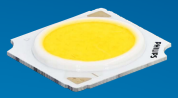
PHILIPS

Fortimo

LED

Fortimo SLM C 9xx 1203
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).

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 1203 L09 1313 G8N HE	8720169 380868 00	9290 038 98980	2093820	20
Fortimo SLM C 930 1203 L09 1313 G8N HE	8720169 380899 00	9290 038 99080	2093790	20
Fortimo SLM C 935 1203 L09 1313 G8N HE	8720169 380929 00	9290 038 99180	2093637	20
Fortimo SLM C 940 1203 L09 1313 G8N HE	8720169 380950 00	9290 038 99280	2093614	20
Fortimo SLM C 950 1203 L09 1313 G8N HE	8720169 380981 00	9290 038 99380	2093646	20
Fortimo SLM C 930 PW 1203 L09 1313 G8N HE	8720169 381018 00	9290 038 99480	2093886	20
Fortimo SLM C 935 PW 1203 L09 1313 G8N HE	8720169 381049 00	9290 038 99580	2093762	20
Fortimo SLM C 940 PW 1203 L09 1313 G8N HE	8720169 381070 00	9290 038 99680	2093826	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 1203 L09 1313 G8N HE	270	540	540	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

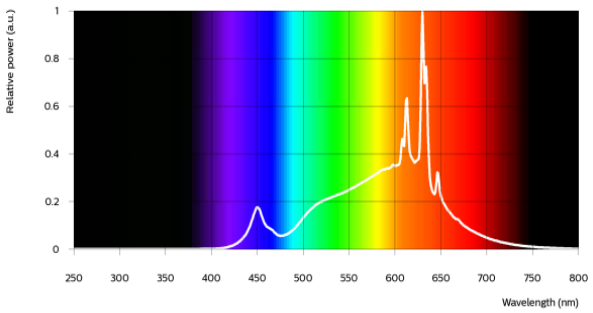
Optical characteristics - table per color (CCT)

Fortimo SLM C 927 1203 L09 1313 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1354	1425	1568	lm
Efficacy		153		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 ± 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	927	lm	lm/W
80% I-nom 216mA	Tc 25 °C	1223	165
	Tc-nom 65 °C	1160	159
	Tc-max 95 °C	1091	152
I-nom 270mA	Tc 25 °C	1504	160
	Tc-nom 65 °C	1425	153
	Tc-max 95 °C	1340	146
I-max 540mA	Tc 25 °C	2800	137
	Tc-nom 65 °C	2640	131
	Tc-max 95 °C	2466	123

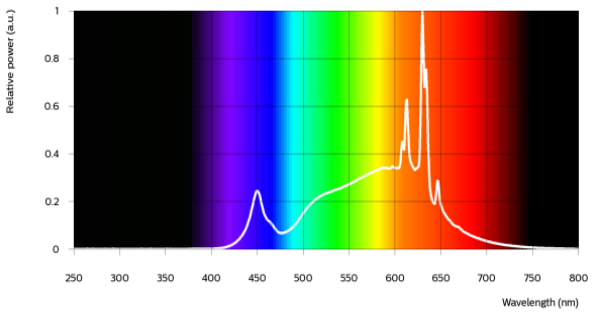


Fortimo SLM C 930 1203 L09 1313 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1439	1515	1666	lm
Efficacy		163		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 ± 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 216mA	Tc 25 °C	1300	176
	Tc-nom 65 °C	1233	169
	Tc-max 95 °C	1160	161
I-nom 270mA	Tc 25 °C	1599	170
	Tc-nom 65 °C	1515	163
	Tc-max 95 °C	1424	155
I-max 540mA	Tc 25 °C	2978	146
	Tc-nom 65 °C	2807	139
	Tc-max 95 °C	2623	131

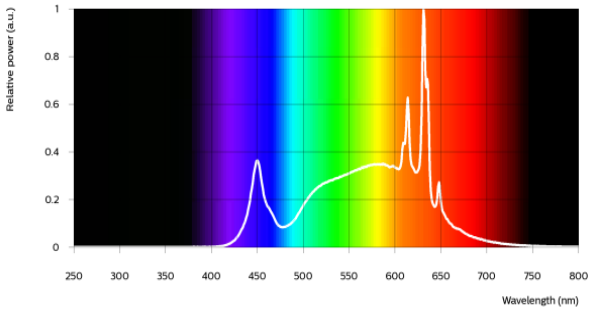


Fortimo SLM C 935 1203 L09 1313 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1468	1545	1700	lm
Efficacy		166		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 216mA	Tc 25 °C	1326	179
	Tc-nom 65 °C	1257	172
	Tc-max 95 °C	1183	164
I-nom 270mA	Tc 25 °C	1631	173
	Tc-nom 65 °C	1545	166
	Tc-max 95 °C	1453	158
I-max 540mA	Tc 25 °C	3037	149
	Tc-nom 65 °C	2863	142
	Tc-max 95 °C	2676	134

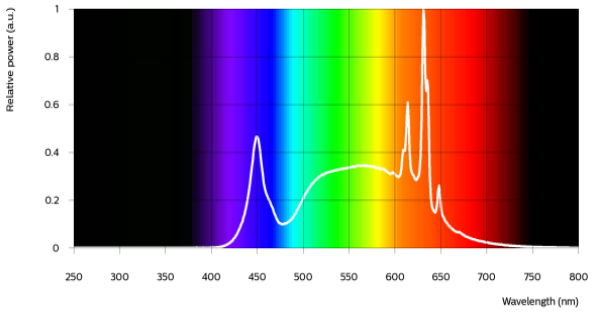


Fortimo SLM C 940 1203 L09 1313 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1487	1565	1722	lm
Efficacy		168		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 216mA	Tc 25 °C	1343	181
	Tc-nom 65 °C	1273	174
	Tc-max 95 °C	1199	166
I-nom 270mA	Tc 25 °C	1652	176
	Tc-nom 65 °C	1565	168
	Tc-max 95 °C	1472	160
I-max 540mA	Tc 25 °C	3076	151
	Tc-nom 65 °C	2901	144
	Tc-max 95 °C	2711	136

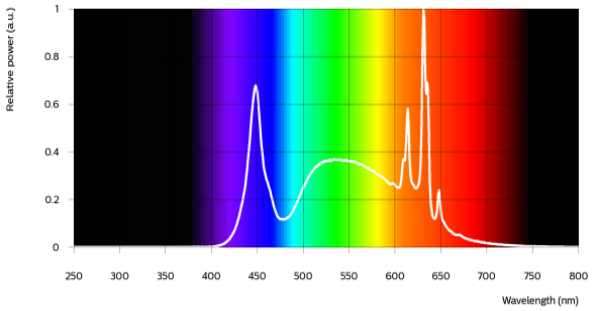


Fortimo SLM C 950 1203 L09 1313 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1472	1550	1705	lm
Efficacy		167		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 216mA	Tc 25 °C	1330	180
	Tc-nom 65 °C	1261	173
	Tc-max 95 °C	1187	165
I-nom 270mA	Tc 25 °C	1636	174
	Tc-nom 65 °C	1550	167
	Tc-max 95 °C	1458	158
I-max 540mA	Tc 25 °C	3047	149
	Tc-nom 65 °C	2874	142
	Tc-max 95 °C	2687	134

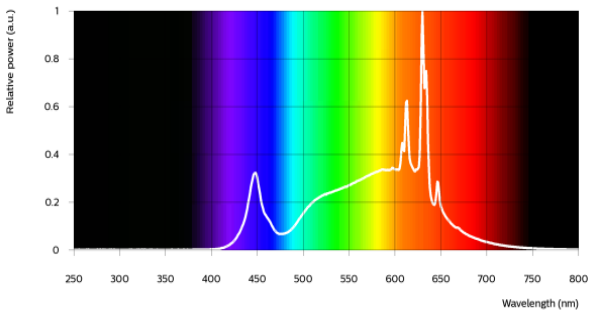


Fortimo SLM C 930 PW 1203 L09 1313 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1425	1500	1650	lm
Efficacy		161		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 216mA	Tc 25 °C	1287	174
	Tc-nom 65 °C	1221	167
	Tc-max 95 °C	1149	160
I-nom 270mA	Tc 25 °C	1583	168
	Tc-nom 65 °C	1500	161
	Tc-max 95 °C	1410	153
I-max 540mA	Tc 25 °C	2948	145
	Tc-nom 65 °C	2780	138
	Tc-max 95 °C	2598	130

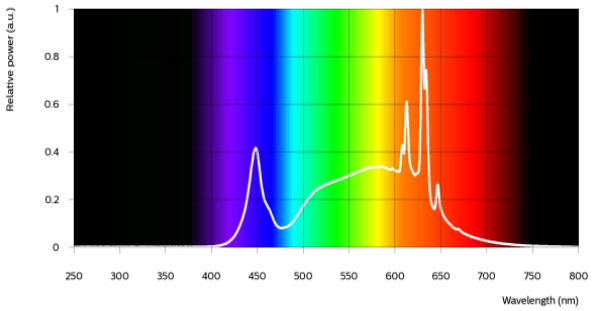


Fortimo SLM C 935 PW 1203 L09 1313 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	1468	1545	1700	lm
Efficacy		166		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 216mA	Tc 25 °C	1326	179
	Tc-nom 65 °C	1257	172
	Tc-max 95 °C	1183	164
I-nom 270mA	Tc 25 °C	1631	173
	Tc-nom 65 °C	1545	166
	Tc-max 95 °C	1453	158
I-max 540mA	Tc 25 °C	3037	149
	Tc-nom 65 °C	2863	142
	Tc-max 95 °C	2676	134

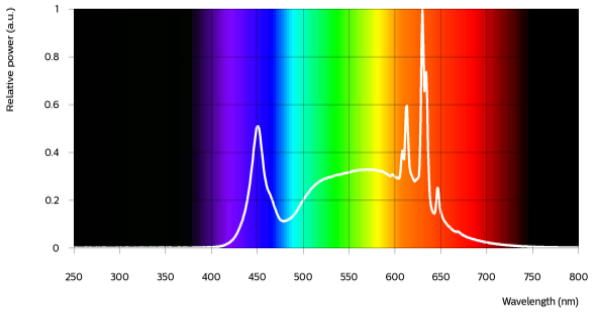


Fortimo SLM C 940 PW 1203 L09 1313 G8N HE

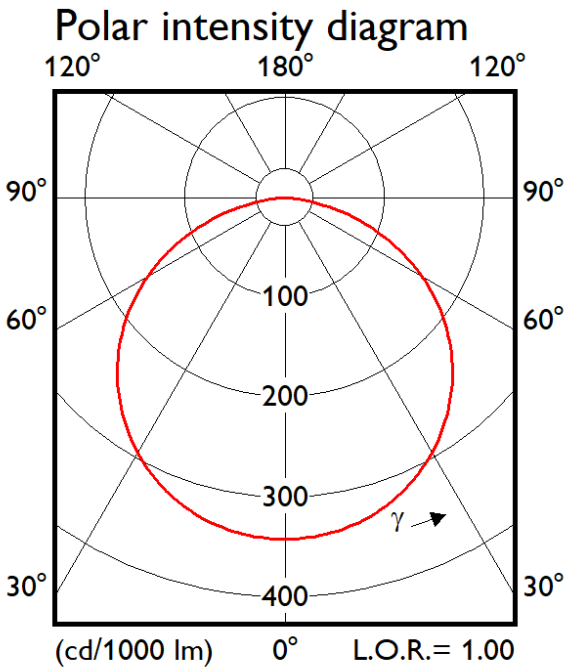
Parameter	Min	Typ	Max	Unit
Luminous flux	1472	1550	1705	lm
Efficacy		167		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.374, 0.364)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		940/259		
Photobiological safety		RG1 unlimited		

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 216mA	Tc 25 °C	1330	180
	Tc-nom 65 °C	1261	173
	Tc-max 95 °C	1187	165
I-nom 270mA	Tc 25 °C	1636	174
	Tc-nom 65 °C	1550	167
	Tc-max 95 °C	1458	158
I-max 540mA	Tc 25 °C	3047	149
	Tc-nom 65 °C	2874	142
	Tc-max 95 °C	2687	134



Beam shape


Polar intensity diagram
120°
180°
120°
90°
90°
60°
60°
100
200
300
γ
30°
30°
400
(cd/1000 lm)
0°
L.O.R.= 1.00

Electrical characteristics

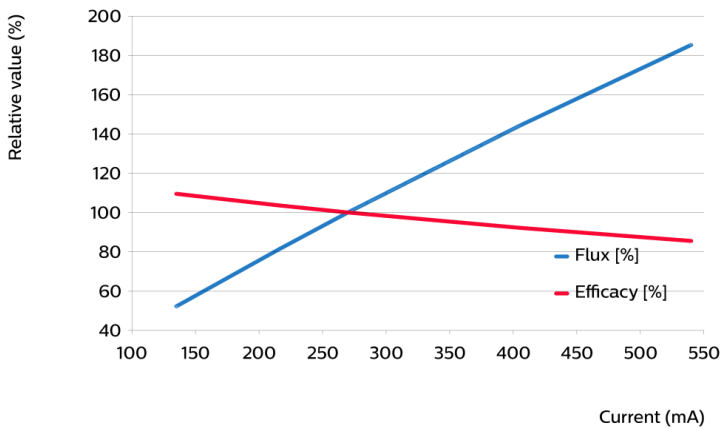
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	34.5	37.0	V
Power consumption	8.8	9.3	10.0	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

Tuning information

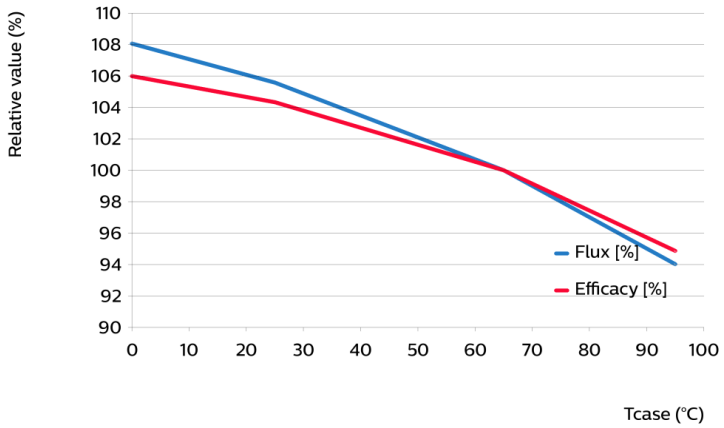
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
540	185	85
405	144	92
270	100	100
216	81	104
135	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



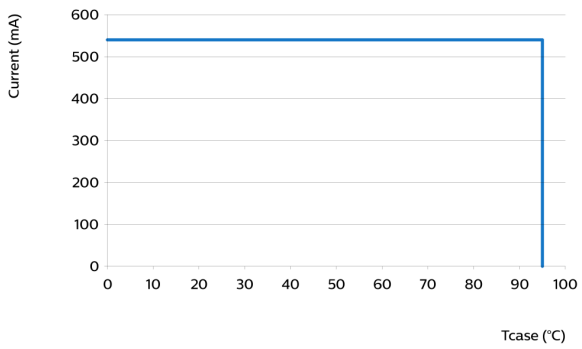
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 216mA	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 270mA	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 540mA	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

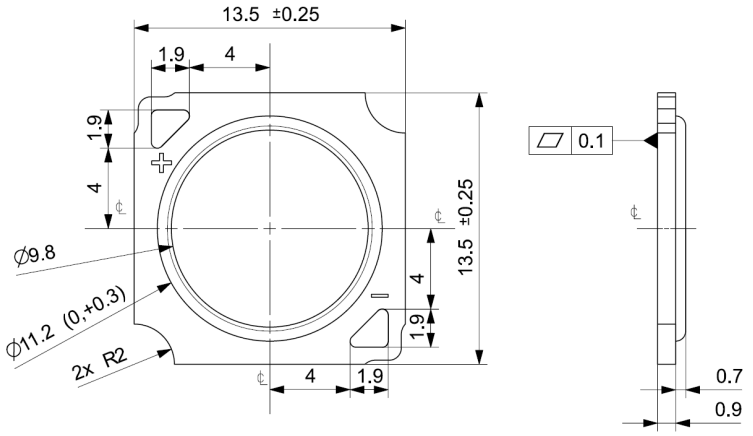
Parameter	Value	Unit
M70F50 nominal	>66000	hours

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		0.48		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		540	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

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11/10/2024

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