TRIDONIC

Module RLE 2x4 / 2x6 / 2x8 EXC2 OTD

Modules RLE excite

RLE 2x4 2000lm HP EXC2 OTD

RLE 2x6 3000lm HP EXC2 OTD

RLE 2x8 4000lm HP EXC2 OTD

Product description

_ High efficiency outdoor modules
_ Suitable for harsh and humid outdoor conditions
_ Tested acc. to salt spray test (IEC 60068-2-52) and harmful gas test (GR-1217-CORE)
_ Huge performance temperature range from -40 … +105 °C
_ Surge tested (+/- to earth) 6 kV with Tridonic LED driver
_ Integrated NTC for overtemperature protection
_ Zhaga Book 15 certified
_ For use with standard 2x2 lenses (e.g. LEDiL STRADA 2x2)
_ Push-in terminals for simple and quick wiring
_ HE … High Efficiency, NM … Nominal Mode, HO … High Output
_ Long lifetime up to 150,000 hours
_ 8 years guarantee (conditions at https://www.tridonic.com/en/int/services/manufacturer-guarantee-conditions)

Optical properties

_ Colour temperatures 2,200 K, 2,700 K, 3,000 K, 4,000 K, 5,000 K, 5,700 K and 6,500 K
_ Efficacy of the LED module 192 lm/W at Irated and tp = 25 °C
_ Two colour rendering index to fit the application: CRI > 70 high efficency, CRI > 80 for high colour rendering
_ Small luminous flux tolerances ①

Mechanical properties

_ Module dimension 49.5 x 121.4 mm, 49.5 x 172.2 mm and 49.5 x 223 mm
_ Installation of the module together with lens in the luminaire by means of an M3 screw

System solution

_ Integrate compatible partner products into your final system solution: https://www.tridonic.com/en/int/products/accessories#partner

① Integral measurement over the complete module.

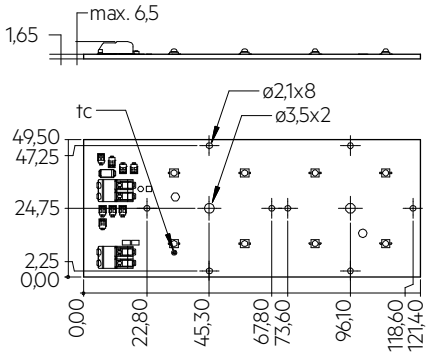
Website

http://www.tridonic.com/89603156

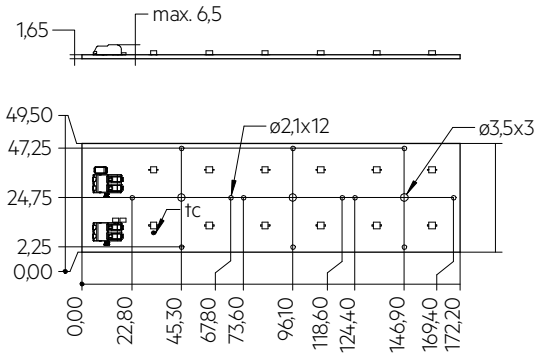
Spotlights | Downlights | **Linear** | **Area** | **Floor | Wall** | **Free-standing** | **Street** | Decorative | High bay

Module RLE 2x4 / 2x6 / 2x8 EXC2 OTD

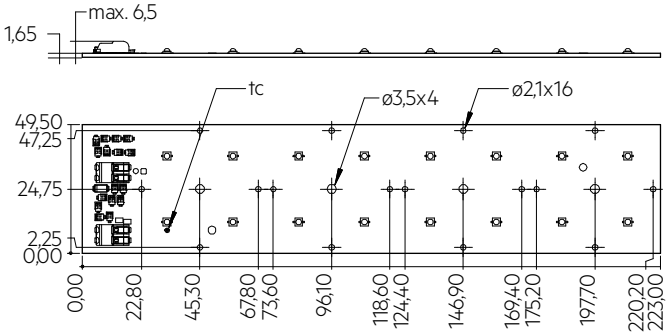
Modules RLE excite



RLE 2x4 2000lm HP EXC2 OTD



RLE 2x6 3000lm HP EXC2 OTD



RLE 2x8 4000lm HP EXC2 OTD

Ordering data

Type	Article number	Colour temperature	Packaging, carton	Weight per pc.
RLE 2x4 2000lm 827 HP EXC2 OTD	**89603156**	2,700 K	80 pc(s).	0.027 kg
RLE 2x4 2000lm 830 HP EXC2 OTD	**89603157**	3,000 K	80 pc(s).	0.027 kg
RLE 2x4 2000lm 840 HP EXC2 OTD	**89603158**	4,000 K	80 pc(s).	0.027 kg
RLE 2x4 2000lm 850 HP EXC2 OTD	**89603160**	5,000 K	80 pc(s).	0.027 kg
RLE 2x4 2000lm 722 HP EXC2 OTD	**28003706**	2,200 K	80 pc(s).	0.027 kg
RLE 2x4 2000lm 727 HP EXC2 OTD	**28005825**	2,700 K	80 pc(s).	0.027 kg
RLE 2x4 2000lm 730 HP EXC2 OTD	**89603432**	3,000 K	80 pc(s).	0.027 kg
RLE 2x4 2000lm 740 HP EXC2 OTD	**89603433**	4,000 K	80 pc(s).	0.027 kg
RLE 2x4 2000lm 765 HP EXC2 OTD	**28003707**	6,500 K	80 pc(s).	0.027 kg
RLE 2x6 3000lm 722 HP EXC2 OTD	**28005601**	2,200 K	80 pc(s).	0.038 kg
RLE 2x6 3000lm 727 HP EXC2 OTD	**28005602**	2,700 K	80 pc(s).	0.038 kg
RLE 2x6 3000lm 730 HP EXC2 OTD	**28005603**	3,000 K	80 pc(s).	0.038 kg
RLE 2x6 3000lm 740 HP EXC2 OTD	**28005604**	4,000 K	80 pc(s).	0.038 kg
RLE 2x8 4000lm 827 HP EXC2 OTD	**89603161**	2,700 K	80 pc(s).	0.050 kg
RLE 2x8 4000lm 830 HP EXC2 OTD	**89603162**	3,000 K	80 pc(s).	0.050 kg
RLE 2x8 4000lm 840 HP EXC2 OTD	**89603163**	4,000 K	80 pc(s).	0.050 kg
RLE 2x8 4000lm 850 HP EXC2 OTD	**89603164**	5,000 K	80 pc(s).	0.050 kg
RLE 2x8 4000lm 722 HP EXC2 OTD	**28003708**	2,200 K	80 pc(s).	0.050 kg
RLE 2x8 4000lm 727 HP EXC2 OTD	**28005826**	2,700 K	80 pc(s).	0.050 kg
RLE 2x8 4000lm 730 HP EXC2 OTD	**89603434**	3,000 K	80 pc(s).	0.050 kg
RLE 2x8 4000lm 740 HP EXC2 OTD	**89603165**	4,000 K	80 pc(s).	0.050 kg
RLE 2x8 4000lm 757 HP EXC2 OTD	**89603435**	5,700 K	80 pc(s).	0.050 kg
RLE 2x8 4000lm 765 HP EXC2 OTD	**89603166**	6,500 K	80 pc(s).	0.050 kg

Technical data

Beam characteristic	120°
Ambient temperature ta	-40 … +80 °C
tp rated	75 °C
tc	105 °C
Irated	650 mA
Imax	1,200 mA
Max. permissible LF current ripple	1,320 mA
Max. permissible peak current	2,000 mA / max. 10 ms
Max. working voltage for insulation ②	370 V
Max. working voltage for insulation with lens	670 V
Insulation test voltage	1.74 kV
CTI of the printed circuit board	> 600
Colour tolerance	5 SDCM
ESD classification	Severity level 4
Risk group (IEC 62471) ③	RG2 (Ethr = 750 lx, RG1 at d ≥ 49 cm)
Classification acc. to IEC 62031	Built-in
Type of protection	IP00
Lumen maintenance L70B50	150,000 h
Guarantee (conditions at www.tridonic.com)	8 Year(s)

Approval marks

RoHS

Standards

IEC 62031, IEC 62778, IEC 62471, IEC 61000-4-2, IEC 60068-2-52, UL 8750, GR-1217-CORE

Specific technical data

Type	Article number	Photometric code	Useful luminous flux at tp = 25 °C[4]	Expected luminous flux at tp rated[5]	Typ. forward current	Min. forward voltage at tp rated	Max. forward voltage at tp = 25 °C	Power consumption Pon at tp = 25 °C[6]	Efficacy of the module at tp = 25 °C	Expected efficacy of the module at tp rated	Colour rendering index CRI
RLE 2x4 2000lm EXC2 OTD – Operating mode HE											
RLE 2x4 2000lm 827 HP EXC2 OTD	**89603156**	827/579	–	1,660 lm	500 mA	21.2 V	23.7 V	–	–	150 lm/W	>80
RLE 2x4 2000lm 830 HP EXC2 OTD	**89603157**	830/579	–	1,720 lm	500 mA	21.2 V	23.7 V	–	–	155 lm/W	>80
RLE 2x4 2000lm 840 HP EXC2 OTD	**89603158**	840/579	–	1,850 lm	500 mA	21.2 V	23.7 V	–	–	167 lm/W	>80
RLE 2x4 2000lm 850 HP EXC2 OTD	**89603160**	850/579	–	1,870 lm	500 mA	21.2 V	23.7 V	–	–	169 lm/W	>80
RLE 2x4 2000lm 722 HP EXC2 OTD	**28003706**	722/579	–	1,301 lm	400 mA	20.8 V	23.4 V	–	–	149 lm/W	>70
RLE 2x4 2000lm 727 HP EXC2 OTD	**28005825**	727/579	–	1,520 lm	400 mA	21.1 V	23.3 V	–	–	174 lm/W	>70
RLE 2x4 2000lm 730 HP EXC2 OTD	**89603432**	730/579	–	1,580 lm	400 mA	20.8 V	23.4 V	–	–	180 lm/W	>70
RLE 2x4 2000lm 740 HP EXC2 OTD	**89603433**	740/579	–	1,680 lm	400 mA	20.8 V	23.4 V	–	–	192 lm/W	>70
RLE 2x4 2000lm 765 HP EXC2 OTD	**28003707**	765/579	–	1,660 lm	400 mA	20.8 V	23.4 V	–	–	189 lm/W	>70
RLE 2x4 2000lm EXC2 OTD – Operating mode NM											
RLE 2x4 2000lm 827 HP EXC2 OTD	**89603156**	827/579	2,260 lm	2,140 lm	650 mA	21.5 V	24.0 V	15.0 W	151 lm/W	147 lm/W	>80
RLE 2x4 2000lm 830 HP EXC2 OTD	**89603157**	830/579	2,350 lm	2,220 lm	650 mA	21.5 V	24.0 V	15.0 W	157 lm/W	152 lm/W	>80
RLE 2x4 2000lm 840 HP EXC2 OTD	**89603158**	840/579	2,530 lm	2,390 lm	650 mA	21.5 V	24.0 V	15.0 W	169 lm/W	164 lm/W	>80
RLE 2x4 2000lm 850 HP EXC2 OTD	**89603160**	850/579	2,560 lm	2,420 lm	650 mA	21.5 V	24.0 V	15.0 W	171 lm/W	166 lm/W	>80
RLE 2x4 2000lm 722 HP EXC2 OTD	**28003706**	722/579	1,802 lm	1,742 lm	550 mA	21.2 V	23.9 V	12.6 W	143 lm/W	142 lm/W	>70
RLE 2x4 2000lm 727 HP EXC2 OTD	**28005825**	727/579	1,970 lm	2,030 lm	550 mA	21.5 V	23.7 V	12.6 W	156 lm/W	166 lm/W	>70
RLE 2x4 2000lm 730 HP EXC2 OTD	**89603432**	730/579	2,190 lm	2,110 lm	550 mA	21.2 V	23.9 V	12.6 W	174 lm/W	172 lm/W	>70
RLE 2x4 2000lm 740 HP EXC2 OTD	**89603433**	740/579	2,330 lm	2,240 lm	550 mA	21.2 V	23.9 V	12.6 W	185 lm/W	183 lm/W	>70
RLE 2x4 2000lm 765 HP EXC2 OTD	**28003707**	765/579	2,300 lm	2,210 lm	550 mA	21.2 V	23.9 V	12.6 W	183 lm/W	181 lm/W	>70
RLE 2x4 2000lm EXC2 OTD – Operating mode HO											
RLE 2x4 2000lm 827 HP EXC2 OTD	**89603156**	827/579	–	3,200 lm	1,050 mA	22.3 V	24.7 V	–	–	132 lm/W	>80
RLE 2x4 2000lm 830 HP EXC2 OTD	**89603157**	830/579	–	3,330 lm	1,050 mA	22.3 V	24.7 V	–	–	155 lm/W	>80
RLE 2x4 2000lm 840 HP EXC2 OTD	**89603158**	840/579	–	3,580 lm	1,050 mA	22.3 V	24.7 V	–	–	148 lm/W	>80
RLE 2x4 2000lm 850 HP EXC2 OTD	**89603160**	850/579	–	3,630 lm	1,050 mA	22.3 V	24.7 V	–	–	150 lm/W	>80
RLE 2x4 2000lm 722 HP EXC2 OTD	**28003706**	722/579	–	3,103 lm	1,050 mA	22.3 V	24.7 V	–	–	128 lm/W	>70
RLE 2x4 2000lm 727 HP EXC2 OTD	**28005825**	727/579	–	3,630 lm	1,050 mA	22.3 V	24.5 V	–	–	150 lm/W	>70
RLE 2x4 2000lm 730 HP EXC2 OTD	**89603432**	730/579	–	3,760 lm	1,050 mA	22.3 V	24.7 V	–	–	155 lm/W	>70
RLE 2x4 2000lm 740 HP EXC2 OTD	**89603433**	740/579	–	4,000 lm	1,050 mA	22.3 V	24.7 V	–	–	165 lm/W	>70
RLE 2x4 2000lm 765 HP EXC2 OTD	**28003707**	765/579	–	3,950 lm	1,050 mA	22.3 V	24.7 V	–	–	163 lm/W	>70
RLE 2x6 3000lm EXC2 OTD – Operating mode HE											
RLE 2x6 3000lm 722 HP EXC2 OTD	**28005601**	722/579	–	2,130 lm	400 mA	31.7 V	35.0 V	–	–	162 lm/W	>70
RLE 2x6 3000lm 727 HP EXC2 OTD	**28005602**	727/579	–	2,280 lm	400 mA	31.7 V	35.0 V	–	–	173 lm/W	>70
RLE 2x6 3000lm 730 HP EXC2 OTD	**28005603**	730/579	–	2,570 lm	400 mA	31.7 V	35.0 V	–	–	195 lm/W	>70
RLE 2x6 3000lm 740 HP EXC2 OTD	**28005604**	740/579	–	2,710 lm	400 mA	31.7 V	35.0 V	–	–	206 lm/W	>70
RLE 2x6 3000lm EXC2 OTD – Operating mode NM											
RLE 2x6 3000lm 722 HP EXC2 OTD	**28005601**	722/579	2,840 lm	2,850 lm	550 mA	32.2 V	35.5 V	18.9 W	150 lm/W	155 lm/W	>70
RLE 2x6 3000lm 727 HP EXC2 OTD	**28005602**	727/579	2,940 lm	3,040 lm	550 mA	32.2 V	35.5 V	18.9 W	156 lm/W	166 lm/W	>70
RLE 2x6 3000lm 730 HP EXC2 OTD	**28005603**	730/579	3,390 lm	3,420 lm	550 mA	32.2 V	35.5 V	18.9 W	179 lm/W	187 lm/W	>70
RLE 2x6 3000lm 740 HP EXC2 OTD	**28005604**	740/579	3,490 lm	3,620 lm	550 mA	32.2 V	35.5 V	18.9 W	185 lm/W	197 lm/W	>70
RLE 2x6 3000lm EXC2 OTD – Operating mode HO											
RLE 2x6 3000lm 722 HP EXC2 OTD	**28005601**	722/579	–	5,080 lm	1,050 mA	33.5 V	36.8 V	–	–	140 lm/W	>70
RLE 2x6 3000lm 727 HP EXC2 OTD	**28005602**	727/579	–	5,420 lm	1,050 mA	33.5 V	36.8 V	–	–	149 lm/W	>70
RLE 2x6 3000lm 730 HP EXC2 OTD	**28005603**	730/579	–	6,110 lm	1,050 mA	33.5 V	36.8 V	–	–	168 lm/W	>70
RLE 2x6 3000lm 740 HP EXC2 OTD	**28005604**	740/579	–	6,450 lm	1,050 mA	33.5 V	36.8 V	–	–	178 lm/W	>70
RLE 2x8 4000lm EXC2 OTD – Operating mode HE											
RLE 2x8 4000lm 827 HP EXC2 OTD	**89603161**	827/579	–	3,310 lm	500 mA	42.5 V	47.4 V	–	–	150 lm/W	>80
RLE 2x8 4000lm 830 HP EXC2 OTD	**89603162**	830/579	–	3,440 lm	500 mA	42.5 V	47.4 V	–	–	155 lm/W	>80
RLE 2x8 4000lm 840 HP EXC2 OTD	**89603163**	840/579	–	3,700 lm	500 mA	42.5 V	47.4 V	–	–	167 lm/W	>80
RLE 2x8 4000lm 850 HP EXC2 OTD	**89603164**	850/579	–	3,750 lm	500 mA	42.5 V	47.4 V	–	–	169 lm/W	>80
RLE 2x8 4000lm 722 HP EXC2 OTD	**28003708**	722/579	–	2,596 lm	400 mA	42.0 V	46.9 V	–	–	148 lm/W	>70
RLE 2x8 4000lm 727 HP EXC2 OTD	**28005826**	727/579	–	3,040 lm	400 mA	42.2 V	46.6 V	–	–	174 lm/W	>70
RLE 2x8 4000lm 730 HP EXC2 OTD	**89603434**	730/579	–	3,160 lm	400 mA	42.0 V	46.9 V	–	–	180 lm/W	>70
RLE 2x8 4000lm 740 HP EXC2 OTD	**89603165**	740/579	–	3,360 lm	400 mA	42.0 V	46.9 V	–	–	189 lm/W	>70
RLE 2x8 4000lm 757 HP EXC2 OTD	**89603435**	757/579	–	3,390 lm	400 mA	42.0 V	46.9 V	–	–	193 lm/W	>70
RLE 2x8 4000lm 765 HP EXC2 OTD	**89603166**	765/579	–	3,310 lm	400 mA	42.0 V	46.9 V	–	–	189 lm/W	>70
RLE 2x8 4000lm EXC2 OTD – Operating mode NM											
RLE 2x8 4000lm 827 HP EXC2 OTD	**89603161**	827/579	4,530 lm	4,270 lm	650 mA	43.1 V	48.0 V	30.0 W	151 lm/W	147 lm/W	>80
RLE 2x8 4000lm 830 HP EXC2 OTD	**89603162**	830/579	4,710 lm	4,440 lm	650 mA	43.1 V	48.0 V	30.0 W	157 lm/W	152 lm/W	>80
RLE 2x8 4000lm 840 HP EXC2 OTD	**89603163**	840/579	5,070 lm	4,780 lm	650 mA	43.1 V	48.0 V	30.0 W	169 lm/W	164 lm/W	>80
RLE 2x8 4000lm 850 HP EXC2 OTD	**89603164**	850/579	5,130 lm	4,840 lm	650 mA	43.1 V	48.0 V	30.0 W	171 lm/W	166 lm/W	>80
RLE 2x8 4000lm 722 HP EXC2 OTD	**28003708**	722/579	3,605 lm	3,465 lm	550 mA	42.7 V	47.6 V	25.1 W	144 lm/W	142 lm/W	>70
RLE 2x8 4000lm 727 HP EXC2 OTD	**28005826**	727/579	3,930 lm	4,060 lm	550 mA	42.9 V	47.3 V	25.1 W	157 lm/W	166 lm/W	>70
RLE 2x8 4000lm 730 HP EXC2 OTD	**89603434**	730/579	4,380 lm	4,220 lm	550 mA	42.7 V	47.6 V	25.1 W	174 lm/W	172 lm/W	>70
RLE 2x8 4000lm 740 HP EXC2 OTD	**89603165**	740/579	4,660 lm	4,490 lm	550 mA	42.7 V	47.6 V	25.1 W	185 lm/W	184 lm/W	>70
RLE 2x8 4000lm 757 HP EXC2 OTD	**89603435**	757/579	4,700 lm	4,530 lm	550 mA	42.7 V	47.6 V	25.1 W	187 lm/W	185 lm/W	>70
RLE 2x8 4000lm 765 HP EXC2 OTD	**89603166**	765/579	4,590 lm	4,420 lm	550 mA	42.7 V	47.6 V	25.1 W	183 lm/W	181 lm/W	>70
RLE 2x8 4000lm EXC2 OTD – Operating mode HO											

Type	Article number	Photometric code	Useful luminous flux at tp = 25 °C④	Expected luminous flux at tp rated⑤	Typ. forward current	Min. forward voltage at tp rated	Max. forward voltage at tp = 25 °C	Power consumption Pon at tp = 25 °C⑥	Efficacy of the module at tp = 25 °C	Expected efficacy of the module at tp rated	Colour rendering index CRI
RLE 2x8 4000lm 827 HP EXC2 OTD	**89603161**	827/579	–	6,410 lm	1,050 mA	44.4 V	49.4 V	–	–	132 lm/W	>80
RLE 2x8 4000lm 830 HP EXC2 OTD	**89603162**	830/579	–	6,660 lm	1,050 mA	44.4 V	49.4 V	–	–	137 lm/W	>80
RLE 2x8 4000lm 840 HP EXC2 OTD	**89603163**	840/579	–	7,170 lm	1,050 mA	44.4 V	49.4 V	–	–	148 lm/W	>80
RLE 2x8 4000lm 850 HP EXC2 OTD	**89603164**	850/579	–	7,260 lm	1,050 mA	44.4 V	49.4 V	–	–	150 lm/W	>80
RLE 2x8 4000lm 722 HP EXC2 OTD	**28003708**	722/579	–	6,191 lm	1,050 mA	44.4 V	49.4 V	–	–	128 lm/W	>70
RLE 2x8 4000lm 727 HP EXC2 OTD	**28005826**	727/579	–	7,250 lm	1,050 mA	44.6 V	49.1 V	–	–	150 lm/W	>70
RLE 2x8 4000lm 730 HP EXC2 OTD	**89603434**	730/579	–	7,530 lm	1,050 mA	44.4 V	49.4 V	–	–	155 lm/W	>70
RLE 2x8 4000lm 740 HP EXC2 OTD	**89603165**	740/579	–	8,010 lm	1,050 mA	44.4 V	49.4 V	–	–	165 lm/W	>70
RLE 2x8 4000lm 757 HP EXC2 OTD	**89603435**	757/579	–	8,080 lm	1,050 mA	44.4 V	49.4 V	–	–	167 lm/W	>70
RLE 2x8 4000lm 765 HP EXC2 OTD	**89603166**	765/579	–	7,890 lm	1,050 mA	44.4 V	49.4 V	–	–	163 lm/W	>70

② If mounted with M3 screws.
③ Measured at Imax.
④ Tolerance of useful light flux - 0 % / + 15 %. Measurement uncertainty ± 10 %.
⑤ Tolerance of expected light flux - 0 % / + 15 %. Measurement uncertainty ± 10 %. Based on calculation.
⑥ Tolerance of power consumption Pon ± 10 %. Measurement uncertainty ± 5 %.

1. Standards

EC 62031
IEC 62778
IEC 62471
IEC 61000-4-2
IEC 60068-2-52
UL 8750 (for dry and damp locations)
GR-1217-CORE

1.1 Photometric code

Key for photometric code, e. g. 830 / 579

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 Energy classification

Type	Colour temperature	Forward current	Energy classification	Energy consumption
RLE 2x4 2000lm				
RLE 2x4 2000lm 827 HP EXC2 OTD	2,700 K	650 mA	D	15 kWh / 1,000 h
RLE 2x4 2000lm 830 HP EXC2 OTD	3,000 K	650 mA	D	15 kWh / 1,000 h
RLE 2x4 2000lm 840 HP EXC2 OTD	4,000 K	650 mA	D	15 kWh / 1,000 h
RLE 2x4 2000lm 850 HP EXC2 OTD	5,000 K	650 mA	D	15 kWh / 1,000 h
RLE 2x4 2000lm 722 HP EXC2 OTD	2,200 K	550 mA	E	13 kWh / 1,000 h
RLE 2x4 2000lm 727 HP EXC2 OTD	2,700 K	550 mA	D	13 kWh / 1,000 h
RLE 2x4 2000lm 730 HP EXC2 OTD	3,300 K	550 mA	C	13 kWh / 1,000 h
RLE 2x4 2000lm 740 HP EXC2 OTD	4,000 K	550 mA	C	13 kWh / 1,000 h
RLE 2x4 2000lm 765 HP EXC2 OTD	6,500 K	550 mA	C	13 kWh / 1,000 h
RLE 2x6 3000lm				
RLE 2x6 3000lm 722 HP EXC2 OTD	2.200 K	550 mA	D	19 kWh / 1,000 h
RLE 2x6 3000lm 727 HP EXC2 OTD	2.700 K	550 mA	D	19 kWh / 1,000 h
RLE 2x6 3000lm 730 HP EXC2 OTD	3.000 K	550 mA	C	19 kWh / 1,000 h
RLE 2x6 3000lm 740 HP EXC2 OTD	4.000 K	550 mA	C	19 kWh / 1,000 h
RLE 2x8 4000lm				
RLE 2x8 4000lm 827 HP EXC2 OTD	2,700 K	650 mA	D	30 kWh / 1,000 h
RLE 2x8 4000lm 830 HP EXC2 OTD	3,000 K	650 mA	D	30 kWh / 1,000 h
RLE 2x8 4000lm 840 HP EXC2 OTD	4,000 K	650 mA	D	30 kWh / 1,000 h
RLE 2x8 4000lm 850 HP EXC2 OTD	5,000 K	650 mA	D	30 kWh / 1,000 h
RLE 2x8 4000lm 722 HP EXC2 OTD	2,200 K	550 mA	E	26 kWh / 1,000 h
RLE 2x8 4000lm 727 HP EXC2 OTD	2,700 K	550 mA	D	26 kWh / 1,000 h
RLE 2x8 4000lm 730 HP EXC2 OTD	3,300 K	550 mA	C	26 kWh / 1,000 h
RLE 2x8 4000lm 740 HP EXC2 OTD	4,000 K	550 mA	C	26 kWh / 1,000 h
RLE 2x8 4000lm 757 HP EXC2 OTD	5,700 K	550 mA	C	26 kWh / 1,000 h
RLE 2x8 4000lm 765 HP EXC2 OTD	6,500 K	550 mA	C	26 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 RLE a tp temperature of 75 °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	-40 … +80 °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 RLE will be greatly reduced or the RLE may be destroyed.

2.4 Heat sink values

RLE 2x4 2000lm EXC2 OTD

ta	tp	Forward current	$R_{th, hs-a}$	Cooling area
25 °C	75 °C	500 mA	8.50 K/W	78 cm²
25 °C	75 °C	650 mA	6.34 K/W	105 cm²
25 °C	75 °C	1,050 mA	3.73 K/W	179 cm²
35 °C	75 °C	500 mA	6.80 K/W	98 cm²
35 °C	75 °C	650 mA	5.07 K/W	132 cm²
35 °C	75 °C	1,050 mA	2.98 K/W	224 cm²
40 °C	75 °C	500 mA	5.95 K/W	112 cm²
40 °C	75 °C	650 mA	4.43 K/W	150 cm²
40 °C	75 °C	1,050 mA	2.61 K/W	256 cm²
45 °C	75 °C	500 mA	5.10 K/W	131 cm²
45 °C	75 °C	650 mA	3.80 K/W	176 cm²
45 °C	75 °C	1,050 mA	2.24 K/W	298 cm²
50 °C	75 °C	500 mA	4.25 K/W	157 cm²
50 °C	75 °C	650 mA	3.16 K/W	211 cm²
50 °C	75 °C	1,050 mA	1.86 K/W	358 cm²
55 °C	75 °C	500 mA	3.39 K/W	196 cm²
55 °C	75 °C	650 mA	2.53 K/W	264 cm²
55 °C	75 °C	1,050 mA	1.49 K/W	448 cm²
60 °C	75 °C	500 mA	2.54 K/W	262 cm²
60 °C	75 °C	650 mA	1.89 K/W	352 cm²
60 °C	75 °C	1,050 mA	1.11 K/W	598 cm²

RLE 2x6 3000lm EXC2 OTD

ta	tp	Forward current	$R_{th, hs-a}$	Cooling area
25 °C	75 °C	400 mA	6.88 K/W	97 cm²
25 °C	75 °C	550 mA	4.55 K/W	147 cm²
25 °C	75 °C	1,050 mA	2.34 K/W	285 cm²
35 °C	75 °C	400 mA	5.50 K/W	121 cm²
35 °C	75 °C	550 mA	3.64 K/W	183 cm²
35 °C	75 °C	1,050 mA	1.87 K/W	356 cm²
40 °C	75 °C	400 mA	4.81 K/W	139 cm²
40 °C	75 °C	550 mA	3.18 K/W	209 cm²
40 °C	75 °C	1,050 mA	1.64 K/W	408 cm²
45 °C	75 °C	400 mA	4.12 K/W	162 cm²
45 °C	75 °C	550 mA	2.73 K/W	244 cm²
45 °C	75 °C	1,050 mA	1.40 K/W	476 cm²
50 °C	75 °C	400 mA	3.43 K/W	194 cm²
50 °C	75 °C	550 mA	2.27 K/W	294 cm²
50 °C	75 °C	1,050 mA	1.17 K/W	572 cm²
55 °C	75 °C	400 mA	2.75 K/W	243 cm²
55 °C	75 °C	550 mA	1.82 K/W	367 cm²
55 °C	75 °C	1,050 mA	0.93 K/W	716 cm²
60 °C	75 °C	400 mA	2.06 K/W	324 cm²
60 °C	75 °C	550 mA	1.36 K/W	490 cm²
60 °C	75 °C	1,050 mA	0.70 K/W	957 cm²

RLE 2x8 4000lm EXC2 OTD

ta	tp	Forward current	$R_{th, hs-a}$	Cooling area
25 °C	75 °C	500 mA	5.28 K/W	126 cm²
25 °C	75 °C	650 mA	3.17 K/W	210 cm²
25 °C	75 °C	1,050 mA	2.27 K/W	293 cm²
35 °C	75 °C	500 mA	4.22 K/W	158 cm²
35 °C	75 °C	650 mA	2.54 K/W	263 cm²
35 °C	75 °C	1,050 mA	1.82 K/W	367 cm²
40 °C	75 °C	500 mA	3.69 K/W	181 cm²
40 °C	75 °C	650 mA	2.22 K/W	300 cm²
40 °C	75 °C	1,050 mA	1.59 K/W	419 cm²
45 °C	75 °C	500 mA	3.16 K/W	211 cm²
45 °C	75 °C	650 mA	1.90 K/W	351 cm²
45 °C	75 °C	1,050 mA	1.36 K/W	489 cm²
50 °C	75 °C	500 mA	2.64 K/W	253 cm²
50 °C	75 °C	650 mA	1.58 K/W	421 cm²
50 °C	75 °C	1,050 mA	1.14 K/W	587 cm²
55 °C	75 °C	500 mA	2.11 K/W	316 cm²
55 °C	75 °C	650 mA	1.27 K/W	526 cm²
55 °C	75 °C	1,050 mA	0.91 K/W	735 cm²
60 °C	75 °C	500 mA	1.58 K/W	422 cm²
60 °C	75 °C	650 mA	0.95 K/W	703 cm²
60 °C	75 °C	1,050 mA	0.68 K/W	981 cm²

Notes

The actual cooling surface can differ because of the material, the structural shape, outside influences and the installation situation. Depending on the heat sink a heat conducting paste or heat conducting film might be necessary to keep the specified tp temperature.

3. Installation / wiring

3.1 Electrical supply/choice of LED driver

RLE 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 RLE 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:
- Short-circuit protection
- Overload protection
- Overtemperature protection

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

If RLE modules are wired in parallel and a wire breaks or a complete module fails then the current passing through the other module increases. This may reduce its life considerably. In addition there can be slight differences in light output caused by tolerances.

The max. permissible output current of the LED driver for parallel wiring is 1.8 A.

RLE modules can be operated either from SELV LED drivers or from LED drivers with LV output voltage.

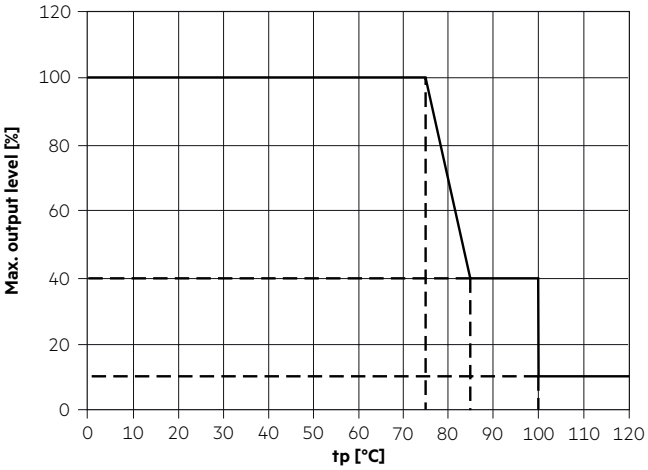
RLE modules are basic insulated up to 370 V if mounted with M3 screws or 670 V if mounted with M3 screws and lens (e.g. LEDiL Strada 2x2) against ground and can be mounted directly on earthed metal parts of the luminaire. If the max. output voltage of the LED driver (also against earth) is above 370 V / 670 V, an additional insulation between LED module and heat sink is required (for example by insulated thermal pads) or by a suitable luminaire construction. At voltages > 60 V an additional protection against direct touch (test finger) to the light emitting side of the module has to be guaranteed. This is typically achieved by means of a non removable light distributor over the module.

3.2 Integrated protection

The basic protection level consists of protection against reverse polarity and an NTC for overtemperature protection of the module.

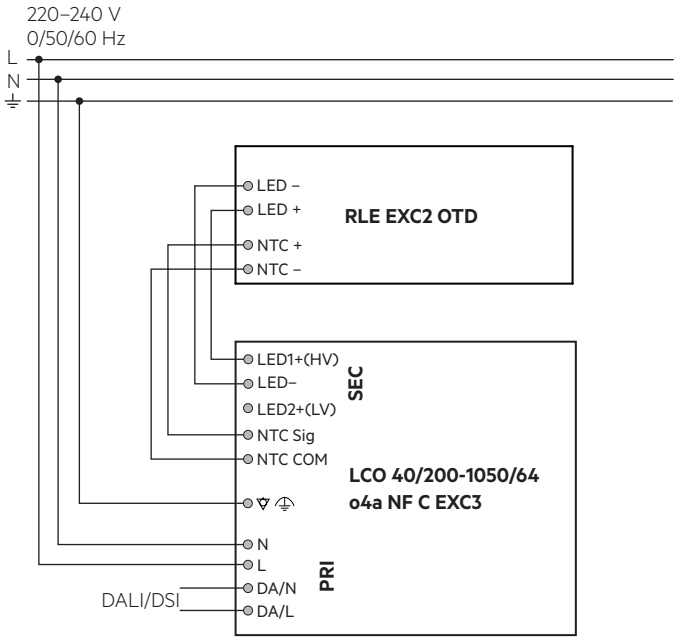
The NTC is designed to work with the LCO EXC3 drivers supporting NTC functionality (for more details see LED driver data sheet).

NTC type: 100kΩ / 4100K



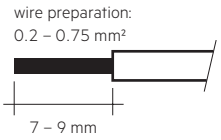
3.3 Wiring

3.4 Wiring examples



3.5 Wiring type and cross section

For wiring use stranded wire with ferrules or solid wire from 0.2 to 0.75 mm².
For the push-wire connection you have to strip the insulation (7–9 mm).



Inserting stranded wires / removing wires by lightly pressing on the push button.

3.6 Mounting instruction

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

Max. torque for fixing: 0.5 Nm.

The LED modules are mounted onto a heat sink with M3 screws per module.

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.

3.7 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.

Operation below 200 mA may reduce lumen maintenance.

4.2 Lumen maintenance

Typ. forward current	tp temperature	L90 / B10	L90 / B50	L80 / B10	L80 / B50	L70 / B10	L70 / B50
500 mA	45 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	50 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	55 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	60 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	65 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	70 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	75 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	80 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	85 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	90 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	95 °C	136,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	100 °C	123,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	105 °C	110,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
700 mA	45 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	50 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	55 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	60 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	65 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	70 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	75 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	80 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	85 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	90 °C	136,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	95 °C	123,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	100 °C	109,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	105 °C	96,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
1,050 mA	45 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	50 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	55 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	60 °C	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	65 °C	148,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	70 °C	145,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	75 °C	143,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	80 °C	140,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	85 °C	138,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	90 °C	136,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h	>150,000 h
	95 °C	114,000 h	145,000 h	142,000 h	>150,000 h	>150,000 h	>150,000 h
	100 °C	93,000 h	140,000 h	133,000 h	>150,000 h	>150,000 h	>150,000 h
	105 °C	72,000 h	135,000 h	125,000 h	>150,000 h	>150,000 h	>150,000 h

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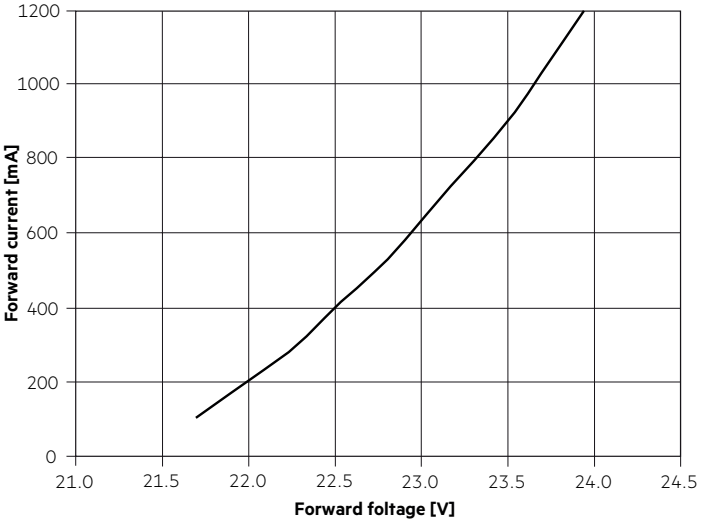
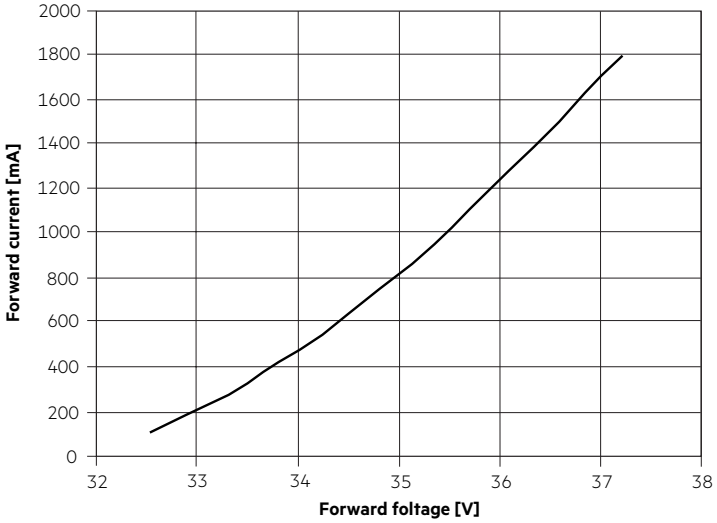
5. Electrical values

5.1 Typ. forward voltage vs. forward current

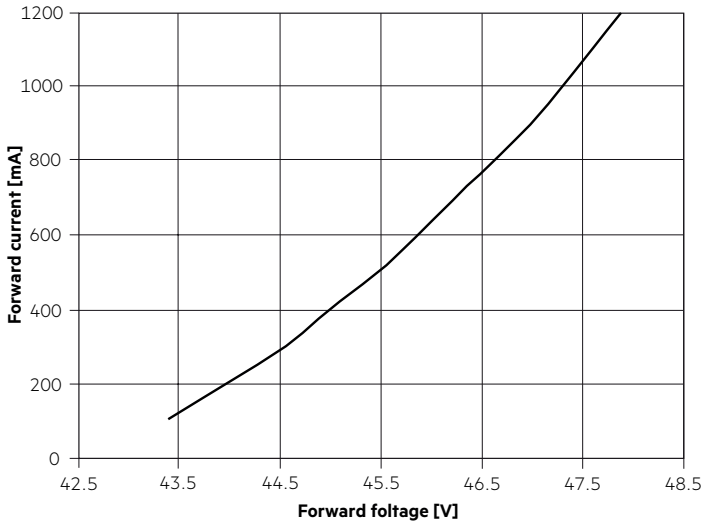
RLE 2x4 2000lm xxx HP EXC2 OTD



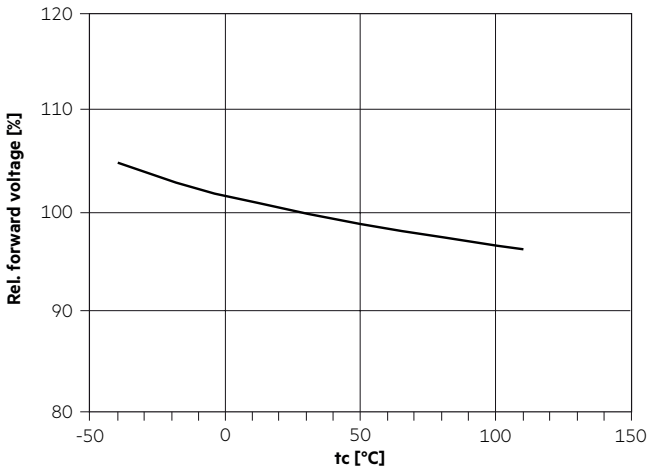
RLE 2x6 3000lm xxx HP EXC2 OTD



RLE 2x8 4000lm xxx HP EXC2 OTD



5.2 Forward voltage vs. tc temperature



The diagrams are based on statistic values.
The real values can be different.

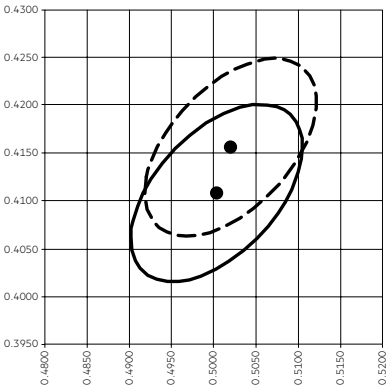
6. Photometric characteristics

6.1 Coordinates and tolerances according to CIE 1931

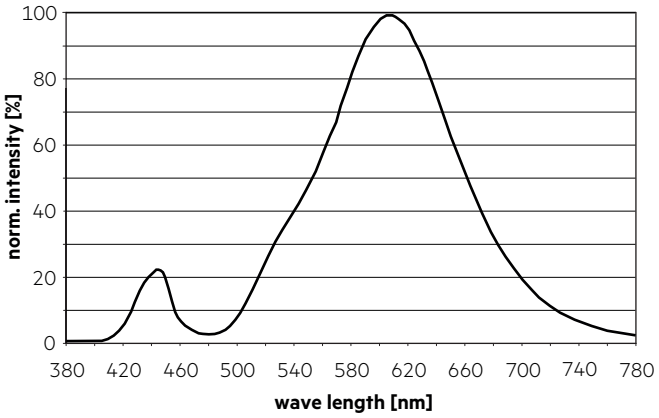
The specified colour coordinates are integral measured by current impulse of 700 mA and a duration of 100 ms.
The ambient temperature of the measurement is tp = 75 °C steady state.
The measurement tolerance of the colour coordinates are ± 0.01.

2,200 K, CRI 70

	x0	y0
Centre	0.5004	0.4108

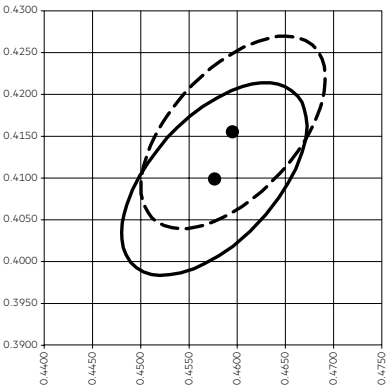


MacAdam Ellipse: 5SDCM (tp = 75 °C)
MacAdam Ellipse: 5SDCM (ta = 25 °C)

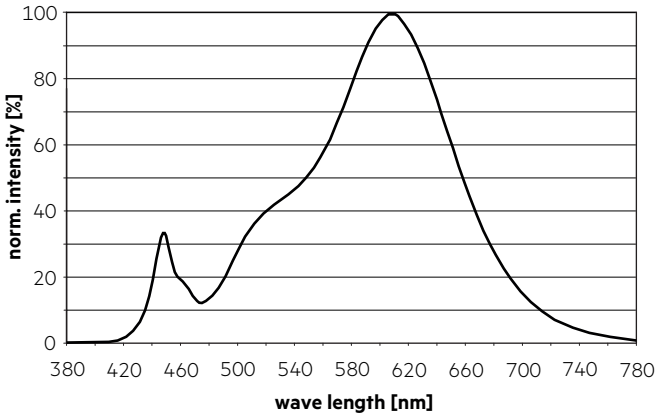


2,700 K, CRI 80

	x0	y0
Centre	0.4577	0.4098

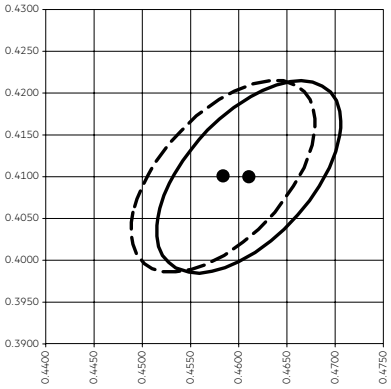


MacAdam Ellipse: 5SDCM (tp = 75 °C)
MacAdam Ellipse: 5SDCM (ta = 25 °C)



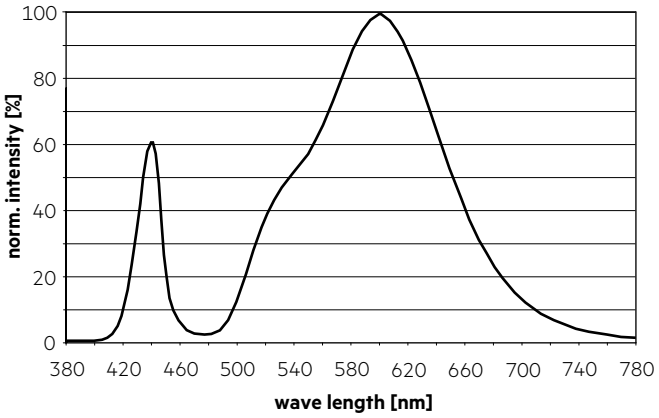
2,700 K, CRI 70

	x0	y0
Centre	0.4611	0.4100



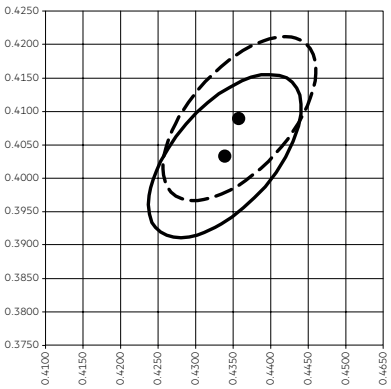
MacAdam Ellipse: 5SDCM (tp = 75 °C)

MacAdam Ellipse: 5SDCM (ta = 25 °C)



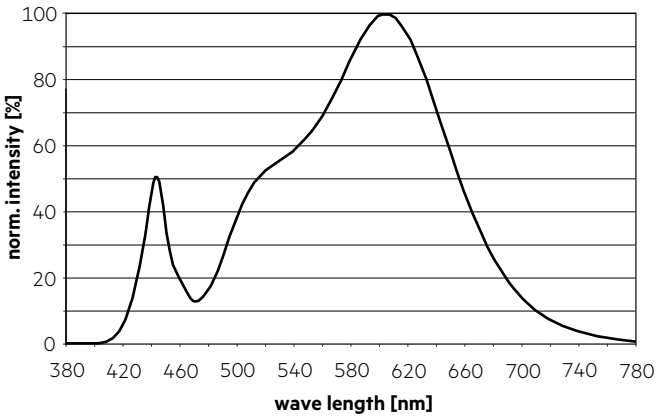
3,000 K, CRI 80

	x0	y0
Centre	0.4339	0.4032



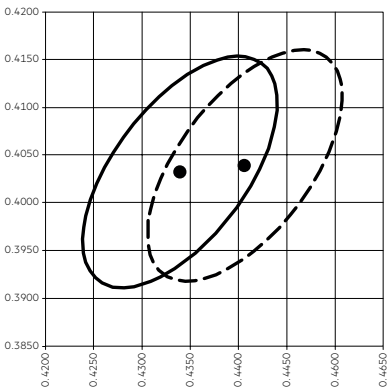
MacAdam Ellipse: 5SDCM (tp = 75 °C)

MacAdam Ellipse: 5SDCM (ta = 25 °C)



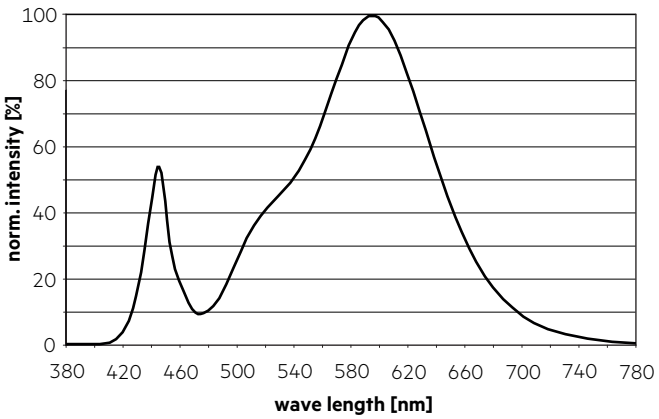
3,000 K, CRI 70

	x0	y0
Centre	0.4339	0.4032



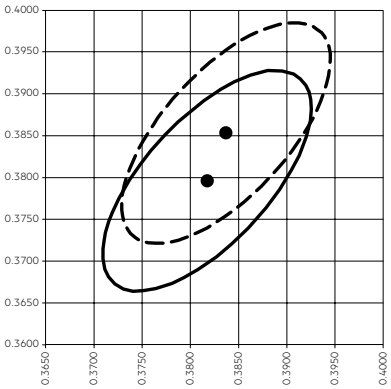
MacAdam Ellipse: 5SDCM (tp = 75 °C)

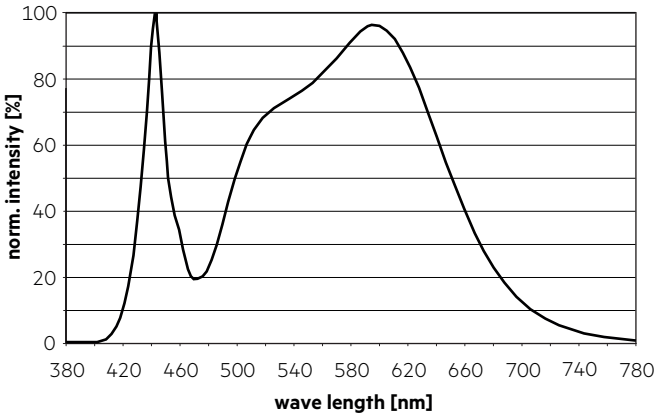
MacAdam Ellipse: 5SDCM (ta = 25 °C)



4,000 K, CRI 80

	x0	y0
Centre	0.3818	0.3796



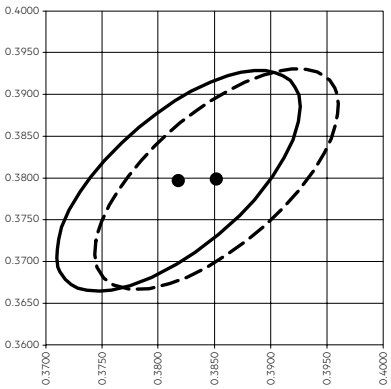


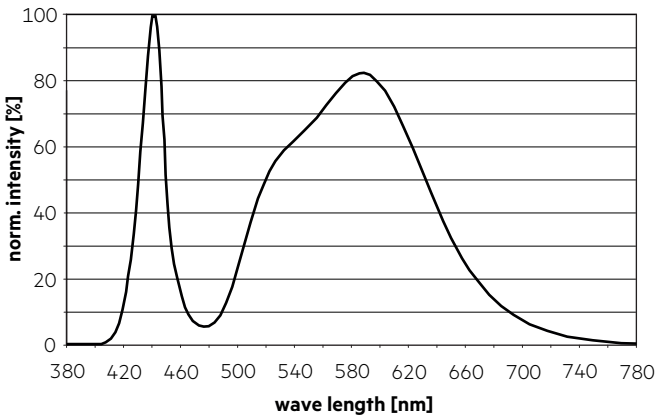
MacAdam Ellipse: 5SDCM (tp = 75 °C)

MacAdam Ellipse: 5SDCM (ta = 25 °C)

4,000 K, CRI 70

	x0	y0
Centre	0.3818	0.3796



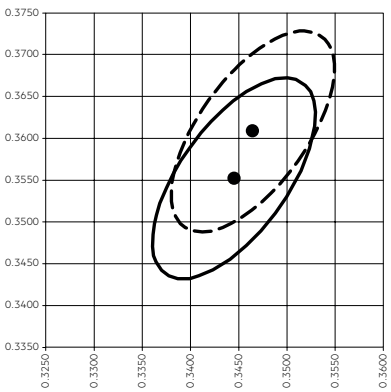


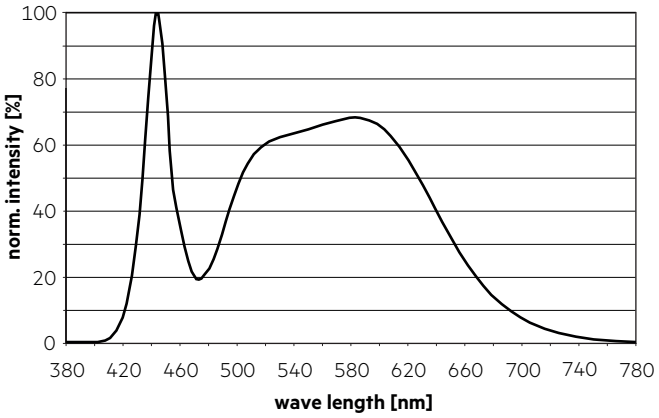
MacAdam Ellipse: 5SDCM (tp = 75 °C)

MacAdam Ellipse: 5SDCM (ta = 25 °C)

5,000 K, CRI 80

	x0	y0
Centre	0.3446	0.3551



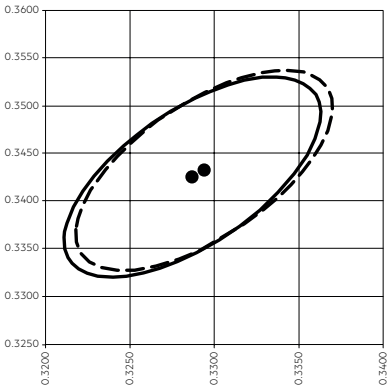


MacAdam Ellipse: 5SDCM (tp = 75 °C)

MacAdam Ellipse: 5SDCM (ta = 25 °C)

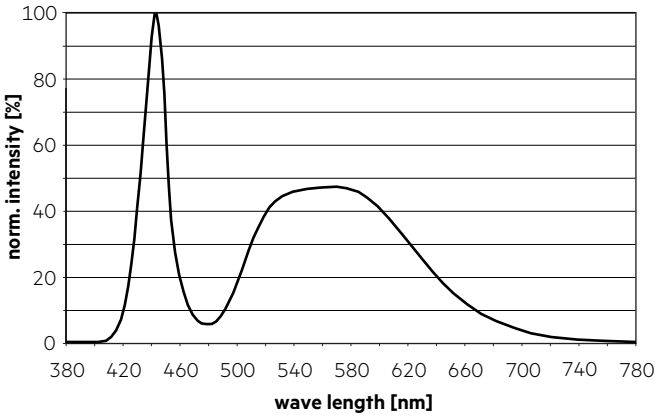
5,700 K, CRI 70

	x0	y0
Centre	0.3287	0.3425



MacAdam Ellipse: 5SDCM (tp = 75 °C)

MacAdam Ellipse: 5SDCM (ta = 25 °C)

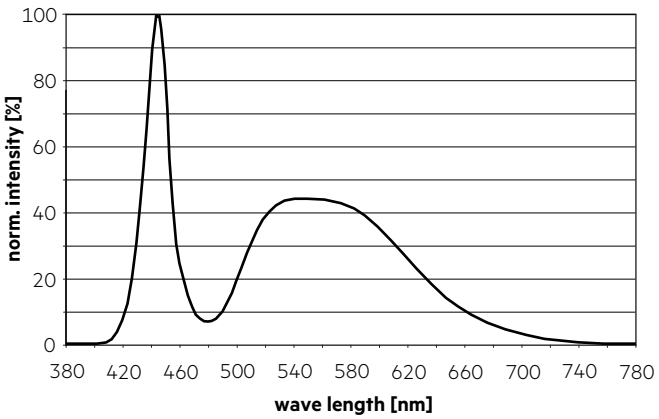


6,500 K, CRI 70

	x0	y0
Centre	0.3123	0.3282

MacAdam Ellipse: 5SDCM (tp = 75 °C)

MacAdam Ellipse: 5SDCM (ta = 25 °C)



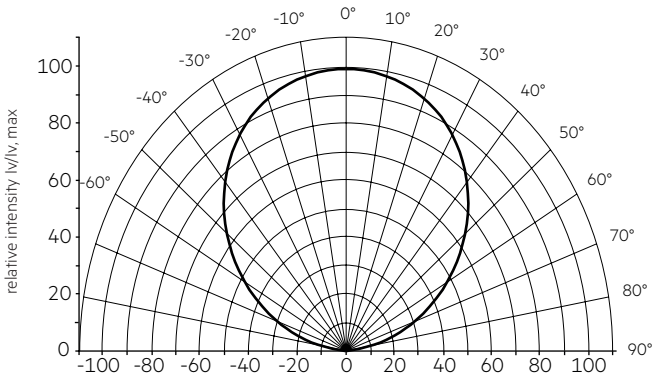
6.2 Spectral G-Index

CCT	CRI	G-Index
2,200 K	70	2,1
2,700 K	70	1,6
3,000 K	70	1,5
4,000 K	70	1,0
6,500 K	70	0,4
2,700 K	80	1,7
3,000 K	80	1,4
4,000 K	80	1,0
5,000 K	80	0,7

Based on typical spectral distribution measured at 25°C and Irated.

6.3 Light distribution

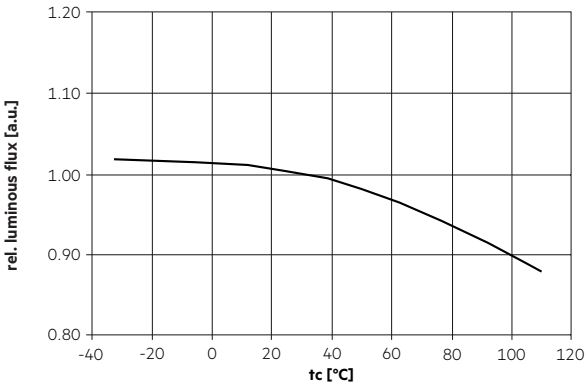
RLE G1 OTD modules are designed to be compatible with 50 x 50 mm lense arrays with 25.4 mm pitch distance. This allows multiple light distributions.



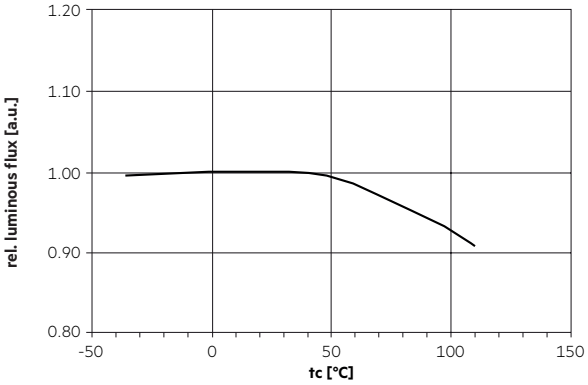
The colour temperature is measured integral over the complete module. The single LED light points can have deviations in the colour coordinates within MacAdam 4.

6.4 Relative luminous flux vs. tc temperature

CRI 80

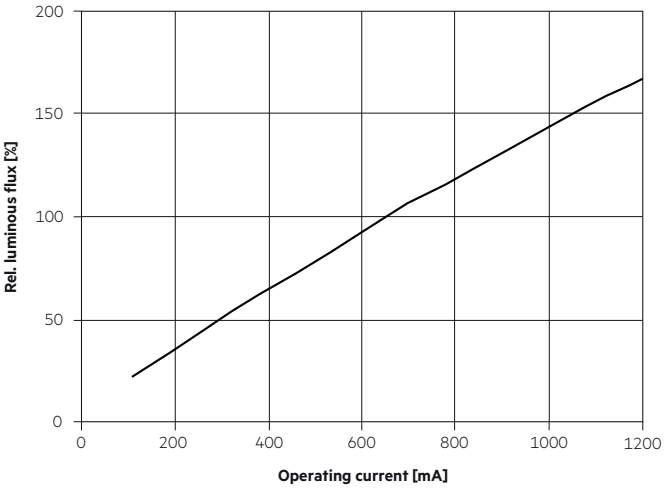


CRI 70

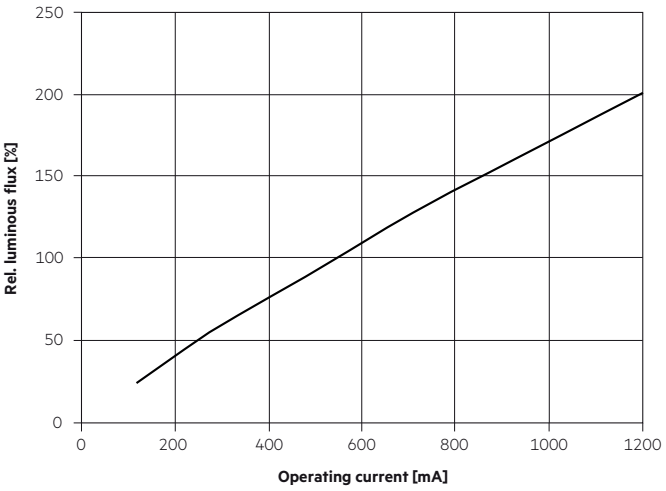


6.5 Relative luminous flux vs. operating current

CRI 80



CRI 70



The diagrams are based on statistic values.
The real values can be different.

7. Miscellaneous

7.1 Additional information

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

Guarantee conditions at www.tridonic.com → Services

Lifetime declarations are informative and represent no warranty claim.