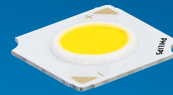


PHILIPS

Fortimo

LED

Fortimo SLM C 8xx 1201
L06 1313 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 1201 L06 1313 G8N HE	8720169 379848 00	9290 038 95580	2093725	20
Fortimo SLM C 830 1201 L06 1313 G8N HE	8720169 379879 00	9290 038 95680	2093713	20
Fortimo SLM C 835 1201 L06 1313 G8N HE	8720169 379909 00	9290 038 95780	2093726	20
Fortimo SLM C 840 1201 L06 1313 G8N HE	8720169 379930 00	9290 038 95880	2093722	20
Fortimo SLM C 850 1201 L06 1313 G8N HE	8720169 379961 00	9290 038 95980	2093732	20
Fortimo SLM C 830 PW 1201 L06 1313 G8N HE	8720169 379992 00	9290 038 96080	2093715	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 1201 L06 1313 G8N HE	90	180	180	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)

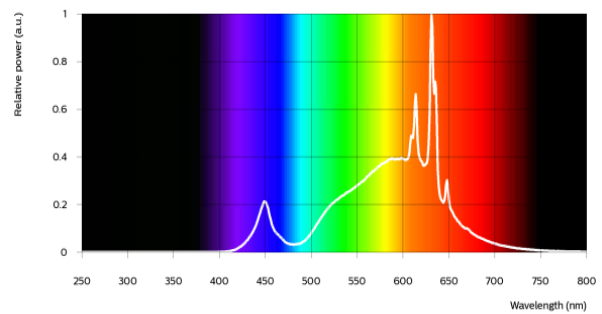
Fortimo SLM C 827 1201 L06 1313 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	489	515	566	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 $\pm 5\%$ 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 72mA	Tc 25 °C	443	177
	Tc-nom 65 °C	419	174
	Tc-max 95 °C	398	166
I-nom 90mA	Tc 25 °C	545	176
	Tc-nom 65 °C	515	166
	Tc-max 95 °C	490	158
I-max 180mA	Tc 25 °C	1017	150
	Tc-nom 65 °C	960	143
	Tc-max 95 °C	911	138



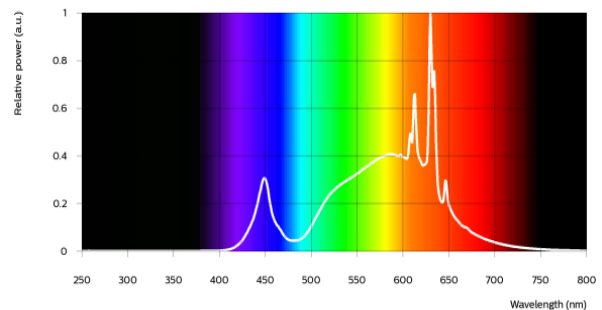
Fortimo SLM C 830 1201 L06 1313 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	504	530	583	lm
Efficacy		171		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 72mA	Tc 25 °C	455	182
	Tc-nom 65 °C	431	179
	Tc-max 95 °C	410	171
I-nom 90mA	Tc 25 °C	560	181
	Tc-nom 65 °C	530	171
	Tc-max 95 °C	504	163
I-max 180mA	Tc 25 °C	1047	154
	Tc-nom 65 °C	988	147
	Tc-max 95 °C	938	142

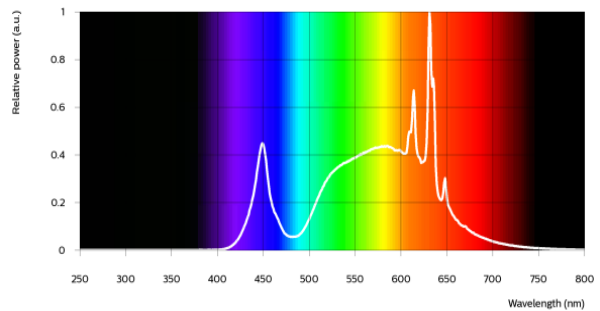


Fortimo SLM C 835 1201 L06 1313 G8N HE


Parameter	Min	Typ	Max	Unit
Luminous flux	513	540	594	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 72mA	Tc 25 °C	464	186
	Tc-nom 65 °C	439	183
	Tc-max 95 °C	417	174
I-nom 90mA	Tc 25 °C	571	184
	Tc-nom 65 °C	540	174
	Tc-max 95 °C	513	166
I-max 180mA	Tc 25 °C	1067	157
	Tc-nom 65 °C	1007	150
	Tc-max 95 °C	956	145

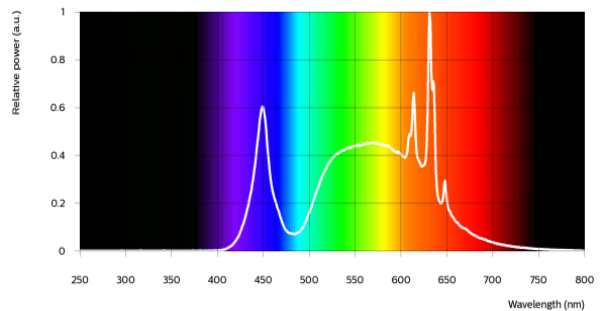


Fortimo SLM C 840 1201 L06 1313 G8N HE


Parameter	Min	Typ	Max	Unit
Luminous flux	518	545	600	lm
Efficacy		176		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 72mA	Tc 25 °C	468	187
	Tc-nom 65 °C	443	185
	Tc-max 95 °C	421	176
I-nom 90mA	Tc 25 °C	576	186
	Tc-nom 65 °C	545	176
	Tc-max 95 °C	518	167
I-max 180mA	Tc 25 °C	1077	158
	Tc-nom 65 °C	1016	152
	Tc-max 95 °C	965	146

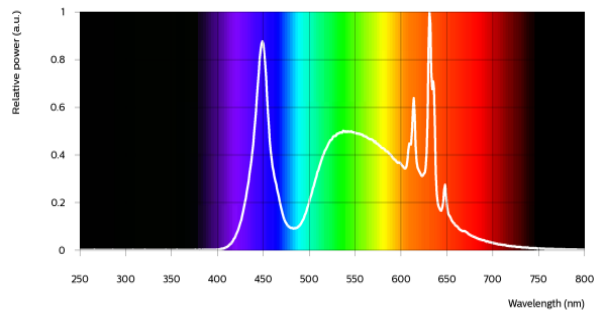


Fortimo SLM C 850 1201 L06 1313 G8N HE


Parameter	Min	Typ	Max	Unit
Luminous flux	518	545	600	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 72mA	Tc 25 °C	468	187
	Tc-nom 65 °C	443	185
	Tc-max 95 °C	421	176
I-nom 90mA	Tc 25 °C	576	186
	Tc-nom 65 °C	545	176
	Tc-max 95 °C	518	167
I-max 180mA	Tc 25 °C	1077	158
	Tc-nom 65 °C	1016	152
	Tc-max 95 °C	965	146

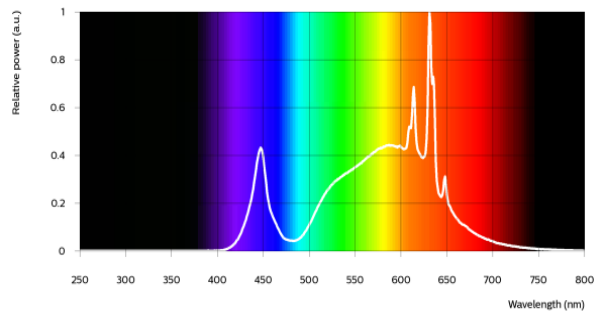


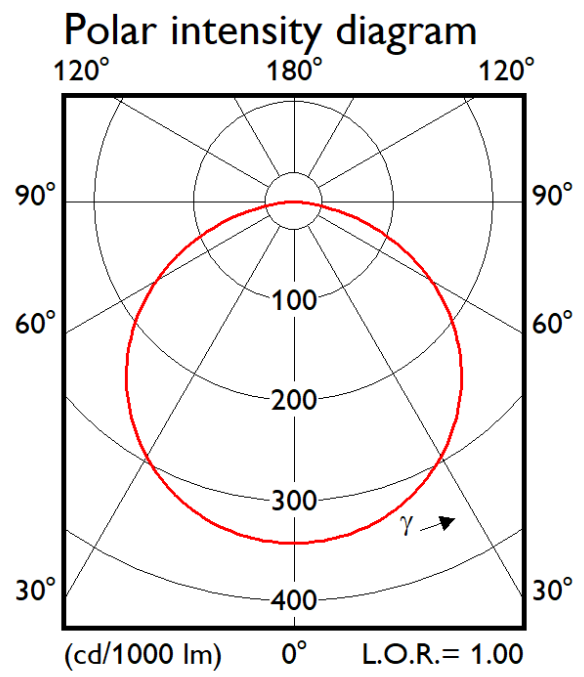
Fortimo SLM C 830 PW 1201 L06 1313 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	494	520	572	lm
Efficacy		168		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 72mA	Tc 25 °C	447	179
	Tc-nom 65 °C	423	176
	Tc-max 95 °C	402	167
I-nom 90mA	Tc 25 °C	550	177
	Tc-nom 65 °C	520	168
	Tc-max 95 °C	494	159
I-max 180mA	Tc 25 °C	1027	151
	Tc-nom 65 °C	970	145
	Tc-max 95 °C	920	139





Electrical characteristics

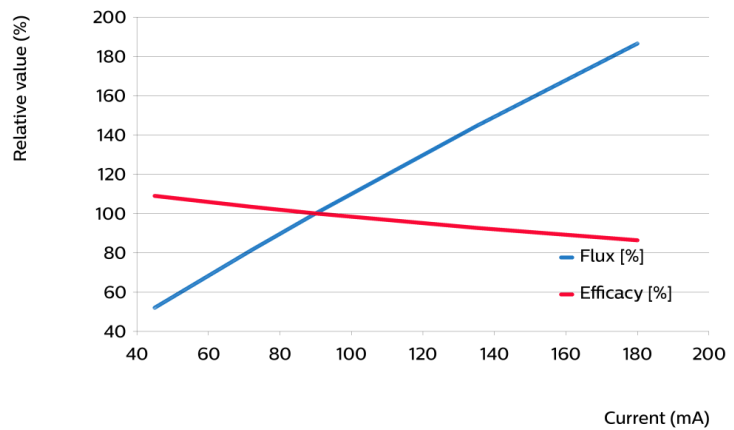
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	34.5	37.0	V
Power consumption	2.9	3.1	3.3	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

Tuning information

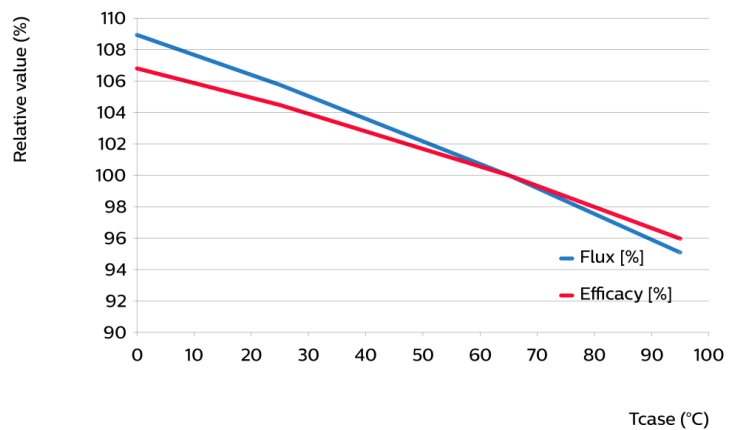
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
180	186	86
135	145	93
90	100	100
72	81	103
45	52	109



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

Tc [°C]	Flux [%]	Efficacy [%]
95	95	96
65	100	100
25	106	104
0	109	107



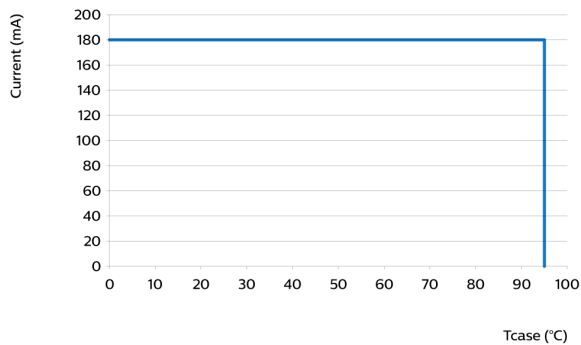
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 72mA	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 90mA	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 180mA	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

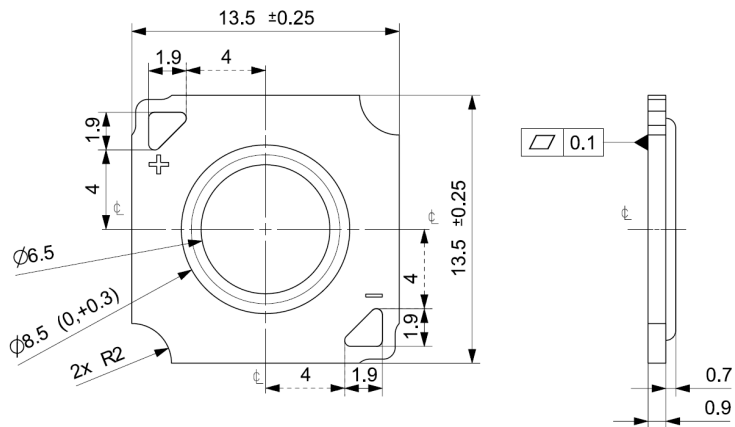
Parameter	Value	Unit
M70F50 nominal	>66000	hours

Performance Window



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	13.25	13.5	13.75	mm
Width	13.25	13.5	13.75	mm
Height	0.8	0.9	1	mm
Height	1.3	1.6	1.9	mm
Product mass		0.44		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		180	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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