TRIDONIC

## Module SLE G7 FOOD EXC

Modules SLE excite

LES17 with housing

LES21 with housing

**Product description**
_ Application specific colours for attractive product presentation
_ For spotlights and downlights
_ For operating with SELV Driver suitable
_ Excellent thermal management by COB technology
_ Uniform radiation with Dam&Fill technology
_ Integrated LED module
_ Cooling required
_ Flexible operating mode
_ HE ... High Efficiency, NM ... Nominal Mode, HO ... High Output
_ Long lifetime: 55,000 hours
_ 5 years guarantee (conditions at https://www.tridonic.com/manufacturer-guarantee-conditions)

**Optical properties**
_ Colours FISH, GOLD, GOLD+, MEAT+, FRESH MEAT, FRUIT
_ Useful luminous flux 5,811 lm at Irated and tp = 25 °C
_ Efficacy of the LED module 117 lm/W at Irated and tp = 25 °C
_ Small colour tolerance (MacAdam 3)

**Mechanical properties**
_ Module dimension LES17 and LES21
_ Housing with Snap-On feature for easy reflector mounting
_ 50 mm housing with 35 mm mounting hole distance acc. to Zhaga
_ Fixing holes for M3 screws

**System solution**
_ Combine Tridonic's LED modules and dimmable drivers to achieve an outstanding system efficacy (configuration possible via https://setbuilder.tridonic.com/)

**Website**
http://www.tridonic.com/28002753

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

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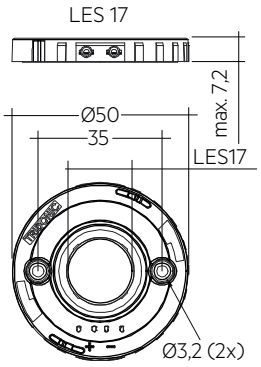
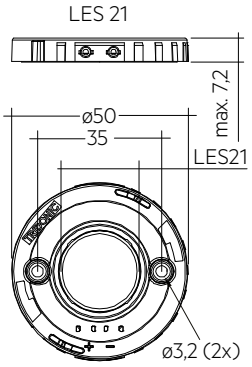
Modules SLE excite




Dimensions in mm, *optical LES




Dimensions in mm, *optical LES

### Ordering data

| Type | Article number | Packaging, carton | Weight per pc. |
|---|---|---|---|
| **SLE G7 17mm – With housing** | | | |
| **SLE G7 17mm 5000lm GOLD+ H EXC** | **28002753** | 50 pc(s). | 0.007 kg |
| **SLE G7 17mm 5000lm FISH H EXC** | **28002755** | 50 pc(s). | 0.007 kg |
| **SLE G7 17mm 5000lm GOLD H EXC** | **28002752** | 50 pc(s). | 0.007 kg |
| **SLE G7 17mm 5000lm MEAT+ H EXC** | **28002751** | 50 pc(s). | 0.007 kg |
| **SLE G7 17mm 5000lm FRESH MEAT H EXC** | **28002750** | 50 pc(s). | 0.007 kg |
| **SLE G7 17mm 5000lm FRUIT H EXC** | **28002754** | 50 pc(s). | 0.007 kg |
| **SLE G7 21mm – With housing** | | | |
| **SLE G7 21mm 6000lm GOLD+ H EXC** | **28002763** | 50 pc(s). | 0.007 kg |
| **SLE G7 21mm 6000lm FISH H EXC** | **28002765** | 50 pc(s). | 0.007 kg |
| **SLE G7 21mm 6000lm GOLD H EXC** | **28002762** | 50 pc(s). | 0.007 kg |
| **SLE G7 21mm 6000lm MEAT+ H EXC** | **28002761** | 50 pc(s). | 0.007 kg |
| **SLE G7 21mm 6000lm FRESH MEAT H EXC** | **28002760** | 50 pc(s). | 0.007 kg |
| **SLE G7 21mm 6000lm FRUIT H EXC** | **28002764** | 50 pc(s). | 0.007 kg |

## Technical data

| | |
|---|---|
| Beam characteristic | 115° |
| Ambient temperature ta | -30 … +80 °C |
| tp rated | 65 °C |
| tc ① | 105 °C |
| Irated for GOLD+ | 350 mA |
| Irated for LES17 | 1,050 mA |
| Irated for LES21 | 1,400 mA |
| Imax for LES17 ① | 1,540 mA |
| Imax for LES21 ① | 2,200 mA |
| Max. permissible LF current ripple for LES17 | 1,680 mA |
| Max. permissible LF current ripple for LES21 | 2,400 mA |
| Max. permissible peak current for LES17 | 2,520 mA / max. 8 ms |
| Max. permissible peak current for LES21 | 3,600 mA / max. 8 ms |
| Max. working voltage for insulation SELV ② | < 60 V |
| Insulation test voltage | 0.5 kV |
| CTI of the printed circuit board | ≥ 600 |
| Colour tolerance | 3 SDCM |
| ESD classification | Severity level 4 |
| Risk group (IEC 62471) | RG1 |
| Risk group (IEC 62471) for LES17 FISH (at I ≤ 950 mA) | RG1 |
| Risk group (IEC 62471) for LES17 FISH (at Imax) | RG2 (Ethr = 941 lx, RG1 at d ≥ 1,809 mm) |
| Risk group (IEC 62471) for LES21 FISH (at I ≤ 1700 mA) | RG1 |
| Risk group (IEC 62471) for LES21 FISH (at Imax) | RG2 (Ethr = 1033 lx, RG1 at d ≥ 2,083 mm) |
| Type of protection | IP00 |
| Lumen maintenance L70B50 | 55,000 h |
| Guarantee (conditions at www.tridonic.com) | 5 Year(s) |

## Approval marks

RoHS

## Standards

EN 62031, EN 62471, IEC 62717, IEC 61000-4-2, UL 8750

## Specific technical data

| Type | Article number | Useful luminous flux at tp = 25 °C[3] | Expected luminous flux at tp rated[4] | Typ. forward current | Min. forward voltage at tp rated | Max. forward voltage at tp = 25 °C | Power consumption Pon at tp = 25 °C[5] | Efficacy of the module at tp = 25 °C | Expected efficacy of the module at tp rated |
|---|---|---|---|---|---|---|---|---|---|
| **SLE 17mm 5000lm GOLD+ – Operating mode NM at 350 mA** | | | | | | | | | |
| SLE G7 17mm 5000lm GOLD+ H EXC | 28002753 | 882 lm | 826 lm | 350 mA | 29.7 V | 35.7 V | 11.6 W | 76 lm/W | 73 lm/W |
| **SLE 17mm 5000lm GOLD+ – Operating mode HO at 500 mA** | | | | | | | | | |
| SLE G7 17mm 5000lm GOLD+ H EXC | 28002753 | – | 1,171 lm | 500 mA | 30.6 V | 36.7 V | – | – | 70 lm/W |
| **SLE 17mm 5000lm GOLD+ – Operating mode HO at 1,050 mA** | | | | | | | | | |
| SLE G7 17mm 5000lm GOLD+ H EXC | 28002753 | – | 2,335 lm | 1,050 mA | 32.0 V | 38.3 V | – | – | 64 lm/W |
| **SLE 17mm 5000lm GOLD+ – Operating mode HO at 1,400 mA** | | | | | | | | | |
| SLE G7 17mm 5000lm GOLD+ H EXC | 28002753 | – | 3,019 lm | 1,400 mA | 32.7 V | 39.2 V | – | – | 61 lm/W |
| **SLE 17mm 5000lm – Operating mode HE at 500 mA** | | | | | | | | | |
| SLE G7 17mm 5000lm FISH H EXC | 28002755 | – | 2,015 lm | 500 mA | 33.3 V | 34.0 V | – | – | 121 lm/W |
| SLE G7 17mm 5000lm GOLD H EXC | 28002752 | – | 1,868 lm | 500 mA | 33.3 V | 34.0 V | – | – | 112 lm/W |
| SLE G7 17mm 5000lm MEAT+ H EXC | 28002751 | 1,630 lm | 1,520 lm | 500 mA | 33.3 V | 34.0 V | 17.0 W | 94 lm/W | 90 lm/W |
| SLE G7 17mm 5000lm FRESH MEAT H EXC | 28002750 | 1,600 lm | 1,490 lm | 500 mA | 33.3 V | 34.0 V | 17.0 W | 94 lm/W | 90 lm/W |
| SLE G7 17mm 5000lm FRUIT H EXC | 28002754 | – | 1,748 lm | 500 mA | 33.3 V | 34.0 V | – | – | 105 lm/W |
| **SLE 17mm 5000lm – Operating mode NM at 1,050 mA** | | | | | | | | | |
| SLE G7 17mm 5000lm FISH H EXC | 28002755 | 4,291 lm | 4,014 lm | 1,050 mA | 34.8 V | 35.5 V | 37.3 W | 115 lm/W | 110 lm/W |
| SLE G7 17mm 5000lm GOLD H EXC | 28002752 | 3,988 lm | 3,728 lm | 1,050 mA | 34.8 V | 35.5 V | 37.3 W | 107 lm/W | 102 lm/W |
| SLE G7 17mm 5000lm MEAT+ H EXC | 28002751 | 3,250 lm | 3,040 lm | 1,050 mA | 34.8 V | 35.5 V | 37.3 W | 86 lm/W | 82 lm/W |
| SLE G7 17mm 5000lm FRESH MEAT H EXC | 28002750 | 3,190 lm | 2,980 lm | 1,050 mA | 34.8 V | 35.5 V | 37.3 W | 85 lm/W | 82 lm/W |
| SLE G7 17mm 5000lm FRUIT H EXC | 28002754 | 3,733 lm | 3,487 lm | 1,050 mA | 34.8 V | 35.5 V | 37.3 W | 100 lm/W | 96 lm/W |
| **SLE 17mm 5000lm – Operating mode HO at 1,400 mA** | | | | | | | | | |
| SLE G7 17mm 5000lm FISH H EXC | 28002755 | – | 5,197 lm | 1,400 mA | 35.6 V | 36.3 V | – | – | 104 lm/W |
| SLE G7 17mm 5000lm GOLD H EXC | 28002752 | – | 4,824 lm | 1,400 mA | 35.6 V | 36.3 V | – | – | 96 lm/W |
| SLE G7 17mm 5000lm MEAT+ H EXC | 28002751 | 4,200 lm | 3,930 lm | 1,400 mA | 35.6 V | 36.3 V | 50.8 W | 81 lm/W | 78 lm/W |
| SLE G7 17mm 5000lm FRESH MEAT H EXC | 28002750 | 4,120 lm | 3,850 lm | 1,400 mA | 35.6 V | 36.3 V | 50.8 W | 81 lm/W | 77 lm/W |
| SLE G7 17mm 5000lm FRUIT H EXC | 28002754 | – | 4,512 lm | 1,400 mA | 35.6 V | 36.3 V | – | – | 91 lm/W |
| **SLE 21mm 6000lm GOLD+ – Operating mode NM at 350 mA** | | | | | | | | | |
| SLE G7 21mm 6000lm GOLD+ H EXC | 28002763 | 899 lm | 845 lm | 350 mA | 28.9 V | 34.9 V | 11.3 W | 80 lm/W | 76 lm/W |
| **SLE 21mm 6000lm GOLD+ – Operating mode HO at 700 mA** | | | | | | | | | |
| SLE G7 21mm 6000lm GOLD+ H EXC | 28002763 | – | 1,653 lm | 700 mA | 30.6 V | 36.7 V | – | – | 71 lm/W |
| **SLE 21mm 6000lm GOLD+ – Operating mode HO at 1,400 mA** | | | | | | | | | |
| SLE G7 21mm 6000lm GOLD+ H EXC | 28002763 | – | 3,237 lm | 1,400 mA | 31.9 V | 38.2 V | – | – | 67 lm/W |
| **SLE 21mm 6000lm GOLD+ – Operating mode HO at 2,000 mA** | | | | | | | | | |
| SLE G7 21mm 6000lm GOLD+ H EXC | 28002763 | – | 4,342 lm | 2,000 mA | 32.8 V | 39.3 V | – | – | 61 lm/W |
| **SLE 21mm 6000lm – Operating mode HE at 700 mA** | | | | | | | | | |
| SLE G7 21mm 6000lm FISH H EXC | 28002765 | – | 2,847 lm | 700 mA | 33.3 V | 34.0 V | – | – | 122 lm/W |
| SLE G7 21mm 6000lm GOLD H EXC | 28002762 | – | 2,671 lm | 700 mA | 33.3 V | 34.0 V | – | – | 115 lm/W |
| SLE G7 21mm 6000lm MEAT+ H EXC | 28002761 | 2,270 lm | 2,120 lm | 700 mA | 33.3 V | 34.0 V | 23.8 W | 94 lm/W | 90 lm/W |
| SLE G7 21mm 6000lm FRESH MEAT H EXC | 28002760 | 2,230 lm | 2,080 lm | 700 mA | 33.3 V | 34.0 V | 23.8 W | 94 lm/W | 89 lm/W |
| SLE G7 21mm 6000lm FRUIT H EXC | 28002764 | – | 2,451 lm | 700 mA | 33.3 V | 34.0 V | – | – | 106 lm/W |
| **SLE 21mm 6000lm – Operating mode NM at 1,400 mA** | | | | | | | | | |
| SLE G7 21mm 6000lm FISH H EXC | 28002765 | 5,811 lm | 5,428 lm | 1,400 mA | 34.7 V | 35.4 V | 49.6 W | 117 lm/W | 111 lm/W |
| SLE G7 21mm 6000lm GOLD H EXC | 28002762 | 5,451 lm | 5,093 lm | 1,400 mA | 34.7 V | 35.4 V | 49.6 W | 110 lm/W | 105 lm/W |
| SLE G7 21mm 6000lm MEAT+ H EXC | 28002761 | 4,330 lm | 4,050 lm | 1,400 mA | 34.7 V | 35.4 V | 49.6 W | 86 lm/W | 82 lm/W |
| SLE G7 21mm 6000lm FRESH MEAT H EXC | 28002760 | 4,250 lm | 3,970 lm | 1,400 mA | 34.7 V | 35.4 V | 49.6 W | 86 lm/W | 82 lm/W |
| SLE G7 21mm 6000lm FRUIT H EXC | 28002764 | 5,009 lm | 4,679 lm | 1,400 mA | 34.7 V | 35.4 V | 49.6 W | 101 lm/W | 97 lm/W |
| **SLE 21mm 6000lm – Operating mode HO at 2,000 mA** | | | | | | | | | |
| SLE G7 21mm 6000lm FISH H EXC | 28002765 | – | 7,485 lm | 2,000 mA | 35.7 V | 36.4 V | – | – | 105 lm/W |
| SLE G7 21mm 6000lm GOLD H EXC | 28002762 | – | 7,024 lm | 2,000 mA | 35.7 V | 36.4 V | – | – | 98 lm/W |
| SLE G7 21mm 6000lm MEAT+ H EXC | 28002761 | 5,960 lm | 5,580 lm | 2,000 mA | 35.7 V | 36.4 V | 72.8 W | 81 lm/W | 77 lm/W |
| SLE G7 21mm 6000lm FRESH MEAT H EXC | 28002760 | 5,850 lm | 5,470 lm | 2,000 mA | 35.7 V | 36.4 V | 72.8 W | 81 lm/W | 77 lm/W |
| SLE G7 21mm 6000lm FRUIT H EXC | 28002764 | – | 6,445 lm | 2,000 mA | 35.7 V | 36.4 V | – | – | 90 lm/W |

① See derating curves in data sheet section 2.3.
② The detailed explanation, see data sheet section 3.1.
③ Tolerance of useful light flux - 0 % / + 15 %. Measurement uncertainty ± 10 %.
④ Tolerance of expected light flux - 0 % / + 15 %. Measurement uncertainty ± 10 %. Based on calculation.
⑤ Tolerance of power consumption Pon ± 10 %. Measurement uncertainty ± 5 %.

## 1. Standards

EN 62031
EN 62471
IEC 62717
IEC 61000-4-2
UL 8750 (for CLASS2 circuits and dry locations)

### 1.1 Glow wire test for housing variants

according to IEC 60695-2-11 with increased temperature of 850 °C passed.

### 1.2 Photometric code

Key for photometric code, e. g. 830 / 359

| 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 % |

### 1.3 Energy classification

| Type | Forward current | Energy classification | Energy consumption |
|---|---|---|---|
| SLE G7 17mm 5000lm GOLD+ H EXC | 350 mA | G | 10 kWh / 1,000 h |
| SLE G7 17mm 5000lm FISH H EXC | 1,050 mA | E | 38 kWh / 1,000 h |
| SLE G7 17mm 5000lm GOLD H EXC | 1,050 mA | E | 38 kWh / 1,000 h |
| SLE G7 17mm 5000lm MEAT+ H EXC | 1,050 mA | n. a. | n. a. |
| SLE G7 17mm 5000lm FRESH MEAT H EXC | 1,050 mA | n. a. | n. a. |
| SLE G7 17mm 5000lm FRUIT H EXC | 1,050 mA | F | 38 kWh / 1,000 h |
| SLE G7 21mm 6000lm GOLD+ H EXC | 350 mA | F | 10 kWh / 1,000 h |
| SLE G7 21mm 6000lm FISH H EXC | 1,400 mA | E | 50 kWh / 1,000 h |
| SLE G7 21mm 6000lm GOLD H EXC | 1,400 mA | E | 50 kWh / 1,000 h |
| SLE G7 21mm 6000lm MEAT+ H EXC | 1,400 mA | n. a. | n. a. |
| SLE G7 21mm 6000lm FRESH MEAT H EXC | 1,400 mA | n. a. | n. a. |
| SLE G7 21mm 6000lm FRUIT H EXC | 1,400 mA | F | 50 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. Thermical details

### 2.1 tp point, ambient temperature and lifetime

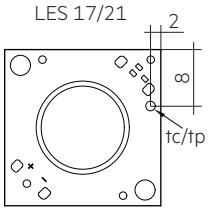
The temperature at tp reference point is crucial for the light output and lifetime of a LED product.

For SLE G7 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 tp 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.

To check the tc / tp temperature, the temperature sensor has to be mounted on the PCB at the marked position as stated in the drawing.



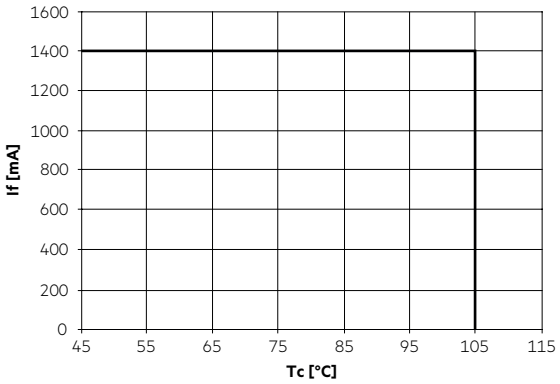

### 2.2 Storage and humidity

| | |
|---|---|
| storage temperature | -30 … +80 °C |

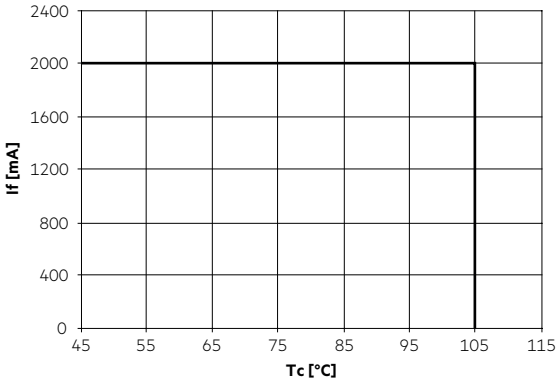
Operation only in non condensing environment.
Humidity during processing of the module should be between 0 to 85 %.

### 2.3 Derating curves

**SLE G7 17mm 5000lm EXC**



**SLE G7 21mm 6000lm EXC**




### 2.4 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 SLE G7 will be greatly reduced or the SLE G7 may be destroyed.

### 2.5 Heat sink values

**SLE G7 17mm 5000lm EXC**

| ta | tp | Operating current | $R_{th, hs-a}$ |
|---|---|---|---|
| 25 °C | 65 °C | 500 mA | 2.3 K/W |
| 35 °C | 65 °C | 500 mA | 1.7 K/W |
| 45 °C | 65 °C | 500 mA | 1.1 K/W |
| 25 °C | 65 °C | 1,050 mA | 1.0 K/W |
| 35 °C | 65 °C | 1,050 mA | 0.7 K/W |
| 45 °C | 65 °C | 1,050 mA | 0.4 K/W |
| 25 °C | 65 °C | 1,400 mA | 0.7 K/W |
| 35 °C | 65 °C | 1,400 mA | 0.5 K/W |
| 45 °C | 65 °C | 1,400 mA | 0.3 K/W |

**SLE G7 21m 6000lm EXC**

| ta | tp | Operating current | $R_{th, hs-a}$ |
|---|---|---|---|
| 25 °C | 65 °C | 700 mA | 1.6 K/W |
| 35 °C | 65 °C | 700 mA | 1.2 K/W |
| 45 °C | 65 °C | 700 mA | 0.8 K/W |
| 25 °C | 65 °C | 1,400 mA | 0.7 K/W |
| 35 °C | 65 °C | 1,400 mA | 0.5 K/W |
| 45 °C | 65 °C | 1,400 mA | 0.3 K/W |
| 25 °C | 65 °C | 2,000 mA | 0.5 K/W |
| 35 °C | 65 °C | 2,000 mA | 0.3 K/W |
| 45 °C | 65 °C | 2,000 mA | 0.2 K/W |

**Notes**
The actual cooling can differ because of the material, the structural shape, outside influences and the installation situation. A thermal connection between SLE G7 and heat sink with heat-conducting paste or heat conducting adhesive film is absolutely necessary.
Additionally the SLE G7 has to be fixed on the heat sink with M3 screws to optimise the thermal connection.
Use of thermal interface material with thermal conductivity of λ > 1 W/mK and layer thickness of interface material with max. 50 µm or a similar interface material where the quotient of layer thickness and thermal conductivity b < 50 µmmK/W.

## 3. Installation / wiring

### 3.1 Electrical supply/choice of LED driver

SLE G7 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 drivers from Tridonic in combination with SLE G7 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

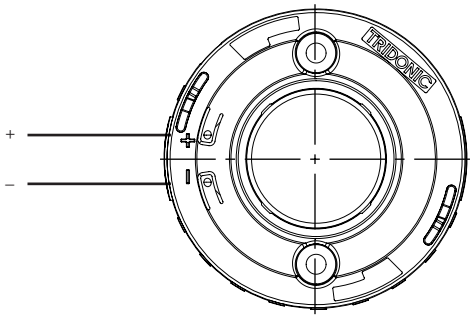
SLE G7 must be supplied by a constant current LED driver. Operation with a constant voltage LED driver will lead to an irreversible damage of the module.
Wrong polarity can damage the SLE G7.

SLE G7 must not be operated with nonSELV LED driver.

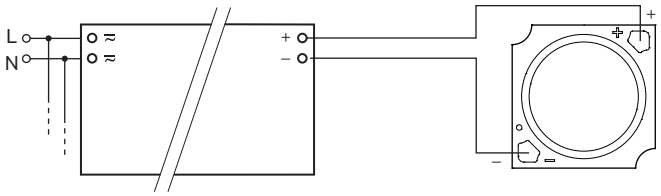
SLE G7 are basic insulated up to 60 V SELV against ground and can be mounted directly on earthed metal parts of the luminaire. If the max. output voltage of the LED driver (also against earth) is above 60 V SELV, an additional insulation between LED module and heat sink is required (for example by insulated 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 Wiring

**Wiring with housing (LES17 and LES21)**



**Wiring example**



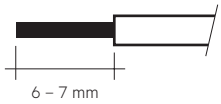

**Driver LC ...**

### 3.3 Wiring type and cross section for housing variants

The wiring has to be solid cable with a cross section of 0.5 to 0.75 mm² or with stranded wire with soldered ends with a cross section of 0.5 mm².
For the push-wire connection you have to strip the insulation (6 – 7 mm).

Loosen wire through twisting and pulling.

wire preparation:




### 3.4 Mounting instruction

SLE G7 from Tridonic which have to be installed on a heat sink have to be connected with heat-conducting paste or heat conducting adhesive film and fixed with M3 screws.
The fixing/cooling surface must be cleaned by removing all dirt, dust and grease before installing the LED modules.

None of the components of the SLE G7 (substrate, LED, electronic components etc.) may be exposed to tensile or compressive stresses.

Max. torque for fixing: 0.3 Nm (LES9, LES13, LES15)
0.5 Nm (LES17, LES21)

The LED modules are mounted with 2 screws per module. In order not to damage the modules only rounded head screws and an additional plastic flat washer (notice working temperature) or rounded head screw with collar (ISO 7380-2) with head diameter ≥ 6.9 mm must be used for LED modules without housing (for LES13, LES15).

For further information please refer to to the brochure entitled “Technical Design-In-Guide SLE GEN7”.

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.
For further information for EOS/ESD safety guidlines and the ESD classification please refer to the brochure entitled http://www.tridonic.com/esd-protection.

## 4. Lifetime

### 4.1 Lifetime, lumen maintenance and failure rate

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

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

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

### 4.2 Lumen maintenance

Lifetime declarations are informative and represent no warranty claim. Preliminary calculated lifetime data until LM80 test reports are available

**SLE G7 17mm 5000lm EXC**

| Operating current | tp temperature | L90 / F10 | L90 / F50 | L80 / F10 | L80 / F50 | L70 / F10 | L70 / F50 |
|---|---|---|---|---|---|---|---|
| 500 mA | 65 °C | 50,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h |
| | 85 °C | 50,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h |
| | 105 °C | 26,000 h | 37,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h |
| 1,050 mA | 65 °C | 50,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h |
| | 85 °C | 50,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h |
| | 105 °C | 26,000 h | 37,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h |
| 1,400 mA | 65 °C | >55,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h |
| | 85 °C | >55,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h |
| | 105 °C | 13,000 h | 20,000 h | 31,000 h | 50,000 h | 51,000 h | >55,000 h |

**SLE G7 21mm 6000lm EXC**

| Operating current | tp temperature | L90 / F10 | L90 / F50 | L80 / F10 | L80 / F50 | L70 / F10 | L70 / F50 |
|---|---|---|---|---|---|---|---|
| 700 mA | 65 °C | 50,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h |
| | 85 °C | 40,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h |
| | 105 °C | 26,000 h | 37,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h |
| 1,400 mA | 65 °C | 50,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h |
| | 85 °C | 50,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h |
| | 105 °C | 26,000 h | 37,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h |
| 2,000 mA | 65 °C | >55,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h |
| | 85 °C | >55,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h | >55,000 h |
| | 105 °C | 13,000 h | 20,000 h | 31,000 h | 50,000 h | 51,000 h | >55,000 h |

## 5. Electrical values

### 5.1 Declaration of electrical parameters

Irated … Nominal operating current the module is designed for.

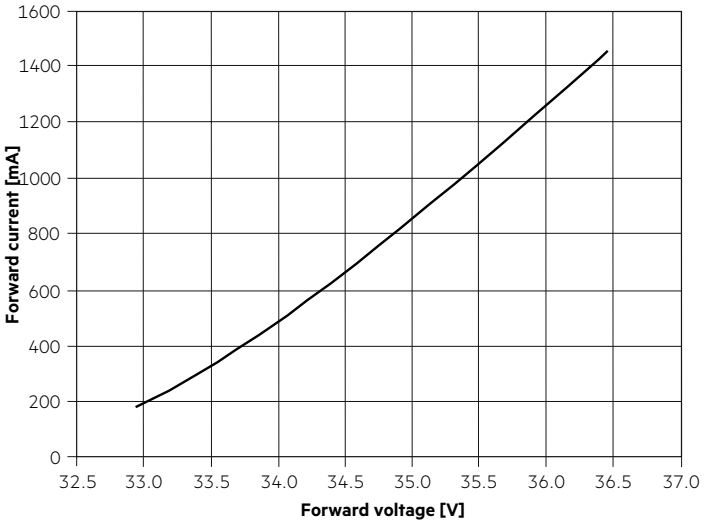
Imax … Max. permissible continuous operating current incl. The tolerances of the LED driver.

Max. permissible LF current ripple … Max. output current of the LED driver incl. Tolerances and LF current ripple must not exceed this value.

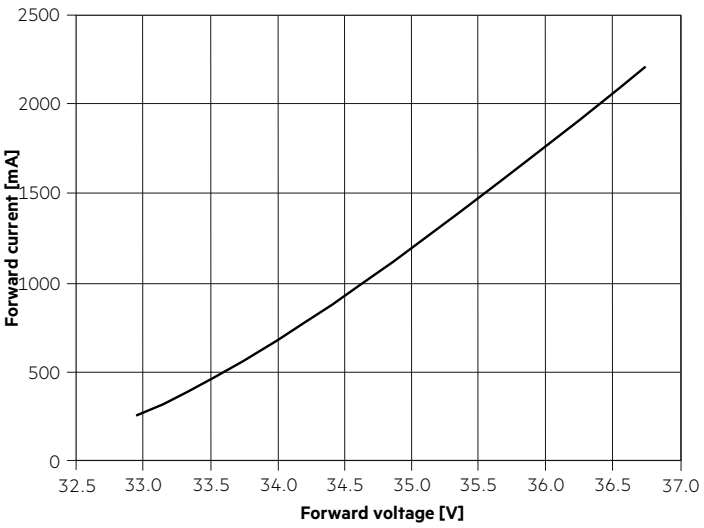
Max. permissible peak current … The max. output peak current of the LED driver must not exceed this value.

### 5.2 Typ. forward voltage vs. forward current

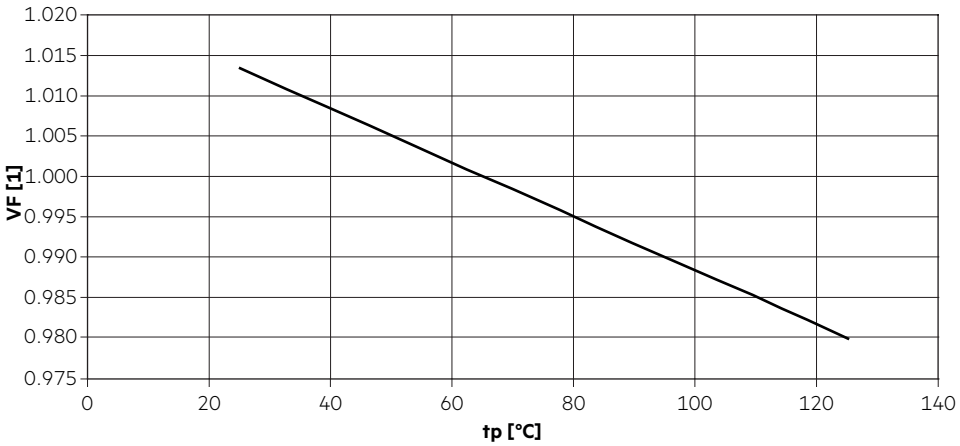
**SLE G7 17mm 5000lm xxx EXC**




**SLE G7 21mm 6000lm xxx EXC**




### 5.3 Forward voltage vs. tp temperature




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

## 6. Photometric characteristics

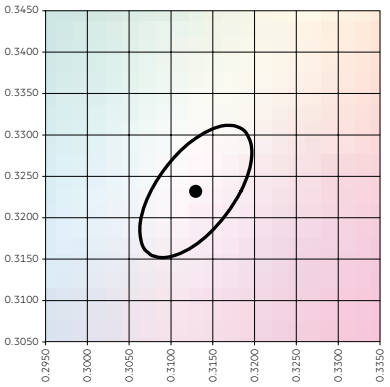
### 6.1 Coordinates and tolerances according to CIE 1931 and colour rendering

The specified colour coordinates are measured integral after a settling time of 100 ms. The current impuls depends on the module type.
The ambient temperature of the measurement is ta = 25 °C. The measurement tolerance of the colour coordinates are ± 0.01.

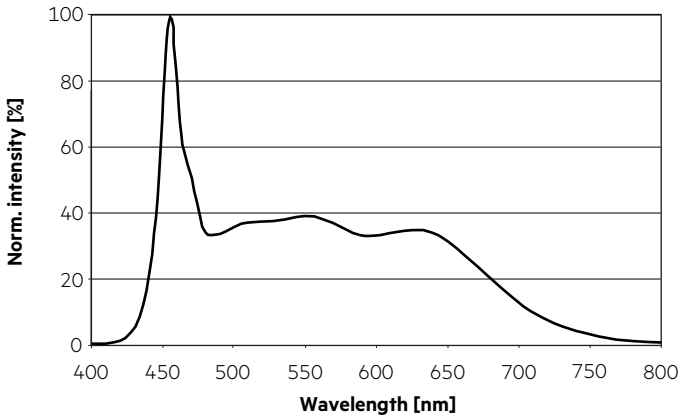
| Module type | Current impulse |
|---|---|
| SLE G7 17mm 5000lm EXC | 1,050 mA |
| SLE G7 21mm 6000lm EXC | 1,400 mA |

**FISH**

| | x0 | y0 |
|---|---|---|
| Centre | 0.3135 | 0.3236 |

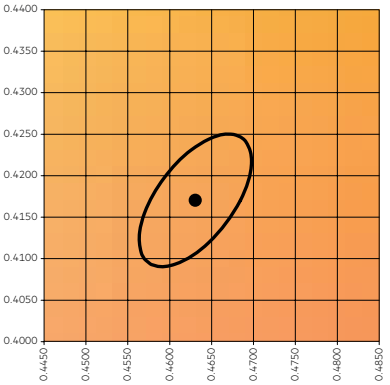



MacAdam ellipse: 3SDCM

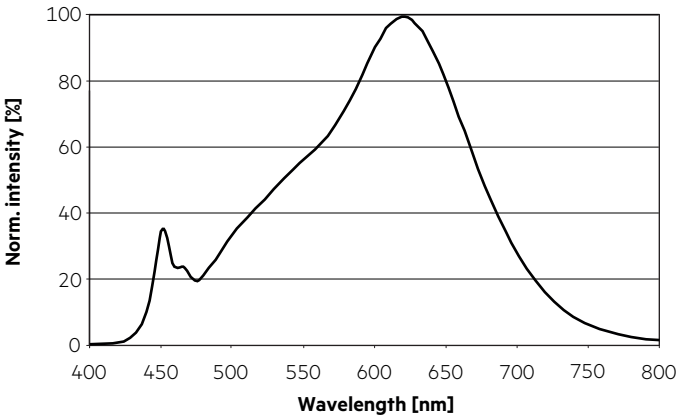



**GOLD**

| | x0 | y0 |
|---|---|---|
| Centre | 0.4633 | 0.4169 |

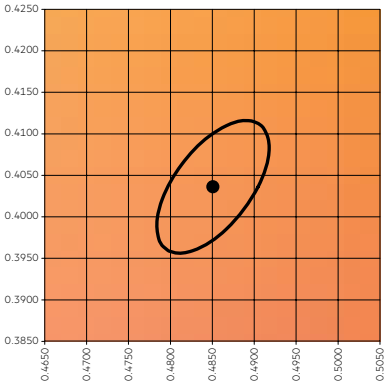



MacAdam ellipse: 3SDCM

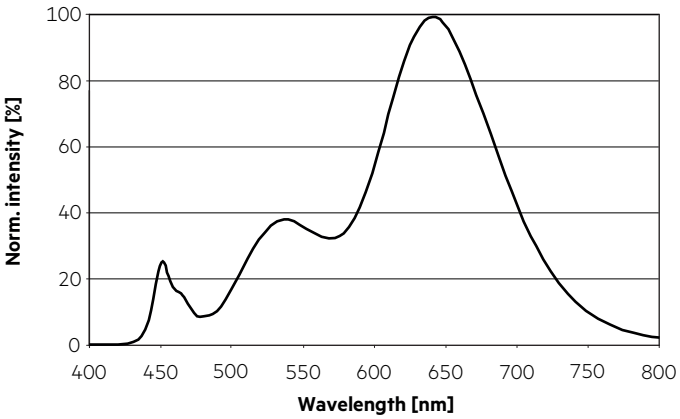


**GOLD+**

| | x0 | y0 |
|---|---|---|
| Centre | 0.4850 | 0.4040 |

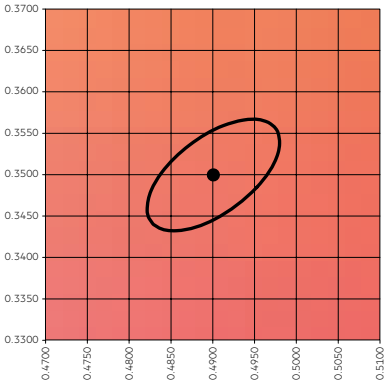



MacAdam ellipse: 3SDCM

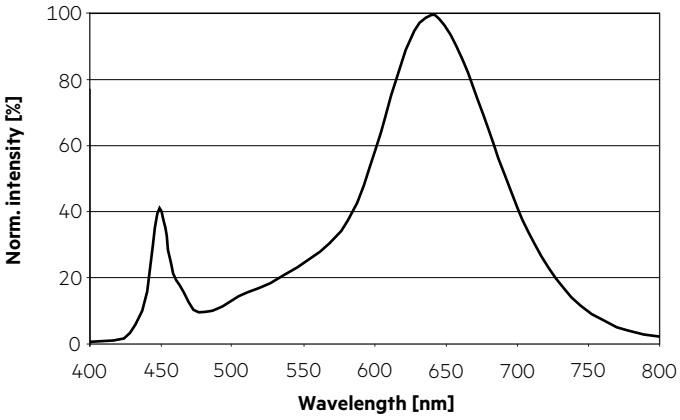



**MEAT+**

| | x0 | y0 |
|---|---|---|
| Centre | 0.4900 | 0.3500 |

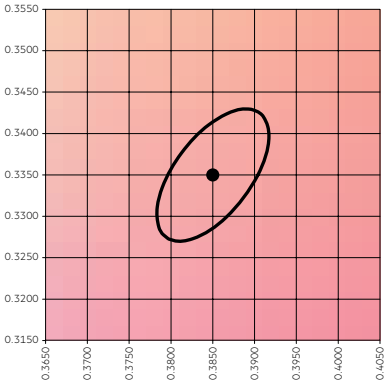



MacAdam ellipse: 3SDCM

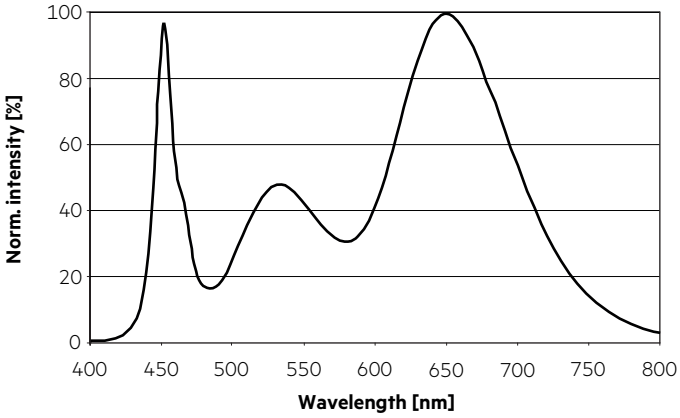



**FRESH MEAT**

| | x0 | y0 |
|---|---|---|
| Centre | 0.3850 | 0.3350 |

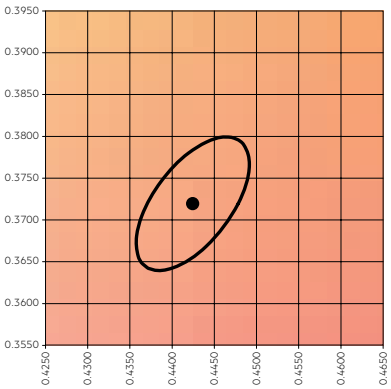



MacAdam ellipse: 3SDCM

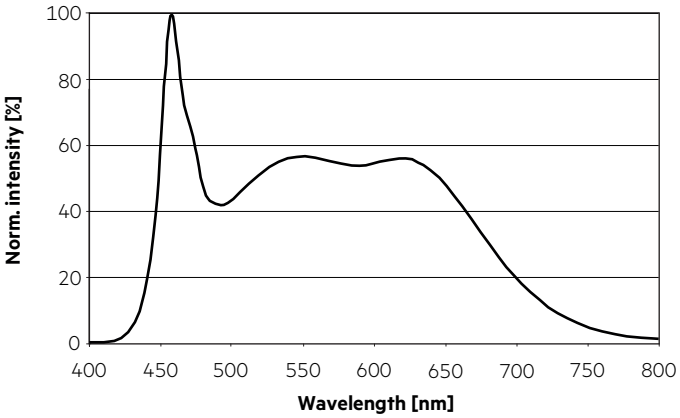


**FRUIT**

| | x0 | y0 |
|---|---|---|
| Centre | 0.4220 | 0.3720 |

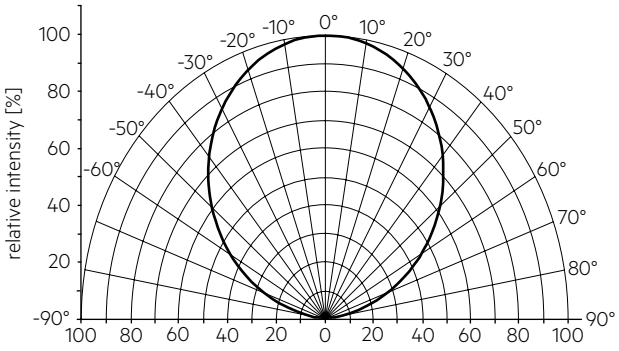



MacAdam ellipse: 3SDCM

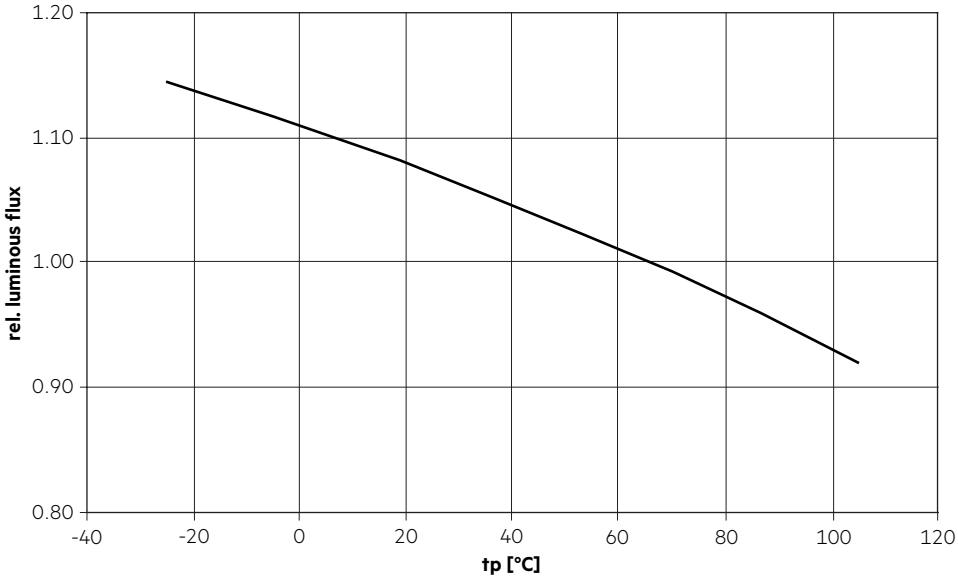



### 6.2 Light distribution

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

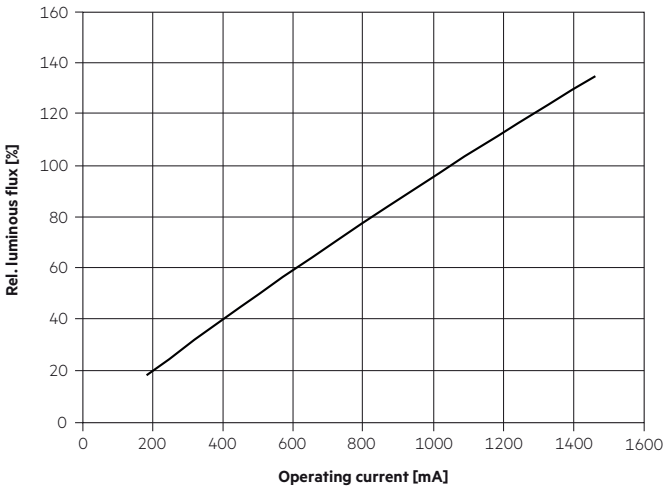



### 6.3 Relative luminous flux vs. tp temperature

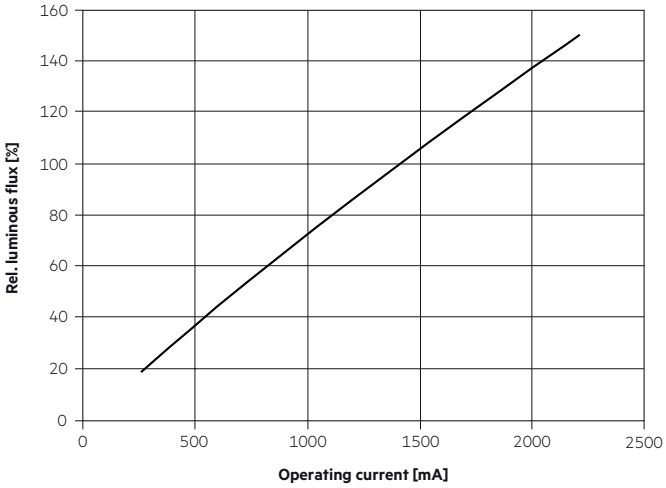


### 6.4 Relative luminous flux vs. operating current

**SLE G7 17mm 5000lm xxx EXC**




**SLE G7 21mm 6000lm xxx EXC**




## 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.

Colour rendering information are typical values and represent no warranty claim.