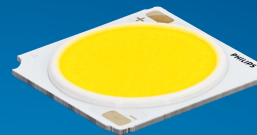


PHILIPS

Fortimo

LED

Fortimo SLM C 8xx 1206
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 1206 L15 1919 G8N HE	8720169 381940 00	9290 039 02580	2093645	20
Fortimo SLM C 830 1206 L15 1919 G8N HE	8720169 381971 00	9290 039 02680	2093626	20
Fortimo SLM C 835 1206 L15 1919 G8N HE	8720169 382008 00	9290 039 02780	2093621	20
Fortimo SLM C 840 1206 L15 1919 G8N HE	8720169 382039 00	9290 039 02880	2093613	20
Fortimo SLM C 850 1206 L15 1919 G8N HE	8720169 382060 00	9290 039 02980	2093631	20
Fortimo SLM C 830 PW 1206 L15 1919 G8N HE	8720169 382091 00	9290 039 03080	2093629	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 1206 L15 1919 G8N HE	540	1080	1080	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)

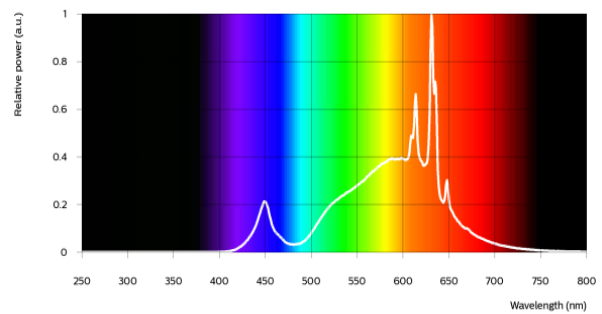
Fortimo SLM C 827 1206 L15 1919 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	3007	3165	3482	lm
Efficacy		170		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 432mA	Tc 25 °C	2716	184
	Tc-nom 65 °C	2571	176
	Tc-max 95 °C	2430	168
I-nom 540mA	Tc 25 °C	3345	178
	Tc-nom 65 °C	3165	170
	Tc-max 95 °C	2989	162
I-max 1080mA	Tc 25 °C	6257	154
	Tc-nom 65 °C	5901	146
	Tc-max 95 °C	5552	139



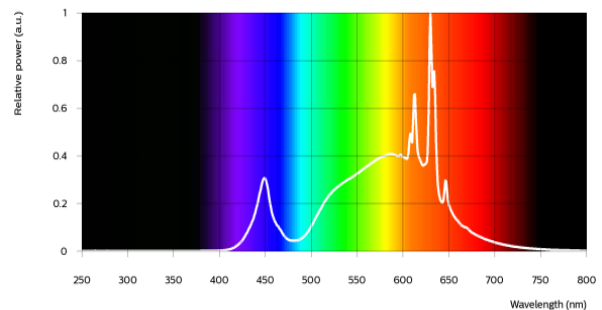
Fortimo SLM C 830 1206 L15 1919 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	3083	3245	3570	lm
Efficacy		174		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 432mA	Tc 25 °C	2785	188
	Tc-nom 65 °C	2636	181
	Tc-max 95 °C	2491	172
I-nom 540mA	Tc 25 °C	3430	182
	Tc-nom 65 °C	3245	174
	Tc-max 95 °C	3064	167
I-max 1080mA	Tc 25 °C	6415	158
	Tc-nom 65 °C	6051	150
	Tc-max 95 °C	5694	143

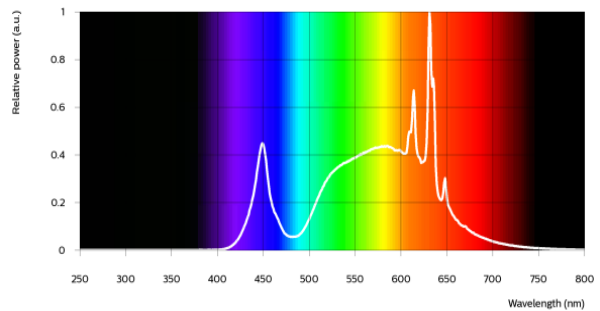


Fortimo SLM C 835 1206 L15 1919 G8N HE


Parameter	Min	Typ	Max	Unit
Luminous flux	3159	3325	3658	lm
Efficacy		179		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 432mA	Tc 25 °C	2853	193
	Tc-nom 65 °C	2701	185
	Tc-max 95 °C	2552	176
I-nom 540mA	Tc 25 °C	3514	187
	Tc-nom 65 °C	3325	179
	Tc-max 95 °C	3140	171
I-max 1080mA	Tc 25 °C	6574	162
	Tc-nom 65 °C	6201	154
	Tc-max 95 °C	5836	146

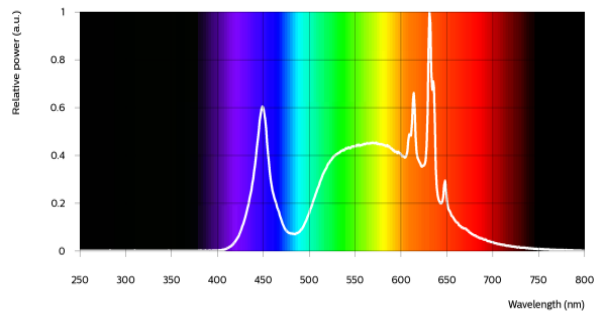


Fortimo SLM C 840 1206 L15 1919 G8N HE


Parameter	Min	Typ	Max	Unit
Luminous flux	3173	3340	3674	lm
Efficacy		180		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 432mA	Tc 25 °C	2866	194
	Tc-nom 65 °C	2713	186
	Tc-max 95 °C	2564	177
I-nom 540mA	Tc 25 °C	3530	188
	Tc-nom 65 °C	3340	180
	Tc-max 95 °C	3154	171
I-max 1080mA	Tc 25 °C	6604	162
	Tc-nom 65 °C	6230	155
	Tc-max 95 °C	5863	147

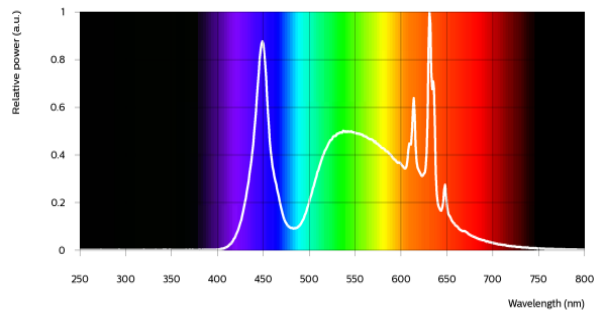


Fortimo SLM C 850 1206 L15 1919 G8N HE


Parameter	Min	Typ	Max	Unit
Luminous flux	3173	3340	3674	lm
Efficacy		180		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 432mA	Tc 25 °C	2866	194
	Tc-nom 65 °C	2713	186
	Tc-max 95 °C	2564	177
I-nom 540mA	Tc 25 °C	3530	188
	Tc-nom 65 °C	3340	180
	Tc-max 95 °C	3154	171
I-max 1080mA	Tc 25 °C	6604	162
	Tc-nom 65 °C	6230	155
	Tc-max 95 °C	5863	147

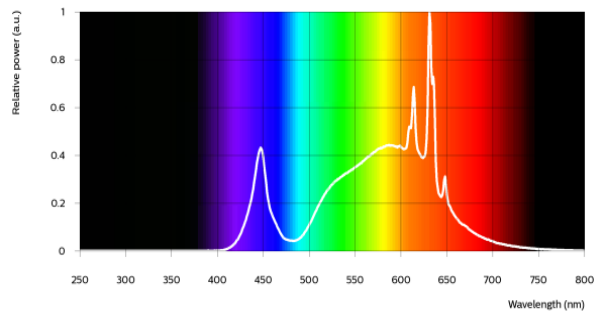


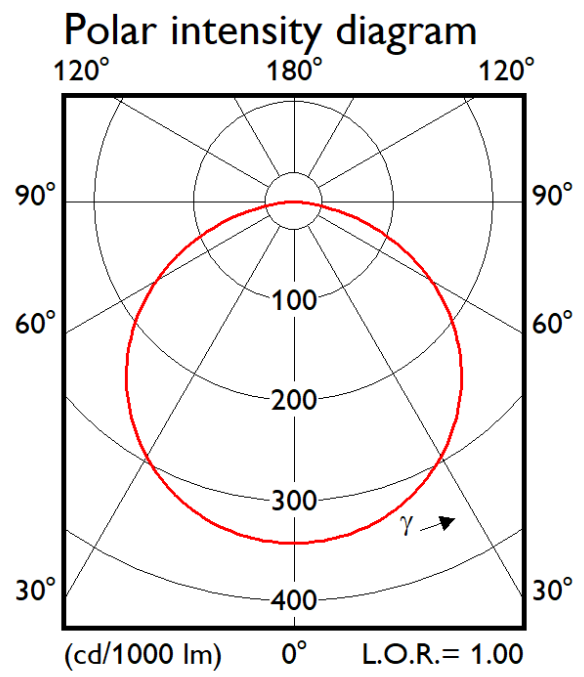
Fortimo SLM C 830 PW 1206 L15 1919 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	3040	3200	3520	lm
Efficacy		172		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 432mA	Tc 25 °C	2746	186
	Tc-nom 65 °C	2600	178
	Tc-max 95 °C	2457	169
I-nom 540mA	Tc 25 °C	3382	180
	Tc-nom 65 °C	3200	172
	Tc-max 95 °C	3022	164
I-max 1080mA	Tc 25 °C	6327	155
	Tc-nom 65 °C	5968	148
	Tc-max 95 °C	5615	141





Electrical characteristics

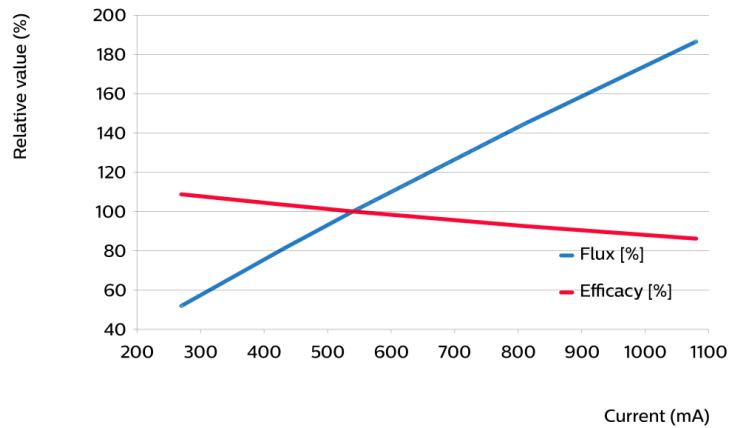
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	34.5	37.0	V
Power consumption	17.6	18.6	20.0	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

Tuning information

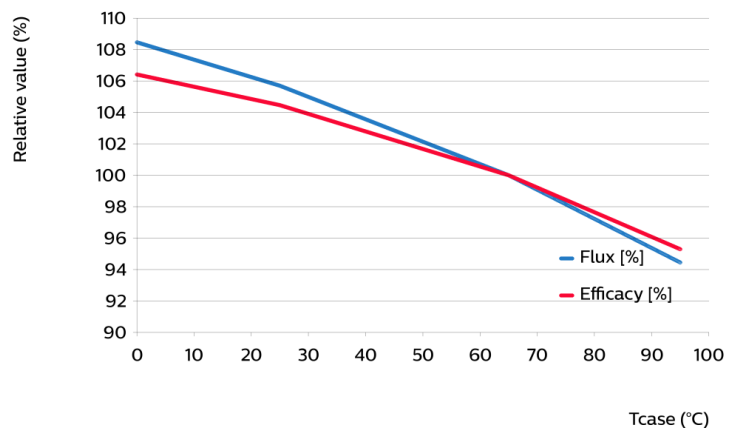
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1080	186	86
810	145	93
540	100	100
432	81	103
270	52	109



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

Tc [°C]	Flux [%]	Efficacy [%]
95	94	95
65	100	100
25	106	104
0	108	106



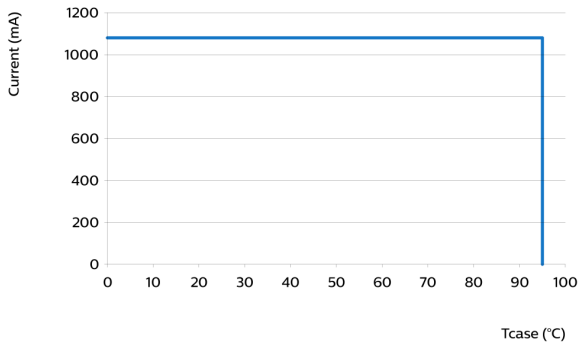
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 432mA	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 540mA	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 1080mA	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

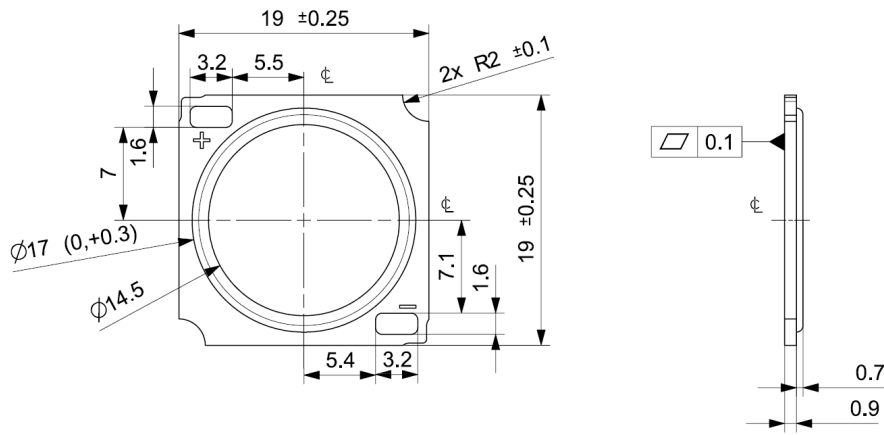
Parameter	Value	Unit
M70F50 nominal	>66000	hours

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		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		1080	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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