TRIDONIC

Module LLE FLEX 8mm 24V SNC4

Modules LLE FLEX essence

Product description

_ Dimmable 24 V constant voltage LED flextape (SELV)
_ Ideal for various lighting applications: indirect, accent and decorative lighting, ceiling integration, cove lighting and aluminium extrusions
_ 1 reel = 5 m
_ Made in Europe
_ Long lifetime: 60,000 hours
_ 5 years guarantee (conditions at https://www.tridonic.com/en/int/services/manufacturer-guarantee-conditions)

Optical properties

_ Colour temperature 2,700, 3,000, 4,000 K (6,500 K on demand)
_ Useful luminous flux up to 2,694 lm/m at tp = 25 °C
_ Efficacy of the LED module up to 159 lm/W at tp = 25 °C
_ High colour rendering index CRI > 80 and CRI > 90
_ Low colour temperature tolerances (MacAdam 3)

Mechanical properties

_ High design freedom due to 5 cm cut-options and 140 LED light points per meter
_ Self-adhesive 3M tape at the backside for simple mounting on different surfaces
_ Available PCB to PCB and wire to PCB connectors for toolless handling and connection
_ reel2reel – No solder joints on the tape, easy to separate and low length tolerances ①

System solution

_ System solution in combination with Tridonic constant voltage LED driver (fixed output and dimmable)

① For 5 m reel max. 2 solder joints.

Website

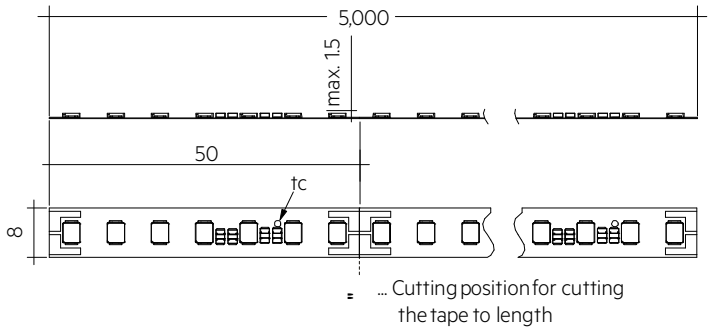
http://www.tridonic.com/28005200

Spotlights | Downlights | Linear | Area | Floor | Wall | Free-standing | Street | **Decorative** | High bay

TRIDONIC

Module LLE FLEX 8mm 24V SNC4

Modules LLE FLEX essence



Ordering data

Type	Article number	Colour temperature	Packaging, carton	Weight per pc.
LLE FLEX 8mm 24V 3W 300lm 827 SNC4 R05	**28005200**	2,700 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 3W 300lm 830 SNC4 R05	**28005201**	3,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 3W 300lm 840 SNC4 R05	**28005202**	4,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 3W 300lm 865 SNC4 R05	**28005203**	6,500 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 5W 600lm 827 SNC4 R05	**28005204**	2,700 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 5W 600lm 830 SNC4 R05	**28005205**	3,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 5W 600lm 840 SNC4 R05	**28005206**	4,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 5W 600lm 865 SNC4 R05	**28005207**	6,500 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 9W 1200lm 827 SNC4 R05	**28005208**	2,700 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 9W 1200lm 830 SNC4 R05	**28005209**	3,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 9W 1200lm 840 SNC4 R05	**28005210**	4,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 9W 1200lm 865 SNC4 R05	**28005211**	6,500 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 13W 1800lm 827 SNC4 R05	**28005212**	2,700 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 13W 1800lm 830 SNC4 R05	**28005213**	3,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 13W 1800lm 840 SNC4 R05	**28005214**	4,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 13W 1800lm 865 SNC4 R05	**28005215**	6,500 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 19W 2500lm 827 SNC4 R05	**28005216**	2,700 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 19W 2500lm 830 SNC4 R05	**28005217**	3,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 19W 2500lm 840 SNC4 R05	**28005218**	4,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 19W 2500lm 865 SNC4 R05	**28005219**	6,500 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 6W 600lm 930 SNC4 R05	**28005225**	3,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 6W 600lm 940 SNC4 R05	**28005226**	4,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 11W 1200lm 930 SNC4 R05	**28005229**	3,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 11W 1200lm 940 SNC4 R05	**28005230**	4,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 16W 1800lm 930 SNC4 R05	**28005233**	3,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 16W 1800lm 940 SNC4 R05	**28005234**	4,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 22W 2500lm 930 SNC4 R05	**28005237**	3,000 K	1 pc(s).	0.071 kg
LLE FLEX 8mm 24V 22W 2500lm 940 SNC4 R05	**28005238**	4,000 K	1 pc(s).	0.071 kg

Technical data

Beam characteristic	120°
Ambient temperature ta	-25 … +50 °C
tp rated	65 °C
tc	75 °C
Supply voltage DC	24 V
Supply voltage range DC ②	21.6 – 26.4 V
Insulation test voltage	0.5 kV
Colour tolerance	3 SDCM
ESD classification	Severity level 1
Risk group (IEC 62471)	RG0
Classification acc. to IEC 62031	Built-in
Type of protection	IP00
Lumen maintenance L70B50	60,000 h
Guarantee (conditions at www.tridonic.com)	5 Year(s)

Approval marks

Standards

IEC 62031, IEC 62471, IEC 62778, IEC 61000-4-2, UL 8750

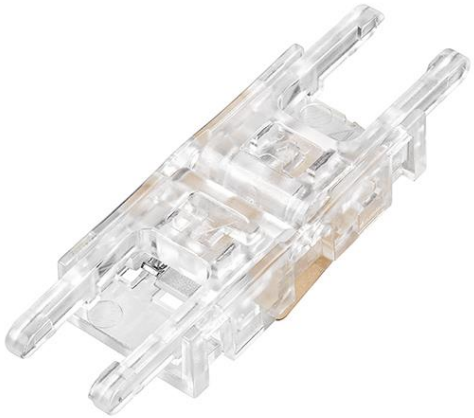
Specific technical data

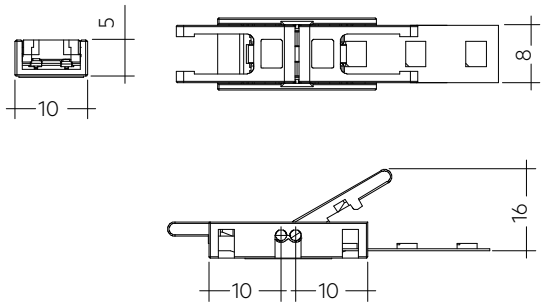
Type	Article number	Photometric code	Useful luminous flux at tp = 25 °C③	Expected luminous flux at tp rated④	Typ. current consumption at tp rated	Power consumption Pon at tp = 25 °C⑤	Efficacy of the module at tp = 25 °C	Expected efficacy of the module at tp rated	Colour rendering index CRI
LLE FLEX 8mm 24V 3W 300lm 827 SNC4 R05	**28005200**	827/359	336 lm/m	327 lm/m	100 mA/m	2.3 W/m	147 lm/W	136 lm/W	>80
LLE FLEX 8mm 24V 3W 300lm 830 SNC4 R05	**28005201**	830/359	348 lm/m	339 lm/m	100 mA/m	2.3 W/m	153 lm/W	141 lm/W	>80
LLE FLEX 8mm 24V 3W 300lm 840 SNC4 R05	**28005202**	840/359	362 lm/m	353 lm/m	100 mA/m	2.3 W/m	159 lm/W	147 lm/W	>80
LLE FLEX 8mm 24V 3W 300lm 865 SNC4 R05	**28005203**	865/359	359 lm/m	350 lm/m	100 mA/m	2.3 W/m	157 lm/W	146 lm/W	>80
LLE FLEX 8mm 24V 5W 600lm 827 SNC4 R05	**28005204**	827/359	678 lm/m	665 lm/m	206 mA/m	4.7 W/m	145 lm/W	134 lm/W	>80
LLE FLEX 8mm 24V 5W 600lm 830 SNC4 R05	**28005205**	830/359	702 lm/m	690 lm/m	206 mA/m	4.7 W/m	150 lm/W	139 lm/W	>80
LLE FLEX 8mm 24V 5W 600lm 840 SNC4 R05	**28005206**	840/359	730 lm/m	717 lm/m	206 mA/m	4.7 W/m	156 lm/W	145 lm/W	>80
LLE FLEX 8mm 24V 5W 600lm 865 SNC4 R05	**28005207**	865/359	725 lm/m	712 lm/m	206 mA/m	4.7 W/m	155 lm/W	144 lm/W	>80
LLE FLEX 8mm 24V 9W 1200lm 827 SNC4 R05	**28005208**	827/359	1,222 lm/m	1,202 lm/m	376 mA/m	8.5 W/m	144 lm/W	133 lm/W	>80
LLE FLEX 8mm 24V 9W 1200lm 830 SNC4 R05	**28005209**	830/359	1,267 lm/m	1,246 lm/m	376 mA/m	8.5 W/m	149 lm/W	138 lm/W	>80
LLE FLEX 8mm 24V 9W 1200lm 840 SNC4 R05	**28005210**	840/359	1,316 lm/m	1,295 lm/m	376 mA/m	8.5 W/m	155 lm/W	144 lm/W	>80
LLE FLEX 8mm 24V 9W 1200lm 865 SNC4 R05	**28005211**	865/359	1,307 lm/m	1,286 lm/m	376 mA/m	8.5 W/m	154 lm/W	143 lm/W	>80
LLE FLEX 8mm 24V 13W 1800lm 827 SNC4 R05	**28005212**	827/359	1,743 lm/m	1,716 lm/m	545 mA/m	12.3 W/m	142 lm/W	131 lm/W	>80
LLE FLEX 8mm 24V 13W 1800lm 830 SNC4 R05	**28005213**	830/359	1,808 lm/m	1,779 lm/m	545 mA/m	12.3 W/m	147 lm/W	136 lm/W	>80
LLE FLEX 8mm 24V 13W 1800lm 840 SNC4 R05	**28005214**	840/359	1,878 lm/m	1,849 lm/m	545 mA/m	12.3 W/m	153 lm/W	141 lm/W	>80
LLE FLEX 8mm 24V 13W 1800lm 865 SNC4 R05	**28005215**	865/359	1,865 lm/m	1,836 lm/m	545 mA/m	12.3 W/m	152 lm/W	140 lm/W	>80
LLE FLEX 8mm 24V 19W 2500lm 827 SNC4 R05	**28005216**	827/359	2,501 lm/m	2,468 lm/m	806 mA/m	18.2 W/m	138 lm/W	128 lm/W	>80
LLE FLEX 8mm 24V 19W 2500lm 830 SNC4 R05	**28005217**	830/359	2,593 lm/m	2,558 lm/m	806 mA/m	18.2 W/m	143 lm/W	132 lm/W	>80
LLE FLEX 8mm 24V 19W 2500lm 840 SNC4 R05	**28005218**	840/359	2,694 lm/m	2,656 lm/m	806 mA/m	18.2 W/m	149 lm/W	137 lm/W	>80
LLE FLEX 8mm 24V 19W 2500lm 865 SNC4 R05	**28005219**	865/359	2,675 lm/m	2,640 lm/m	806 mA/m	18.2 W/m	148 lm/W	136 lm/W	>80
LLE FLEX 8mm 24V 6W 600lm 930 SNC4 R05	**28005225**	930/359	643 lm/m	631 lm/m	225 mA/m	5.2 W/m	126 lm/W	117 lm/W	>90
LLE FLEX 8mm 24V 6W 600lm 940 SNC4 R05	**28005226**	940/359	665 lm/m	653 lm/m	225 mA/m	5.2 W/m	130 lm/W	121 lm/W	>90
LLE FLEX 8mm 24V 11W 1200lm 930 SNC4 R05	**28005229**	930/359	1,321 lm/m	1,300 lm/m	470 mA/m	10.7 W/m	124 lm/W	115 lm/W	>90
LLE FLEX 8mm 24V 11W 1200lm 940 SNC4 R05	**28005230**	940/359	1,368 lm/m	1,241 lm/m	470 mA/m	10.7 W/m	129 lm/W	110 lm/W	>90
LLE FLEX 8mm 24V 16W 1800lm 930 SNC4 R05	**28005233**	930/359	1,804 lm/m	1,778 lm/m	656 mA/m	14.8 W/m	122 lm/W	113 lm/W	>90
LLE FLEX 8mm 24V 16W 1800lm 940 SNC4 R05	**28005234**	940/359	1,868 lm/m	1,841 lm/m	656 mA/m	14.8 W/m	127 lm/W	117 lm/W	>90
LLE FLEX 8mm 24V 22W 2500lm 930 SNC4 R05	**28005237**	930/359	2,475 lm/m	2,475 lm/m	937 mA/m	21.1 W/m	118 lm/W	110 lm/W	>90
LLE FLEX 8mm 24V 22W 2500lm 940 SNC4 R05	**28005238**	940/359	2,596 lm/m	2,562 lm/m	937 mA/m	21.1 W/m	123 lm/W	114 lm/W	>90

② Exceeding the max. operating voltage leads to an overload on the LLE FLEX. This may in turn result in a significant reduction in lifetime or even in destruction.
③ Tolerance of useful light flux - 0 / + 15 %. Measurement uncertainty 10 %. Values given for 1 m LLE FLEX.
④ Measurement uncertainty 10 %. Values given for 1 m LLE FLEX. Based on calculation.
⑤ Tolerance of power consumption Pon ± 15 %. Measurement uncertainty ± 5 %. Values given for 1 m LLE FLEX.

Connector for LLE FLEX

Accessory





Product description
_ For connection of LLE FLEX module
_ For internal wiring only (no strain relief functionality)
_ Connector can be closed and re-opened easily: For assembly instructions see application note available at www.tridonic.com
_ Glow wire test according to IEC 60695-2-11
_ Max. 5 A in connection with LLE FLEX
_ Urated = 24 – 48 V
_ Wire cross section AWG 18

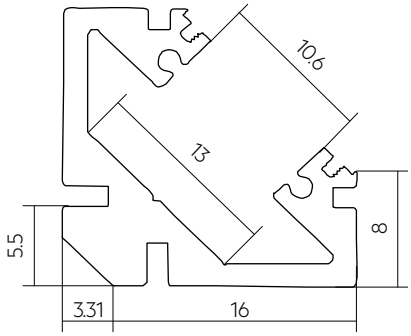
Website
http://www.tridonic.com/28004985

Ordering data

Type	Article number	Packaging, carton	Weight per pc.
ACL flex connector Wire - PCB 100mm	**28004985**	20 pc(s).	0.004 kg
ACL flex connector Wire - PCB 500mm	**28004986**	20 pc(s).	0.020 kg
ACL flex connector Wire - PCB 2000mm	**28004987**	10 pc(s).	0.072 kg
ACL flex connector PCB - PCB	**28004988**	25 pc(s).	0.001 kg

ACL ALU PROFILE

Accessory



Product description
_ Aluminum LED profile in anodized silver color
_ Ideal for surface mounting installation
_ Easy to assembly and install with compatible covers and mounting accessories available
_ Suitable for up to 8 mm width flexible strips
_ Up to 30 W/m
_ Made in Europe
_ 5 years guarantee (conditions at https://www.tridonic.com/en/int/services/manufacturer-guarantee-conditions)

Mechanical properties
_ Available profile length 2 m
_ Compatible Tridonic covers

System solution
_ System solution in combination with Tridonic LLE FLEX modules
_ Fully system with Tridonic constant voltage drivers

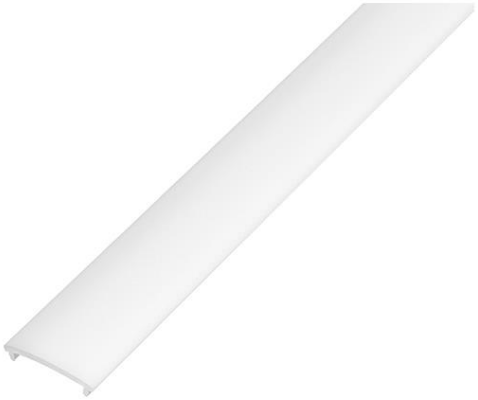
Website
http://www.tridonic.com/28005790

Ordering data

Type	Article number	Colour	Length L	Maximum power	Packaging, carton	Weight per pc.
ACL ALU-PROFILE SURFACE 16x7MM L=2M	**28005790**	Silver	2,000 mm	20 W/m	72 pc(s).	0.238 kg
ACL ALU-PROFILE SURFACE 16X11MM L=2M	**28005791**	Silver	2,000 mm	30 W/m	96 pc(s).	0.284 kg
ACL ALU-PROFILE RECESSED 16X7.5MM L=2M	**28005792**	Silver	2,000 mm	15 W/m	128 pc(s).	0.276 kg
ACL ALU-PROFILE RECESSED 16X12MM L=2M	**28005793**	Silver	2,000 mm	20 W/m	96 pc(s).	0.332 kg
ACL ALU-PROFILE CORNER 16x18.5MM L=2M	**28005794**	Silver	2,000 mm	30 W/m	40 pc(s).	0.674 kg
ACL ALU-PROFILE FLEXIBLE 16X4MM L=2M	**28005795**	Silver	2,000 mm	15 W/m	270 pc(s).	0.118 kg

ACL PC COVER

Accessory



Product description
_ Polycarbonate cover in transparent or frosted finished surface
_ Suitable for all Tridonic aluminum profiles
_ Easy to assembly with click-on system
_ Made in Europe
_ 5 years guarantee (conditions at https://www.tridonic.com/en/int/services/manufacturer-guarantee-conditions)

Mechanical properties
_ Available profile length 2 m
_ Compatible Tridonic profiles

System solution
_ System solution in combination with Tridonic LLE FLEX modules
_ Fully system with Tridonic constant voltage drivers

Website
http://www.tridonic.com/28005770

Ordering data

Type	Article number	Colour	Length L	Packaging, carton	Weight per pc.
ACL PC-COVER OPAL L=2M	28005770	Opal	2,000 mm	1 pc(s).	0.044 kg
ACL PC-COVER TRANSPARENT L=2M	28005775	Transparent	2,000 mm	250 pc(s).	0.100 kg

ACL ENDCAP

Accessory

Product description
_ Polycarbonate endcap with and without cable holes
_ Suitable for Tridonic aluminum profiles
_ Easy to assembly with click-on system
_ 5 years guarantee (conditions at https://www.tridonic.com/en/int/services/manufacturer-guarantee-conditions)

Mechanical properties
_ Compatible Tridonic profiles

System solution
_ System solution in combination with Tridonic LLE FLEX modules
_ Fully system with Tridonic constant voltage drivers

Website
http://www.tridonic.com/28005776

Ordering data

Type	Article number	Colour	Packaging, bag	Weight per pc.
ACL ENDCAP SURFACE 16X7MM	28005776	Grey	10 pc(s).	0.001 kg
ACL ENDCAP SURFACE WITH HOLE16X7MM	28005777	Grey	10 pc(s).	0.001 kg
ACL ENDCAP SURFACE 16X11MM	28005778	Grey	10 pc(s).	0.001 kg
ACL ENDCAP SURFACE WITH HOLE 16X11MM	28005779	Grey	10 pc(s).	0.001 kg
ACL ENDCAP RECESSED 16X7.5MM	28005780	Grey	10 pc(s).	0.001 kg
ACL ENDCAP RECESSED 16X12MM	28005781	Grey	10 pc(s).	0.001 kg
ACL ENDCAP CORNER	28005782	Grey	10 pc(s).	0.001 kg
ACL ENDCAP CORNER WITH HOLE	28005783	Grey	10 pc(s).	0.001 kg
ACL ENDCAP FLEXIBLE	28005784	Grey	10 pc(s).	0.001 kg
ACL ENDCAP FLEXIBLE WITH HOLE	28005785	Grey	10 pc(s).	0.001 kg

ACL MOUNTING CLIP

Accessory

Product description
_ Suitable mounting clips for Tridonic aluminum profiles
_ Easy to assembly with screws and click-on to the profile
_ 5 years guarantee (conditions at https://www.tridonic.com/en/int/services/manufacturer-guarantee-conditions)

Mechanical properties
_ Compatible Tridonic profiles

System solution
_ System solution in combination with Tridonic LLE FLEX modules
_ Fully system with Tridonic constant voltage drivers

Website
http://www.tridonic.com/28005786

Ordering data

Type	Article number	Colour	Packaging, bag	Weight per pc.
ACL MOUNTING CLIP 16X7/7.5MM	28005786	Stainless steel	10 pc(s).	0.002 kg
ACL MOUNTING CLIP 16X11/12MM	28005787	Stainless steel	10 pc(s).	0.001 kg
ACL MOUNTING CLIP CORNER	28005788	Stainless steel	10 pc(s).	0.001 kg
ACL MOUNTING CLIP FLEXIBLE	28005789	Transparent	10 pc(s).	0.001 kg

Combination Matrix – ACL ALU PROFILE

Type	Article no.	suitable combinations
ACL ALU-PROFILE CORNER 16x18.5MM L=2M	28005794	• • • • • • • •
ACL ALU-PROFILE RECESSED 16X12MM L=2M	28005793	• • • • • • • •
ACL ALU-PROFILE RECESSED 16X7.5MM L=2M	28005792	• • • • • • • •
ACL ALU-PROFILE SURFACE 16X11MM L=2M	28005791	• • • • • • • •
ACL ALU-PROFILE FLEXIBLE 16X4MM L=2M	28005795	• • • • • • •
ACL ALU-PROFILE SURFACE 16x7MM L=2M	28005790	• • • • • • •
ACL MOUNTING CLIP FLEXIBLE	28005789	•
ACL MOUNTING CLIP CORNER	28005788	•
ACL MOUNTING CLIP 16X11/12MM	28005787	• •
ACL MOUNTING CLIP 16X7/7.5MM	28005786	• •
ACL ENDCAP FLEXIBLE WITH HOLE	28005785	•
ACL ENDCAP FLEXIBLE	28005784	•
ACL ENDCAP CORNER WITH HOLE	28005783	•
ACL ENDCAP CORNER	28005782	•
ACL ENDCAP RECESSED 16X12MM	28005781	•
ACL ENDCAP RECESSED 16X7.5MM	28005780	•
ACL ENDCAP SURFACE WITH HOLE 16X11MM	28005779	•
ACL ENDCAP SURFACE 16X11MM	28005778	•
ACL ENDCAP SURFACE WITH HOLE16X7MM	28005777	•
ACL ENDCAP SURFACE 16X7MM	28005776	•
ACL PC-COVER OPAL L=2M	28005770	• • • • • •
ACL PC-COVER TRANSPARENT L=2M	28005775	• • • • • •

Type	Article no.	suitable combinations
ACL ALU-PROFILE SURFACE 16x7MM L=2M	28005790	•
ACL ALU-PROFILE SURFACE 16X11MM L=2M	28005791	• •
ACL ALU-PROFILE RECESSED 16X7.5MM L=2M	28005792	•
ACL ALU-PROFILE RECESSED 16X12MM L=2M	28005793	• •
ACL ALU-PROFILE CORNER 16x18.5MM L=2M	28005794	• •
ACL ALU-PROFILE FLEXIBLE 16X4MM L=2M	28005795	

Data sheet 10/25-LED678-2
Subject to change without notice.

1. Standards

IEC 62031
IEC 62471
IEC 62778
IEC 61000-4-2
UL 8750 (for CLASS2 circuits and dry locations)

1.1 Photometric code

Key for photometric code, e. g. 830 / 349

1st digit		2nd + 3rd digit	4th digit	5th digit	6th digit	
Code	CRI	Colour temperature in Kelvin x 100	MacAdam initial	MacAdam after 25% of the lifetime (max.6000h)	Luminous flux after 25% of the lifetime (max.6000h)	
					Code	Luminous flux
7	70 – 79				7	≥ 70 %
8	80 – 89				8	≥ 80 %
9	≥90				9	≥ 90 %

1.2 Risk group

Type	Risk group
LLE FLEX 8mm 24V SNC4	RG0

1.3 Energy classification

Type	Colour temperature	Energy classification	Energy consumption
LLE FLEX 8mm 24V 3W 300lm 827 SNC4 R05	2,700 K	D	3 kWh / 1,000 h
LLE FLEX 8mm 24V 3W 300lm 830 SNC4 R05	3,000 K	D	3 kWh / 1,000 h
LLE FLEX 8mm 24V 3W 300lm 840 SNC4 R05	4,000 K	D	3 kWh / 1,000 h
LLE FLEX 8mm 24V 3W 300lm 865 SNC4 R05	6,500 K	D	3 kWh / 1,000 h
LLE FLEX 8mm 24V 5W 600lm 827 SNC4 R05	2,700 K	E	5 kWh / 1,000 h
LLE FLEX 8mm 24V 5W 600lm 830 SNC4 R05	3,000 K	D	5 kWh / 1,000 h
LLE FLEX 8mm 24V 5W 600lm 840 SNC4 R05	4,000 K	D	5 kWh / 1,000 h
LLE FLEX 8mm 24V 5W 600lm 865 SNC4 R05	6,500 K	D	5 kWh / 1,000 h
LLE FLEX 8mm 24V 9W 1200lm 827 SNC4 R05	2,700 K	E	9 kWh / 1,000 h
LLE FLEX 8mm 24V 9W 1200lm 830 SNC4 R05	3,000 K	D	9 kWh / 1,000 h
LLE FLEX 8mm 24V 9W 1200lm 840 SNC4 R05	4,000 K	D	9 kWh / 1,000 h
LLE FLEX 8mm 24V 9W 1200lm 865 SNC4 R05	6,500 K	D	9 kWh / 1,000 h
LLE FLEX 8mm 24V 13W 1800lm 827 SNC4 R05	2,700 K	E	13 kWh / 1,000 h
LLE FLEX 8mm 24V 13W 1800lm 830 SNC4 R05	3,000 K	D	13 kWh / 1,000 h
LLE FLEX 8mm 24V 13W 1800lm 840 SNC4 R05	4,000 K	D	13 kWh / 1,000 h
LLE FLEX 8mm 24V 13W 1800lm 865 SNC4 R05	6,500 K	D	13 kWh / 1,000 h
LLE FLEX 8mm 24V 19W 2500lm 827 SNC4 R05	2,700 K	E	19 kWh / 1,000 h
LLE FLEX 8mm 24V 19W 2500lm 830 SNC4 R05	3,000 K	E	19 kWh / 1,000 h
LLE FLEX 8mm 24V 19W 2500lm 840 SNC4 R05	4,000 K	D	19 kWh / 1,000 h
LLE FLEX 8mm 24V 19W 2500lm 865 SNC4 R05	6,500 K	D	19 kWh / 1,000 h
LLE FLEX 8mm 24V 6W 600lm 930 SNC4 R05	3,000 K	E	6 kWh / 1,000 h
LLE FLEX 8mm 24V 6W 600lm 940 SNC4 R05	4,000 K	E	6 kWh / 1,000 h
LLE FLEX 8mm 24V 11W 1200lm 930 SNC4 R05	3,000 K	E	11 kWh / 1,000 h
LLE FLEX 8mm 24V 11W 1200lm 940 SNC4 R05	4,000 K	E	11 kWh / 1,000 h
LLE FLEX 8mm 24V 16W 1800lm 930 SNC4 R05	3,000 K	E	15 kWh / 1,000 h
LLE FLEX 8mm 24V 16W 1800lm 940 SNC4 R05	4,000 K	E	15 kWh / 1,000 h
LLE FLEX 8mm 24V 22W 2500lm 930 SNC4 R05	3,000 K	F	22 kWh / 1,000 h
LLE FLEX 8mm 24V 22W 2500lm 940 SNC4 R05	4,000 K	E	22 kWh / 1,000 h

Energy label and further information at www.tridonic.com in the certificates tab of the corresponding product page and at the EPREL data base https://eprel.ec.europa.eu/

2. Thermal details

2.1 tc point, ambient temperature and lifetime

The temperature at tp reference point is crucial for the light output and lifetime of a LED product.

For LLE a tp temperature of 65 °C has to be complied in order to achieve an optimum between heat sink requirements, light output and lifetime.

Compliance with the maximum permissible reference temperature at the tc point must be checked under operating conditions in a thermally stable state. The maximum value must be determined under worst-case conditions for the relevant application.

The tc and tp temperature of LED modules from Tridonic are measured at the same reference point.

2.2 Storage and humidity

Storage temperature	-25 … +75 °C

Operation only in non condensing environment.
Humidity during processing of the module should be between 0 to 70 %.

2.3 Thermal design and heat sink

The rated life of LED products depends to a large extent on the temperature. If the permissible temperature limits are exceeded, the life of the LLE will be greatly reduced or the LLE may be destroyed.

2.4 Heat sink values

LLE FLEX 8mm 300lm 24V 8xx SNC4

ta	tp	$R_{th, hs-a}$ ①	Cooling area ①
25 °C	65 °C	744.00 K/W	self cooling
35 °C	65 °C	557.95 K/W	self cooling
40 °C	65 °C	464.93 K/W	self cooling
45 °C	65 °C	371.91 K/W	self cooling
50 °C	65 °C	278.88 K/W	self cooling

LLE FLEX 8mm 600lm 24V 8xx SNC4

ta	tp	$R_{th, hs-a}$ ①	Cooling area ①
25 °C	65 °C	242.39	self cooling
35 °C	65 °C	181.76	self cooling
40 °C	65 °C	151.44	4 cm²
45 °C	65 °C	121.13	6 cm²
50 °C	65 °C	90.81	7 cm²

LLE FLEX 8mm 1200lm 24V 8xx SNC4

ta	tp	$R_{th, hs-a}$ ①	Cooling area ①
25 °C	65 °C	204.94 K/W	self cooling
35 °C	65 °C	153.66 K/W	4 cm²
40 °C	65 °C	128.02 K/W	5 cm²
45 °C	65 °C	102.38 K/W	7 cm²
50 °C	65 °C	76.74 K/W	9 cm²

LLE FLEX 8mm 1800lm 24V 8xx SNC4

ta	tp	$R_{th, hs-a}$ ①	Cooling area ①
25 °C	65 °C	146.60 K/W	5 cm²
35 °C	65 °C	109.90 K/W	6 cm²
40 °C	65 °C	91.56 K/W	7 cm²
45 °C	65 °C	73.21 K/W	9 cm²
50 °C	65 °C	54.86 K/W	12 cm²

LLE FLEX 8mm 2500lm 24V 8xx SNC4

ta	tp	$R_{th, hs-a}$ ①	Cooling area ①
25 °C	65 °C	90.46 K/W	7 cm²
35 °C	65 °C	67.80 K/W	10 cm²
40 °C	65 °C	56.47 K/W	12 cm²
45 °C	65 °C	45.14 K/W	15 cm²
50 °C	65 °C	33.81 K/W	20 cm²

LLE FLEX 8mm 600lm 24V 9xx SNC4

ta	tp	$R_{th, hs-a}$ ①	Cooling area ①
25 °C	65 °C	313.54 K/W	self cooling
35 °C	65 °C	235.11 K/W	self cooling
40 °C	65 °C	195.89 K/W	self cooling
45 °C	65 °C	156.68 K/W	4 cm²
50 °C	65 °C	117.46 K/W	6 cm²

LLE FLEX 8mm 1200lm 24V 9xx SNC4

ta	tp	$R_{th, hs-a}$ ①	Cooling area ①
25 °C	65 °C	130.96 K/W	5 cm²
35 °C	65 °C	98.17 K/W	7 cm²
40 °C	65 °C	81.78 K/W	8 cm²
45 °C	65 °C	65.39 K/W	10 cm²
50 °C	65 °C	48.99 K/W	14 cm²

LLE FLEX 8mm 1800lm 24V 9xx SNC4

ta	tp	$R_{th, hs-a}$ ①	Cooling area ①
25 °C	65 °C	123.84 K/W	5 cm²
35 °C	65 °C	92.84 K/W	7 cm²
40 °C	65 °C	77.33 K/W	9 cm²
45 °C	65 °C	61.83 K/W	11 cm²
50 °C	65 °C	46.32 K/W	14 cm²

LLE FLEX 8mm 2500lm 24V 9xx SNC4

ta	tp	$R_{th, hs-a}$ ①	Cooling area ①
25 °C	65 °C	82.93 K/W	8 cm²
35 °C	65 °C	62.15 K/W	11 cm²
40 °C	65 °C	51.76 K/W	13 cm²
45 °C	65 °C	41.37 K/W	16 cm²
50 °C	65 °C	30.98 K/W	22 cm²

① Values for a single segment of the LLE FLEX (50 mm).

Notes

The module has to be mounted on a heat sink and operated within the specified temperature range.

The actual cooling surface can differ because of the material, the structural shape, outside influences and the installation situation.
A heat transfer coefficient of 0,0015 is used for the calculation.

3. Installation / wiring

3.1 Electrical supply/choice of LED driver

LLE modules from Tridonic are not protected against overvoltages, overcurrents, overloads or short-circuit currents. Safe and reliable operation can only be guaranteed in conjunction with a LED driver which complies with the relevant standards. The use of LED driver from Tridonic in combination with LLE modules guarantees the necessary protection for safe and reliable operation.

If a LED driver other than Tridonic is used, it must provide the following protection:
- SELV
- Short-circuit protection
- Overload protection
- Overtemperature protection

LLE modules must be supplied by a constant voltage LED driver. Operation with a constant current LED driver will lead to an irreversible damage of the module.

Wrong polarity can damage the LLE FLEX.

3.2 Mounting instruction

None of the components of the LLE (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses.

The LLE FLEX is separable each 50 mm with the full function of each segment.

Insulation must be ensured at the contact area of the segments (e. g. by using additional insulation in the area of the solder connection).

The fixing/cooling surface must be cleaned before installing the LLE FLEX modules to remove all dirt, dust and grease.

Prevent shear- or peel forces

Min. bending radius of the LLE FLEX is 2 cm.

For details see Application Note: www.tridonic.com

Chemical substance may harm the LED module. Chemical reactions could lead to colour shift, reduced luminous flux or a total failure of the module caused by corrosion of electrical connections.

Materials which are used in LED applications (e.g. sealings, adhesives) must not produce dissolver gas. They must not be condensation curing based, acetate curing based or contain sulfur, chlorine or phthalate.
Avoid corrosive atmosphere during usage and storage.

3.3 Soldering guidelines

The modules are suitable only for manual soldering (max. 275 °C, 2 seconds).

3.3 EOS/ESD safety guidelines

The device / module contains components that are sensitive to electrostatic discharge and may only be installed in the factory and on site if appropriate EOS/ESD protection measures have been taken. No special measures need be taken for devices/modules with enclosed casings (contact with the pc board not possible), just normal installation practice. Please note the requirements set out in the document EOS / ESD guidelines (Guideline_EOS_ESD.pdf) at: http://www.tridonic.com/esd-protection

4. Lifetime

4.1 Lifetime, lumen maintenance and failure rate

The light output of an LED module decreases over the lifetime, this is characterized with the L value.
L70 means that the LED module will give 70 % of its initial luminous flux. This value is always related to the number of operation hours and therefore defines the lifetime of an LED module.

As the L value is a statistical value and the lumen maintenance may vary over the delivered LED modules.
The B value defines the amount of modules which are below the specific L value, e.g. L70B10 means 10 % of the LED modules are below 70 % of the initial luminous flux, respectively 90 % will be above 70 % of the initial value. In addition the percentage of failed modules (fatal failure) is characterized by the C value.

The F value is the combination of the B and C value. That means for F degradation and complete failures are considered, e.g. L70F10 means 10 % of the LED modules may fail or be below 70 % of the initial luminous flux.

4.2 Lumen maintenance

LLE FLEX 8mm 24V 300lm SNC4
LLE FLEX 8mm 24V 600lm SNC4
LLE FLEX 8mm 24V 1200lm SNC4

Supply voltage	tp temperature	L90/B10	L90/B50	L80/B10	L80/B50	L70/B10	L70/B50
24 V	40 °C	30k h	44k h	60k h	>60k h	>60k h	>60k h
	45 °C	29k h	43k h	59k h	>60k h	>60k h	>60k h
	50 °C	28k h	41k h	57k h	>60k h	>60k h	>60k h
	55 °C	28k h	41k h	56k h	>60k h	>60k h	>60k h
	60 °C	27k h	39k h	55k h	>60k h	>60k h	>60k h
	65 °C	26k h	38k h	54k h	>60k h	>60k h	>60k h
	70 °C	26k h	37k h	52k h	>60k h	>60k h	>60k h
	75 °C	25k h	36k h	51k h	>60k h	>60k h	>60k h

LLE FLEX 8mm 24V 1800lm SNC4
LLE FLEX 8mm 24V 2500lm SNC4

Supply voltage	tp temperature	L90/B10	L90/B50	L80/B10	L80/B50	L70/B10	L70/B50
24 V	40 °C	30k h	44k h	60k h	>60k h	>60k h	>60k h
	45 °C	29k h	43k h	59k h	>60k h	>60k h	>60k h
	50 °C	28k h	41k h	57k h	>60k h	>60k h	>60k h
	55 °C	28k h	40k h	56k h	>60k h	>60k h	>60k h
	60 °C	27k h	39k h	55k h	>60k h	>60k h	>60k h
	65 °C	26k h	37k h	53k h	>60k h	>60k h	>60k h
	70 °C	26k h	36k h	52k h	>60k h	>60k h	>60k h
	75 °C	25k h	35k h	50k h	>60k h	>60k h	>60k h

L0C10 >60 kh. At tp rated, based on 10 swichting cycles per day.

4.3 Switching capability

100,000 cycles

Tridonic test according to IEC 62717 Cl 10.3.3
30 s on / 30 s off at Imax

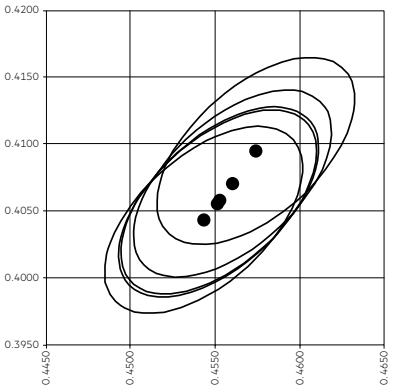
6. Photometric characteristics

6.1 Coordinates and tolerances according to CIE 1931

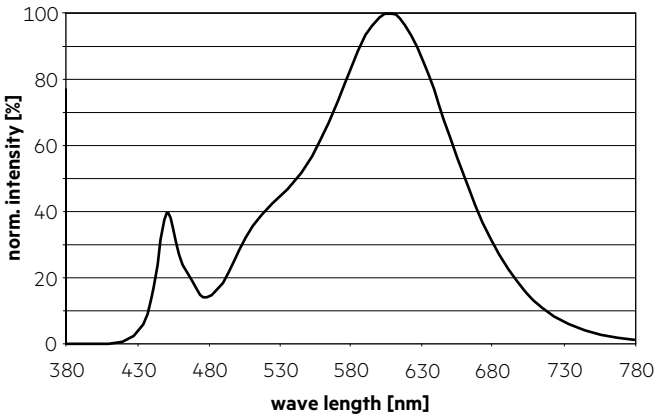
The specified colour coordinates are measured integral by a current impulse with typical values of module and a duration of 100 ms.
The ambient temperature of the measurement is ta = 25 °C.
The measurement tolerance of the colour coordinates are ± 0.01.

2,700 K – CRI80

	x0	y0
Centre 300 lm/m	0.4543	0.4044
Centre 600 lm/m	0.4551	0.4056
Centre 1,200 lm/m	0.4560	0.4071
Centre 1,800 lm/m	0.4566	0.4081
Centre 2,500 lm/m	0.4571	0.4090

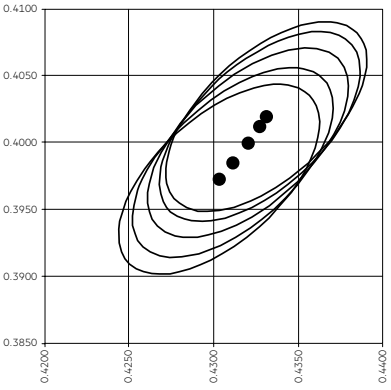


MacAdam Ellipse: 3SDCM



3,000 K – CRI80

	x0	y0
Centre 300 lm/m	0.4303	0.3973
Centre 600 lm/m	0.4311	0.3985
Centre 1,200 lm/m	0.4320	0.4000
Centre 1,800 lm/m	0.4327	0.4012
Centre 2,500 lm/m	0.4331	0.4019



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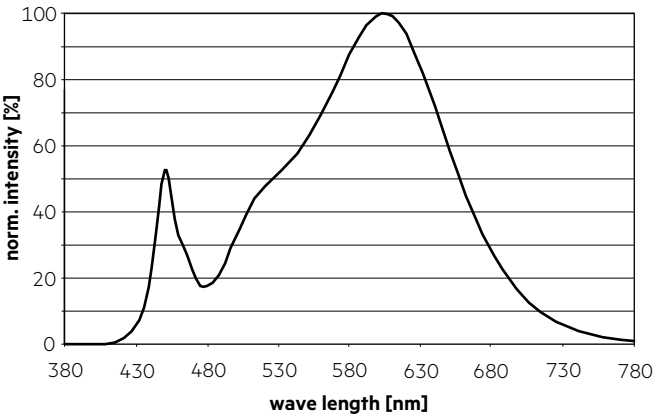
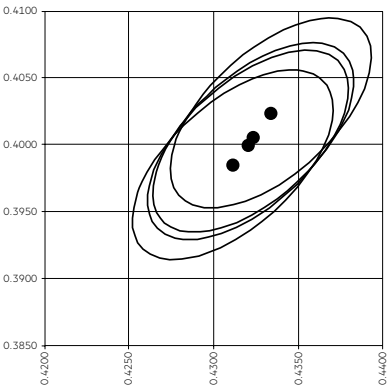


3,000 K – CRI90

	x0	y0
Centre 600 lm/m	0.4311	0.3985
Centre 1,200 lm/m	0.4323	0.4005
Centre 1,800 lm/m	0.4327	0.4012
Centre 2,500 lm/m	0.4334	0.4024



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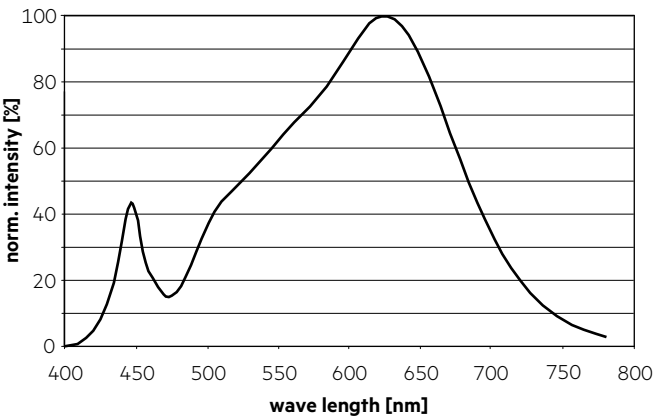
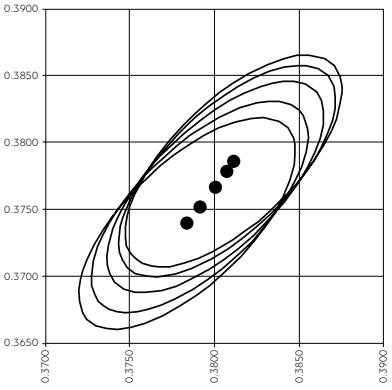


MacAdam Ellipse: 3SDCM

4,000 K – CRI80

	x0	y0
Centre 300 lm/m	0.3783	0.3740
Centre 600 lm/m	0.3791	0.3752
Centre 1,200 lm/m	0.3800	0.3767
Centre 1,800 lm/m	0.3807	0.3779
Centre 2,500 lm/m	0.3811	0.3786



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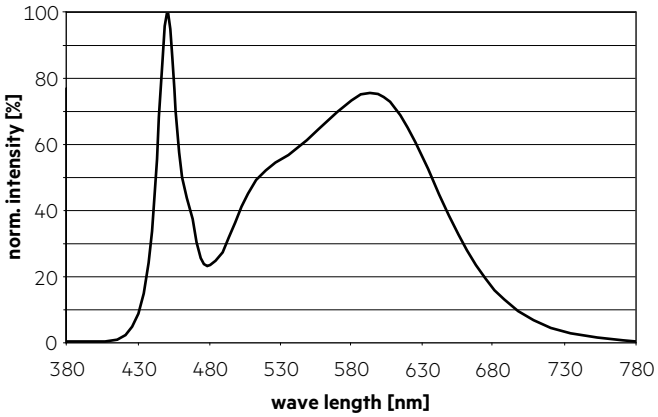
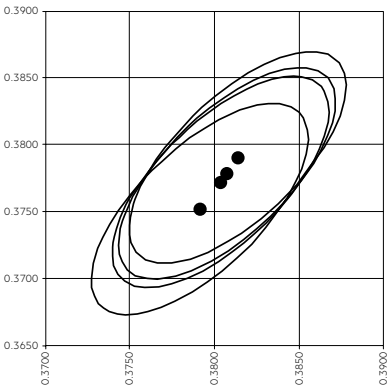


4,000 K – CRI90

	x0	y0
Centre 600 lm/m	0.3791	0.3752
Centre 1,200 lm/m	0.3803	0.3772
Centre 1,800 lm/m	0.3807	0.3779
Centre 2,500 lm/m	0.3814	0.3791



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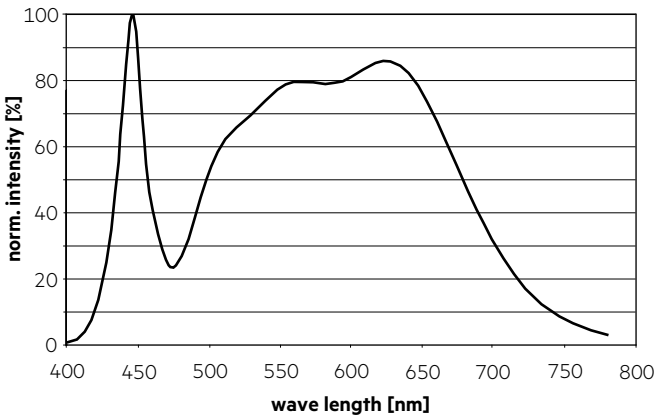
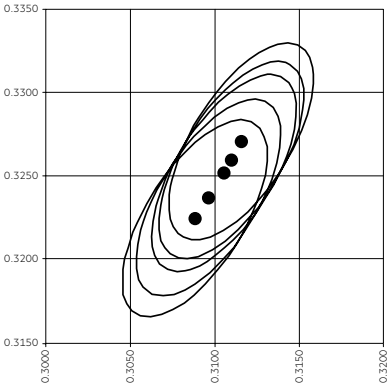


6,500 K – CRI80

	x0	y0
Centre 300 lm/m	0.3088	0.3225
Centre 600 lm/m	0.3096	0.3237
Centre 1,200 lm/m	0.3105	0.3252
Centre 1,800 lm/m	0.3110	0.3260
Centre 2,500 lm/m	0.3116	0.3271



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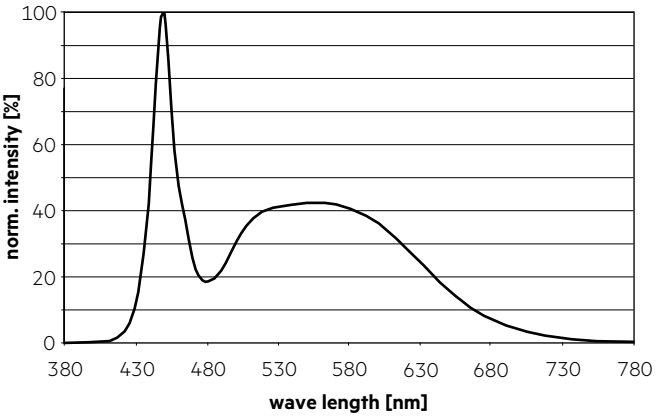
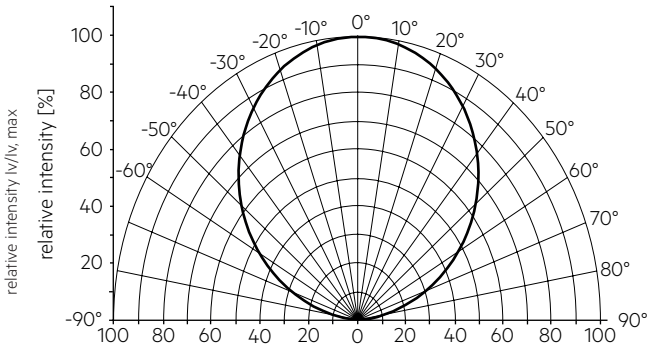


6.2 Light distribution

The optical design of the LLE product line ensures optimum homogeneity for the light distribution.

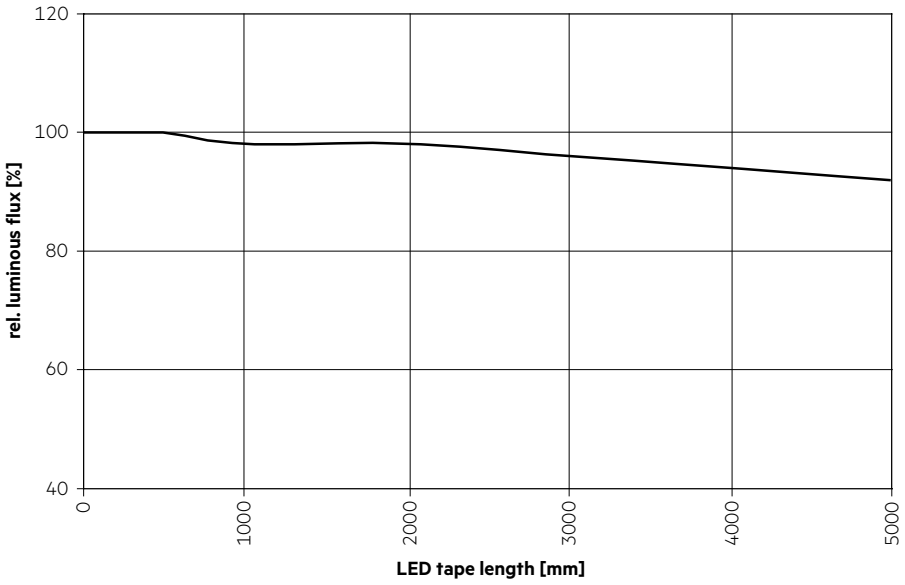


The colour temperature is measured over the complete module. To ensure an ideal mixture of colours and a homogeneous light distribution a suitable optic (e. g. PMMA diffuser) and a sufficient spacing between module and optic (typ. 1.5 cm) should be used.

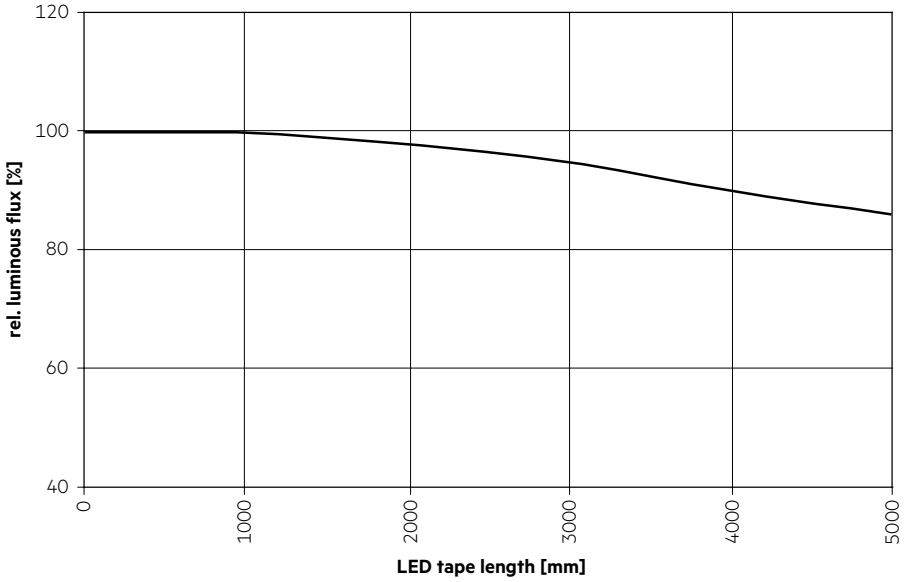
6.4 Relative luminous flux vs. LED tape length

The graphs show the luminous flux drop of the first compare to the last segment over the used tape length.

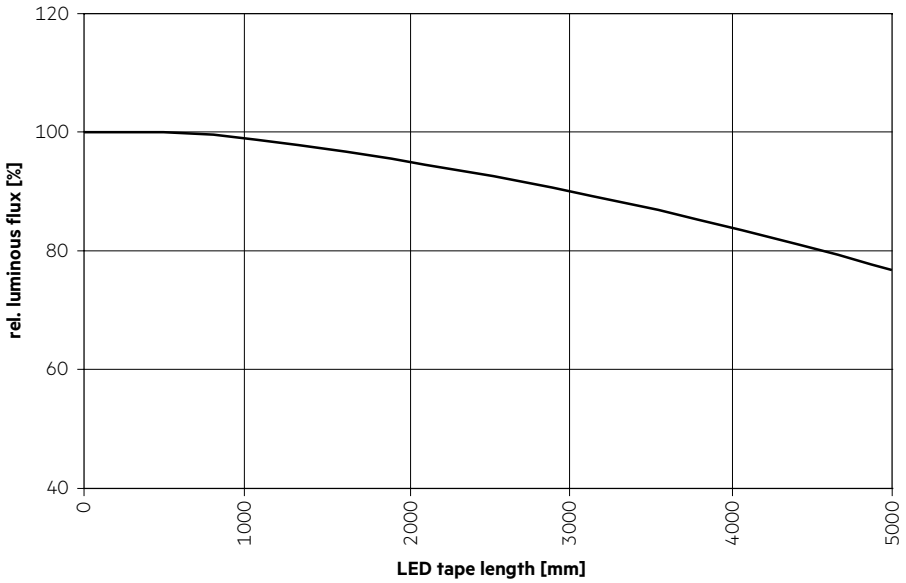
LLE FLEX 8mm 24V 300lm 8xx SNC4



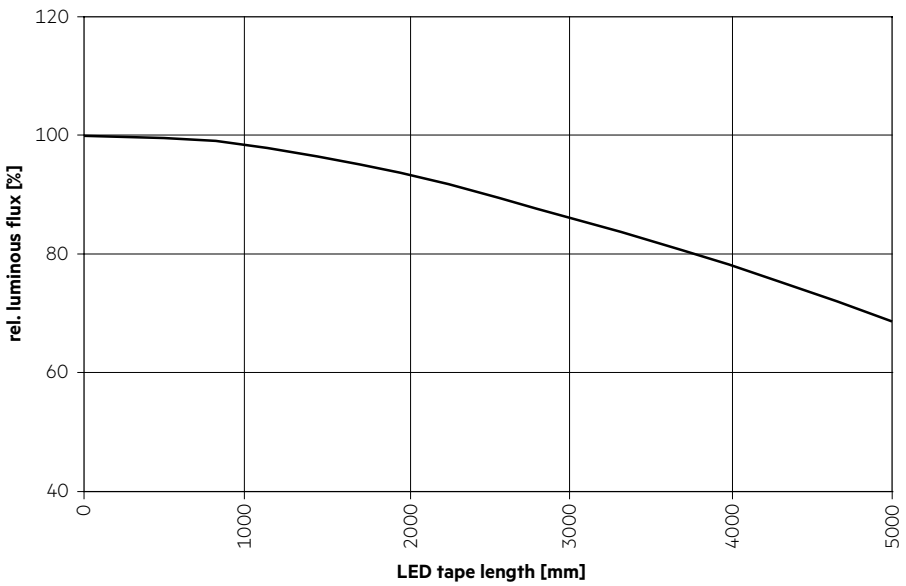
LLE FLEX 8mm 24V 600lm 8xx SNC4



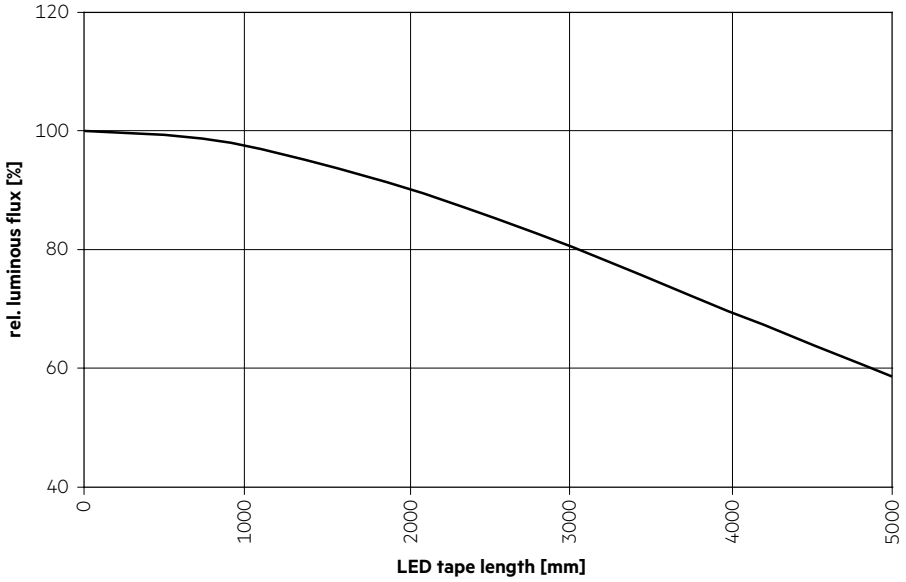
LLE FLEX 8mm 24V 1200lm 8xx SNC4



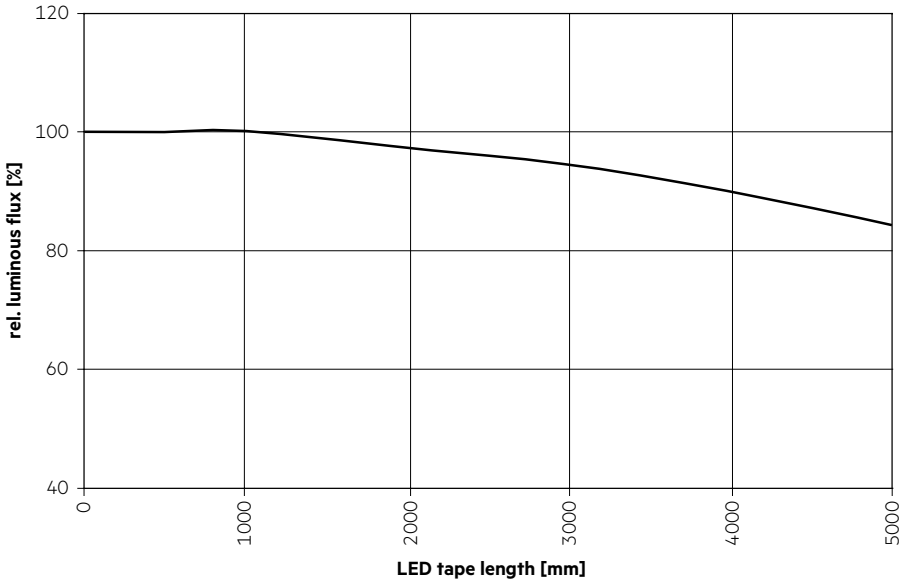
LLE FLEX 8mm 24V 1800lm 8xx SNC4



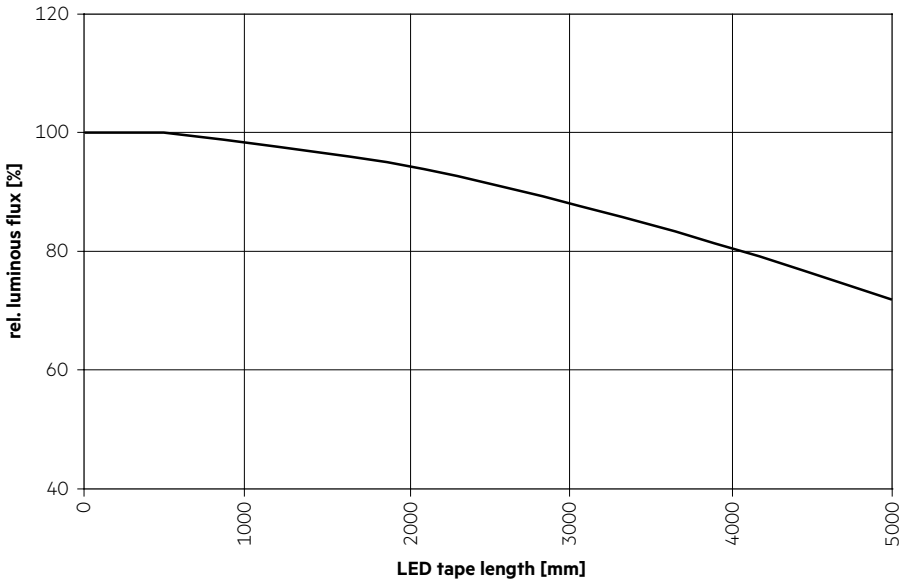
LLE FLEX 8mm 24V 2500lm 8xx SNC4



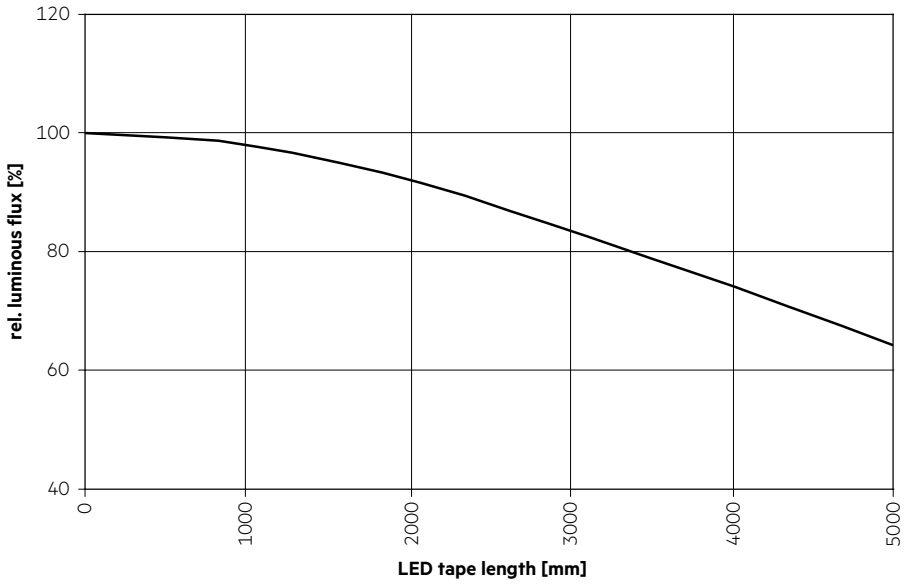
LLE FLEX 8mm 24V 600lm 9xx SNC4



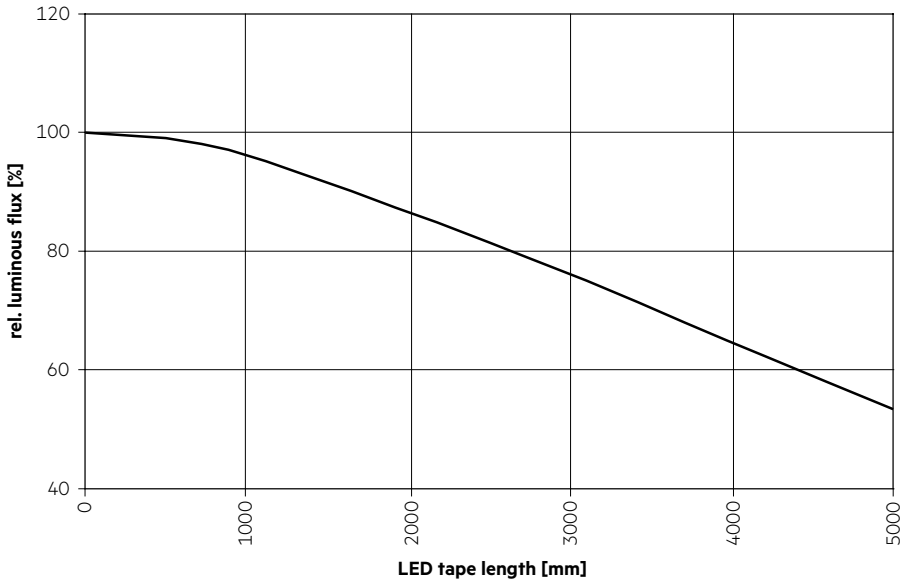
LLE FLEX 8mm 24V 1200lm 9xx SNC4



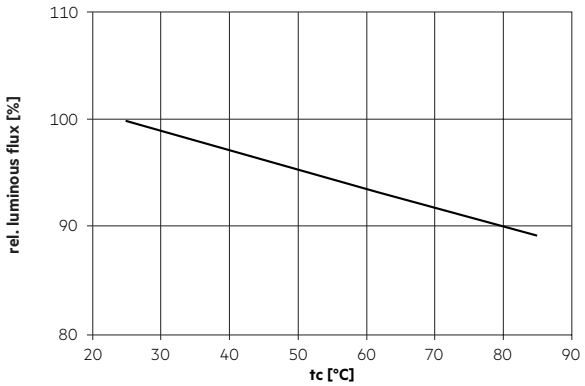
LLE FLEX 8mm 24V 1800lm 9xx SNC4



LLE FLEX 8mm 24V 2500lm 9xx SNC4



6.3 Relative luminous flux vs. tc temperature



7. Miscellaneous

7.1 Additional information

Additional technical information at www.tridonic.com → Technical Data

Energy label and further information at www.tridonic.com in the certificates tab of the corresponding product page and at the EPREL data base https://eprel.ec.europa.eu/

Lifetime declarations are informative and represent no warranty claim.