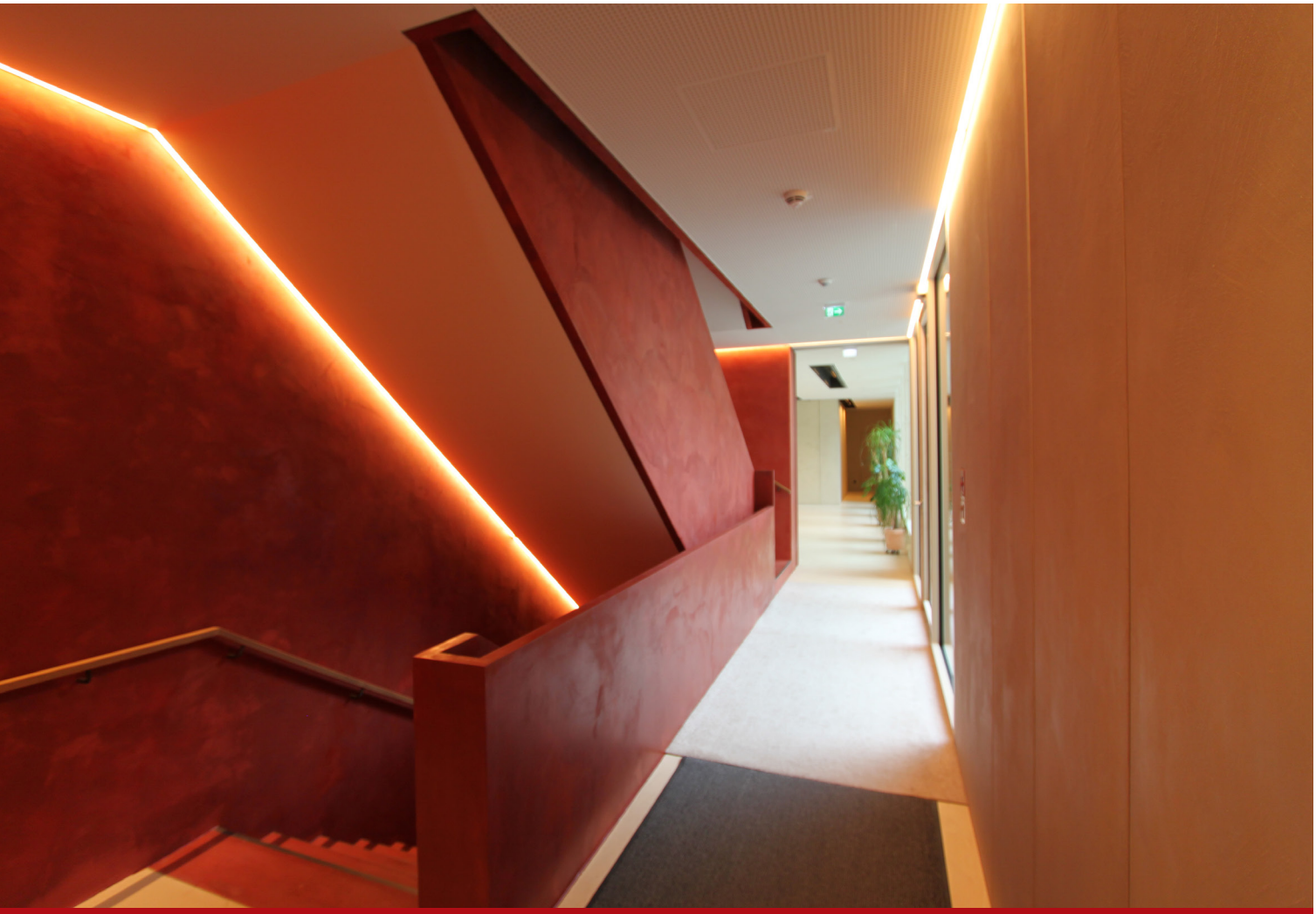
LUMITECH
YOUR LIGHTING SOLUTION



PI-LED® PI-LED LINE

Human Centric Lighting
makes the day light.

Tunable white
1.800K - 16.000K

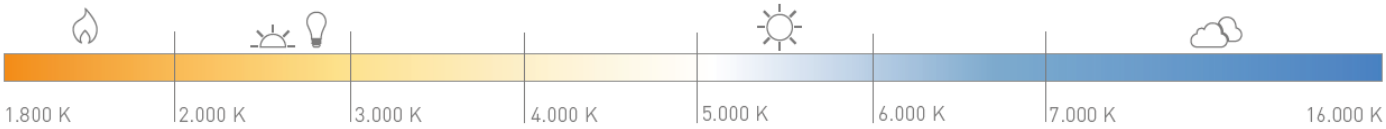
Brightness dimmable
1%-100%

RGB/CIE-xy adjustable
Colour points and sequences

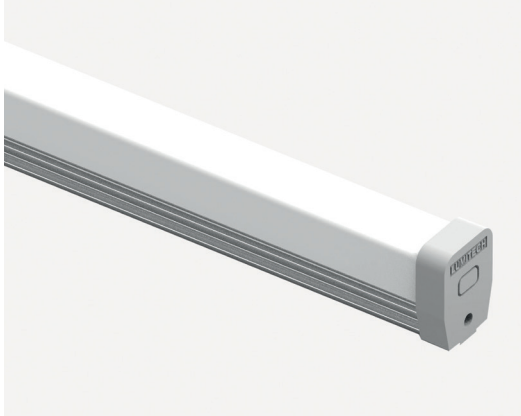
Biorhythmic lighting
Vitalisation and recreation

2 Control modes
DALI DT8. ZigBee 3.0

Excellent CRI
CRI>90



PI-LED® PI-LED LINE

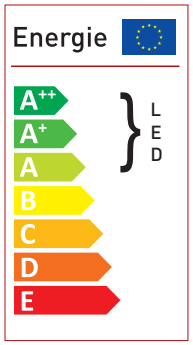


HIGHLIGHTS

- Anodised extruded aluminium profile. including aluminium end caps
- Available in different lengths that can be combined with each other
- High colour rendition CRI >90
- Low tolerance for colour temperature)
- 2 control modes: DALI DT8, ZigBee 3.0
- Adjustable colour temperature 1.800K - 16.000K
- Adjustable CIE-xy colour points and RGB colours
- Dimming: 1%-100%

TECHNICAL DATA

Luminous source	SMD PI-LED modules
Supply voltage	48V DC
Power (1.153 mm)	Standard 25.6 W | Eco 11.4 W
LED luminous flux (1.153 mm)	Standard 2.750 lm | Eco 1.370 lm
Efficiency (1.153 mm)	107 lm/W | 120 lm/W
Control modes	DALI DT8, ZigBee 3.0
Dimmable	1%-100%
Protection rating	IP20
Protection class	I
Mounting	Montageclips



IP20 RoHS

ORDERING DATA AND TECHNICAL DATA - PI-LED LINE STANDARD

Type	Standard ZigBee 3.0	Type	Standard DALI DT8
tbd	PI-LED Line 591mm Standard 2 / 12.8W / ZigBee 3.0 / CWS / Z22-W / 700	tbd	PI-LED Line 591mm Standard 2 / 12.8W / DALI DT8 / CWS / Z22-W / 700
tbd	PI-LED Line 872mm Standard 3 / 19.2W / ZigBee 3.0 CWS / Z22-W / 700	tbd	PI-LED Line 872mm Standard 3 / 19.2W / DALI DT8 / CWS / Z22-W / 700
tbd	PI-LED Line 1153mm Standard 4 / 25.6W / ZigBee 3.0 / CWS / Z22-W / 700	tbd	PI-LED Line 1153mm Standard 4 / 25.6W / DALI DT8 / CWS / Z22-W / 700
tbd	PI-LED Line 1434mm Standard 5 / 32W / ZigBee 3.0 / CWS / Z22-W / 700	tbd	PI-LED Line 1434mm Standard 5 / 32W / DALI DT8 / CWS / Z22-W / 700
tbd	PI-LED Line 1715mm Standard 6 / 38.4W / ZigBee 3.0 / CWS / Z22-W / 700	tbd	PI-LED Line 1715mm Standard 6 / 38.4W / DALI DT8 / CWS / Z22-W / 700
tbd	PI-LED Line 1996mm Standard 7 / 44.8W / ZigBee 3.0 / CWS / Z22-W / 700	tbd	PI-LED Line 1996mm Standard 7 / 44.8W / DALI DT8 / CWS / Z22-W / 700
tbd	PI-LED Line 2277mm Standard 8 / 51.2W / ZigBee 3.0 / CWS / Z22-W / 700	tbd	PI-LED Line 2277mm Standard 8 / 51.2W / DALI DT8 / CWS / Z22-W / 700

Converters are not included. Several PI-LED lines can be combined per converter.
Standard: Cover White Squared CWS, additional lenses can be combined.

Notes:
- All values apply at ta=25°C. tc=40°C and 3000K in steady state
- Tolerance ranges: illumination data +/-10% | electrical data +/-15% | supply voltage 48V DC +/- 5%
- Illumination specifications in accordance with CIE1931
- According to colour temperature and temperature of the PI-LED system. the Mac Adam tolerance takes on values < 4

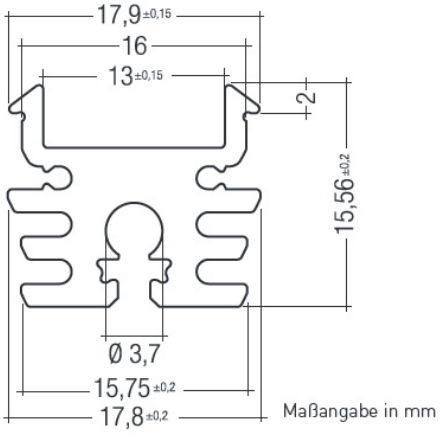
ORDERING DATA AND TECHNICAL DATA - PI-LED LINE ECO

Type	Eco ZigBee 3.0	Type	Eco DALI DT8
tbd	PI-LED Line 591mm Eco 2 / 5.7W / ZigBee 3.0 / CWS Z208 / 700	tbd	PI-LED Line 591mm Eco 2 / 5.7W / DALI DT8 / CWS / Z208 / 700
tbd	PI-LED Line 872mm Eco 3 / 8.6W / ZigBee 3.0 / CWS / Z208 / 700	tbd	PI-LED Line 872mm Eco 3 / 8.6W / DALI DT8 / CWS / Z208 / 700
tbd	PI-LED Line 1153mm Eco 4 / 11.4W / ZigBee 3.0 / CWS / Z208 / 700	tbd	PI-LED Line 1153mm Eco 4 / 11.4W / DALI DT8 / CWS / Z208 / 700
tbd	PI-LED Line 1434mm Eco 5 / 14.3W / ZigBee 3.0 / CWS / Z208 / 700	tbd	PI-LED Line 1434mm Eco 5 / 14.3W / DALI DT8 / CWS / Z208 / 700
tbd	PI-LED Line 1715mm Eco 6 / 17.1W / ZigBee 3.0 / CWS / Z208 / 700	tbd	PI-LED Line 1715mm Eco 6 / 17.1W / DALI DT8 / CWS / Z208 / 700
tbd	PI-LED Line 1996mm Eco 7 / 20W / ZigBee 3.0 / CWS / Z208 / 700	tbd	PI-LED Line 1996mm Eco 7 / 20W / DALI DT8 / CWS / Z208 / 700
tbd	PI-LED Line 2277mm Eco 8 / 22.9W / ZigBee 3.0 / CWS / Z208 / 700	tbd	PI-LED Line 2277mm Eco 8 / 22.9W / DALI DT8 / CWS / Z208 / 700
tbd	PI-LED Line 2558mm Eco 9 / 25.7W / ZigBee 3.0 / CWS / Z208 / 700	tbd	PI-LED Line 2558mm Eco 9 / 25.7W / DALI DT8 / CWS / Z208 / 700
tbd	PI-LED Line 2839mm Eco 10 / 28.6W / ZigBee 3.0 / CWS / Z208 / 70	tbd	PI-LED Line 2839mm Eco 10 / 28.6W / DALI DT8 / CWS / Z208 / 70
tbd	PI-LED Line 3120mm Eco 11 / 31.4W / ZigBee 3.0 / CWS / Z208 / 700	tbd	PI-LED Line 3120mm Eco 11 / 31.4W / DALI DT8 / CWS / Z208 / 700
tbd	PI-LED Line 3401mm Eco 12 / 34.3W / ZigBee 3.0 / CWS / Z208 / 700	tbd	PI-LED Line 3401mm Eco 12 / 34.3W / DALI DT8 / CWS / Z208 / 700

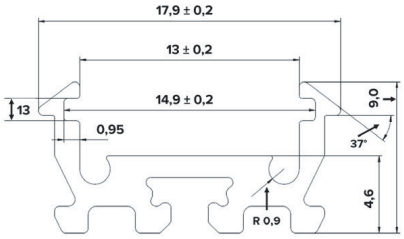
Converters are not included. Several PI-LED lines can be combined per converter.
Standard: Cover White Squared CWS, additional lenses can be combined.

TECHNICAL DRAWINGS AND DATA

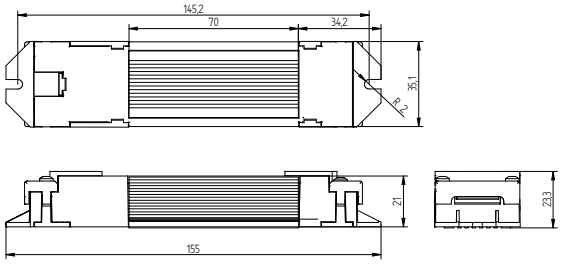
PI-LED LINE **STANDARD**



PI-LED LINE **ECO**



PI-LED LMU



MELANOPIC EFFECT FACTOR

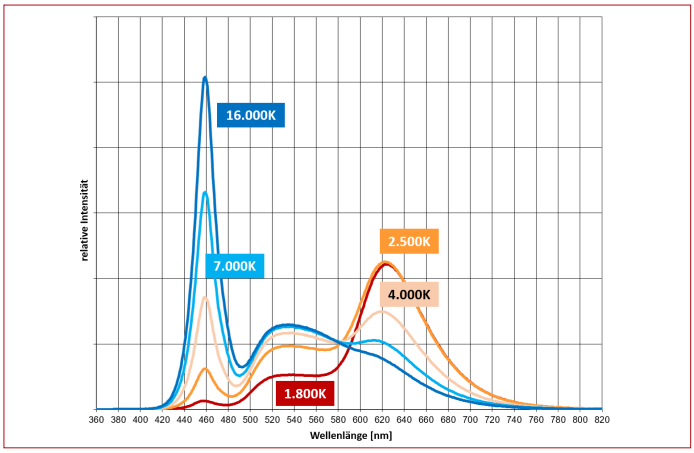
CCT [K]	VISUELL PI-LED Line mit 4 LED Modulen		BIOLOGISCH	
	Lichtstrom [lm]		alpha (smel)	
	Standard	Eco	Standard	Eco
1.800	1.950 / 71%	975 / 71%	0.232	0.249
2.000	2.200 / 80%	1.095 / 80%	0.272	0.291
2.500	2.750 / 100%	1.370 / 100%	0.360	0.388
2.700	2.750 / 100%	1.370 / 100%	0.393	0.425
3.000	2.750 / 100%	1.370 / 100%	0.438	0.477
3.500	2.750 / 100%	1.370 / 100%	0.507	0.556
4.000	2.750 / 100%	1.370 / 100%	0.569	0.628
4.500	2.750 / 100%	1.370 / 100%	0.623	0.691
5.000	2.750 / 100%	1.370 / 100%	0.671	0.749
5.500	2.750 / 100%	1.370 / 100%	0.714	0.800
6.000	2.750 / 100%	1.370 / 100%	0.752	0.845
6.500	2.750 / 100%	1.370 / 100%	0.787	0.886
7.000	2.750 / 100%	1.370 / 100%	0.817	0.923
8.000	2.750 / 100%	1.370 / 100%	0.869	0.985
9.000	2.750 / 100%	1.370 / 100%	0.911	1.036
10.000	2.750 / 100%	1.370 / 100%	0.946	1.078
12.000	2.750 / 100%	1.370 / 100%	1.000	1.143
14.000	2.750 / 100%	1.370 / 100%	1.038	1.190
16.000	2.750 / 100%	1.370 / 100%	1.068	1.225

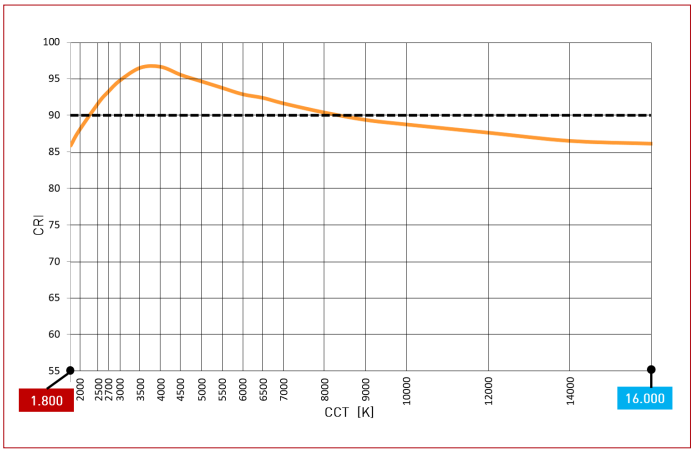
Besides the visual and emotional characteristics of PI-LED HCL lighting, it is above all its biological effect which - following the example of natural daylight - creates healthy light.

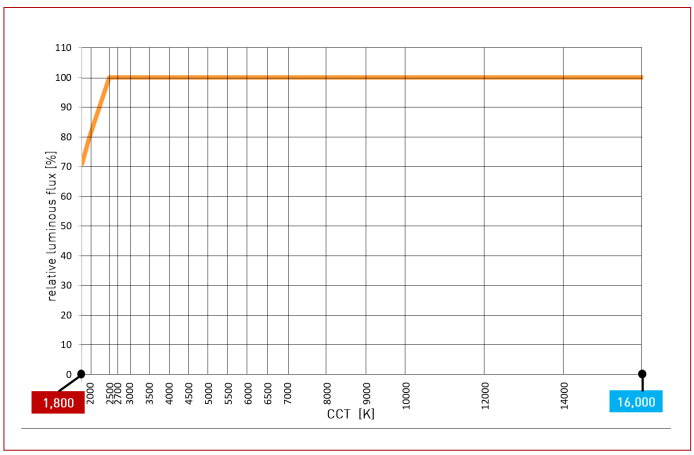
The factor alpha(smel) describes the melanopic effectiveness of the light source on humans and their circadian rhythms. In order to support natural human biorhythms in the best possible way, higher alpha(smel) values can minimise melatonin release during the day, while lower values can promote it in the evening. Lighting that is not only visually but also melanopically effective is made possible by PI-LED. LUMITECH recommends following DIN SPEC 5031-100 as a basis for standardised lighting design.

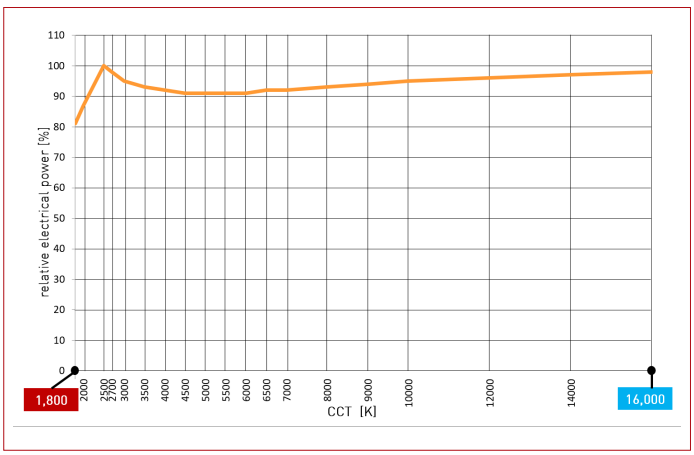
Further information and numeric examples can be found in the **guide for melanopic lighting design and more**.

TYPICAL GENERAL OPTICAL PROPERTIES OF PI-LED



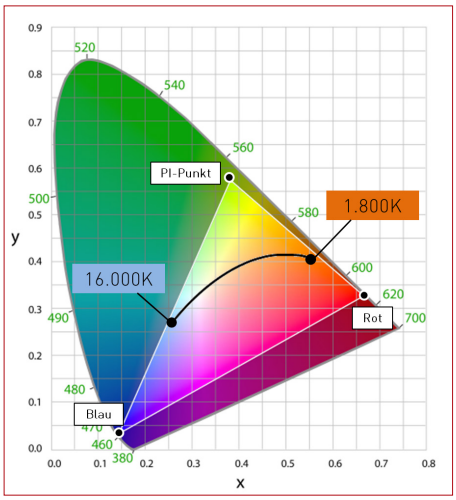






Notes:
- The actual drop in the luminous flux can vary across the delivered LED modules.
- The diagrams show typical curves and not the exact behaviour of the LED module or the PI-LED system.

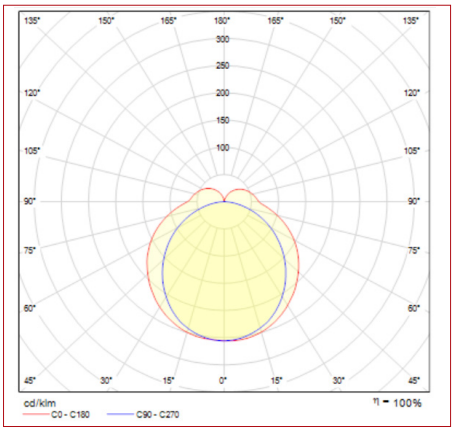
COORDINATES AND TOLERANCES ACCORDING TO CIE 1931



Representable PI-LED colour space in the CIE 1931 system

If a colour point outside of the triangle (PI-LED colour space) is set, the closest colour point within the triangle is referenced.

LIGHT DISTRIBUTION



LIFETIME

L70B10 [h]
50.000

Notes:
• Value L is a statistical value, the actual drop in the luminous flux can vary across the delivered LED modules.

REFERENCES