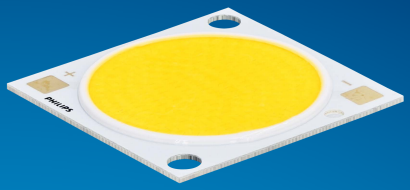
PHILIPS

Fortimo

LED

Fortimo SLM C 9xx 1216
L23 2828 G8 HE



Datasheet

Best combination of quality of light and efficacy

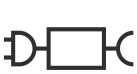
Fortimo LED SLM CRI90 G8 HE

Philips continues to develop its tried and trusted high efficiency COB range of products (since 2020) by introducing the third generation Fortimo SLM G8 HE. The Fortimo SLM CRI90 G8 HE range boasts an impressive 5% increase in efficacy and maintains color consistency of 2 SDCM similar to its predecessor, Fortimo SLM CRI90 G7HE+. Drawing on our four years of industry and R&D experience with high efficacy COB platforms, we have further optimized the quality of light and enhanced the product's robustness.
With the superior efficiency and color consistency, Fortimo SLM G8 HE helps unlock the extraordinary potential of light, facilitating innovation and inspiring the next generation of luminaire design for our OEM customers.
Check out the online Easy Design-in Tool for your perfect system combination (www.easydesignintool.com).

Key features and benefits

- Best quality of light available for all applications
- ~5% efficacy improvement vs. current Fortimo SLM G7 HE+ range
- Excellent color consistency management (2 SDCM)
- System proposition (Module + Driver + Holder)
- Flexibility to optimize luminaire performance (high efficacy or high lm output)
- 50,000 hours lifetime

October 2024



Ordering data

Commercial product name	EOC	12NC	EPREL registration #	Box quantity
Fortimo SLM C 927 1216 L23 2828 G8 HE	8720169 379572 00	9290 038 94680	2093776	10
Fortimo SLM C 930 1216 L23 2828 G8 HE	8720169 379602 00	9290 038 94780	2093824	10
Fortimo SLM C 935 1216 L23 2828 G8 HE	8720169 379633 00	9290 038 94880	2093880	10
Fortimo SLM C 940 1216 L23 2828 G8 HE	8720169 379664 00	9290 038 94980	2093716	10
Fortimo SLM C 950 1216 L23 2828 G8 HE	8720169 379695 00	9290 038 95080	2093719	10
Fortimo SLM C 930 PW 1216 L23 2828 G8 HE	8720169 379725 00	9290 038 95180	2093786	10
Fortimo SLM C 935 PW 1216 L23 2828 G8 HE	8720169 379756 00	9290 038 95280	2093778	10
Fortimo SLM C 940 PW 1216 L23 2828 G8 HE	8720169 379787 00	9290 038 95380	2093828	10
Fortimo SLM C 930 PC 1216 L23 2828 G8 HE	8720169 379817 00	9290 038 95480	2093825	10

Not all products are globally available by default.
Please contact your local sales representative for local availability and activation conditions.

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo SLM C 9xx 1216 L23 2828 G8 HE	1600	2880	2880	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T_c (case temperature at T_c point)	65	95	95	°C

* Nominal value at which typical performance is specified

** Value at which life time is specified

*** Maximum value for safe operation, do not operate above this value

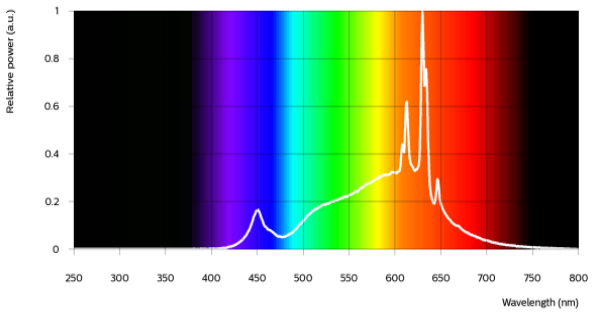
Optical characteristics - table per color (CCT)

Fortimo SLM C 927 1216 L23 2828 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	8194	8625	9488	lm
Efficacy		152		lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.458, 0.410)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		927/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	927	lm	lm/W
80% I-nom 1280mA	Tc 25 °C	7385	164
	Tc-nom 65 °C	6994	158
	Tc-max 95 °C	6623	151
I-nom 1600mA	Tc 25 °C	9112	159
	Tc-nom 65 °C	8625	152
	Tc-max 95 °C	8163	146
I-max 2880mA	Tc 25 °C	15670	141
	Tc-nom 65 °C	14790	134
	Tc-max 95 °C	13953	128

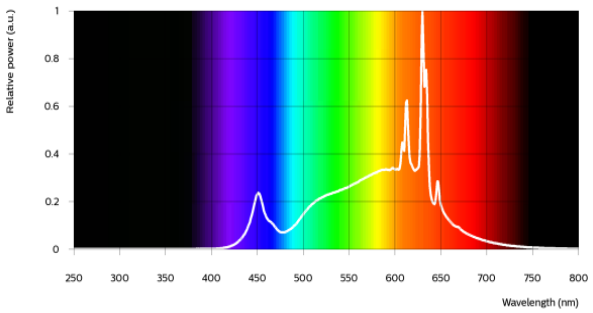


Fortimo SLM C 930 1216 L23 2828 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	8621	9075	9982	lm
Efficacy		160		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.434, 0.403)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		930/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	930	lm	lm/W
80% I-nom 1280mA	Tc 25 °C	7769	173
	Tc-nom 65 °C	7358	166
	Tc-max 95 °C	6969	159
I-nom 1600mA	Tc 25 °C	9587	167
	Tc-nom 65 °C	9075	160
	Tc-max 95 °C	8589	153
I-max 2880mA	Tc 25 °C	16489	148
	Tc-nom 65 °C	15565	141
	Tc-max 95 °C	14687	135

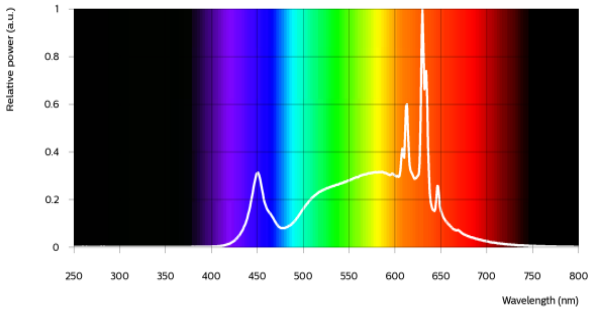


Fortimo SLM C 935 1216 L23 2828 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	8792	9255	10180	lm
Efficacy		164		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.407, 0.392)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		935/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	935	lm	lm/W
80% I-nom 1280mA	Tc 25 °C	7923	176
	Tc-nom 65 °C	7504	169
	Tc-max 95 °C	7107	162
I-nom 1600mA	Tc 25 °C	9777	171
	Tc-nom 65 °C	9255	164
	Tc-max 95 °C	8760	156
I-max 2880mA	Tc 25 °C	16817	151
	Tc-nom 65 °C	15875	144
	Tc-max 95 °C	14980	137

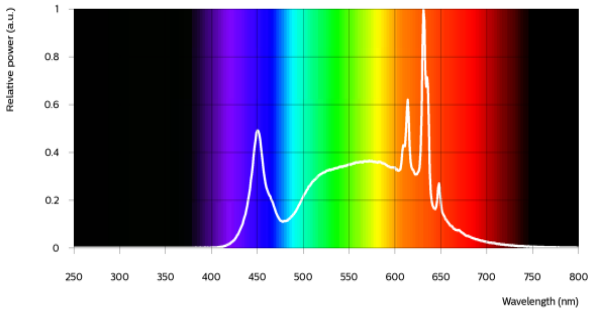


Fortimo SLM C 940 1216 L23 2828 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	8925	9395	10334	lm
Efficacy		166		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.380)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		940/259		
Photobiological safety		RG1 unlimited		

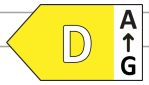
Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	940	lm	lm/W
80% I-nom 1280mA	Tc 25 °C	8042	179
	Tc-nom 65 °C	7617	172
	Tc-max 95 °C	7214	165
I-nom 1600mA	Tc 25 °C	9924	173
	Tc-nom 65 °C	9395	166
	Tc-max 95 °C	8892	159
I-max 2880mA	Tc 25 °C	17073	153
	Tc-nom 65 °C	16118	146
	Tc-max 95 °C	15210	139



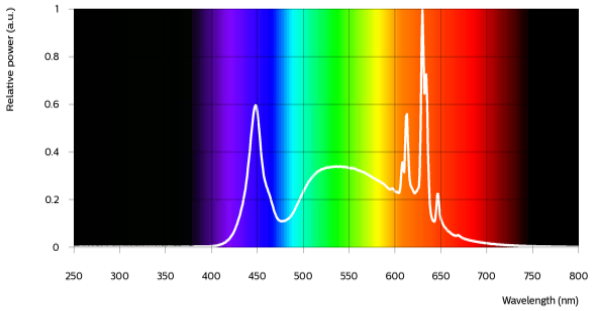
Fortimo SLM C 950 1216 L23 2828 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	8840	9305	10236	lm
Efficacy		164		lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.345, 0.355)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		950/259		
Photobiological safety		RG1 unlimited		



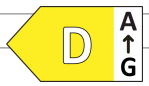
Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	950	lm	lm/W
80% I-nom 1280mA	Tc 25 °C	7964	177
	Tc-nom 65 °C	7544	170
	Tc-max 95 °C	7145	163
I-nom 1600mA	Tc 25 °C	9829	172
	Tc-nom 65 °C	9305	164
	Tc-max 95 °C	8808	157
I-max 2880mA	Tc 25 °C	16911	152
	Tc-nom 65 °C	15967	145
	Tc-max 95 °C	15069	138



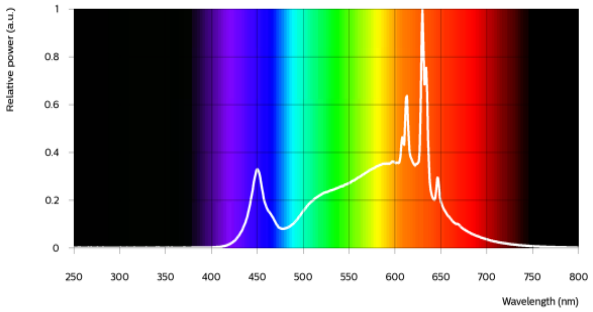
Fortimo SLM C 930 PW 1216 L23 2828 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	8540	8990	9889	lm
Efficacy		159		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.422, 0.386)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		930/259		
Photobiological safety		RG1 unlimited		



Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	930	lm	lm/W
80% I-nom 1280mA	Tc 25 °C	7696	171
	Tc-nom 65 °C	7289	165
	Tc-max 95 °C	6903	158
I-nom 1600mA	Tc 25 °C	9497	166
	Tc-nom 65 °C	8990	159
	Tc-max 95 °C	8509	152
I-max 2880mA	Tc 25 °C	16336	147
	Tc-nom 65 °C	15421	140
	Tc-max 95 °C	14551	133

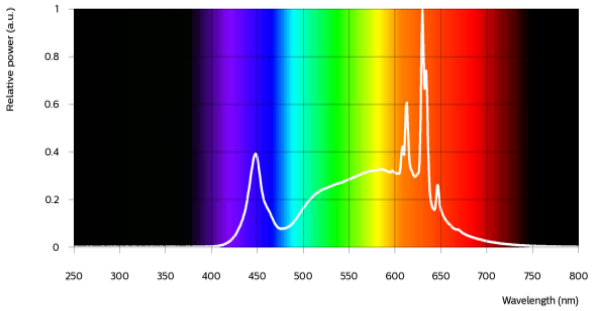


Fortimo SLM C 935 PW 1216 L23 2828 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	8669	9125	10038	lm
Efficacy		161		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.398, 0.376)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		935/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	935	lm	lm/W
80% I-nom 1280mA	Tc 25 °C	7811	174
	Tc-nom 65 °C	7398	167
	Tc-max 95 °C	7007	160
I-nom 1600mA	Tc 25 °C	9639	168
	Tc-nom 65 °C	9125	161
	Tc-max 95 °C	8636	154
I-max 2880mA	Tc 25 °C	16581	149
	Tc-nom 65 °C	15653	142
	Tc-max 95 °C	14771	135

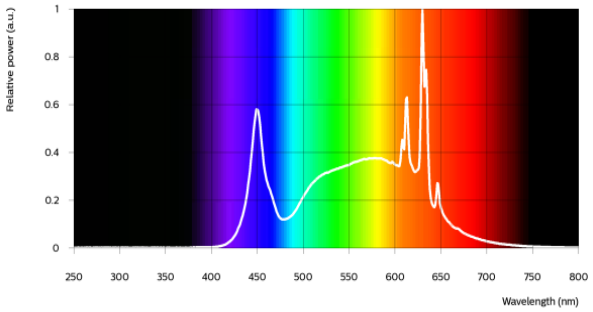


Fortimo SLM C 940 PW 1216 L23 2828 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	8764	9225	10148	lm
Efficacy		163		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.374, 0.364)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		940/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	940	lm	lm/W
80% I-nom 1280mA	Tc 25 °C	7896	176
	Tc-nom 65 °C	7479	169
	Tc-max 95 °C	7084	162
I-nom 1600mA	Tc 25 °C	9744	170
	Tc-nom 65 °C	9225	163
	Tc-max 95 °C	8732	156
I-max 2880mA	Tc 25 °C	16764	150
	Tc-nom 65 °C	15827	144
	Tc-max 95 °C	14936	137

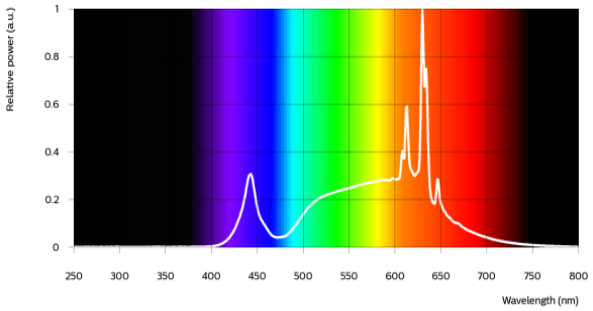


Fortimo SLM C 930 PC 1216 L23 2828 G8 HE

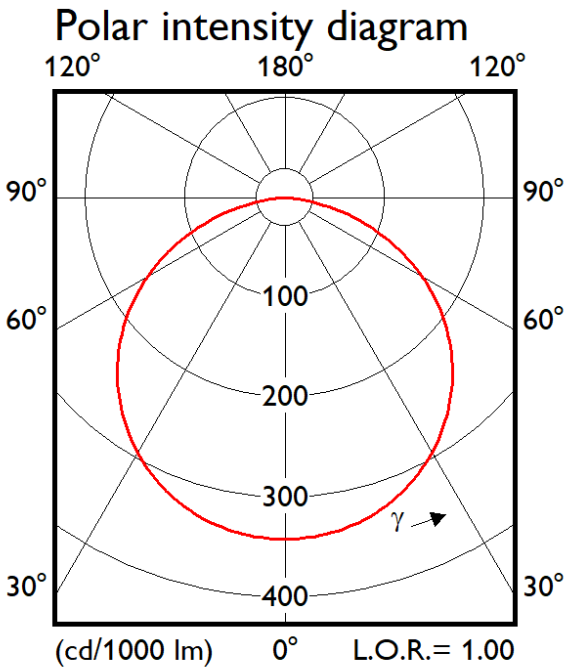
Parameter	Min	Typ	Max	Unit
Luminous flux	7937	8355	9190	lm
Efficacy		148		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.422, 0.386)		-
Color consistency			2	SDCM
CRI	90			
R9	>70			
Photometric code		930/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	930	lm	lm/W
80% I-nom 1280mA	Tc 25 °C	7153	159
	Tc-nom 65 °C	6775	153
	Tc-max 95 °C	6416	146
I-nom 1600mA	Tc 25 °C	8827	154
	Tc-nom 65 °C	8355	148
	Tc-max 95 °C	7907	141
I-max 2880mA	Tc 25 °C	15180	136
	Tc-nom 65 °C	14328	130
	Tc-max 95 °C	13518	124



Beam shape


Polar intensity diagram
120°
180°
120°
90°
90°
60°
60°
100
200
300
γ
30°
30°
400
(cd/1000 lm)
0°
L.O.R.= 1.00

Electrical characteristics

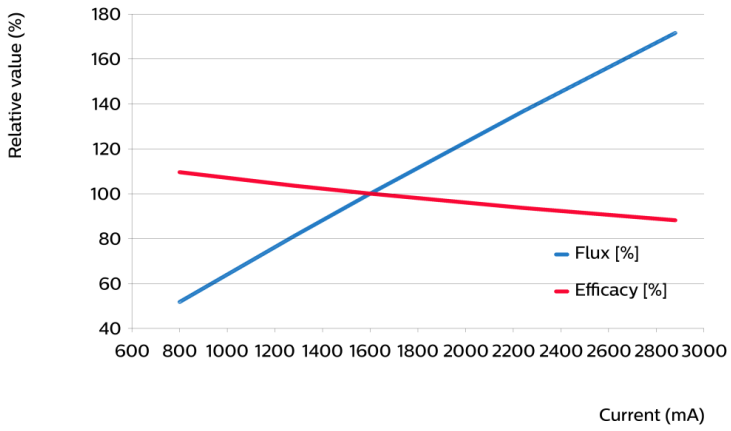
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	35.4	37.0	V
Power consumption	52.0	56.6	59.2	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

Measurement precision for Vf +/- 3%. Measurement precision for power +/- 3.3%

Tuning information

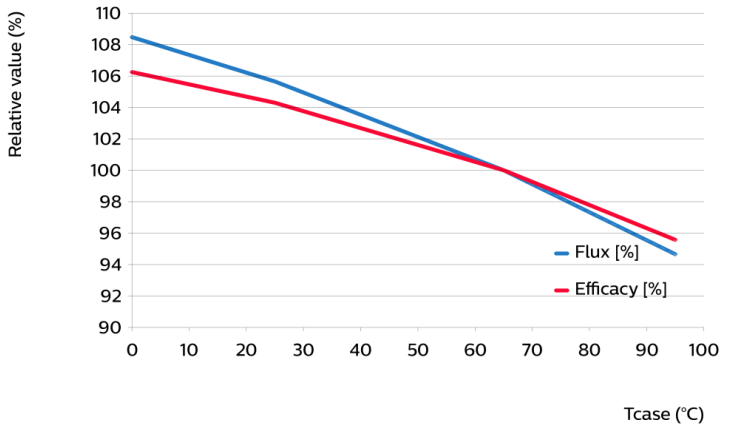
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
2880	172	88
2240	137	94
1600	100	100
1280	81	104
800	52	110



Flux and efficacy versus temperature at Tc (at I nominal)

Tc [°C]	Flux [%]	Efficacy [%]
95	95	96
65	100	100
25	106	104
0	108	106



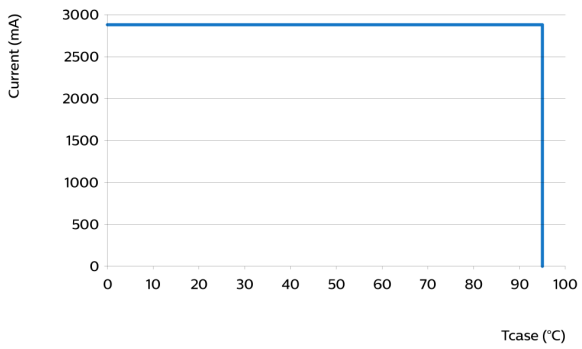
Lumen maintenance

Operation point	Lumen maintenance	L70			L80			L90		
	x 1000 hours	B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 1280mA	Tc 50°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
	Tc 65°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
	Tc 95°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
I-nom 1600mA	Tc 50°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
	Tc 65°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
	Tc 95°C	>66	>66	>66	>66	>66	>66	>66	56	51
I-max 2880mA	Tc 50°C	>66	>66	>66	>66	>66	>66	50	42	39
	Tc 65°C	>66	>66	>66	>66	>66	62	38	32	29
	Tc 95°C	>66	>66	60	49	41	38	23	19	17

Lifetime

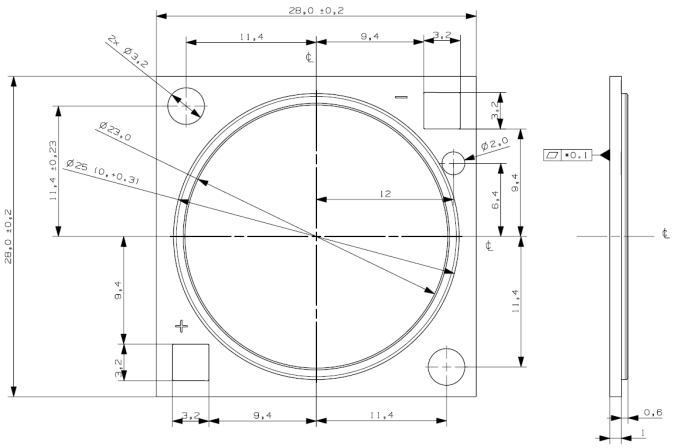
Parameter	Value	Unit
M70F50 nominal	>66000	hours

Performance Window



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	27.8	28	28.2	mm
Width	27.8	28	28.2	mm
Height	0.9	1	1.1	mm
Height	1.3	1.6	1.9	mm
Product mass		2.2		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		2880	mA
Case temperature (Tc-max)		95	°C
ESD (direct contact)	8		kV
Working voltage		60	V_{dc}
Ambient temperature	-20	40	°C
Storage temperature	-40	80	°C

At illumination levels exceeding 1342 lux risk group classification may be RG2.

Application information

Certificates and Standards
CB
CE
ENEC
ENEC+
EPRS 001
IEC 62031
UKCA
UL
UL 8750

Environmental
RoHS/REACH

Application	
Dimming	Yes

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11/10/2024

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