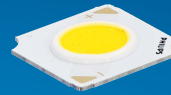


# PHILIPS

## Fortimo

### LED

Fortimo SLM C 8xx 1202  
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](http://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 1202 L06 1313 G8N HE	8720169 380264 00	9290 038 96980	2093730	20
Fortimo SLM C 830 1202 L06 1313 G8N HE	8720169 380295 00	9290 038 97080	2093728	20
Fortimo SLM C 835 1202 L06 1313 G8N HE	8720169 380325 00	9290 038 97180	2093723	20
Fortimo SLM C 840 1202 L06 1313 G8N HE	8720169 380356 00	9290 038 97280	2093662	20
Fortimo SLM C 850 1202 L06 1313 G8N HE	8720169 380387 00	9290 038 97380	2093729	20
Fortimo SLM C 830 PW 1202 L06 1313 G8N HE	8720169 380417 00	9290 038 97480	2093619	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 1202 L06 1313 G8N HE	180	360	360	mA

## Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T <sub>c</sub> (case temperature at T <sub>c</sub> 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)

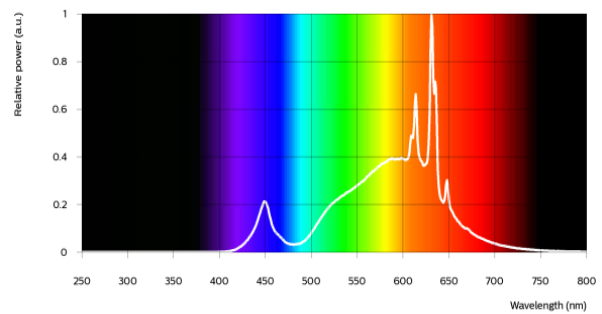
### Fortimo SLM C 827 1202 L06 1313 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	955	1005	1106	lm
Efficacy		162		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  $\pm 0.005$ . Measurement precision for CRI  $\pm 1.5$ .

Operation point	827	lm	lm/W
80% I-nom 144mA	Tc 25 °C	863	176
	Tc-nom 65 °C	818	167
	Tc-max 95 °C	773	161
I-nom 180mA	Tc 25 °C	1062	169
	Tc-nom 65 °C	1005	162
	Tc-max 95 °C	949	156
I-max 360mA	Tc 25 °C	1976	145
	Tc-nom 65 °C	1864	139
	Tc-max 95 °C	1754	132



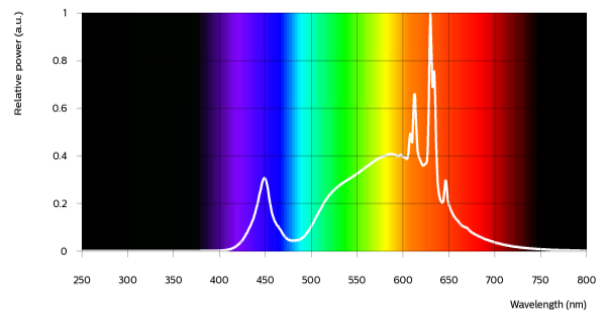
### Fortimo SLM C 830 1202 L06 1313 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	978	1030	1133	lm
Efficacy		166		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  $\pm 0.005$ . Measurement precision for CRI  $\pm 1.5$ .

Operation point	830	lm	lm/W
80% I-nom 144mA	Tc 25 °C	885	181
	Tc-nom 65 °C	838	171
	Tc-max 95 °C	792	165
I-nom 180mA	Tc 25 °C	1088	173
	Tc-nom 65 °C	1030	166
	Tc-max 95 °C	973	160
I-max 360mA	Tc 25 °C	2026	149
	Tc-nom 65 °C	1911	143
	Tc-max 95 °C	1798	135

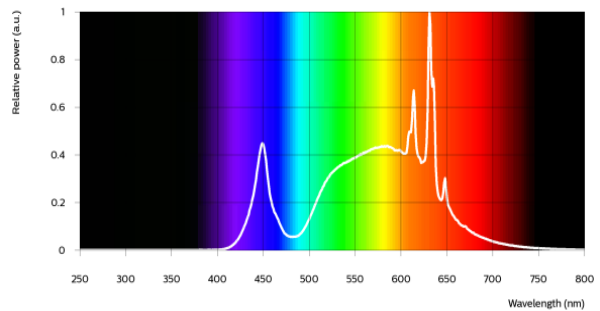


Fortimo SLM C 835 1202 L06 1313 G8N HE


Parameter	Min	Typ	Max	Unit
Luminous flux	1002	1055	1160	lm
Efficacy		170		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 144mA	Tc 25 °C	906	185
	Tc-nom 65 °C	858	175
	Tc-max 95 °C	812	169
I-nom 180mA	Tc 25 °C	1114	177
	Tc-nom 65 °C	1055	170
	Tc-max 95 °C	997	163
I-max 360mA	Tc 25 °C	2075	153
	Tc-nom 65 °C	1958	146
	Tc-max 95 °C	1842	139

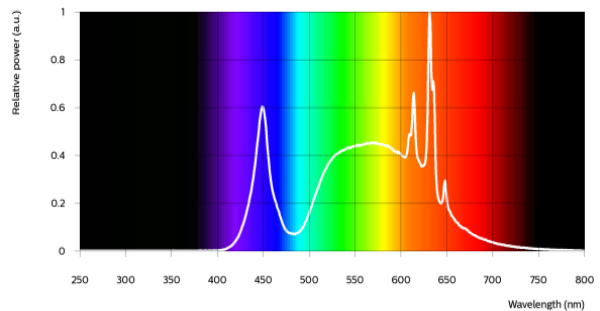


Fortimo SLM C 840 1202 L06 1313 G8N HE


Parameter	Min	Typ	Max	Unit
Luminous flux	1007	1060	1166	lm
Efficacy		171		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 144mA	Tc 25 °C	910	186
	Tc-nom 65 °C	862	176
	Tc-max 95 °C	815	170
I-nom 180mA	Tc 25 °C	1120	178
	Tc-nom 65 °C	1060	171
	Tc-max 95 °C	1002	164
I-max 360mA	Tc 25 °C	2085	153
	Tc-nom 65 °C	1967	147
	Tc-max 95 °C	1851	139

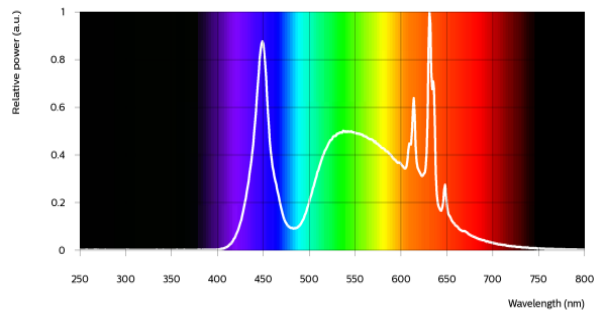


Fortimo SLM C 850 1202 L06 1313 G8N HE


Parameter	Min	Typ	Max	Unit
Luminous flux	1007	1060	1166	lm
Efficacy		171		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 144mA	Tc 25 °C	910	186
	Tc-nom 65 °C	862	176
	Tc-max 95 °C	815	170
I-nom 180mA	Tc 25 °C	1120	178
	Tc-nom 65 °C	1060	171
	Tc-max 95 °C	1002	164
I-max 360mA	Tc 25 °C	2085	153
	Tc-nom 65 °C	1967	147
	Tc-max 95 °C	1851	139

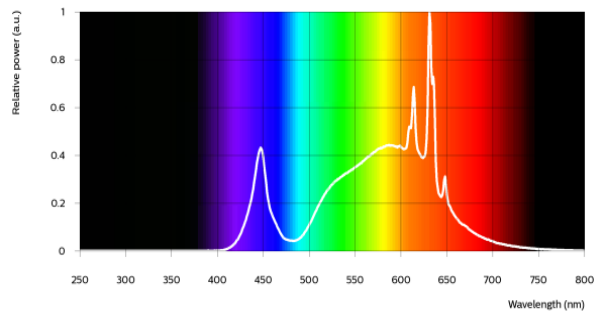


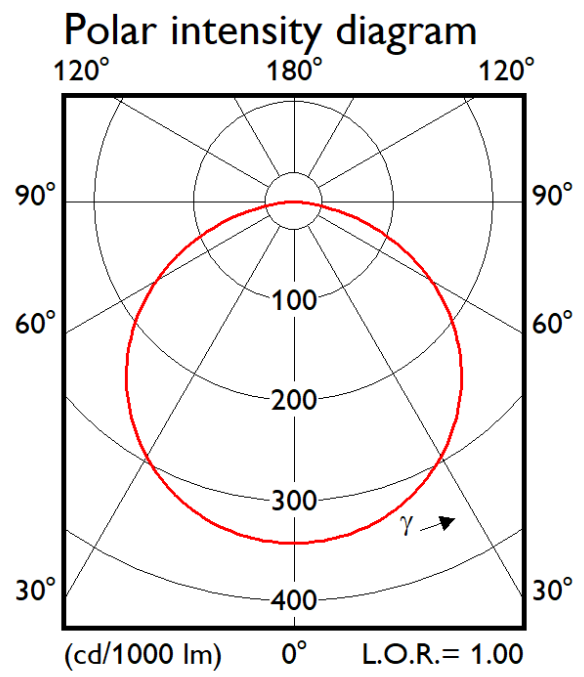
Fortimo SLM C 830 PW 1202 L06 1313 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	964	1015	1116	lm
Efficacy		164		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 144mA	Tc 25 °C	872	178
	Tc-nom 65 °C	826	169
	Tc-max 95 °C	781	163
I-nom 180mA	Tc 25 °C	1072	170
	Tc-nom 65 °C	1015	164
	Tc-max 95 °C	959	157
I-max 360mA	Tc 25 °C	1996	147
	Tc-nom 65 °C	1883	141
	Tc-max 95 °C	1772	133





## Electrical characteristics

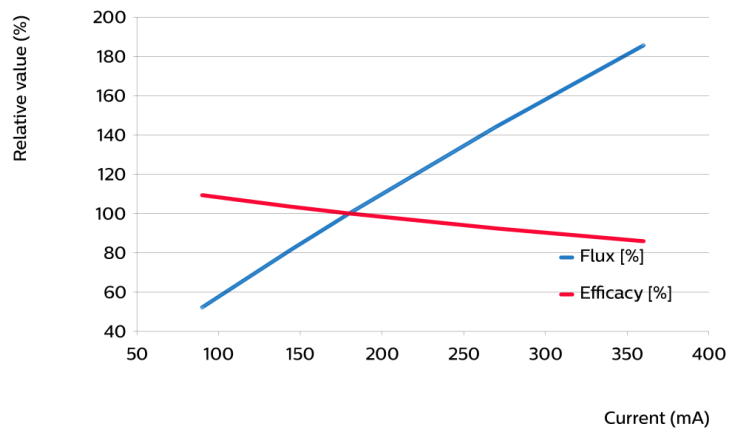
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	34.5	37.0	V
Power consumption	5.9	6.2	6.7	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

## Tuning information

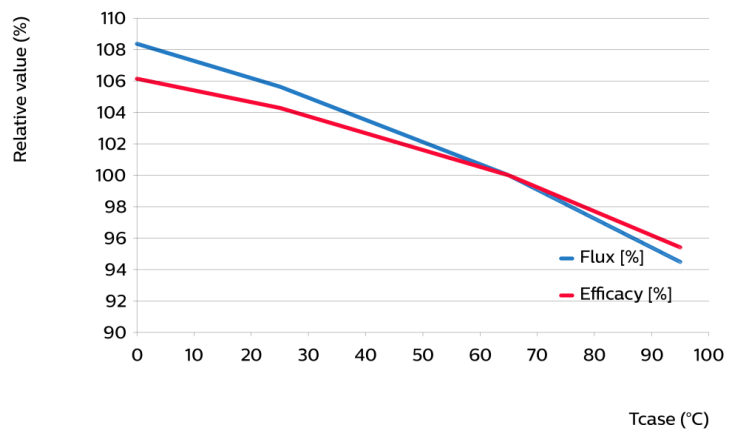
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
360	186	86
270	144	92
180	100	100
144	81	104
90	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



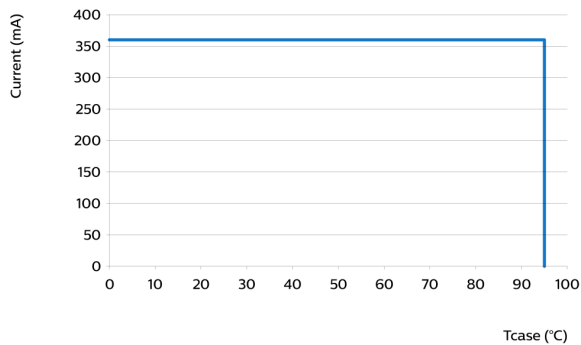
## Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 144mA	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 180mA	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 360mA	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

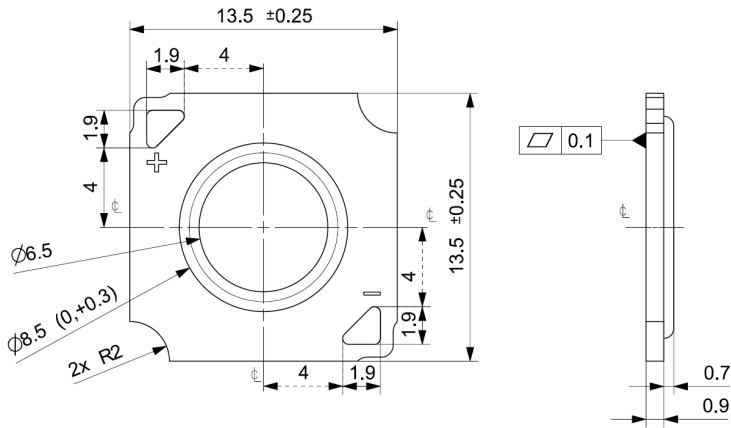
Parameter	Value	Unit
M70F50 nominal	>66000	hours

## 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		0.45		gram



## Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		360	mA
Case temperature (Tc-max)		95	°C
ESD (direct contact)	8		kV
Working voltage		60	V <sub>dc</sub>
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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11/10/2024