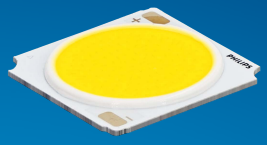
PHILIPS

Fortimo

LED

Fortimo SLM C 8xx 1208
L15 1919 G8N HE



Datasheet

Best combination of quality of light and efficacy with industry standard footprint

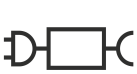
Fortimo LED SLM CRI80 G8N HE

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

- Most widely used footprint to enable ease of use
- Best quality of light available for all applications
- 7%~12% efficacy improvement vs. current Fortimo SLM CRI80 G7N 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 1919 G8N HE	8720169 382367 00	9290 039 03980	2093640	20
Fortimo SLM C 830 1208 L15 1919 G8N HE	8720169 382398 00	9290 039 04080	2093772	20
Fortimo SLM C 835 1208 L15 1919 G8N HE	8720169 382428 00	9290 039 04180	2093779	20
Fortimo SLM C 840 1208 L15 1919 G8N HE	8720169 382459 00	9290 039 04280	2093818	20
Fortimo SLM C 850 1208 L15 1919 G8N HE	8720169 382480 00	9290 039 04380	2093628	20
Fortimo SLM C 830 PW 1208 L15 1919 G8N HE	8720169 382510 00	9290 039 04480	2093787	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 1919 G8N HE	720	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

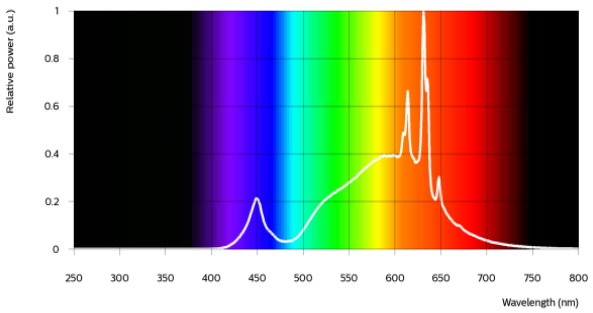
Optical characteristics - table per color (CCT)

Fortimo SLM C 827 1208 L15 1919 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	3900	4105	4516	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 576mA	Tc 25 °C	3513	178
	Tc-nom 65 °C	3349	172
	Tc-max 95 °C	3184	165
I-nom 720mA	Tc 25 °C	4320	171
	Tc-nom 65 °C	4110	165
	Tc-max 95 °C	3911	158
I-max 1440mA	Tc 25 °C	8047	146
	Tc-nom 65 °C	7644	140
	Tc-max 95 °C	7239	134

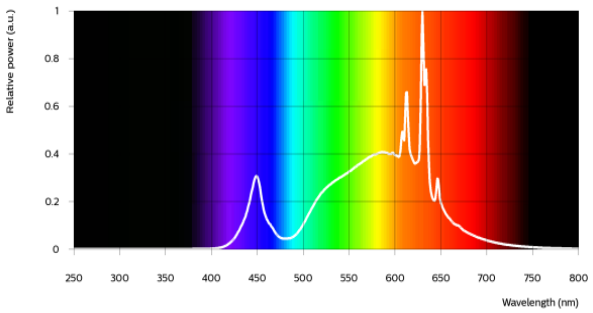


Fortimo SLM C 830 1208 L15 1919 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	4000	4210	4631	lm
Efficacy		170		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 576mA	Tc 25 °C	3607	183
	Tc-nom 65 °C	3438	176
	Tc-max 95 °C	3269	169
I-nom 720mA	Tc 25 °C	4435	176
	Tc-nom 65 °C	4220	169
	Tc-max 95 °C	4016	163
I-max 1440mA	Tc 25 °C	8262	150
	Tc-nom 65 °C	7848	144
	Tc-max 95 °C	7433	138

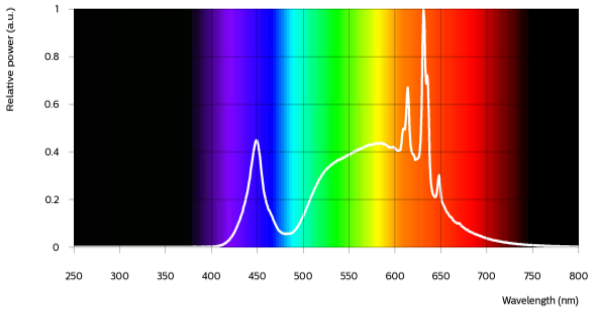


Fortimo SLM C 835 1208 L15 1919 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	4094	4310	4741	lm
Efficacy		174		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.408, 0.393)		-
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 576mA	Tc 25 °C	3684	187
	Tc-nom 65 °C	3511	180
	Tc-max 95 °C	3339	173
I-nom 720mA	Tc 25 °C	4529	180
	Tc-nom 65 °C	4310	173
	Tc-max 95 °C	4101	166
I-max 1440mA	Tc 25 °C	8439	153
	Tc-nom 65 °C	8017	147
	Tc-max 95 °C	7593	141

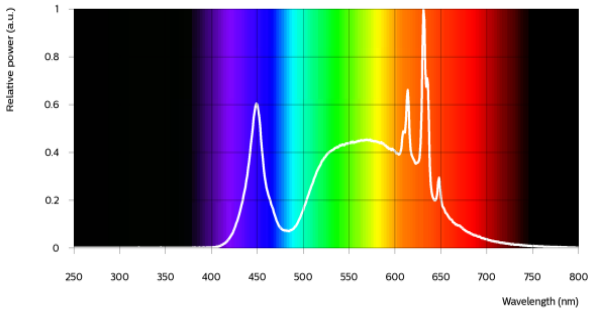


Fortimo SLM C 840 1208 L15 1919 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	4118	4335	4768	lm
Efficacy		175		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 576mA	Tc 25 °C	3709	188
	Tc-nom 65 °C	3536	181
	Tc-max 95 °C	3362	174
I-nom 720mA	Tc 25 °C	4561	181
	Tc-nom 65 °C	4340	174
	Tc-max 95 °C	4130	167
I-max 1440mA	Tc 25 °C	8499	154
	Tc-nom 65 °C	8074	148
	Tc-max 95 °C	7648	142

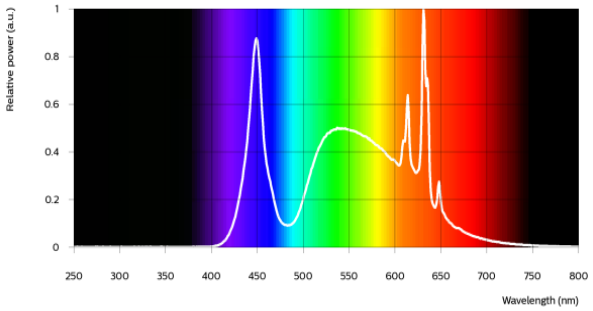


Fortimo SLM C 850 1208 L15 1919 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	4118	4335	4768	lm
Efficacy		175		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 576mA	Tc 25 °C	3693	187
	Tc-nom 65 °C	3520	181
	Tc-max 95 °C	3348	173
I-nom 720mA	Tc 25 °C	4541	180
	Tc-nom 65 °C	4320	173
	Tc-max 95 °C	4113	167
I-max 1440mA	Tc 25 °C	8463	154
	Tc-nom 65 °C	8041	148
	Tc-max 95 °C	7617	141

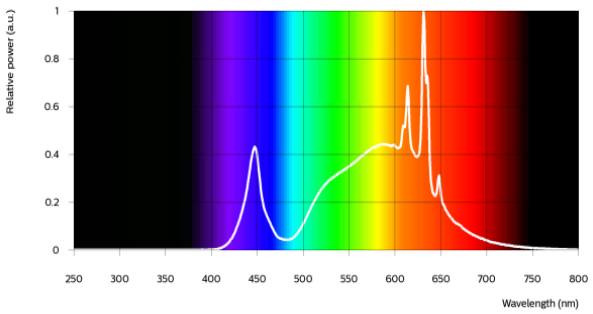


Fortimo SLM C 830 PW 1208 L15 1919 G8N HE

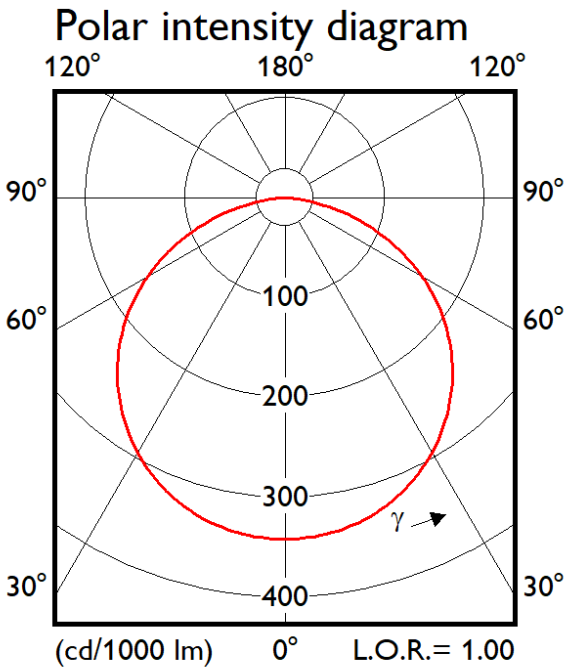
Parameter	Min	Typ	Max	Unit
Luminous flux	3942	4150	4565	lm
Efficacy		167		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.422, 0.386)		-
Color consistency			2	SDCM
CRI	80			
R9	>0			
Photometric code		830/259		
Photobiological safety		RG1 unlimited		

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 576mA	Tc 25 °C	3539	180
	Tc-nom 65 °C	3374	173
	Tc-max 95 °C	3208	166
I-nom 720mA	Tc 25 °C	4352	173
	Tc-nom 65 °C	4140	166
	Tc-max 95 °C	3940	160
I-max 1440mA	Tc 25 °C	8108	147
	Tc-nom 65 °C	7702	141
	Tc-max 95 °C	7294	135



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

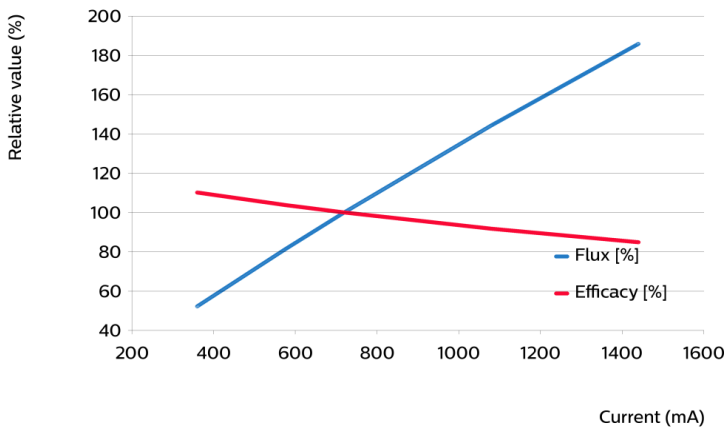
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	34.5	37.0	V
Power consumption	23.4	24.8	26.6	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

Tuning information

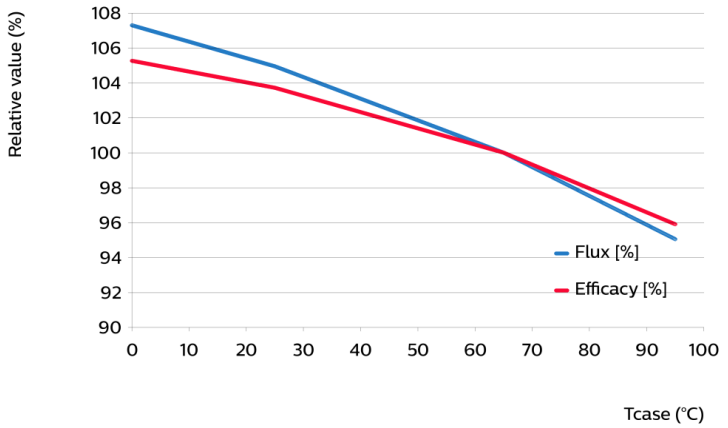
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1440	186	85
1080	144	92
720	100	100
576	81	104
360	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



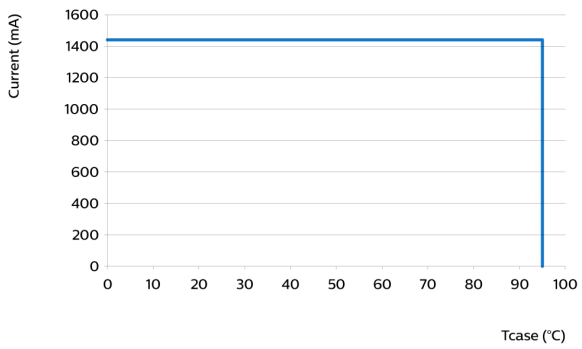
Lumen maintenance

Operation point	Lumen maintenance	L70			L80			L90		
	x 1000 hours	B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 576mA	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 720mA	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	62
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

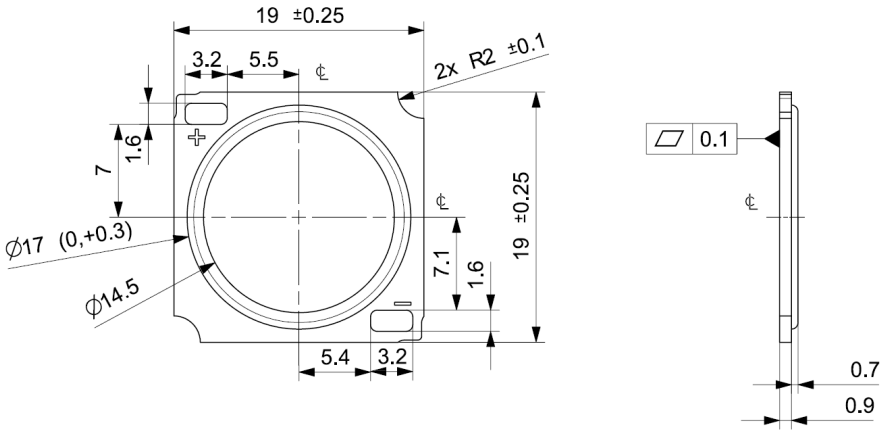
Parameter	Value	Unit
M70F50 nominal	>66000	hours

Performance Window



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	18.75	19	19.25	mm
Width	18.75	19	19.25	mm
Height	0.8	0.9	1	mm
Height	1.3	1.6	1.9	mm
Product mass		1.01		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

© 2024 Signify Holding, IBRS 10461, 5600VB, NL. All rights reserved. The information provided herein is subject to change, without notice. Signify does not give any representation or warranty as to the accuracy or completeness of the information included herein and shall not be liable for any action in reliance thereon. The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract, unless otherwise agreed by Signify.

Philips and the Philips Shield Emblem are registered trademarks of Koninklijke Philips N.V. All other trademarks are owned by Signify Holding or their respective owners.
UK importer address: Signify Commercial UK Limited, 3 Guildford Business Park, GU2 8XG

11/10/2024

www.philips.com/oem