increased, the power consumption will increase with the same ratio and needs to be corrected by using the optional part of the equation found between brackets.

$$P_{STRIP} = P_{PRODUCT} \times X_{LENGTH} \times 110\% \left[\times \frac{U_{SUPPLY}}{24} \right]$$

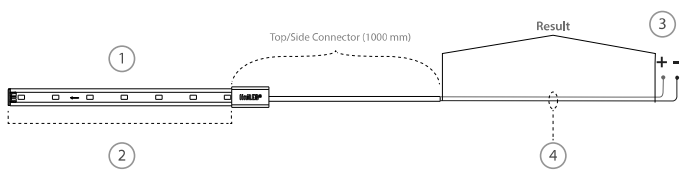
- P_{STRIP}** Calculated power consumption of one LED strip in Watt
- P_{PRODUCT}** Typical power consumption in Watt per metre of the selected LED strip
This value can be found under 'Product characteristics' on page 2
- X_{LENGTH}** Length of the connected LED strip in metres
- 110%** Safety margin to buffer differences over all production batches

Optional:

- U_{SUPPLY}** Set supply voltage of the power supply in Volt
- 24** Nominal supply voltage of liniLED® in Volt

Maximum cable length

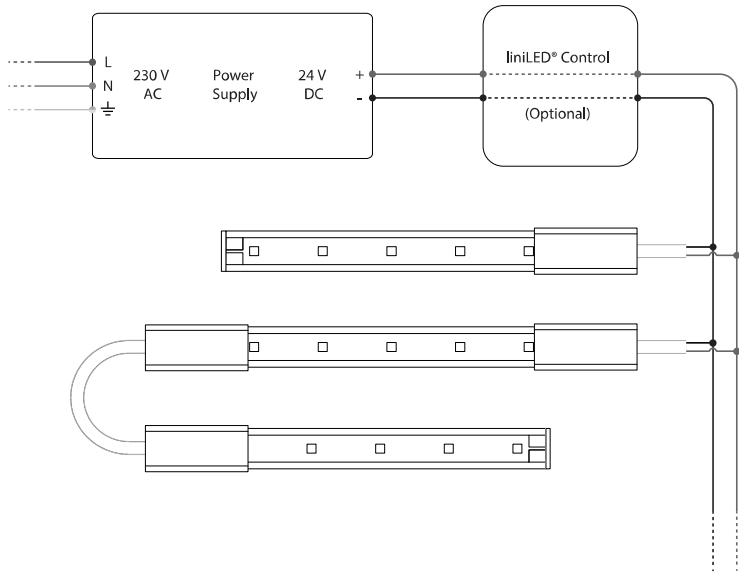
1 = Select colour temperature.
2 = Select LED strip length.
3 = Select output voltage.
4 = Select cable cross section.
Result = Maximum cable length based on the cable thickness and power supply voltage.



1. Colour temperature	3000K								
2. LED strip length		1 m		2 m		5 m		10 m	
3. Voltage		24 V DC	25 V DC	24 V DC	25 V DC	24 V DC	25 V DC	24 V DC	25 V DC
4. Cable cross section	0.50 mm ² - 0.035 Ω/m	42.9 m	83.7 m	20.8 m	41.2 m	7.5 m	15.7 m	3.1 m	7.2 m
	0.75 mm ² - 0.023 Ω/m	64.6 m	125.9 m	31.3 m	62.0 m	11.3 m	23.6 m	4.7 m	10.8 m
	1.00 mm ² - 0.018 Ω/m	85.9 m	167.4 m	41.7 m	82.4 m	15.1 m	31.4 m	6.2 m	14.4 m
	1.50 mm ² - 0.012 Ω/m	129.3 m	251.8 m	62.7 m	124.0 m	22.7 m	47.2 m	9.4 m	21.7 m
	2.50 mm ² - 0.007 Ω/m	215.2 m	419.2 m	104.4 m	206.3 m	37.9 m	78.6 m	15.7 m	36.1 m

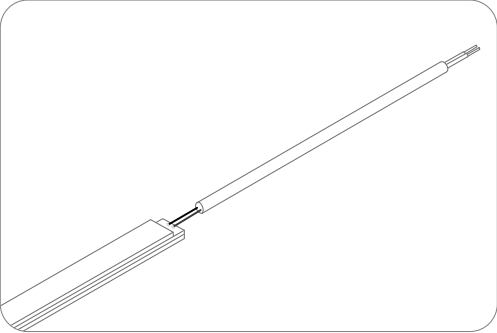
⚠ **Note:** Calculations are based on a standard connector with 1 metre cable (0.5 mm²).

Power and connection diagram

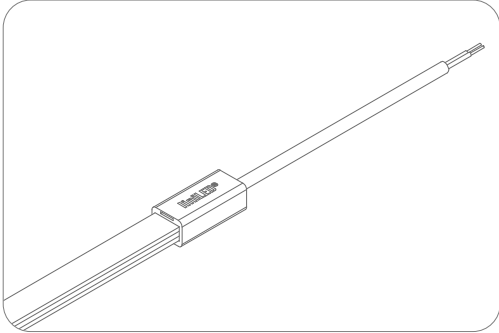


Area advice

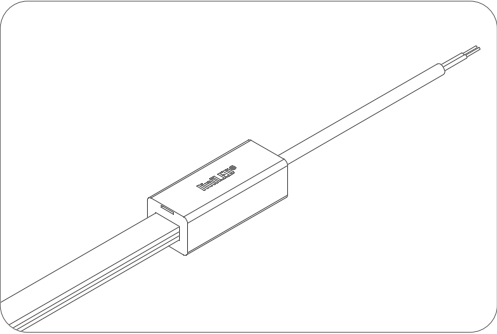
Depending on the installation area of the liniLED® LED strip we offer a range of IP40, IP67 and IP68 solutions to cope with external factors. Below the different connectors are displayed for use in different environments. See corresponding pages or individual product manual for further instructions.



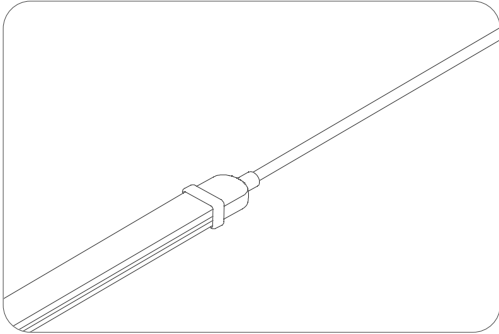
Indoor environment | (IP20)
Solder



Indoor environment | (IP40) | liniLED® Top Connector set.
Product code: 11200 (1 m), 11201 (5 m)



Wet environment | (IP67) | liniLED® Top IP67 Kit
Product code: 11490
See Manual liniLED® Top IP67 Kit for installation instructions.



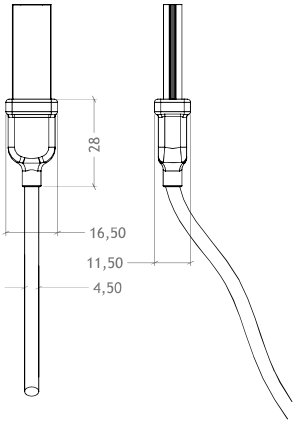
Submersible, chlorine resistant | (IP68) | Mirror Welded Connector
Product code: 11290
The connector is pre-assembled to the LED strip.



liniLED Mirror Welded Connector

We offer the unique possibility to provide selected liniLED® LED strips with a so-called 'mirror welded connector'. The mirror welded connector allows an immediate IP68 waterproof solution of the LED strip. The strip is pre-connected to the connector, so that it can be installed straight away.

All liniLED® Top and Side LED strips (incl. Diffuse) can be delivered with a mirror welded connector, with the exception of RGB and Tunable White LED strips.



General Product Characteristics

Article number	11290
Dimensions	L31W15xH11 mm
Cord length	1 m, 5 m
Degree of protection	IP68
Colour	White
Material	PVC
Power Cord	White, PVC
Weight	1 m: 51 g 5 m: 175 g
Included	Mirror Welded End Cap





Index	Top High Power White G4
TECHNICAL SPECIFICATIONS	2
BENDING RADIUS	2
PHOTOMETRIC INFORMATION	3
POWER CONSUMPTION	3
MAXIMUM CABLE LENGTH	4
POWER AND CONNECTION DIAGRAM	4
AREA ADVICE	5
SYMBOLS	6

The liniLED® Top High Power LED strip (IP40) is a high quality, flexible LED strip with a unique co-extrusion technology. The combination of high quality and exceptional flexibility, allows for an endless range of indoor and outdoor applications. Combine with either the IP40, IP67 or IP68 solution.

In order to power liniLED® products safely, it is necessary to operate them with an electronically stabilized power supply protected against short circuits, overload and overheating.

To ease the luminaire/installation approval, electronic control gear for liniLED® products should carry the CE mark. Preferably a controller from the liniLED® Control range. In Europe, the declarations of conformity must include the following standards: CE: EN 55015, IEC 61547 and IEC 61000-3-2.

For the latest version of this datasheet, visit our website: www.liniLED.com

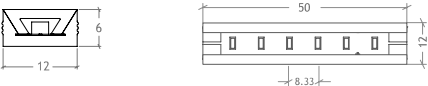
USPs	Available colours				
Unique co-extrusion technology (hollow chamber)					
Up to IP68 with liniLED® Welded Connector					
UV, frost, seawater, cleaning agents & chlorine vapour resistant					
Up to 2 SDCM ellipse					
Extra long lifetime – 60,000 h (L80/B10)					
Internal constant current regulator					
Excellent lumen/Watt ratio					
Single piece reel-to-reel technology					
Made in Europe					
	<table><tr><th>Colour</th><th>Description</th></tr><tr><td> Warm White 3000K</td><td>liniLED® Top WW 3000K High Power G4</td></tr></table>	Colour	Description	 Warm White 3000K	liniLED® Top WW 3000K High Power G4
Colour	Description				
 Warm White 3000K	liniLED® Top WW 3000K High Power G4				



Technical specifications

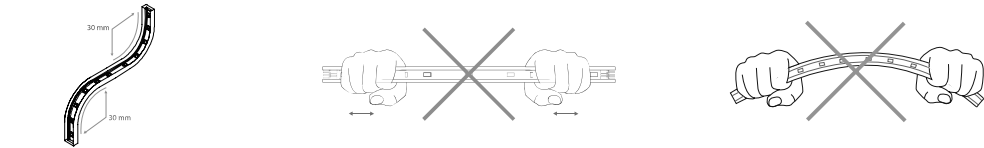
	Warm White
	3000K
Product code [m]	12321
Power (24 V DC)	7.0 W/m
Power (25 V DC)	7.3 W/m
CCT ¹	3052 K
CRI	>80
Luminous flux ¹	617 lm/m
Luminous efficiency ¹	88 lm/W
Spool length	Max. 50 m
Section length	50 mm
LED type	3014
Number of LEDs	6 per section/120 per metre
Max. connection length	10 m
Min. operating voltage	23 V DC
Max. operating voltage	25 V DC
Beam angle	110°
Dimensions	6 x 12 mm
Dimmable	PWM dimming, 24 V DC Common Anode
MacAdam Steps	3 steps
Weight	70 gram per metre
Expected lifetime	L80/B10 > 60000 hrs @ Tc = 40°C
Ingress protection	IP40/IP67/IP68
Storage temperature	-30°C ... 55°C
Operating temperature ²	-30°C ... 55°C
Minimum bending radius	30 mm

¹ Calculated values are given, which due to tolerances in components and production process can vary up to 10%.
² Max. connection length between -30°C and -20°C is 7 metres.



Bending radius

Maximum bending radius is 30 mm. Solely bend up or downward. Do not compress, stretch or bend the LED strip sideways.

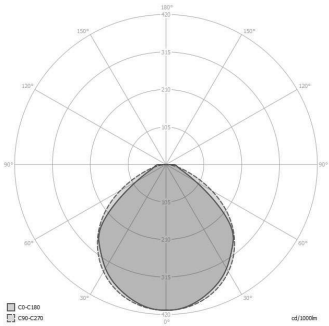


Photometric information (preliminary)

In the process of lighting design and calculations, the luminous flux and beam angle alone are not enough information to create a representative and realistic calculation or render. There is one set of photometric files for a one metre length of LED strip and one for a segment length, that corresponds to the cutting length of each LED strip type. Using the one metre data, quick calculations and long lengths can be simulated with photometric software. The segment data allows very detailed simulations, even curved lines can be approached in high detail.

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Power consumption

To power the liniLED® LED strips and lighting fixtures, a power supply from the liniLED® Power assortment can be selected. Selection of the correct power supply must be done by taking the total requested power and the environment into account.

The total power consumption can be calculated by summing the requested power of all connected products. To calculate the power consumption of a single length of LED strip, use the equation below. The typical equation is valid if the product is supplied by a 24 V DC constant voltage power supply. If the output voltage of a power supply is increased, the power consumption will increase with the same ratio and needs to be corrected by using the optional part of the equation found between brackets.

$$P_{STRIP} = P_{PRODUCT} \times X_{LENGTH} \times 110\% \left[\times \frac{U_{SUPPLY}}{24} \right]$$

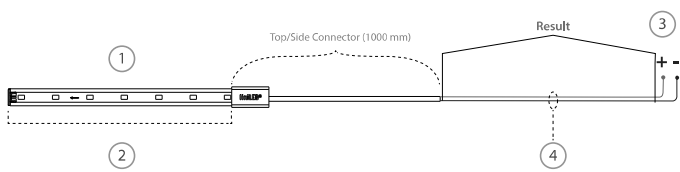
- P_{STRIP}** Calculated power consumption of one LED strip in Watt
- P_{PRODUCT}** Typical power consumption in Watt per metre of the selected LED strip
This value can be found under 'Product characteristics' on page 2
- X_{LENGTH}** Length of the connected LED strip in metres
- 110%** Safety margin to buffer differences over all production batches

Optional:

- U_{SUPPLY}** Set supply voltage of the power supply in Volt
- 24** Nominal supply voltage of liniLED® in Volt

Maximum cable length

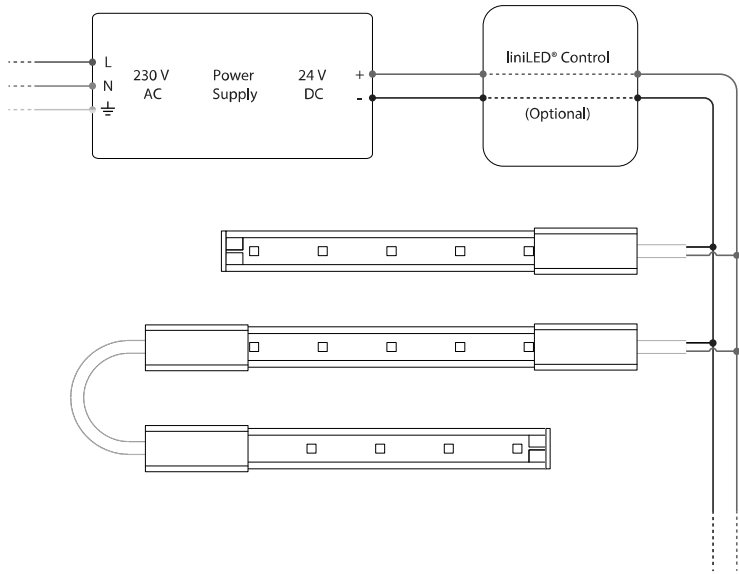
1 = Select colour temperature.
2 = Select LED strip length.
3 = Select output voltage.
4 = Select cable cross section.
Result = Maximum cable length based on the cable thickness and power supply voltage.



1. Colour temperature	3000K								
2. LED strip length		1 m		2 m		5 m		10 m	
3. Voltage		24 V DC	25 V DC	24 V DC	25 V DC	24 V DC	25 V DC	24 V DC	25 V DC
4. Cable cross section	0.50 mm ² - 0.035 Ω/m	42.9 m	83.7 m	20.8 m	41.2 m	7.5 m	15.7 m	3.1 m	7.2 m
	0.75 mm ² - 0.023 Ω/m	64.6 m	125.9 m	31.3 m	62.0 m	11.3 m	23.6 m	4.7 m	10.8 m
	1.00 mm ² - 0.018 Ω/m	85.9 m	167.4 m	41.7 m	82.4 m	15.1 m	31.4 m	6.2 m	14.4 m
	1.50 mm ² - 0.012 Ω/m	129.3 m	251.8 m	62.7 m	124.0 m	22.7 m	47.2 m	9.4 m	21.7 m
	2.50 mm ² - 0.007 Ω/m	215.2 m	419.2 m	104.4 m	206.3 m	37.9 m	78.6 m	15.7 m	36.1 m

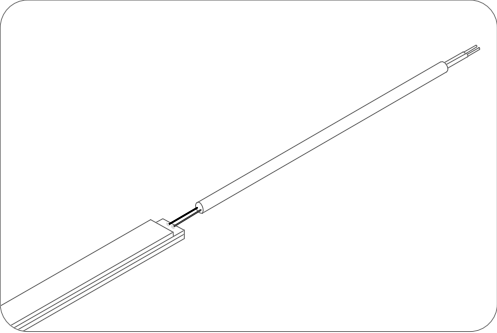
⚠ **Note:** Calculations are based on a standard connector with 1 metre cable (0.5 mm²).

Power and connection diagram

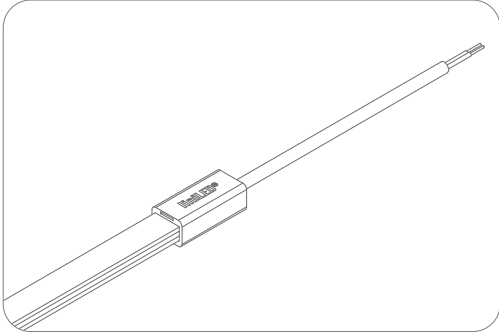


Area advice

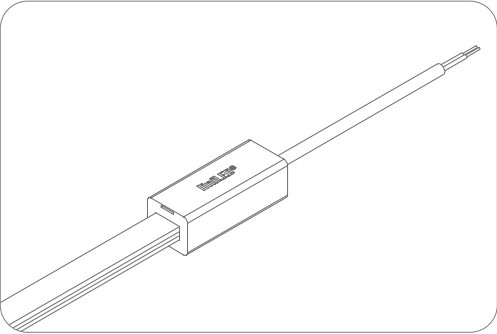
Depending on the installation area of the liniLED® LED strip we offer a range of IP40, IP67 and IP68 solutions to cope with external factors. Below the different connectors are displayed for use in different environments. See corresponding pages or individual product manual for further instructions.



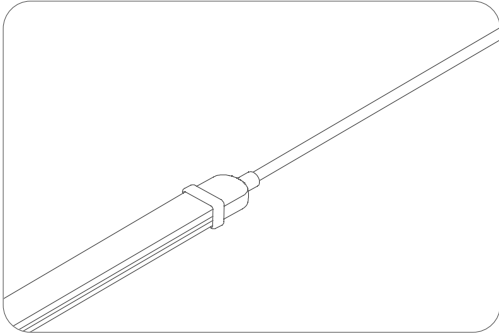
Indoor environment | (IP20)
Solder



Indoor environment | (IP40) | liniLED® Top Connector set.
Product code: 11200 (1 m), 11201 (5 m)



Wet environment | (IP67) | liniLED® Top IP67 Kit
Product code: 11490
See Manual liniLED® Top IP67 Kit for installation instructions.



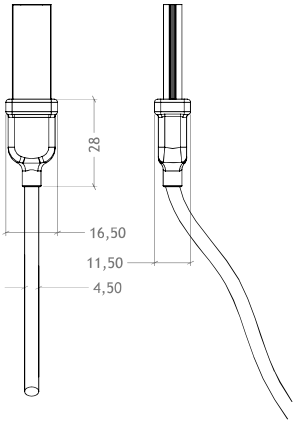
Submersible, chlorine resistant | (IP68) | Mirror Welded Connector
Product code: 11290
The connector is pre-assembled to the LED strip.



liniLED Mirror Welded Connector

We offer the unique possibility to provide selected liniLED® LED strips with a so-called 'mirror welded connector'. The mirror welded connector allows an immediate IP68 waterproof solution of the LED strip. The strip is pre-connected to the connector, so that it can be installed straight away.

All liniLED® Top and Side LED strips (incl. Diffuse) can be delivered with a mirror welded connector, with the exception of RGB and Tunable White LED strips.



General Product Characteristics

Article number	11290
Dimensions	L31W15xH11 mm
Cord length	1 m, 5 m
Degree of protection	IP68
Colour	White
Material	PVC
Power Cord	White, PVC
Weight	1 m: 51 g 5 m: 175 g
Included	Mirror Welded End Cap

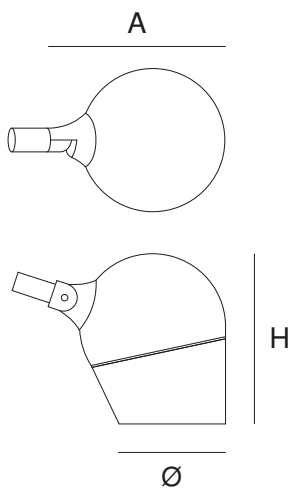


TYPE P1

selux

Olivio Medio

SX 961 11-9



luminaire head

rotation symmetrical 40° ($\pm 20^\circ$), medium beam,
LED, 3000 lm, 3000 K, CRI > 80, electronic converter, Total power:
27 W

luminaire head, to be mounted on Olivio Candelabra, Sistema or
Floracion poles and brackets, luminaire housing made of die-cast
aluminium, painted, aluminium, screws made of stainless steel,
adjustable head joint ensures precise direction of luminaire head,
wide pivoting range from 20° to 195°, can be rotated + / - 180°,
shielding made of safety glass

Optical system: medium reflector

hidden cable entry through the head joint, incl. 10m feed cable,
easy maintenance access via lockbar mechanism,

Certifications

CE, ENEC 05, IK06, IP67, Protection Class II, optional I

colour: Selux Graphite or special finish

Height H: 260 mm

Diameter Ø: 163 mm

Outreach : 260 mm

Weight: 6 kg

Windpressure: 0,05 m²

Make: Selux, Type: SX 961 11-9



Modifications are possible due to the constant development and improvement of LED technology.

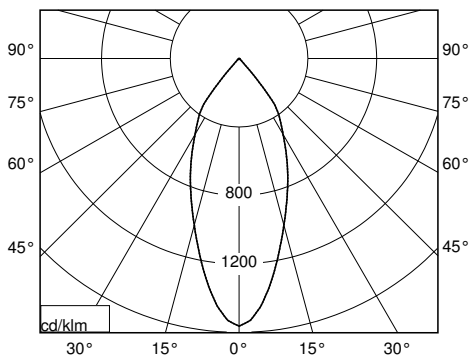
© Selux AG, Subject to technical modification 1.2020

Selux AG, Motzener Straße 34, D-12277 Berlin, T +49 30 72001-0, F -100, info@selux.com, www.selux.com

Olivio Medio

SX 961 11-9

Technics



Photometric data: 8480

Upward light ratio (ULR): 0 %

Lamp

LED · 3000lm Light colour: 3000 K · CRI > 80.

Optic

medium reflector · medium beam.

Electrics

electronic converter · Total power: 27W ·

10m feed cable

control options:

dynamic · DALI · fix value · AmpDim ·

individual power reduction in 300 lumen

steps ex work

Luminous flux characteristics / Operating time of LED

	20000	40000	60000	80000
Operating time LED				
Lumen maintenance	95%	92%	89%	86%
LLMF*	0.95	0.92	0.89	0.86

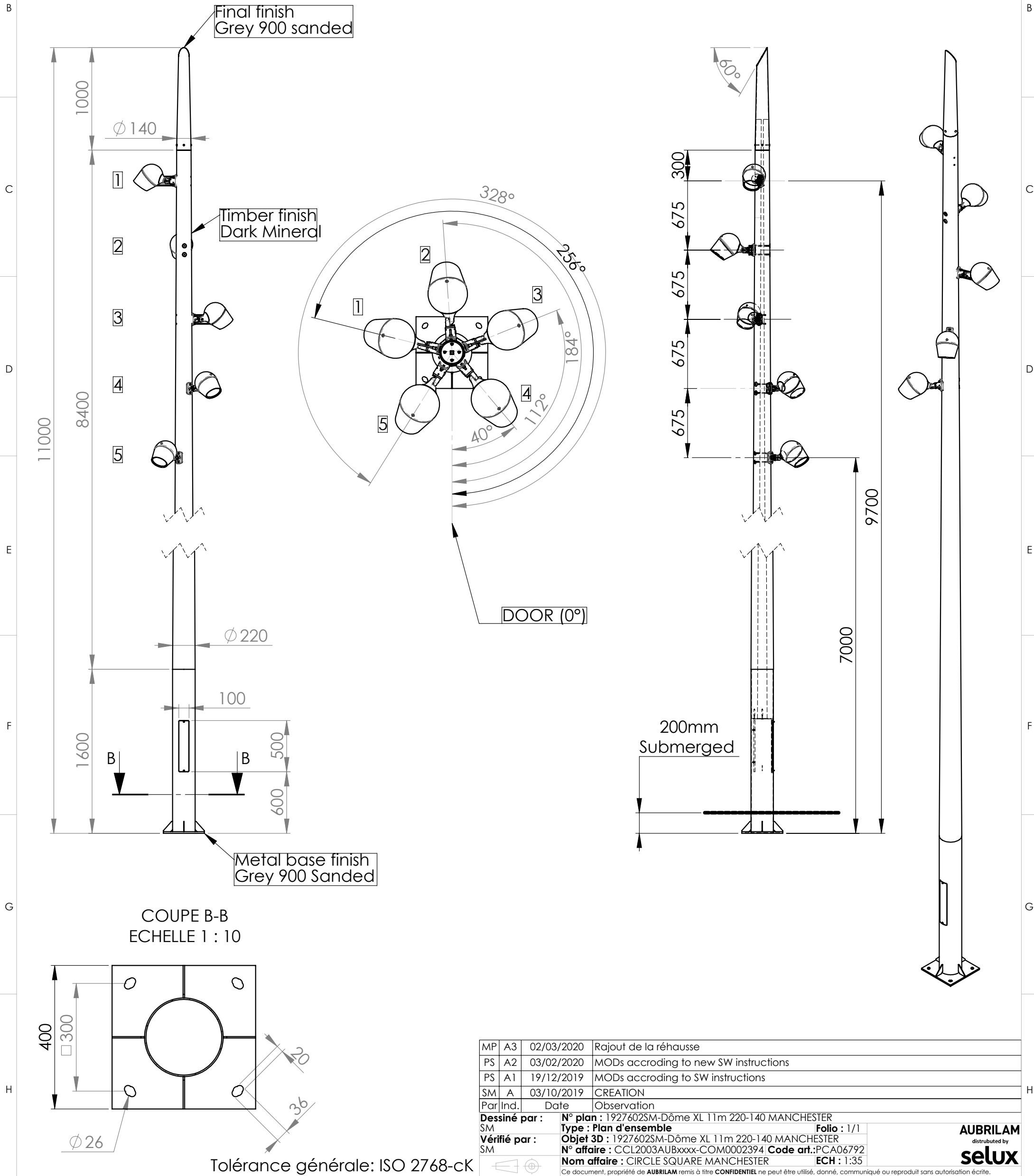
* = Lamp lumen maintenance factor

Modifications are possible due to the constant development and improvement of LED technology.

© Selux AG, Subject to technical modification 1.2020

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1		2		3		4			
Rep.	QTE	Code	Désignation	Mat.	Observation	Surface	Volume	Poids(Kg)	
1	1	AMP06791	1927601SM-Embase ronde XL Ø220 UK Sp MANCHESTER	S235	Galvanisation + thermolaquage	2.57	0.01	49.39	
2	1	SFF00941	1927603SM-Fût Dôme XL 220-140 11m MANCHESTER	GL24	Lasuré	7.319	0.204	85.592	
3	2	AVV0175 - AVV01665	VAM TBHC 6x20 ACIER INOX A2 C50 inviolable - AVV0175	INOX A2		0.0	0.0	0.0	
4	3	AVV0481 - AVV01785	Vis ASSY 3 TF Ø10 x 100-60 Acier Zingué- AVV0481		Wurth: 0170 310x100 Bichromaté	0.0	0.0	0.0	
5	10	AVZ0151 - AVZ01867	Vis Femelle M8 D13 L40 INOX - AVZ0151	INOX		0.0030	0.0000	0.0336	
6	10	AMB0912 - AMB02027	RP pour Vis femelle Inox M8 - AMB0912	INOX		0.0028	0.0000	0.0291	
7	10	AVF0147 - AVF01496	Tige M8x190 Inox A2	Acier inox	Coupée à longueur 190mm	0.00	0.00	0.07	
8	10	AVR0107 - AVR01583	RP M8 ACIER INOX - AVR0107	INOX A2		0.00	0.00	0.00	
9	10	AVE0114 - AVE01435	EH M8 ACIER INOX A2 C50 - AVE0114	INOX A2		0.00	0.00	0.00	
10	10	AAP0176 - AAP00680	Cache ecrou plastique noir M8 - AAP0176	ABS					
11	1	AMP0999Z2J53001	1813603SM-Réhausse top de mat spéciale	S235 - Classe 1	Galvanisation + thermolaquage	0.72	0.00	8.41	
12	4	AAP0102 - AAP00665	AAP0102 - Bouchon plastique noir Ø10	ABS					
13	4	AVV0357 - AVV01737	VAP TBX 6x40 ACIER INOX A2 C50 - AVV0357	INOX A2		0.0	0.0	0.0	
14	1	SZB0645 - SFF00308	1809410PS-Planche UK	GI24		0.09	0.00	0.26	
15	2	AVV0138 - AVV01644	VAM TFHC 6x25 ACIER INOX A2 C50 - AVV0138	INOX A2		730.3	755.3	5.5	
16	5		OLIVIO 200 +MANCHON		Non fourni par Aubrilam				
17	5		OLIVIO 200-300 PATIN		Non fourni par Aubrilam				



MP	A3	02/03/2020	Rajout de la réhausse
PS	A2	03/02/2020	MODs accroding to new SW instructions
PS	A1	19/12/2019	MODs accroding to SW instructions
SM	A	03/10/2019	CREATION
Par	Ind.	Date	Observation
Dessiné par : SM			
Vérifié par : SM			
N° plan : 1927602SM-Dôme XL 11m 220-140 MANCHESTER			
Objet 3D : 1927602SM-Dôme XL 11m 220-140 MANCHESTER			
N° affaire : CCL2003AUBxxx-COM0002394			
Code art.: PCA06792			
Nom affaire : CIRCLE SQUARE MANCHESTER			
Ech : 1:35			
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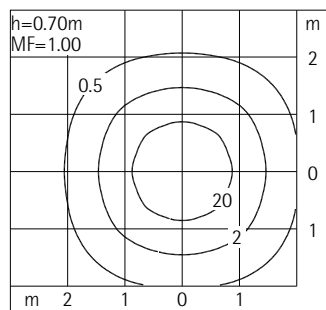
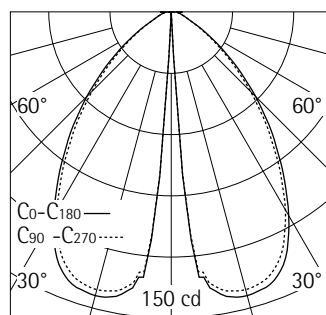
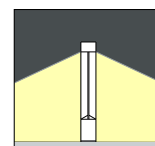
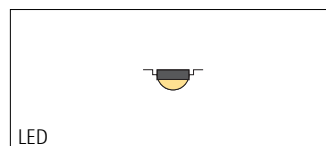
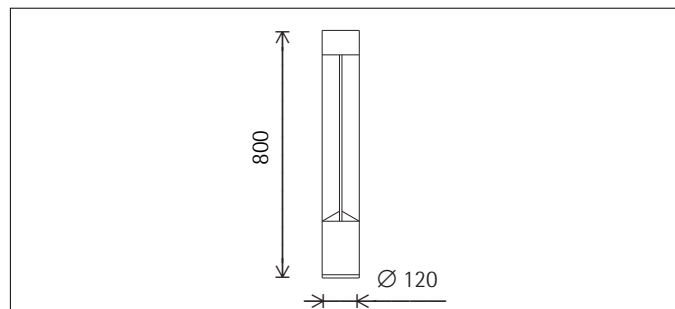
AUBRILAM
distributred by
selux



33316.000 Graphit m
LED 8W 840lm 3000K warm white
DALI-2
Version 8

Product description

For mounting on accessories.
Cross-shaped aluminium profile and cylindrical housing: corrosion-resistant cast aluminium, No-Rinse surface treatment. Double powder-coated. Optimised surface for reduced accumulation of dirt.
DALI control gear. 2 cable entries. 5-pole terminal block.
LED module: high-power LEDs on metal-core PCB. Collimating lens made of optical polymer.
Cylindrical luminaire head with lower prismatic lens: corrosion-resistant cast aluminium, double powder-coated.
Mounting accessories to be ordered separately.
Protection mode IP65: dust-proof and water jet-proof.
Weight 4.80kg
Housing temperature 46°C
Maximum wind load area 0.1m²
Version with 3000K CRI 97 or 2700K, 3500K, 4000K CRI 92 available on request.



Technical data

Luminous flux of the luminaire	277lm
Connected load	11.0W
Luminaire efficacy	25lm/W
Colour deviation	1.5 SDCM
Colour rendition index	CRI 92
Lumen maintenance (LED manufacturer specifications)	L90/B10 ≤50000h L90 ≤100000h
LED failure rate	0.1% ≤50000h
Dimming range	1%-100%
Dimming method	CCR
LMF	E
Energy efficiency class	EEI A+
Standby power per control gear	0.27W
Luminaires per circuit breaker B16	--
Temperature on the light aperture	37°C

Planning data

Cleaning (a)	1				2				3			
Ambient conditions	P	C	N	D	P	C	N	D	P	C	N	D
LMF	0.96	0.94	0.90	0.86	0.93	0.91	0.86	0.81	0.92	0.90	0.84	0.79
RSMF	0.91	0.83	0.68	0.51	0.90	0.81	0.67	0.50	0.90	0.81	0.67	0.50

Hours of operation (h)	1000	5000	10000	20000	30000	40000	50000
LLMF	1.00	0.99	0.98	0.96	0.94	0.92	0.90
LSF	1	1	1	1	1	1	1

MF	LMFxRSMFxLLMFxLSF
MF	Maintenance Factor
LMF	Luminaire Maintenance Factor
RSMF	Room Surface Maintenance Factor
LLMF	Lamp Lumens Maintenance Factor
LSF	Lamp Survival Factor
P	Room pure
C	Room clean
N	Room normal
D	Room dirty

Technical data in accordance with international norms and standards

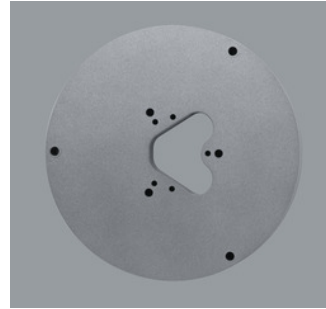
IEC 60598	Luminaires – Part 1+2: general requirements, specific requirements and tests
IEC 62031	LED modules for general lighting – safety requirements
IEC 62471	Photobiological safety of lamps and lamp systems
EN 13032-4	Light and lighting – measurement and representation of photometric data
CIE 13	Method of measuring and specifying colour rendering properties of light sources

All technical data is subject to industrially standard tolerances.
Also see www.ercos.com/ercos-led

Accessories



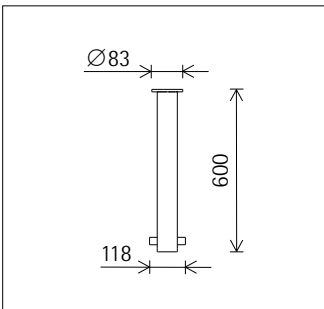
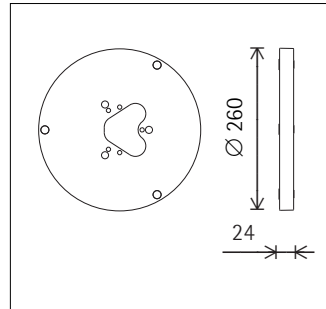
34974.000
Distribution box, IP68
With four cable entries, 7-25mm.
Polymer.
ø 102mm, L 305mm.
Weight 0.47kg
CE IP 68 3m



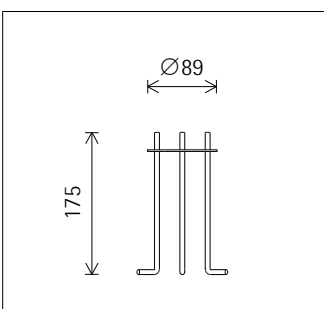
33982.000
Mounting plate
Corrosion-resistant cast aluminium,
No-Rinse surface treatment. Graphit m,
double powder-coated.
Weight 1.70kg



33975.000
Ground socket
Metal, hot-dip galvanised.
Weight 2.10kg



33980.000
Concrete anchor
Mounting plate with threaded bar and
fixing nuts M6. Individual parts to be
assembled on-site.
Weight 0.30kg



TYPE S2

Midipoll Bollard luminaire

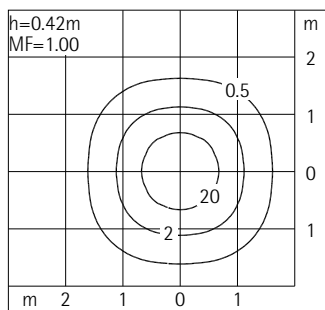
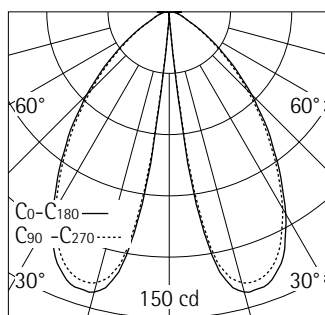
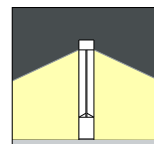
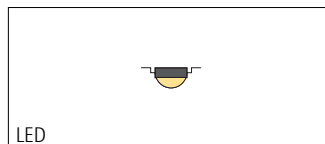
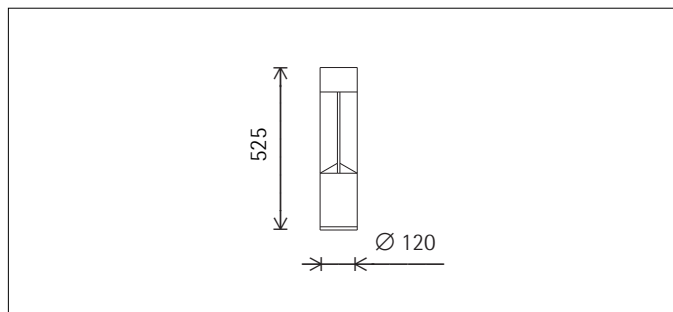
Floor washlight



33318.000 Graphit m
LED 8W 840lm 3000K warm white
DALI-2
Version 8

Product description

For mounting on accessories.
Cross-shaped aluminium profile and cylindrical housing: corrosion-resistant cast aluminium, No-Rinse surface treatment. Double powder-coated. Optimised surface for reduced accumulation of dirt.
DALI control gear. 2 cable entries. 5-pole terminal block.
LED module: high-power LEDs on metal-core PCB. Collimating lens made of optical polymer.
Cylindrical luminaire head with lower prismatic lens: corrosion-resistant cast aluminium, double powder-coated.
Mounting accessories to be ordered separately.
Protection mode IP65: dust-proof and water jet-proof.
Weight 3.30kg
Housing temperature 46°C
Maximum wind load area 0.06m²
Version with 3000K CRI 97 or 2700K, 3500K, 4000K CRI 92 available on request.



Technical data

Luminous flux of the luminaire	268lm
Connected load	11.0W
Luminaire efficacy	24lm/W
Colour deviation	1.5 SDCM
Colour rendition index	CRI 92
Lumen maintenance (LED manufacturer specifications)	L90/B10 ≤50000h L90 ≤100000h
LED failure rate	0.1% ≤50000h
Dimming range	1%-100%
Dimming method	CCR
LMF	E
Energy efficiency class	EEI A+
Standby power per control gear	0.27W
Luminaires per circuit breaker B16	--
Temperature on the light aperture	37°C

For your regional contact in the ERCO
Sales network click here
www.erco.com/contact

Technical Region:
220V-240V/50Hz-60Hz
We reserve the right to make technical
and design changes.
Edition: 29.01.2020
Current version under
www.erco.com/33318.000

Planning data

Cleaning (a)	1				2				3			
Ambient conditions	P	C	N	D	P	C	N	D	P	C	N	D
LMF	0.96	0.94	0.90	0.86	0.93	0.91	0.86	0.81	0.92	0.90	0.84	0.79
RSMF	0.91	0.83	0.68	0.51	0.90	0.81	0.67	0.50	0.90	0.81	0.67	0.50

Hours of operation (h)	1000	5000	10000	20000	30000	40000	50000
LLMF	1.00	0.99	0.98	0.96	0.94	0.92	0.90
LSF	1	1	1	1	1	1	1

MF	LMFxRSMFxLLMFxLSF
MF	Maintenance Factor
LMF	Luminaire Maintenance Factor
RSMF	Room Surface Maintenance Factor
LLMF	Lamp Lumens Maintenance Factor
LSF	Lamp Survival Factor
P	Room pure
C	Room clean
N	Room normal
D	Room dirty

Technical data in accordance with international norms and standards

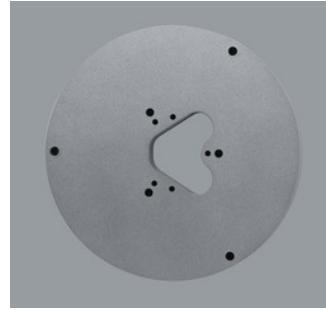
IEC 60598	Luminaires – Part 1+2: general requirements, specific requirements and tests
IEC 62031	LED modules for general lighting – safety requirements
IEC 62471	Photobiological safety of lamps and lamp systems
EN 13032-4	Light and lighting – measurement and representation of photometric data
CIE 13	Method of measuring and specifying colour rendering properties of light sources

All technical data is subject to industrially standard tolerances.
Also see www.ercos.com/ercos-led

Accessories



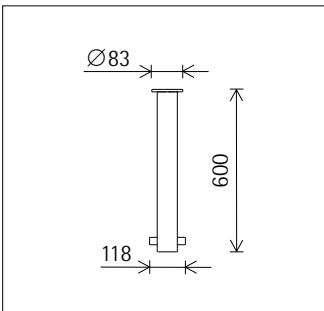
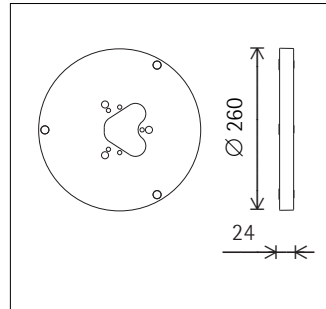
34974.000
Distribution box, IP68
With four cable entries, 7-25mm.
Polymer.
ø 102mm, L 305mm.
Weight 0.47kg
CE IP 68 3m



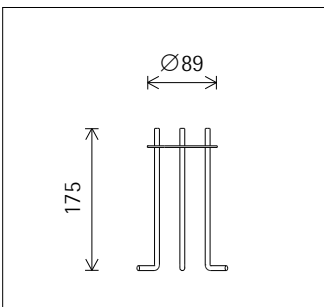
33982.000
Mounting plate
Corrosion-resistant cast aluminium,
No-Rinse surface treatment. Graphit m,
double powder-coated.
Weight 1.70kg

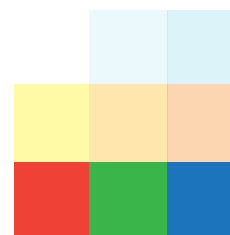


33975.000
Ground socket
Metal, hot-dip galvanised.
Weight 2.10kg



33980.000
Concrete anchor
Mounting plate with threaded bar and
fixing nuts M6. Individual parts to be
assembled on-site.
Weight 0.30kg





Static LED

MaxiLED Small Globe Series

Static Colours

KEY FEATURES

- Static Colours
- IP68
- 24VDC



Product Overview

MaxiLED Strands provide exceptionally long strands of globe-lensed LEDs that can be used to outline trees buildings and bridges or connect architectural features with brilliant white / colour lighting. Each strand is built for permanent installations with rugged, injection-molded outer globes, heavy gauge wiring and dependable LEDs. More than one colour can be used on a single strand.

Specifications

Static Colours

Electrical specification

Power input:	24VDC
LED Current:	-
Watts per unit:	0.6w
Max. Units per system (1.5mm sq cable):	See Chart below
Lumens (Est.)	-
Lumen Maintenance 85%:	70,000Hrs

LED options

Cool White (10,000K):	YES
Warm White (2700K):	YES
Red, Green, Blue, Pink and Amber	YES

System Cable Distances

Max. Run distance	100m (328 ft)
-------------------	---------------

Protection

IP Rating:	IP68
Operation Temperature:	-25 to +50

Globe

Material:	UV stabilized polycarbonate
-----------	-----------------------------

Listings:

UL / cUL, CE, BS EN60598, IEC 60598

Cable Colours

Black (Standard):	YES
White: (Minimum order):	YES (on request)
RAL (Minimum order):	YES (on request)

Dimensions & Weights

Diameter (mm):	34 mm (1.3/8ins)
Height (mm):	34 mm (1.3/8ins)
Weight:	24G (0.8 Ounce)

Transformer

Max. Quantity of Fittings

100W	100 Globes
150W	200 Globes
240W	300 Globes

Even though the total load is below the power supply capacity, this is due to the inrush current limitations on start up.

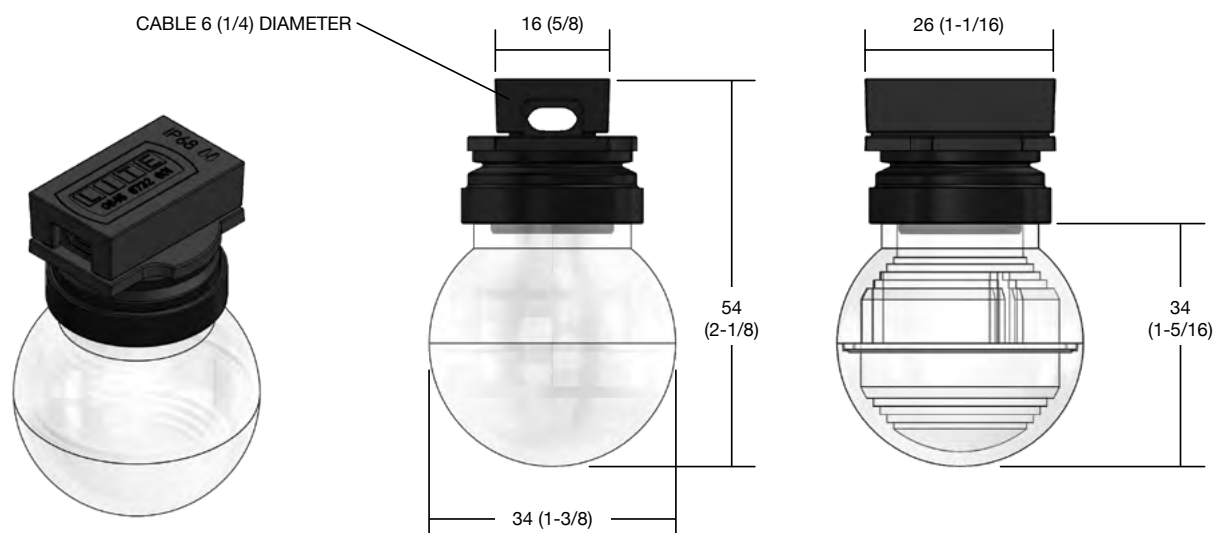


UK Designed and
Manufactured

MaxiLED Lighting

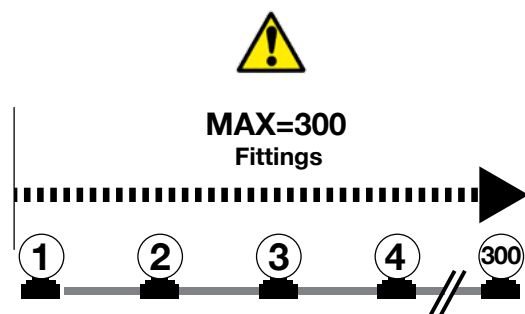
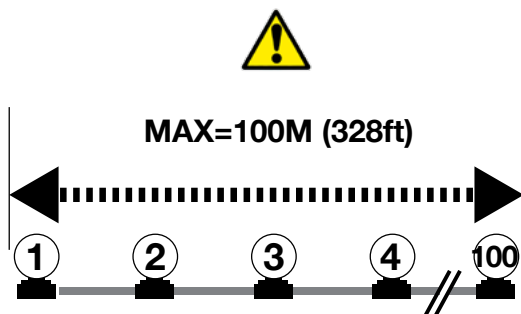
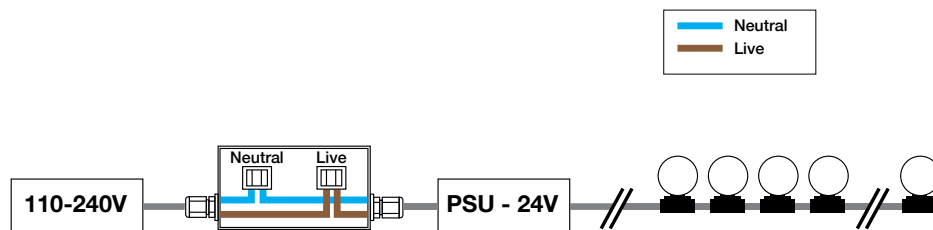
Unit 2, Farrington Place, Rossendale Road Ind. Est. Burnley, Lancashire. UK. BB11 5TY
T: +44 (0)845 8732 601 E: sales@maxiledlighting.com Web: www.maxiledlighting.com

MM (INCHES)





This product must be installed by a qualified electrician in accordance with all national and local electrical and construction codes.
Failure to comply with the installation instructions can result in serious injury or death.

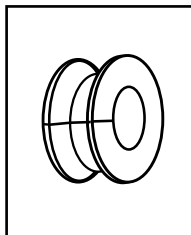
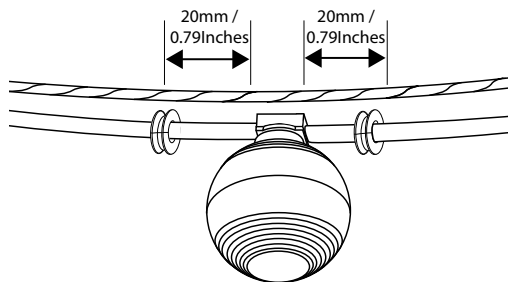




This product must be installed by a qualified electrician in accordance with all national and local electrical and construction codes.
Failure to comply with the installation instructions can result in serious injury or death.



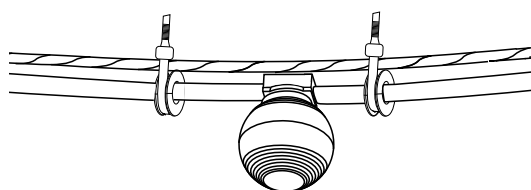
1 Place rubber grommets over MaxiLED Cable



(a). Make sure catenary cable is taught and secure.

(b). With the secure catenary cable above the MaxiLED Cable, place a rubber grommet 20mm / 0.79 inches either side of the MaxiLED housing.

2 Secure MaxiLED Cable



(a). Using a suitable sized UV resistant zip tie (4.8mm width), secure the grommet up against the catenary cable.

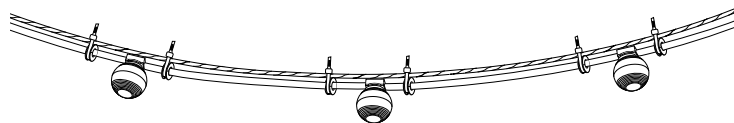
(b). Trim excess cable tie.

NOTE: GROMMET PLACED OVER MAXILED CABLE

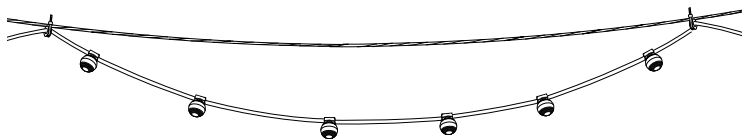
3 Repeat Procedure

(a). Repeat process 1-2 until the installation is complete.

(b). Connect the installed unit to the correct transformer.



4 Alternative Fixing Method



(a). alternative fixing method creating a hoop effect.

The transformer must be installed by a qualified electrician in accordance with all national and local electrical and construction codes.

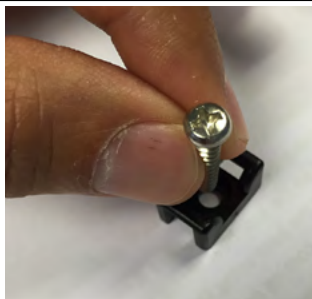
Failure to comply with the installation instructions can result in serious injury or death.



This product must be installed by a qualified electrician in accordance with all national and local electrical and construction codes.
Failure to comply with the installation instructions can result in serious injury or death.



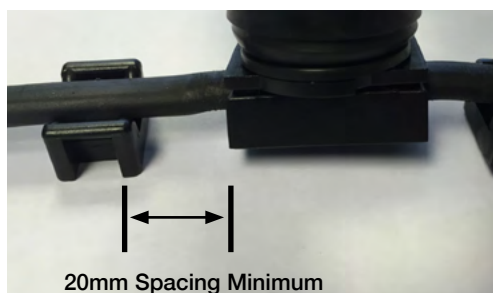
1 Fitting the Fixing Clip to the desired Surface



(a). Screw fix the Fixing clip to the desired surface.

NOTE: Correct screw must used to assure that the head is counter sunk within the fixing clip.

2 Spacing the Fixing Clip



(a). Ensure that the Spacing between each Fixing Clip and MaxiLED Globe is 20mm Minimum

3 Cable Tie the MaxiLED Strand Cable to the Fixing Clip



(a). Using the Supplied UV/Weather resistant Cable tie.

(b). Feed the Cable tie through the Fixing Clip and Secure the MaxiLED Strand Cable

4 Repeat Procedure

(a). Repeat process 1-3 until the installation is complete.



Product		LED		Globe		Cable colour	
Series Small Globe	SSG	Red	RED	Matt	ML	Black (Standard unless stated)	CB
		Green	GRE	Clear	CL	White	CW
		Blue	BLU			RAL	CRAL
		Amber	AMB				
		Pink	PNK				
		Cool White (10,000K)	CW				
		Warm White (2700K)	WW				
EXAMPLE:	SSG		RED		ML		CB

Global Distributors

Australia:

Light Project Pty Ltd.
T: +61 3 8415 1970
M: +61 4 1607 8999
E: Francis@lightproject.com.au
W: www.lightproject.com.au

Ireland:

Fantasy Lights
T: +353 1 460 1052
M: +353 87 927 3566
E: sales@fantasylights.com
W: www.fantasylightsgroup.ie

MENA/GCC Region (Including Turkey & Turkic Republics)

Lightitude
M +971 04 5588674
E: lbastaki@lightitude.com
W: www.lightitude.com

Netherlands:

Q CAT Lighting
T: +31 (0) 10 415 18 11
E: info@qcat.nl
W: www.qcat.nl

New Zealand:

Energy Light Ltd.
T: +64 3 977 2034
E: customerservice@energylight.net
W: www.energylight.net

North America:

VLT
T: +1 949 581 9398
E: info@vltcorp.com
W: www.vltcorp.com

Singapore:

Technolite
T: +65 6453 1978
E: enquiry@technolite.com.sg
W: www.technolite.global

South Africa:

SSLi - Solid State Lighting
M: +27(0)82 785 3890
E: ross_blakeway@ssli.com
W: www.ssli.co.za

Sweden:

Sweden Stockholm Lighting
T: +46 721 470 087
SMS: +46 709 909 110
E: oscar@stockholmlighting.se

United Kingdom:

LITE Ltd.
D: +44 (0)1592 757 202
M +44 (0)7866 724625
E: ian@lite-ltd.co.uk
W: www.lite-ltd.co.uk



Unit 2, Farrington Place, Rossendale Road Ind. Est. Burnley, Lancashire. UK. BB11 5TY
T: +44 (0)845 8732 601

E: sales@maxiledlighting.com Web: www.maxiledlighting.com

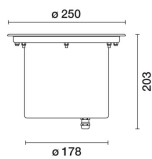
TYPE X2

Light Up

Design iGuzzini

iGuzzini

Last information update: April 2020



Recessed floor luminaire Earth D=250 mm - Neutral White - Flood optic - DALI

Product code
E157

Technical description

Recessed luminaire applicable to the floor or ground, designed for fitting monochrome white LED sources, for illumination, fixed optic, with DALI dimmable incorporated electronic control gear. The round frame has a diameter D=250 mm; the body and frame are made of AISI 304 stainless steel with sodium-calcium extra clear glass, thickness 15 mm. Stainless steel body coated with black paint. The luminaire is fixed to the outer casing by means of two TORX-type screws that ensure proper anchoring. Inclusive of LED circuit, OPTI BEAM aluminium reflector and black plastic cover. The product is wired using an A2 stainless steel cable gland, with type A07RNF 4x1 mm² outgoing power cord having L=1200 mm. The cable is equipped with an anti-transpiration device (IP68) consisting of a silicone seal placed on the power cable and housed inside the product. The outer casing for installation can be ordered separately from the plastic optical assembly. The assembly made up of the frame, optical assembly and outer casing guarantees 5000 kg resistance to static loads. Maximum glass surface temperature is lower than 40°C.

Installation

The product is secured to the outer casing by means of two TORX-type screws. The luminaire can be installed recessed, floor-standing, using an outer casing or on the ground without outer casing.

Dimension (mm)
Ø250x203

Colour
Steel (13)

Weight (Kg)
4.98

Mounting
Floor recessed|ground recessed

Wiring

Product inclusive of 220-240 VAC DALI dimmable electronic control gear.

Notes

IP68 degree of protection on the product and cable when using IP68 connectors * The product is not suitable for installation in swimming pools and fountains. Overvoltage protection: 4KV Common mode, 3,5KV differenzial mode

Complies with EN60598-1 and pertinent regulations



IK10



IP68

Immersione completa per periodi limitati, non idoneo in piscine e fontane.



The lighting fixtures were designed and tested to withstand a static load of up to 50000 N and to resist drive-over stress by vehicles with tires. The fixtures cannot be used in lanes subjected to horizontal stresses due to acceleration, braking and / or changes of direction.

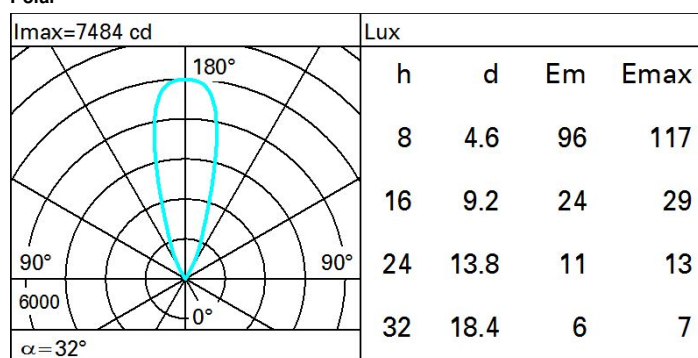
Product configuration: E157

Technical data

Im system:	2374	Life Time LED 2:	100,000h - L80 - B10 (Ta 40°C)
W system:	21.4	Ballast losses [W]:	3.4
Im source:	3050	Lamp code:	LED
W source:	18	Number of lamps for optical assembly:	1
Luminous efficiency (Im/W, real value):	110.9	ZVEI Code:	LED
Im in emergency mode:	-	Number of optical assemblies:	1
Total light flux at or above an angle of 90° [Lm]:	2374	Ambient operating temperature range:	from -20°C to +35°C. (*)
Light Output Ratio (L.O.R.) [%]:	78	Power factor:	See installation instructions
Beam angle [°]:	32°	Inrush current:	10 A / 200 µs
CRI:	80	Maximum number of luminaires of this type per miniature circuit breaker:	B10A: 18 luminaires B16A: 30 luminaires C10A: 31 luminaires C16A: 51 luminaires
Colour temperature [K]:	4000	Overvoltage protection:	5kV Common mode & 4kV Differential mode
MacAdam Step:	2	Dimming mode:	CCR
Life Time LED 1:	100,000h - L80 - B10 (Ta 25°C)	Control:	DALI

* Preliminary data

Polar

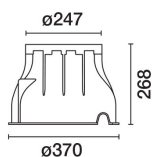
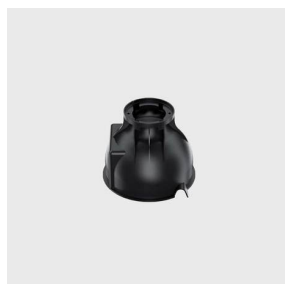


Plastic casing for installation on floors + end cap

Design iGuzzini

iGuzzini

Last information update: March 2020



Plastic casing for installation on floors + end cap

Product code

X209

Technical description

Made of plastic (polypropylene). Inclusive of front cap with system for extracting the cables and double cable entry.

Installation

Floor-standing (concrete)

Dimension (mm)

$\varnothing 247 \times 268$

Colour

Black (04)

Weight (Kg)

1.9

Mounting

ground surface|Floor recessed|ground recessed

Complies with EN60598-1 and pertinent regulations

Last information update: February 2020

**2-way junction connector - IP68****Product code**

X188

Technical description

IP68 2-way cable joiner with internal 4-pole terminals suitable for cables with a cross-section of $\varnothing=0.5\div4\text{mm}^2$. Made of PA66 plastic (polyamide, GWT 960°C). Complete with rubber pads for a single cable with a diameter of $\varnothing=2.5\div12\text{mm}$ and rubber pads for a double cable with a diameter of $\varnothing=2.5\div4,5\text{mm}$: the latter type of pad, when used with Underscore Inout, allows 2 cables exiting the connector to be connected.

Dimension (mm) $\varnothing23$ **Colour**

Indeterminate (00)

Complies with EN60598-1 and pertinent regulations

IK10

EAC

BEGA**TYPE X15****33 058**

Recessed luminaire



Project · Reference number

Date

Product data sheet

Application

LED luminaire with asymmetrical light distribution for installation in walls.

Product description

Luminaire made of highly corrosion-resistant cast aluminium, aluminium and stainless steel
 BEGA Tricoat® coating technology
 Clear safety glass
 Silicone gasket
 Reflector made of pure anodised aluminium
 Fixing is achieved by using two adjustable wedge-shaped claws
 Required recessed opening 315 x 110 mm
 Recessed depth 90 mm
 2 cable entries for through-wiring of mains supply cable $\varnothing$ 7-10.5 mm, max. 5 G 1.5²
 Connecting terminal and earth conductor terminal 2.5²
 LED power supply unit
 220-240 V $\sim$ 0/50-60 Hz
 DC 176-280 V
 DALI controllable
 A basic isolation exists between power cable and control line
 Safety class I
 Protection class IP 65
 Dust-tight and protection against water jets
 Impact strength IK10
 Protection against mechanical impacts < 20 joule
 – Safety mark
 – Conformity mark
 Weight: 1.8 kg

Lamp

Module connected wattage	12.3 W
Luminaire connected wattage	14.8 W
Rated temperature	$t_a = 25^\circ\text{C}$
Ambient temperature	$t_{a\text{ max}} = 35^\circ\text{C}$
When installed in heat-insulating material	$t_{a\text{ max}} = 25^\circ\text{C}$

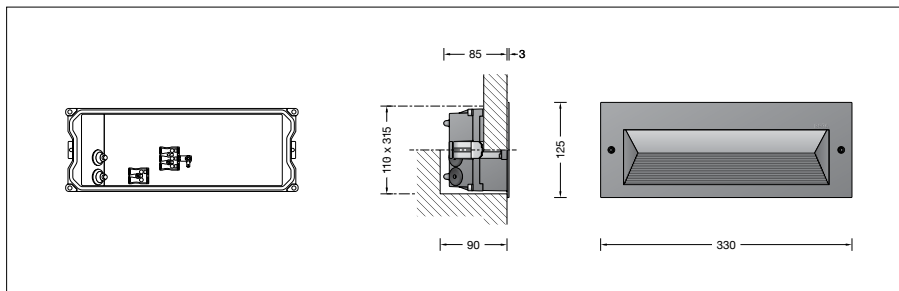
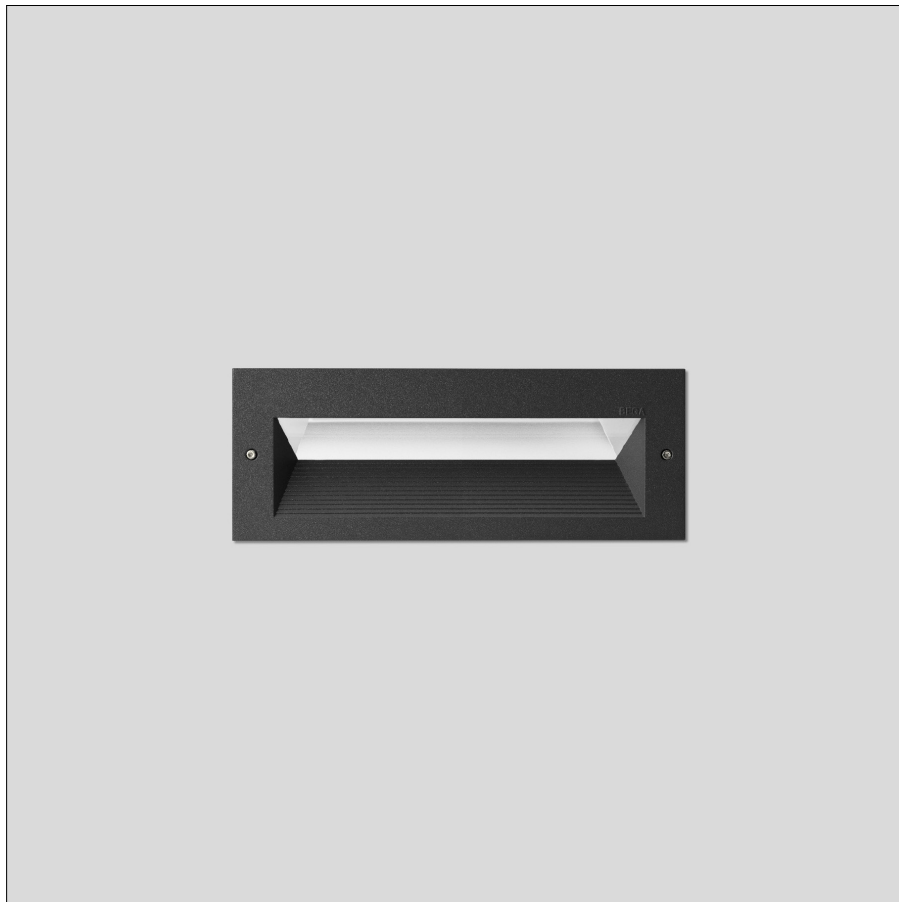
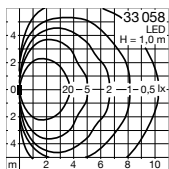
On request we can offer you modifications for environments with higher temperatures as a customized product.

33 058 K3

Module designation	LED-0572/830
Colour temperature	3000 K
Colour rendering index	CRI > 80
Module luminous flux	1695 lm
Luminaire luminous flux	1100 lm
Luminaire luminous efficiency	74,3 lm/W

33 058 K4

Module designation	LED-0572/840
Colour temperature	4000 K
Colour rendering index	CRI > 80
Module luminous flux	1695 lm
Luminaire luminous flux	1100 lm
Luminaire luminous efficiency	74,3 lm/W

Light distribution**Service life · Ambient temperature**

Ambient temperature $t_a = 25^\circ\text{C}$
 LED psu: > 50,000 h
 LED module: 72,000 h (L 80 B 50)
 100,000 h (L 70 B 50)

Ambient temperature $t_a = 35^\circ\text{C}$
 LED psu: 50,000 h
 LED module: 41,000 h (L 80 B 50)
 62,000 h (L 70 B 50)

Inrush current

Inrush current: 5 A / 50 μs
 Maximum number of luminaires of this type per miniature circuit breaker:
 B 10A: 31 luminaires
 B 16A: 50 luminaires
 C 10A: 52 luminaires
 C 16A: 85 luminaires

Light technique

Luminaire data for the light planning program DIALux for outdoor lighting, street lighting and indoor lighting as well as luminaire data in EULUMDAT- and IES-format you will find on the BEGA web page www.bega.com.

Article No. 33 058

LED colour temperature optionally 3000 K or 4000 K
 3000 K – Article number + **K3**
 4000 K – Article number + **K4**

Colour graphite or silver
 graphite – article number
 silver – article number + **A**

Accessories

10 436 Installation housing
13 522 Installation housing for installation in insulated façades (EWIS)

10 036 Plaster frame
13 506 Plaster frame flush

A separate instructions for use can be provided upon request.