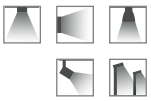


TALEXmodule SLE G4 ADV
TALEXmodule SLE ADVANCED

Product description

- For spotlights and downlights
- LES19 and LES23 modules Zhaga certified
- TIM variants for easy and fast assembly
- Housing with Snap-On feature for easy reflector mounting
- Luminous flux up to 7,250 lm at tp = 65 °C
- High efficacy up to 156 lm/W for the LED module at tp = 25 °C
- High system efficacy up to 136 lm/W at tp = 65 °C
- High system efficacy up to 136 lm/W at tp = 65 °C
- High colour consistency (MacAdam 3)
- Small LES (light emitting surface) diameter enables small beam angle for spotlights
- Excellent thermal management by COB technology
- Uniform radiation with Dam&Fill technology
- Fixing holes for M3 screws
- Integrated LED module
- Cooling required
- Flexible operating modes
- 5-year guarantee

→

Standards, page 5

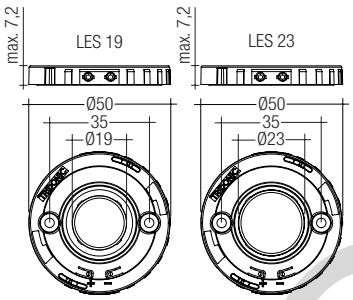
Colour temperatures and tolerances, page 11

Zhaga RoHS

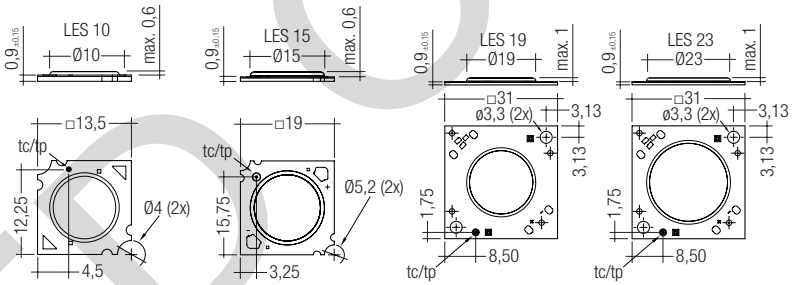
TALEXmodule SLE G4 ADV
TALEXmodule SLE ADVANCED

Technical data

Beam characteristic	115°
Ambient temperature range	-25 ... +50 °C
tp rated	65 °C
tc①	up to 100 °C
Max. DC forward current for LES10②	500 mA
Max. DC forward current for LES15②	700 mA
Max. DC forward current for LES19②	1,400 mA
Max. DC forward current for LES23②	1,750 mA
Max. permissible LF current ripple for LES10	720 mA
Max. permissible LF current ripple for LES15	1,200 mA
Max. permissible LF current ripple for LES19	1,680 mA
Max. permissible LF current ripple for LES23	2,400 mA
Max. permissible peak current for LES10	1,440 mA / max. 10 ms
Max. permissible peak current for LES15	2,400 mA / max. 10 ms
Max. permissible peak current for LES19	3,360 mA / max. 10 ms
Max. permissible peak current for LES23	4,800 mA / max. 10 ms
Max. permissible output voltage of LED Driver for LES10③	50 V
Max. permissible output voltage of LED Driver for LES15③	75 V
Max. permissible output voltage of LED Driver for LES19③	75 V
Max. permissible output voltage of LED Driver for LES23③	75 V
Insulation test voltage for LES10	0.5 kV
Insulation test voltage for LES15	1.15 kV
Insulation test voltage for LES19	1.15 kV
Insulation test voltage for LES23	1.15 kV
ESD classification	severity level 4
Risk group (EN 62471:2008)	1
Type of protection	IP00



With housing (tc/tp position same as without housing) – Dimensions in mm



Dimensions in mm

Ordering data

Type	Article number	Colour temperature	Housing	Thermal interface material	Connection cable	Packaging	Weight per pc.
SLE G4 10mm 1200lm 827 R ADV	**28000988**	2,700 K	no	no	no	36 pc(s).	0.001 kg
SLE G4 10mm 1200lm 830 R ADV	**28000989**	3,000 K	no	no	no	36 pc(s).	0.001 kg
SLE G4 10mm 1200lm 840 R ADV	**28000990**	4,000 K	no	no	no	36 pc(s).	0.001 kg
SLE G4 15mm 2000lm 830 R ADV	**89601962**	3,000 K	no	no	no	20 pc(s).	0.001 kg
SLE G4 15mm 2000lm 840 R ADV	**89601963**	4,000 K	no	no	no	20 pc(s).	0.003 kg
SLE G4 10mm 1200lm 827 C ADV	**28001236**	2,700 K	no	no	yes	20 pc(s).	0.004 kg
SLE G4 10mm 1200lm 830 C ADV	**28001237**	3,000 K	no	no	yes	20 pc(s).	0.004 kg
SLE G4 10mm 1200lm 840 C ADV	**28001238**	4,000 K	no	no	yes	20 pc(s).	0.004 kg
SLE G4 15mm 2000lm 830 C ADV	**89601947**	3,000 K	no	no	yes	20 pc(s).	0.004 kg
SLE G4 15mm 2000lm 840 C ADV	**89601948**	4,000 K	no	no	yes	20 pc(s).	0.004 kg
SLE G4 19mm 3000lm 830 C ADV	**89601951**	3,000 K	no	no	yes	20 pc(s).	0.009 kg
SLE G4 19mm 3000lm 840 C ADV	**89601952**	4,000 K	no	no	yes	20 pc(s).	0.009 kg
SLE G4 23mm 5000lm 830 C ADV	**89601920**	3,000 K	no	no	yes	20 pc(s).	0.009 kg
SLE G4 23mm 5000lm 840 C ADV	**89601955**	4,000 K	no	no	yes	20 pc(s).	0.009 kg
SLE G4 19mm 3000lm 830 H ADV	**89601930**	3,000 K	yes	no	no	50 pc(s).	0.009 kg
SLE G4 19mm 3000lm 840 H ADV	**89601931**	4,000 K	yes	no	no	50 pc(s).	0.009 kg
SLE G4 23mm 5000lm 830 H ADV	**89601928**	3,000 K	yes	no	no	50 pc(s).	0.009 kg
SLE G4 23mm 5000lm 840 H ADV	**89601934**	4,000 K	yes	no	no	50 pc(s).	0.009 kg
SLE G4 19mm 3000lm 830 H ADV TIM	**89601966**	3,000 K	yes	yes	no	50 pc(s).	0.009 kg
SLE G4 19mm 3000lm 840 H ADV TIM	**89601967**	4,000 K	yes	yes	no	50 pc(s).	0.009 kg
SLE G4 23mm 5000lm 830 H ADV TIM	**89601970**	3,000 K	yes	yes	no	50 pc(s).	0.009 kg
SLE G4 23mm 5000lm 840 H ADV TIM	**89601971**	4,000 K	yes	yes	no	50 pc(s).	0.009 kg

Specific technical data

Type[7]	Photo-metric code	Forward current	Luminous flux at tp = 25 °C[4]	Luminous flux at tp = 65 °C[4]	Power consumption[4] [6]	Min. forward voltage at tp = 65 °C	Max. forward voltage at tp = 25 °C	Luminous efficacy module at tp = 25 °C	Luminous efficacy module at tp = 65 °C	Luminous efficacy system at tp = 65 °C[5]	Colour rendering index CRI
SLE 10mm 1200lm – Operating mode HE at 350 mA											
SLE G4 10mm 1200lm 827 ADV	827/3x9	350 mA	1,270 lm	1,150 lm	12.7 W	33.7 V	39.5 V	98 lm/W	91 lm/W	82 lm/W	80
SLE G4 10mm 1200lm 830 ADV	830/3x9	350 mA	1,350 lm	1,200 lm	12.7 W	33.7 V	39.5 V	104 lm/W	94 lm/W	85 lm/W	80
SLE G4 10mm 1200lm 840 ADV	840/3x9	350 mA	1,500 lm	1,350 lm	12.7 W	33.7 V	39.5 V	115 lm/W	106 lm/W	95 lm/W	80
SLE 10mm 1200lm – Operating mode HO at 500 mA											
SLE G4 10mm 1200lm 827 ADV	827/3x9	500 mA	1,680 lm	1,470 lm	19.0 W	34.9 V	41.4 V	87 lm/W	77 lm/W	69 lm/W	80
SLE G4 10mm 1200lm 830 ADV	830/3x9	500 mA	1,780 lm	1,550 lm	19.0 W	34.9 V	41.4 V	92 lm/W	82 lm/W	74 lm/W	80
SLE G4 10mm 1200lm 840 ADV	840/3x9	500 mA	1,970 lm	1,720 lm	19.0 W	34.9 V	41.4 V	102 lm/W	91 lm/W	82 lm/W	80
SLE 15mm 2000lm – Operating mode HE at 350 mA											
SLE G4 15mm 2000lm 830 ADV	830/3x9	350 mA	1,580 lm	1,510 lm	11.6 W	31.0 V	36.0 V	134 lm/W	130 lm/W	117 lm/W	80
SLE G4 15mm 2000lm 840 ADV	840/3x9	350 mA	1,730 lm	1,650 lm	11.6 W	31.0 V	36.0 V	147 lm/W	142 lm/W	128 lm/W	80
SLE 15mm 2000lm – Operating mode NM											
SLE G4 15mm 2000lm 830 ADV	830/3x9	500 mA	2,190 lm	2,080 lm	17.3 W	32.2 V	37.4 V	125 lm/W	120 lm/W	108 lm/W	80
SLE G4 15mm 2000lm 840 ADV	840/3x9	500 mA	2,380 lm	2,270 lm	17.3 W	32.2 V	37.4 V	136 lm/W	131 lm/W	118 lm/W	80
SLE 15mm 2000lm – Operating mode HO at 700 mA											
SLE G4 15mm 2000lm 830 ADV	830/3x9	700 mA	2,920 lm	2,770 lm	25.3 W	33.8 V	39.2 V	114 lm/W	109 lm/W	99 lm/W	80
SLE G4 15mm 2000lm 840 ADV	840/3x9	700 mA	3,170 lm	2,920 lm	25.3 W	33.8 V	39.2 V	123 lm/W	115 lm/W	104 lm/W	80
SLE 19mm 3000lm – Operating mode HE at 500 mA											
SLE G4 19mm 3000lm 830 ADV	830/3x9	500 mA	2,350 lm	2,240 lm	16.4 W	30.7 V	35.6 V	141 lm/W	137 lm/W	123 lm/W	80
SLE G4 19mm 3000lm 840 ADV	840/3x9	500 mA	2,540 lm	2,420 lm	16.4 W	30.7 V	35.6 V	152 lm/W	148 lm/W	133 lm/W	80
SLE 19mm 3000lm – Operating mode NM											
SLE G4 19mm 3000lm 830 ADV	830/3x9	1,050 mA	4,550 lm	4,340 lm	37.6 W	33.4 V	38.8 V	119 lm/W	115 lm/W	104 lm/W	80
SLE G4 19mm 3000lm 840 ADV	840/3x9	1,050 mA	4,880 lm	4,520 lm	37.6 W	33.4 V	38.8 V	128 lm/W	120 lm/W	108 lm/W	80
SLE 19mm 3000lm – Operating mode HO at 1,400 mA											
SLE G4 19mm 3000lm 830 ADV	830/3x9	1,400 mA	5,800 lm	5,210 lm	52.6 W	35.1 V	40.7 V	109 lm/W	99 lm/W	89 lm/W	80
SLE G4 19mm 3000lm 840 ADV	840/3x9	1,400 mA	6,200 lm	5,400 lm	52.6 W	35.1 V	40.7 V	116 lm/W	103 lm/W	92 lm/W	80
SLE 23mm 5000lm – Operating mode HE at 700 mA											
SLE G4 23mm 5000lm 830 ADV	830/3x9	700 mA	3,410 lm	3,250 lm	22.9 W	30.5 V	35.4 V	147 lm/W	142 lm/W	128 lm/W	80
SLE G4 23mm 5000lm 840 ADV	840/3x9	700 mA	3,630 lm	3,460 lm	22.9 W	30.5 V	35.4 V	156 lm/W	151 lm/W	136 lm/W	80
SLE 23mm 5000lm – Operating mode NM											
SLE G4 23mm 5000lm 830 ADV	830/3x9	1,400 mA	6,320 lm	5,970 lm	49.3 W	32.9 V	38.2 V	126 lm/W	121 lm/W	109 lm/W	80
SLE G4 23mm 5000lm 840 ADV	840/3x9	1,400 mA	6,760 lm	6,250 lm	49.3 W	32.9 V	38.2 V	135 lm/W	127 lm/W	114 lm/W	80
SLE 23mm 5000lm – Operating mode HO at 1,750 mA											
SLE G4 23mm 5000lm 830 ADV	830/3x9	1,750 mA	7,630 lm	6,910 lm	63.8 W	34.0 V	39.4 V	118 lm/W	108 lm/W	97 lm/W	80
SLE G4 23mm 5000lm 840 ADV	840/3x9	1,750 mA	8,180 lm	7,250 lm	63.8 W	34.0 V	39.4 V	126 lm/W	114 lm/W	102 lm/W	80

[1] See Derating curves in data sheet section 2.3.

[2] Max. DC forward current varies over the temperature of the LED module. See derating curves in data sheet section 2.3.

[3] The detailed explanation, see data sheet section 3.1.

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

[5] Assumed efficiency for the LED Driver is 0.9.

[6] All values at tp = 65 °C.

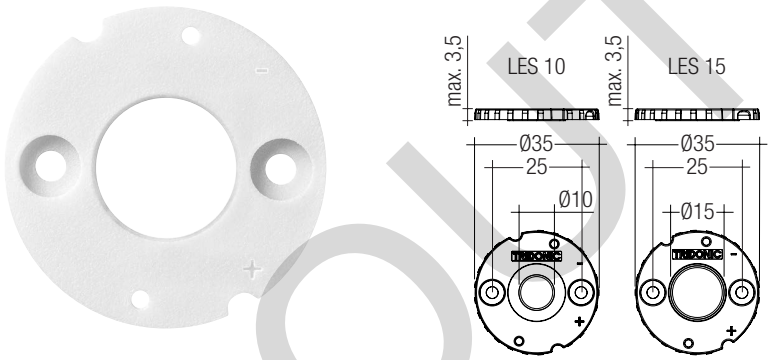
[7] HE ... high efficiency, NM ... nominal mode, HO ... high output.

ACCES-SORIES

SLE G4 housing for LES 10 / LES 15

Product description

- Housing for LES 10 / LES 15
- Diameter: 35 mm
- Material: Lexan Resin 943



Ordering data

Type	Article number	Packaging bag	Weight per pc.
SLE G4 HOUSING LES 10	28001038	100 pc(s).	0.002 kg
SLE G4 HOUSING LES 15	28001039	100 pc(s).	0.002 kg

1. Standards

EN 62031
EN 62471
IEC 62717
IEC 61000-4-2

Type	Article number	UL mark
SLE G4 15mm 2000lm 830 R ADV	89601962	yes
SLE G4 15mm 2000lm 840 R ADV	89601963	yes
SLE G4 15mm 2000lm 830 C ADV	89601947	yes
SLE G4 15mm 2000lm 840 C ADV	89601948	yes
SLE G4 19mm 3000lm 830 C ADV	89601951	yes
SLE G4 19mm 3000lm 840 C ADV	89601952	yes
SLE G4 23mm 5000lm 830 C ADV	89601920	yes
SLE G4 23mm 5000lm 840 C ADV	89601955	yes
SLE G4 19mm 3000lm 830 H ADV	89601930	yes
SLE G4 19mm 3000lm 840 H ADV	89601951	yes
SLE G4 23mm 5000lm 830 H ADV	89601928	yes
SLE G4 23mm 5000lm 840 H ADV	89601934	yes

1.1 Glow wire test

according to EN 62031 with increased temperature of 960 °C passed.

1.2 Photometric code

Key for photometric code, e. g. 830 / 369

1st digit		2nd + 3rd digit	4th digit	5th digit	6th 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)	
					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
SLE G4 10mm 1200lm 827 ADV	350 mA	A+
	500 mA	A
SLE G4 10mm 1200lm 830 ADV	350 mA	A+
	500 mA	A
SLE G4 10mm 1200lm 840 ADV	350 mA	A+
	500 mA	A+
SLE G4 15mm 2000lm 830 ADV	350 mA	A+
	500 mA	A+
	700 mA	A+
SLE G4 15mm 2000lm 840 ADV	350 mA	A++
	500 mA	A+
	700 mA	A+
SLE G4 19mm 3000lm 830 ADV	500 mA	A++
	1,050 mA	A+
	1,400 mA	A+
SLE G4 19mm 3000lm 840 ADV	500 mA	A++
	1,050 mA	A+
	1,400 mA	A+
SLE G4 23mm 5000lm 830 ADV	700 mA	A++
	1,400 mA	A+
	1,750 mA	A+
SLE G4 23mm 5000lm 840 ADV	700 mA	A++
	1,400 mA	A+
	1,750 mA	A+

2. Thermical details

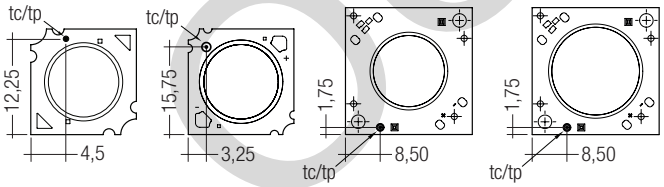
2.1 tp point, ambient temperature and life-time

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

For TALEXmodule SLE G4 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 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.

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.



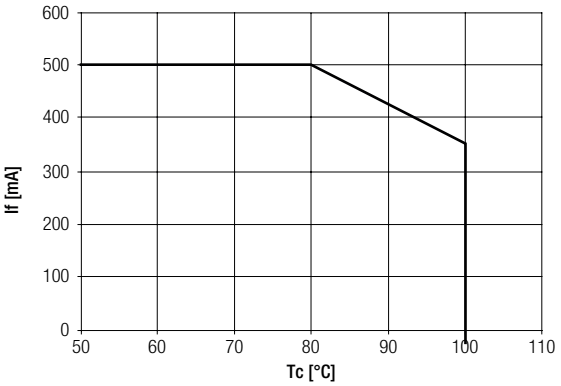
2.2 Storage and humidity

storage temperature	-30 ... +80 °C

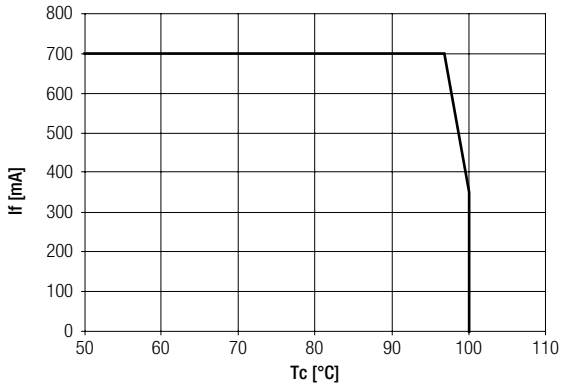
Operation only in non condensing environment.
Humidity during processing of the module should be between 30 to 70 %.

2.3 Derating curves

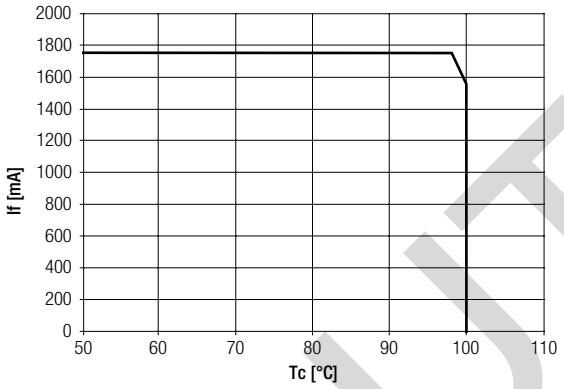
SLE G4 10mm 1200lm 8xx ADVANCED



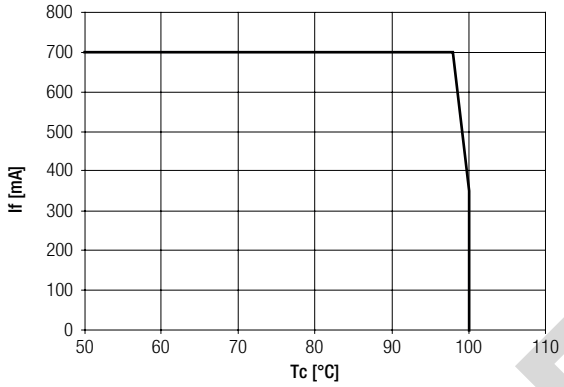
SLE G4 15mm 2000lm 830 ADVANCED



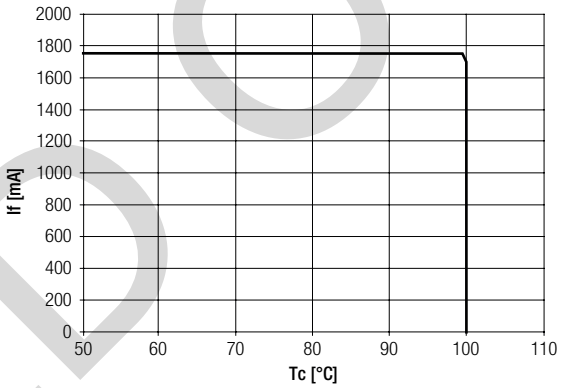
SLE G4 23mm 5000lm 830 ADVANCED



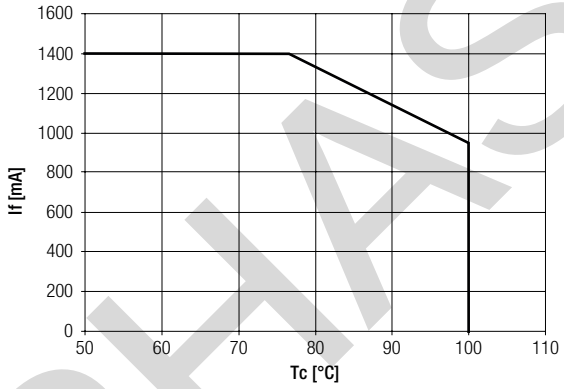
SLE G4 15mm 2000lm 840 ADVANCED



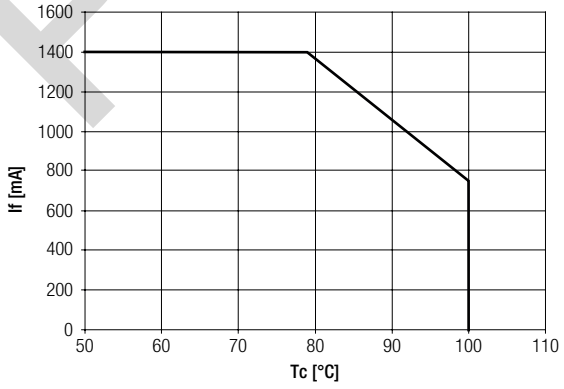
SLE G4 23mm 5000lm 840 ADVANCED



SLE G4 19mm 3000lm 830 ADVANCED



SLE G4 19mm 3000lm 840 ADVANCED



2.4 Thermal design and heat sink

The rated life of TALEX products depends to a large extent on the temperature. If the permissible temperature limits are exceeded, the life of the TALEXmodule SLE G4 will be greatly reduced or the TALEXmodule SLE G4 may be destroyed.

2.5 Heat sink values

SLE G4 10mm 1200lm 8xx ADVANCED

ta	tp	Operating current	$R_{th, hs-a}$
25 °C	65 °C	350 mA	3.94 K/W
30 °C	65 °C	350 mA	3.41 K/W
40 °C	65 °C	350 mA	2.36 K/W
50 °C	65 °C	350 mA	1.31 K/W
25 °C	65 °C	500 mA	2.43 K/W
30 °C	65 °C	500 mA	2.09 K/W
40 °C	65 °C	500 mA	1.41 K/W
50 °C	65 °C	500 mA	0.74 K/W

SLE G4 15mm 2000lm 8x0 ADVANCED

ta	tp	Operating current	$R_{th, hs-a}$
25 °C	65 °C	350 mA	4.63 K/W
30 °C	65 °C	350 mA	4.04 K/W
40 °C	65 °C	350 mA	2.84 K/W
50 °C	65 °C	350 mA	1.65 K/W
25 °C	65 °C	500 mA	2.97 K/W
30 °C	65 °C	500 mA	2.58 K/W
40 °C	65 °C	500 mA	1.80 K/W
50 °C	65 °C	500 mA	1.03 K/W
25 °C	65 °C	700 mA	1.86 K/W
30 °C	65 °C	700 mA	1.61 K/W
40 °C	65 °C	700 mA	1.11 K/W
50 °C	65 °C	700 mA	0.61 K/W

SLE G4 19mm 3000lm 8x0 ADVANCED

ta	tp	Operating current	$R_{th, hs-a}$
25 °C	65 °C	500 mA	3.33 K/W
30 °C	65 °C	500 mA	2.90 K/W
40 °C	65 °C	500 mA	2.03 K/W
50 °C	65 °C	500 mA	1.16 K/W
25 °C	65 °C	1,050 mA	1.26 K/W
30 °C	65 °C	1,050 mA	1.09 K/W
40 °C	65 °C	1,050 mA	0.74 K/W
50 °C	65 °C	1,050 mA	0.39 K/W
25 °C	65 °C	1,400 mA	0.80 K/W
30 °C	65 °C	1,400 mA	0.69 K/W
40 °C	65 °C	1,400 mA	0.45 K/W
50 °C	65 °C	1,400 mA	0.22 K/W

SLE G4 23mm 5000lm 8x0 ADVANCED

ta	tp	Operating current	$R_{th, hs-a}$
25 °C	65 °C	700 mA	2.42 K/W
30 °C	65 °C	700 mA	2.10 K/W
40 °C	65 °C	700 mA	1.46 K/W
50 °C	65 °C	700 mA	0.82 K/W
25 °C	65 °C	1,400 mA	0.96 K/W
30 °C	65 °C	1,400 mA	0.82 K/W
40 °C	65 °C	1,400 mA	0.55 K/W
50 °C	65 °C	1,400 mA	0.27 K/W
25 °C	65 °C	1,750 mA	0.67 K/W
30 °C	65 °C	1,750 mA	0.57 K/W
40 °C	65 °C	1,750 mA	0.37 K/W
50 °C	65 °C	1,750 mA	0.17 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 TALEXmodule SLE G4 and heat sink with heat-conducting paste or heat conducting adhesive film is absolutely necessary.
Additionally the TALEXmodule SLE G4 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 $l > 1$ 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.

The SLE G4 TIM modules will be delivered with thermal interface foil of type Tgard 3000.
The bottom side of the thermal pad is glued to the module, the upper side is not adhesive. This makes it easier to position the module when it is connected to the heat sink.

The thermal pad is an integral part of the “TIM” module and must not be confused with a protective foil. The thermal pad must not pulled off!

For further information about the thermal interface foil please refer to the datasheet of the product Tgard 3000.

3. Installation / wiring

3.1 Electrical supply/choice of LED Driver

TALEXmodule SLE G4 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 TALEX LED Drivers from Tridonic in combination with TALEXmodule SLE G4 guarantees the necessary protection for safe and reliable operation.

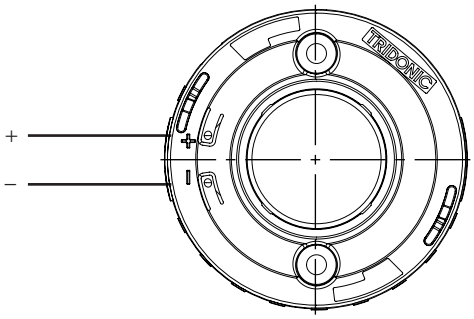
If a LED Driver other than Tridonic TALEXconverter is used, it must provide the following protection:
- Short-circuit protection
- Overload protection
- Overtemperature protection

TALEXmodule SLE G4 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 TALEXmodule SLE G4.

TALEXmodule SLE G4 are basic isolated up to 75 V (for LES10: 50 V) 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 75 V (for LES10: above 50 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.

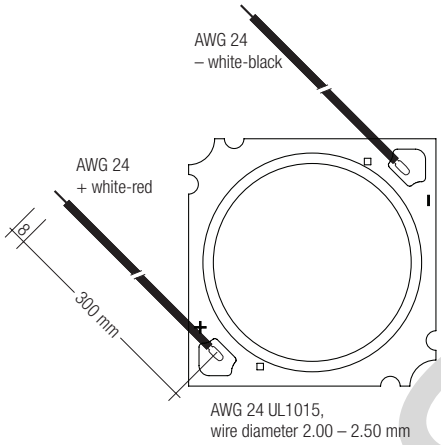
3.2 Wiring

Wiring with housing (LES19 and LES23)

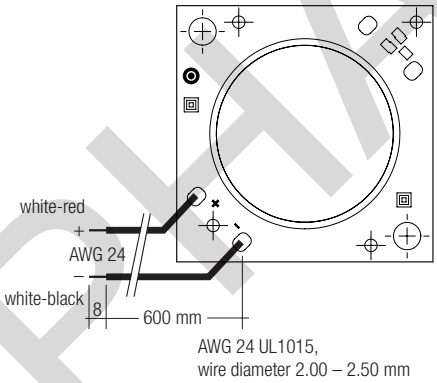


Wiring without housing

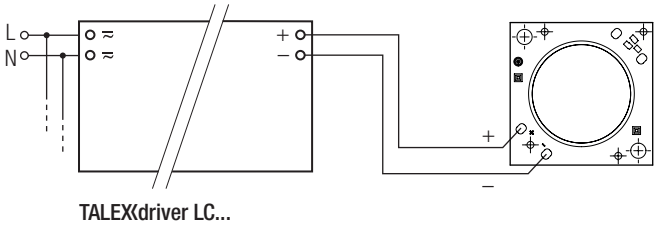
LES10 and LES15



LES19 and LES23



Wiring example



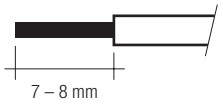
TALEXdriver LC...

3.3 Wiring type and cross section

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 (7 – 8 mm).

Removing wires by lightly pressing on the push button.

wire preparation:



3.4 Mounting instruction

TALEXmodule SLE G4 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 TALEX modules.

None of the components of the TALEXmodule SLE G4 (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 with 2 screws per module. In order not to damage the modules only rounded head screws and an additional plastic flat washer should be used for LED modules without housing.

For further information please refer to to the brochure entitled "Technical Design-In-Guide SLE GEN4".

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. 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 maintenace 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 inital luminous flux, respectivly 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

SLE G4 10mm 1200lm 8xx ADVANCED

Operating current	tp temperature	L90 / F10	L90 / F50	L80 / F10	L80 / F50	L70 / F10	L70 / F50
350 mA	65 °C	45,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	75 °C	33,000 h	50,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	85 °C	25,000 h	38,000 h	53,000 h	> 60,000 h	> 60,000 h	> 60,000 h
500 mA	65 °C	34,000 h	51,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	75 °C	25,000 h	38,000 h	53,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	85 °C	19,000 h	29,000 h	40,000 h	> 60,000 h	> 60,000 h	> 60,000 h

SLE G4 15mm 2000lm 8x0 ADVANCED

Operating current	tp temperature	L90 / F10	L90 / F50	L80 / F10	L80 / F50	L70 / F10	L70 / F50
350 mA	65 °C	55,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	75 °C	41,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	85 °C	31,000 h	47,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
500 mA	65 °C	49,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	75 °C	36,000 h	54,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	85 °C	27,000 h	41,000 h	58,000 h	> 60,000 h	> 60,000 h	> 60,000 h
700 mA	65 °C	40,000 h	≥ 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	75 °C	30,000 h	44,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	85 °C	22,000 h	33,000 h	47,000 h	> 60,000 h	> 60,000 h	> 60,000 h

SLE G4 19mm 3000lm 8x0 ADVANCED

Operating current	tp temperature	L90 / F10	L90 / F50	L80 / F10	L80 / F50	L70 / F10	L70 / F50
500 mA	65 °C	57,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	75 °C	42,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	85 °C	32,000 h	48,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
1,050 mA	65 °C	42,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	75 °C	31,000 h	46,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	85 °C	23,000 h	35,000 h	50,000 h	> 60,000 h	> 60,000 h	> 60,000 h
1,400 mA	65 °C	32,000 h	48,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	75 °C	24,000 h	36,000 h	50,000 h	> 60,000 h	> 60,000 h	> 60,000 h

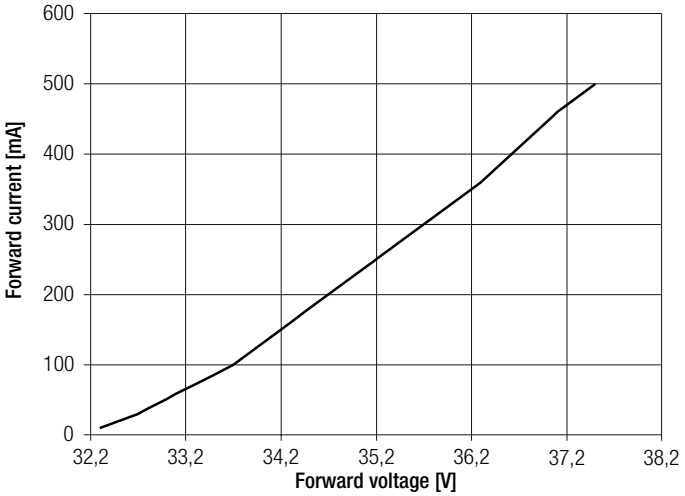
SLE G4 23mm 5000lm 8x0 ADVANCED

Operating current	tp temperature	L90 / F10	L90 / F50	L80 / F10	L80 / F50	L70 / F10	L70 / F50
700 mA	65 °C	58,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	75 °C	43,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	85 °C	32,000 h	49,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
1,400 mA	65 °C	45,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	75 °C	33,000 h	50,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	85 °C	25,000 h	38,000 h	53,000 h	> 60,000 h	> 60,000 h	> 60,000 h
1,750 mA	65 °C	38,000 h	58,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	75 °C	29,000 h	43,000 h	> 60,000 h	> 60,000 h	> 60,000 h	> 60,000 h
	85 °C	22,000 h	32,000 h	46,000 h	> 60,000 h	> 60,000 h	> 60,000 h

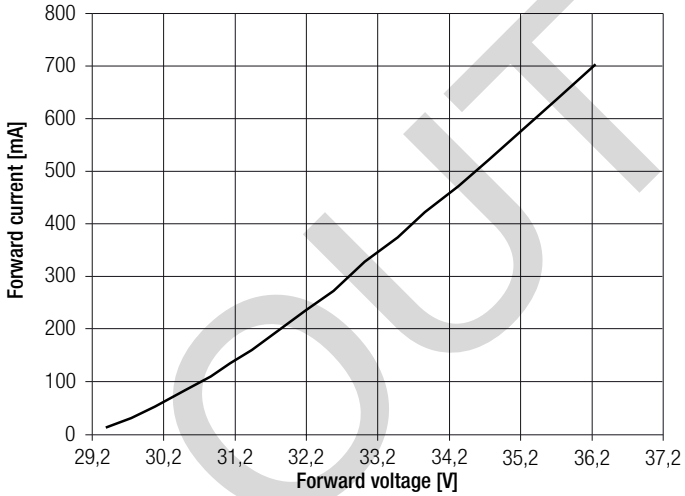
5. Electrical values

5.1 Typ. forward voltage vs. forward current at tp = 65 °C

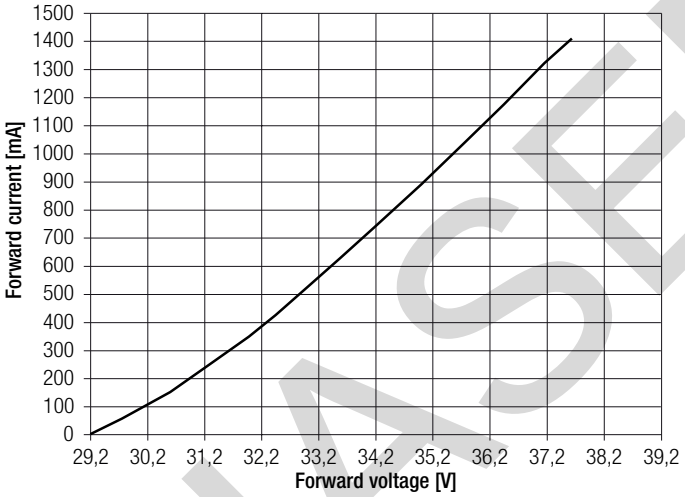
SLE G4 10mm 1200lm 8xx ADVANCED



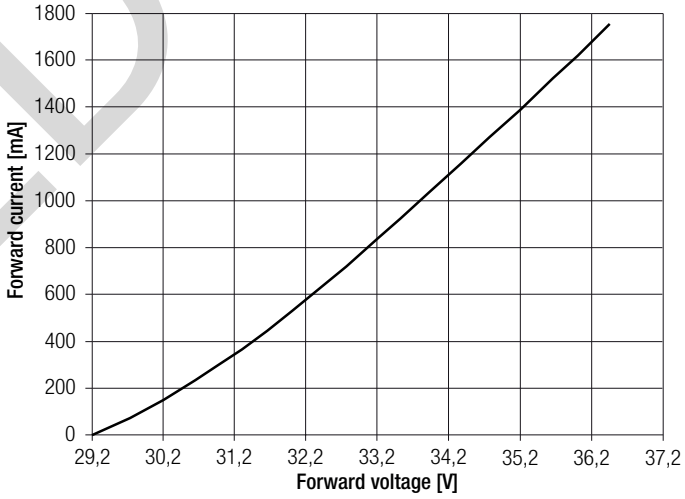
SLE G4 15mm 2000lm 8x0 ADVANCED



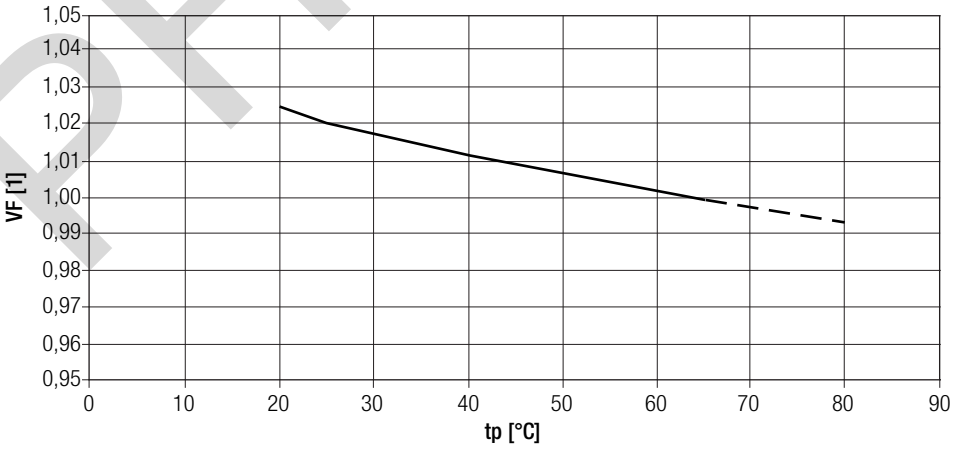
SLE G4 19mm 3000lm 8x0 ADVANCED



SLE G4 23mm 5000lm 8x0 ADVANCED



5.2 Forward voltage vs. tp temperature



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

6. Photometric charcteristics

6.1 Coordinates and tolerances according to CIE 1931

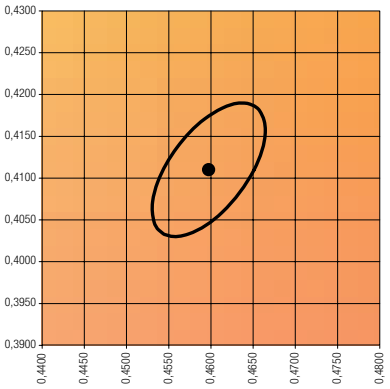
The specified colour coordinates are measured integral after a settling time of 100 ms. The current impuls depends on the module type.

Module type	Current impulse
TALEXmodule SLE G4 10mm 1200lm 8xx ADV	350 mA
TALEXmodule SLE G4 15mm 2000lm 8x0 ADV	500 mA
TALEXmodule SLE G4 19mm 3000lm 8x0 ADV	1,050 mA
TALEXmodule SLE G4 23mm 5000lm 8x0 ADV	1,400 mA

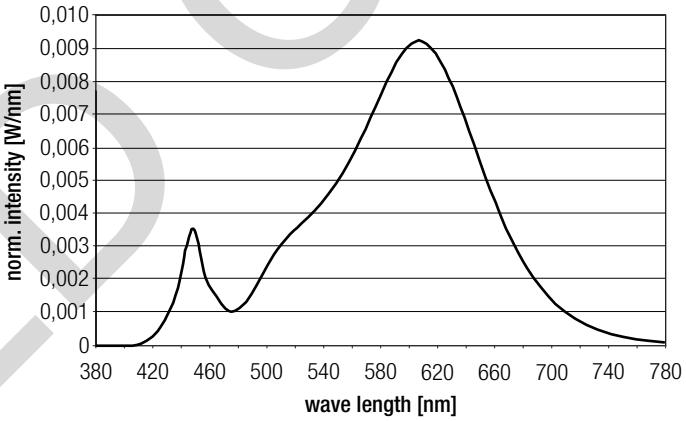
The ambient temperature of the measurement is ta = 25 °C.
The measurement tolerance of the colour coordinates are ± 0.01.

2,700 K

	x0	y0
Centre	0.4599	0.4106

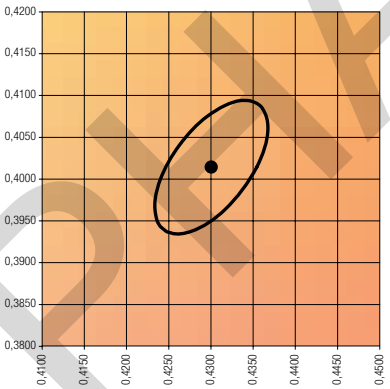


MacAdam ellipse: 3SDCM

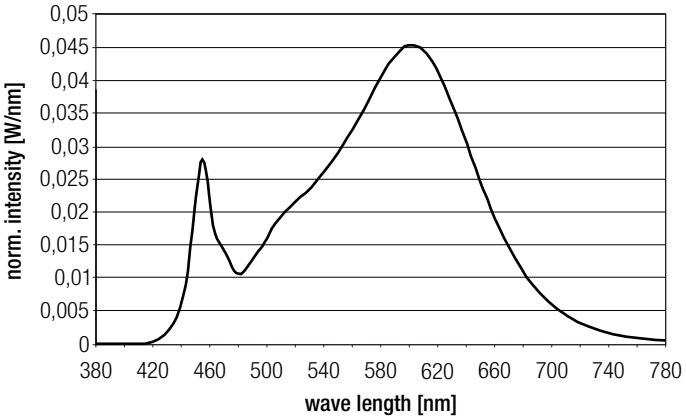


3,000 K

	x0	y0
Centre	0.4300	0.4016

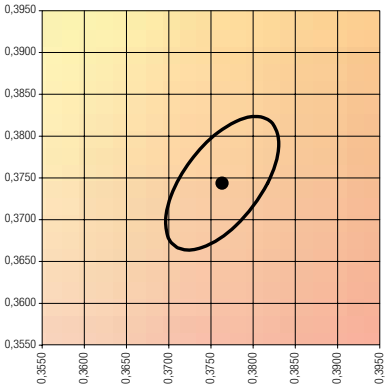


MacAdam ellipse: 3SDCM

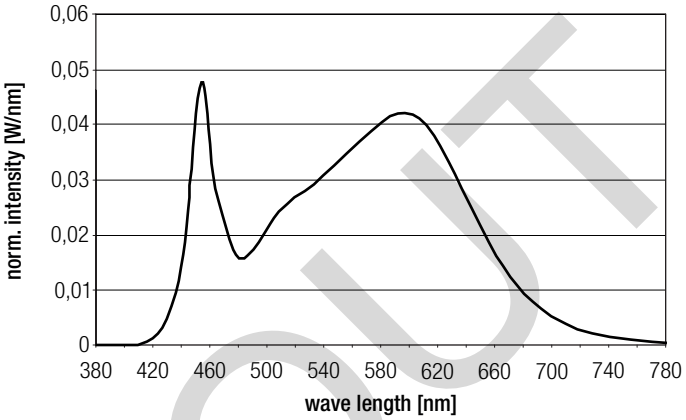


4,000 K

	x0	y0
Centre	0.3761	0.3740

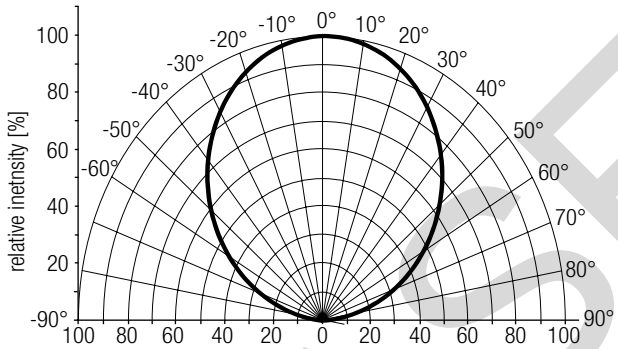


MacAdam ellipse: 3SDCM



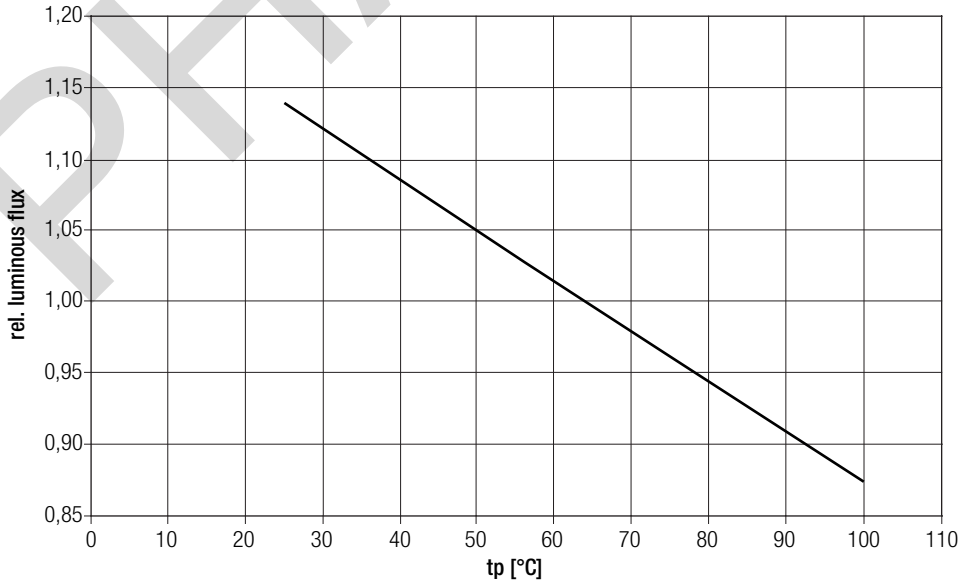
6.2 Light distribution

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



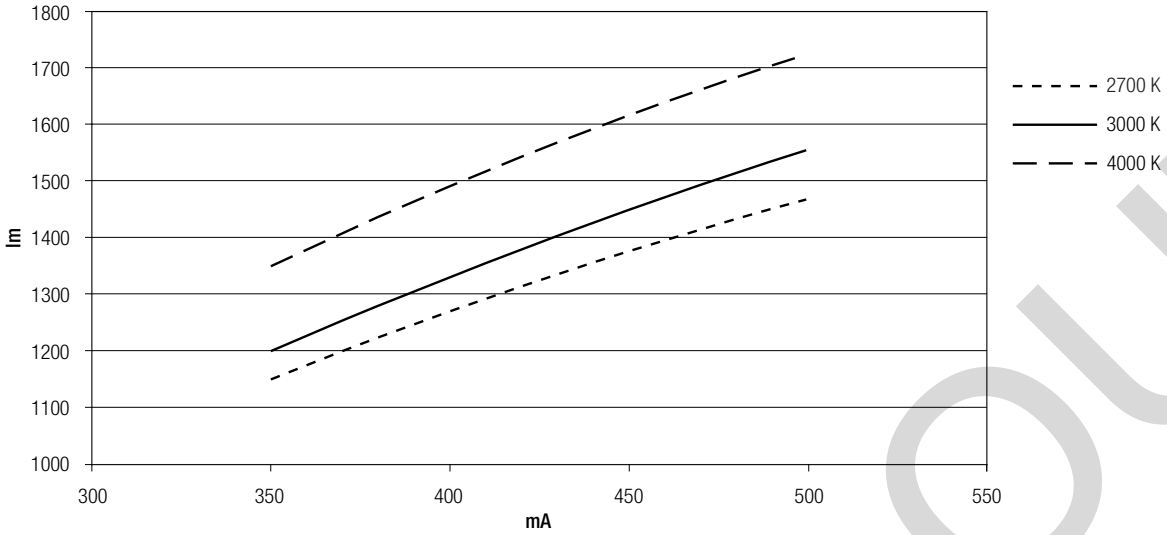
For further information see Design-in Guide, 3D data and photometric data on www.tridonic.com or on request.

6.3 Relative luminous flux vs. tp temperature

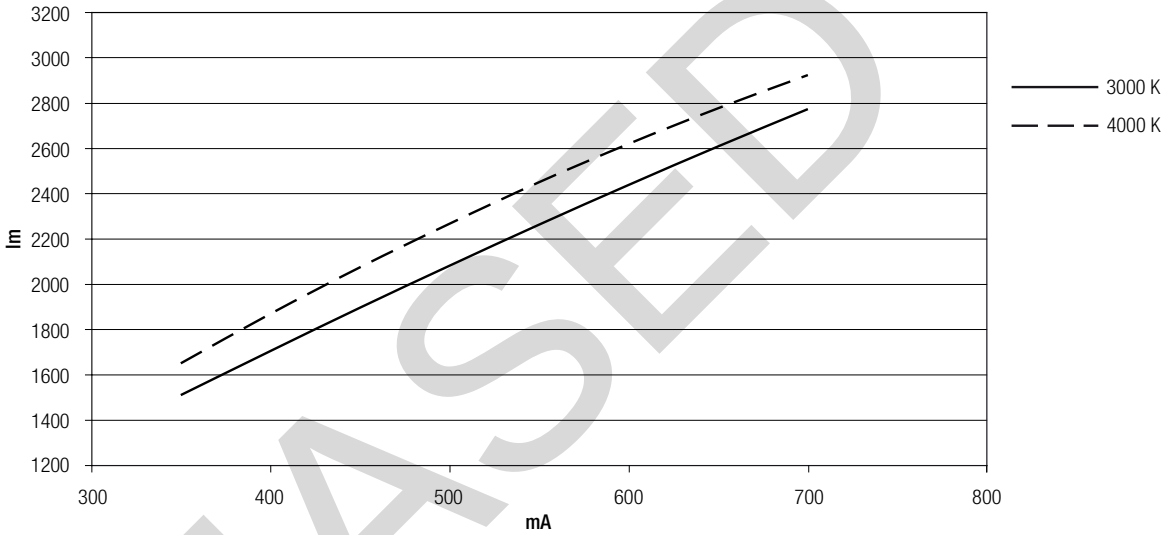


6.4 Relative luminous flux vs. operating current

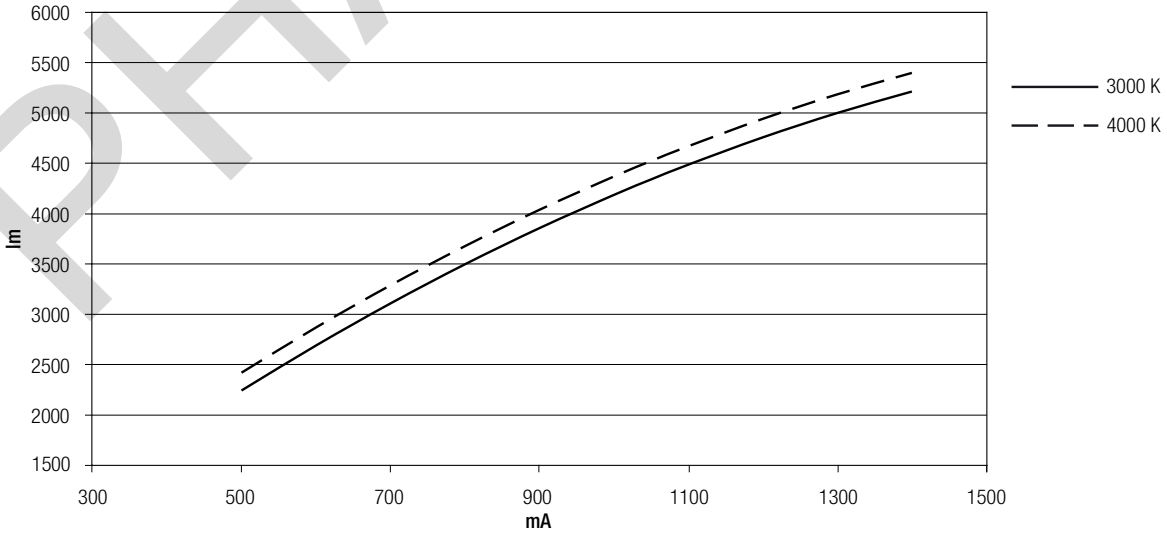
SLE G4 10mm 1200lm 8xx ADVANCED at tp = 65 °C



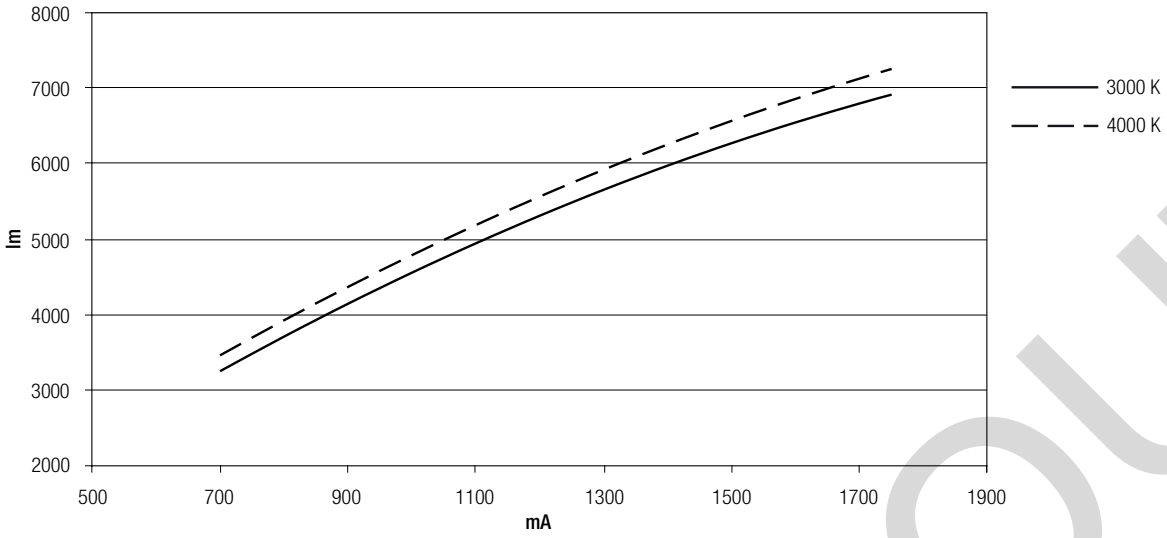
SLE G4 15mm 2000lm 8x0 ADVANCED at tp = 65 °C



SLE G4 19mm 3000lm 8x0 ADVANCED at tp = 65 °C



SLE G4 23mm 5000lm 8x0 ADVANCED at tp = 65 °C



ZHAGA relevant technical data

Specific technical data

Type	Photo-metric code	Forward current	Luminous flux at tp = 25 °C①	Luminous flux at tp = 65 °C①	Power consumption module①③	Min. forward voltage at tp = 65 °C	Max. forward voltage at tp = 25 °C	Luminous efficacy module at tp = 25 °C	Luminous efficacy module at tp = 65 °C	Luminous efficacy system at tp = 65 °C②	Colour rendering index CRI
SLE G4 19mm 3000lm 830 ADV	830/3x9	1,050 mA	4,550 lm	4,340 lm	37.6 W	33.4 V	38.8 V	119 lm/W	115 lm/W	104 lm/W	80
SLE G4 19mm 3000lm 840 ADV	840/3x9	1,050 mA	4,880 lm	4,520 lm	37.6 W	33.4 V	38.8 V	128 lm/W	120 lm/W	108 lm/W	80
SLE G4 23mm 5000lm 830 ADV	830/3x9	1,400 mA	6,320 lm	5,970 lm	49.3 W	32.9 V	38.2 V	126 lm/W	121 lm/W	109 lm/W	80
SLE G4 23mm 5000lm 840 ADV	840/3x9	1,400 mA	6,760 lm	6,250 lm	49.3 W	32.9 V	38.2 V	135 lm/W	127 lm/W	114 lm/W	80

① Tolerance range for optical and electrical data: ±10 %.

② Assumed efficiency for the LED Driver is 0.9.

③ All values at tp = 65 °C.

Heat sink values, thermal power values and thermal resistance values

Type	Forward current	Luminous flux category	$P_{th,rear,max}$	$R_{th,rear,max}$ at t_a = 25 °C
SLE G4 19mm 3000lm 830 ADV	1,050 mA	C30	29.2 W	1.52 K/W
SLE G4 19mm 3000lm 840 ADV	1,050 mA	C40	37.3 W	1.19 K/W
SLE G4 23mm 5000lm 830 ADV	1,400 mA	C50	25.2 W	1.58 K/W
SLE G4 23mm 5000lm 840 ADV	1,400 mA	C50	33.5 W	1.27 K/W

Dimensions

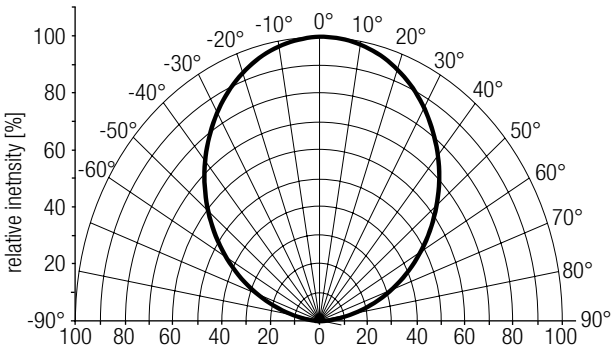
	SLE G4 19mm	SLE G4 23mm
Casing dimensions	50 ± 0.15 mm	50 ± 0.15 mm
LES diameter	max. 19.17 mm	max. 23.2 mm
OCA classification	OCA C	OCA D

ZHAGA relevant technical data

Optical characteristics TALEXmodule SLE G4

The optical design of the TALEXmodule SLE G4 product line ensures optimum homogenity for the light distribution.

Light distribution



Rational symmetry of luminous intensity SLE G4 19mm 3000lm 830 ADV

Polar angle	C slices	max. deviation from average curve
- 60° bis + 60°	al	± 2.28 %
- 75° bis - 62.5° und + 62.5° bis + 75°	0° bis + 45° und + 135° bis + 165°	± 21.92 %
- 75° bis - 62.5° und + 62.5° bis + 75°	+ 60° bis + 120°	NA

Rational symmetry of luminous intensity SLE G4 19mm 3000lm 840 ADV

Polar angle	C slices	max. deviation from average curve
- 60° bis + 60°	all	± 5.03 %
- 75° bis - 62.5° und + 62.5° bis + 75°	0° bis + 45° und + 135° bis + 165°	± 11.66 %
- 75° bis - 62.5° und + 62.5° bis + 75°	+ 60° bis + 120°	NA

Rational symmetry of luminous intensity SLE G4 23mm 5000lm 830 ADV

Polar angle	C slices	max. deviation from average curve
- 60° bis + 60°	all	± 1.50 %
- 75° bis - 62.5° und + 62.5° bis + 75°	0° bis + 45° und + 135° bis + 165°	± 13.75 %
- 75° bis - 62.5° und + 62.5° bis + 75°	+ 60° bis + 120°	NA

Rational symmetry of luminous intensity SLE G4 23mm 5000lm 840 ADV

Polar angle	C slices	max. deviation from average curve
- 60° bis + 60°	all	± 3.15 %
- 75° bis - 62.5° und + 62.5° bis + 75°	0° bis + 45° und + 135° bis + 165°	± 4.26 %
- 75° bis - 62.5° und + 62.5° bis + 75°	+ 60° bis + 120°	NA

Partial luminous flux for flux zones SLE G4 19mm 3000lm 830 ADV

CIE cumulative flux zone	γ – angle	Minimum of relative partial flux	Maximum des relativ anteiligen Lichtstromes
FC1	0° – 41.4°	49 %	50 %
FC2 – FC1	41.4° – 60°	34 %	34 %
FC3 – FC2	60° – 75.5°	15 %	16 %
FC4 – FC3	75.5° – 90°	0 %	1 %

Partial luminous flux for flux zones SLE G4 19mm 3000lm 840 ADV

CIE cumulative flux zone	γ – angle	Minimum of relative partial flux	Maximum of relative partial flux
FC1	0° – 41.4°	46 %	48 %
FC2 – FC1	41.4° – 60°	32 %	32 %
FC3 – FC2	60° – 75.5°	17 %	18 %
FC4 – FC3	75.5° – 90°	3 %	4 %

Partial luminous flux for flux zones SLE G4 23mm 5000lm 830 ADV

CIE cumulative flux zone	γ – angle	Minimum of relative partial flux	Maximum des relativ anteiligen Lichtstromes
FC1	0° – 41.4°	50 %	51 %
FC2 – FC1	41.4° – 60°	34 %	34 %
FC3 – FC2	60° – 75.5°	15 %	15 %
FC4 – FC3	75.5° – 90°	1 %	1 %

Partial luminous flux for flux zones SLE G4 23mm 5000lm 840 ADV

CIE cumulative flux zone	γ – angle	Minimum of relative partial flux	Maximum of relative partial flux
FC1	0° – 41.4°	47 %	47 %
FC2 – FC1	41.4° – 60°	32 %	32 %
FC3 – FC2	60° – 75.5°	17 %	17 %
FC4 – FC3	75.5° – 90°	3 %	4 %