

Module SLE G7 ADV

Modules SLE advanced

Product description

- For spotlights and downlights
- TIM variants for easy and fast assembly
- Housing with Snap-On feature for easy reflector mounting
- 50 mm housing with 35 mm mounting hole distance acc. to Zhaga
- For operating with SELV Driver
- Luminous flux up to 10,990 lm at $t_p = 65^\circ\text{C}$
- High efficacy up to 190 lm/W for the LED module at $t_p = 25^\circ\text{C}$
- High system efficacy up to 164 lm/W at $t_p = 65^\circ\text{C}$
- High colour consistency (MacAdam 3)
- 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 10

Colour temperatures and tolerances, page 18



LES13 + LES15 with housing



LES21 with housing



LES09



LES13



LES15



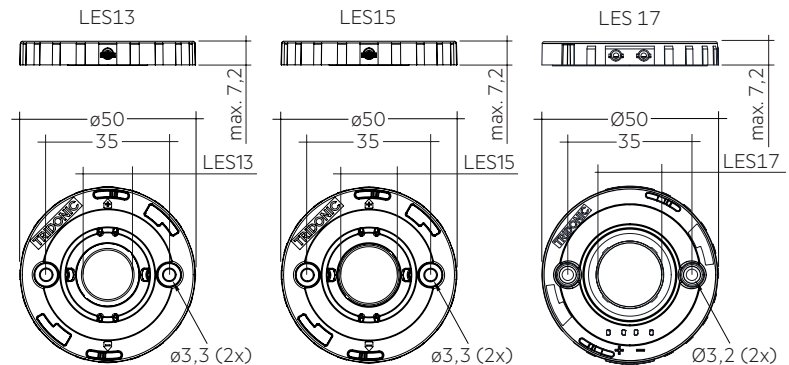


Module SLE G7 ADV

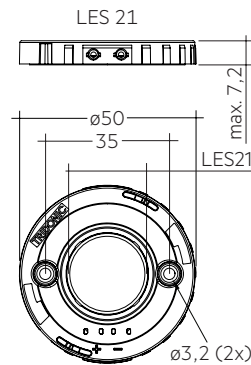
Modules SLE advanced

Technical data

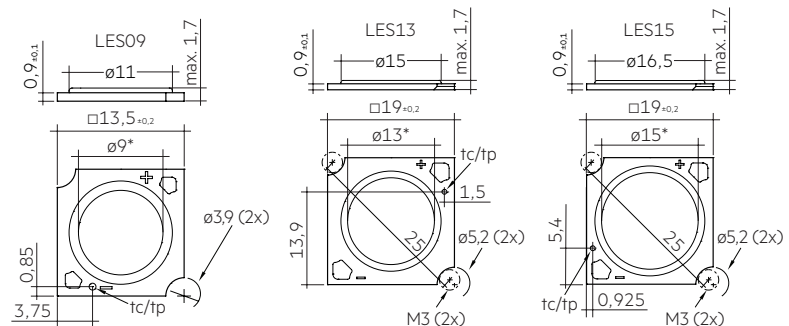
Beam characteristic	115°
Ambient temperature range	-30 ... +80 °C
tp rated	65 °C
tc ^①	105 °C
Irated for LES9	350 mA
Irated for LES13	500 mA
Irated for LES15	900 mA
Irated for LES17	1,050 mA
Irated for LES21	1,400 mA
I _{max} for LES9 ^①	550 mA
I _{max} for LES13 ^①	990 mA
I _{max} for LES15 ^①	1,320 mA
I _{max} for LES17 ^①	1,540 mA
I _{max} for LES21 ^①	2,200 mA
Max. permissible LF current ripple for LES9	720 mA
Max. permissible LF current ripple for LES13	1,440 mA
Max. permissible LF current ripple for LES15	1,920 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 LES9	1,080 mA / max. 8 ms
Max. permissible peak current for LES13	1,800 mA / max. 8 ms
Max. permissible peak current for LES15	2,160 mA / max. 8 ms
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
Electrical strength	0.5 kV
CTI of the printed circuit board	≥ 600
ESD classification	Severity level 4
Risk group (EN 62471:2008) for LES9 (at I _{max})	RG2 (E _{thr} = 1635 lx, RG1 at d ≥ 897 mm)
Risk group (EN 62471:2008) for LES9 (at I ≤ 500 mA)	RG1
Risk group (EN 62471:2008) for LES13 (at I _{max})	RG2 (E _{thr} = 1635 lx, RG1 at d ≥ 1,220 mm)
Risk group (EN 62471:2008) for LES13 (at I ≤ 900 mA)	RG1
Risk group (EN 62471:2008) for LES15 (at I _{max})	RG2 (E _{thr} = 1635 lx, RG1 at d ≥ 1,410 mm)
Risk group (EN 62471:2008) for LES15 (at I ≤ 1200 mA)	RG1
Risk group (EN 62471:2008) for LES17 (at I _{max})	RG2 (E _{thr} = 1771 lx, RG1 at d ≥ 1,145 mm)
Risk group (EN 62471:2008) for LES17 (at I ≤ 1400 mA)	RG1
Risk group (EN 62471:2008) for LES21	RG1
Type of protection	IP00



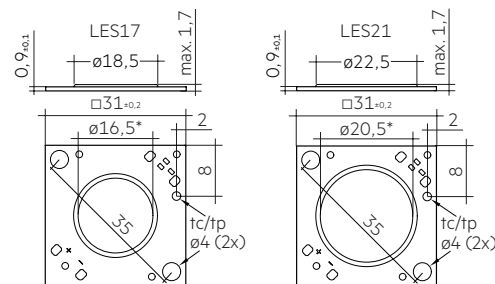
Dimensions in mm, *optical LES



Dimensions in mm, *optical LES



Dimensions in mm, *optical LES



Dimensions in mm, *optical LES

Module SLE G7 ADV

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Ordering data

Type	Article number	Colour temperature	Colour rendering index CRI	Packaging	Weight per pc.
SLE G7 09mm – Without housing					
SLE G7 09mm 1200lm 830 R ADV	28002510	3,000 K	> 80	20 pc(s).	0.001 kg
SLE G7 09mm 1200lm 840 R ADV	28002511	4,000 K	> 80	20 pc(s).	0.001 kg
SLE G7 09mm 1200lm 927 R ADV	28002512	2,700 K	> 90	20 pc(s).	0.001 kg
SLE G7 09mm 1200lm 930 R ADV	28002513	3,000 K	> 90	20 pc(s).	0.001 kg
SLE G7 09mm 1200lm 940 R ADV	28002514	4,000 K	> 90	20 pc(s).	0.001 kg
SLE G7 13mm – Without housing					
SLE G7 13mm 3000lm 827 R ADV	28002515	2,700 K	> 80	20 pc(s).	0.002 kg
SLE G7 13mm 3000lm 830 R ADV	28002516	3,000 K	> 80	20 pc(s).	0.002 kg
SLE G7 13mm 3000lm 835 R ADV	28002517	3,500 K	> 80	20 pc(s).	0.002 kg
SLE G7 13mm 3000lm 840 R ADV	28002518	4,000 K	> 80	20 pc(s).	0.002 kg
SLE G7 13mm 3000lm 927 R ADV	28002519	2,700 K	> 90	20 pc(s).	0.002 kg
SLE G7 13mm 3000lm 930 R ADV	28002520	3,000 K	> 90	20 pc(s).	0.002 kg
SLE G7 13mm 3000lm 935 R ADV	28002521	3,500 K	> 90	20 pc(s).	0.002 kg
SLE G7 13mm 3000lm 940 R ADV	28002522	4,000 K	> 90	20 pc(s).	0.002 kg
SLE G7 15mm – Without housing					
SLE G7 15mm 4000lm 827 R ADV	28002523	2,700 K	> 80	20 pc(s).	0.002 kg
SLE G7 15mm 4000lm 830 R ADV	28002524	3,000 K	> 80	20 pc(s).	0.002 kg
SLE G7 15mm 4000lm 835 R ADV	28002525	3,500 K	> 80	20 pc(s).	0.002 kg
SLE G7 15mm 4000lm 840 R ADV	28002526	4,000 K	> 80	20 pc(s).	0.002 kg
SLE G7 15mm 4000lm 927 R ADV	28002527	2,700 K	> 90	20 pc(s).	0.002 kg
SLE G7 15mm 4000lm 930 R ADV	28002528	3,000 K	> 90	20 pc(s).	0.002 kg
SLE G7 15mm 4000lm 935 R ADV	28002529	3,500 K	> 90	20 pc(s).	0.002 kg
SLE G7 15mm 4000lm 940 R ADV	28002530	4,000 K	> 90	20 pc(s).	0.002 kg
SLE G7 17mm – Without housing					
SLE G7 17mm 5000lm 827 R ADV	28002588	2,700 K	> 80	10 pc(s).	0.002 kg
SLE G7 17mm 5000lm 830 R ADV	28002589	3,000 K	> 80	10 pc(s).	0.002 kg
SLE G7 17mm 5000lm 835 R ADV	28002590	3,500 K	> 80	10 pc(s).	0.002 kg
SLE G7 17mm 5000lm 840 R ADV	28002591	4,000 K	> 80	10 pc(s).	0.002 kg
SLE G7 17mm 5000lm 927 R ADV	28002592	2,700 K	> 90	10 pc(s).	0.002 kg
SLE G7 17mm 5000lm 930 R ADV	28002593	3,000 K	> 90	10 pc(s).	0.002 kg
SLE G7 17mm 5000lm 935 R ADV	28002594	3,500 K	> 90	10 pc(s).	0.002 kg
SLE G7 17mm 5000lm 940 R ADV	28002595	4,000 K	> 90	10 pc(s).	0.002 kg
SLE G7 21mm – Without housing					
SLE G7 21mm 6000lm 827 R ADV	28002596	2,700 K	> 80	10 pc(s).	0.002 kg
SLE G7 21mm 6000lm 830 R ADV	28002597	3,000 K	> 80	10 pc(s).	0.002 kg
SLE G7 21mm 6000lm 835 R ADV	28002598	3,500 K	> 80	10 pc(s).	0.002 kg
SLE G7 21mm 6000lm 840 R ADV	28002599	4,000 K	> 80	10 pc(s).	0.002 kg
SLE G7 21mm 6000lm 927 R ADV	28002600	2,700 K	> 90	10 pc(s).	0.002 kg
SLE G7 21mm 6000lm 930 R ADV	28002601	3,000 K	> 90	10 pc(s).	0.002 kg
SLE G7 21mm 6000lm 935 R ADV	28002602	3,500 K	> 90	10 pc(s).	0.002 kg
SLE G7 21mm 6000lm 940 R ADV	28002603	4,000 K	> 90	10 pc(s).	0.002 kg

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Type	Article number	Colour temperature	Colour rendering index CRI	Packaging	Weight per pc.
SLE G7 09mm – Without housing with connection cable					
SLE G7 09mm 1200lm 830 C ADV	28002551	3,000 K	> 80	20 pc(s).	0.003 kg
SLE G7 09mm 1200lm 840 C ADV	28002552	4,000 K	> 80	20 pc(s).	0.003 kg
SLE G7 09mm 1200lm 930 C ADV	28002553	3,000 K	> 90	20 pc(s).	0.003 kg
SLE G7 09mm 1200lm 940 C ADV	28002554	4,000 K	> 90	20 pc(s).	0.003 kg
SLE G7 13mm – Without housing with connection cable					
SLE G7 13mm 3000lm 830 C ADV	28002555	3,000 K	> 80	20 pc(s).	0.003 kg
SLE G7 13mm 3000lm 840 C ADV	28002556	4,000 K	> 80	20 pc(s).	0.003 kg
SLE G7 13mm 3000lm 930 C ADV	28002557	3,000 K	> 90	20 pc(s).	0.003 kg
SLE G7 13mm 3000lm 940 C ADV	28002558	4,000 K	> 90	20 pc(s).	0.003 kg
SLE G7 15mm – Without housing with connection cable					
SLE G7 15mm 4000lm 830 C ADV	28002563	3,000 K	> 80	20 pc(s).	0.003 kg
SLE G7 15mm 4000lm 840 C ADV	28002564	4,000 K	> 80	20 pc(s).	0.003 kg
SLE G7 15mm 4000lm 930 C ADV	28002565	3,000 K	> 90	20 pc(s).	0.003 kg
SLE G7 15mm 4000lm 940 C ADV	28002566	4,000 K	> 90	20 pc(s).	0.003 kg
SLE G7 17mm – Without housing with connection cable					
SLE G7 17mm 5000lm 827 C ADV	28002604	2,700 K	> 80	20 pc(s).	0.007 kg
SLE G7 17mm 5000lm 830 C ADV	28002605	3,000 K	> 80	20 pc(s).	0.007 kg
SLE G7 17mm 5000lm 835 C ADV	28002606	3,500 K	> 80	20 pc(s).	0.007 kg
SLE G7 17mm 5000lm 840 C ADV	28002607	4,000 K	> 80	20 pc(s).	0.007 kg
SLE G7 17mm 5000lm 927 C ADV	28002608	2,700 K	> 90	20 pc(s).	0.007 kg
SLE G7 17mm 5000lm 930 C ADV	28002609	3,000 K	> 90	20 pc(s).	0.007 kg
SLE G7 17mm 5000lm 935 C ADV	28002610	3,500 K	> 90	20 pc(s).	0.007 kg
SLE G7 17mm 5000lm 940 C ADV	28002611	4,000 K	> 90	20 pc(s).	0.007 kg
SLE G7 21mm – Without housing with connection cable					
SLE G7 21mm 6000lm 830 C ADV	28002625	3,000 K	> 80	20 pc(s).	0.007 kg
SLE G7 21mm 6000lm 835 C ADV	28002626	3,500 K	> 80	20 pc(s).	0.007 kg
SLE G7 21mm 6000lm 840 C ADV	28002627	4,000 K	> 80	20 pc(s).	0.007 kg
SLE G7 21mm 6000lm 930 C ADV	28002628	3,000 K	> 90	20 pc(s).	0.007 kg
SLE G7 21mm 6000lm 935 C ADV	28002629	3,500 K	> 90	20 pc(s).	0.007 kg
SLE G7 21mm 6000lm 940 C ADV	28002630	4,000 K	> 90	20 pc(s).	0.007 kg

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Type	Article number	Colour temperature	Colour rendering index CRI	Packaging	Weight per pc.
SLE G7 13mm – With housing					
SLE G7 13mm 3000lm 830 H ADV	28002559	3,000 K	> 80	50 pc(s).	0.007 kg
SLE G7 13mm 3000lm 840 H ADV	28002560	4,000 K	> 80	50 pc(s).	0.007 kg
SLE G7 13mm 3000lm 930 H ADV	28002561	3,000 K	> 90	50 pc(s).	0.007 kg
SLE G7 13mm 3000lm 940 H ADV	28002562	4,000 K	> 90	50 pc(s).	0.007 kg
SLE G7 15mm – With housing					
SLE G7 15mm 4000lm 830 H ADV	28002567	3,000 K	> 80	50 pc(s).	0.007 kg
SLE G7 15mm 4000lm 840 H ADV	28002568	4,000 K	> 80	50 pc(s).	0.007 kg
SLE G7 15mm 4000lm 930 H ADV	28002569	3,000 K	> 90	50 pc(s).	0.007 kg
SLE G7 15mm 4000lm 940 H ADV	28002570	4,000 K	> 90	50 pc(s).	0.007 kg
SLE G7 17mm – With housing					
SLE G7 17mm 5000lm 827 H ADV	28002612	2,700 K	> 80	50 pc(s).	0.007 kg
SLE G7 17mm 5000lm 830 H ADV	28002613	3,000 K	> 80	50 pc(s).	0.007 kg
SLE G7 17mm 5000lm 835 H ADV	28002614	3,500 K	> 80	50 pc(s).	0.007 kg
SLE G7 17mm 5000lm 840 H ADV	28002615	4,000 K	> 80	50 pc(s).	0.007 kg
SLE G7 17mm 5000lm 927 H ADV	28002616	2,700 K	> 90	50 pc(s).	0.007 kg
SLE G7 17mm 5000lm 930 H ADV	28002617	3,000 K	> 90	50 pc(s).	0.007 kg
SLE G7 17mm 5000lm 935 H ADV	28002618	3,500 K	> 90	50 pc(s).	0.007 kg
SLE G7 17mm 5000lm 940 H ADV	28002619	4,000 K	> 90	50 pc(s).	0.007 kg
SLE G7 21mm – With housing					
SLE G7 21mm 6000lm 827 H ADV	28002631	2,700 K	> 80	50 pc(s).	0.007 kg
SLE G7 21mm 6000lm 830 H ADV	28002632	3,000 K	> 80	50 pc(s).	0.007 kg
SLE G7 21mm 6000lm 840 H ADV	28002633	4,000 K	> 80	50 pc(s).	0.007 kg
SLE G7 21mm 6000lm 927 H ADV	28002634	2,700 K	> 90	50 pc(s).	0.007 kg
SLE G7 21mm 6000lm 930 H ADV	28002635	3,000 K	> 90	50 pc(s).	0.007 kg
SLE G7 21mm 6000lm 935 H ADV	28002636	3,500 K	> 90	50 pc(s).	0.007 kg
SLE G7 21mm 6000lm 940 H ADV	28002637	4,000 K	> 90	50 pc(s).	0.007 kg
SLE G7 15mm – With housing and thermal interface material					
SLE G7 15mm 4000lm 830 H ADV T	28002670	3,000 K	> 80	50 pc(s).	0.007 kg
SLE G7 15mm 4000lm 840 H ADV T	28002671	4,000 K	> 80	50 pc(s).	0.007 kg
SLE G7 15mm 4000lm 930 H ADV T	28002672	3,000 K	> 90	50 pc(s).	0.007 kg
SLE G7 15mm 4000lm 940 H ADV T	28002673	4,000 K	> 90	50 pc(s).	0.007 kg
SLE G7 17mm – With housing and thermal interface material					
SLE G7 17mm 5000lm 830 H ADV T	28002620	3,000 K	> 80	50 pc(s).	0.007 kg
SLE G7 17mm 5000lm 840 H ADV T	28002621	4,000 K	> 80	50 pc(s).	0.007 kg
SLE G7 17mm 5000lm 930 H ADV T	28002622	3,000 K	> 90	50 pc(s).	0.007 kg
SLE G7 17mm 5000lm 935 H ADV T	28002623	3,500 K	> 90	50 pc(s).	0.007 kg
SLE G7 17mm 5000lm 940 H ADV T	28002624	4,000 K	> 90	50 pc(s).	0.007 kg
SLE G7 21mm – With housing and thermal interface material					
SLE G7 21mm 6000lm 830 H ADV T	28002638	3,000 K	> 80	50 pc(s).	0.007 kg
SLE G7 21mm 6000lm 840 H ADV T	28002639	4,000 K	> 80	50 pc(s).	0.007 kg
SLE G7 21mm 6000lm 930 H ADV T	28002640	3,000 K	> 90	50 pc(s).	0.007 kg
SLE G7 21mm 6000lm 940 H ADV T	28002641	4,000 K	> 90	50 pc(s).	0.007 kg

Specific technical data

Type®	Photo-metric code	Typ. luminous flux at tp = 25 °C®	Typ. luminous flux at tp = 65 °C®	Typ. forward current	Min. forward voltage at tp = 65 °C	Max. forward voltage at tp = 25 °C	Typ. power consumption at tp = 65 °C®	Efficacy of the module at tp = 25 °C	Efficacy of the module at tp = 65 °C	Efficacy of the system at tp = 65 °C®	Colour rendering index CRI
SLE 09mm 1200lm – Operating mode HE at 250 mA											
SLE G7 09mm 1200lm 830 ADV	830/359	1,450 lm	1,350 lm	250 mA	31.5 V	37.5 V	8.6 W	168 lm/W	158 lm/W	142 lm/W	> 80
SLE G7 09mm 1200lm 840 ADV	840/359	1,540 lm	1,430 lm	250 mA	31.5 V	37.5 V	8.6 W	177 lm/W	167 lm/W	150 lm/W	> 80
SLE G7 09mm 1200lm 927 ADV	927/359	1,170 lm	1,090 lm	250 mA	31.5 V	37.5 V	8.6 W	135 lm/W	128 lm/W	115 lm/W	> 90
SLE G7 09mm 1200lm 930 ADV	930/359	1,200 lm	1,120 lm	250 mA	31.5 V	37.5 V	8.6 W	138 lm/W	131 lm/W	118 lm/W	> 90
SLE G7 09mm 1200lm 940 ADV	940/359	1,290 lm	1,200 lm	250 mA	31.5 V	37.5 V	8.6 W	148 lm/W	140 lm/W	126 lm/W	> 90
SLE 09mm 1200lm – Operating mode NM at 350 mA											
SLE G7 09mm 1200lm 830 ADV	830/359	1,970 lm	1,820 lm	350 mA	32.4 V	38.6 V	12.3 W	158 lm/W	148 lm/W	133 lm/W	> 80
SLE G7 09mm 1200lm 840 ADV	840/359	2,080 lm	1,930 lm	350 mA	32.4 V	38.6 V	12.3 W	167 lm/W	156 lm/W	140 lm/W	> 80
SLE G7 09mm 1200lm 927 ADV	927/359	1,570 lm	1,460 lm	350 mA	32.4 V	38.6 V	12.3 W	126 lm/W	118 lm/W	106 lm/W	> 90
SLE G7 09mm 1200lm 930 ADV	930/359	1,630 lm	1,510 lm	350 mA	32.4 V	38.6 V	12.3 W	130 lm/W	122 lm/W	110 lm/W	> 90
SLE G7 09mm 1200lm 940 ADV	940/359	1,740 lm	1,610 lm	350 mA	32.4 V	38.6 V	12.3 W	139 lm/W	131 lm/W	118 lm/W	> 90
SLE 09mm 1200lm – Operating mode HO at 500 mA											
SLE G7 09mm 1200lm 830 ADV	830/359	2,700 lm	2,480 lm	500 mA	32.8 V	39.0 V	17.8 W	150 lm/W	139 lm/W	125 lm/W	> 80
SLE G7 09mm 1200lm 840 ADV	840/359	2,850 lm	2,620 lm	500 mA	32.8 V	39.0 V	17.8 W	158 lm/W	147 lm/W	132 lm/W	> 80
SLE G7 09mm 1200lm 927 ADV	927/359	2,150 lm	1,980 lm	500 mA	32.8 V	39.0 V	17.8 W	119 lm/W	111 lm/W	100 lm/W	> 90
SLE G7 09mm 1200lm 930 ADV	930/359	2,230 lm	2,050 lm	500 mA	32.8 V	39.0 V	17.8 W	123 lm/W	115 lm/W	104 lm/W	> 90
SLE G7 09mm 1200lm 940 ADV	940/359	2,380 lm	2,190 lm	500 mA	32.8 V	39.0 V	17.8 W	132 lm/W	123 lm/W	111 lm/W	> 90
SLE 13mm 3000lm – Operating mode HE at 350 mA											
SLE G7 13mm 3000lm 827 ADV	827/359	2,040 lm	1,900 lm	350 mA	30.9 V	36.8 V	11.8 W	171 lm/W	162 lm/W	146 lm/W	> 80
SLE G7 13mm 3000lm 830 ADV	830/359	2,120 lm	1,980 lm	350 mA	30.9 V	36.8 V	11.8 W	178 lm/W	168 lm/W	151 lm/W	> 80
SLE G7 13mm 3000lm 835 ADV	835/359	2,150 lm	2,010 lm	350 mA	30.9 V	36.8 V	11.8 W	180 lm/W	171 lm/W	154 lm/W	> 80
SLE G7 13mm 3000lm 840 ADV	840/359	2,200 lm	2,050 lm	350 mA	30.9 V	36.8 V	11.8 W	184 lm/W	174 lm/W	157 lm/W	> 80
SLE G7 13mm 3000lm 927 ADV	927/359	1,680 lm	1,560 lm	350 mA	30.9 V	36.8 V	11.8 W	140 lm/W	133 lm/W	120 lm/W	> 90
SLE G7 13mm 3000lm 930 ADV	930/359	1,750 lm	1,630 lm	350 mA	30.9 V	36.8 V	11.8 W	146 lm/W	138 lm/W	124 lm/W	> 90
SLE G7 13mm 3000lm 935 ADV	935/359	1,820 lm	1,700 lm	350 mA	30.9 V	36.8 V	11.8 W	152 lm/W	144 lm/W	130 lm/W	> 90
SLE G7 13mm 3000lm 940 ADV	940/359	1,900 lm	1,770 lm	350 mA	30.9 V	36.8 V	11.8 W	159 lm/W	151 lm/W	136 lm/W	> 90
SLE 13mm 3000lm – Operating mode NM at 500 mA											
SLE G7 13mm 3000lm 827 ADV	827/359	2,840 lm	2,640 lm	500 mA	31.8 V	37.9 V	17.3 W	162 lm/W	152 lm/W	137 lm/W	> 80
SLE G7 13mm 3000lm 830 ADV	830/359	2,950 lm	2,740 lm	500 mA	31.8 V	37.9 V	17.3 W	168 lm/W	158 lm/W	142 lm/W	> 80
SLE G7 13mm 3000lm 835 ADV	835/359	2,980 lm	2,770 lm	500 mA	31.8 V	37.9 V	17.3 W	170 lm/W	160 lm/W	144 lm/W	> 80
SLE G7 13mm 3000lm 840 ADV	840/359	3,050 lm	2,830 lm	500 mA	31.8 V	37.9 V	17.3 W	174 lm/W	164 lm/W	148 lm/W	> 80
SLE G7 13mm 3000lm 927 ADV	927/359	2,330 lm	2,160 lm	500 mA	31.8 V	37.9 V	17.3 W	133 lm/W	125 lm/W	113 lm/W	> 90
SLE G7 13mm 3000lm 930 ADV	930/359	2,420 lm	2,250 lm	500 mA	31.8 V	37.9 V	17.3 W	138 lm/W	130 lm/W	117 lm/W	> 90
SLE G7 13mm 3000lm 935 ADV	935/359	2,530 lm	2,350 lm	500 mA	31.8 V	37.9 V	17.3 W	144 lm/W	136 lm/W	122 lm/W	> 90
SLE G7 13mm 3000lm 940 ADV	940/359	2,640 lm	2,450 lm	500 mA	31.8 V	37.9 V	17.3 W	151 lm/W	142 lm/W	128 lm/W	> 90
SLE 13mm 3000lm – Operating mode HO at 900 mA											
SLE G7 13mm 3000lm 827 ADV	827/359	4,800 lm	4,400 lm	900 mA	34.0 V	40.5 V	33.3 W	142 lm/W	132 lm/W	119 lm/W	> 80
SLE G7 13mm 3000lm 830 ADV	830/359	4,980 lm	4,570 lm	900 mA	34.0 V	40.5 V	33.3 W	148 lm/W	137 lm/W	123 lm/W	> 80
SLE G7 13mm 3000lm 835 ADV	835/359	5,010 lm	4,590 lm	900 mA	34.0 V	40.5 V	33.3 W	148 lm/W	138 lm/W	124 lm/W	> 80
SLE G7 13mm 3000lm 840 ADV	840/359	5,120 lm	4,690 lm	900 mA	34.0 V	40.5 V	33.3 W	152 lm/W	141 lm/W	127 lm/W	> 80
SLE G7 13mm 3000lm 927 ADV	927/359	3,920 lm	3,600 lm	900 mA	34.0 V	40.5 V	33.3 W	116 lm/W	108 lm/W	97 lm/W	> 90
SLE G7 13mm 3000lm 930 ADV	930/359	4,090 lm	3,750 lm	900 mA	34.0 V	40.5 V	33.3 W	121 lm/W	112 lm/W	101 lm/W	> 90
SLE G7 13mm 3000lm 935 ADV	935/359	4,260 lm	3,910 lm	900 mA	34.0 V	40.5 V	33.3 W	126 lm/W	117 lm/W	105 lm/W	> 90
SLE G7 13mm 3000lm 940 ADV	940/359	4,470 lm	4,000 lm	900 mA	34.0 V	40.5 V	33.3 W	132 lm/W	123 lm/W	111 lm/W	> 90

® See derating curves in data sheet section 2.3.

® The detailed explanation, see data sheet section 3.1.

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

® Assumed efficiency for the LED Driver is 0.9.

® HE ... high efficiency, NM ... nominal mode, HO ... high output.

Specific technical data

Type®	Photo-metric code	Typ. luminous flux at tp = 25 °C®	Typ. luminous flux at tp = 65 °C®	Typ. forward current	Min. forward voltage at tp = 65 °C	Max. forward voltage at tp = 25 °C	Typ. power consumption at tp = 65 °C®	Efficacy of the module at tp = 25 °C	Efficacy of the module at tp = 65 °C	Efficacy of the system at tp = 65 °C®	Colour rendering index CRI
SLE 15mm 4000lm – Operating mode HE at 500 mA											
SLE G7 15mm 4000lm 827 ADV	827/359	2,840 lm	2,650 lm	500 mA	30.7 V	36.6 V	16.7 W	168 lm/W	159 lm/W	143 lm/W	> 80
SLE G7 15mm 4000lm 830 ADV	830/359	2,960 lm	2,760 lm	500 mA	30.7 V	36.6 V	16.7 W	175 lm/W	165 lm/W	149 lm/W	> 80
SLE G7 15mm 4000lm 835 ADV	835/359	3,010 lm	2,800 lm	500 mA	30.7 V	36.6 V	16.7 W	177 lm/W	168 lm/W	151 lm/W	> 80
SLE G7 15mm 4000lm 840 ADV	840/359	3,060 lm	2,860 lm	500 mA	30.7 V	36.6 V	16.7 W	181 lm/W	171 lm/W	154 lm/W	> 80
SLE G7 15mm 4000lm 927 ADV	927/359	2,330 lm	2,170 lm	500 mA	30.7 V	36.6 V	16.7 W	137 lm/W	130 lm/W	117 lm/W	> 90
SLE G7 15mm 4000lm 930 ADV	930/359	2,420 lm	2,250 lm	500 mA	30.7 V	36.6 V	16.7 W	142 lm/W	135 lm/W	122 lm/W	> 90
SLE G7 15mm 4000lm 935 ADV	935/359	2,520 lm	2,350 lm	500 mA	30.7 V	36.6 V	16.7 W	149 lm/W	141 lm/W	127 lm/W	> 90
SLE G7 15mm 4000lm 940 ADV	940/359	2,640 lm	2,460 lm	500 mA	30.7 V	36.6 V	16.7 W	156 lm/W	148 lm/W	133 lm/W	> 90
SLE 15mm 4000lm – Operating mode NM at 900 mA											
SLE G7 15mm 4000lm 827 ADV	827/359	4,870 lm	4,510 lm	900 mA	32.2 V	38.3 V	31.5 W	152 lm/W	143 lm/W	129 lm/W	> 80
SLE G7 15mm 4000lm 830 ADV	830/359	5,080 lm	4,700 lm	900 mA	32.2 V	38.3 V	31.5 W	159 lm/W	149 lm/W	134 lm/W	> 80
SLE G7 15mm 4000lm 835 ADV	835/359	5,120 lm	4,740 lm	900 mA	32.2 V	38.3 V	31.5 W	160 lm/W	150 lm/W	135 lm/W	> 80
SLE G7 15mm 4000lm 840 ADV	840/359	5,220 lm	4,830 lm	900 mA	32.2 V	38.3 V	31.5 W	163 lm/W	153 lm/W	138 lm/W	> 80
SLE G7 15mm 4000lm 927 ADV	927/359	3,990 lm	3,690 lm	900 mA	32.2 V	38.3 V	31.5 W	125 lm/W	117 lm/W	105 lm/W	> 90
SLE G7 15mm 4000lm 930 ADV	930/359	4,130 lm	3,820 lm	900 mA	32.2 V	38.3 V	31.5 W	129 lm/W	121 lm/W	109 lm/W	> 90
SLE G7 15mm 4000lm 935 ADV	935/359	4,310 lm	3,990 lm	900 mA	32.2 V	38.3 V	31.5 W	135 lm/W	127 lm/W	114 lm/W	> 90
SLE G7 15mm 4000lm 940 ADV	940/359	4,530 lm	4,200 lm	900 mA	32.2 V	38.3 V	31.5 W	142 lm/W	133 lm/W	120 lm/W	> 90
SLE 15mm 4000lm – Operating mode HO at 1,200 mA											
SLE G7 15mm 4000lm 827 ADV	827/359	6,290 lm	5,790 lm	1,200 mA	33.2 V	39.5 V	43.3 W	143 lm/W	134 lm/W	121 lm/W	> 80
SLE G7 15mm 4000lm 830 ADV	830/359	6,550 lm	6,030 lm	1,200 mA	33.2 V	39.5 V	43.3 W	149 lm/W	139 lm/W	125 lm/W	> 80
SLE G7 15mm 4000lm 835 ADV	835/359	6,590 lm	6,060 lm	1,200 mA	33.2 V	39.5 V	43.3 W	150 lm/W	140 lm/W	126 lm/W	> 80
SLE G7 15mm 4000lm 840 ADV	840/359	6,720 lm	6,180 lm	1,200 mA	33.2 V	39.5 V	43.3 W	153 lm/W	143 lm/W	129 lm/W	> 80
SLE G7 15mm 4000lm 927 ADV	927/359	5,140 lm	4,730 lm	1,200 mA	33.2 V	39.5 V	43.3 W	117 lm/W	109 lm/W	98 lm/W	> 90
SLE G7 15mm 4000lm 930 ADV	930/359	5,330 lm	4,900 lm	1,200 mA	33.2 V	39.5 V	43.3 W	121 lm/W	113 lm/W	102 lm/W	> 90
SLE G7 15mm 4000lm 935 ADV	935/359	5,560 lm	5,110 lm	1,200 mA	33.2 V	39.5 V	43.3 W	127 lm/W	118 lm/W	106 lm/W	> 90
SLE G7 15mm 4000lm 940 ADV	940/359	5,860 lm	5,390 lm	1,200 mA	33.2 V	39.5 V	43.3 W	133 lm/W	124 lm/W	112 lm/W	> 90
SLE 17mm 5000lm – Operating mode HE at 500 mA											
SLE G7 17mm 5000lm 827 ADV	827/359	2,950 lm	2,770 lm	500 mA	30.6 V	36.7 V	16.7 W	173 lm/W	162 lm/W	146 lm/W	> 80
SLE G7 17mm 5000lm 830 ADV	830/359	3,070 lm	2,890 lm	500 mA	30.6 V	36.7 V	16.7 W	181 lm/W	173 lm/W	156 lm/W	> 80
SLE G7 17mm 5000lm 835 ADV	835/359	3,140 lm	2,950 lm	500 mA	30.6 V	36.7 V	16.7 W	185 lm/W	177 lm/W	159 lm/W	> 80
SLE G7 17mm 5000lm 840 ADV	840/359	3,200 lm	3,010 lm	500 mA	30.6 V	36.7 V	16.7 W	188 lm/W	181 lm/W	163 lm/W	> 80
SLE G7 17mm 5000lm 927 ADV	927/359	2,440 lm	2,300 lm	500 mA	30.6 V	36.7 V	16.7 W	144 lm/W	138 lm/W	124 lm/W	> 90
SLE G7 17mm 5000lm 930 ADV	930/359	2,600 lm	2,450 lm	500 mA	30.6 V	36.7 V	16.7 W	153 lm/W	147 lm/W	132 lm/W	> 90
SLE G7 17mm 5000lm 935 ADV	935/359	2,640 lm	2,480 lm	500 mA	30.6 V	36.7 V	16.7 W	155 lm/W	149 lm/W	134 lm/W	> 90
SLE G7 17mm 5000lm 940 ADV	940/359	2,730 lm	2,570 lm	500 mA	30.6 V	36.7 V	16.7 W	161 lm/W	154 lm/W	139 lm/W	> 90
SLE 17mm 5000lm – Operating mode NM at 1,050 mA											
SLE G7 17mm 5000lm 827 ADV	827/359	5,870 lm	5,460 lm	1,050 mA	32.0 V	38.3 V	36.5 W	157 lm/W	152 lm/W	137 lm/W	> 80
SLE G7 17mm 5000lm 830 ADV	830/359	6,110 lm	5,690 lm	1,050 mA	32.0 V	38.3 V	36.5 W	164 lm/W	156 lm/W	140 lm/W	> 80
SLE G7 17mm 5000lm 835 ADV	835/359	6,240 lm	5,810 lm	1,050 mA	32.0 V	38.3 V	36.5 W	167 lm/W	159 lm/W	143 lm/W	> 80
SLE G7 17mm 5000lm 840 ADV	840/359	6,370 lm	5,930 lm	1,050 mA	32.0 V	38.3 V	36.5 W	171 lm/W	162 lm/W	146 lm/W	> 80
SLE G7 17mm 5000lm 927 ADV	927/359	4,860 lm	4,520 lm	1,050 mA	32.0 V	38.3 V	36.5 W	130 lm/W	124 lm/W	112 lm/W	> 90
SLE G7 17mm 5000lm 930 ADV	930/359	5,180 lm	4,820 lm	1,050 mA	32.0 V	38.3 V	36.5 W	139 lm/W	132 lm/W	119 lm/W	> 90
SLE G7 17mm 5000lm 935 ADV	935/359	5,260 lm	4,890 lm	1,050 mA	32.0 V	38.3 V	36.5 W	141 lm/W	134 lm/W	121 lm/W	> 90
SLE G7 17mm 5000lm 940 ADV	940/359	5,440 lm	5,060 lm	1,050 mA	32.0 V	38.3 V	36.5 W	146 lm/W	139 lm/W	125 lm/W	> 90
SLE 17mm 5000lm – Operating mode HO at 1,400 mA											
SLE G7 17mm 5000lm 827 ADV	827/359	7,640 lm	7,030 lm	1,400 mA	32.7 V	39.2 V	49.8 W	150 lm/W	132 lm/W	119 lm/W	> 80
SLE G7 17mm 5000lm 830 ADV	830/359	7,960 lm	7,320 lm	1,400 mA	32.7 V	39.2 V	49.8 W	157 lm/W	147 lm/W	132 lm/W	> 80
SLE G7 17mm 5000lm 835 ADV	835/359	8,130 lm	7,480 lm	1,400 mA	32.7 V	39.2 V	49.8 W	160 lm/W	150 lm/W	135 lm/W	> 80
SLE G7 17mm 5000lm 840 ADV	840/359	8,300 lm	7,630 lm	1,400 mA	32.7 V	39.2 V	49.8 W	163 lm/W	153 lm/W	138 lm/W	> 80
SLE G7 17mm 5000lm 927 ADV	927/359	6,330 lm	5,820 lm	1,400 mA	32.7 V	39.2 V	49.8 W	124 lm/W	117 lm/W	105 lm/W	> 90
SLE G7 17mm 5000lm 930 ADV	930/359	6,740 lm	6,200 lm	1,400 mA	32.7 V	39.2 V	49.8 W	133 lm/W	125 lm/W	113 lm/W	> 90
SLE G7 17mm 5000lm 935 ADV	935/359	6,840 lm	6,300 lm	1,400 mA	32.7 V	39.2 V	49.8 W	135 lm/W	126 lm/W	113 lm/W	> 90
SLE G7 17mm 5000lm 940 ADV	940/359	7,080 lm	6,520 lm	1,400 mA	32.7 V	39.2 V	49.8 W	139 lm/W	131 lm/W	118 lm/W	> 90

® See derating curves in data sheet section 2.3.

® The detailed explanation, see data sheet section 3.1.

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

® Assumed efficiency for the LED Driver is 0.9.

® HE ... high efficiency, NM ... nominal mode, HO ... high output.

Specific technical data

Type [®]	Photo- metric code	Typ. luminous flux at tp = 25 °C [®]	Typ. luminous flux at tp = 65 °C [®]	Typ. forward current	Min. forward voltage at tp = 65 °C	Max. forward voltage at tp = 25 °C	Typ. power consumption at tp = 65 °C [®]	Efficacy of the module at tp = 25 °C	Efficacy of the module at tp = 65 °C	Efficacy of the system at tp = 65 °C [®]	Colour rendering index CRI
SLE 21mm 6000lm – Operating mode HE at 700 mA											
SLE G7 21mm 6000lm 827 ADV	827/359	4,170 lm	3,920 lm	700 mA	30.6 V	36.7 V	23.3 W	175 lm/W	168 lm/W	151 lm/W	> 80
SLE G7 21mm 6000lm 830 ADV	830/359	4,340 lm	4,080 lm	700 mA	30.6 V	36.7 V	23.3 W	182 lm/W	175 lm/W	158 lm/W	> 80
SLE G7 21mm 6000lm 835 ADV	835/359	4,430 lm	4,170 lm	700 mA	30.6 V	36.7 V	23.3 W	186 lm/W	179 lm/W	161 lm/W	> 80
SLE G7 21mm 6000lm 840 ADV	840/359	4,530 lm	4,250 lm	700 mA	30.6 V	36.7 V	23.3 W	190 lm/W	182 lm/W	164 lm/W	> 80
SLE G7 21mm 6000lm 927 ADV	927/359	3,450 lm	3,240 lm	700 mA	30.6 V	36.7 V	23.3 W	145 lm/W	139 lm/W	125 lm/W	> 90
SLE G7 21mm 6000lm 930 ADV	930/359	3,680 lm	3,460 lm	700 mA	30.6 V	36.7 V	23.3 W	154 lm/W	148 lm/W	133 lm/W	> 90
SLE G7 21mm 6000lm 935 ADV	935/359	3,730 lm	3,510 lm	700 mA	30.6 V	36.7 V	23.3 W	157 lm/W	150 lm/W	135 lm/W	> 90
SLE G7 21mm 6000lm 940 ADV	940/359	3,860 lm	3,630 lm	700 mA	30.6 V	36.7 V	23.3 W	162 lm/W	156 lm/W	140 lm/W	> 90
SLE 21mm 6000lm – Operating mode NM at 1,400 mA											
SLE G7 21mm 6000lm 827 ADV	827/359	7,960 lm	7,400 lm	1,400 mA	31.9 V	38.2 V	48.6 W	161 lm/W	152 lm/W	137 lm/W	> 80
SLE G7 21mm 6000lm 830 ADV	830/359	8,290 lm	7,710 lm	1,400 mA	31.9 V	38.2 V	48.6 W	167 lm/W	159 lm/W	143 lm/W	> 80
SLE G7 21mm 6000lm 835 ADV	835/359	8,470 lm	7,870 lm	1,400 mA	31.9 V	38.2 V	48.6 W	171 lm/W	162 lm/W	146 lm/W	> 80
SLE G7 21mm 6000lm 840 ADV	840/359	8,640 lm	8,040 lm	1,400 mA	31.9 V	38.2 V	48.6 W	174 lm/W	165 lm/W	149 lm/W	> 80
SLE G7 21mm 6000lm 927 ADV	927/359	6,590 lm	6,130 lm	1,400 mA	31.9 V	38.2 V	48.6 W	133 lm/W	126 lm/W	113 lm/W	> 90
SLE G7 21mm 6000lm 930 ADV	930/359	7,020 lm	6,530 lm	1,400 mA	31.9 V	38.2 V	48.6 W	142 lm/W	134 lm/W	121 lm/W	> 90
SLE G7 21mm 6000lm 935 ADV	935/359	7,130 lm	6,630 lm	1,400 mA	31.9 V	38.2 V	48.6 W	144 lm/W	136 lm/W	122 lm/W	> 90
SLE G7 21mm 6000lm 940 ADV	940/359	7,380 lm	6,860 lm	1,400 mA	31.9 V	38.2 V	48.6 W	149 lm/W	141 lm/W	127 lm/W	> 90
SLE 21mm 6000lm – Operating mode HO at 2,000 mA											
SLE G7 21mm 6000lm 827 ADV	827/359	11,000 lm	10,120 lm	2,000 mA	32.8 V	39.3 V	10,120 lm	151 lm/W	142 lm/W	128 lm/W	> 80
SLE G7 21mm 6000lm 830 ADV	830/359	11,460 lm	10,540 lm	2,000 mA	32.8 V	39.3 V	10,540 lm	157 lm/W	148 lm/W	133 lm/W	> 80
SLE G7 21mm 6000lm 835 ADV	835/359	11,700 lm	10,760 lm	2,000 mA	32.8 V	39.3 V	10,760 lm	161 lm/W	151 lm/W	136 lm/W	> 80
SLE G7 21mm 6000lm 840 ADV	840/359	11,950 lm	10,990 lm	2,000 mA	32.8 V	39.3 V	10,990 lm	164 lm/W	154 lm/W	139 lm/W	> 80
SLE G7 21mm 6000lm 927 ADV	927/359	9,110 lm	8,380 lm	2,000 mA	32.8 V	39.3 V	8,380 lm	125 lm/W	117 lm/W	105 lm/W	> 90
SLE G7 21mm 6000lm 930 ADV	930/359	9,710 lm	8,930 lm	2,000 mA	32.8 V	39.3 V	8,930 lm	133 lm/W	125 lm/W	113 lm/W	> 90
SLE G7 21mm 6000lm 935 ADV	935/359	9,850 lm	9,060 lm	2,000 mA	32.8 V	39.3 V	9,060 lm	135 lm/W	127 lm/W	114 lm/W	> 90
SLE G7 21mm 6000lm 940 ADV	940/359	10,200 lm	9,380 lm	2,000 mA	32.8 V	39.3 V	9,380 lm	140 lm/W	131 lm/W	118 lm/W	> 90

[®] See derating curves in data sheet section 2.3.

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

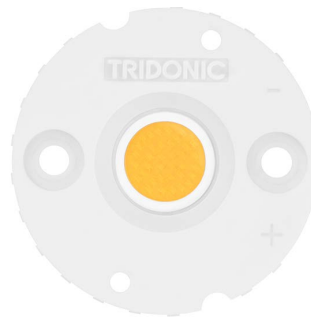
[®] Tolerance range for optical and electrical data: ±10 %.

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

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

Product description

- Housing for LES 09 and LES 13/15
- Diameter: 35 mm
- Material: Lexan Resin 943
- M3 screws with flat head, max. head diameter of 6 mm and max. torque for fixing is 0.5 Nm



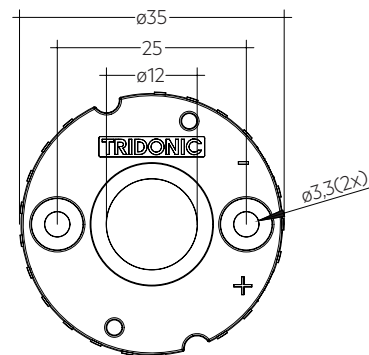
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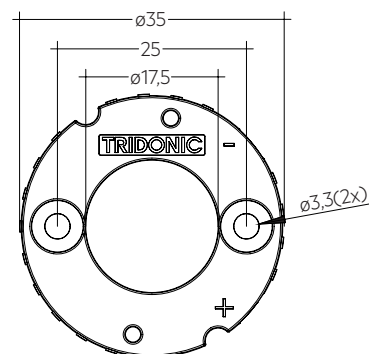
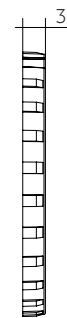
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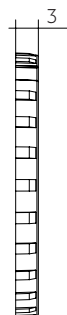
LES15



SLE G7 HOUSING LES 09



SLE G7 HOUSING LES 13/15



Ordering data

Type	Article number	Packaging bag	Weight per pc.
SLE G7 HOUSING LES 09	28003024	500 pc(s).	0.002 kg
SLE G7 HOUSING LES 13/15	28003026	500 pc(s).	0.002 kg

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

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

1.3 Energy classification

Type	Forward current	Energy classification
SLE G7 09mm 1200lm 830 ADV	250 mA	A++
	350 mA	A++
	500 mA	A++
SLE G7 09mm 1200lm 840 ADV	250 mA	A++
	350 mA	A++
	500 mA	A++
SLE G7 09mm 1200lm 927 ADV	250 mA	A+
	350 mA	A+
	500 mA	A+
SLE G7 09mm 1200lm 930 ADV	250 mA	A+
	350 mA	A+
	500 mA	A+
SLE G7 09mm 1200lm 940 ADV	250 mA	A++
	350 mA	A+
	500 mA	A+
SLE G7 13mm 3000lm 827 ADV	350 mA	A++
	500 mA	A++
	900 mA	A+
SLE G7 13mm 3000lm 830 ADV	350 mA	A++
	500 mA	A++
	900 mA	A++
SLE G7 13mm 3000lm 835 ADV	350 mA	A++
	500 mA	A++
	900 mA	A++
SLE G7 13mm 3000lm 840 ADV	350 mA	A++
	500 mA	A++
	900 mA	A++
SLE G7 13mm 3000lm 927 ADV	350 mA	A+
	500 mA	A+
	900 mA	A+
SLE G7 13mm 3000lm 930 ADV	350 mA	A++
	500 mA	A+
	900 mA	A+
SLE G7 13mm 3000lm 935 ADV	350 mA	A++
	500 mA	A+
	900 mA	A+
SLE G7 13mm 3000lm 940 ADV	350 mA	A++
	500 mA	A++
	900 mA	A+

Type	Forward current	Energy classification
SLE G7 15mm 4000lm 827 ADV	500 mA	A++
	900 mA	A++
	1,200 mA	A+
SLE G7 15mm 4000lm 830 ADV	500 mA	A++
	900 mA	A++
	1,200 mA	A++
SLE G7 15mm 4000lm 835 ADV	500 mA	A++
	900 mA	A++
	1,200 mA	A++
SLE G7 15mm 4000lm 840 ADV	500 mA	A++
	900 mA	A++
	1,200 mA	A++
SLE G7 15mm 4000lm 927 ADV	500 mA	A+
	900 mA	A+
	1,200 mA	A+
SLE G7 15mm 4000lm 930 ADV	500 mA	A+
	900 mA	A+
	1,200 mA	A+
SLE G7 15mm 4000lm 935 ADV	500 mA	A++
	900 mA	A++
	1,200 mA	A+
SLE G7 15mm 4000lm 940 ADV	500 mA	A++
	900 mA	A+
	1,200 mA	A+
SLE G7 17mm 5000lm 827 ADV	500 mA	A++
	1,050 mA	A++
	1,400 mA	A++
SLE G7 17mm 5000lm 830 ADV	500 mA	A++
	1,050 mA	A++
	1,400 mA	A++
SLE G7 17mm 5000lm 835 ADV	500 mA	A++
	1,050 mA	A++
	1,400 mA	A++
SLE G7 17mm 5000lm 840 ADV	500 mA	A++
	1,050 mA	A++
	1,400 mA	A++
SLE G7 17mm 5000lm 927 ADV	500 mA	A++
	1,050 mA	A+
	1,400 mA	A+
SLE G7 17mm 5000lm 930 ADV	500 mA	A++
	1,050 mA	A+
	1,400 mA	A+
SLE G7 17mm 5000lm 935 ADV	500 mA	A++
	1,050 mA	A+
	1,400 mA	A+
SLE G7 17mm 5000lm 940 ADV	500 mA	A++
	1,050 mA	A++
	1,400 mA	A+

Type	Forward current	Energy classification
SLE G7 21mm 6000lm 827 ADV	700 mA	A++
	1,400 mA	A++
	2,000 mA	A++
SLE G7 21mm 6000lm 830 ADV	700 mA	A++
	1,400 mA	A++
	2,000 mA	A++
SLE G7 15mm 4000lm 835 ADV	700 mA	A++
	1,400 mA	A++
	2,000 mA	A++
SLE G7 21mm 6000lm 840 ADV	700 mA	A++
	1,400 mA	A++
	2,000 mA	A++
SLE G7 21mm 6000lm 927 ADV	700 mA	A+
	1,400 mA	A+
	2,000 mA	A+
SLE G7 21mm 6000lm 930 ADV	700 mA	A++
	1,400 mA	A+
	2,000 mA	A+
SLE G7 21mm 6000lm 935 ADV	700 mA	A++
	1,400 mA	A++
	2,000 mA	A+
SLE G7 21mm 6000lm 940 ADV	700 mA	A++
	1,400 mA	A++
	2,000 mA	A+

2. Thermal details

2.1 tp point, ambient temperature and life-time

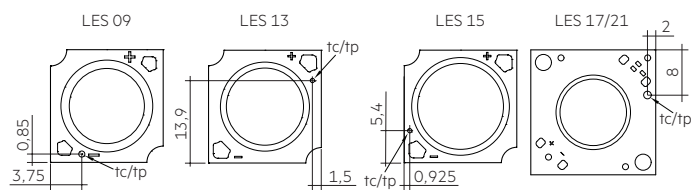
The temperature at tp reference point is crucial for the light output and life-time of a LED product.

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 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.

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.



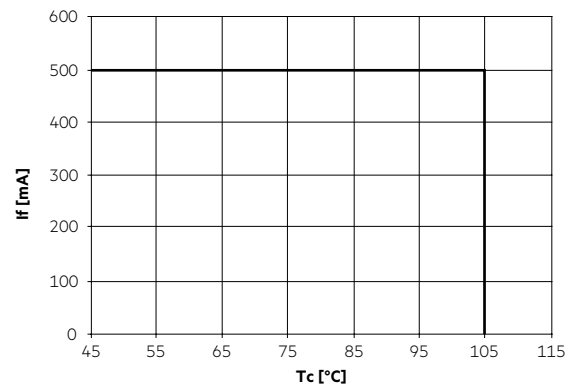
2.2 Storage and humidity

storage temperature	-30...+80 °C
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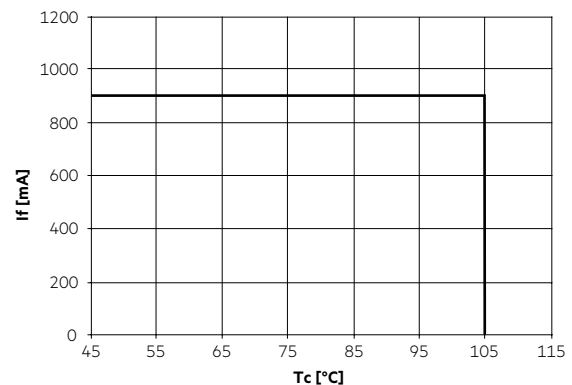
Operation only in non condensing environment.
Humidity during processing of the module should be between 0 to 85 %.

2.3 Derating curves

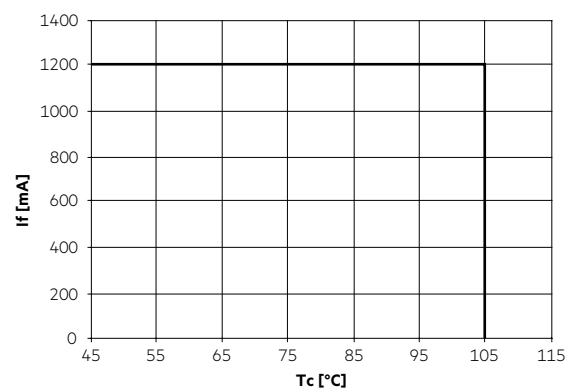
SLE G7 09mm 1200lm xx0 advanced



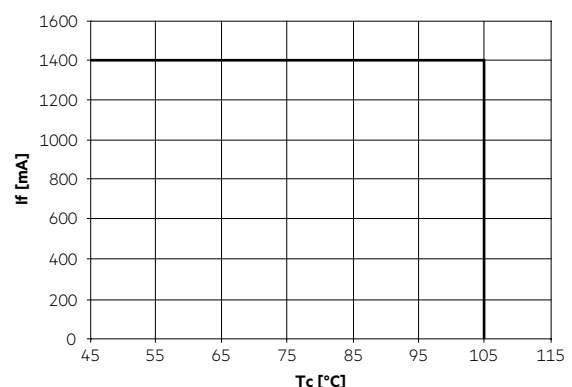
SLE G7 13mm 3000lm xx0 advanced

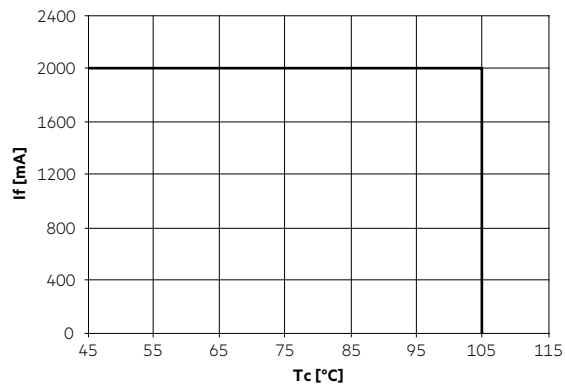


SLE G7 15mm 4000lm xx0 advanced



SLE G7 17mm 5000lm xx0 advanced



SLE G7 21mm 6000lm xxx advanced**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 09mm 1200lm xxx ADV**

ta	tp	Operating current	R _{th, hs-a}
25 °C	65 °C	250 mA	4.6 K/W
35 °C	65 °C	250 mA	3.4 K/W
45 °C	65 °C	250 mA	2.2 K/W
25 °C	65 °C	350 mA	3.1 K/W
35 °C	65 °C	350 mA	2.3 K/W
45 °C	65 °C	350 mA	1.5 K/W
25 °C	65 °C	500 mA	2.1 K/W
35 °C	65 °C	500 mA	1.6 K/W
45 °C	65 °C	500 mA	1.0 K/W

SLE G7 13mm 3000lm xxx ADV

ta	tp	Operating current	R _{th, hs-a}
25 °C	65 °C	350 mA	3.4 K/W
35 °C	65 °C	350 mA	2.6 K/W
45 °C	65 °C	350 mA	1.7 K/W
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	1.2 K/W
25 °C	65 °C	900 mA	1.2 K/W
35 °C	65 °C	900 mA	0.9 K/W
45 °C	65 °C	900 mA	0.6 K/W

SLE G7 15mm 4000lm xxx ADV

ta	tp	Operating current	R _{th, hs-a}
25 °C	65 °C	500 mA	2.4 K/W
35 °C	65 °C	500 mA	1.8 K/W
45 °C	65 °C	500 mA	1.2 K/W
25 °C	65 °C	900 mA	1.3 K/W
35 °C	65 °C	900 mA	1.0 K/W
45 °C	65 °C	900 mA	0.6 K/W
25 °C	65 °C	1,200 mA	0.9 K/W
35 °C	65 °C	1,200 mA	0.7 K/W
45 °C	65 °C	1,200 mA	0.5 K/W

SLE G7 17mm 5000lm xxx ADV

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 xxx ADV

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 $\lambda > 1 \text{ W/mK}$ and layer thickness of interface material with max. 50 μm or a similar interface material where the quotient of layer thickness and thermal conductivity $b < 50 \mu\text{mmK/W}$.

The SLE G7 H ADV T modules will be delivered with thermal interface foil of type GRAFTECH HT-1205A.

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 LED module and must not be confused with a protective foil. The thermal pad must not be pulled off!

For further information about the thermal interface foil please refer to the data sheet of the product GRAFTECH HT-1205A.

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.

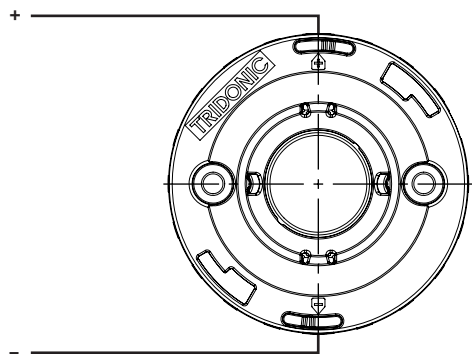


SLE G7 are basic insulated up to 60 V SELV against ground and can be mounted directly on earthed metal parts of the luminaire. If the max. output voltage of the LED Driver (also against earth) is above 60 V SELV, an additional insulation between LED module and heat sink is required (for example by insulated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

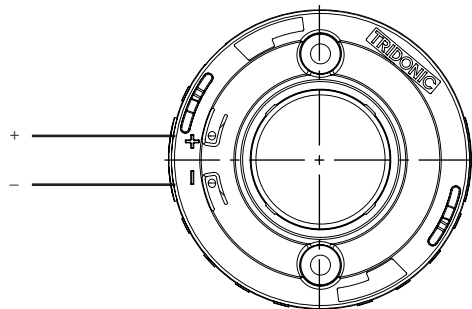
At voltages > 60 V an additional protection against direct touch (test finger) to the light emitting side of the module has to be guaranteed. This is typically achieved by means of a non removable light distributor over the module.

3.2 Wiring

Wiring with housing (LES13 and LES15)

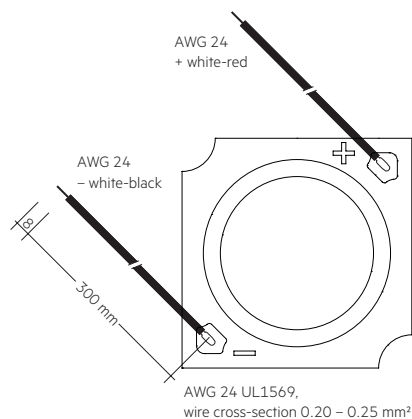


Wiring with housing (LES17 and LES21)

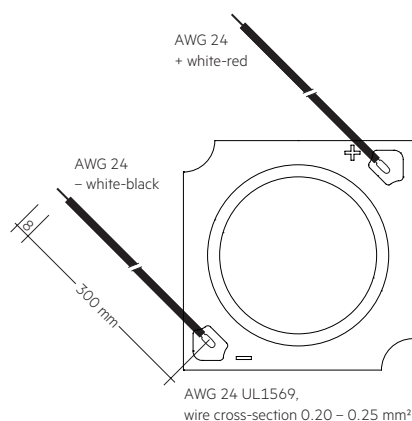


Wiring without housing

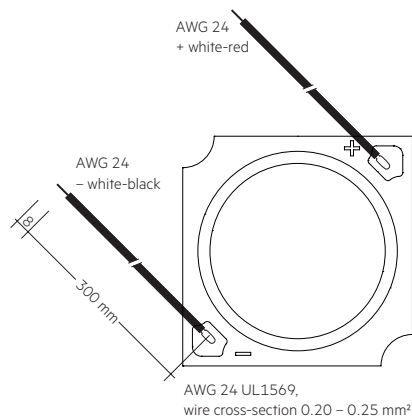
LES09



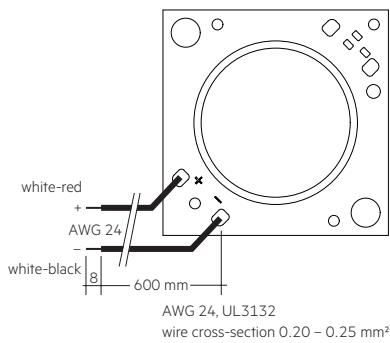
LES13



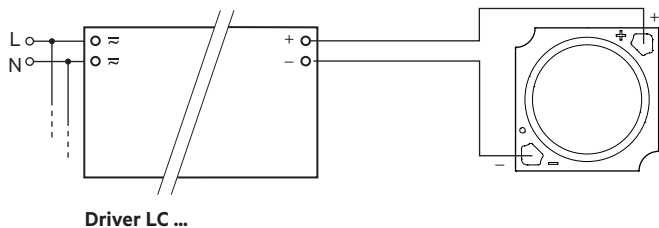
LES15



LES17 + LES21



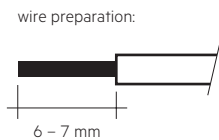
Wiring example



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.



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 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 guidelines 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 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

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

SLE G7 09mm 1200lm advanced

Operating current	tp temperature	L90 / F10	L90 / F50	L80 / F10	L80 / F50	L70 / F10	L70 / F50
250 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
350 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	49,000 h	51,000 h	>55,000 h
500 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	49,000 h	51,000 h	>55,000 h

SLE G7 13mm 3000lm advanced

Operating current	tp temperature	L90 / F10	L90 / F50	L80 / F10	L80 / F50	L70 / F10	L70 / F50
350 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
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
900 mA	65 °C	37,000 h	51,000 h	>55,000 h	>55,000 h	>55,000 h	>55,000 h
	85 °C	37,000 h	51,000 h	>55,000 h	>55,000 h	>55,000 h	>55,000 h
	105 °C	13,000 h	20,000 h	31,000 h	49,000 h	50,000 h	>55,000 h

SLE G7 15mm 4000lm advanced

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
900 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
1,200 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	49,000 h	51,000 h	>55,000 h

SLE G7 17mm 5000lm advanced

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 advanced

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

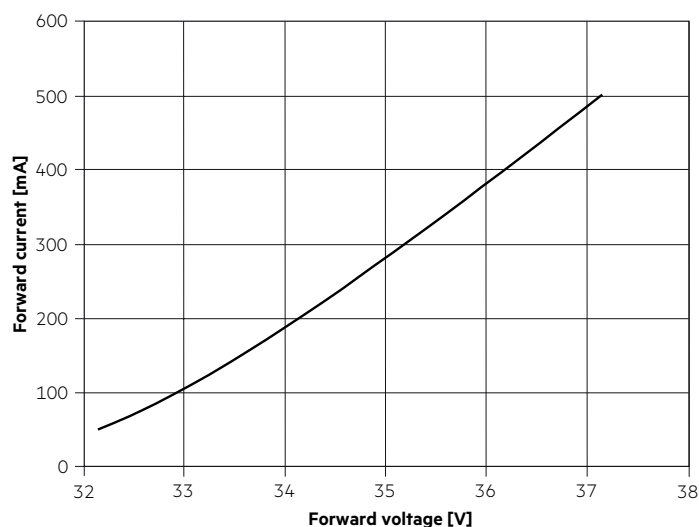
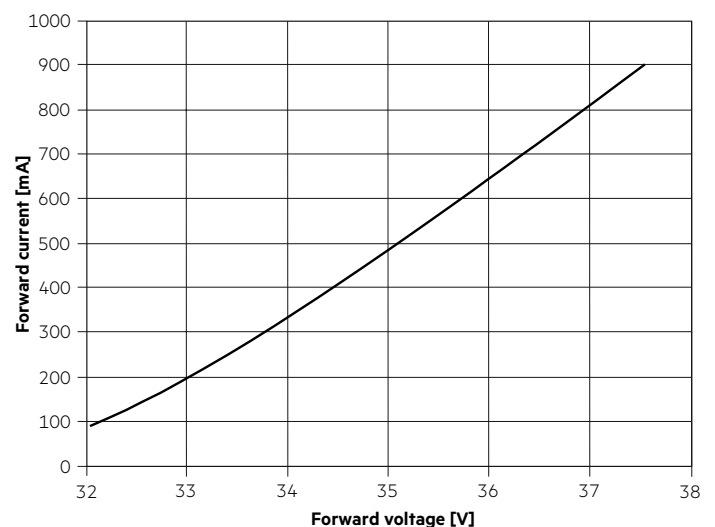
5. Electrical values**5.1 Declaration of electrical parameters**

I_{rated} ... Nominal operating current the module is designed for.

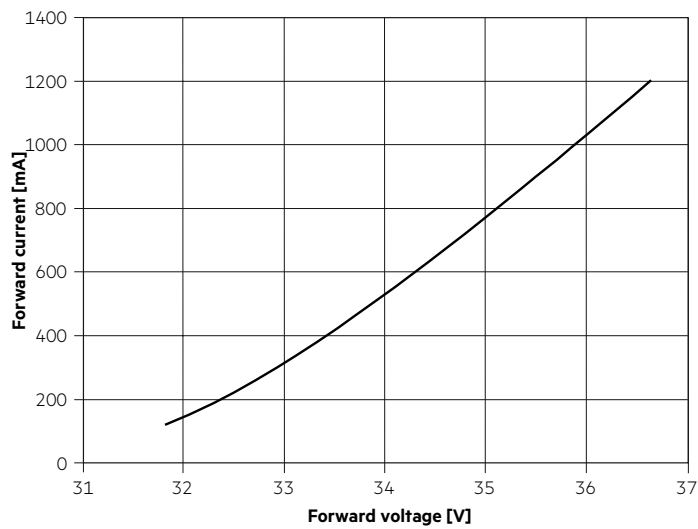
I_{max} ... Max. permissible continuous operating current incl. The tolerances of the LED driver.

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

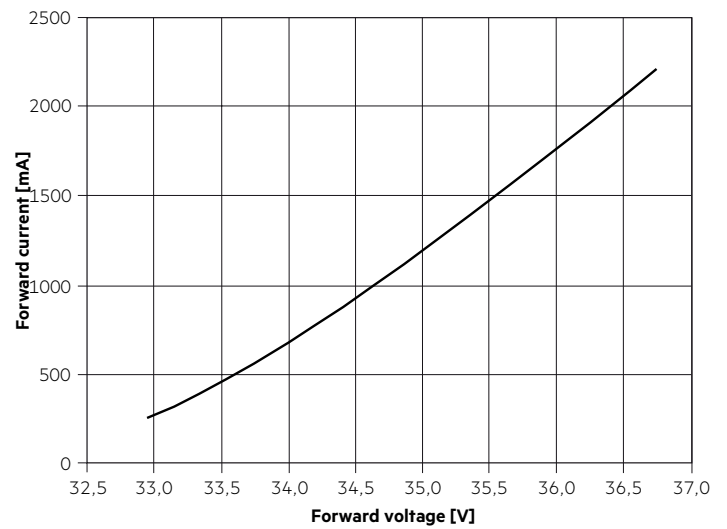
Max. permissible peak current ... The max. output peak current of the LED driver must not exceed this value.

5.2 Typ. forward voltage vs. forward current**SLE G7 09mm 1200lm xxx ADV****SLE G7 13mm 3000lm xxx ADV**

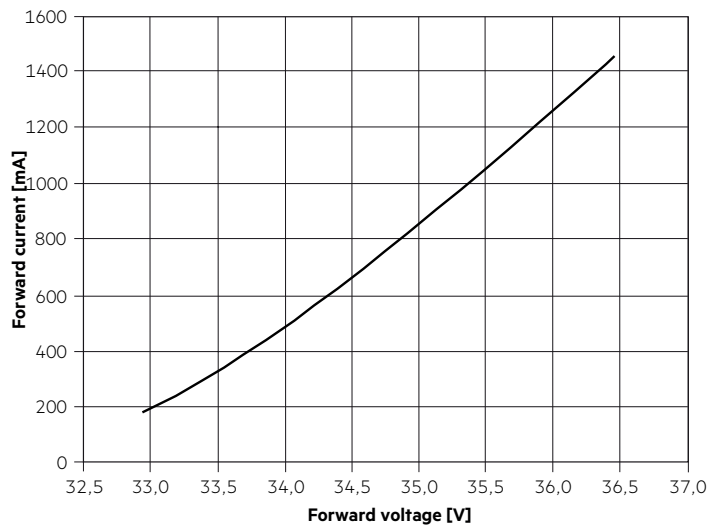
SLE G7 15mm 4000lm xxx ADV



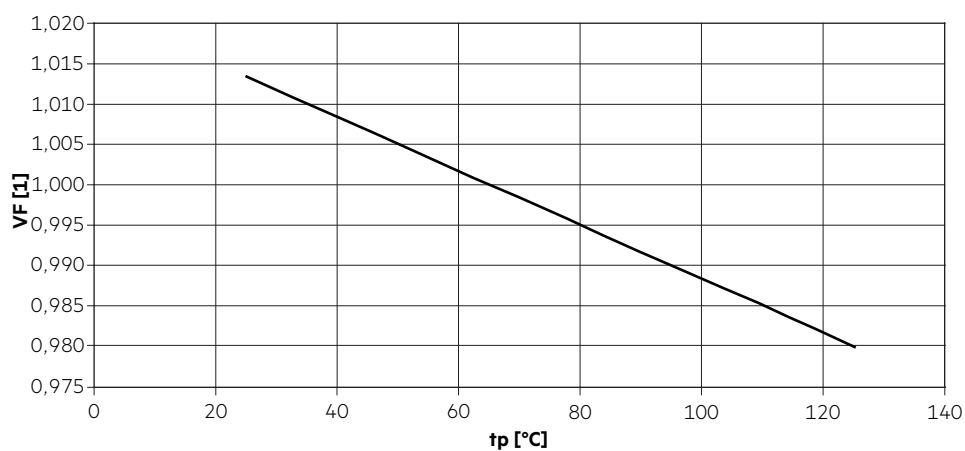
SLE G7 21mm 6000lm xxx ADV



SLE G7 17mm 5000lm xxx ADV



5.3 Forward voltage vs. tp temperature



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

6. Photometric characteristics

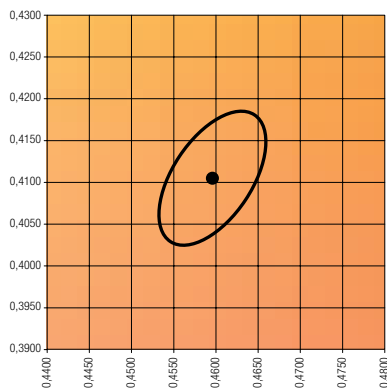
6.1 Coordinates and tolerances according to CIE 1931 and colour rendering

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 $t_a = 25^\circ\text{C}$. The measurement tolerance of the colour coordinates are ± 0.01 .

Module type	Current impulse
SLE G7 09mm 1200lm xxx ADV	350 mA
SLE G7 13mm 3000lm xxx ADV	500 mA
SLE G7 15mm 4000lm xxx ADV	900 mA
SLE G7 17mm 5000lm xxx ADV	1,050 mA
SLE G7 21mm 6000lm xxx ADV	1,400 mA

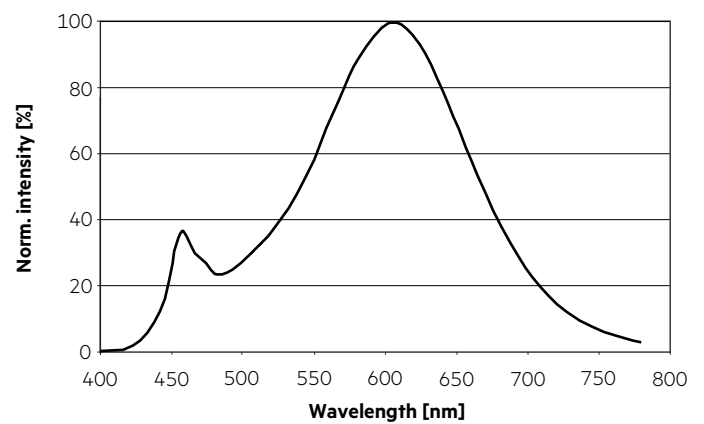
2,700 K – CRI80

	x0	y0
Centre	0.4599	0.4106

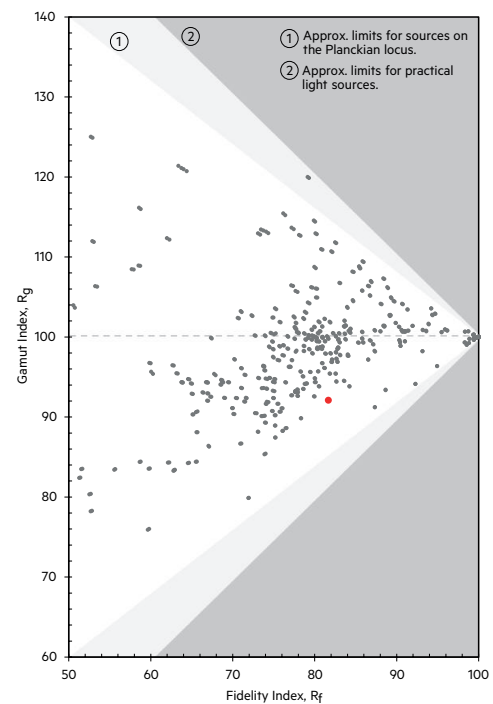
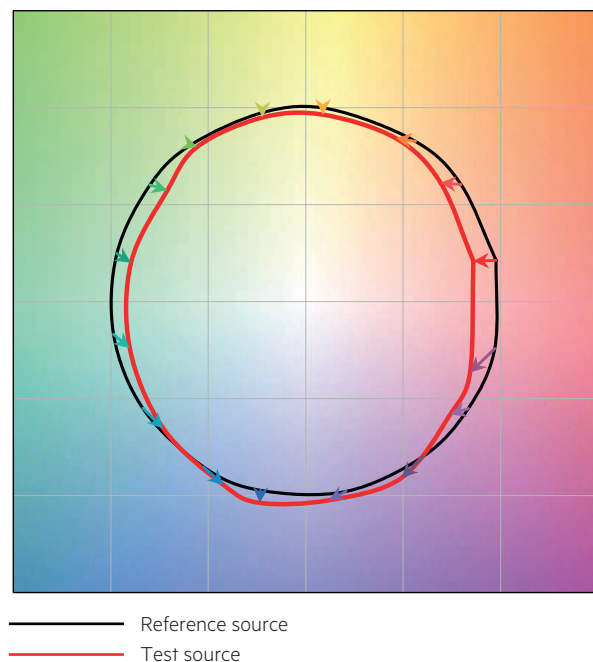


MacAdam ellipse: 3SDCM

TM30		CRI	
Rf	Rg	Ra	R9
82	92	81	12

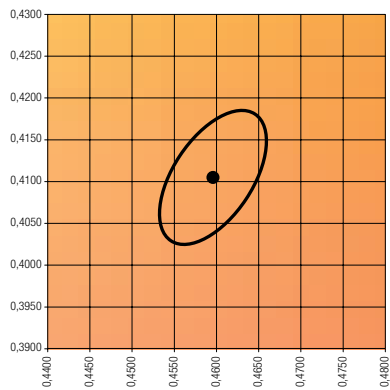


Colour vector graphic



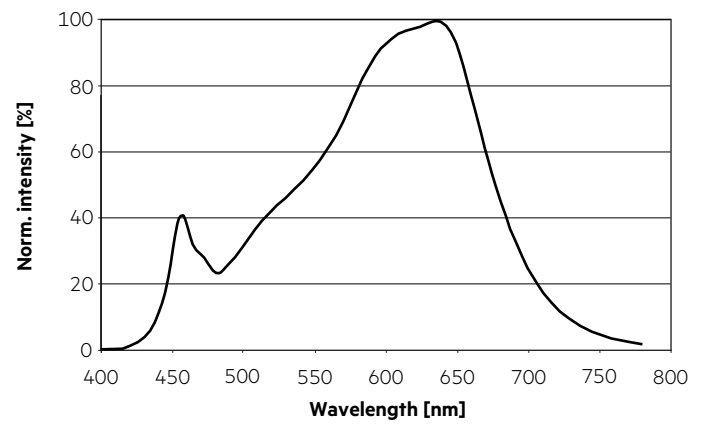
2,700 K – CRI90

	x0	y0
Centre	0.4599	0.4106

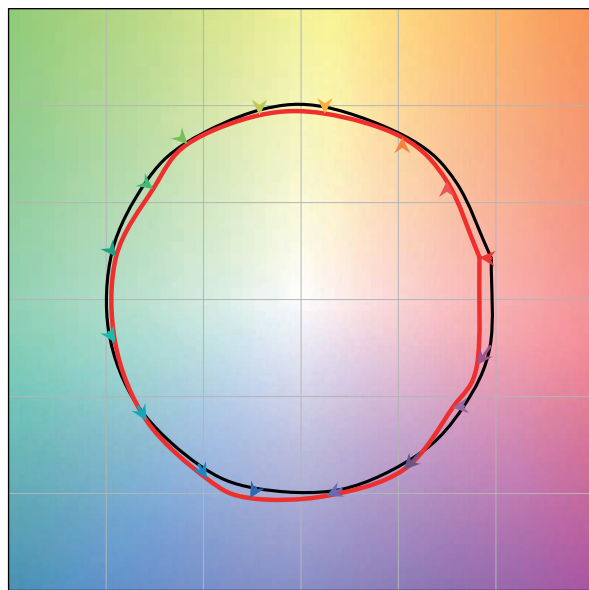


MacAdam ellipse: 3SDCM

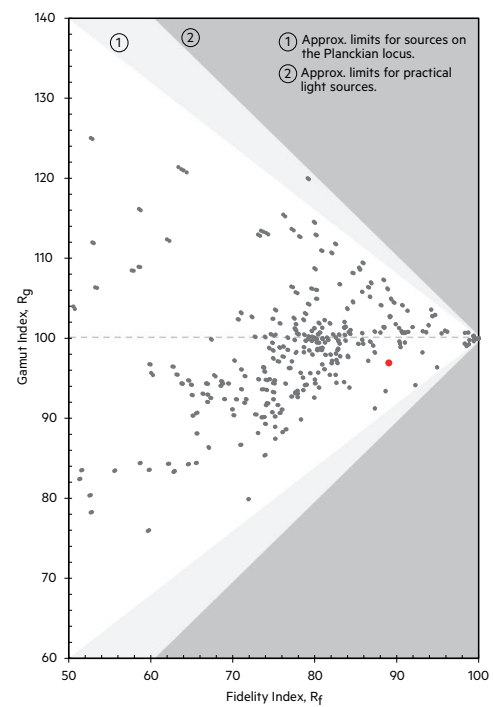
TM30		CRI	
Rf	Rg	Ra	R9
89	97	91	56



Colour vector graphic

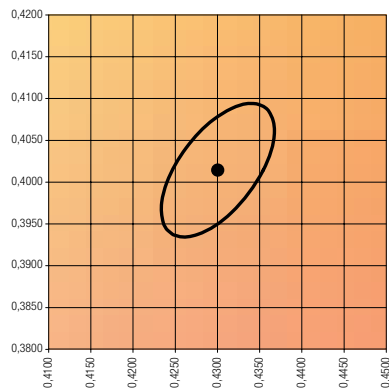


— Reference source
— Test source



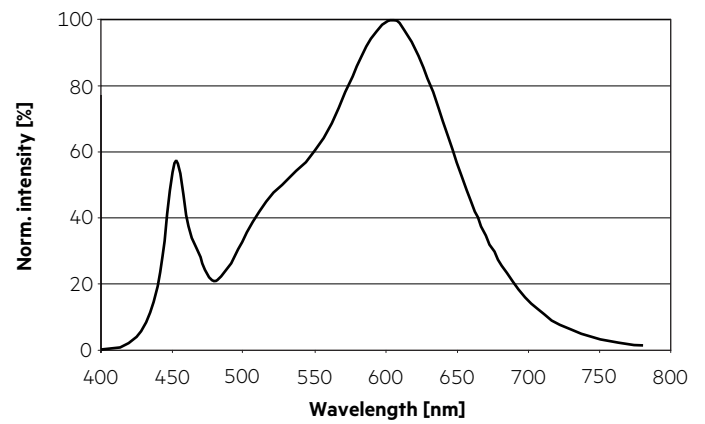
3,000 K – CRI80

	x0	y0
Centre	0.4300	0.4016

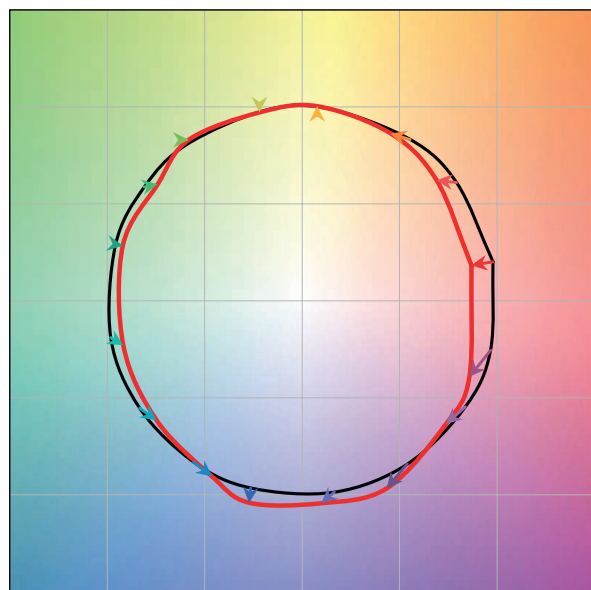


MacAdam ellipse: 3SDCM

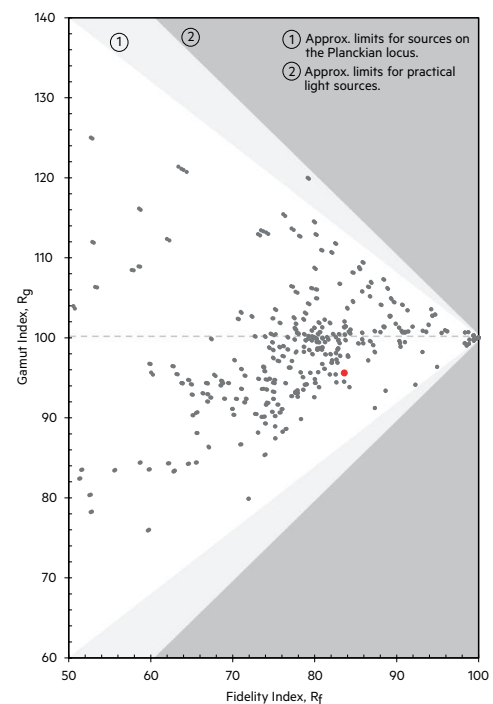
TM30		CRI	
Rf	Rg	Ra	R9
84	96	83	8



Colour vector graphic

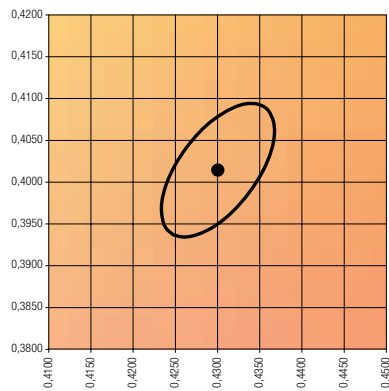


— Reference source
— Test source



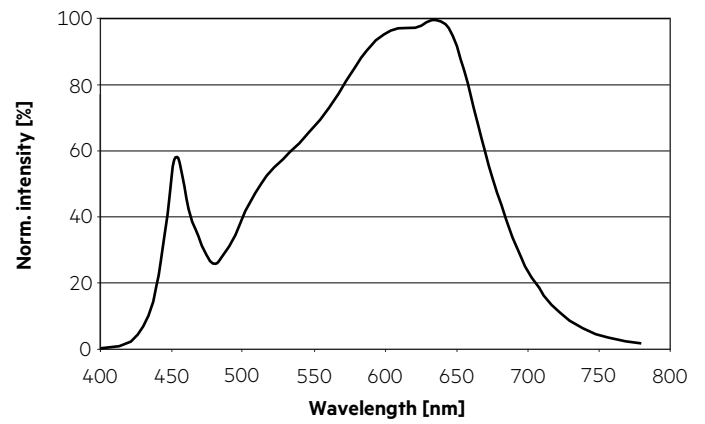
3,000 K – CRI90

	x0	y0
Centre	0.4300	0.4016

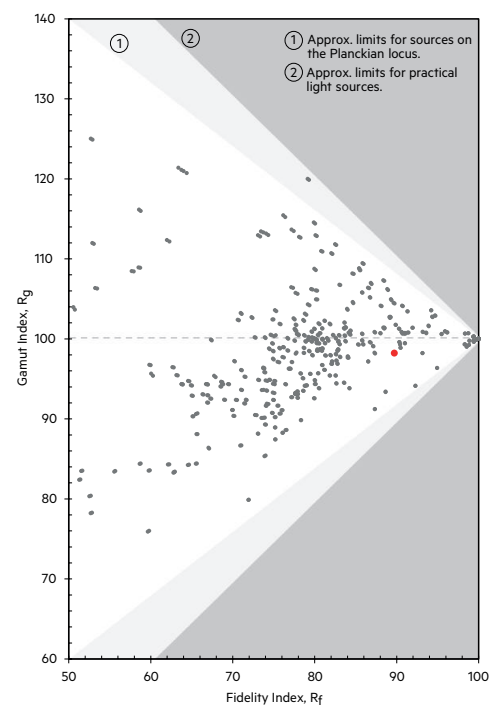
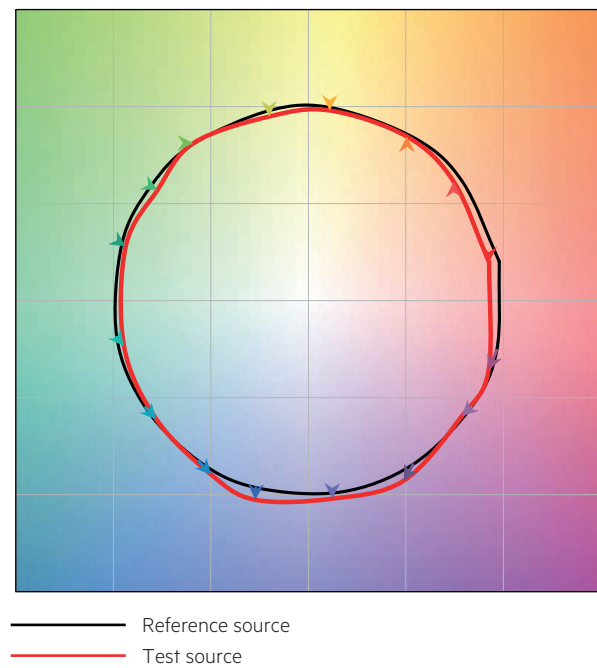


MacAdam ellipse: 3SDCM

TM30		CRI	
Rf	Rg	Ra	R9
90	98	92	59

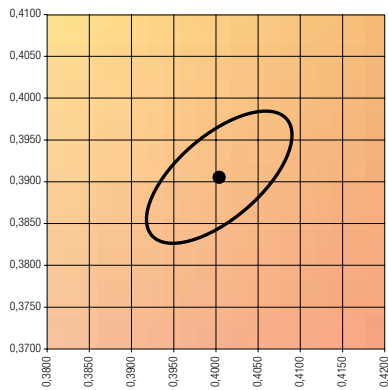


Colour vector graphic



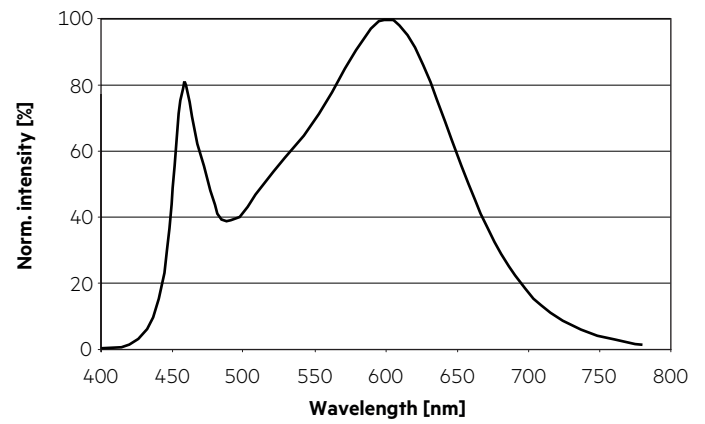
3,500 K – CRI80

	x0	y0
Centre	0.4053	0.3907

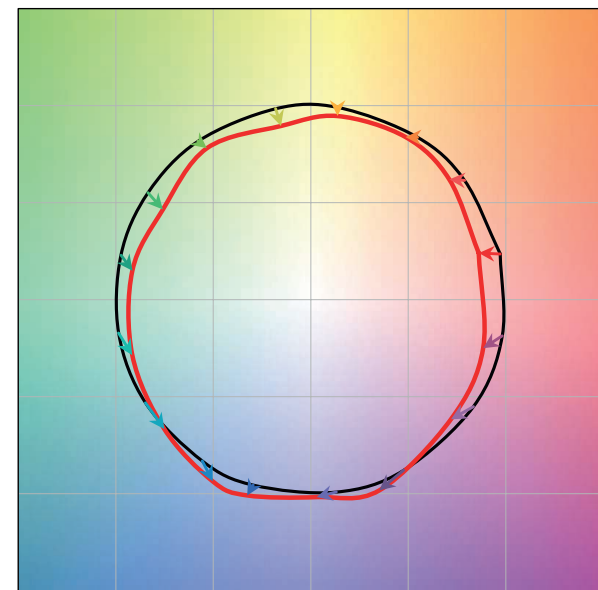


MacAdam ellipse: 3SDCM

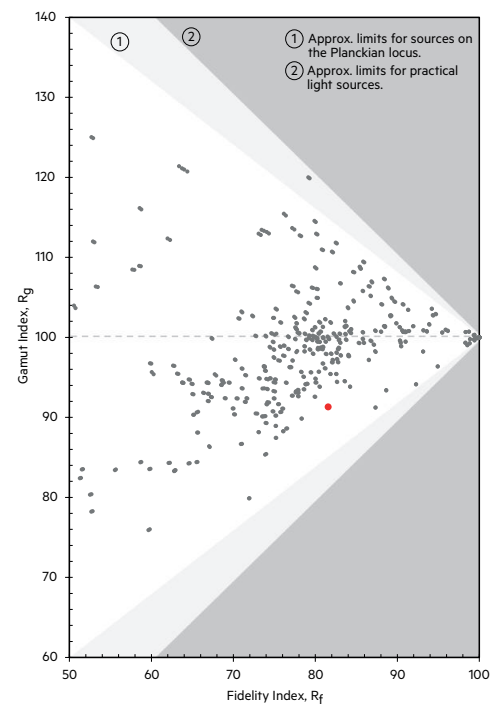
TM30		CRI	
Rf	Rg	Ra	R9
82	91	85	22



Colour vector graphic

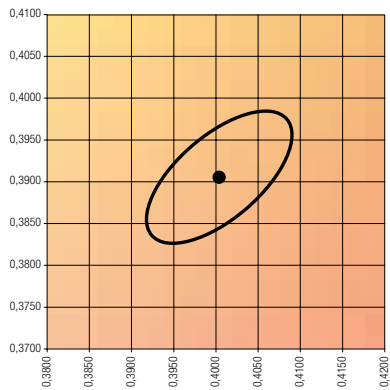


— Reference source
— Test source



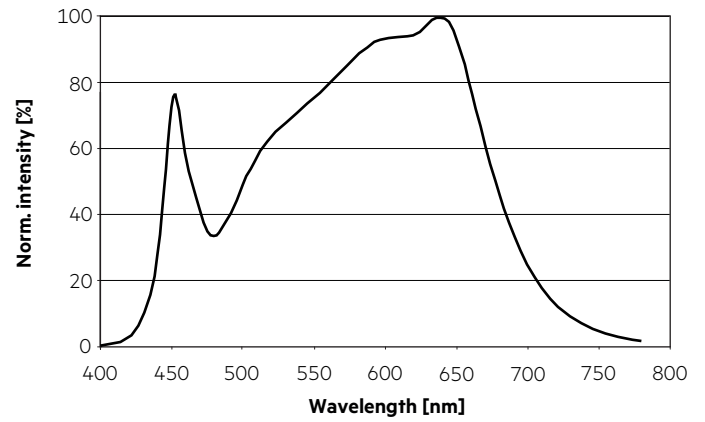
3,500 K – CRI90

	x0	y0
Centre	0.4053	0.3907

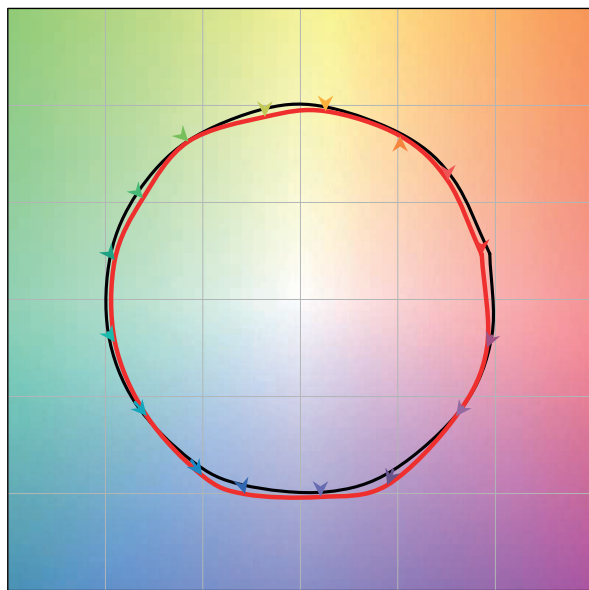


MacAdam ellipse: 3SDCM

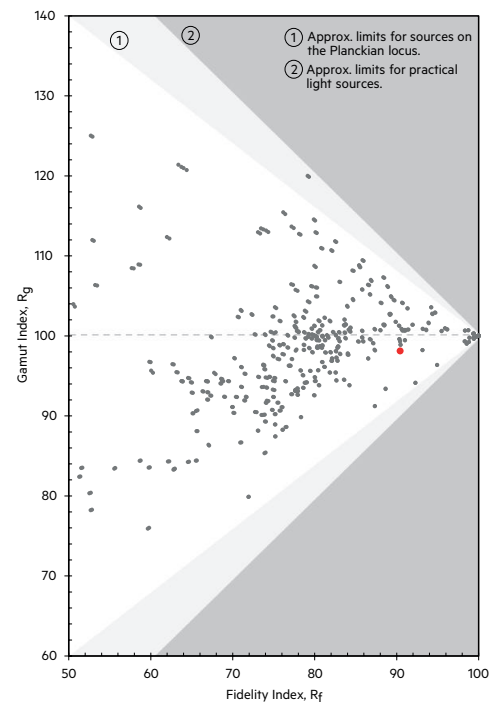
TM30		CRI	
Rf	Rg	Ra	R9
90	98	94	70



Colour vector graphic

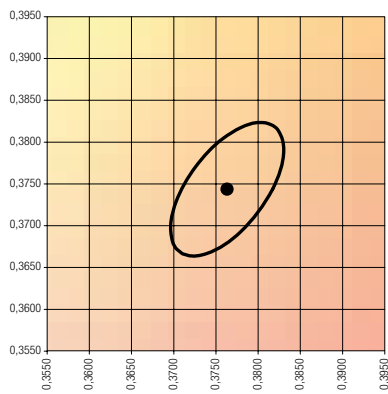


— Reference source
— Test source



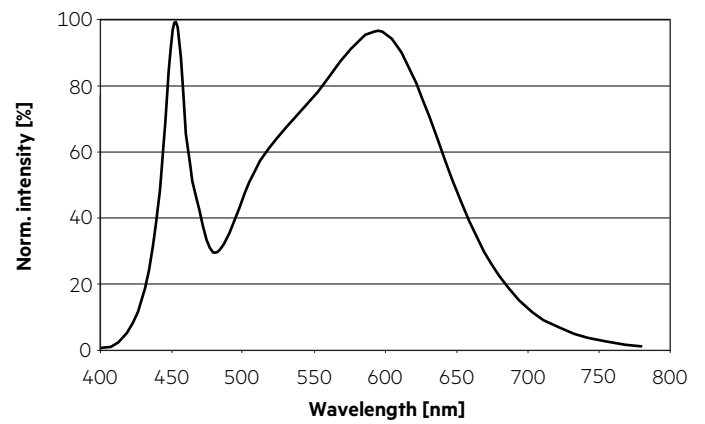
4,000 K – CRI80

	x0	y0
Centre	0.3761	0.3740

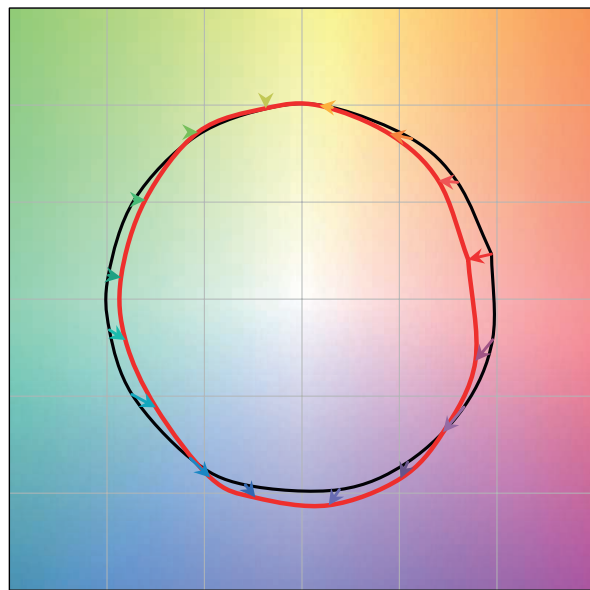


MacAdam ellipse: 3SDCM

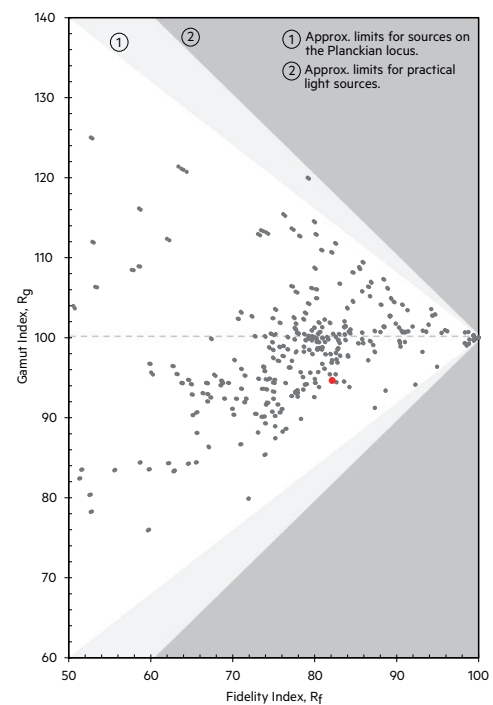
TM30		CRI	
Rf	Rg	Ra	R9
82	95	83	5



Colour vector graphic

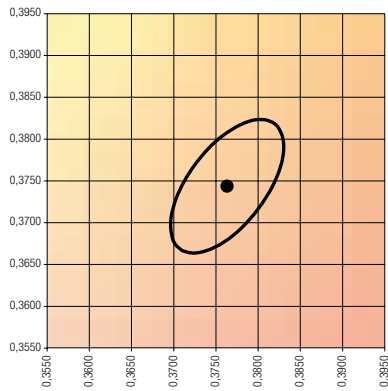


— Reference source
— Test source



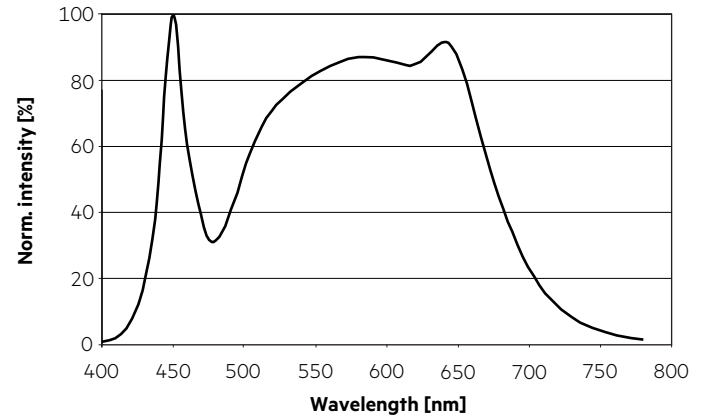
4,000 K – CRI90

	x0	y0
Centre	0.3761	0.3740

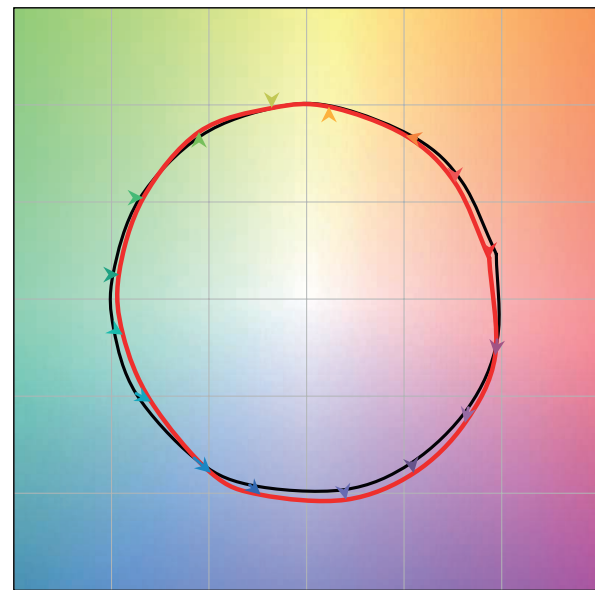


MacAdam ellipse: 3SDCM

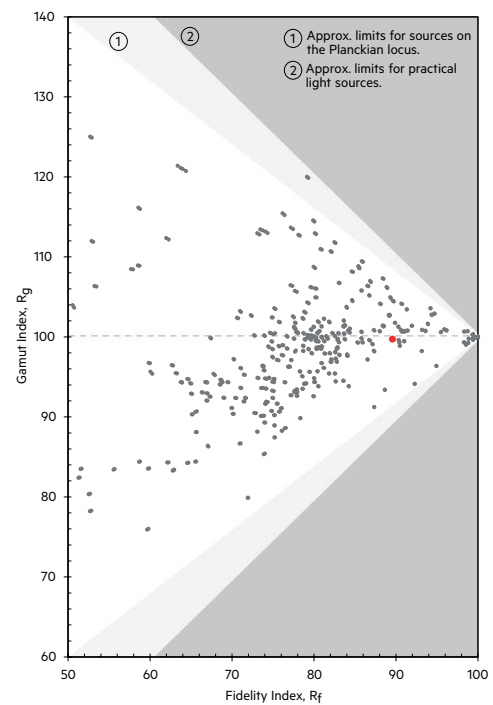
TM30		CRI	
Rf	Rg	Ra	R9
90	100	91	70



Colour vector graphic

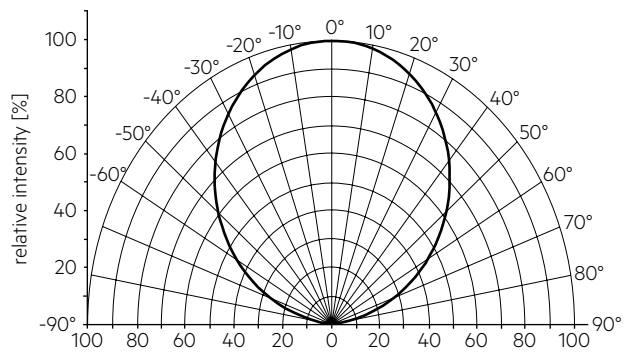


— Reference source
— Test source

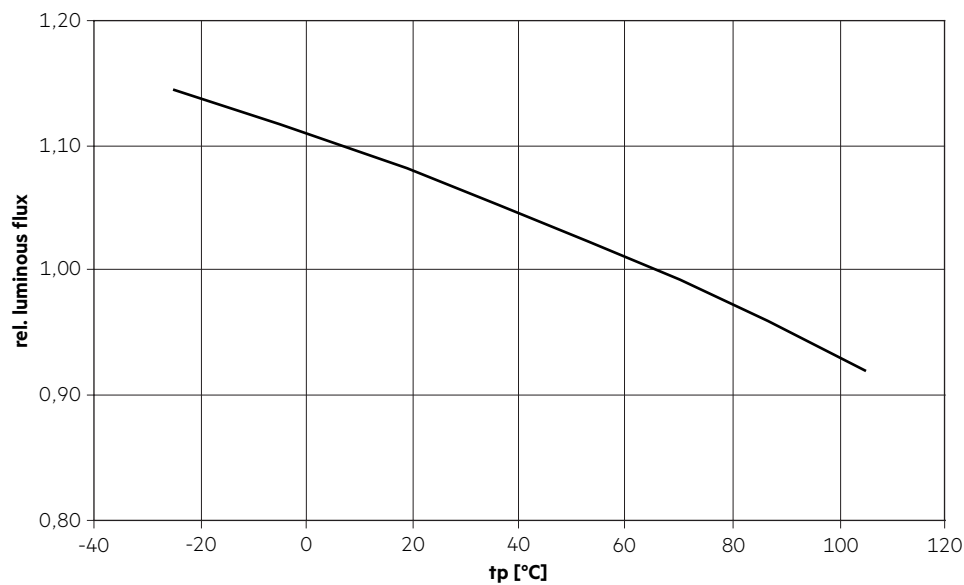


6.2 Light distribution

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

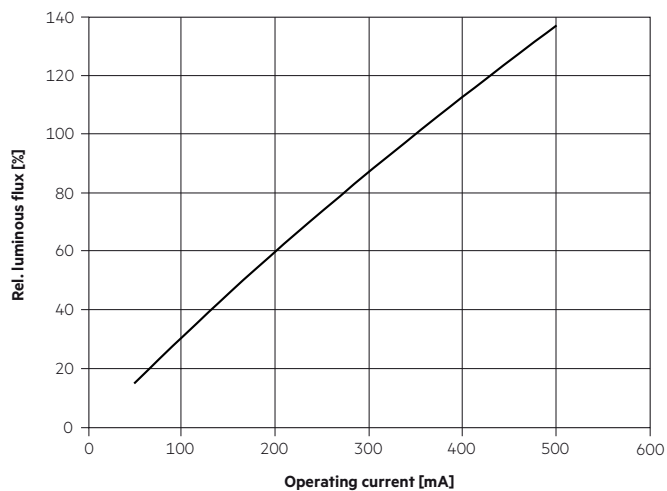


6.3 Relative luminous flux vs. tp temperature

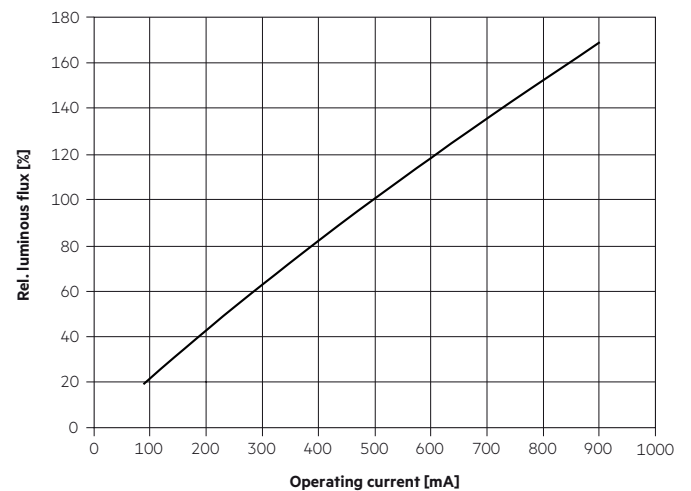


6.4 Relative luminous flux vs. operating current

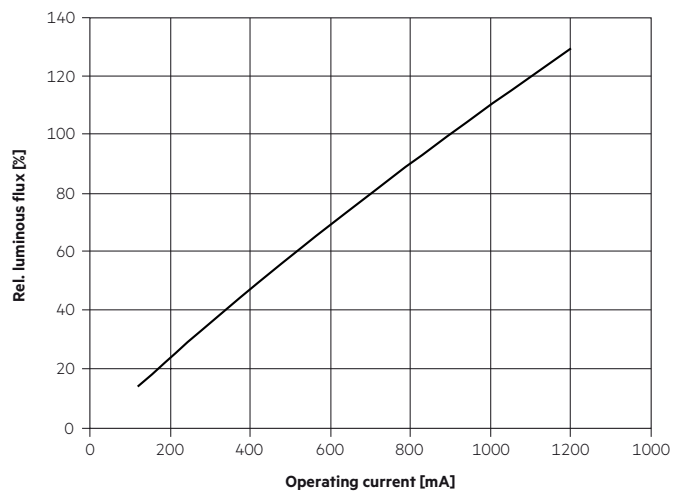
SLE G7 09mm 1200lm xxx ADV



SLE G7 13mm 3000lm xxx ADV



SLE G7 15mm 4000lm xxx ADV



7. Miscellaneous

7.1 Additional information

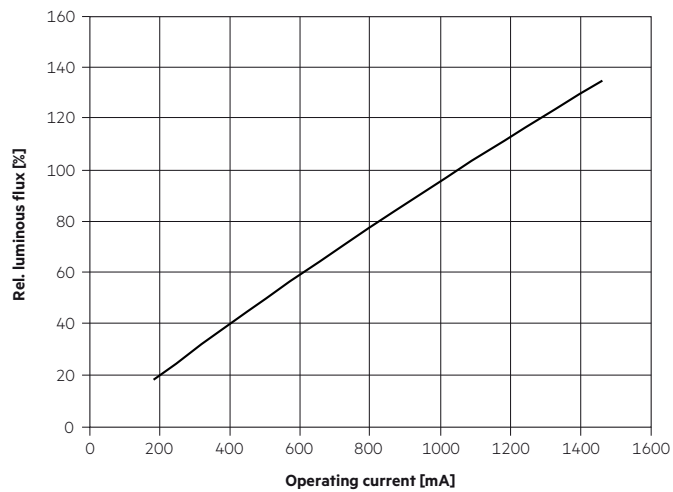
Additional technical information at www.tridonic.com → Technical Data

Guarantee conditions at www.tridonic.com → Services

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

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

SLE G7 17mm 5000lm xxx ADV



SLE G7 21mm 6000lm xxx ADV

