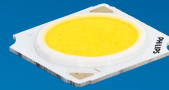


# PHILIPS

## Fortimo

### LED

Fortimo SLM C 9xx 1204  
L09 1313 G8N HE



## Datasheet

# Best combination of quality of light and efficacy with industry standard footprint

## Fortimo LED SLM CRI90 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. The Fortimo SLM CRI90 G8 HE range boasts an impressive 5% increase in efficacy and maintains color consistency of 2 SDCM similar to its predecessor, Fortimo SLM CRI90 G7HE+. 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 superior efficiency and color consistency, 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
- ~5% efficacy improvement vs. current Fortimo SLM G7 HE+ 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 927 1204 L09 1313 G8N HE	8720169 381285 00	9290 039 00380	2093822	20
Fortimo SLM C 930 1204 L09 1313 G8N HE	8720169 381315 00	9290 039 00480	2093660	20
Fortimo SLM C 935 1204 L09 1313 G8N HE	8720169 381346 00	9290 039 00580	2093731	20
Fortimo SLM C 940 1204 L09 1313 G8N HE	8720169 381377 00	9290 039 00680	2093714	20
Fortimo SLM C 950 1204 L09 1313 G8N HE	8720169 381407 00	9290 039 00780	2093721	20
Fortimo SLM C 930 PW 1204 L09 1313 G8N HE	8720169 381438 00	9290 039 00880	2093860	20
Fortimo SLM C 935 PW 1204 L09 1313 G8N HE	8720169 381469 00	9290 039 00980	2093760	20
Fortimo SLM C 940 PW 1204 L09 1313 G8N HE	8720169 381490 00	9290 039 01080	2093817	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 9xx 1204 L09 1313 G8N HE	360	720	720	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)

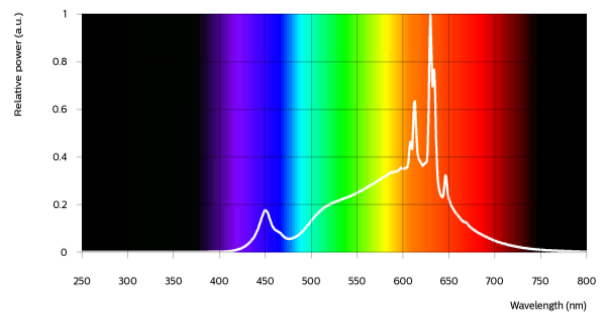
### Fortimo SLM C 927 1204 L09 1313 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1762	1855	2040	lm
Efficacy		150		lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.458, 0.410)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		927/259		
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	927	lm	lm/W
80% I-nom 288mA	Tc 25 °C	1588	160
	Tc-nom 65 °C	1511	156
	Tc-max 95 °C	1428	147
I-nom 360mA	Tc 25 °C	1952	156
	Tc-nom 65 °C	1855	150
	Tc-max 95 °C	1751	142
I-max 720mA	Tc 25 °C	3623	134
	Tc-nom 65 °C	3424	127
	Tc-max 95 °C	3210	121



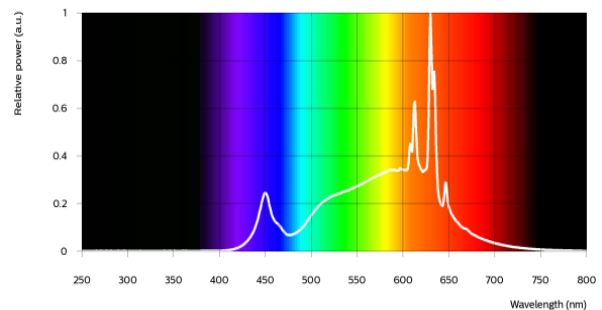
### Fortimo SLM C 930 1204 L09 1313 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1876	1975	2172	lm
Efficacy		159		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.434, 0.403)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		930/259		
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	930	lm	lm/W
80% I-nom 288mA	Tc 25 °C	1691	171
	Tc-nom 65 °C	1608	166
	Tc-max 95 °C	1520	157
I-nom 360mA	Tc 25 °C	2078	166
	Tc-nom 65 °C	1975	159
	Tc-max 95 °C	1865	152
I-max 720mA	Tc 25 °C	3858	142
	Tc-nom 65 °C	3647	136
	Tc-max 95 °C	3420	129

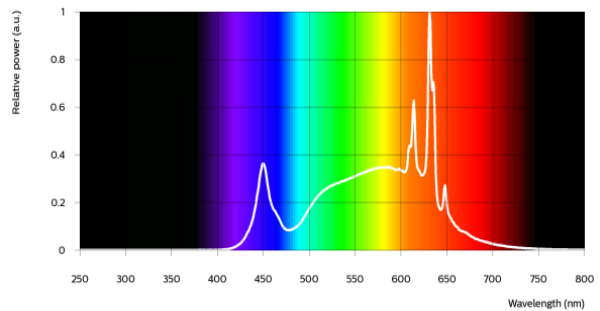


Fortimo SLM C 935 1204 L09 1313 G8N HE


Parameter	Min	Typ	Max	Unit
Luminous flux	1914	2015	2216	lm
Efficacy		162		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.408, 0.393)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		935/259		
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	935	lm	lm/W
80% I-nom 288mA	Tc 25 °C	1725	174
	Tc-nom 65 °C	1641	169
	Tc-max 95 °C	1551	160
I-nom 360mA	Tc 25 °C	2120	170
	Tc-nom 65 °C	2015	162
	Tc-max 95 °C	1903	155
I-max 720mA	Tc 25 °C	3936	145
	Tc-nom 65 °C	3722	138
	Tc-max 95 °C	3490	131

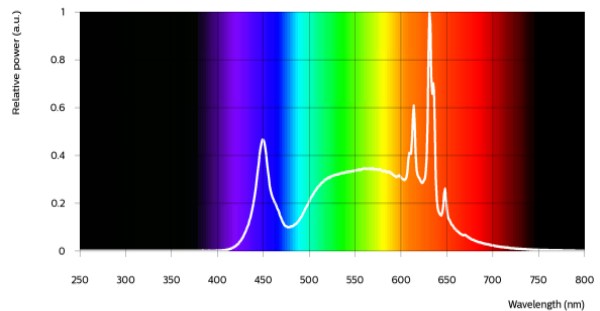


Fortimo SLM C 940 1204 L09 1313 G8N HE


Parameter	Min	Typ	Max	Unit
Luminous flux	1943	2045	2250	lm
Efficacy		165		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.380)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		940/259		
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	940	lm	lm/W
80% I-nom 288mA	Tc 25 °C	1750	177
	Tc-nom 65 °C	1665	172
	Tc-max 95 °C	1574	162
I-nom 360mA	Tc 25 °C	2151	172
	Tc-nom 65 °C	2045	165
	Tc-max 95 °C	1931	157
I-max 720mA	Tc 25 °C	3995	147
	Tc-nom 65 °C	3778	140
	Tc-max 95 °C	3544	133

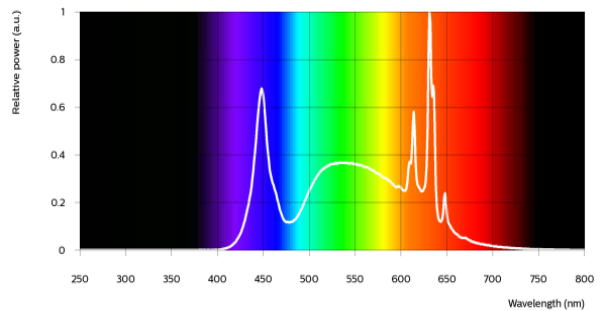


Fortimo SLM C 950 1204 L09 1313 G8N HE


Parameter	Min	Typ	Max	Unit
Luminous flux	1924	2025	2228	lm
Efficacy		163		lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.345, 0.355)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		950/259		
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	950	lm	lm/W
80% I-nom 288mA	Tc 25 °C	1733	175
	Tc-nom 65 °C	1649	170
	Tc-max 95 °C	1559	161
I-nom 360mA	Tc 25 °C	2130	170
	Tc-nom 65 °C	2025	163
	Tc-max 95 °C	1912	155
I-max 720mA	Tc 25 °C	3957	145
	Tc-nom 65 °C	3742	139
	Tc-max 95 °C	3511	132

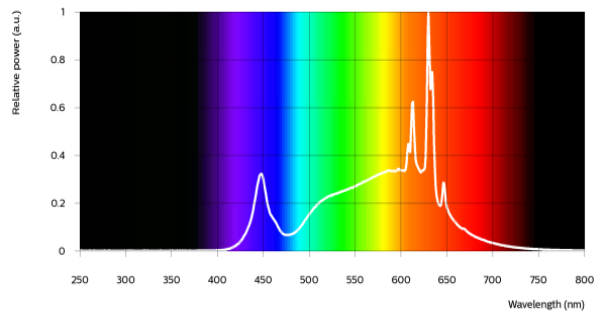


Fortimo SLM C 930 PW 1204 L09 1313 G8N HE


Parameter	Min	Typ	Max	Unit
Luminous flux	1857	1955	2150	lm
Efficacy		158		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.422, 0.386)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		930/259		
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	930	lm	lm/W
80% I-nom 288mA	Tc 25 °C	1674	169
	Tc-nom 65 °C	1592	164
	Tc-max 95 °C	1505	155
I-nom 360mA	Tc 25 °C	2057	165
	Tc-nom 65 °C	1955	158
	Tc-max 95 °C	1846	150
I-max 720mA	Tc 25 °C	3819	140
	Tc-nom 65 °C	3611	134
	Tc-max 95 °C	3386	127

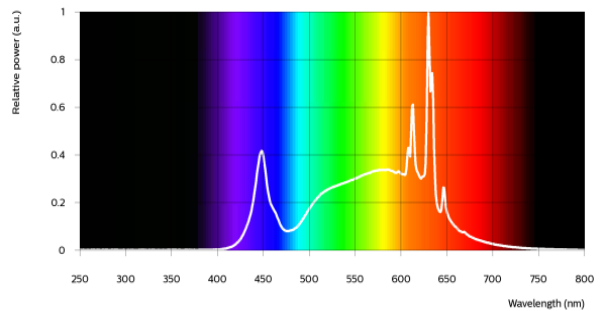


Fortimo SLM C 935 PW 1204 L09 1313 G8N HE


Parameter	Min	Typ	Max	Unit
Luminous flux	1914	2015	2216	lm
Efficacy		162		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.398, 0.376)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		935/259		
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	935	lm	lm/W
80% I-nom 288mA	Tc 25 °C	1725	174
	Tc-nom 65 °C	1641	169
	Tc-max 95 °C	1551	160
I-nom 360mA	Tc 25 °C	2120	170
	Tc-nom 65 °C	2015	162
	Tc-max 95 °C	1903	155
I-max 720mA	Tc 25 °C	3936	145
	Tc-nom 65 °C	3722	138
	Tc-max 95 °C	3490	131

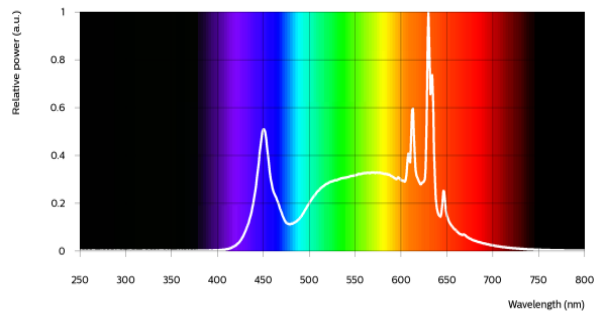


Fortimo SLM C 940 PW 1204 L09 1313 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1924	2025	2228	lm
Efficacy		163		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.374, 0.364)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		940/259		
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	940	lm	lm/W
80% I-nom 288mA	Tc 25 °C	1733	175
	Tc-nom 65 °C	1649	170
	Tc-max 95 °C	1559	161
I-nom 360mA	Tc 25 °C	2130	170
	Tc-nom 65 °C	2025	163
	Tc-max 95 °C	1912	155
I-max 720mA	Tc 25 °C	3957	145
	Tc-nom 65 °C	3742	139
	Tc-max 95 °C	3511	132





## Electrical characteristics

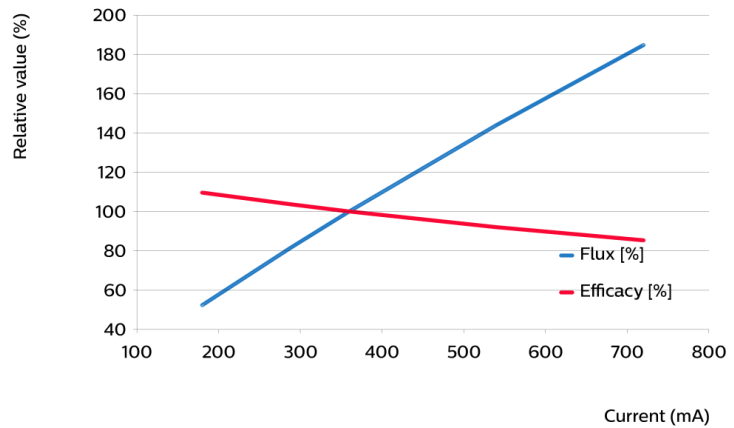
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	34.5	37.0	V
Power consumption	11.7	12.4	13.3	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

## Tuning information

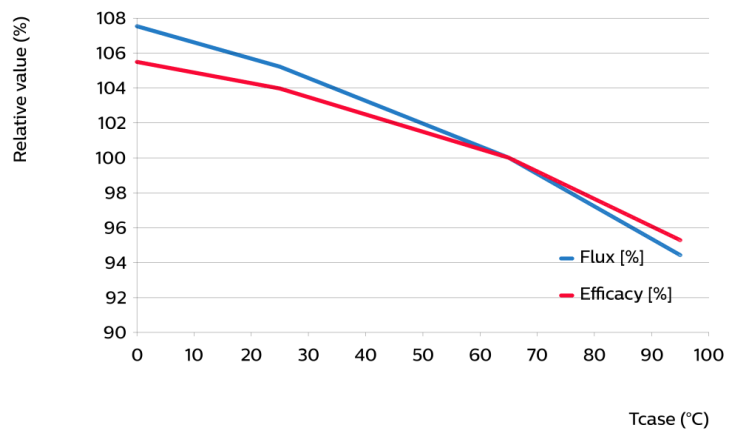
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
720	185	85
540	144	92
360	100	100
288	81	104
180	52	110



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

Tc [°C]	Flux [%]	Efficacy [%]
95	94	95
65	100	100
25	105	104
0	108	105



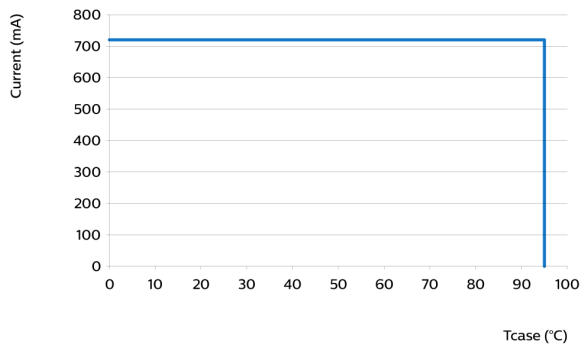
## Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 288mA	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 360mA	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 720mA	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

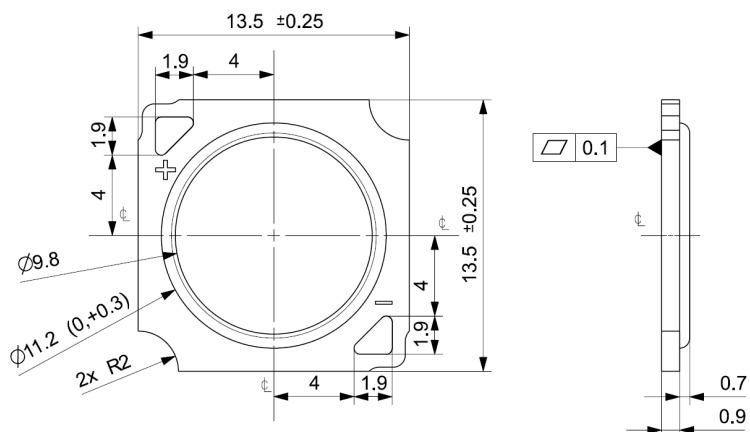
Parameter	Value	Unit
M70F50 nominal	>66000	hours

## 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		0.5		gram



## Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		720	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