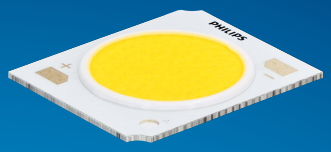
PHILIPS

Fortimo

LED

Fortimo SLM C 8xx 1208
L15 2024 G8 HE



Datasheet

Best combination of quality of light and efficacy

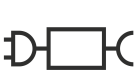
Fortimo LED SLM CRI80 G8 HE

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 with an expanded offer featuring CRI 80 products. The Fortimo SLM CRI80 G8 HE range boasts an impressive 7% - 12% increase in efficacy and enhanced color consistency of 2 SDCM compared to its predecessor, the Fortimo SLM CRI80 G7. 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 Color Rendering Index extension, 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
- 7%~12% efficacy improvement vs. current Fortimo SLM G7 CRI80 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 827 1208 L15 2024 G8 HE	8720169 378490 00	9290 038 91080	2093852	20
Fortimo SLM C 830 1208 L15 2024 G8 HE	8720169 378520 00	9290 038 91180	2093756	20
Fortimo SLM C 835 1208 L15 2024 G8 HE	8720169 378551 00	9290 038 91280	2093855	20
Fortimo SLM C 840 1208 L15 2024 G8 HE	8720169 378582 00	9290 038 91380	2093846	20
Fortimo SLM C 850 1208 L15 2024 G8 HE	8720169 378612 00	9290 038 91480	2093705	20
Fortimo SLM C 830 PW 1208 L15 2024 G8 HE	8720169 378643 00	9290 038 91580	2093844	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 8xx 1208 L15 2024 G8 HE	750	1440	1440	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

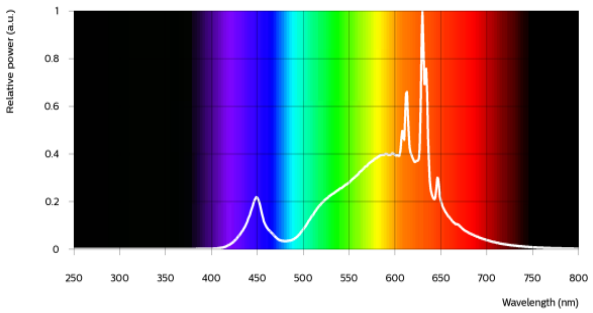
Optical characteristics - table per color (CCT)

Fortimo SLM C 827 1208 L15 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	4109	4325	4758	lm
Efficacy		166		lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.458, 0.410)		-
Color consistency			2	SDCM
CRI	80			
R9	>0			
Photometric code		827/259		
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	827	lm	lm/W
80% I-nom 600mA	Tc 25 °C	3691	179
	Tc-nom 65 °C	3518	172
	Tc-max 95 °C	3345	166
I-nom 750mA	Tc 25 °C	4538	173
	Tc-nom 65 °C	4320	166
	Tc-max 95 °C	4108	159
I-max 1440mA	Tc 25 °C	8154	148
	Tc-nom 65 °C	7746	142
	Tc-max 95 °C	7335	136

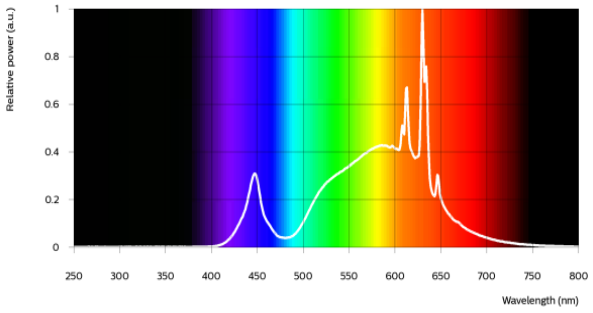


Fortimo SLM C 830 1208 L15 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	4237	4460	4906	lm
Efficacy		172		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.434, 0.403)		-
Color consistency			2	SDCM
CRI	80			
R9	>0			
Photometric code		830/259		
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	830	lm	lm/W
80% I-nom 600mA	Tc 25 °C	3785	184
	Tc-nom 65 °C	3607	177
	Tc-max 95 °C	3430	170
I-nom 750mA	Tc 25 °C	4653	177
	Tc-nom 65 °C	4430	170
	Tc-max 95 °C	4212	163
I-max 1440mA	Tc 25 °C	8362	152
	Tc-nom 65 °C	7943	146
	Tc-max 95 °C	7523	139

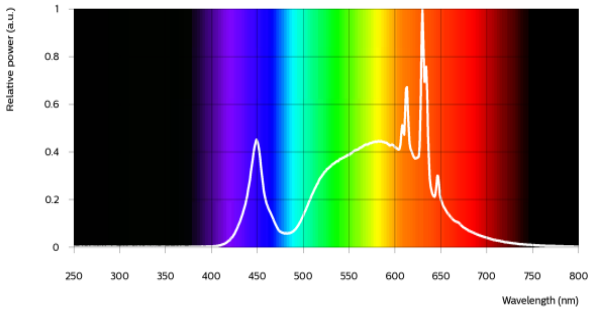


Fortimo SLM C 835 1208 L15 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	4342	4570	5027	lm
Efficacy		176		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.407, 0.392)		-
Color consistency			2	SDCM
CRI	80			
R9	>0			
Photometric code		835/259		
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	835	lm	lm/W
80% I-nom 600mA	Tc 25 °C	3870	188
	Tc-nom 65 °C	3689	181
	Tc-max 95 °C	3507	174
I-nom 750mA	Tc 25 °C	4758	181
	Tc-nom 65 °C	4530	174
	Tc-max 95 °C	4308	167
I-max 1440mA	Tc 25 °C	8551	155
	Tc-nom 65 °C	8124	149
	Tc-max 95 °C	7694	142

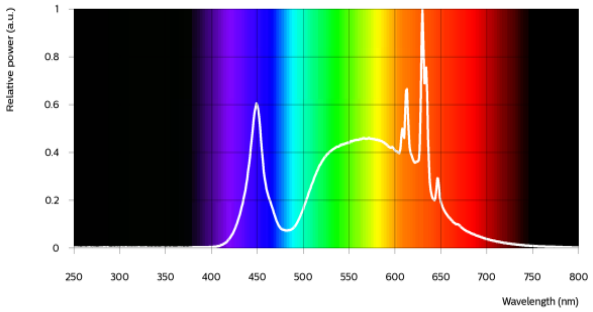


Fortimo SLM C 840 1208 L15 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	4360	4590	5049	lm
Efficacy		177		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.380)		-
Color consistency			2	SDCM
CRI	80			
R9	>0			
Photometric code		840/259		
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	840	lm	lm/W
80% I-nom 600mA	Tc 25 °C	3895	189
	Tc-nom 65 °C	3713	182
	Tc-max 95 °C	3531	175
I-nom 750mA	Tc 25 °C	4790	182
	Tc-nom 65 °C	4560	175
	Tc-max 95 °C	4337	168
I-max 1440mA	Tc 25 °C	8609	157
	Tc-nom 65 °C	8179	150
	Tc-max 95 °C	7747	143

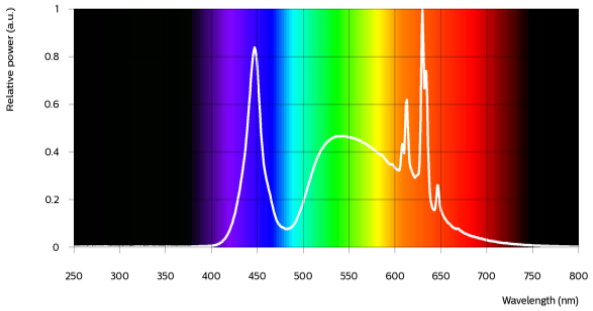


Fortimo SLM C 850 1208 L15 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	4342	4570	5027	lm
Efficacy		176		lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.345, 0.355)		-
Color consistency			2	SDCM
CRI	80			
R9	>0			
Photometric code		850/259		
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	850	lm	lm/W
80% I-nom 600mA	Tc 25 °C	3879	188
	Tc-nom 65 °C	3698	181
	Tc-max 95 °C	3516	174
I-nom 750mA	Tc 25 °C	4770	181
	Tc-nom 65 °C	4540	175
	Tc-max 95 °C	4319	167
I-max 1440mA	Tc 25 °C	8574	156
	Tc-nom 65 °C	8147	150
	Tc-max 95 °C	7718	143

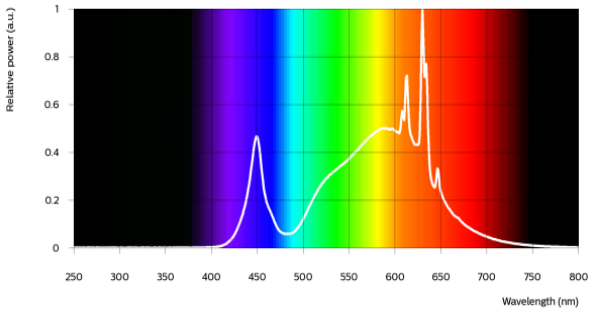


Fortimo SLM C 830 PW 1208 L15 2024 G8 HE

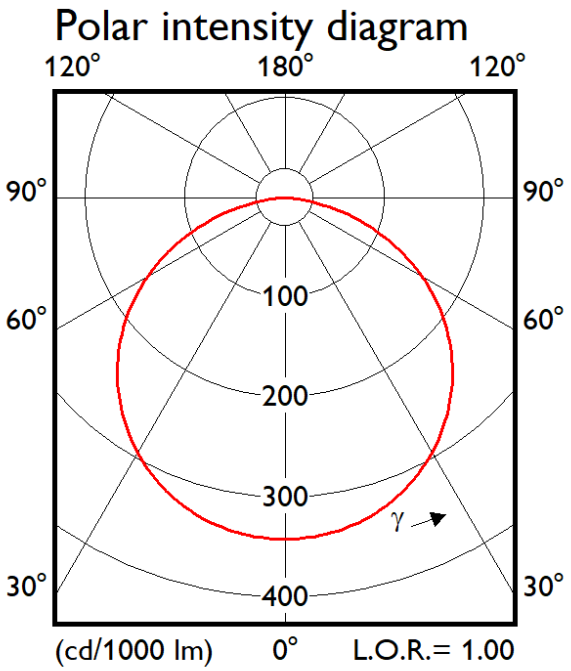
Parameter	Min	Typ	Max	Unit
Luminous flux	4175	4395	4834	lm
Efficacy		169		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.422, 0.386)		-
Color consistency			2	SDCM
CRI	80			
R9	>0			
Photometric code		830/259		
Photobiological safety		RG1 unlimited		

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	830	lm	lm/W
80% I-nom 600mA	Tc 25 °C	3717	180
	Tc-nom 65 °C	3543	174
	Tc-max 95 °C	3368	167
I-nom 750mA	Tc 25 °C	4570	174
	Tc-nom 65 °C	4350	167
	Tc-max 95 °C	4137	160
I-max 1440mA	Tc 25 °C	8212	149
	Tc-nom 65 °C	7802	143
	Tc-max 95 °C	7389	137



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

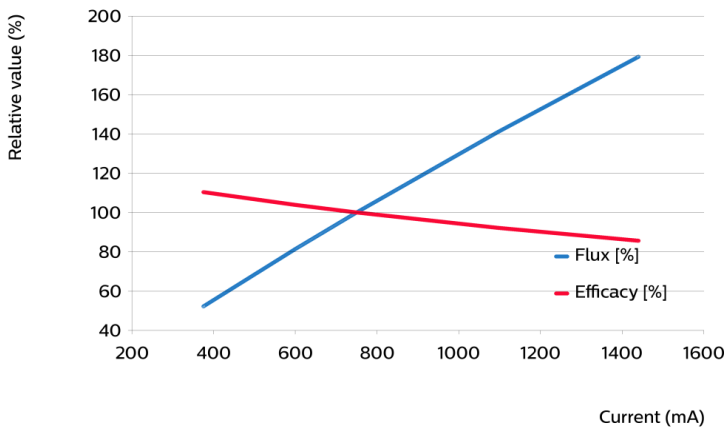
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	34.7	37.0	V
Power consumption	24.4	26.0	27.8	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

Tuning information

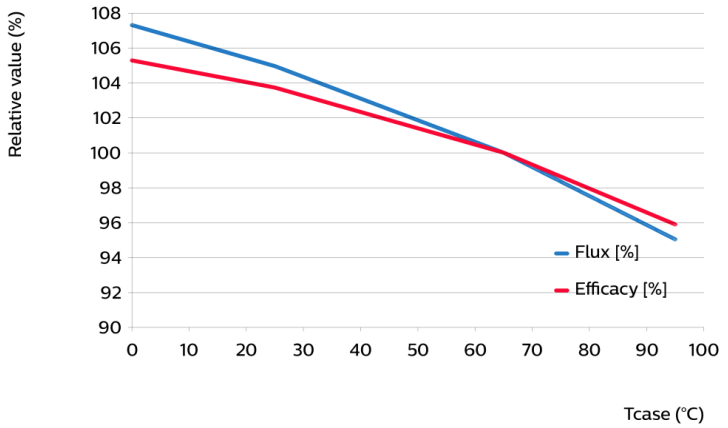
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1440	179	86
1095	141	92
750	100	100
600	81	104
375	52	110



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

Tc [°C]	Flux [%]	Efficacy [%]
95	95	96
65	100	100
25	105	104
0	107	105



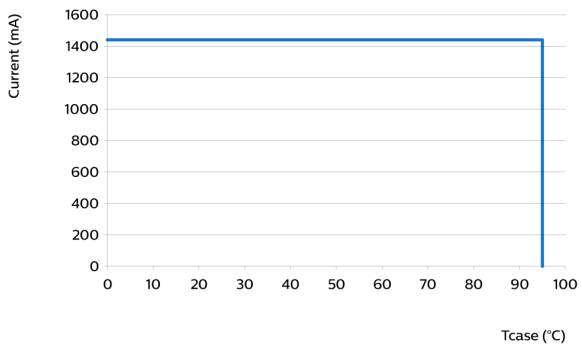
Lumen maintenance

Operation point	Lumen maintenance	L70			L80			L90		
	x 1000 hours	B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 600mA	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 750mA	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	63	58
I-max 1440mA	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

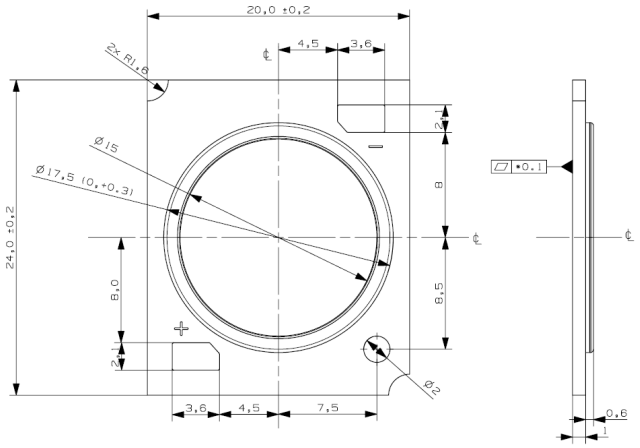
Parameter	Value	Unit
M70F50 nominal	>66000	hours

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		1.33		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		1440	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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