PHILIPS

Fortimo

LED

Fortimo SLM 1204 L09 1619 G7

Datasheet

High-density LED modules that sell

Fortimo LED SLM 1204 L09 1619 G7

For retailers it is essential to create an atmosphere that keeps customers in the store. Creating an attractive experience requires lighting that brings out rich colors and stunning whites but also implies different beam angles and lux levels to create contrast, drama, etc... . Fortimo LED SLM helps you to take retail lighting to the next level with LED modules that ensure merchandise – and your brand – shines. Fortimo LED SLM HD extends the possibilities to differentiate by combining a high punch effect with narrow beam optics in miniaturized luminaire designs.

Key features and benefits

- Up to 3000lm with a LES size of 9mm
- High density for optimized luminaire performance
- Small Light Emitting Surface (LES) size for highly efficient narrow beam optics
- Exceptional rendering of whites and rich colors
- Extensive choice of color temperatures, CRI and spectra
- Efficacies up to 115 lm/W or higher (840 @ 700mA Tc=75C)
- Extended Tc of up to 95 °C possible
- 5y warranty

September 2021

indirect

100%
instant

Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo SLM C 730 1204 L09 1619 G7	8718696 751121 00	9290 015 85306	20
Fortimo SLM C 740 1204 L09 1619 G7	8718696 751152 00	9290 015 85406	20
Fortimo SLM C 827 1204 L09 1619 G7	8718696 751183 00	9290 015 85806	20
Fortimo SLM C 830 1204 L09 1619 G7	8718696 751213 00	9290 015 85906	20
Fortimo SLM C 835 1204 L09 1619 G7	8718696 751244 00	9290 015 86006	20
Fortimo SLM C 840 1204 L09 1619 G7	8718696 751312 00	9290 015 86106	20
Fortimo SLM C 850 1204 L09 1619 G7	8718696 751381 00	9290 015 86206	20
Fortimo SLM C 857 1204 L09 1619 G7	8718696 751459 00	9290 015 86306	20
Fortimo SLM C 927 1204 L09 1619 G7	8718696 751480 00	9290 015 86406	20
Fortimo SLM C 930 1204 L09 1619 G7	8718696 751510 00	9290 015 86506	20

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo SLM 1204 L09 1619 G7	700	see performance window	1050	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

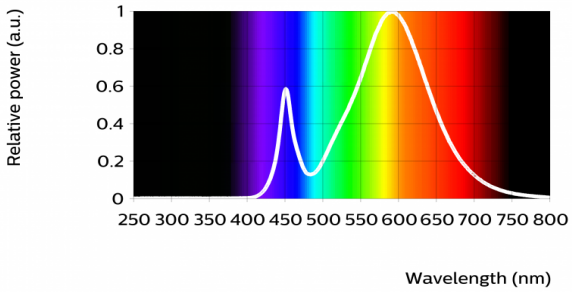
*** Maximum value for safe operation, do not operate above this value

Optical characteristics - table per color (CCT)

Fortimo SLM C 730 1204 L09 1619 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	2656	2951	3246	lm
Module efficacy	103	115		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.434, 0.403)		-
Color consistency			3	SDCM
CRI	70	72		
Photometric code		730/359		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	

Threshold illuminance for RG2 is 2915 lux
Measurement precision for flux +/- 5%.Measurement precision for efficacy +/- 6%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI +/- 1.5

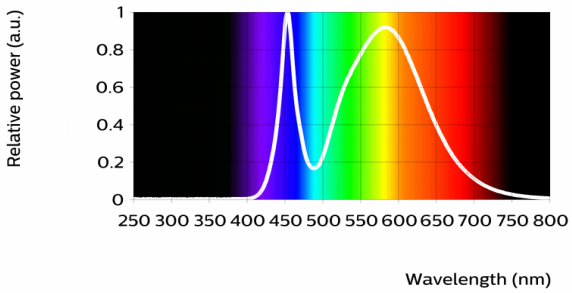


R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
66	82	94	64	65	74	77	42	-35	58	57	47	69	97

Fortimo SLM C 740 1204 L09 1619 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	2797	3108	3419	lm
Module efficacy	109	121		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.380)		-
Color consistency			3	SDCM
CRI	70	72		
Photometric code		740/359		
Radiation angle		120		deg
Photobiological safety			RG2	
Ethr			1885	lux

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

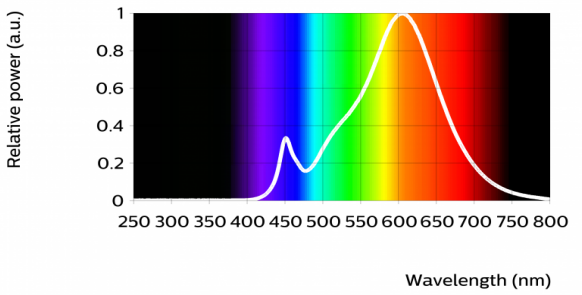


R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
70	81	89	69	69	72	82	53	-24	54	63	42	72	93

Fortimo SLM C 827 1204 L09 1619 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	2373	2636	2900	lm
Module efficacy	92	102		lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.458, 0.410)		-
Color consistency			3	SDCM
CRI	80	82		
Photometric code		827/359		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	

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

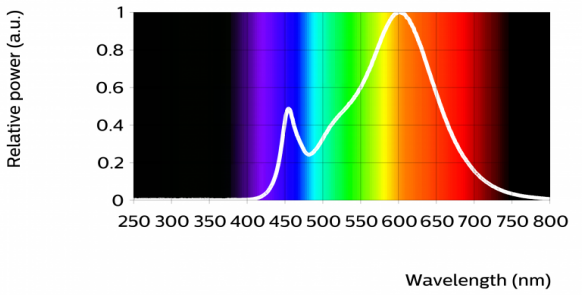


R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
79	90	96	79	79	89	82	56	4	78	77	71	81	99

Fortimo SLM C 830 1204 L09 1619 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	2498	2775	3053	lm
Module efficacy	97	108		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.434, 0.403)		-
Color consistency			3	SDCM
CRI	80	82		
Photometric code		830/359		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	

Threshold illuminance for RG2 is 2919 lux
Measurement precision for flux +/- 5%.Measurement precision for efficacy +/- 6%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI +/- 1.5



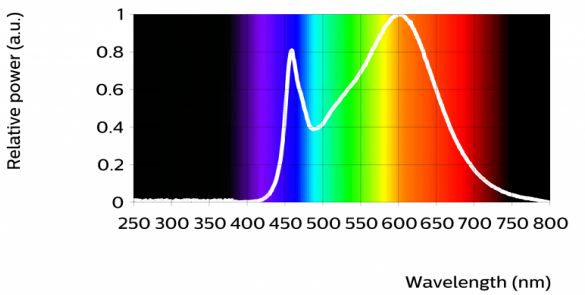
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
80	92	94	78	81	91	81	56	3	82	77	72	83	97

Fortimo SLM C 835 1204 L09 1619 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	2547	2831	3114	lm
Module efficacy	99	110		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.407, 0.392)		-
Color consistency			3	SDCM
CRI	80	82		
Photometric code		835/359		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	

Threshold illuminance for RG2 is 2302 lux

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

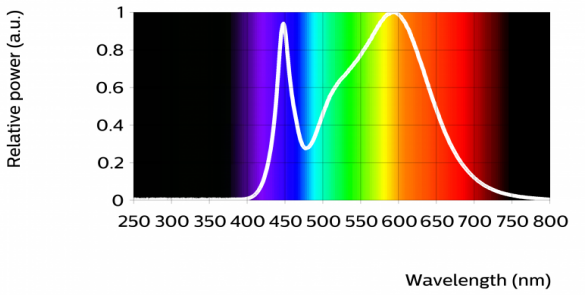


R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
84	95	93	80	84	93	82	61	13	88	79	71	87	97

Fortimo SLM C 840 1204 L09 1619 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	2597	2886	3175	lm
Module efficacy	101	112		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.380)		-
Color consistency			3	SDCM
CRI	80	82		
Photometric code		840/359		
Radiation angle		120		deg
Photobiological safety			RG2	
Ethr			1885	lux

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

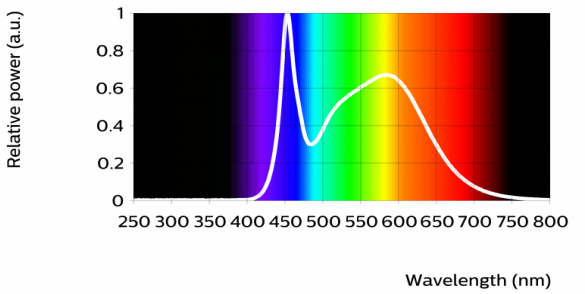


R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
80	89	95	80	80	85	84	61	1	74	79	65	82	98

Fortimo SLM C 850 1204 L09 1619 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	2597	2886	3175	lm
Module efficacy	101	112		lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.345, 0.355)		-
Color consistency			3	SDCM
CRI	80	82		
Photometric code		850/359		
Radiation angle		120		deg
Photobiological safety			RG2	
Ethr			1397	lux

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

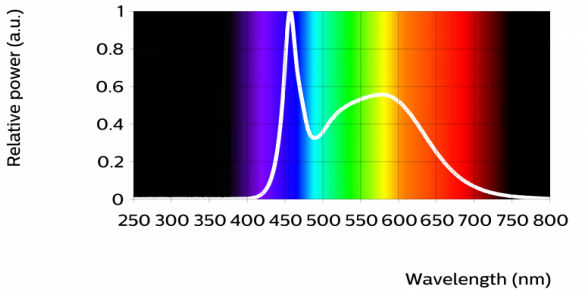


R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
81	90	94	79	80	94	86	65	5	75	78	57	83	97

Fortimo SLM C 857 1204 L09 1619 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	2585	2873	3160	lm
Module efficacy	100	112		lm/W
Correlated color temperature (CCT)		5700		K
Color coordinates (CIEx, CIEy)		(0.329, 0.342)		-
Color consistency			3	SDCM
CRI	80	82		
Photometric code		857/359		
Radiation angle		120		deg
Photobiological safety			RG2	
Ethr			1227	lux

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

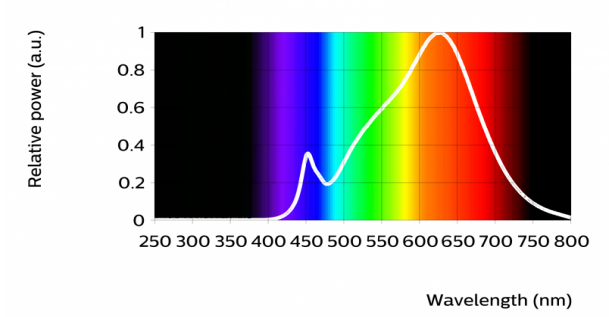


R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
82	89	92	82	82	83	87	69	11	71	80	59	84	95

Fortimo SLM C 927 1204 L09 1619 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	1998	2220	2442	lm
Module efficacy	78	86		lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.458, 0.410)		-
Color consistency			3	SDCM
CRI	90	92		
R9	50			
Photometric code		927/359		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	

At currents higher than 1061 mA the module might be classified as RG2
Measurement precision for flux +/- 5%.Measurement precision for efficacy +/- 6%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI +/- 1.5

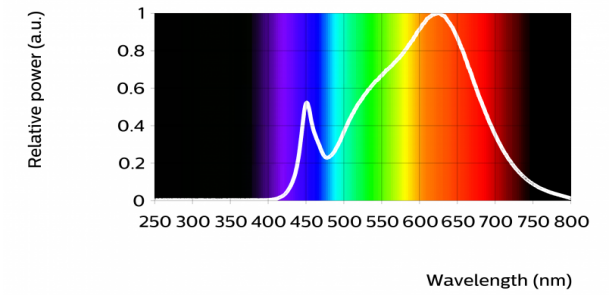


R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
94	96	97	94	93	95	94	84	64	90	94	82	94	97

Fortimo SLM C 930 1204 L09 1619 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	2048	2276	2503	lm
Module efficacy	80	88		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.434, 0.403)		-
Color consistency			3	SDCM
CRI	90	92		
R9	50			
Photometric code		930/359		
Radiation angle		120		deg
Photobiological safety			RG1 unlimited	

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

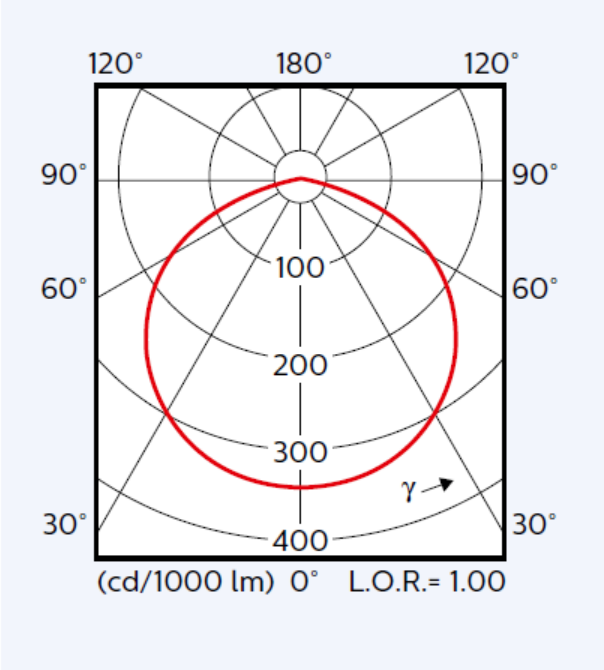


R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14

93	95	96	93	92	94	94	85	64	88	93	79	94	97

Beam shape

The Philips LED module generates a Lambertian beam shape, which is a pragmatic starting point for OEMs wishing to design secondary optics.



Electrical characteristics

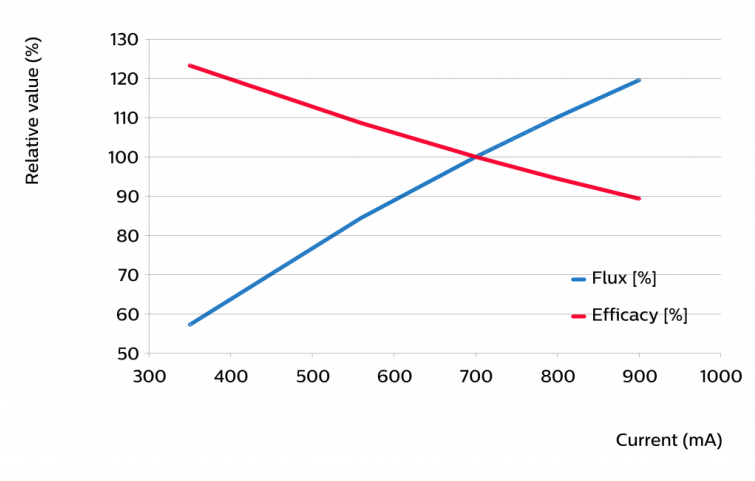
Parameter	Min	Typ	Max	Unit
Forward voltage	33.8	36.8	39.8	V
Power consumption	23.7	25.7	27.8	W = kWh/1000h
Thermal power		17.0		W
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

Tuning information

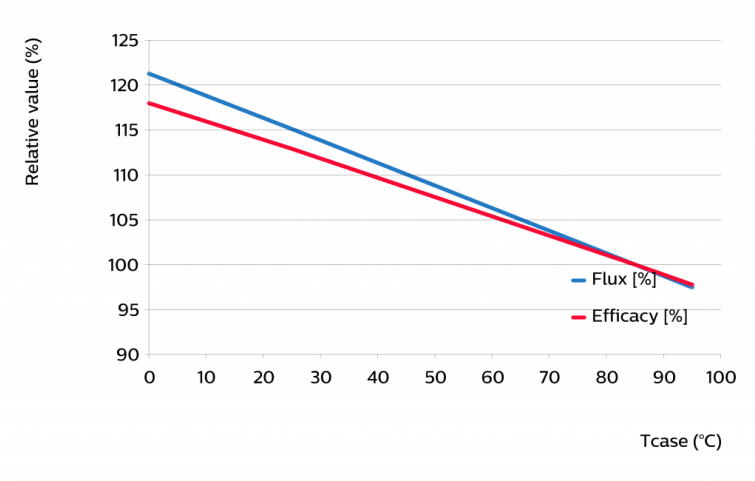
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
900	120	89
800	110	94
700	100	100
560	84	109
350	57	123



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

Tc [°C]	Flux [%]	Efficacy [%]
95	97	98
85	100	100
25	115	113
0	121	118



Lumen maintenance

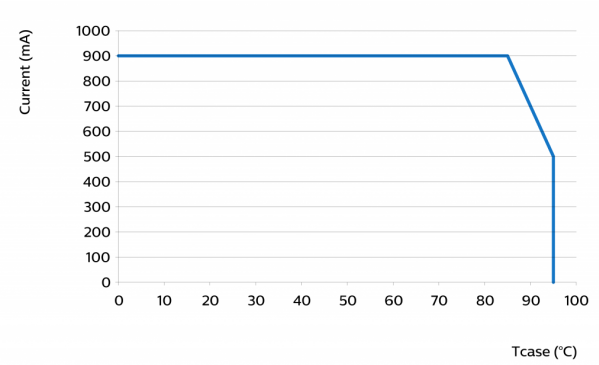
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 560mA	Tc 75°C	>50	>50	>50	>50	46	43	25	22	20
	Tc nom 85°C	>50	44	41	32	28	26	15	13	12
	Tc max 95°C	32	28	26	20	18	16	9	8	8
I nom 700mA	Tc 75°C	>50	>50	>50	44	38	36	21	18	17
	Tc nom 85°C	43	37	34	27	23	21	13	11	10
	Tc max 95°C	27	23	21	17	14	13	8	7	6
I max 900mA	Tc 75°C	>50	45	42	33	28	26	15	13	12
	Tc nom 85°C	35	30	28	22	19	18	10	9	8
	Tc max 95°C	22	19	17	14	12	11	6	6	5

Lifetime

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

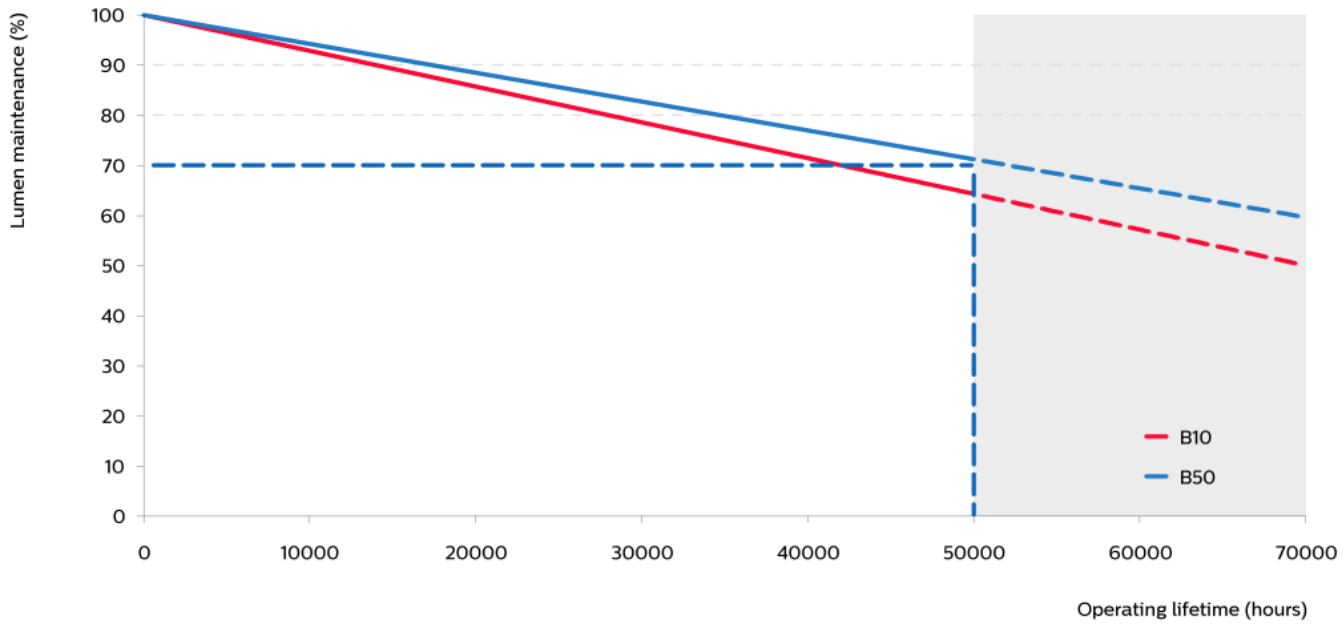
Switching cycles in accordance to EU 1194/2012: >15000
At I life L70B50>50000 hours.
Charts presenting module's lumen maintenance data are available via your sales representative.
Please refer to the performance window to ensure that your operati

Performance Window

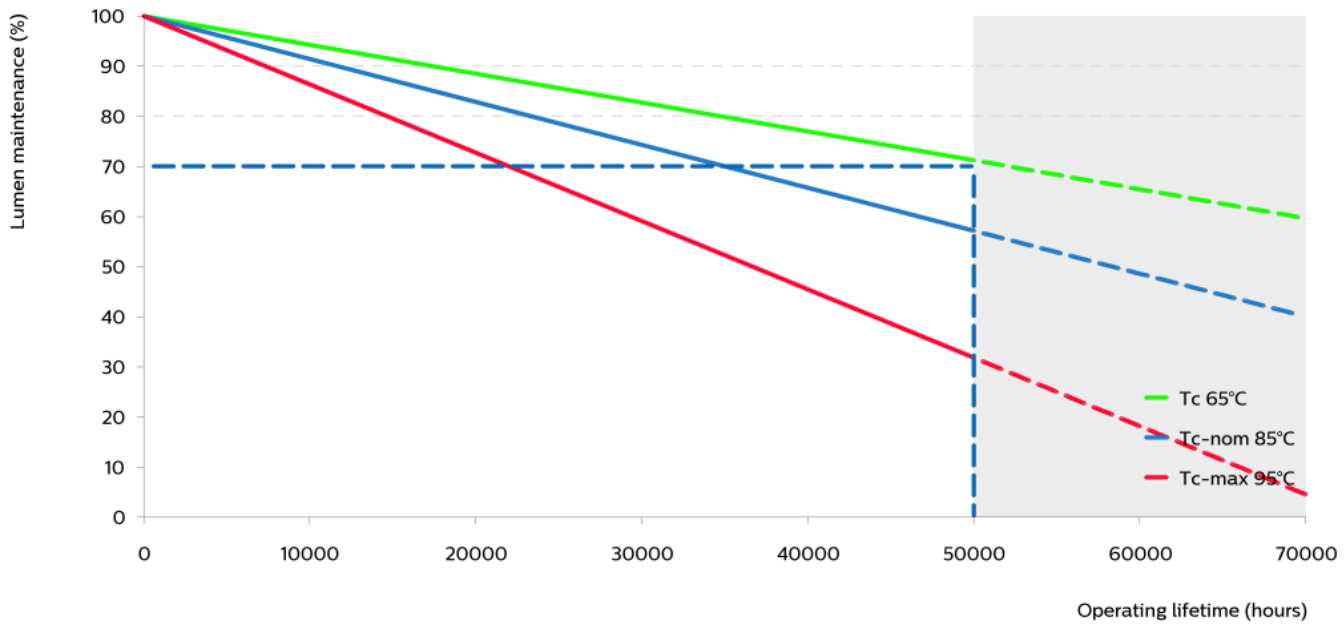


Lumen maintenance graphs

Lumen maintenance at I-life and Tc-life conditions

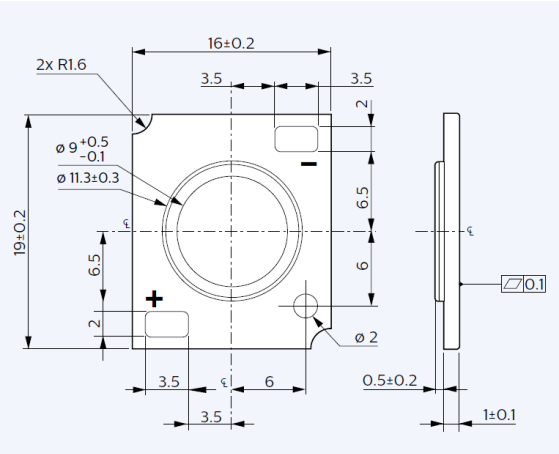


Lumen maintenance for B50 at current I-life conditions



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	18.8	19	19.2	mm
Width	15.8	16	16.2	mm
Height PCB	0.9	1	1.1	mm
Height including dam	1.2	1.5	1.8	mm
Product mass		0.78		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		900	mA
Case temperature (Tc-max)		95	°C
Power at rated Vf-max and I-max		35.8	W
Working voltage		180	V_{dc}
Ambient temperature	-20	40	°C
Storage temperature	-40	80	°C

Application information

Certificates and Standards

Environmental
RoHS/REACH

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

© 2021 Signify Holding, IBRS 10461, 5600VB, NL. All rights reserved. The information provided herein is subject to change, without notice. Signify 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, unless otherwise agreed by Signify.

Philips and the Philips Shield Emblem are registered trademarks of Koninklijke Philips N.V. All other trademarks are owned by Signify Holding or their respective owners.
UK importer address: 3 Guildford Business Park, GU2 8XG

09/09/2021

www.philips.com/oem