

PHILIPS

Fortimo

LED

Fortimo SLM PW
1211 L19 2828 G7



Datasheet

Experience bright and vivid colors

Fortimo LED SLM PW 1211 L19 2828 G7

Fortimo LED SLM Gen7 continues to focus on the combination of Quality of Light and performance. By offering the CoB separate from the holder, even more flexibility in possible system combinations and specifications is achieved. This results in an extensive portfolio of lumen ranges, CCTs and spectra. Please also check 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
- Extensive range of CCTs
- Small LES for narrow beam angles and small reflector designs
- Flexibility to select a different lumen output between 800 and 10000 lm
- State of the art Chip-on-Board (CoB) technology, enabling highest system efficacy
- System proposition (CoB + Holder + driver)
- Flexibility to optimize luminaire performance (lm/W or high lm output)
- Xitanium window drivers with SimpleSet for maximum flexibility
- Mini drivers for smallest possible luminaire designs
- Five years system warranty with over 50,000 hours lifetime
- Instant full light

March 2018

Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo SLM C 830 PW 1211 L19 2828 G7	8718699 590659 00	9290 015 92606	10
Fortimo SLM C 930 PW 1211 L19 2828 G7	8718699 590680 00	9290 015 92706	10
Fortimo SLM C 935 PW 1211 L19 2828 G7	8718699 590710 00	9290 015 92806	10
Fortimo SLM C 940 PW 1211 L19 2828 G7	8718699 590741 00	9290 015 92906	10

Not all products are globally available by default.

Please contact your local Philips Lighting representative for local availability and activation.

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo SLM PW 1211 L19 2828 G7	1200	2000	2000	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T _c (case temperature at T _c point)	85	85	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

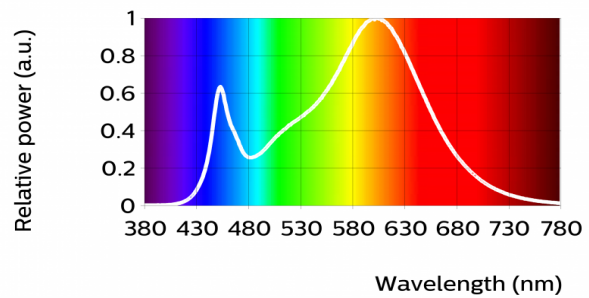
Optical characteristics - table per color (CCT)

Fortimo SLM C 830 PW 1211 L19 2828 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	5571	6190	6809	lm
Module efficacy	134	149		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.422, 0.386)		-
Color consistency			3	SDCM
CRI	80	82		
Photobiological safety			RG1 unlimited	
Energy efficiency label		A++		

Measurement precision for flux +/- 5%. Measurement precision for efficacy +/- 6%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	830	lm	lm/W
80% I-nom 960mA	Tc 25 °C	5579	167
	Tc-nom 85 °C	5102	157
	Tc-max 95 °C	5009	154
I-nom 1200mA	Tc 25 °C	6811	160
	Tc-nom 85 °C	6190	149
	Tc-max 95 °C	6070	147
I-life 2000mA	Tc 25 °C	10492	138
	Tc-nom 85 °C	9403	127
	Tc-max 95 °C	9191	124



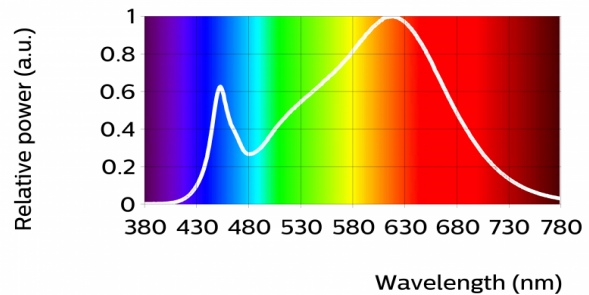
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
83	95	92	80	84	93	80	58	10	88	79	79	86	96

Fortimo SLM C 930 PW 1211 L19 2828 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	4779	5310	5841	lm
Module efficacy	115	128		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.422, 0.386)		-
Color consistency			3	SDCM
CRI	90	92		
Photobiological safety			RG1 unlimited	
Energy efficiency label		A++		

Measurement precision for flux +/- 5%. Measurement precision for efficacy +/- 6%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	930	lm	lm/W
80% I-nom 960mA	Tc 25 °C	4787	143
	Tc-nom 85 °C	4377	134
	Tc-max 95 °C	4298	133
I-nom 1200mA	Tc 25 °C	5843	137
	Tc-nom 85 °C	5310	128
	Tc-max 95 °C	5207	126
I-life 2000mA	Tc 25 °C	8998	119
	Tc-nom 85 °C	8061	109
	Tc-max 95 °C	7879	107



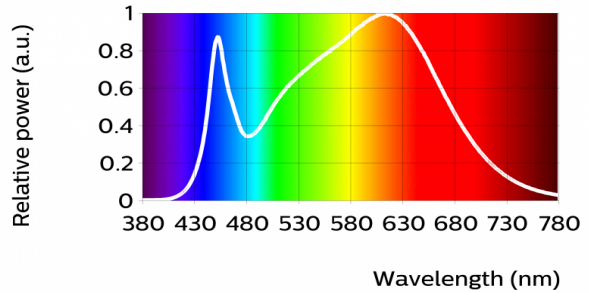
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
93	97	97	91	93	95	90	80	58	93	91	83	95	99

Fortimo SLM C 935 PW 1211 L19 2828 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	4986	5540	6094	lm
Module efficacy	120	133		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.398, 0.376)		-
Color consistency			3	SDCM
CRI	90	92		
Photobiological safety			RG1 unlimited	
Energy efficiency label		A++		

Measurement precision for flux +/- 5%. Measurement precision for efficacy +/- 6%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	935	lm	lm/W
80% I-nom 960mA	Tc 25 °C	4994	150
	Tc-nom 85 °C	4566	140
	Tc-max 95 °C	4484	138
I-nom 1200mA	Tc 25 °C	6096	143
	Tc-nom 85 °C	5540	133
	Tc-max 95 °C	5432	131
I-life 2000mA	Tc 25 °C	9389	124
	Tc-nom 85 °C	8412	113
	Tc-max 95 °C	8223	111



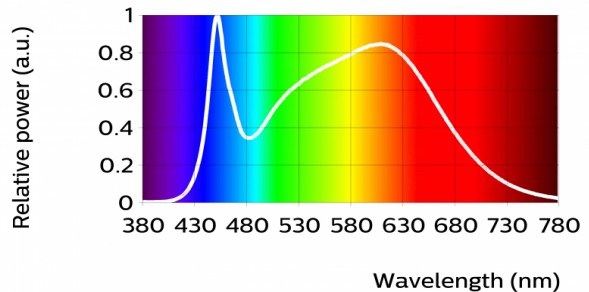
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
93	96	97	91	92	93	92	82	59	89	91	77	94	98

Fortimo SLM C 940 PW 1211 L19 2828 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	5148	5720	6292	lm
Module efficacy	124	137		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.374, 0.364)		-
Color consistency			3	SDCM
CRI	90	92		
Photobiological safety			RG1 unlimited	
Energy efficiency label		A++		

Measurement precision for flux +/- 5%. Measurement precision for efficacy +/- 6%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

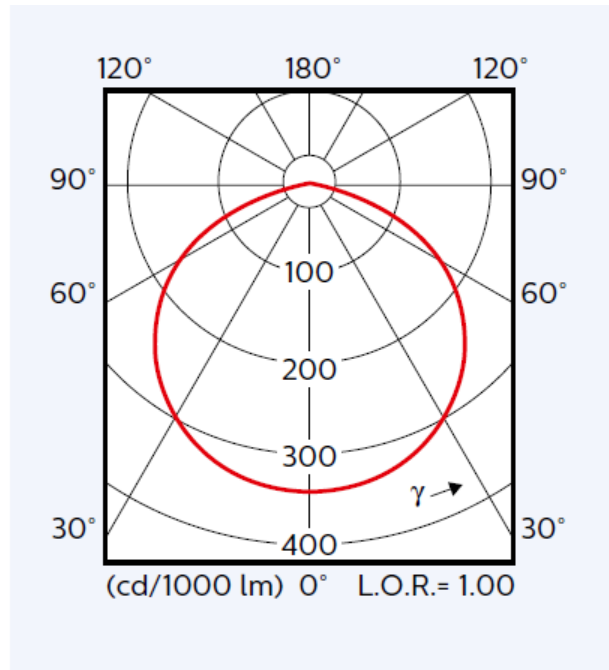
Operation point	940	lm	lm/W
80% I-nom 960mA	Tc 25 °C	5155	154
	Tc-nom 85 °C	4714	145
	Tc-max 95 °C	4629	143
I-nom 1200mA	Tc 25 °C	6293	148
	Tc-nom 85 °C	5720	137
	Tc-max 95 °C	5609	135
I-life 2000mA	Tc 25 °C	9695	128
	Tc-nom 85 °C	8689	117
	Tc-max 95 °C	8494	115



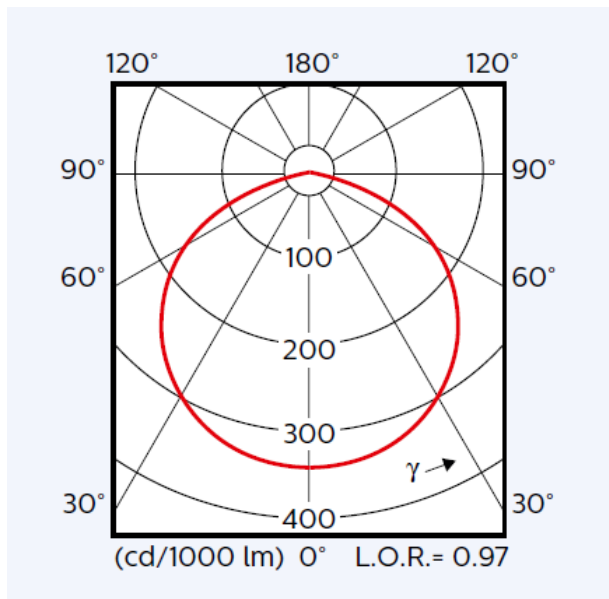
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
92	96	96	91	92	92	92	83	60	88	90	72	94	97

Beam shape

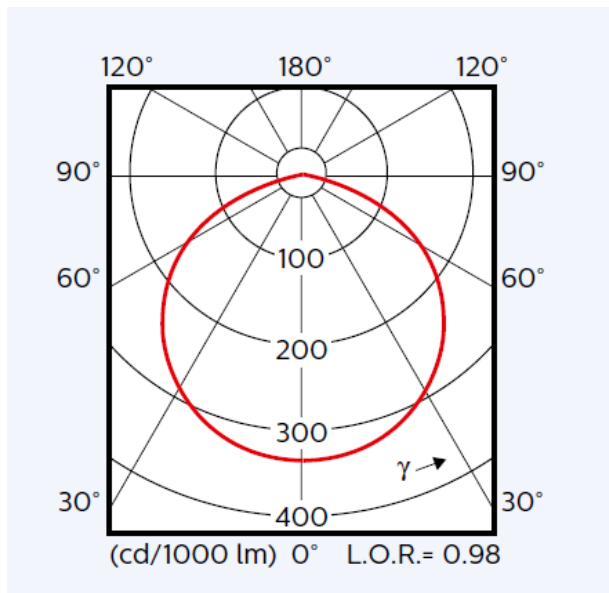
Bare CoB



CoB with a standard/ down-light/ Zhaga poke-in holder



CoB with a poke-in holder



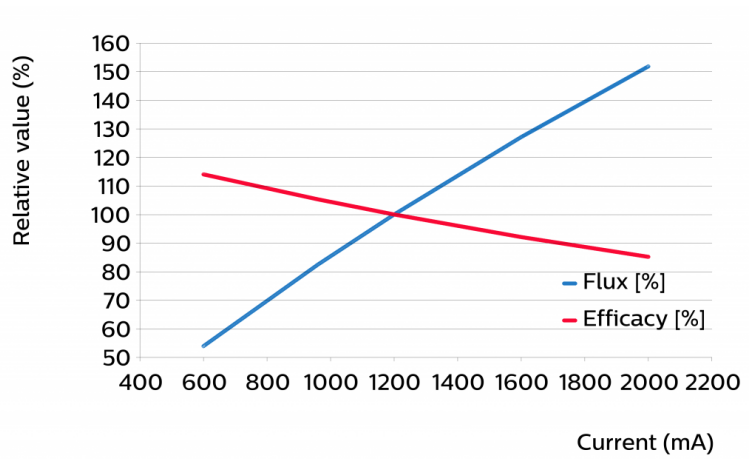
Fortimo SLM C 830 PW 1211 L19 2828 G7
 Fortimo SLM C 930 PW 1211 L19 2828 G7
 Fortimo SLM C 935 PW 1211 L19 2828 G7
 Fortimo SLM C 940 PW 1211 L19 2828 G7

Parameter	Min	Typ	Max	Unit
Forward voltage	32.4	34.7	37.4	V
Power consumption	38.9	41.6	44.9	W

Tuning information

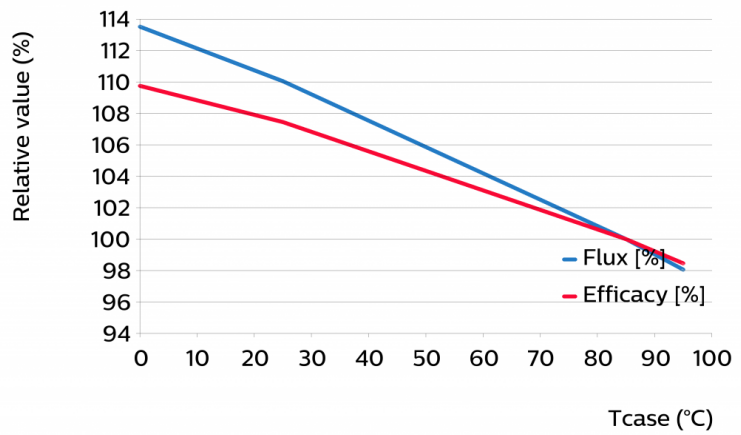
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
2000	152	85
1600	127	92
1200	100	100
960	82	105
600	54	114



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

Tcase [°C]	Flux [%]	Efficacy [%]
95	98	98
85	100	100
25	110	107
0	114	110



Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% i nom 960 mA	Tc 65°C	>50	>50	>50	>50	>50	>50	>50	>50	43
	Tc nom 85°C	>50	>50	>50	>50	50	40	36	24	19
	Tc max 95°C	>50	>50	44	>50	34	27	25	16	13
i nom 1200 mA	Tc 65°C	>50	>50	>50	>50	>50	>50	>50	50	40
	Tc nom 85°C	>50	>50	>50	>50	46	37	33	22	18
	Tc max 95°C	>50	>50	71	48	32	25	23	15	12
I life 2000 mA	Tc 65°C	>50	>50	>50	>50	>50	>50	>50	36	29
	Tc nom 85°C	>50	>50	45	>50	35	28	25	16	13
	Tc max 95°C	>50	39	31	37	24	19	17	11	9

Lifetime

Parameter	Value	Unit
C10 at Tc life	50000	hours

Please refer to the performance window to ensure that your operating conditions are covered.

>50 k hours claim is based on extrapolating raw LM80-data by using statistical techniques.

Switching cycles in accordance to EU 1194/2012: >15000.

Mechanical characteristics

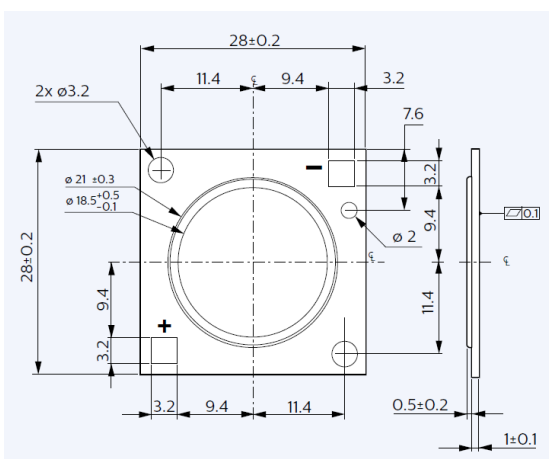
Fortimo SLM C 830 PW 1211 L19 2828 G7

Fortimo SLM C 930 PW 1211 L19 2828 G7

Fortimo SLM C 935 PW 1211 L19 2828 G7

Fortimo SLM C 940 PW 1211 L19 2828 G7

Parameter	Min	Typ	Max	Unit
Length	27.8	28	28.2	mm
Width	27.8	28	28.2	mm
Height PCB	0.9	1	1.1	mm
Height including dam	1.2	1.5	1.8	mm



Absolute ratings

Parameter	Min	Typ	Max	Unit
Current through the LED module (I-max)			2000	mA
Case temperature (Tc-max)			95	°C
Power at rated Vf-max and I-max			78.1	W
ESD (direct contact)			8	kV
Ambient temperature	-20		40	°C
Storage temperature	-40		80	°C

Application information

Certificates and Standards

IEC 62031:2008 (First Edition) + A1:2012 + A2:2014

EN 62031:2008 (First Edition) + A1:2013 + A2:2015

Relevant clauses of IEC 62471:2006 (Incl. IEC/TR 62471-2: 2009 and IEC/TR 62778: 2014)

Relevant clauses of IEC 60838-1:2004 + A1:2008 + A2:2011 with IEC 60838-2-2:2006 + A1:2012

Relevant clauses of EN 62471:2008 (With IEC/TR 62471-2: 2009 and IEC/TR 62778: 2014)

Relevant clauses of EN 60838-1:2004 + A1:2008 + A2:2011 with EN 60838-2-2:2006 + A1:2012

UL 8750

ENEC+

CE

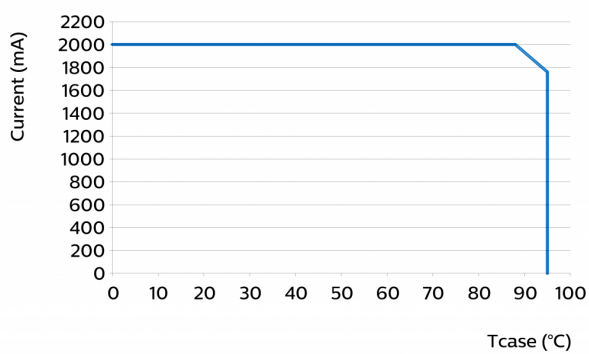
Environmental

RoHS/REACH

Application

IP rating	No IP-rating
Overheating protection	No
Luminaire class	IEC Class I and Class II
Dimming	Yes

Performance Window





© 2018 Philips Lighting Holding B.V. All rights reserved.

This document contains information relating to the Philips Lighting portfolio, intended for companies who may be interested in developing their product offering. Note that the information provided is subject to change. Philips Lighting 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.

www.philips.com/technology

03/2018