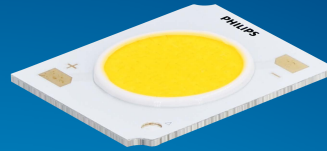


PHILIPS

Fortimo

LED

Fortimo SLM C 8xx 1205
L13 2024 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 1205 L13 2024 G8 HE	8720169 377592 00	9290 038 88080	2093747	20
Fortimo SLM C 830 1205 L13 2024 G8 HE	8720169 377622 00	9290 038 88180	2093842	20
Fortimo SLM C 835 1205 L13 2024 G8 HE	8720169 377653 00	9290 038 88280	2093849	20
Fortimo SLM C 840 1205 L13 2024 G8 HE	8720169 377684 00	9290 038 88380	2093750	20
Fortimo SLM C 850 1205 L13 2024 G8 HE	8720169 377714 00	9290 038 88480	2093690	20
Fortimo SLM C 830 PW 1205 L13 2024 G8 HE	8720169 377745 00	9290 038 88580	2093859	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 1205 L13 2024 G8 HE	500	900	900	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)

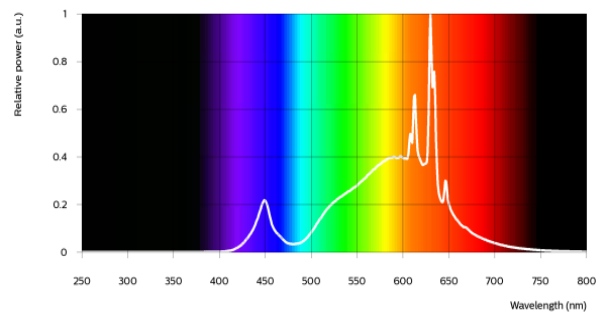
Fortimo SLM C 827 1205 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2760	2905	3196	lm
Efficacy		167		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 400mA	Tc 25 °C	2460	180
	Tc-nom 65 °C	2336	172
	Tc-max 95 °C	2210	165
I-nom 500mA	Tc 25 °C	3023	173
	Tc-nom 65 °C	2860	164
	Tc-max 95 °C	2713	158
I-max 900mA	Tc 25 °C	5125	150
	Tc-nom 65 °C	4850	144
	Tc-max 95 °C	4568	137



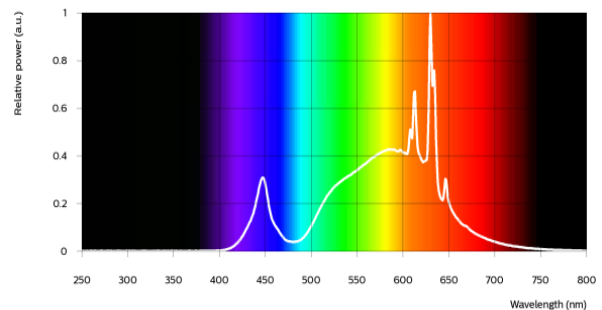
Fortimo SLM C 830 1205 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2845	2995	3294	lm
Efficacy		172		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 400mA	Tc 25 °C	2519	184
	Tc-nom 65 °C	2393	176
	Tc-max 95 °C	2264	169
I-nom 500mA	Tc 25 °C	3097	177
	Tc-nom 65 °C	2930	168
	Tc-max 95 °C	2779	162
I-max 900mA	Tc 25 °C	5250	154
	Tc-nom 65 °C	4969	147
	Tc-max 95 °C	4680	140

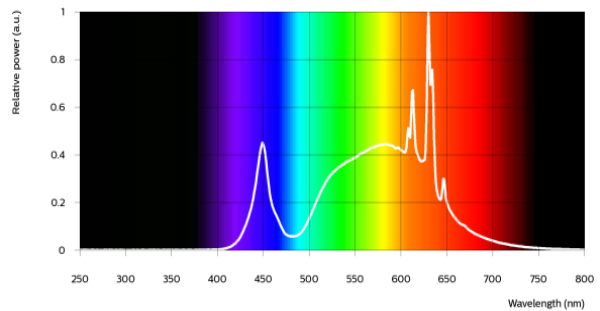


Fortimo SLM C 835 1205 L13 2024 G8 HE


Parameter	Min	Typ	Max	Unit
Luminous flux	2916	3070	3377	lm
Efficacy		176		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 400mA	Tc 25 °C	2579	188
	Tc-nom 65 °C	2450	180
	Tc-max 95 °C	2318	173
I-nom 500mA	Tc 25 °C	3170	181
	Tc-nom 65 °C	3000	172
	Tc-max 95 °C	2845	165
I-max 900mA	Tc 25 °C	5376	158
	Tc-nom 65 °C	5088	151
	Tc-max 95 °C	4793	144

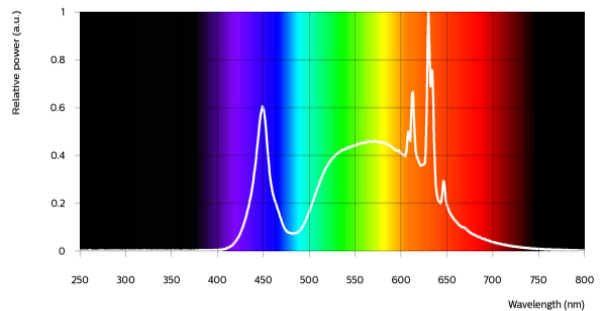


Fortimo SLM C 840 1205 L13 2024 G8 HE


Parameter	Min	Typ	Max	Unit
Luminous flux	2931	3085	3394	lm
Efficacy		177		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 400mA	Tc 25 °C	2597	190
	Tc-nom 65 °C	2466	181
	Tc-max 95 °C	2333	174
I-nom 500mA	Tc 25 °C	3192	182
	Tc-nom 65 °C	3020	174
	Tc-max 95 °C	2864	167
I-max 900mA	Tc 25 °C	5412	159
	Tc-nom 65 °C	5123	152
	Tc-max 95 °C	4826	144

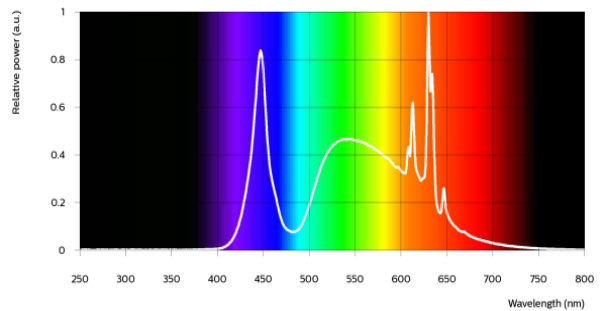


Fortimo SLM C 850 1205 L13 2024 G8 HE


Parameter	Min	Typ	Max	Unit
Luminous flux	2916	3070	3377	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 400mA	Tc 25 °C	2597	190
	Tc-nom 65 °C	2466	181
	Tc-max 95 °C	2333	174
I-nom 500mA	Tc 25 °C	3192	182
	Tc-nom 65 °C	3020	174
	Tc-max 95 °C	2864	167
I-max 900mA	Tc 25 °C	5412	159
	Tc-nom 65 °C	5123	152
	Tc-max 95 °C	4826	144

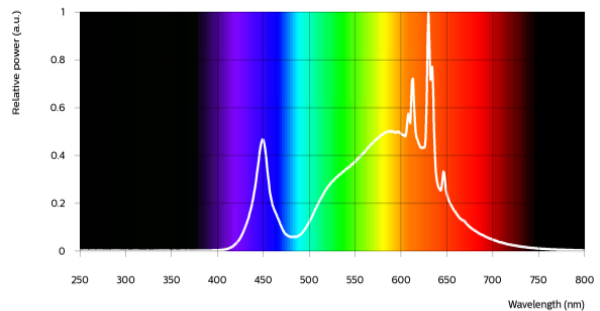


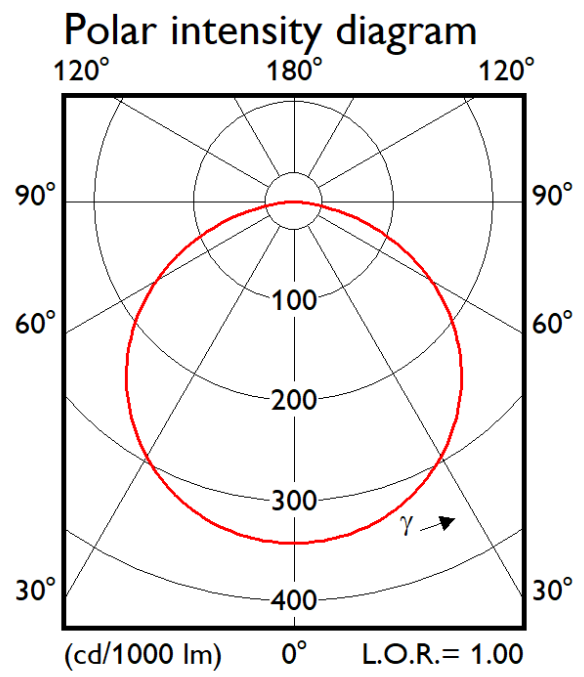
Fortimo SLM C 830 PW 1205 L13 2024 G8 HE

Parameter	Min	Typ	Max	Unit
Luminous flux	2807	2955	3250	lm
Efficacy		170		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 400mA	Tc 25 °C	2477	181
	Tc-nom 65 °C	2353	173
	Tc-max 95 °C	2226	166
I-nom 500mA	Tc 25 °C	3045	174
	Tc-nom 65 °C	2890	166
	Tc-max 95 °C	2732	159
I-max 900mA	Tc 25 °C	5162	151
	Tc-nom 65 °C	4886	145
	Tc-max 95 °C	4602	138





Electrical characteristics

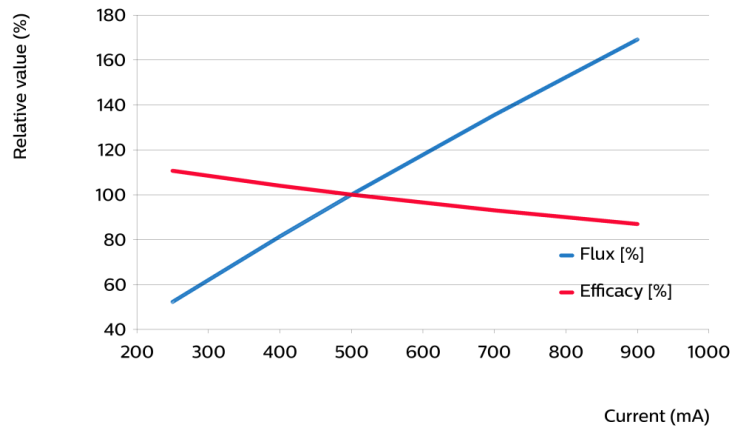
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	34.7	37.0	V
Power consumption	16.3	17.4	18.5	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

Tuning information

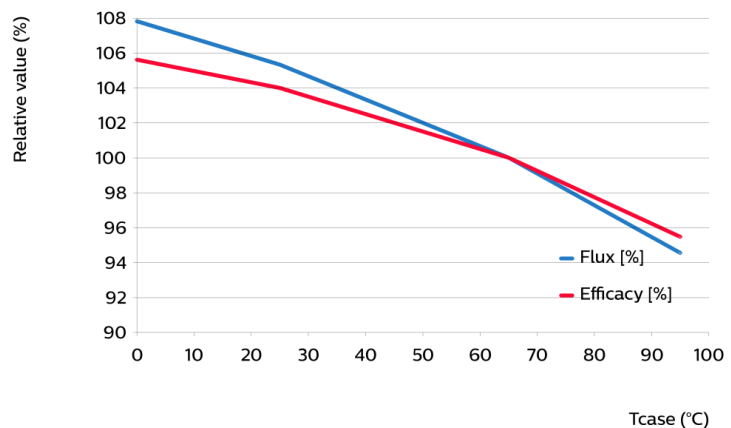
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
900	169	87
700	136	93
500	100	100
400	81	104
250	52	111



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

Tc [°C]	Flux [%]	Efficacy [%]
95	95	95
65	100	100
25	105	104
0	108	106



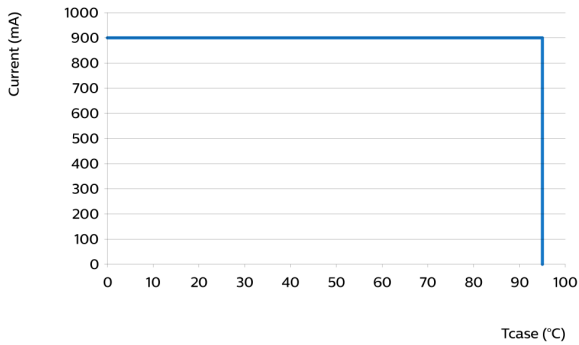
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 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	>66	>66
I-nom 500mA	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 900mA	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

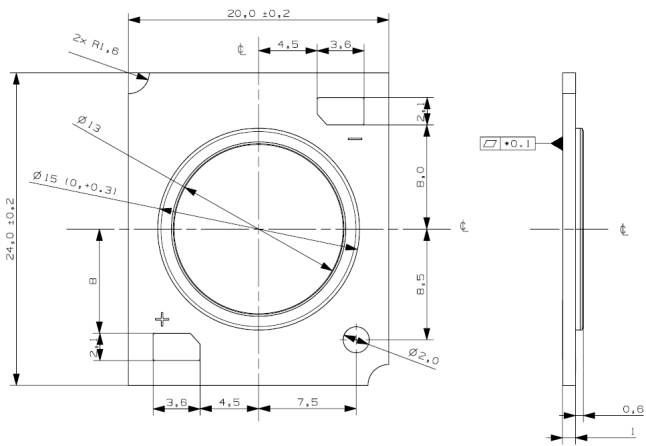
Parameter	Value	Unit
M70F50 nominal	>66000	hours

Performance Window



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	23.8	24	24.2	mm
Width	19.8	20	20.2	mm
Height	0.9	1	1.1	mm
Height	1.3	1.6	1.9	mm
Product mass		1.3		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		900	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
---------	-----



© 2024 Signify Holding, IBRS 10461, 5600VB, NL. All rights reserved. The information provided herein is subject to change, without notice. Signify does not give any representation or warranty as to the accuracy or completeness of the information included herein and shall not be liable for any action in reliance thereon. The information presented in this document is not intended as any commercial offer and does not form part of any quotation or contract, unless otherwise agreed by Signify.

www.philips.com/oem

Philips and the Philips Shield Emblem are registered trademarks of Koninklijke Philips N.V. All other trademarks are owned by Signify Holding or their respective owners.
UK importer address: Signify Commercial UK Limited, 3 Guildford Business Park, GU2 8XG

11/10/2024