DEUTSCHLAND TECHNIK LICHT DTL

liniLED®
Forta

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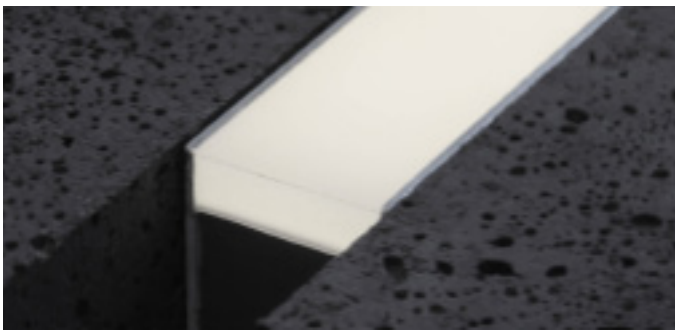
Datasheet liniLED® Forta

Index



The liniLED® Forta (IP68) is developed to create diffuse light lines. These casted light lines made from stainless steel (AISI 316L) are walk over and drive over, making them ideal for public applications. Available in two different versions (liniLED® Forta and liniLED® Forta S) in several colours: Ultra Warm White 2400K, Extra Warm White 2700K, Warm White 3000K, Natural White 4000K, Cold White 6500K, Red, Green, Blue and Amber.

In order to power liniLED® products safely, it is absolutely 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

Available Colours

Colour	Description
Ultra Warm White 2400K	liniLED® PCB UWW 2400K Deco
Extra Warm White 2700K	liniLED® PCB EWW 2700K Deco
Warm White 3000K	liniLED® PCB WW 3000K Deco
Natural White 4000K	liniLED® PCB NW 4000K Deco
Cold White 6500K	liniLED® PCB CW 6500K Deco
Red	liniLED® PCB Red Power
Green	liniLED® PCB Green Power
Blue	liniLED® PCB Blue Power
Amber	liniLED® PCB Amber Power

UPS's

Made in Europe
Effective heat dissipation
IP68
Drive over
Dimmable
UV, cleaning agent, frost & seawater
Easy installation
Possible to install after paving
Available in various colours
Available in standard lengths
(415 mm, 1015 mm, 2015 mm)

Product codes & characteristics

Product characteristics

Operation voltage	24 V DC
Max. operation voltage	25 V DC
Beam angle	Diffuse
Binning	PWM dimming, 24 V DC Common Anode
Dimmable	± 50K
Weight	0.4 gram/ section
Expected lifetime	B50/L70 > 50.000 hours @ Tc = 40 **ºC**
Degree of protection (IP)	IP68/IK10
Storage temperature	-30 ºC .. 55 ºC
Operation temperature	-30 ºC .. 55 ºC1

1 Max. connection length between -20 °C and -30 °C is 7 metres.

	UWW 2400 K	EWW 2700 K	WW 3000K	NW 4000K	CW 6500K	Red	Green	Blue	Amber
Product code (415 mm)	24000	24001	24002	24003	24004	24005	24006	24007	24008
Product code (1015 mm)	24020	24021	24022	24023	24024	24025	24026	24027	24028
Product code (2015 mm)	24040	24041	24042	24043	24044	24045	24046	24047	24048

415 mm

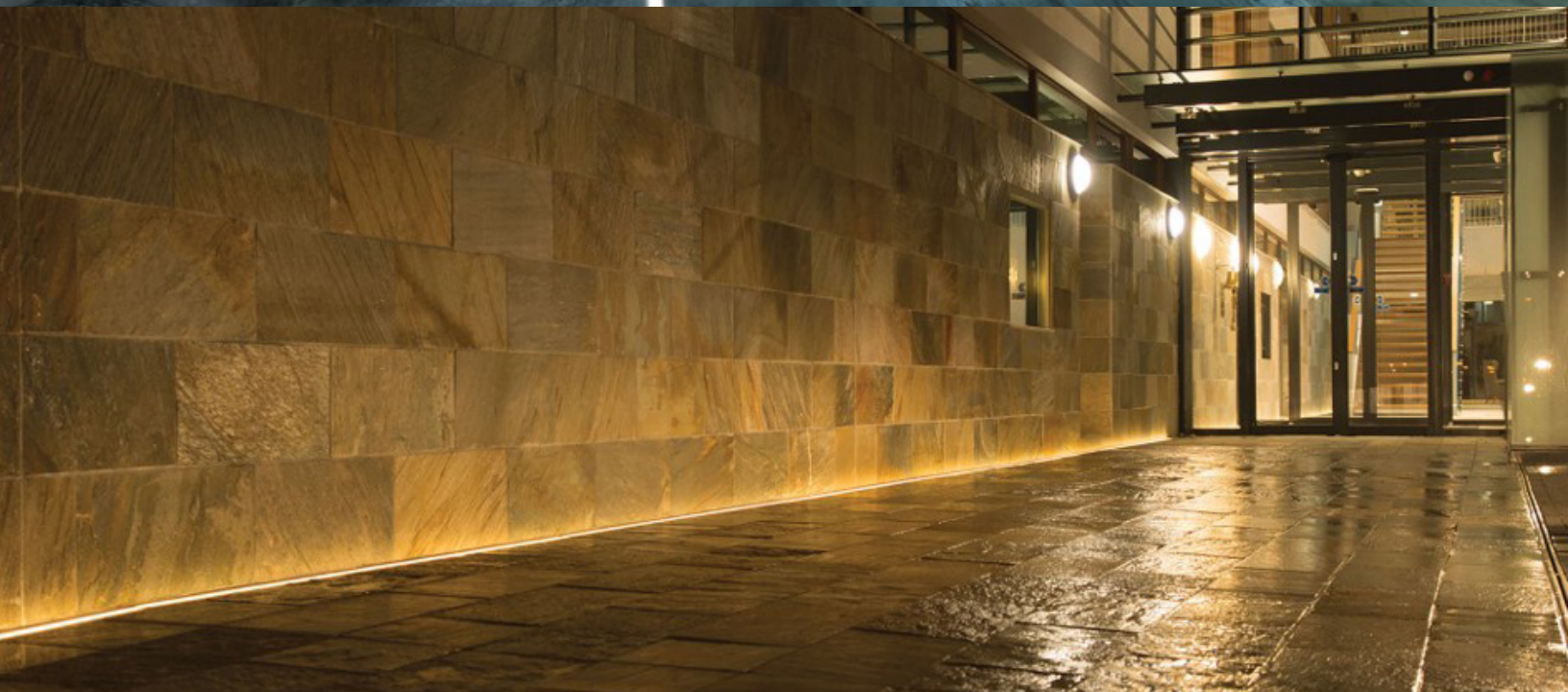
Power (24 V DC)	0.44 W	0.44 W	0.44 W	0.44 W	0.44 W	1.7 W	1 W	0.7 W	1.7 W
Power (25 V DC)	0.5 W	0.5 W	0.5 W	0.5 W	0.5 W	1.8 W	1 W	0.7 W	1.8 W
Luminous flux steady	11.2 lm	12.4 lm	13.2 lm	13.2 lm	13.2 lm	6.4 lm	12.4 lm	2.8 lm	5.6 lm
Luminous efficiency	25.5 lm/W	28.2 lm/W	30 lm/W	30 lm/W	30 lm/W	3.8 lm/W	12.4 lm/W	4 lm/W	3.3 lm/W

1015 mm

Power (24 V DC)	1.1 W	1.1 W	1.1 W	1.1 W	1.1 W	4.4 W	2.5 W	1.7 W	4.4 W
Power (25 V DC)	1.2 W	1.2 W	1.2 W	1.2 W	1.2 W	4.6 W	2.6 W	1.8 W	4.6 W
Luminous flux steady	28 lm	31 lm	33 lm	33 lm	33 lm	16 lm	31 lm	7 lm	14 lm
Luminous efficiency	25.5 lm/W	28.2 lm/W	30 lm/W	30 lm/W	30 lm/W	3.6 lm/W	12.4 lm/W	4 lm/W	3.3 lm/W

2015 mm

Power (24 V DC)	2.2 W	2.2 W	2.2 W	2.2 W	2.2 W	8.8 W	5 W	3.4 W	8.8 W
Power (25 V DC)	2.4 W	2.4 W	2.4 W	2.4 W	2.4 W	9.2 W	5.2 W	3.6 W	9.2 W
Luminous flux steady	56 lm	62 lm	66 lm	66 lm	66 lm	32 lm	62 lm	14 lm	28 lm
Luminous efficiency	25.5 lm/W	28.2 lm/W	30 lm/W	30 lm/W	30 lm/W	3.6 lm/W	12.4 lm/W	4 lm/W	3.3 lm/W

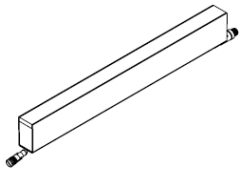


Accessories

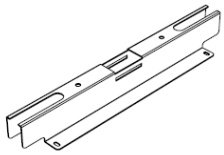
Parts included with the liniLED® Forta

The liniLED® Forta consists of 2 parts: A Luminaire and a Mounting Profile. An end cap is fixed on the female connector of the Luminaire.

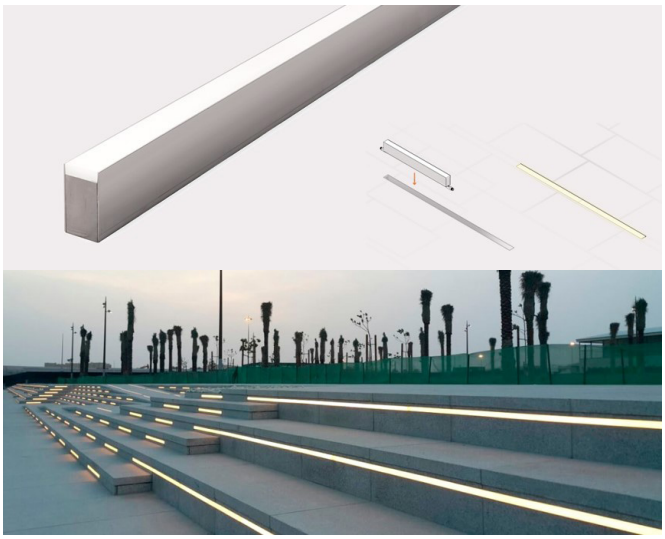
In the images below the 415 mm variant is shown.



Luminaire
Material: AISI 316L & PU

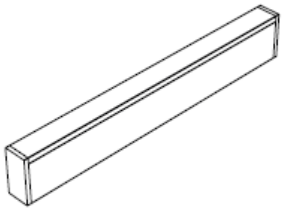


Mounting Profile
Material: AISI 316L



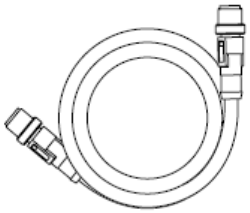
liniLED® Forta Accessories Not included

We recommend using these products during installation, but you have to order them seperately. The Dummy is used after installing the Mounting Profile, this creates a protective base until the luminaire is placed. It is offered free of charge and is our service to you. Depending on the project, none (or a smaller number) of Dummy's are necessary. The Coupler is used to perfectly align the Mounting Profiles, the PU Connector Set is used for connecting the first luminaires and the PU Extension Cable is used for looping. The Leveller is used to indicate the final floor height. The Removal Tool can be used to remove the Dummy.



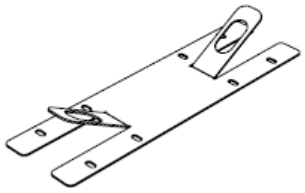
Dummy | Material: Aluminium

Product code: 24210 Forta Dummy 415 mm
Product code: 24211 Forta Dummy 1015 mm
Product code: 24212 Forta Dummy 2015 mm

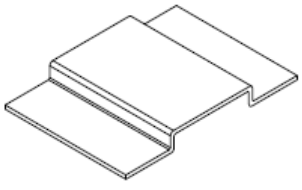


PU Connector Set | Material: PUR

Product code: 14530 PU Connector Set 5 m
Product code: 14507 PU Connector Set 10 m

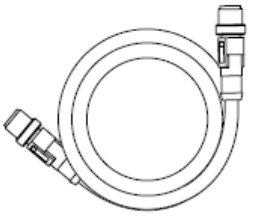


Coupler | Material: AISI 316L
Product code: 24200



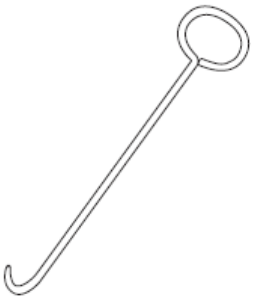
Leveller | Material: Aluminium

Product code: 24202



PU Extension Cable | Material: PUR

Product code: 14508 PU Extension Cable 5 m
Product code: 14509 PU Extension Cable 10 m



Removal Tool | Material: Steel

Product code: 24201

Photometric information

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)

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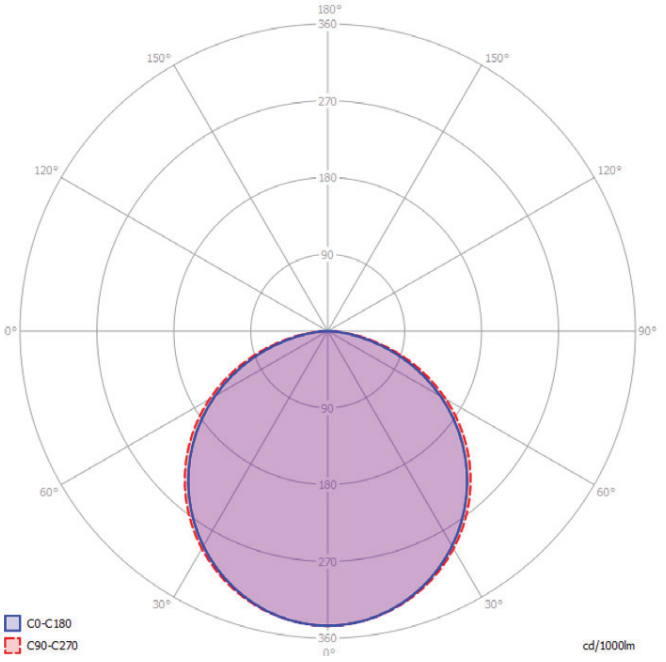
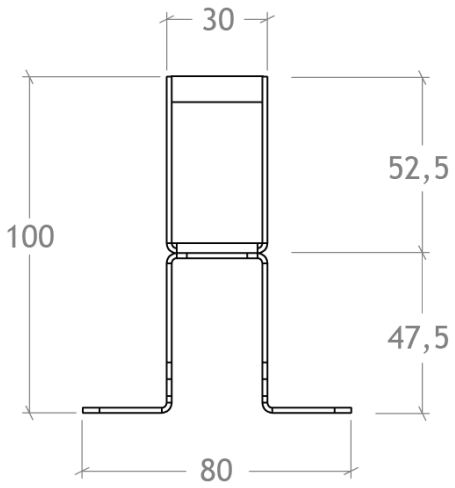


Forta 3000K
This light diagram indicates the beam in the C0-C180 plane (perpendicular to the length direction of the LED strip) and in the plane perpendicular to that, the C90-C270 plane (along the length direction of the LED strip).

Product Drawing



Number of connected (daisy chained) Forta Luminaires in one line*

		415	1015	2015
5 m PU connection cable	24 V DC	11	5	3
	24 V DC	17	9	5
10 mPU connection cable	24 V DC	8	4	2
	24 V DC	14	7	4

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