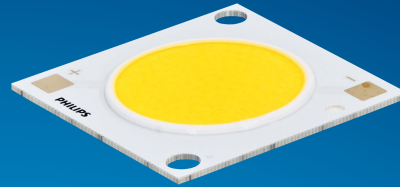


PHILIPS

Fortimo

LED

Fortimo SLM C 8xx 1211
L19 2828 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 1211 L19 2828 G8 HE	8720169 378940 00	9290 038 92580	2093863	10
Fortimo SLM C 830 1211 L19 2828 G8 HE	8720169 378971 00	9290 038 92680	2093771	10
Fortimo SLM C 835 1211 L19 2828 G8 HE	8720169 379008 00	9290 038 92780	2093758	10
Fortimo SLM C 840 1211 L19 2828 G8 HE	8720169 379039 00	9290 038 92880	2093869	10
Fortimo SLM C 850 1211 L19 2828 G8 HE	8720169 379060 00	9290 038 92980	2093709	10
Fortimo SLM C 830 PW 1211 L19 2828 G8 HE	8720169 379091 00	9290 038 93080	2093768	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 8xx 1211 L19 2828 G8 HE	1200	1980	1980	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)

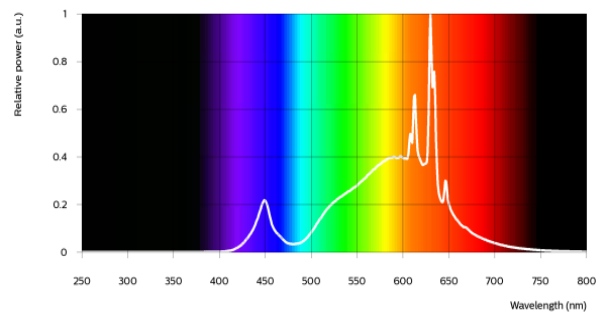
Fortimo SLM C 827 1211 L19 2828 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	6598	6945	7640	lm
Efficacy		163		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 $\pm 5\%$ for the flux data and $\pm 6\%$ 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 960mA	Tc 25 °C	5965	178
	Tc-nom 65 °C	5644	170
	Tc-max 95 °C	5327	162
I-nom 1200mA	Tc 25 °C	7344	171
	Tc-nom 65 °C	6945	163
	Tc-max 95 °C	6552	156
I-max 1980mA	Tc 25 °C	11605	152
	Tc-nom 65 °C	10956	145
	Tc-max 95 °C	10315	138



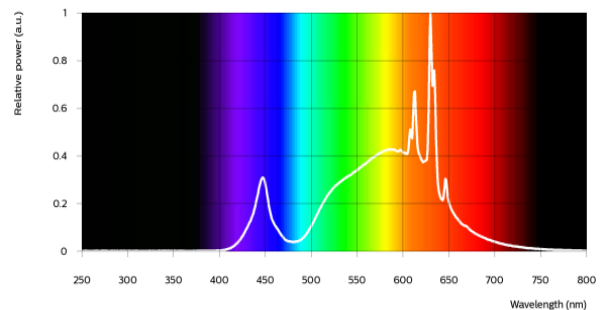
Fortimo SLM C 830 1211 L19 2828 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	6802	7160	7876	lm
Efficacy		168		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 $\pm 5\%$ for the flux data and $\pm 6\%$ 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 960mA	Tc 25 °C	6149	184
	Tc-nom 65 °C	5818	176
	Tc-max 95 °C	5492	167
I-nom 1200mA	Tc 25 °C	7571	176
	Tc-nom 65 °C	7160	168
	Tc-max 95 °C	6755	160
I-max 1980mA	Tc 25 °C	11965	157
	Tc-nom 65 °C	11295	150
	Tc-max 95 °C	10635	142

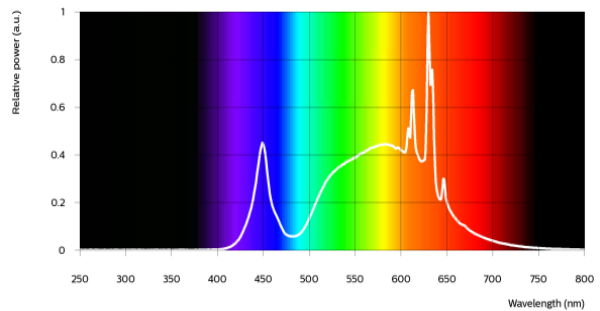


Fortimo SLM C 835 1211 L19 2828 G8 HE


Parameter	Min	Typ	Max	Unit
Luminous flux	6964	7330	8063	lm
Efficacy		172		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 960mA	Tc 25 °C	6295	188
	Tc-nom 65 °C	5956	180
	Tc-max 95 °C	5622	171
I-nom 1200mA	Tc 25 °C	7751	181
	Tc-nom 65 °C	7330	172
	Tc-max 95 °C	6916	164
I-max 1980mA	Tc 25 °C	12249	161
	Tc-nom 65 °C	11565	153
	Tc-max 95 °C	10890	146

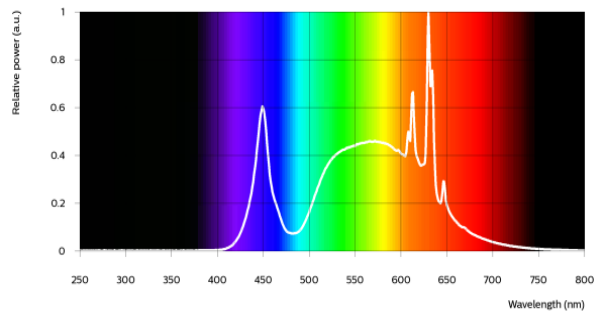


Fortimo SLM C 840 1211 L19 2828 G8 HE


Parameter	Min	Typ	Max	Unit
Luminous flux	6997	7365	8102	lm
Efficacy		173		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 960mA	Tc 25 °C	6325	189
	Tc-nom 65 °C	5984	181
	Tc-max 95 °C	5649	172
I-nom 1200mA	Tc 25 °C	7787	182
	Tc-nom 65 °C	7365	173
	Tc-max 95 °C	6949	165
I-max 1980mA	Tc 25 °C	12308	161
	Tc-nom 65 °C	11621	154
	Tc-max 95 °C	10942	146

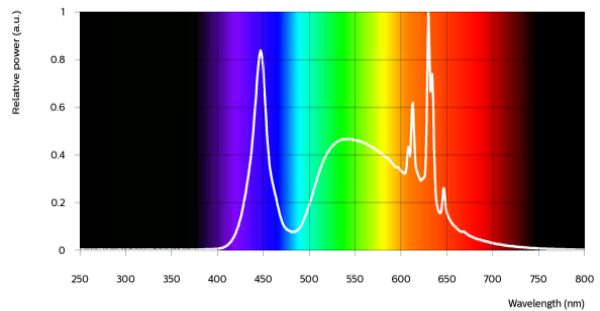


Fortimo SLM C 850 1211 L19 2828 G8 HE


Parameter	Min	Typ	Max	Unit
Luminous flux	6968	7335	8068	lm
Efficacy		173		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 960mA	Tc 25 °C	6299	188
	Tc-nom 65 °C	5960	180
	Tc-max 95 °C	5626	172
I-nom 1200mA	Tc 25 °C	7755	180
	Tc-nom 65 °C	7335	173
	Tc-max 95 °C	6921	164
I-max 1980mA	Tc 25 °C	12258	161
	Tc-nom 65 °C	11575	153
	Tc-max 95 °C	10900	146

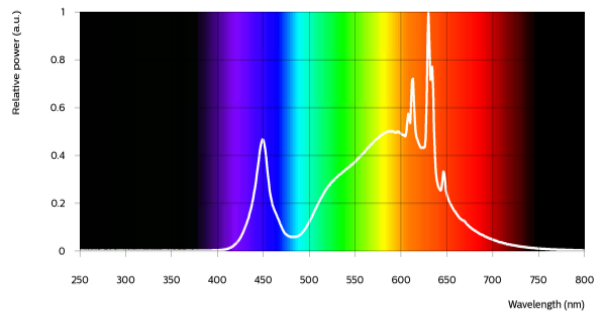


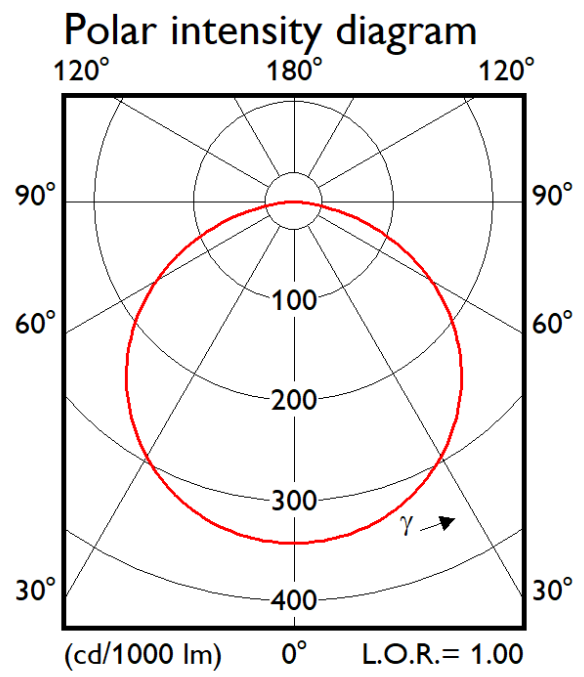
Fortimo SLM C 830 PW 1211 L19 2828 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	6702	7055	7760	lm
Efficacy		166		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 960mA	Tc 25 °C	6059	181
	Tc-nom 65 °C	5733	173
	Tc-max 95 °C	5411	165
I-nom 1200mA	Tc 25 °C	7460	174
	Tc-nom 65 °C	7055	166
	Tc-max 95 °C	6656	158
I-max 1980mA	Tc 25 °C	11790	155
	Tc-nom 65 °C	11130	147
	Tc-max 95 °C	10480	140





Electrical characteristics

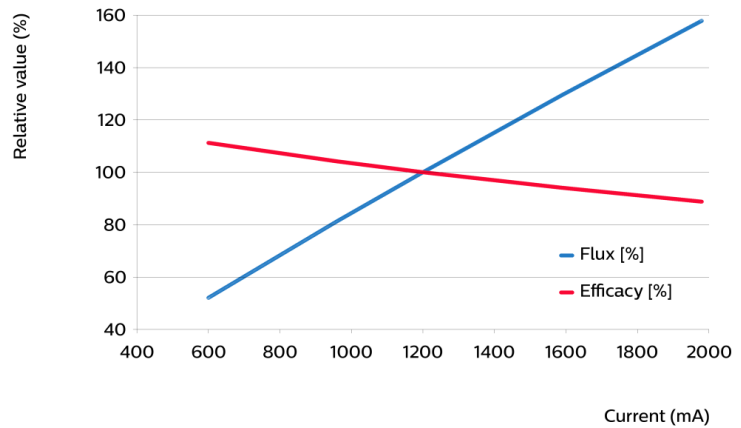
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	35.4	37.0	V
Power consumption	39.0	42.5	44.4	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

Tuning information

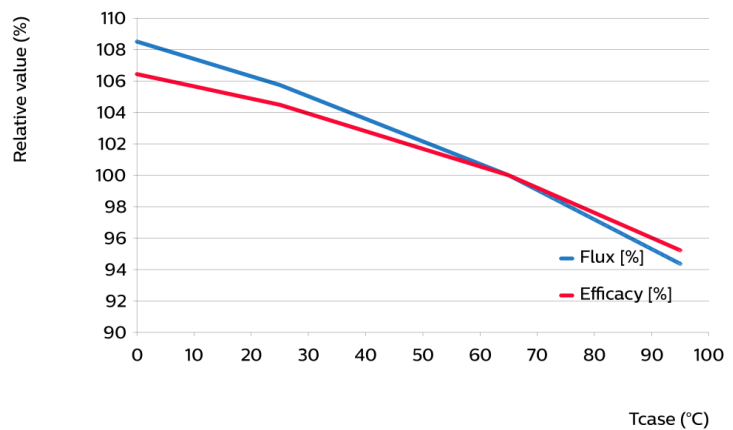
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1980	158	89
1590	129	94
1200	100	100
960	81	104
600	52	111



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

Tc [°C]	Flux [%]	Efficacy [%]
95	94	95
65	100	100
25	106	104
0	109	106



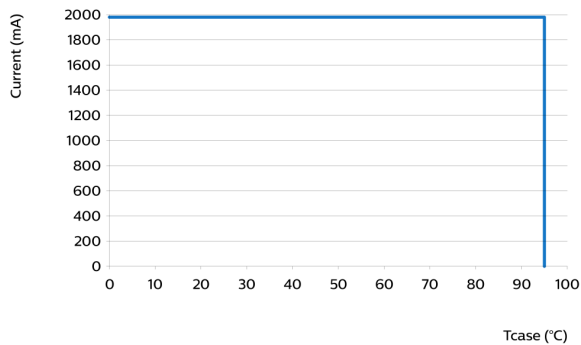
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 960mA	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 1200mA	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	57	48	44
I-max 1980mA	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

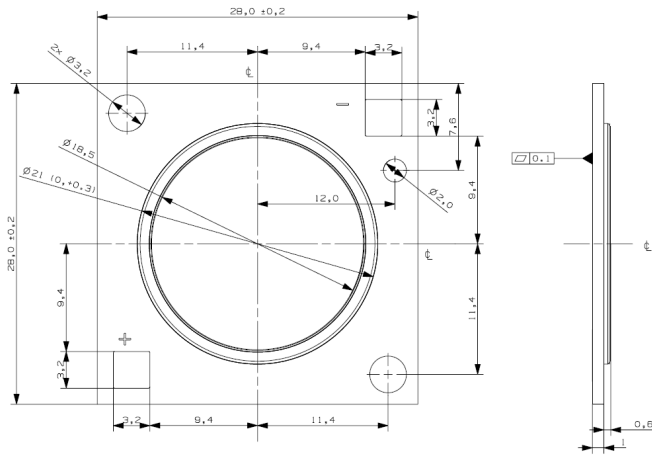
Parameter	Value	Unit
M70F50 nominal	>66000	hours

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		2.17		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		1980	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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