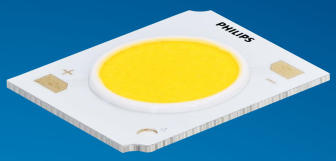
PHILIPS

Fortimo

LED

Fortimo SLM C 9xx 1205
L13 2024 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 1205 L13 2024 G8 HE	8720169 377776 00	9290 038 88680	2093870	20
Fortimo SLM C 930 1205 L13 2024 G8 HE	8720169 377806 00	9290 038 88780	2093843	20
Fortimo SLM C 935 1205 L13 2024 G8 HE	8720169 377837 00	9290 038 88880	2093753	20
Fortimo SLM C 940 1205 L13 2024 G8 HE	8720169 377868 00	9290 038 88980	2093854	20
Fortimo SLM C 950 1205 L13 2024 G8 HE	8720169 377899 00	9290 038 89080	2093698	20
Fortimo SLM C 930 PW 1205 L13 2024 G8 HE	8720169 377929 00	9290 038 89180	2093856	20
Fortimo SLM C 935 PW 1205 L13 2024 G8 HE	8720169 377950 00	9290 038 89280	2093840	20
Fortimo SLM C 940 PW 1205 L13 2024 G8 HE	8720169 377981 00	9290 038 89380	2093752	20
Fortimo SLM C 930 PC 1205 L13 2024 G8 HE	8720169 378018 00	9290 038 89480	2093749	20

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 1205 L13 2024 G8 HE	500	900	900	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

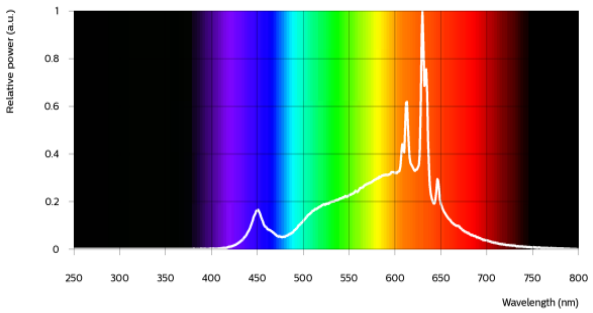
Optical characteristics - table per color (CCT)

Fortimo SLM C 927 1205 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2608	2745	3020	lm
Efficacy		158		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 400mA	Tc 25 °C	2353	172
	Tc-nom 65 °C	2235	164
	Tc-max 95 °C	2114	158
I-nom 500mA	Tc 25 °C	2892	165
	Tc-nom 65 °C	2745	158
	Tc-max 95 °C	2595	151
I-max 900mA	Tc 25 °C	4903	144
	Tc-nom 65 °C	4639	138
	Tc-max 95 °C	4370	131

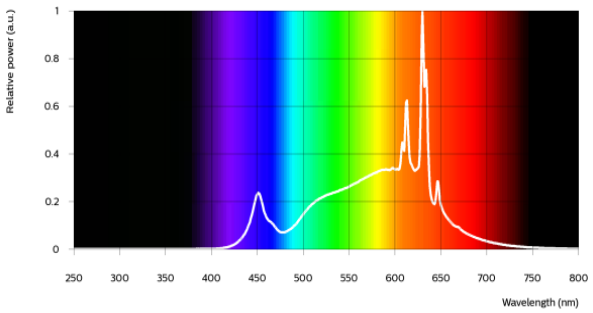


Fortimo SLM C 930 1205 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2746	2890	3179	lm
Efficacy		166		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		

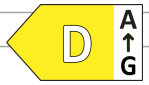
Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	930	lm	lm/W
80% I-nom 400mA	Tc 25 °C	2477	181
	Tc-nom 65 °C	2353	173
	Tc-max 95 °C	2226	166
I-nom 500mA	Tc 25 °C	3044	174
	Tc-nom 65 °C	2890	166
	Tc-max 95 °C	2732	159
I-max 900mA	Tc 25 °C	5162	151
	Tc-nom 65 °C	4886	145
	Tc-max 95 °C	4602	138



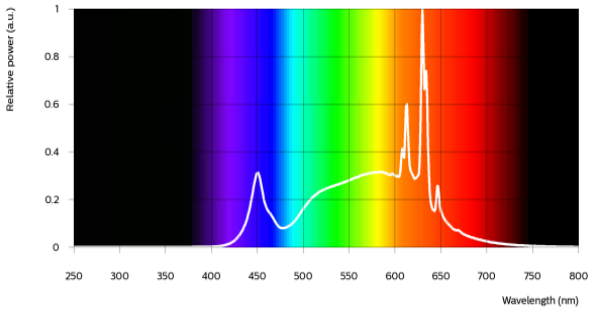
Fortimo SLM C 935 1205 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2798	2945	3240	lm
Efficacy		169		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		



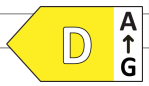
Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	935	lm	lm/W
80% I-nom 400mA	Tc 25 °C	2524	184
	Tc-nom 65 °C	2397	176
	Tc-max 95 °C	2268	169
I-nom 500mA	Tc 25 °C	3102	177
	Tc-nom 65 °C	2945	169
	Tc-max 95 °C	2784	162
I-max 900mA	Tc 25 °C	5260	154
	Tc-nom 65 °C	4979	148
	Tc-max 95 °C	4690	140



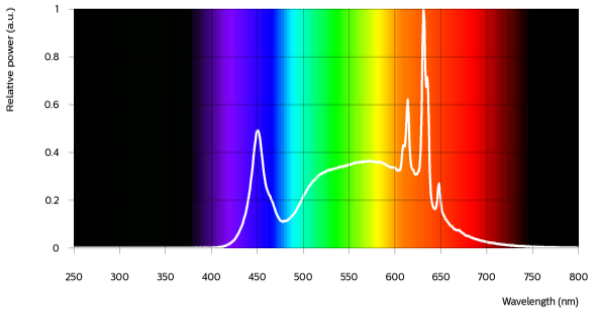
Fortimo SLM C 940 1205 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2840	2990	3289	lm
Efficacy		172		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 400mA	Tc 25 °C	2562	187
	Tc-nom 65 °C	2434	179
	Tc-max 95 °C	2303	172
I-nom 500mA	Tc 25 °C	3149	180
	Tc-nom 65 °C	2990	172
	Tc-max 95 °C	2827	164
I-max 900mA	Tc 25 °C	5341	157
	Tc-nom 65 °C	5056	150
	Tc-max 95 °C	4763	143

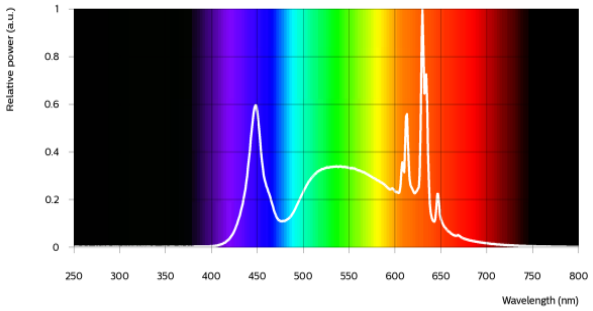


Fortimo SLM C 950 1205 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2812	2960	3256	lm
Efficacy		170		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 400mA	Tc 25 °C	2536	185
	Tc-nom 65 °C	2409	177
	Tc-max 95 °C	2280	170
I-nom 500mA	Tc 25 °C	3118	177
	Tc-nom 65 °C	2960	170
	Tc-max 95 °C	2799	163
I-max 900mA	Tc 25 °C	5288	155
	Tc-nom 65 °C	5006	149
	Tc-max 95 °C	4717	141

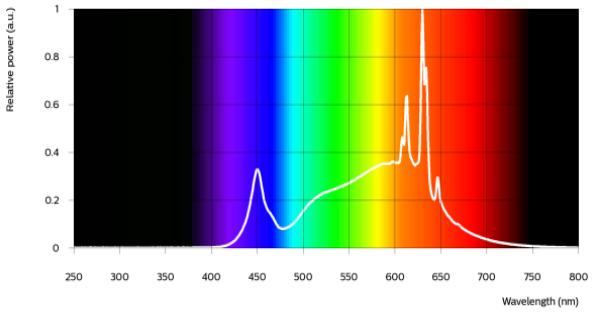


Fortimo SLM C 930 PW 1205 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2717	2860	3146	lm
Efficacy		164		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		

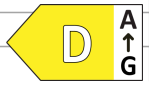
Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	930	lm	lm/W
80% I-nom 400mA	Tc 25 °C	2451	179
	Tc-nom 65 °C	2328	171
	Tc-max 95 °C	2202	164
I-nom 500mA	Tc 25 °C	3013	172
	Tc-nom 65 °C	2860	164
	Tc-max 95 °C	2704	157
I-max 900mA	Tc 25 °C	5108	150
	Tc-nom 65 °C	4835	143
	Tc-max 95 °C	4555	136



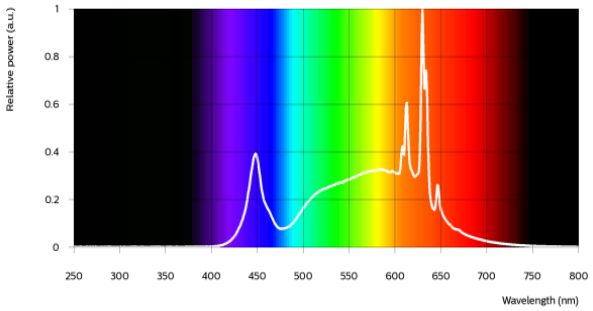
Fortimo SLM C 935 PW 1205 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2755	2900	3190	lm
Efficacy		167		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		



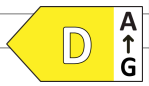
Measurement precision ± 5% for the flux data and ± 6% for the efficacy data. Measurement precision for color coordinates ± 0.005. Measurement precision for CRI ± 1.5.

Operation point	935	lm	lm/W
80% I-nom 400mA	Tc 25 °C	2485	181
	Tc-nom 65 °C	2361	174
	Tc-max 95 °C	2233	167
I-nom 500mA	Tc 25 °C	3055	175
	Tc-nom 65 °C	2900	167
	Tc-max 95 °C	2741	159
I-max 900mA	Tc 25 °C	5180	152
	Tc-nom 65 °C	4903	145
	Tc-max 95 °C	4619	138



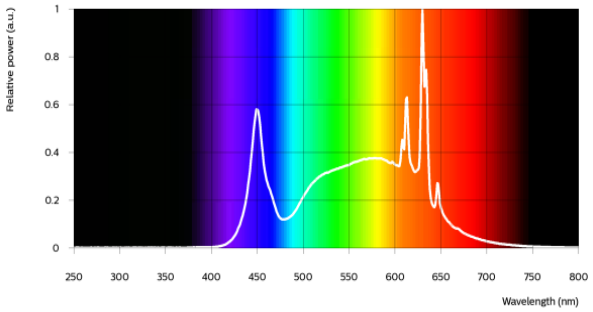
Fortimo SLM C 940 PW 1205 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2788	2935	3228	lm
Efficacy		169		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 400mA	Tc 25 °C	2515	184
	Tc-nom 65 °C	2389	176
	Tc-max 95 °C	2260	169
I-nom 500mA	Tc 25 °C	3091	177
	Tc-nom 65 °C	2935	169
	Tc-max 95 °C	2775	161
I-max 900mA	Tc 25 °C	5243	154
	Tc-nom 65 °C	4963	147
	Tc-max 95 °C	4676	140

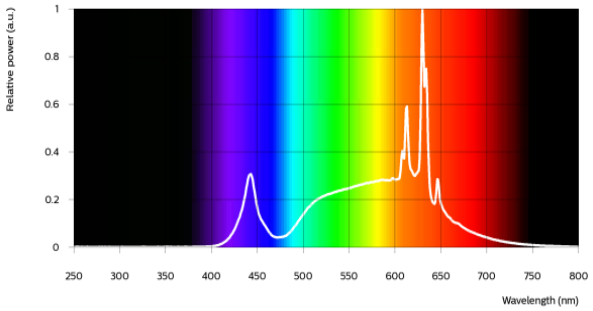


Fortimo SLM C 930 PC 1205 L13 2024 G8 HE

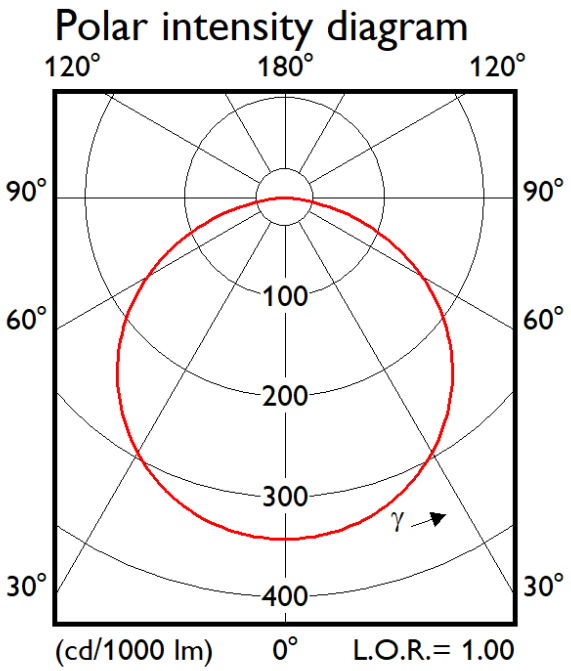
Parameter	Min	Typ	Max	Unit
Luminous flux	2527	2660	2926	lm
Efficacy		153		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.422, 0.386)		-
Color consistency			2	SDCM
CRI	90			
R9	>70			
Photometric code		930/259		
Photobiological safety		RG1 unlimited		

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 400mA	Tc 25 °C	2280	166
	Tc-nom 65 °C	2165	159
	Tc-max 95 °C	2048	153
I-nom 500mA	Tc 25 °C	2802	160
	Tc-nom 65 °C	2660	153
	Tc-max 95 °C	2514	146
I-max 900mA	Tc 25 °C	4751	139
	Tc-nom 65 °C	4496	133
	Tc-max 95 °C	4235	127



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

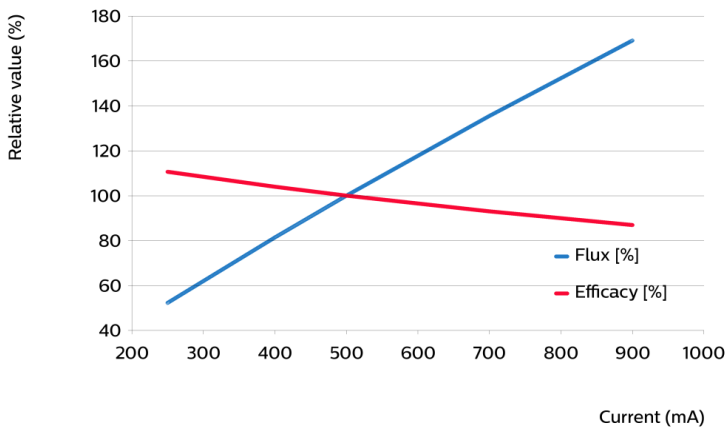
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	34.7	37.0	V
Power consumption	16.3	17.4	18.5	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

Tuning information

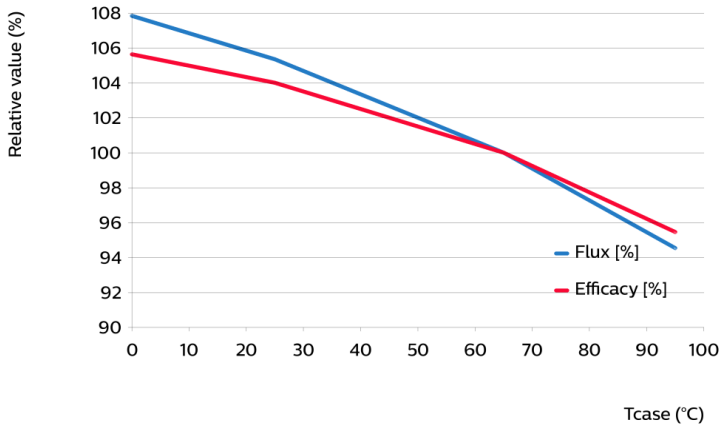
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
900	169	87
700	135	93
500	100	100
400	81	104
250	52	111



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

Tc [°C]	Flux [%]	Efficacy [%]
95	95	95
65	100	100
25	105	104
0	108	106



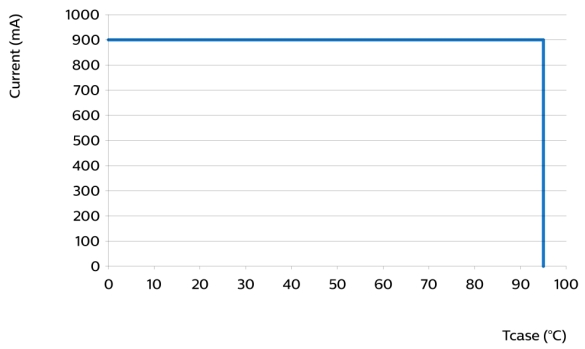
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 400mA	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 500mA	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 900mA	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

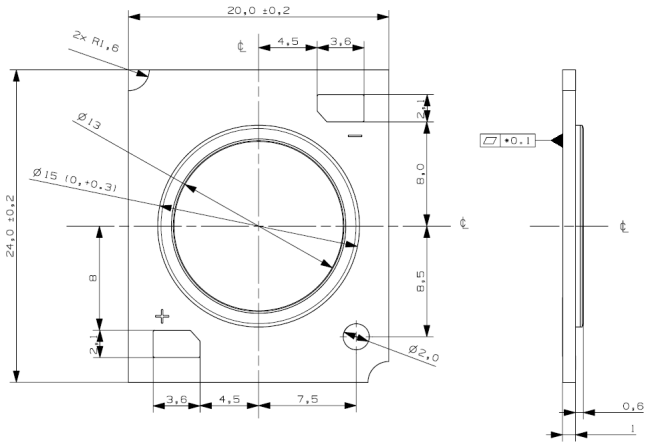
Parameter	Value	Unit
M70F50 nominal	>66000	hours

Performance Window



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	23.8	24	24.2	mm
Width	19.8	20	20.2	mm
Height	0.9	1	1.1	mm
Height	1.3	1.6	1.9	mm
Product mass		1.3		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		900	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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