



Module RLE G1 EXC OTD

Modules RLE EXCITE

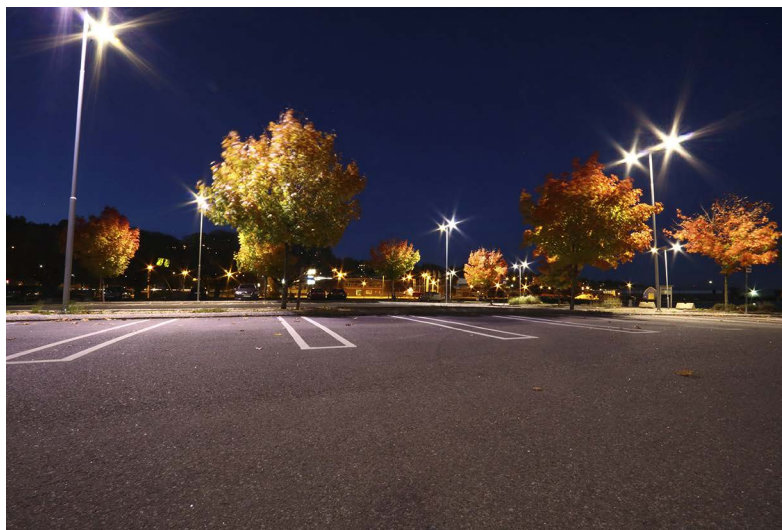
Product description

- High efficiency outdoor modules
- Suitable for harsh and humid outdoor conditions
- Tested acc. to salt spray test (IEC 60068-2-25) and harmful gas test (GR-1217-CORE)
- Huge performance temperature range from -40 ... +105 °C
- Suitable for standard lenses
- Efficacy of the module up to 154 lm/W at 700 mA (nominal operation)
- Two colour rendering index to fit the application:
CRI > 70 high efficiency, CRI > 80 for high colour rendering
- Small luminous flux tolerances^①
- Colour temperatures: CRI 70 available in 3,000, 4,000 and 5,000 K (5,700 and 6,500 K on request) and CRI 80 available in 3,000, 4,000 and 5,000 K
- Integrated protection:
PL0 ... NTC and polarity protection,
PL1 ... Shunts, NTC and polarity protection
- Surge tested (+/- to earth):
PL0 ... 3 kV,
PL1 ... 4 kV
- Push terminals for quick and simple wiring
- Simple installation (e.g. screws)
- Long life-time up to 100,000 hours
- 5-year guarantee



Standards, page 5

Colour temperatures and tolerances, page 8



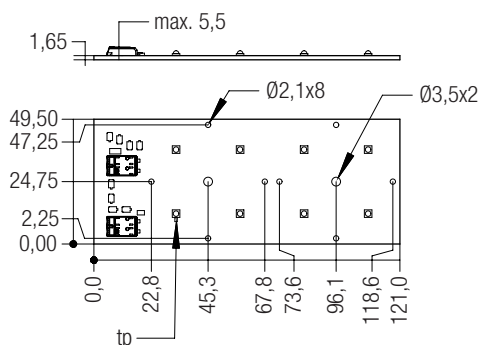


Module RLE G1 EXC OTD

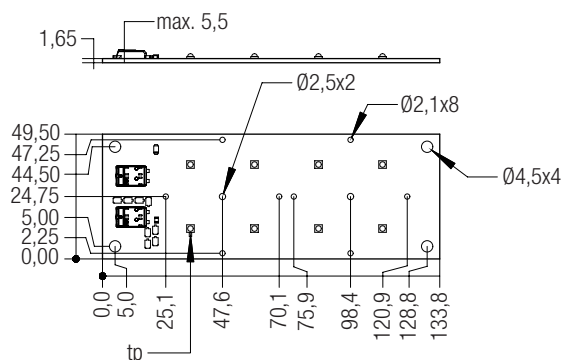
Modules RLE EXCITE

Technical data

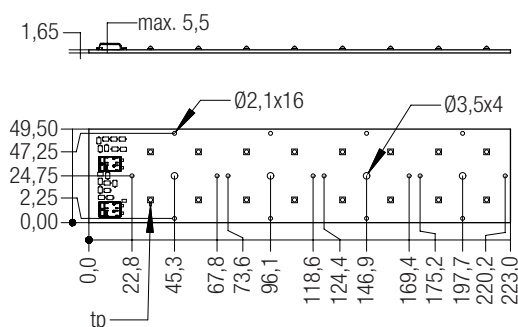
Beam characteristic	120°
Ambient temperature range	-40 ... +75 °C
tp rated	75 °C
tc	105 °C
Imax	1,200 mA
Max. DC forward current	1,400 mA
Max. permissible LF current ripple	1,800 mA
Max. permissible peak current	2,000 mA / max. 10 ms
Max. working voltage for insulation ²⁾	400 V
Insulation test voltage	1.8 kV
CTI of the printed circuit board	≥ 600
ESD classification	severity level 4
Risk group (IEC 62471:2008) ³⁾	RG2 (Ethr = 767 lx, RG1 at d ≥ 50 cm)
Classification acc. to IEC 62031	Built-in
Type of protection	IP00



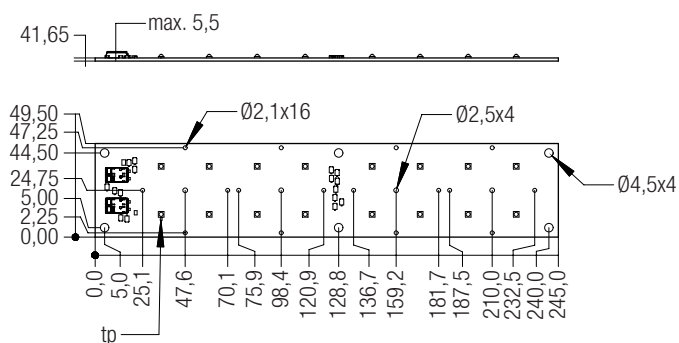
RLE G1 49x121mm 2000lm xxx EXC OTD



RLE G1 49x133mm 2000lm xxx EXC OTD



RLE G1 49x223mm 4000lm xxx EXC OTD



RLE G1 49x245mm 4000lm xxx EXC OTD

Module RLE G1 EXC OTD

Modules RLE EXCITE

Ordering data

Type	Article number®	Colour temperature	Packaging carton	Weight per pc.
RLE G1 49x121mm 2000lm 730 PLO EXC OTD	89602500	3,000 K	46 pc(s).	0.027 kg
RLE G1 49x121mm 2000lm 730 PL1 EXC OTD	89602501	3,000 K	46 pc(s).	0.027 kg
RLE G1 49x121mm 2000lm 740 PLO EXC OTD	89602502	4,000 K	46 pc(s).	0.027 kg
RLE G1 49x121mm 2000lm 740 PL1 EXC OTD	89602503	4,000 K	46 pc(s).	0.027 kg
RLE G1 49x121mm 2000lm 830 PLO EXC OTD	89602550	3,000 K	46 pc(s).	0.027 kg
RLE G1 49x121mm 2000lm 830 PL1 EXC OTD	89602551	3,000 K	46 pc(s).	0.027 kg
RLE G1 49x121mm 2000lm 840 PLO EXC OTD	89602552	4,000 K	46 pc(s).	0.027 kg
RLE G1 49x121mm 2000lm 840 PL1 EXC OTD	89602553	4,000 K	46 pc(s).	0.027 kg
RLE G1 49x133mm 2000lm 730 PLO EXC OTD	89602504	3,000 K	50 pc(s).	0.030 kg
RLE G1 49x133mm 2000lm 730 PL1 EXC OTD	89602505	3,000 K	50 pc(s).	0.030 kg
RLE G1 49x133mm 2000lm 740 PLO EXC OTD	89602506	4,000 K	50 pc(s).	0.030 kg
RLE G1 49x133mm 2000lm 740 PL1 EXC OTD	89602507	4,000 K	50 pc(s).	0.030 kg
RLE G1 49x133mm 2000lm 830 PLO EXC OTD	89602554	3,000 K	50 pc(s).	0.030 kg
RLE G1 49x133mm 2000lm 830 PL1 EXC OTD	89602555	3,000 K	50 pc(s).	0.030 kg
RLE G1 49x133mm 2000lm 840 PLO EXC OTD	89602556	4,000 K	50 pc(s).	0.030 kg
RLE G1 49x133mm 2000lm 840 PL1 EXC OTD	89602557	4,000 K	50 pc(s).	0.030 kg
RLE G1 49x223mm 4000lm 730 PLO EXC OTD	89602508	3,000 K	88 pc(s).	0.050 kg
RLE G1 49x223mm 4000lm 730 PL1 EXC OTD	89602509	3,000 K	88 pc(s).	0.050 kg
RLE G1 49x223mm 4000lm 740 PLO EXC OTD	89602510	4,000 K	88 pc(s).	0.050 kg
RLE G1 49x223mm 4000lm 740 PL1 EXC OTD	89602511	4,000 K	88 pc(s).	0.050 kg
RLE G1 49x223mm 4000lm 750 PL1 EXC OTD	89602517	5,000 K	88 pc(s).	0.050 kg
RLE G1 49x223mm 4000lm 830 PLO EXC OTD	89602558	3,000 K	88 pc(s).	0.050 kg
RLE G1 49x223mm 4000lm 830 PL1 EXC OTD	89602559	3,000 K	88 pc(s).	0.050 kg
RLE G1 49x223mm 4000lm 840 PLO EXC OTD	89602560	4,000 K	88 pc(s).	0.050 kg
RLE G1 49x223mm 4000lm 840 PL1 EXC OTD	89602561	4,000 K	88 pc(s).	0.050 kg
RLE G1 49x245mm 4000lm 730 PLO EXC OTD	89602512	3,000 K	96 pc(s).	0.054 kg
RLE G1 49x245mm 4000lm 730 PL1 EXC OTD	89602513	3,000 K	96 pc(s).	0.054 kg
RLE G1 49x245mm 4000lm 740 PLO EXC OTD	89602514	4,000 K	96 pc(s).	0.054 kg
RLE G1 49x245mm 4000lm 740 PL1 EXC OTD	89602515	4,000 K	96 pc(s).	0.054 kg
RLE G1 49x245mm 4000lm 765 PL1 EXC OTD	89602516	6,500 K	96 pc(s).	0.054 kg
RLE G1 49x245mm 4000lm 830 PLO EXC OTD	89602562	3,000 K	96 pc(s).	0.054 kg
RLE G1 49x245mm 4000lm 830 PL1 EXC OTD	89602563	3,000 K	96 pc(s).	0.054 kg
RLE G1 49x245mm 4000lm 840 PLO EXC OTD	89602564	4,000 K	96 pc(s).	0.054 kg
RLE G1 49x245mm 4000lm 840 PL1 EXC OTD	89602565	4,000 K	96 pc(s).	0.054 kg
RLE G1 49x245mm 4000lm 850 PL1 EXC OTD	89602566	5,000 K	96 pc(s).	0.054 kg

® Make to order except 89602510, 89602550, 89602552, 89602558 and 89602560.
5,700 K and 6,500 K CRI = 70 variants on request.

Specific technical data

Type	Photo-metric code	Typ. luminous flux at tp = 25 °C [®]	Typ. luminous flux at tp = 75 °C [®]	Typ. forward current	Min. forward voltage at tp = 75 °C	Max. forward voltage at tp = 25 °C	Typ. power consumption at tp = 75 °C [®]	Efficacy of the module at tp = 25 °C	Efficacy of the module at tp = 75 °C	Efficacy of the system at tp = 75 °C	Colour rendering index CRI
RLE G1 49x121mm 2000lm											
RLE G1 49x121mm 2000lm 730 PLO EXC OTD	730/459	2,180 lm	2,100 lm	700 mA	21.8 V	24.9 V	16.0 W	132 lm/W	131 lm/W	121 lm/W	> 70
RLE G1 49x121mm 2000lm 730 PL1 EXC OTD	730/459	2,180 lm	2,100 lm	700 mA	21.8 V	24.9 V	16.0 W	132 lm/W	131 lm/W	121 lm/W	> 70
RLE G1 49x121mm 2000lm 740 PLO EXC OTD	740/459	2,370 lm	2,270 lm	700 mA	21.8 V	24.9 V	16.0 W	143 lm/W	142 lm/W	128 lm/W	> 70
RLE G1 49x121mm 2000lm 740 PL1 EXC OTD	740/459	2,370 lm	2,270 lm	700 mA	21.8 V	24.9 V	16.0 W	143 lm/W	142 lm/W	128 lm/W	> 70
RLE G1 49x121mm 2000lm 830 PLO EXC OTD	830/459	1,950 lm	1,860 lm	700 mA	21.8 V	24.9 V	16.0 W	118 lm/W	116 lm/W	107 lm/W	> 80
RLE G1 49x121mm 2000lm 830 PL1 EXC OTD	830/459	1,950 lm	1,860 lm	700 mA	21.8 V	24.9 V	16.0 W	118 lm/W	116 lm/W	107 lm/W	> 80
RLE G1 49x121mm 2000lm 840 PLO EXC OTD	840/459	2,070 lm	1,970 lm	700 mA	21.8 V	24.9 V	16.0 W	125 lm/W	123 lm/W	113 lm/W	> 80
RLE G1 49x121mm 2000lm 840 PL1 EXC OTD	840/459	2,070 lm	1,970 lm	700 mA	21.8 V	24.9 V	16.0 W	125 lm/W	123 lm/W	113 lm/W	> 80
RLE G1 49x133mm 2000lm											
RLE G1 49x133mm 2000lm 730 PLO EXC OTD	730/459	2,180 lm	2,100 lm	700 mA	21.8 V	24.9 V	16.0 W	132 lm/W	131 lm/W	121 lm/W	> 70
RLE G1 49x133mm 2000lm 730 PL1 EXC OTD	730/459	2,180 lm	2,100 lm	700 mA	21.8 V	24.9 V	16.0 W	132 lm/W	131 lm/W	121 lm/W	> 70
RLE G1 49x133mm 2000lm 740 PLO EXC OTD	740/459	2,370 lm	2,270 lm	700 mA	21.8 V	24.9 V	16.0 W	143 lm/W	142 lm/W	128 lm/W	> 70
RLE G1 49x133mm 2000lm 740 PL1 EXC OTD	740/459	2,370 lm	2,270 lm	700 mA	21.8 V	24.9 V	16.0 W	143 lm/W	142 lm/W	128 lm/W	> 70
RLE G1 49x133mm 2000lm 830 PLO EXC OTD	830/459	1,950 lm	1,860 lm	700 mA	21.8 V	24.9 V	16.0 W	118 lm/W	116 lm/W	107 lm/W	> 80
RLE G1 49x133mm 2000lm 830 PL1 EXC OTD	830/459	1,950 lm	1,860 lm	700 mA	21.8 V	24.9 V	16.0 W	118 lm/W	116 lm/W	107 lm/W	> 80
RLE G1 49x133mm 2000lm 840 PLO EXC OTD	840/459	2,070 lm	1,970 lm	700 mA	21.8 V	24.9 V	16.0 W	125 lm/W	123 lm/W	113 lm/W	> 80
RLE G1 49x133mm 2000lm 840 PL1 EXC OTD	840/459	2,070 lm	1,970 lm	700 mA	21.8 V	24.9 V	16.0 W	125 lm/W	123 lm/W	113 lm/W	> 80
RLE G1 49x223mm 4000lm											
RLE G1 49x223mm 4000lm 730 PLO EXC OTD	730/459	4,360 lm	4,190 lm	700 mA	43.6 V	49.8 V	32.1 W	132 lm/W	131 lm/W	121 lm/W	> 70
RLE G1 49x223mm 4000lm 730 PL1 EXC OTD	730/459	4,360 lm	4,190 lm	700 mA	43.6 V	49.8 V	32.1 W	132 lm/W	131 lm/W	121 lm/W	> 70
RLE G1 49x223mm 4000lm 740 PLO EXC OTD	740/459	4,730 lm	4,540 lm	700 mA	43.6 V	49.8 V	32.1 W	143 lm/W	142 lm/W	128 lm/W	> 70
RLE G1 49x223mm 4000lm 740 PL1 EXC OTD	740/459	4,730 lm	4,540 lm	700 mA	43.6 V	49.8 V	32.1 W	143 lm/W	142 lm/W	128 lm/W	> 70
RLE G1 49x223mm 4000lm 750 PLO EXC OTD	750/459	5,070 lm	4,870 lm	700 mA	43.6 V	49.8 V	32.1 W	155 lm/W	154 lm/W	139 lm/W	> 70
RLE G1 49x223mm 4000lm 830 PLO EXC OTD	830/459	3,890 lm	3,710 lm	700 mA	43.6 V	49.8 V	32.1 W	118 lm/W	116 lm/W	107 lm/W	> 80
RLE G1 49x223mm 4000lm 830 PL1 EXC OTD	830/459	3,890 lm	3,710 lm	700 mA	43.6 V	49.8 V	32.1 W	118 lm/W	116 lm/W	107 lm/W	> 80
RLE G1 49x223mm 4000lm 840 PLO EXC OTD	840/459	4,140 lm	3,940 lm	700 mA	43.6 V	49.8 V	32.1 W	125 lm/W	123 lm/W	113 lm/W	> 80
RLE G1 49x223mm 4000lm 840 PL1 EXC OTD	840/459	4,140 lm	3,940 lm	700 mA	43.6 V	49.8 V	32.1 W	125 lm/W	123 lm/W	113 lm/W	> 80
RLE G1 49x245mm 4000lm											
RLE G1 49x245mm 4000lm 730 PLO EXC OTD	730/459	4,360 lm	4,190 lm	700 mA	43.6 V	49.8 V	32.1 W	132 lm/W	131 lm/W	121 lm/W	> 70
RLE G1 49x245mm 4000lm 730 PL1 EXC OTD	730/459	4,360 lm	4,190 lm	700 mA	43.6 V	49.8 V	32.1 W	132 lm/W	131 lm/W	121 lm/W	> 70
RLE G1 49x245mm 4000lm 740 PLO EXC OTD	740/459	4,730 lm	4,540 lm	700 mA	43.6 V	49.8 V	32.1 W	143 lm/W	142 lm/W	128 lm/W	> 70
RLE G1 49x245mm 4000lm 740 PL1 EXC OTD	740/459	4,730 lm	4,540 lm	700 mA	43.6 V	49.8 V	32.1 W	143 lm/W	142 lm/W	128 lm/W	> 70
RLE G1 49x245mm 4000lm 765 PL1 EXC OTD	765/459	4,730 lm	4,540 lm	700 mA	43.6 V	49.8 V	32.1 W	143 lm/W	141 lm/W	127 lm/W	> 70
RLE G1 49x245mm 4000lm 830 PLO EXC OTD	830/459	3,890 lm	3,710 lm	700 mA	43.6 V	49.8 V	32.1 W	118 lm/W	116 lm/W	107 lm/W	> 80
RLE G1 49x245mm 4000lm 830 PL1 EXC OTD	830/459	3,890 lm	3,710 lm	700 mA	43.6 V	49.8 V	32.1 W	118 lm/W	116 lm/W	107 lm/W	> 80
RLE G1 49x245mm 4000lm 840 PLO EXC OTD	840/459	4,140 lm	3,940 lm	700 mA	43.6 V	49.8 V	32.1 W	125 lm/W	123 lm/W	113 lm/W	> 80
RLE G1 49x245mm 4000lm 840 PL1 EXC OTD	840/459	4,140 lm	3,940 lm	700 mA	43.6 V	49.8 V	32.1 W	125 lm/W	123 lm/W	113 lm/W	> 80
RLE G1 49x245mm 4000lm 850 PL1 EXC OTD	850/459	4,460 lm	4,250 lm	700 mA	43.6 V	49.8 V	32.1 W	134 lm/W	132 lm/W	121 lm/W	> 80

[®] Integral measurement over the complete module.

[®] If mounted with M3 or M4 screws.

[®] Measured at 700 mA.

[®] Tolerance range for optical and electrical data: ±10 %.

1. Standards

EC 62031
IEC 62717
IEC 62471
IEC 61000-4-2
IEC 60068-2-52
GR-1217-CORE

1.1 Photometric code

Key for photometric code, e. g. 830 / 459

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	McAdam initial	McAdam after 25% of the life-time (max.6000h)	Luminous flux after 25% of the life-time (max.6000h)
7 70 – 79				Code Luminous flux
8 80 – 89				7 ≥ 70 %
9 ≥ 90				8 ≥ 80 % 9 ≥ 90 %

1.2 Energy classification

Typ	Energieklassifizierung
RLE G1 49xxxxmm 730 EXC OTD	A+
RLE G1 49xxxxmm 740 EXC OTD	A++
RLE G1 49xxxxmm 750 EXC OTD	A++
RLE G1 49xxxxmm 765 EXC OTD	A++
RLE G1 49xxxxmm 8x0 EXC OTD	A+

2. Thermal details

2.1 tc point, ambient temperature and life-time

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

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

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	-30 ... +80 °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 RLE will be greatly reduced or the RLE may be destroyed.

2.4 Heat sink values

RLE G1 49x121mm 2000lm xxx EXC / RLE G1 49x133mm 2000lm xxx EXC

ta	tp	Forward current	R _{th, hs-a}	Cooling area
25°C	75°C	700 mA	4.40 K/W	152 cm²
35°C	75°C	700 mA	3.52 K/W	190 cm²
40°C	75°C	700 mA	3.08 K/W	217 cm²
45°C	75°C	700 mA	2.64 K/W	253 cm²
50°C	75°C	700 mA	2.20 K/W	303 cm²
55°C	75°C	700 mA	1.76 K/W	380 cm²
60°C	75°C	700 mA	1.32 K/W	506 cm²

RLE G1 49x223mm 4000lm xxx EXC / RLE G1 49x245mm 4000lm xxx EXC

ta	tp	Forward current	R _{th, hs-a}	Cooling area
25°C	75°C	700 mA	2.21 K/W	301 cm²
35°C	75°C	700 mA	1.77 K/W	377 cm²
40°C	75°C	700 mA	1.55 K/W	431 cm²
45°C	75°C	700 mA	1.33 K/W	503 cm²
50°C	75°C	700 mA	1.10 K/W	604 cm²
55°C	75°C	700 mA	0.88 K/W	756 cm²
60°C	75°C	700 mA	0.66 K/W	1,010 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.

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

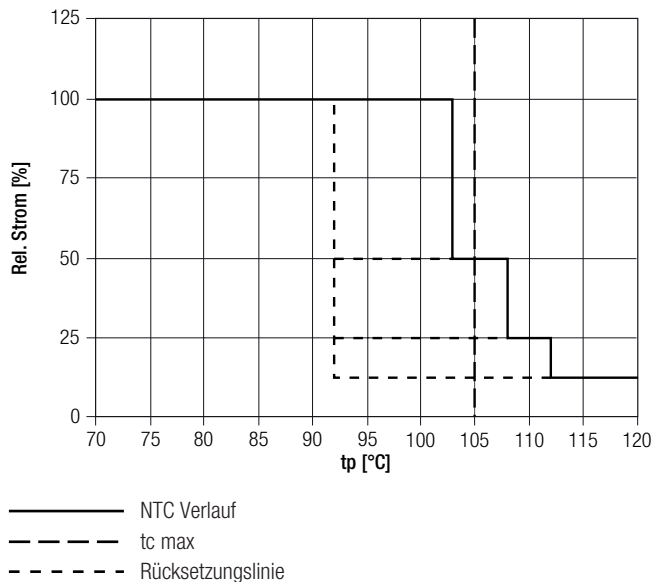


RLE modules are basic isolated up to 400 V (if mounted with M3 or M4 screws) against ground and can be mounted directly on earthed metal parts of the luminaire. If the max. output voltage of the LED Driver (also against earth) is above 400 V, an additional isolation between LED module and heat sink is required (for example by isolated 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.

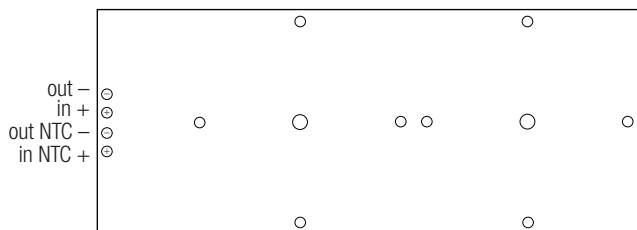
Integrated protection

RLE modules are available with two different protection levels. The basic protection level (PLO) consists of protection against reverse polarity and an NTC for overtemperature protection of the module. The higher protection level (PL1) includes additional LED shunts to bypass single LED light point failures.

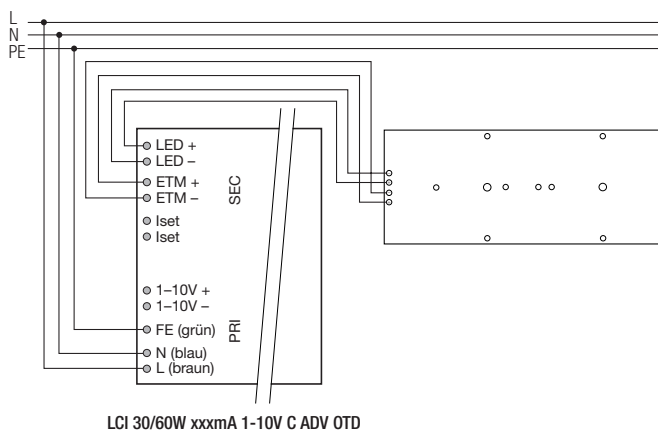
The NTC is designed to work with the LCA ADV OTD drivers supporting NTC functionality.



3.2 Wiring



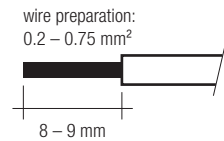
Wiring examples



3.3 Wiring type and cross section

The wiring can be in stranded wires or solid with a cross section of 0.2 to 0.75 mm².

For the push-wire connection you have to strip the insulation (8–9 mm).



To remove the wires use a suitable tool (e.g. Microcon release pin) or through twist and pull.

3.4 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 or M4 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.

3.5 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. Life-time

4.1 Life-time, lumen maintenance and failure rate

The light output of an LED Module decreases over the life-time, 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 life-time 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.

Life-time declarations are informative and represent no warranty claim.

Operation below 200 mA may reduce lumen maintenance.

4.2 Lumen maintenance

For CRI > 70 at 700 mA

tp temperature	L90 / B10	L90 / B50	L80 / B10	L80 / B50	L70 / B10	L70 / B50
45 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
50 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
55 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
60 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
65 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
70 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
75 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
80 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
85 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
90 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
95 °C	>90,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
100 °C	>62,000 h	>76,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
105 °C	>53,000 h	>53,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h

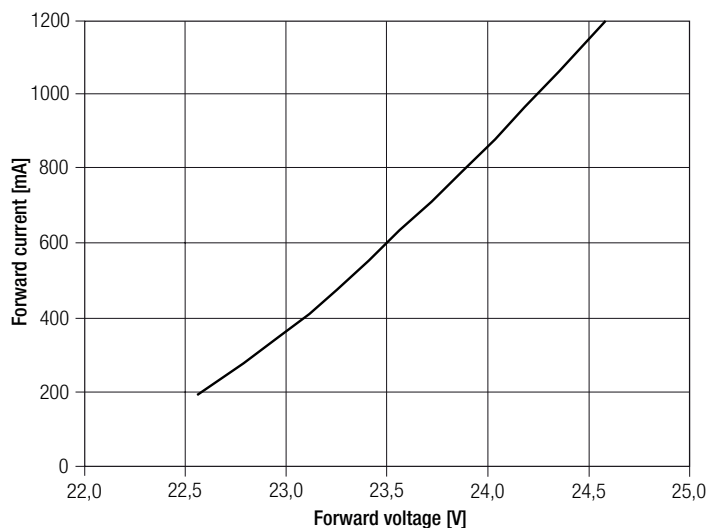
For CRI > 80 at 700 mA

tp temperature	L90 / B10	L90 / B50	L80 / B10	L80 / B50	L70 / B10	L70 / B50
45 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
50 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
55 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
60 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
65 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
70 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
75 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
80 °C	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
85 °C	>86,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
90 °C	>65,000 h	>77,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
95 °C	>49,000 h	>58,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
100 °C	>37,000 h	>44,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h
105 °C	>28,000 h	>34,000 h	>100,000 h	>100,000 h	>100,000 h	>100,000 h

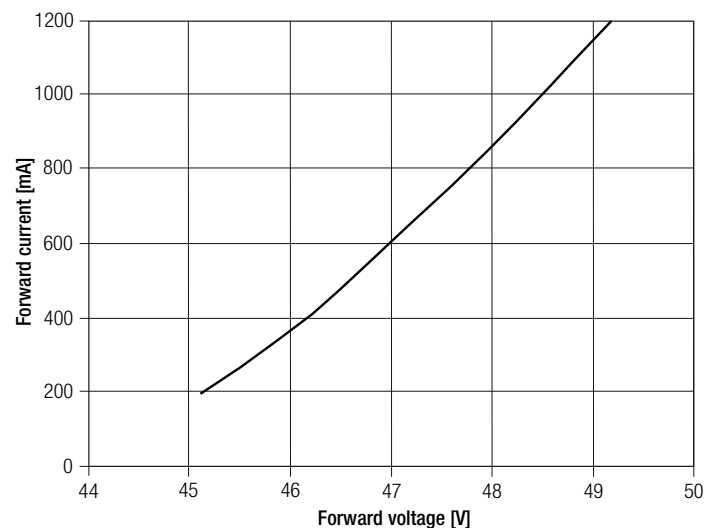
5. Electrical values

5.1 Typ. forward voltage vs. forward current

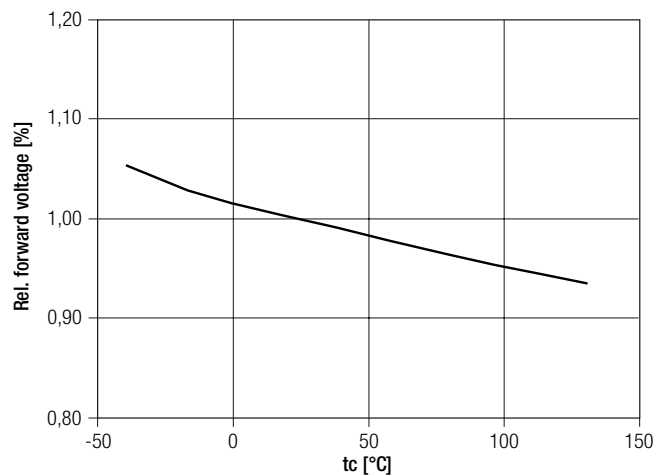
RLE G1 49x121mm 2000lm xxx EXC / RLE G1 49x133mm 2000lm xxx EXC



RLE G1 49x223mm 4000lm xxx EXC / RLE G1 49x245mm 4000lm xxx EXC



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

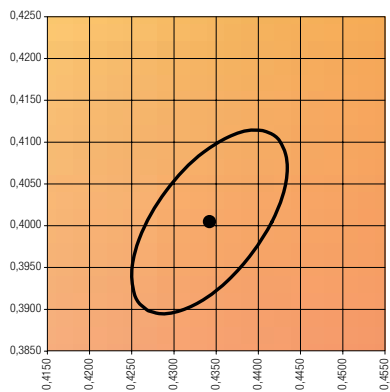
The specified colour coordinates are integral measured by current impulse of 700 mA and a duration of 100 ms.

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

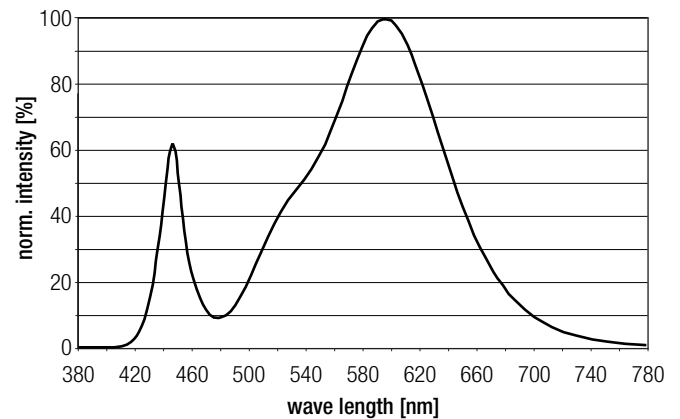
The measurement tolerance of the colour coordinates are ± 0.01 .

3,000 K, CRI 70

	x0	y0
Centre	0.4345	0.4007

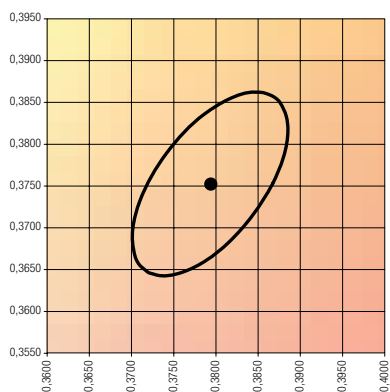


— MacAdam Ellipse: 4SDCM

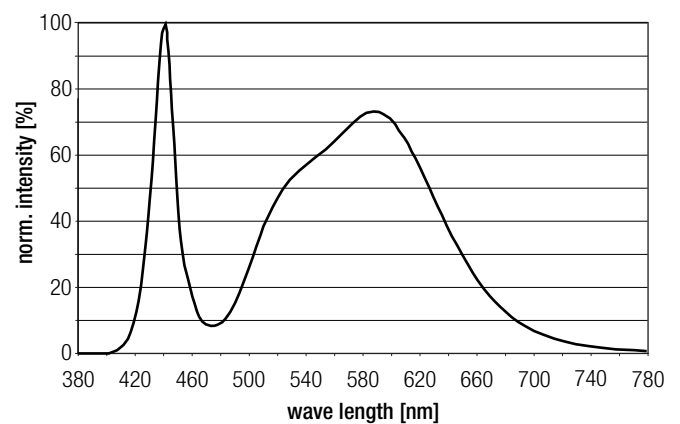


4,000 K, CRI 70

	x0	y0
Centre	0.3791	0.3754

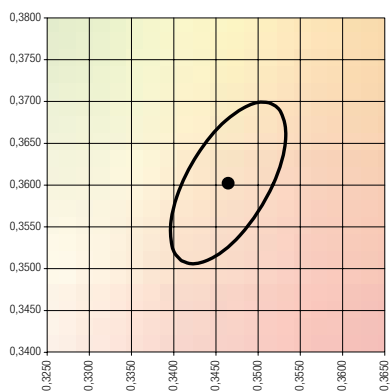


— MacAdam Ellipse: 4SDCM

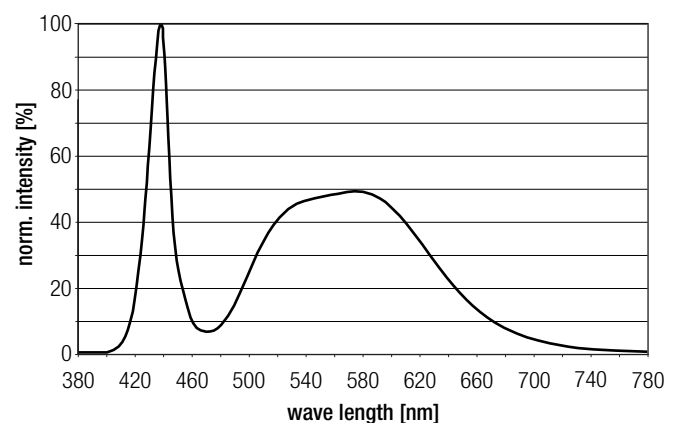


5,000 K, CRI 70

	x0	y0
Centre	0.3464	0.3602

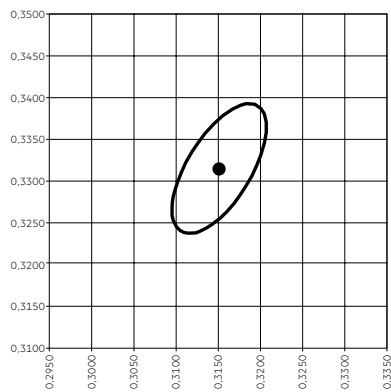


— MacAdam Ellipse: 4SDCM

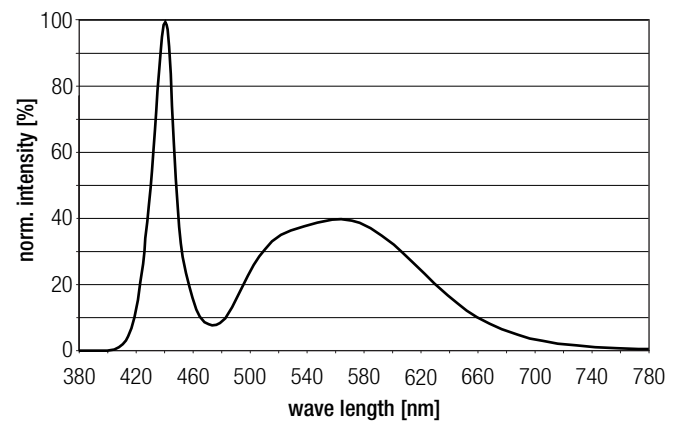


6,500 K, CRI 70

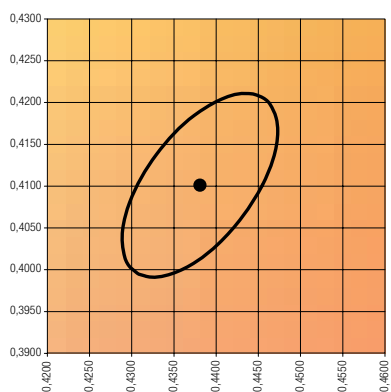
	x0	y0
Centre	0.3152	0.3315



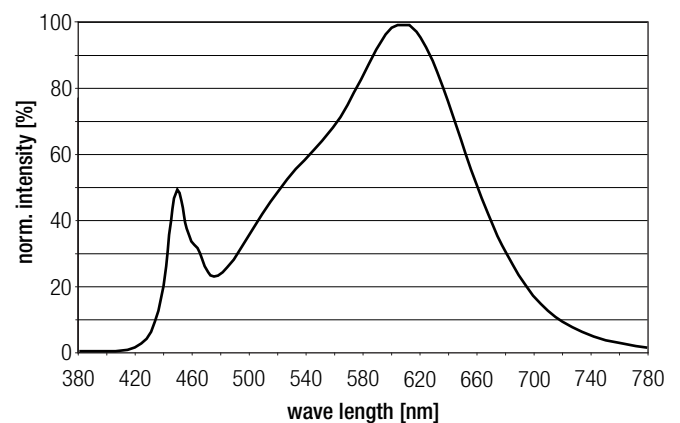
— MacAdam Ellipse: 4SDCM

**3,000 K, CRI 80**

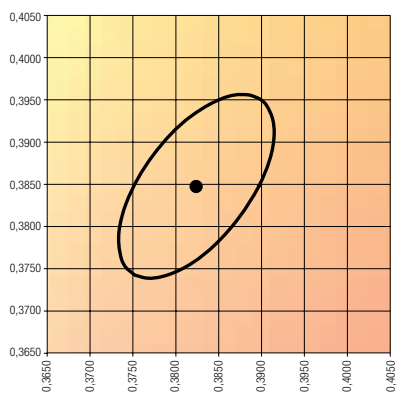
	x0	y0
Centre	0.4378	0.4102



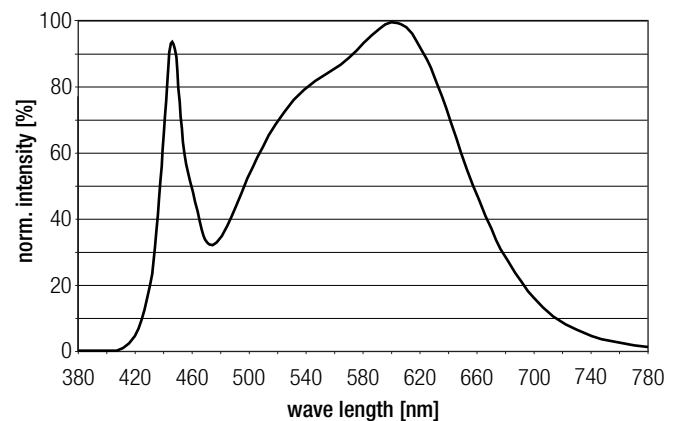
— MacAdam Ellipse: 4SDCM

**4,000 K, CRI 80**

	x0	y0
Centre	0.3824	0.3849

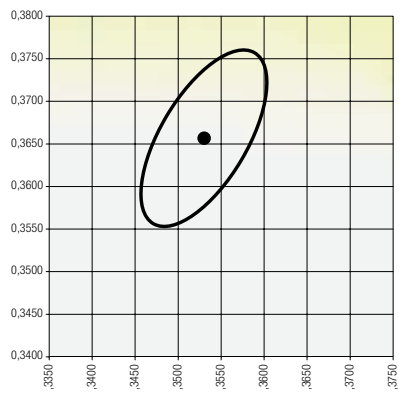


— MacAdam Ellipse: 4SDCM

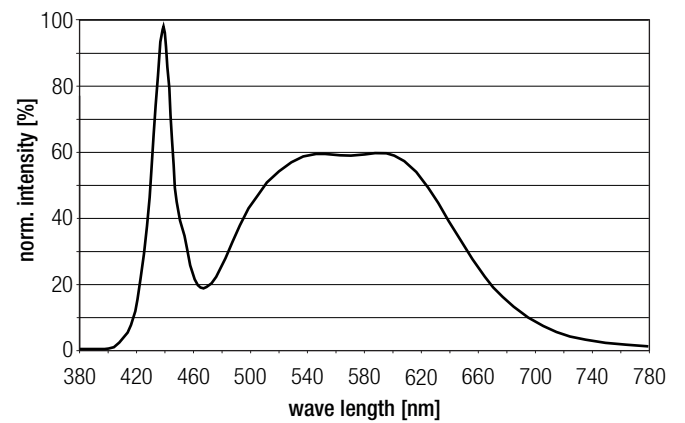


5,000 K, CRI 80

	x0	y0
Centre	0.3530	0.3662

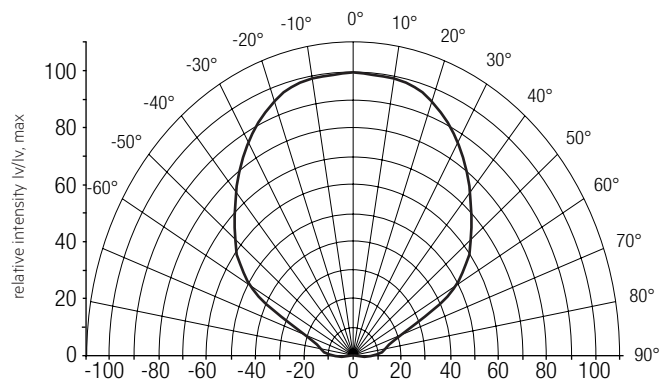


— MacAdam Ellipse: 4SDCM



6.2 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.

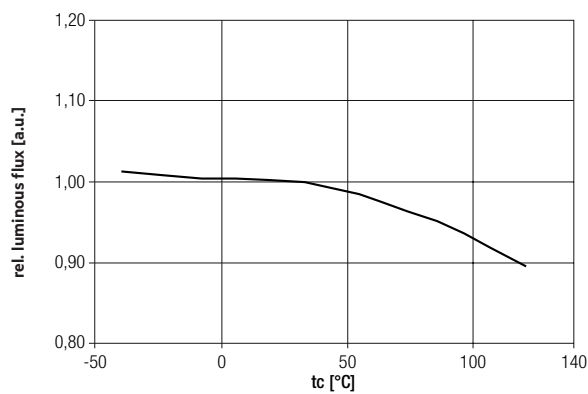


The colour temperature is measured integral over the complete module. The single LED light points can have deviations in the colour coordinates within MacAdam 4.

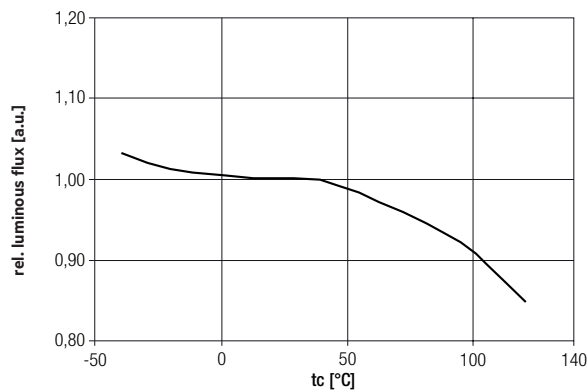
For further information see Design-in Guide, 3D data and photometric data on www.tridonic.com or on request.

6.3 Relative luminous flux vs. tc temperature

CRI 70

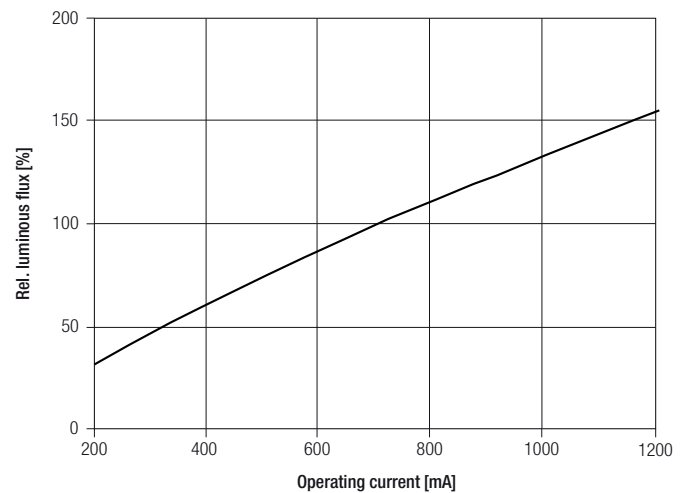


CRI 80

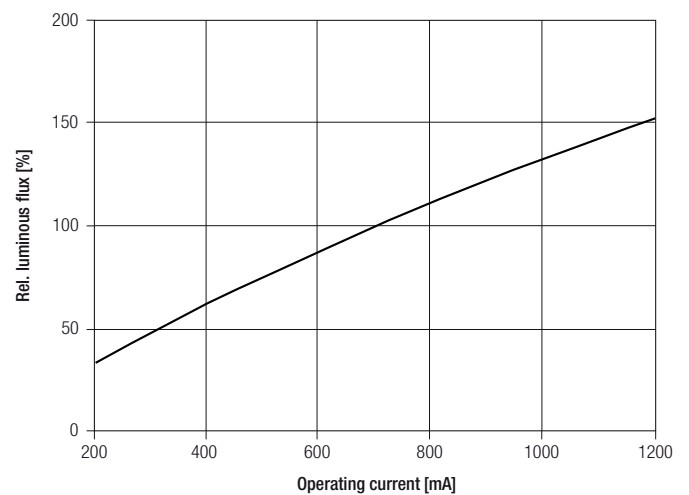


6.4 Relative luminous flux vs. operating current

CRI 70



CRI 80



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