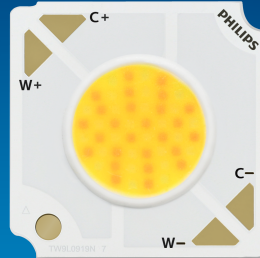


PHILIPS

Fortimo

LED

Fortimo SLM C TW L09A
1919 G7N



Datasheet

Flexibility at your finger tips

Fortimo SLM TW

By combining FlexTune tunable white technology, the Fortimo SLM TW family provides a tunable color temperature solution (2700K – 6500K) to customers with flux up to 2000lm in CRI90, with this high CRI the modules are extremely suitable for residential, hospitality and retail applications.

Key features and benefits

Flux up to 2000lm

Color temperature tunable from 2700K to 6500K

Quality of light: CRI >90, R9>50

System approach: Module + Holder + driver

Compatible PCB and LES size with Fortimo SLM G7N to enable easier design-in

Lifetime >50,000 hours

July 2023



Ordering data

Commercial product name	EOC	12NC	EPREL registration #	Box quantity
Fortimo SLM C 927/965 TW L09A 1919 G7N	8720169 236615 00	9290 034 52680	1528147	20

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo SLM C TW L09A 1919 G7N	300	See performance window	500	mA

Module temperatures

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

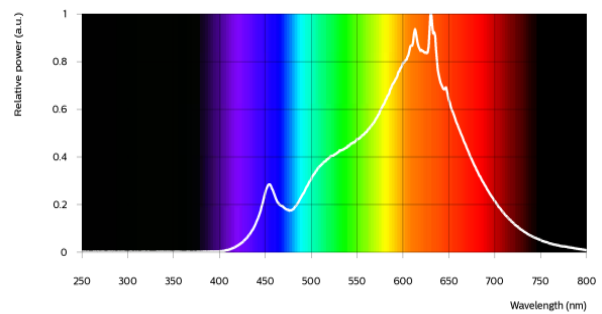
Optical characteristics - table per color (CCT)

Fortimo SLM C 927/965 TW L09A 1919 G7N_2700K

Parameter	Min	Typ	Max	Unit
Luminous flux	1036	1090	1199	lm
Efficacy		101		lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.455, 0.408)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
Photometric code		927/359		
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	927	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1001	114
	Tc-nom 85 °C	902	106
	Tc-max 95 °C	880	104
I-nom 300mA	Tc 25 °C	1217	110
	Tc-nom 85 °C	1090	101
	Tc-max 95 °C	1062	99
I-max 500mA	Tc 25 °C	1862	98
	Tc-nom 85 °C	1627	88
	Tc-max 95 °C	1576	86

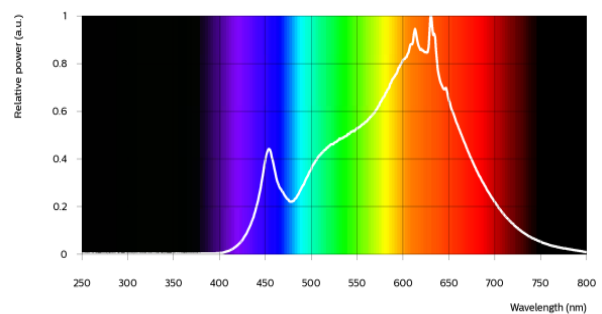


Fortimo SLM C 927/965 TW L09A 1919 G7N_3000K

Parameter	Min	Typ	Max	Unit
Luminous flux	1054	1110	1221	lm
Efficacy		103		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.433, 0.395)		-
CRI	90			
R9	50			
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	930	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1019	116
	Tc-nom 85 °C	918	108
	Tc-max 95 °C	896	106
I-nom 300mA	Tc 25 °C	1239	111
	Tc-nom 85 °C	1110	103
	Tc-max 95 °C	1082	101
I-max 500mA	Tc 25 °C	1896	99
	Tc-nom 85 °C	1664	90
	Tc-max 95 °C	1614	88

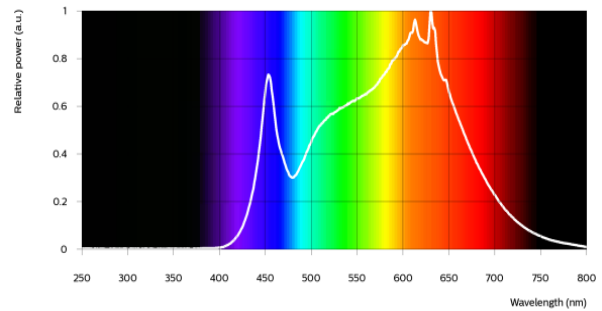


Fortimo SLM C 927/965 TW L09A 1919 G7N_3500K

Parameter	Min	Typ	Max	Unit
Luminous flux	1092	1150	1265	lm
Efficacy		106		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.401, 0.377)		-
CRI	90			
R9	50			
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	935	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1055	120
	Tc-nom 85 °C	951	112
	Tc-max 95 °C	928	110
I-nom 300mA	Tc 25 °C	1283	115
	Tc-nom 85 °C	1150	106
	Tc-max 95 °C	1121	105
I-max 500mA	Tc 25 °C	1965	103
	Tc-nom 85 °C	1725	93
	Tc-max 95 °C	1674	91

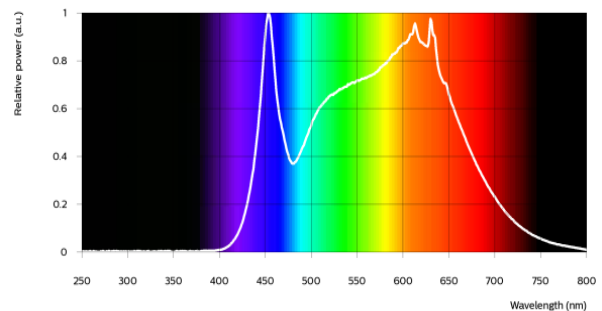


Fortimo SLM C 927/965 TW L09A 1919 G7N_4000K

Parameter	Min	Typ	Max	Unit
Luminous flux	1126	1185	1304	lm
Efficacy		110		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.378, 0.364)		-
CRI	90			
R9	50			
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	940	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1087	123
	Tc-nom 85 °C	979	115
	Tc-max 95 °C	956	113
I-nom 300mA	Tc 25 °C	1321	119
	Tc-nom 85 °C	1185	110
	Tc-max 95 °C	1156	108
I-max 500mA	Tc 25 °C	2024	106
	Tc-nom 85 °C	1779	96
	Tc-max 95 °C	1726	94

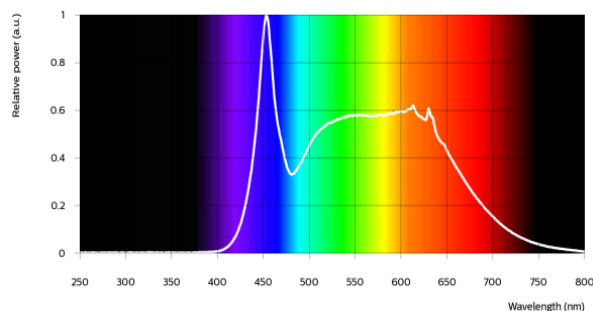


Fortimo SLM C 927/965 TW L09A 1919 G7N_5000K

Parameter	Min	Typ	Max	Unit
Luminous flux	1173	1235	1358	lm
Efficacy		114		lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.345, 0.345)		-
CRI	90			
R9	50			
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	950	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1132	129
	Tc-nom 85 °C	1020	120
	Tc-max 95 °C	996	118
I-nom 300mA	Tc 25 °C	1376	124
	Tc-nom 85 °C	1235	114
	Tc-max 95 °C	1204	112
I-max 500mA	Tc 25 °C	2110	111
	Tc-nom 85 °C	1856	100
	Tc-max 95 °C	1801	98

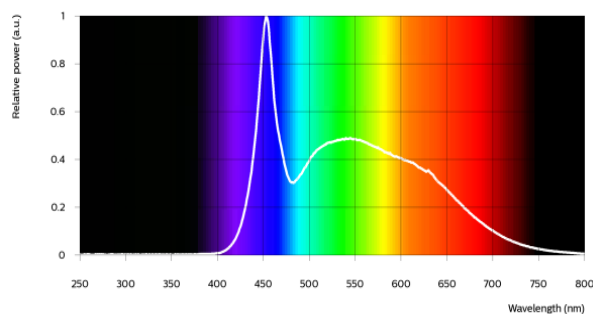


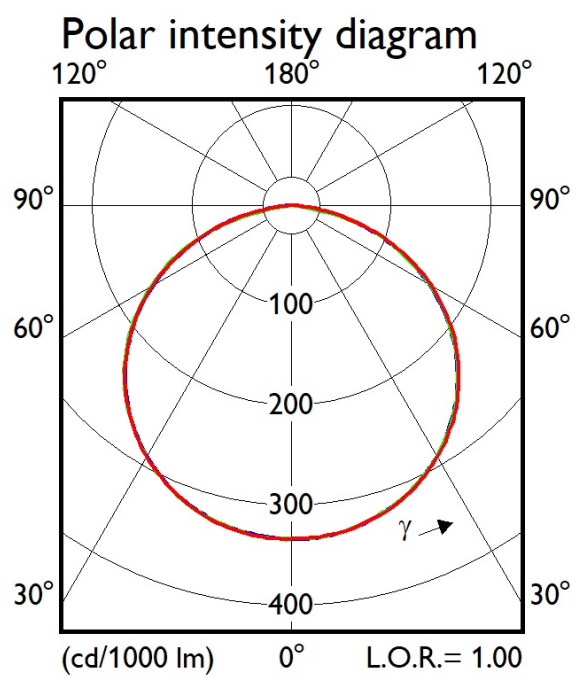
Fortimo SLM C 927/965 TW L09A 1919 G7N_6500K

Parameter	Min	Typ	Max	Unit
Luminous flux	1244	1310	1441	lm
Efficacy		121		lm/W
Correlated color temperature (CCT)		6500		K
Color coordinates (CIEx, CIEy)		(0.310, 0.326)		-
Color consistency			3	SDCM
CRI	90			
R9	50			
Photometric code		965/359		
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	965	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1199	136
	Tc-nom 85 °C	1081	127
	Tc-max 95 °C	1056	124
I-nom 300mA	Tc 25 °C	1459	131
	Tc-nom 85 °C	1310	121
	Tc-max 95 °C	1278	119
I-max 500mA	Tc 25 °C	2239	117
	Tc-nom 85 °C	1977	107
	Tc-max 95 °C	1921	104





Electrical characteristics

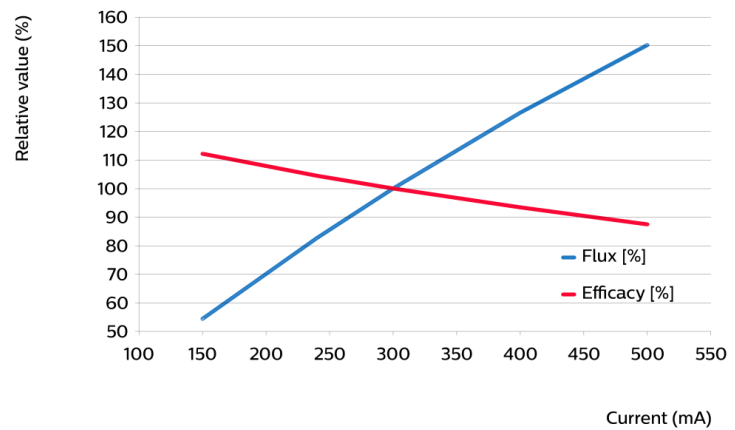
Parameter	Min	Typ	Max	Unit
Forward voltage	32.0	36.0	38.5	V
Power consumption		10.8		W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

Tuning information

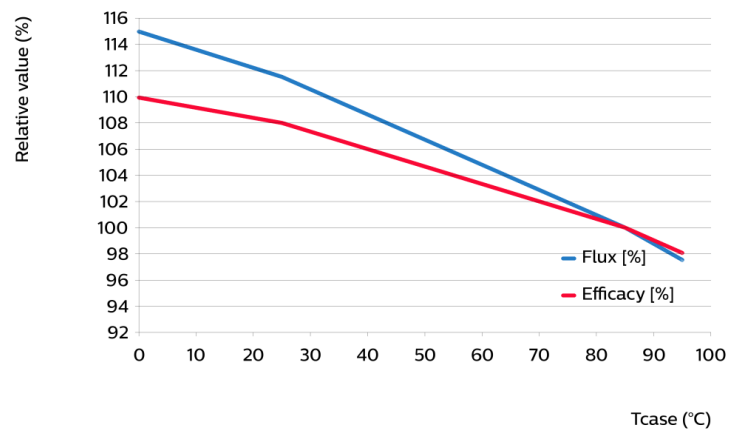
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
500	150	87
400	127	93
300	100	100
240	83	104
150	54	112



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

Tc [°C]	Flux [%]	Efficacy [%]
95	98	98
85	100	100
25	111	108
0	115	110



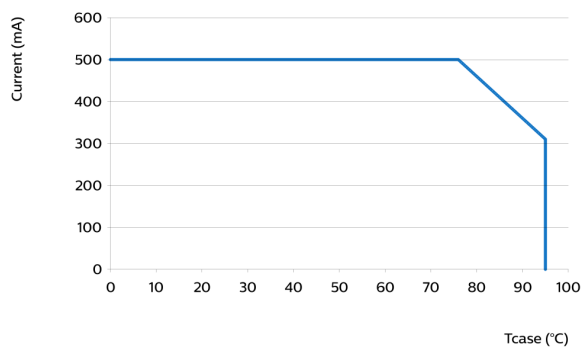
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 240mA	Tc 75°C	>50	>50	>50	>50	>50	>50	>50	>50	>50
	Tc 85°C	>50	>50	>50	>50	>50	>50	>50	47	43
	Tc 95°C	>50	>50	>50	>50	>50	>50	48	40	37
I-nom 300mA	Tc 75°C	>50	>50	>50	>50	>50	>50	44	37	34
	Tc 85°C	>50	>50	>50	>50	>50	>50	37	31	29
	Tc 95°C	>50	>50	>50	>50	>50	>50	32	27	24
I-max 500mA	Tc 75°C	>50	>50	46	37	31	29	17	14	13
	Tc 85°C	>50	43	39	31	26	24	15	12	11
	Tc 95°C	43	36	33	27	23	21	12	10	9

Lifetime

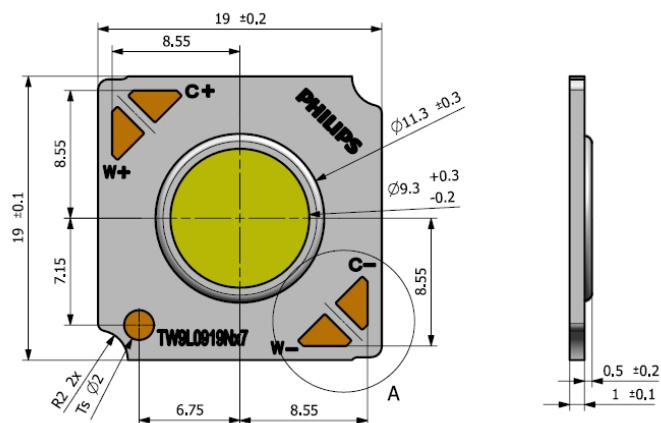
Parameter	Value	Unit
C10 at Tc life	50000	hours
M70F50 nominal	>50000	hours

Performance Window



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	18.8	19	19.2	mm
Width	18.9	19	19.1	mm
Height PCB	0.9	1	1.1	mm
Height Total	1.2	1.5	1.8	mm
Product mass		1		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		500	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 currents higher than 380 mA the module might be classified as RG2.

Application information

Certificates and Standards

CB
CE
ENEC
ENEC+
EPRS 001
IEC/EN 62031
UKCA
UL
UL 8750

Environmental

RoHS/REACH

Application

Dimming	Yes
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18/07/2023