

# PHILIPS

## LED Modules

### Fortimo SLM Premium White

#### 1211 L19 2828 G6



Philips Fortimo LED spotlight module (SLM) premium white gen 6 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.na.easydesignintool.philips.com](http://www.na.easydesignintool.philips.com)).

#### Ordering Data

Commercial Product Name	12NC	Minimum Order Quantity
Fortimo SLM C 830 PW 1211 L19 2024 G6	9290 014 48106	10
Fortimo SLM C 930 PW 1211 L19 2024 G6	9290 014 48206	10
Fortimo SLM C 935 PW 1211 L19 2828 G6	9290 014 48306	10
Fortimo SLM C 940 PW 1211 L19 2828 G6	9290 014 48406	10

Not all products are currently available as make-to-stock. Please contact your local Philips representative for specific availability and lead time.

# Fortimo SLM premium white 1211 L19 2828 G6

## Features

- Excellent quality of light available for all applications
- Extensive range of CCT
- Small LES for narrow beam angles and small reflector designs
- Flexibility to select a different lumen output between 800 lm and 10000 lm
- State-of-the-art chip-on-board (CoB) technology, enabling high system efficacy
- System proposition (CoB + holder + driver)

- Flexibility to optimize luminaire performance (lm/W or high lumen output)
- Philips Advance Xitanium LED window drivers with SimpleSet technology for maximum flexibility
- Mini drivers for smallest possible luminaire designs
- Three dedicated product lines:
  - SLM gen 6 premium white
  - SLM gen 6 crisp white
  - SLM gen 6 food

## Benefits

- 5-year limited system warranty with over 50,000 hours lifetime<sup>1</sup>

## Applications

- Architectural lighting
- Retail spot lighting
- Recessed downlight

## Drive Currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo LED SLM PW 1211 L19 2828 G6	1200	2000	2000	mA

## Module Temperatures

Parameter	Nominal*	Life**	Max***	Unit
Tc (case temperature at Tc 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

1. View limited warranty at <http://www.usa.lighting.philips.com/support/support/warranty> for details and restrictions.

# Fortimo SLM premium white 1211 L19 2828 G6

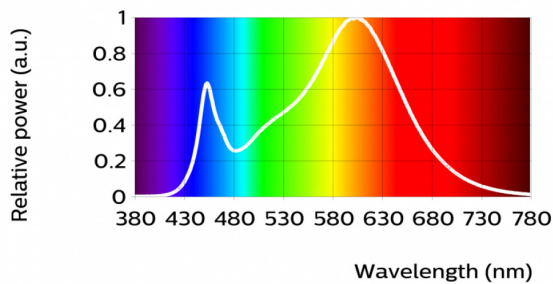
## Optical Characteristics – Table per CCT

### Fortimo SLM C 830 PW 1211 L19 2024 G6

Parameter	Min	Typ	Max	Unit
Luminous Flux	5170	5740	6320	lm
Module Efficiency		139		lm/W
Correlated Color Temperature (CCT)		3000		K
Color Coordinates (CIEx, CIEy)		(0.422, 0.386)		–
Color Consistency			3	SDCM
CRI	80	82		–

Measurement tolerances are: ±5% on flux, ±6% on efficiency, +0.005 on x,y, and ±1.5 on CRI.

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



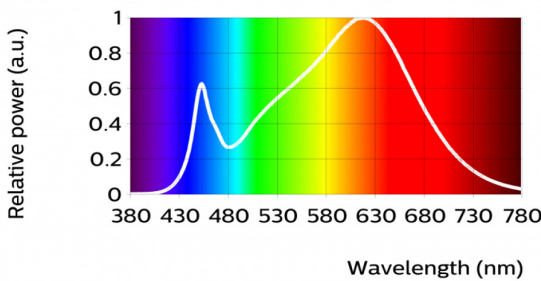
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
83	95	92	80	84	93	80	58	10	88	79	79	86	96	

### Fortimo SLM C 930 PW 1211 L19 2024 G6

Parameter	Min	Typ	Max	Unit
Luminous Flux	4430	4920	5413	lm
Module Efficiency		119		lm/W
Correlated Color Temperature (CCT)		3000		K
Color Coordinates (CIEx, CIEy)		(0.422, 0.386)		–
Color Consistency			3	SDCM
CRI	90	92		–

Measurement tolerances are: ±5% on flux, ±6% on efficiency, +0.005 on x,y, and ±1.5 on CRI.

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



R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
93	97	97	91	93	95	90	80	58	93	91	83	95	99	

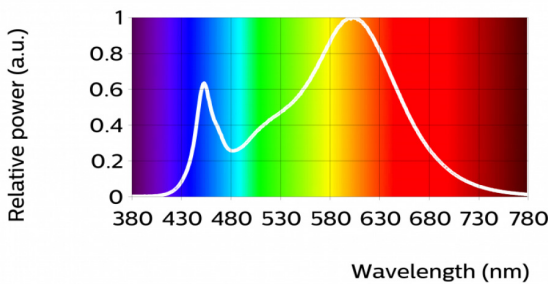
# Fortimo SLM premium white 1211 L19 2828 G6

## Optical Characteristics – Table per CCT

Fortimo SLM C 935 PW 1211 L19 2828 G6				
Parameter	Min	Typ	Max	Unit
Luminous Flux	4620	5130	5650	lm
Module Efficiency		124		lm/W
Correlated Color Temperature (CCT)		3000		K
Color Coordinates (CIEx, CIEy)		(0.398, 0.376)		–
Color Consistency			3	SDCM
CRI	90	92		–

Measurement tolerances are: ±5% on flux, ±6% on efficiency, +0.005 on x,y, and ±1.5 on CRI.

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

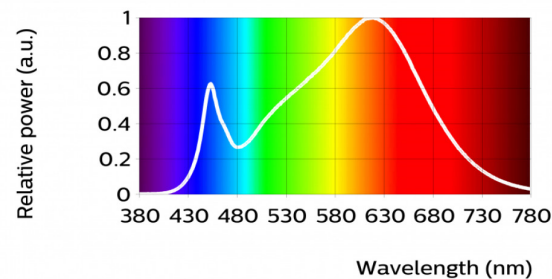


R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
93	96	97	91	92	93	92	82	59	89	91	77	94	98	

Fortimo SLM C 940 PW 1211 L19 2024 G6				
Parameter	Min	Typ	Max	Unit
Luminous Flux	4750	5270	5800	lm
Module Efficiency		128		lm/W
Correlated Color Temperature (CCT)		4000		K
Color Coordinates (CIEx, CIEy)		0.374, 0.364)		–
Color Consistency			3	SDCM
CRI	90	92		–

Measurement tolerances are: ±5% on flux, ±6% on efficiency, +0.005 on x,y, and ±1.5 on CRI.

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

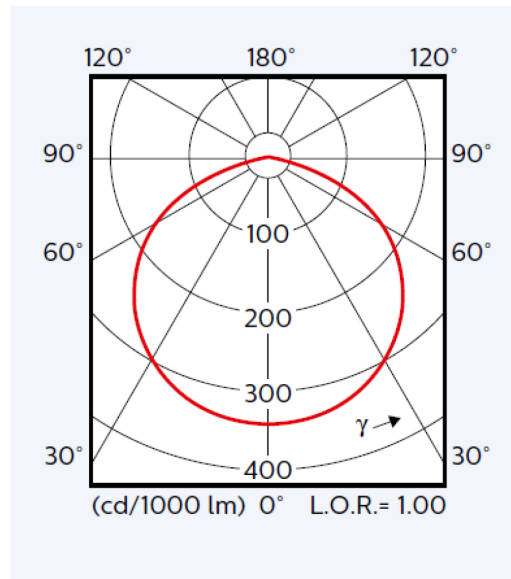


R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
92	96	96	91	92	92	92	83	60	88	90	72	94	97	

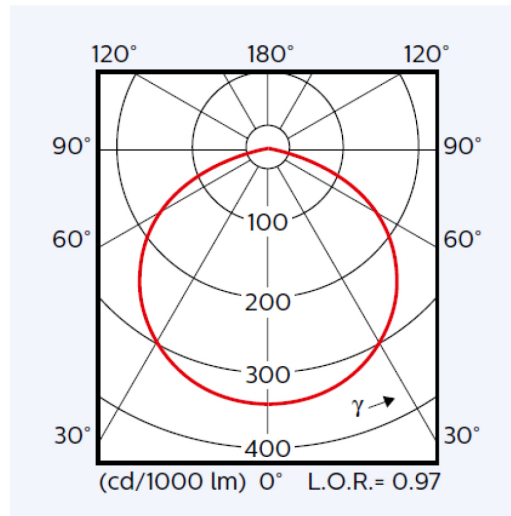
# Fortimo SLM premium white 1211 L19 2828 G6

## Beam Shape

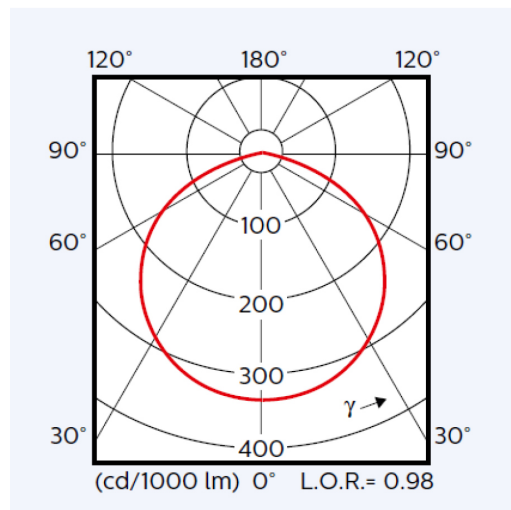
Bare CoB



CoB with a standard/downlight/Zhaga poke-in holder



CoB with a poke-in holder



# Fortimo SLM premium white 1211 L19 2828 G6

Fortimo SLM C 830 PW 1211 L19 2024 G6

Fortimo SLM C 930 PW 1211 L19 2024 G6

Fortimo SLM C 935 PW 1211 L19 2828 G6

Fortimo SLM C 940 PW 1211 L19 2828 G6

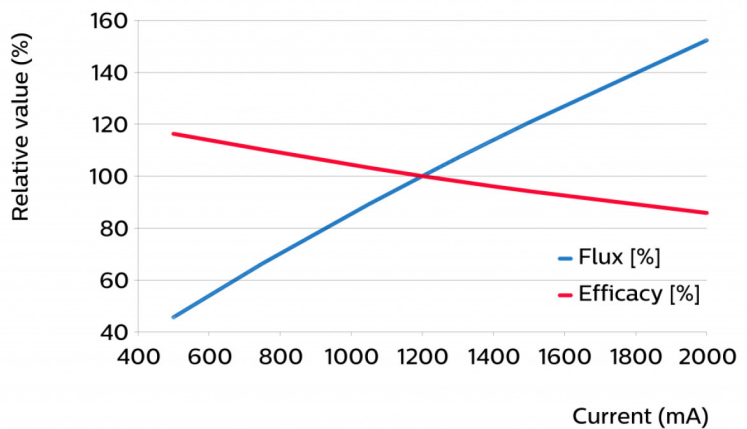
Parameter	Min	Typ	Max	Unit
Forward Voltage		34.4	36.9	V
Power Consumption		41.2	44.3	W
Thermal Power		24.2		W

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

## Tuning Information

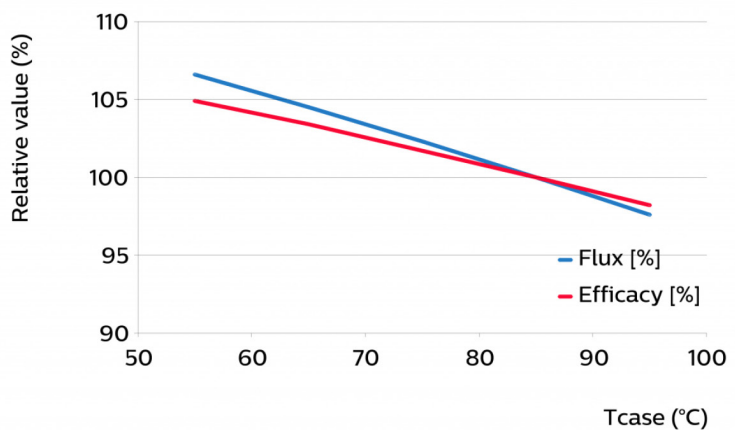
Flux and efficacy vs. current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
500	46	116
750	66	110
1050	89	103
1200	100	100
1300	107	98
1400	114	96
1500	121	94
2000	152	86



Flux and efficacy vs. temperature at Tc (at I nominal)

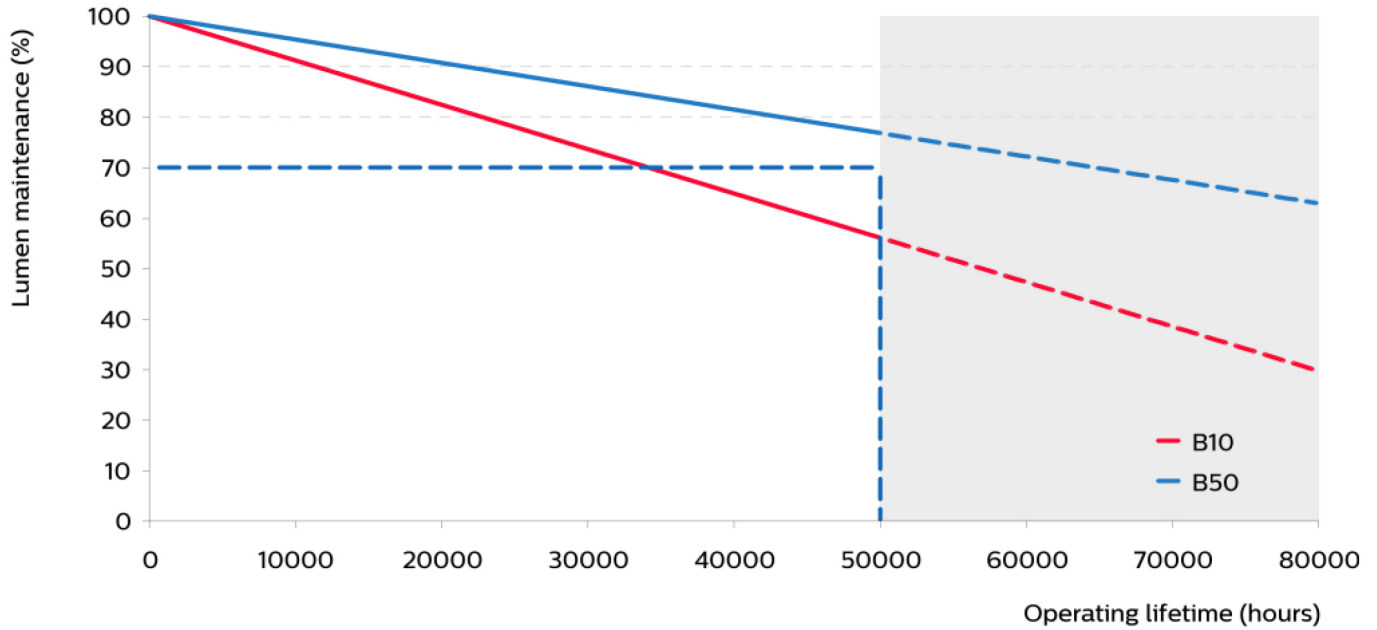
Tcase [°C]	Flux [%]	Efficacy [%]
55	107	105
65	105	103
75	102	102
85	100	100
95	98	98



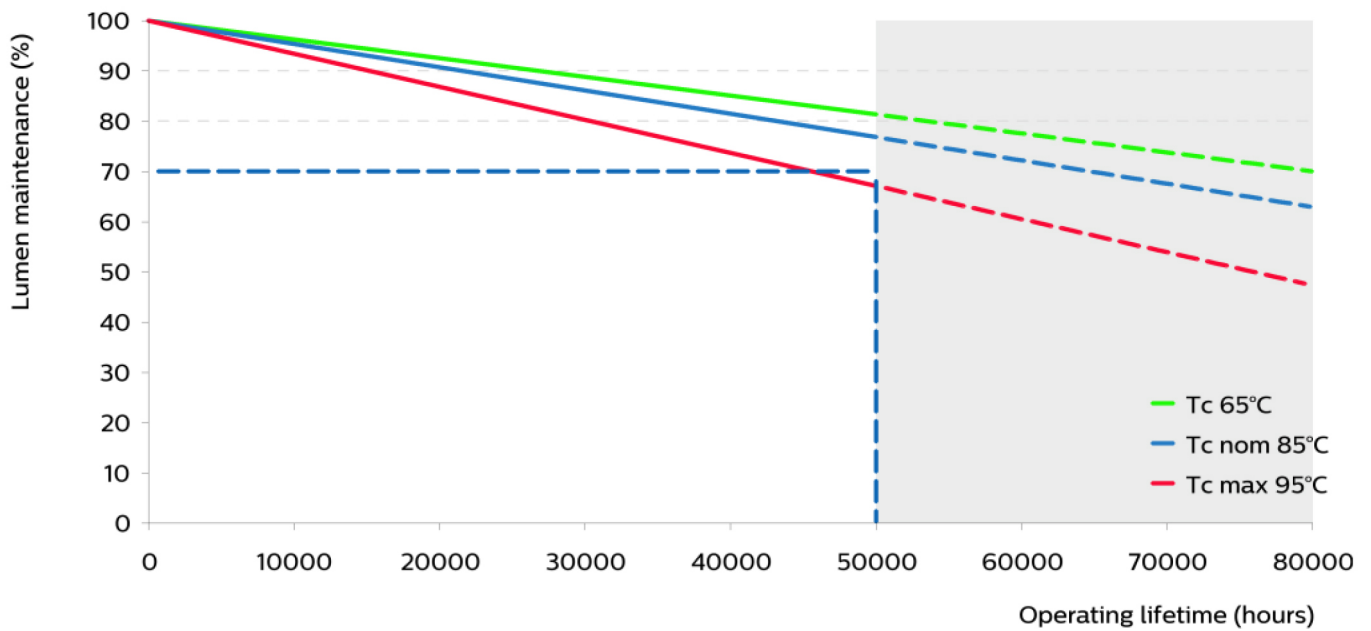
# Fortimo SLM premium white 1211 L19 2828 G6

## Lumen Maintenance

Lumen maintenance at I-life and Tc-life conditions



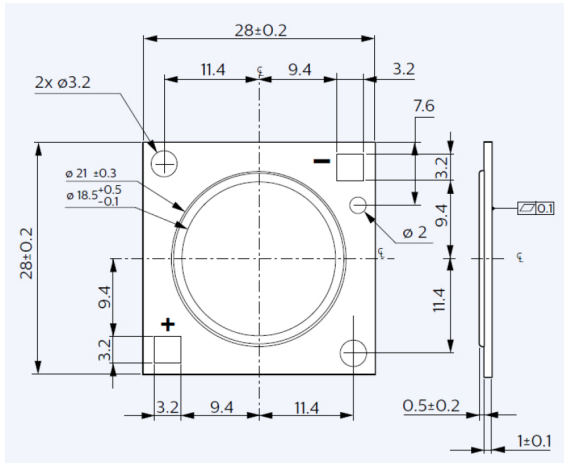
Lumen maintenance for B50 at current I-life conditions



# Fortimo SLM premium white 1211 L19 2828 G6

## Mechanical Characteristics

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 Human Body Model (HBM) Class 3A JESD22-A114-E 8 kV			8	kV
ESD Machine Model (MM) Class B JESD22-A115-B			400	kV
Ambient Temperature	-20		40	°C
Storage Temperature	-40		80	°C



# Fortimo SLM premium white 1211 L19 2828 G6

## Application Information

### Environmental

RoHS/REACH

### Certificates and standards

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

EN 62031:2008 + A1:2013 + A2:2015 without differences

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

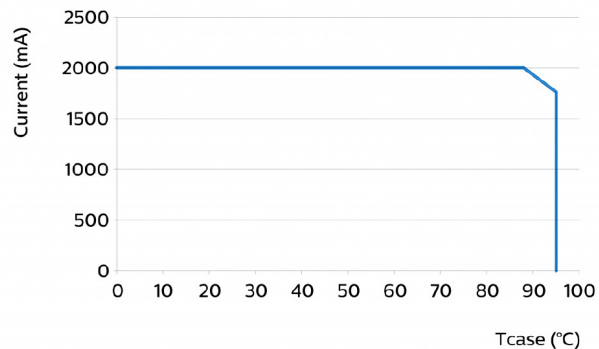
Relevant clauses of EN 62471:2008 (With IEC/TR 62471-2: 2009 and IEC/TR 62778: 2014)

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

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

<b>Application</b>	
IP Rating	No IP-rating
Overheating Protection	No
Luminaire Class	IEC Class I and Class II
Dimming	Yes

## Warranty Window



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