

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/manufacture-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 $t_p = 25^\circ\text{C}$
- _ Efficacy of the LED module up to 159 lm/W at $t_p = 25^\circ\text{C}$
- _ 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



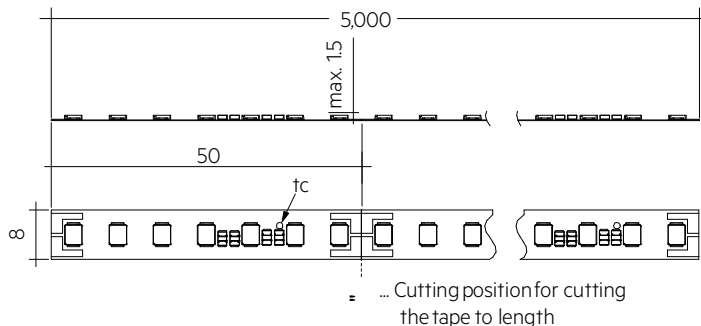
Decorative



High bay

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).	0.084 kg
LLE FLEX 8mm 24V 3W 300lm 830 SNC4 R05	28005201	3,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 3W 300lm 840 SNC4 R05	28005202	4,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 3W 300lm 865 SNC4 R05	28005203	6,500 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 5W 600lm 827 SNC4 R05	28005204	2,700 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 5W 600lm 830 SNC4 R05	28005205	3,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 5W 600lm 840 SNC4 R05	28005206	4,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 5W 600lm 865 SNC4 R05	28005207	6,500 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 9W 1200lm 827 SNC4 R05	28005208	2,700 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 9W 1200lm 830 SNC4 R05	28005209	3,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 9W 1200lm 840 SNC4 R05	28005210	4,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 9W 1200lm 865 SNC4 R05	28005211	6,500 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 13W 1800lm 827 SNC4 R05	28005212	2,700 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 13W 1800lm 830 SNC4 R05	28005213	3,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 13W 1800lm 840 SNC4 R05	28005214	4,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 13W 1800lm 865 SNC4 R05	28005215	6,500 K	1 pc(s).	0.083 kg
LLE FLEX 8mm 24V 19W 2500lm 827 SNC4 R05	28005216	2,700 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 19W 2500lm 830 SNC4 R05	28005217	3,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 19W 2500lm 840 SNC4 R05	28005218	4,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 19W 2500lm 865 SNC4 R05	28005219	6,500 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 6W 600lm 930 SNC4 R05	28005225	3,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 6W 600lm 940 SNC4 R05	28005226	4,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 11W 1200lm 930 SNC4 R05	28005229	3,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 11W 1200lm 940 SNC4 R05	28005230	4,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 16W 1800lm 930 SNC4 R05	28005233	3,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 16W 1800lm 940 SNC4 R05	28005234	4,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 22W 2500lm 930 SNC4 R05	28005237	3,000 K	1 pc(s).	0.084 kg
LLE FLEX 8mm 24V 22W 2500lm 940 SNC4 R05	28005238	4,000 K	1 pc(s).	0.084 kg

Technical data

Beam characteristic	120°
Ambient temperature t_a	-25 ... +50 °C
t_p rated	65 °C
t_c	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 $t_p = 25\text{ °C}$	Expected luminous flux at t_p rated ^④	Typ. current consumption at t_p rated	Power consumption P_{on} at $t_p = 25\text{ °C}$ ^⑤	Efficacy of the module at $t_p = 25\text{ °C}$	Expected efficacy of the module at t_p 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

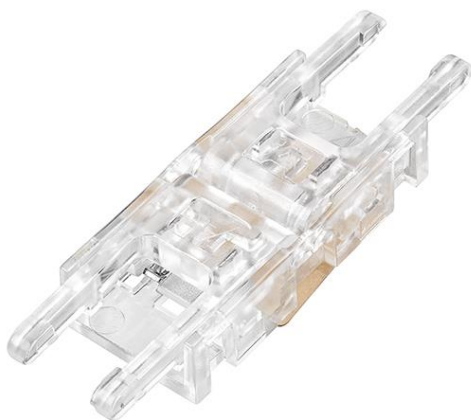
^② Exceeding the max. operating voltage leads to an overload on the LLE FLEX. This may in turn result in a significant reduction in lifetime or even in destruction.

^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 P_{on} ± 15 %. Measurement uncertainty ± 5 %. Values given for 1 m LLE FLEX.

Connector for LLE FLEX

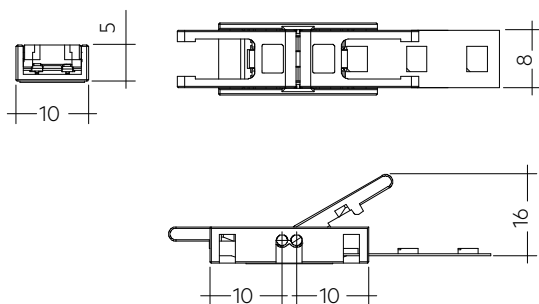


Product description

- _ 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

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

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

1.2 Risk group

Type	Risk group
LLE FLEX 8mm 24V SNC4	RGO

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
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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>

4.3 Switching capability

100,000 cycles

Tridonic test according to IEC 62717 Cl 10.3.3
30 s on / 30 s off at I_{max}

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

LOC10 >60 kh. At tp rated, based on 10 switching cycles per day.

6. Photometric characteristics

6.1 Coordinates and tolerances according to CIE 1931

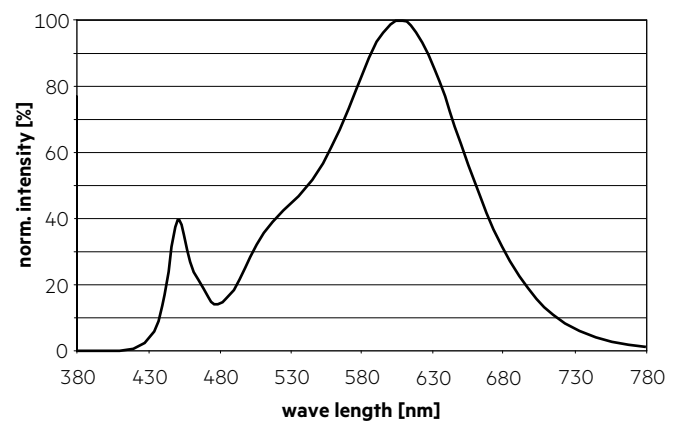
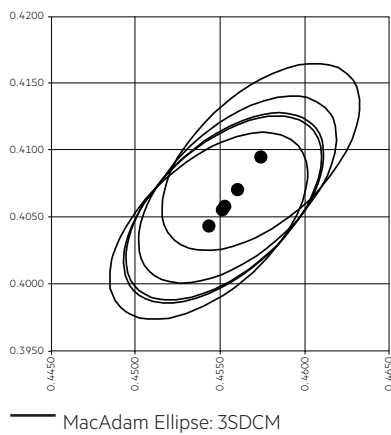
The specified colour coordinates are measured integral by a current impulse with typical values of module and a duration of 100 ms.

The ambient temperature of the measurement is $t_a = 25^\circ\text{C}$.

The measurement tolerance of the colour coordinates are ± 0.01 .

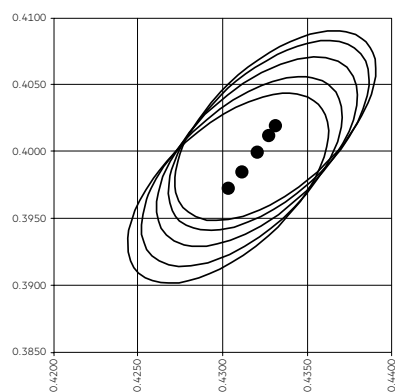
2,700 K – CRI80

	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

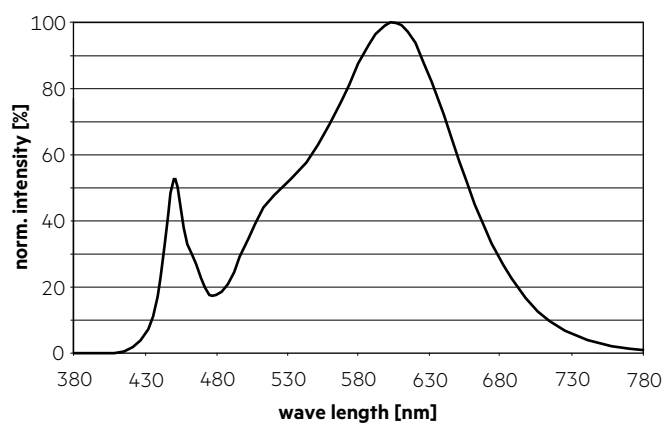


3,000 K – CRI80

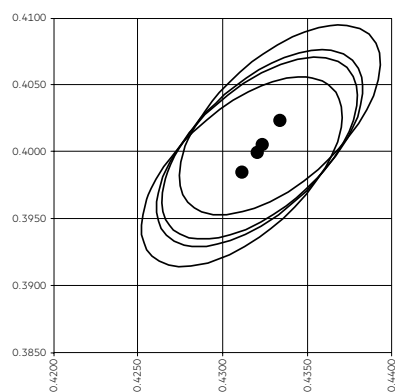
	x0	y0
Centre 300 lm/m	0.4303	0.3973
Centre 600 lm/m	0.4311	0.3985
Centre 1,200 lm/m	0.4320	0.4000
Centre 1,800 lm/m	0.4327	0.4012
Centre 2,500 lm/m	0.4331	0.4019



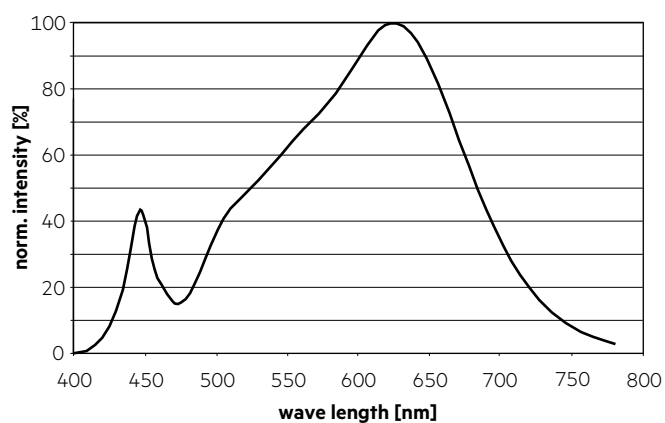
— MacAdam Ellipse: 3SDCM

**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



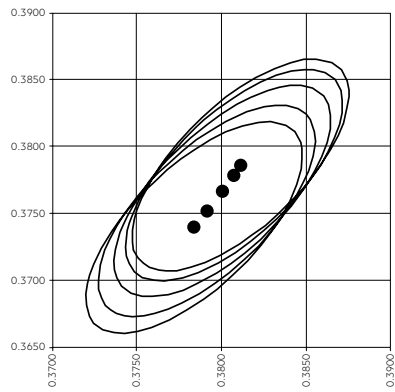
— MacAdam Ellipse: 3SDCM



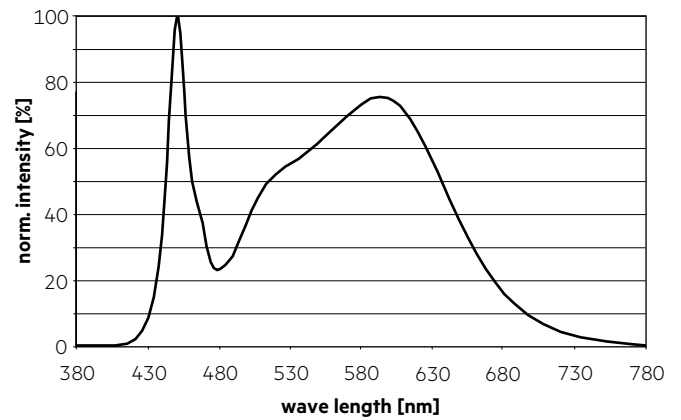
— MacAdam Ellipse: 3SDCM

4,000 K – CRI80

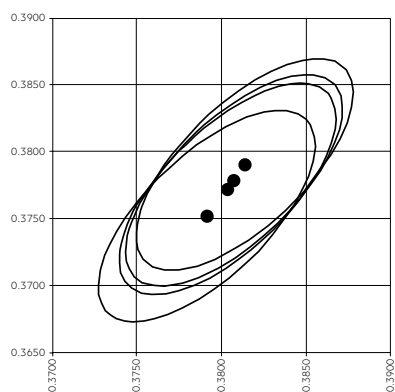
	x0	y0
Centre 300 lm/m	0.3783	0.3740
Centre 600 lm/m	0.3791	0.3752
Centre 1,200 lm/m	0.3800	0.3767
Centre 1,800 lm/m	0.3807	0.3779
Centre 2,500 lm/m	0.3811	0.3786



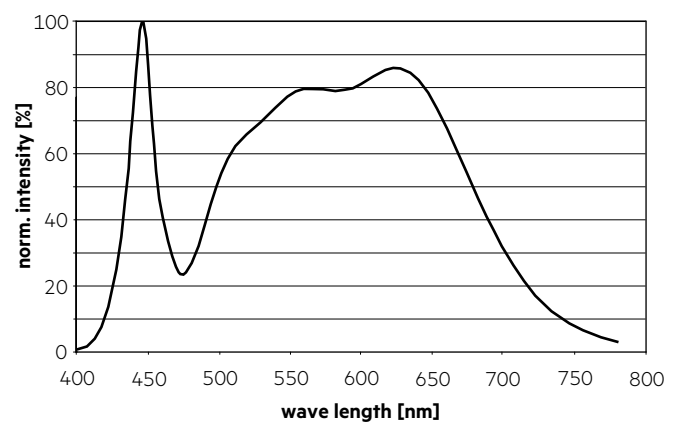
— MacAdam Ellipse: 3SDCM

**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

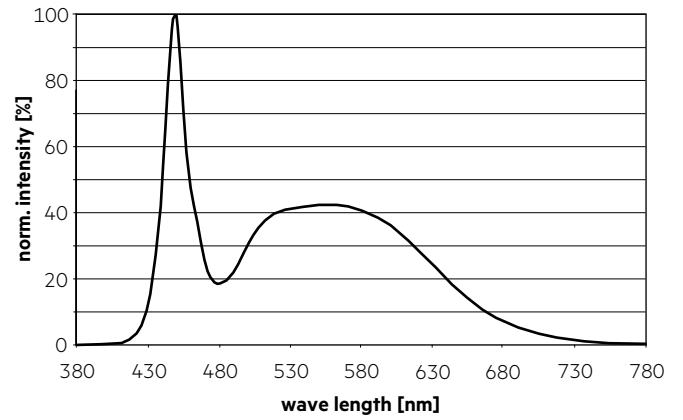
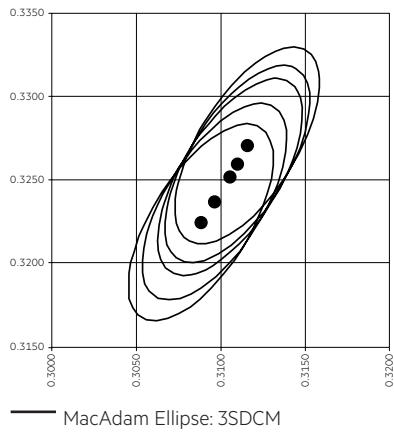


— MacAdam Ellipse: 3SDCM



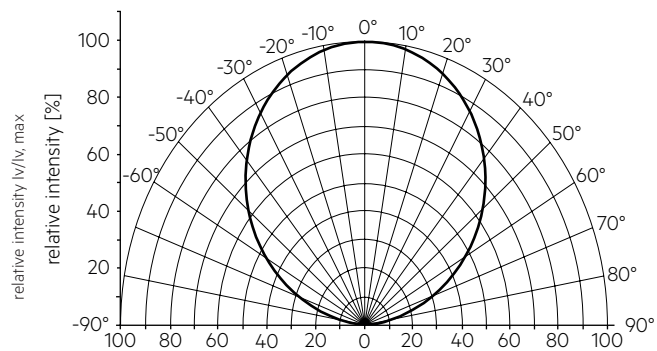
6,500 K – CRI80

	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



6.2 Light distribution

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

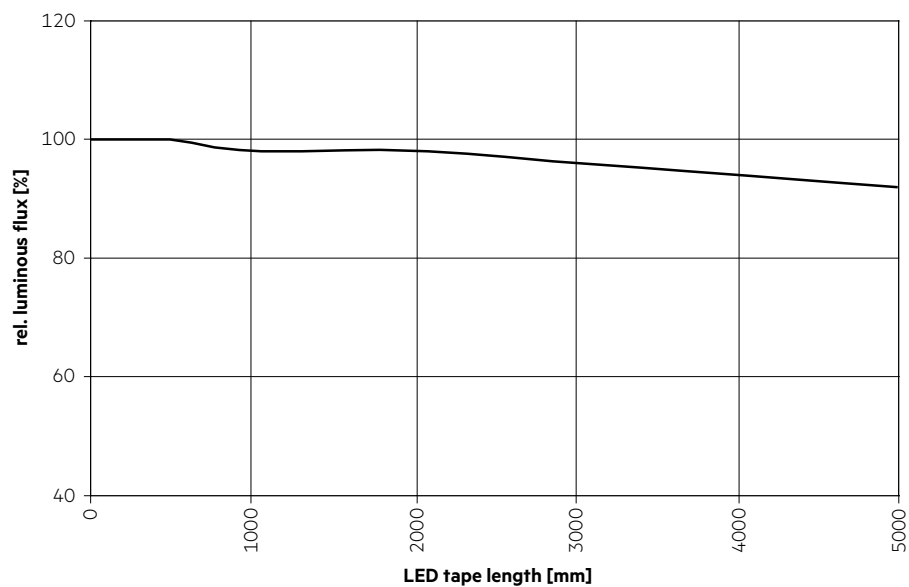


The colour temperature is measured over the complete module. To ensure an ideal mixture of colours and a homogeneous light distribution a suitable optic (e. g. PMMA diffuser) and a sufficient spacing between module and optic (typ. 1.5 cm) should be used.

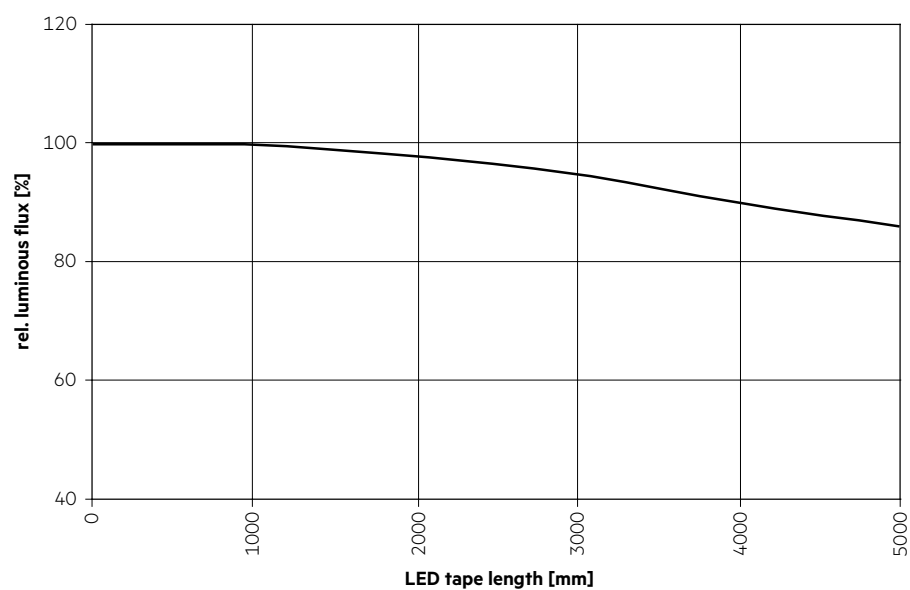
6.4 Relative luminous flux vs. LED tape length

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

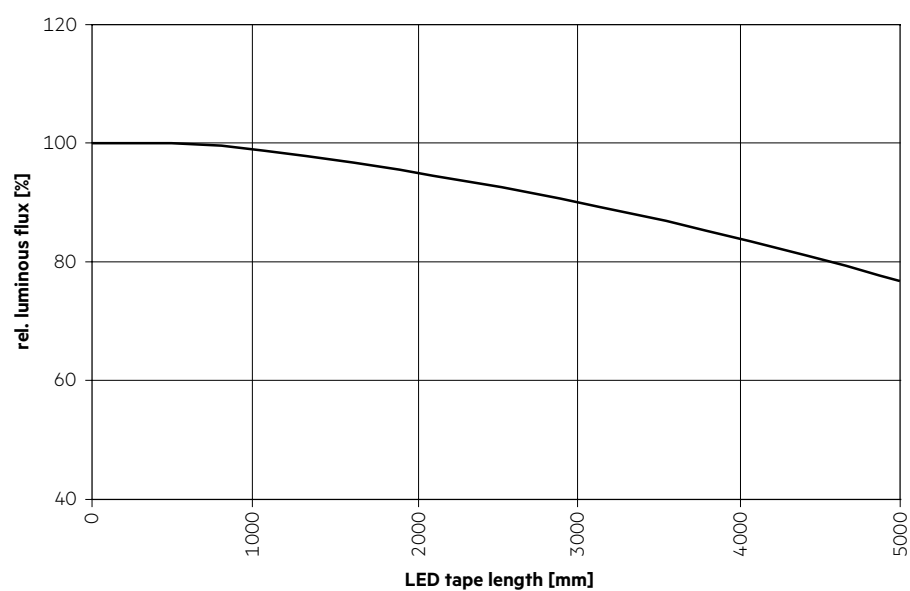
LLE FLEX 8mm 24V 300lm 8xx SNC4



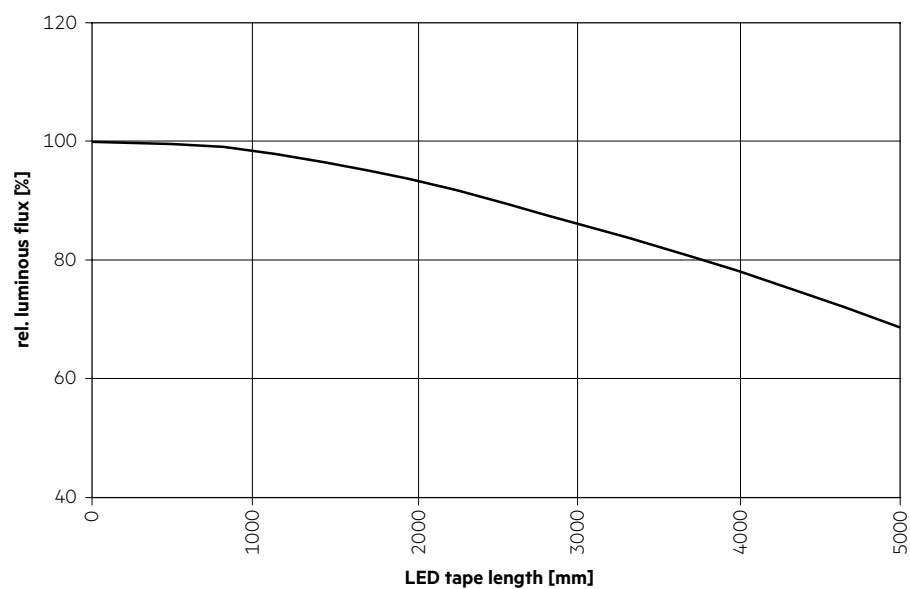
LLE FLEX 8mm 24V 600lm 8xx SNC4



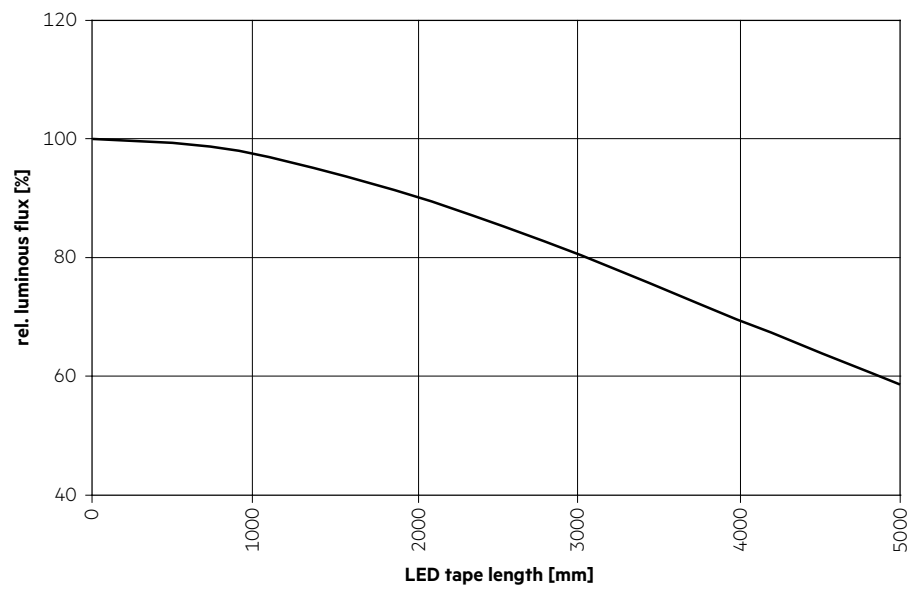
LLE FLEX 8mm 24V 1200lm 8xx SNC4



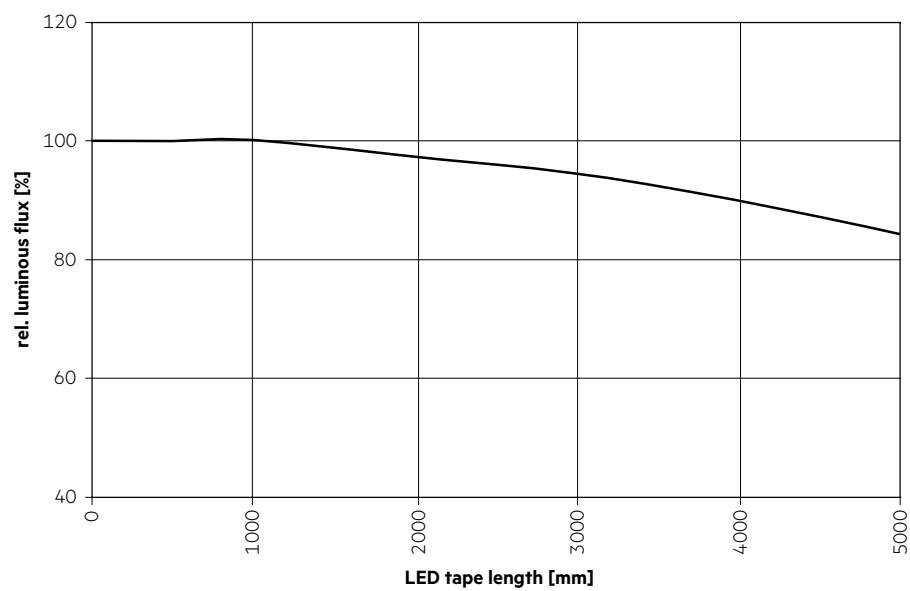
LLE FLEX 8mm 24V 1800lm 8xx SNC4



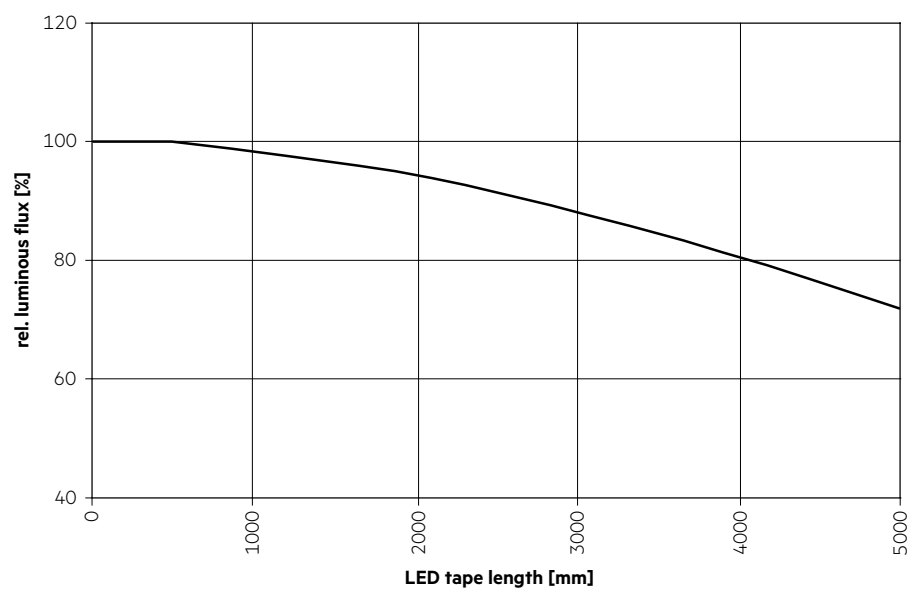
LLE FLEX 8mm 24V 2500lm 8xx SNC4



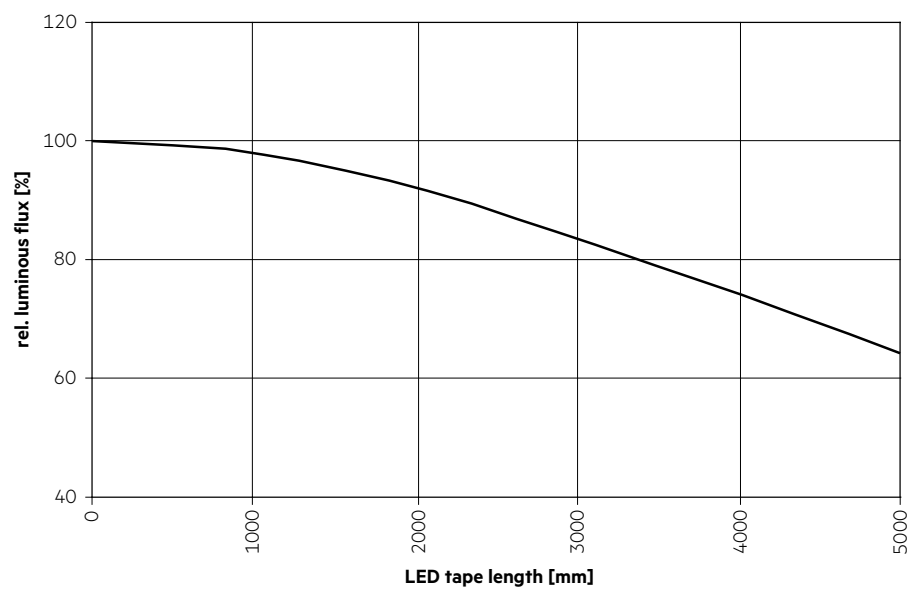
LLE FLEX 8mm 24V 600lm 9xx SNC4



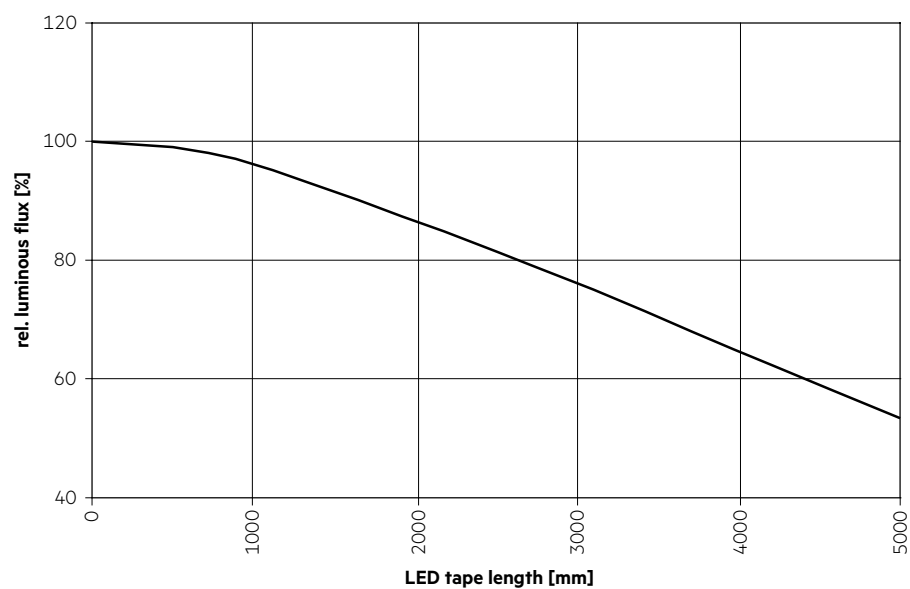
LLE FLEX 8mm 24V 1200lm 9xx SNC4



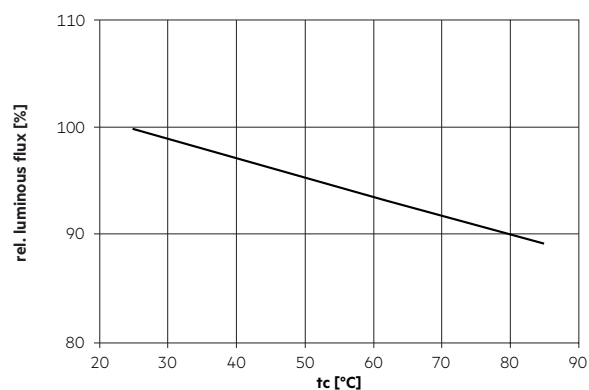
LLE FLEX 8mm 24V 1800lm 9xx SNC4



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.