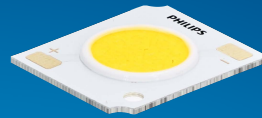


PHILIPS

Fortimo

LED

Fortimo SLM C 8xx 1204
L09 1619 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 1204 L09 1619 G8 HE	8720169 377141 00	9290 038 86580	2093685	20
Fortimo SLM C 830 1204 L09 1619 G8 HE	8720169 377172 00	9290 038 86680	2093688	20
Fortimo SLM C 835 1204 L09 1619 G8 HE	8720169 377202 00	9290 038 86780	2093684	20
Fortimo SLM C 840 1204 L09 1619 G8 HE	8720169 377233 00	9290 038 86880	2093681	20
Fortimo SLM C 850 1204 L09 1619 G8 HE	8720169 377264 00	9290 038 86980	2093675	20
Fortimo SLM C 830 PW 1204 L09 1619 G8 HE	8720169 377295 00	9290 038 87080	2093692	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 1204 L09 1619 G8 HE	400	720	720	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

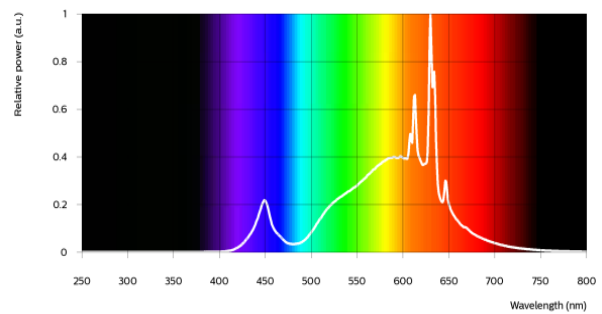
Optical characteristics - table per color (CCT)

Fortimo SLM C 827 1204 L09 1619 G8 HE


Parameter	Min	Typ	Max	Unit
Luminous flux	2109	2220	2442	lm
Efficacy		160		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 320mA	Tc 25 °C	1898	173
	Tc-nom 65 °C	1810	166
	Tc-max 95 °C	1716	159
I-nom 400mA	Tc 25 °C	2330	166
	Tc-nom 65 °C	2220	160
	Tc-max 95 °C	2103	154
I-max 720mA	Tc 25 °C	3936	145
	Tc-nom 65 °C	3736	139
	Tc-max 95 °C	3524	132

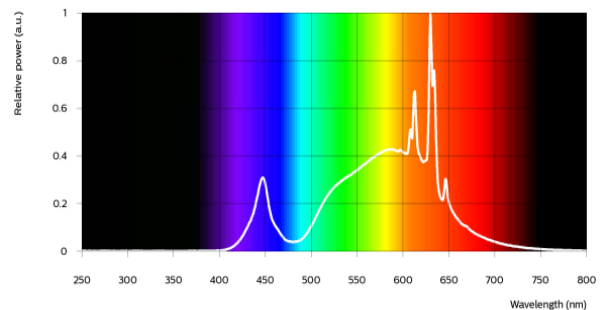


Fortimo SLM C 830 1204 L09 1619 G8 HE


Parameter	Min	Typ	Max	Unit
Luminous flux	2176	2290	2519	lm
Efficacy		165		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 320mA	Tc 25 °C	1958	178
	Tc-nom 65 °C	1867	171
	Tc-max 95 °C	1770	164
I-nom 400mA	Tc 25 °C	2403	172
	Tc-nom 65 °C	2290	165
	Tc-max 95 °C	2169	158
I-max 720mA	Tc 25 °C	4060	150
	Tc-nom 65 °C	3855	144
	Tc-max 95 °C	3636	137

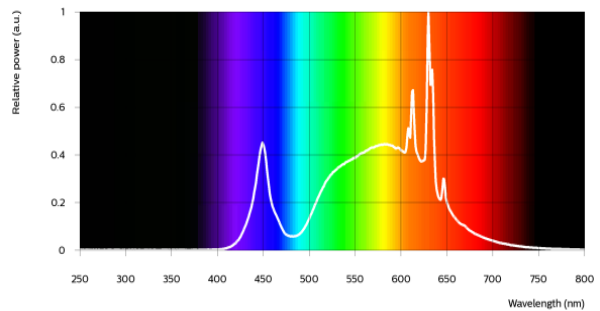


Fortimo SLM C 835 1204 L09 1619 G8 HE


Parameter	Min	Typ	Max	Unit
Luminous flux	2228	2345	2580	lm
Efficacy		169		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 320mA	Tc 25 °C	2005	182
	Tc-nom 65 °C	1912	175
	Tc-max 95 °C	1813	168
I-nom 400mA	Tc 25 °C	2461	176
	Tc-nom 65 °C	2345	169
	Tc-max 95 °C	2222	162
I-max 720mA	Tc 25 °C	4158	153
	Tc-nom 65 °C	3948	147
	Tc-max 95 °C	3724	140

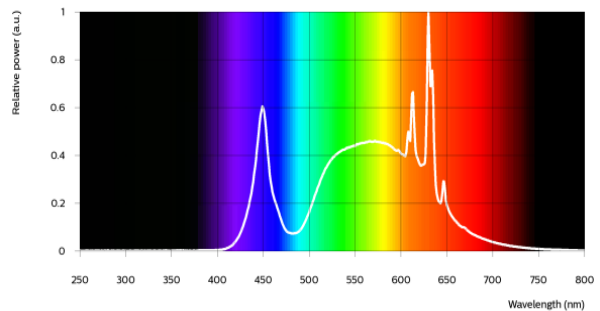


Fortimo SLM C 840 1204 L09 1619 G8 HE


Parameter	Min	Typ	Max	Unit
Luminous flux	2237	2355	2590	lm
Efficacy		169		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 320mA	Tc 25 °C	2013	183
	Tc-nom 65 °C	1920	176
	Tc-max 95 °C	1820	169
I-nom 400mA	Tc 25 °C	2471	177
	Tc-nom 65 °C	2355	169
	Tc-max 95 °C	2231	163
I-max 720mA	Tc 25 °C	4175	154
	Tc-nom 65 °C	3965	148
	Tc-max 95 °C	3741	141

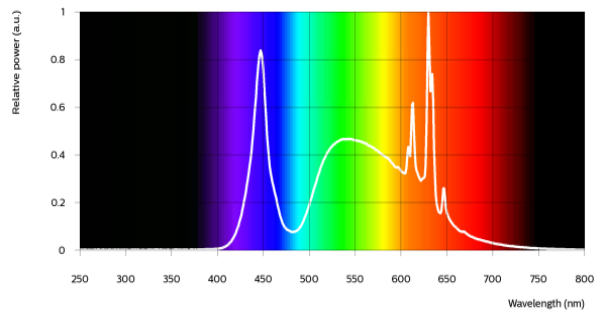


Fortimo SLM C 850 1204 L09 1619 G8 HE


Parameter	Min	Typ	Max	Unit
Luminous flux	2228	2345	2580	lm
Efficacy		169		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 320mA	Tc 25 °C	2005	182
	Tc-nom 65 °C	1912	175
	Tc-max 95 °C	1813	168
I-nom 400mA	Tc 25 °C	2461	176
	Tc-nom 65 °C	2345	169
	Tc-max 95 °C	2222	162
I-max 720mA	Tc 25 °C	4158	153
	Tc-nom 65 °C	3948	147
	Tc-max 95 °C	3724	140

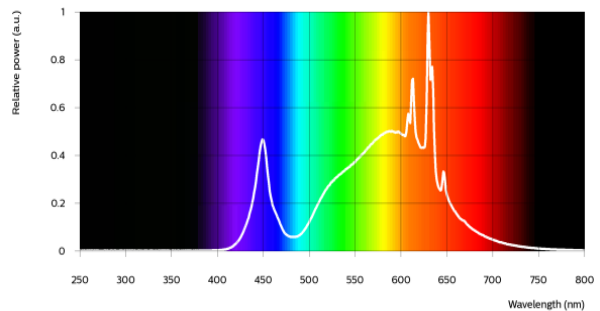


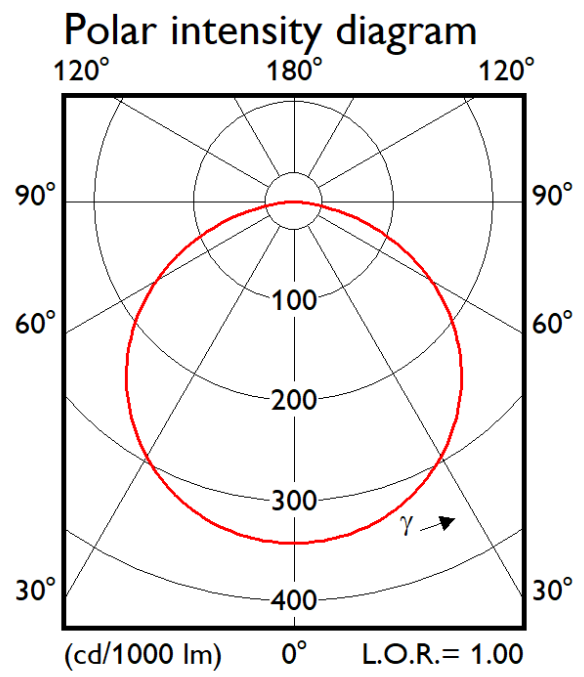
Fortimo SLM C 830 PW 1204 L09 1619 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2142	2255	2480	lm
Efficacy		162		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 320mA	Tc 25 °C	1928	175
	Tc-nom 65 °C	1838	169
	Tc-max 95 °C	1743	161
I-nom 400mA	Tc 25 °C	2366	169
	Tc-nom 65 °C	2255	162
	Tc-max 95 °C	2136	156
I-max 720mA	Tc 25 °C	3998	148
	Tc-nom 65 °C	3796	142
	Tc-max 95 °C	3581	135





Electrical characteristics

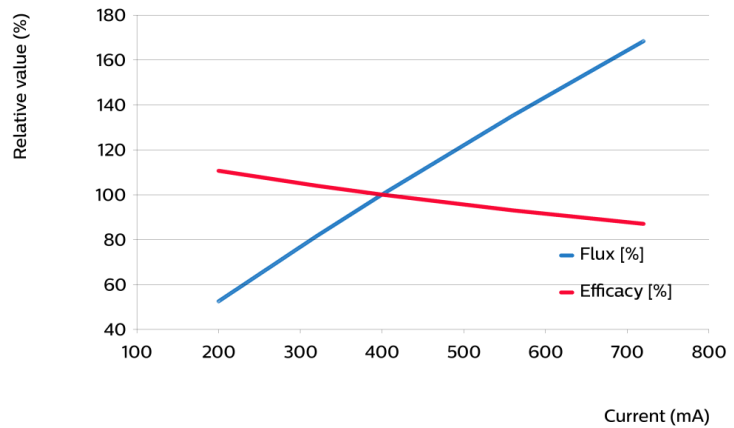
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	34.7	37.0	V
Power consumption	13.0	13.9	14.8	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

Tuning information

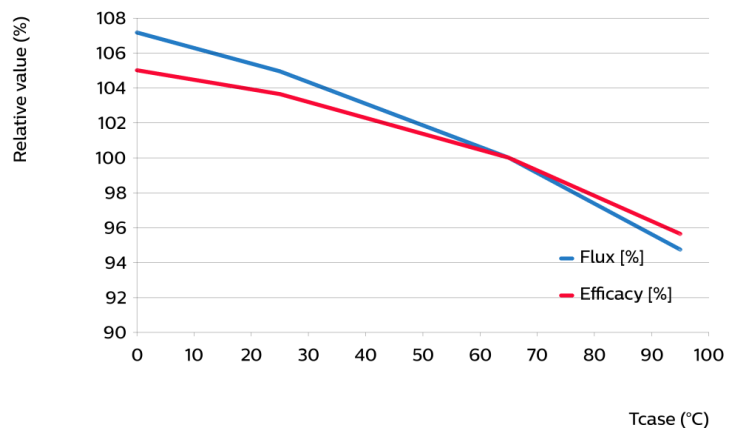
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
720	168	87
560	135	93
400	100	100
320	82	104
200	52	111



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



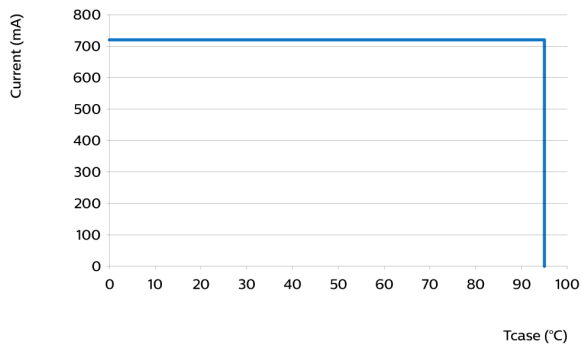
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 320mA	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 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	56	51
I-max 720mA	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

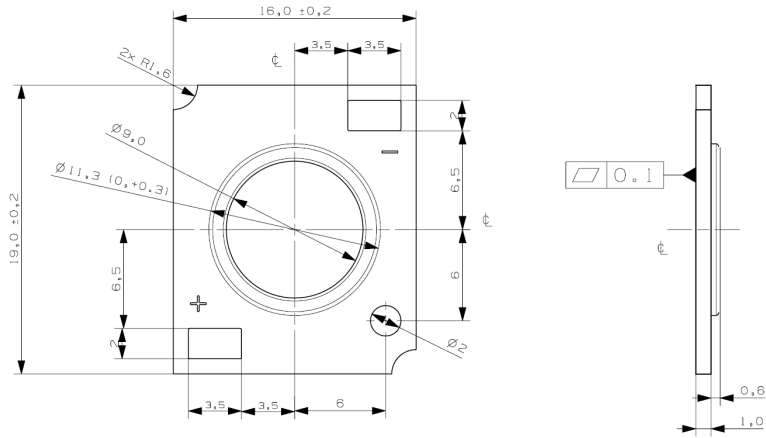
Parameter	Value	Unit
M70F50 nominal	>66000	hours

Performance Window



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	18.8	19	19.2	mm
Width	15.8	16	16.2	mm
Height	0.9	1	1.1	mm
Height	1.3	1.6	1.9	mm
Product mass		0.81		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		720	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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