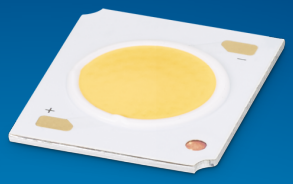
PHILIPS

Fortimo

LED

Fortimo SLM 1205 L13 2024 G7



Datasheet

Experience bright and vivid colors

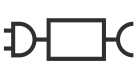
Fortimo LED SLM 1205 L13 2024 G7

Fortimo LED SLM Gen7 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.easydesignintool.com)

Key features and benefits

Best quality of light available for all applications
Extensive range of CCTs
Small LES for narrow beam angles and small reflector designs
Flexibility to select a different lumen output between 800 and 10000 lm
State of the art Chip-on-Board (CoB) technology, enabling highest system efficacy
System proposition (CoB + Holder + driver)
Flexibility to optimize luminaire performance (lm/W or high lm output)
Xitanium window drivers with SimpleSet for maximum flexibility
Mini drivers for smallest possible luminaire designs
Five years system warranty with over 50,000 hours lifetime
Instant full light

December 2020



Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo SLM C 827 1205 L13 2024 G7	8718696 845660 00	9290 015 87806	20
Fortimo SLM C 830 1205 L13 2024 G7	8718696 845691 00	9290 015 87906	20
Fortimo SLM C 835 1205 L13 2024 G7	8718696 845721 00	9290 015 88006	20
Fortimo SLM C 840 1205 L13 2024 G7	8718696 845752 00	9290 015 88106	20
Fortimo SLM C 850 1205 L13 2024 G7	8718696 845783 00	9290 015 88206	20
Fortimo SLM C 927 1205 L13 2024 G7	8718696 845813 00	9290 015 88406	20
Fortimo SLM C 930 1205 L13 2024 G7	8718696 845844 00	9290 015 88506	20

Not all products are globally available by default.
Please contact your local Philips Lighting representative for local availability and activation.

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo SLM 1205 L13 2024 G7	500	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

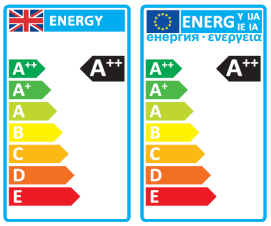
** Value at which life time is specified

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

Optical characteristics - table per color (CCT)

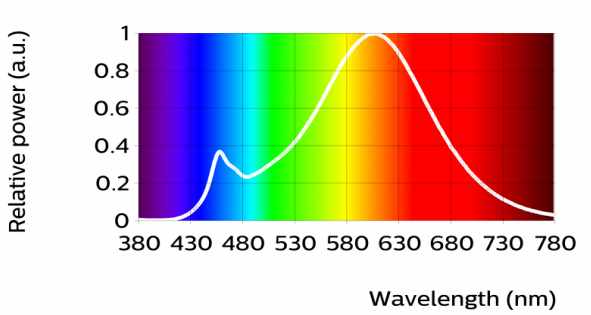
Fortimo SLM C 827 1205 L13 2024 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	2286	2540	2794	lm
Module efficacy	133	148		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		
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

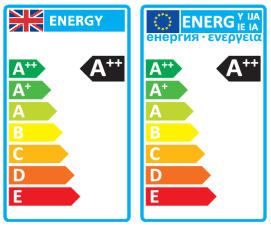
Operation point	827	lm	lm/W
80% I-nom 400mA	Tc 25 °C	2277	165
	Tc-nom 85 °C	2091	155
	Tc-max 95 °C	2058	153
I-nom 500mA	Tc 25 °C	2789	159
	Tc-nom 85 °C	2540	148
	Tc-max 95 °C	2497	146
I-max 1050mA	Tc 25 °C	5214	130
	Tc-nom 85 °C	4651	118
	Tc-max 95 °C	4554	116



R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
79	92	94	76	79	90	82	59	12	82	72	73	82	97

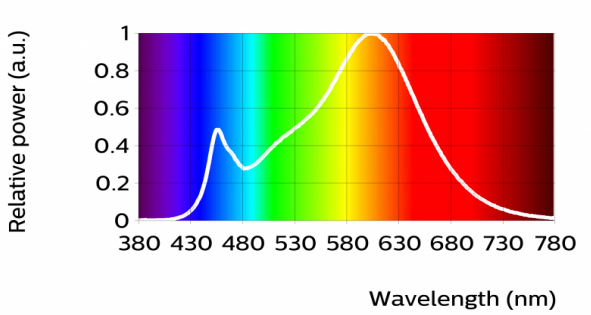
Fortimo SLM C 830 1205 L13 2024 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	2376	2640	2904	lm
Module efficacy	139	154		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		
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

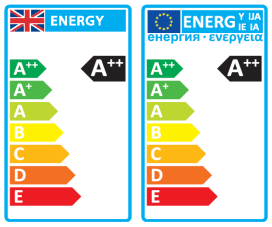
Operation point	830	lm	lm/W
80% I-nom 400mA	Tc 25 °C	2366	172
	Tc-nom 85 °C	2173	161
	Tc-max 95 °C	2139	159
I-nom 500mA	Tc 25 °C	2898	165
	Tc-nom 85 °C	2640	154
	Tc-max 95 °C	2595	152
I-max 1050mA	Tc 25 °C	5420	135
	Tc-nom 85 °C	4836	123
	Tc-max 95 °C	4734	121



R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
83	94	93	80	84	94	81	59	12	87	80	76	86	97

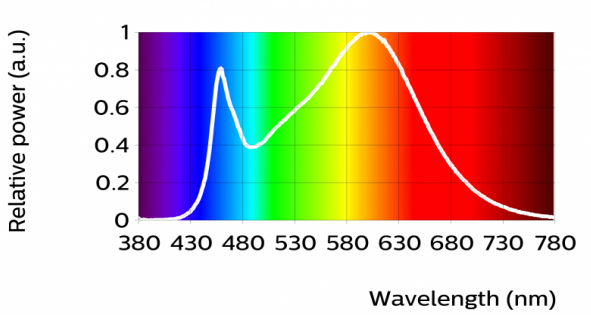
Fortimo SLM C 835 1205 L13 2024 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	2421	2690	2959	lm
Module efficacy	141	157		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		
Photobiological safety			RG1 unlimited	



At currents higher than 916 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

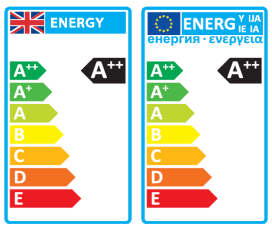
Operation point	835	lm	lm/W
80% I-nom 400mA	Tc 25 °C	2411	175
	Tc-nom 85 °C	2214	164
	Tc-max 95 °C	2179	162
I-nom 500mA	Tc 25 °C	2953	169
	Tc-nom 85 °C	2690	157
	Tc-max 95 °C	2644	155
I-max 1050mA	Tc 25 °C	5524	137
	Tc-nom 85 °C	4928	125
	Tc-max 95 °C	4825	123



R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
86	96	93	80	85	94	83	65	22	90	79	70	89	97

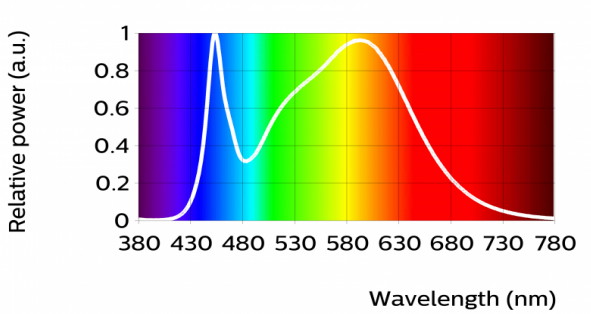
Fortimo SLM C 840 1205 L13 2024 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	2475	2750	3025	lm
Module efficacy	144	160		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		
Photobiological safety			RG1 unlimited	



At currents higher than 735 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

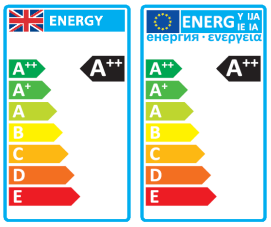
Operation point	840	lm	lm/W
80% I-nom 400mA	Tc 25 °C	2464	179
	Tc-nom 85 °C	2263	168
	Tc-max 95 °C	2228	166
I-nom 500mA	Tc 25 °C	3019	172
	Tc-nom 85 °C	2750	160
	Tc-max 95 °C	2703	158
I-max 1050mA	Tc 25 °C	5649	141
	Tc-nom 85 °C	5040	128
	Tc-max 95 °C	4934	126



R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
84	96	91	77	83	93	81	62	13	90	77	67	88	96

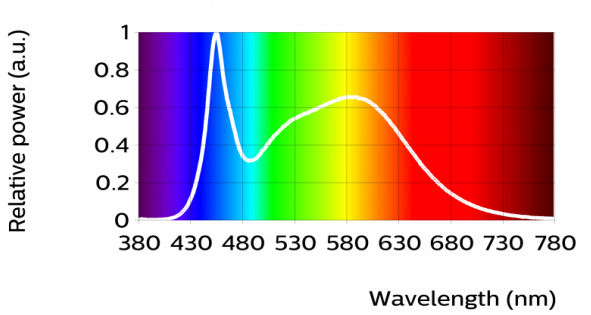
Fortimo SLM C 850 1205 L13 2024 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	2475	2750	3025	lm
Module efficacy	144	160		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		
Photobiological safety			RG1 unlimited	



At currents higher than 544 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

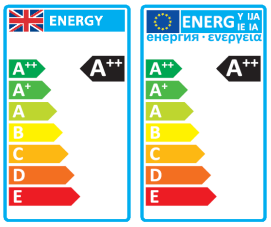
Operation point	850	lm	lm/W
80% I-nom 400mA	Tc 25 °C	2464	179
	Tc-nom 85 °C	2263	168
	Tc-max 95 °C	2228	166
I-nom 500mA	Tc 25 °C	3019	172
	Tc-nom 85 °C	2750	160
	Tc-max 95 °C	2703	158
I-max 1050mA	Tc 25 °C	5649	141
	Tc-nom 85 °C	5040	128
	Tc-max 95 °C	4934	126



R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
83	92	95	80	82	87	86	68	14	79	78	58	86	98

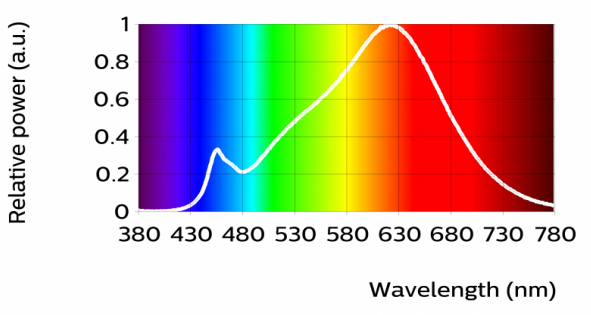
Fortimo SLM C 927 1205 L13 2024 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	1899	2110	2321	lm
Module efficacy	111	123		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		
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

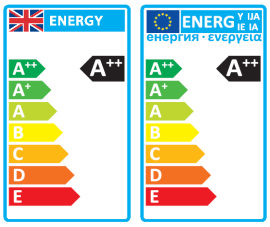
Operation point	927	lm	lm/W
80% I-nom 400mA	Tc 25 °C	1892	137
	Tc-nom 85 °C	1737	129
	Tc-max 95 °C	1710	128
I-nom 500mA	Tc 25 °C	2317	132
	Tc-nom 85 °C	2110	123
	Tc-max 95 °C	2074	122
I-max 1050mA	Tc 25 °C	4327	108
	Tc-nom 85 °C	3860	98
	Tc-max 95 °C	3779	96



R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
92	98	98	92	93	97	91	81	60	94	93	83	95	100

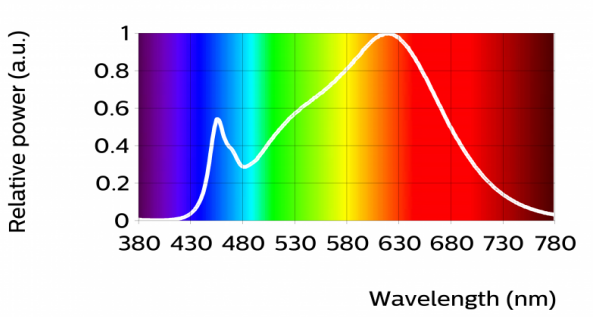
Fortimo SLM C 930 1205 L13 2024 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	1971	2190	2409	lm
Module efficacy	115	128		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		
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

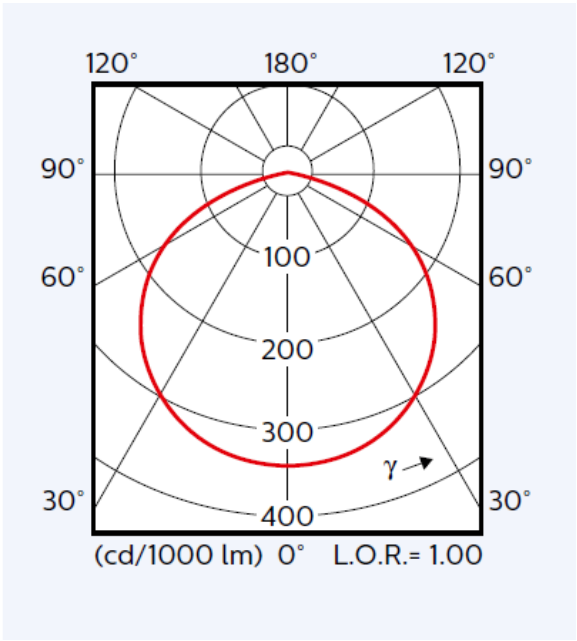
Operation point	930	lm	lm/W
80% I-nom 400mA	Tc 25 °C	1963	143
	Tc-nom 85 °C	1803	134
	Tc-max 95 °C	1775	132
I-nom 500mA	Tc 25 °C	2404	137
	Tc-nom 85 °C	2190	128
	Tc-max 95 °C	2153	126
I-max 1050mA	Tc 25 °C	4492	112
	Tc-nom 85 °C	4007	102
	Tc-max 95 °C	3923	100



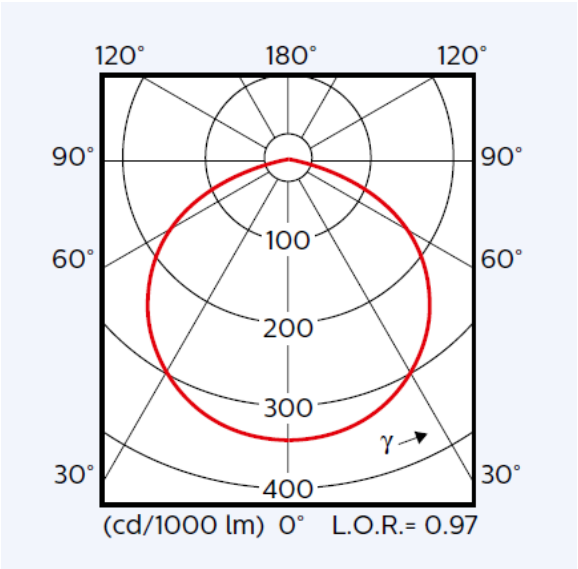
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
94	98	99	92	93	96	91	83	62	94	92	79	95	99

Beam shape

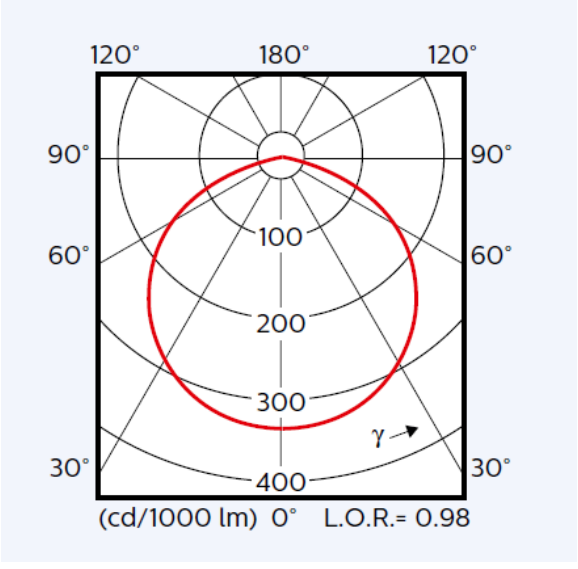
Bare CoB



CoB with a standard/ down-light/ Zhaga poke-in holder



CoB with a poke-in holder



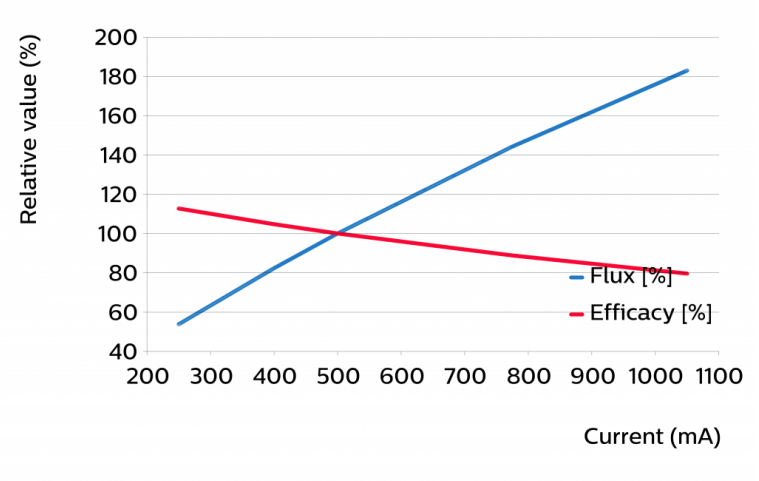
Electrical characteristics

Parameter	Min	Typ	Max	Unit
Forward voltage	31.8	34.3	36.8	V
Power consumption	15.9	17.2	18.4	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

Tuning information

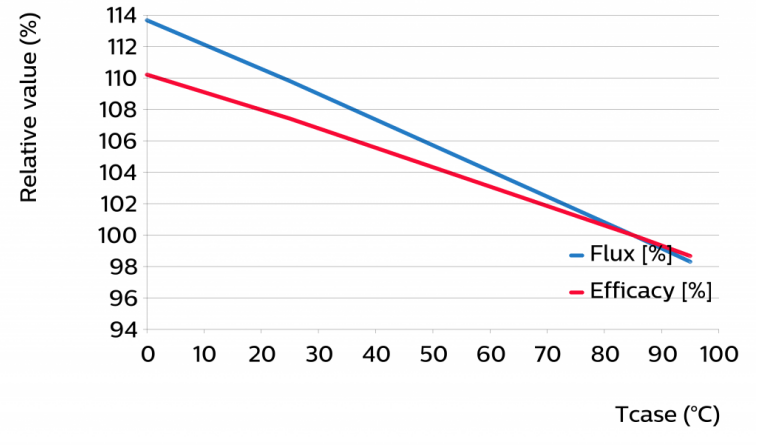
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1050	183	80
775	144	89
500	100	100
400	82	105
250	54	113



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

Tc [°C]	Flux [%]	Efficacy [%]
95	98	99
85	100	100
25	110	107
0	114	110



Lumen maintenance

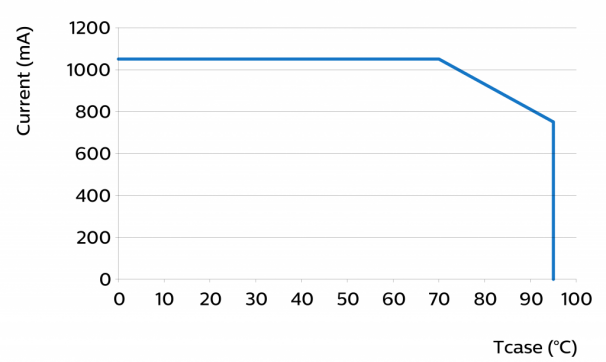
Operation point	Lumen maintenance	L70			L80			L90		
	x 1000 hours	B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 400mA	Tc 65°C	>50	>50	>50	>50	>50	>50	>50	>50	41
	Tc nom 85°C	>50	>50	>50	>50	48	39	35	23	18
	Tc max 95°C	>50	>50	42	>50	33	26	24	16	12
I nom 500mA	Tc 65°C	>50	>50	>50	>50	>50	>50	>50	47	38
	Tc nom 85°C	>50	>50	>50	>50	44	35	32	21	17
	Tc max 95°C	>50	48	39	46	30	24	22	13	11
I max 1050mA	Tc 65°C	>50	>50	>50	>50	>50	42	38	25	20
	Tc nom 85°C	>50	40	32	38	25	20	18	12	9
	Tc max 95°C	43	28	23	27	18	14	13	8	7

Lifetime

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

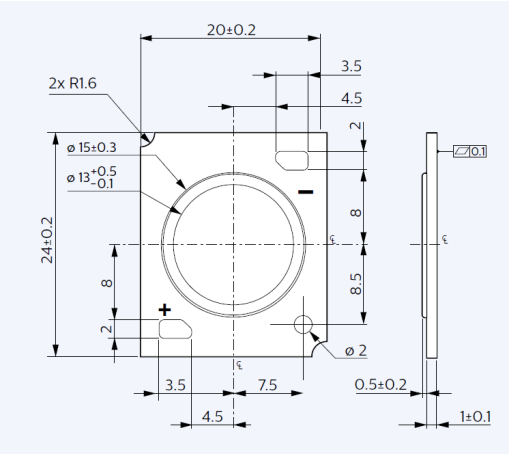
Switching cycles in accordance to EU 1194/2012: >15000
At I life L70B50>50000 hours.
Charts presenting module's lumen maintenance data are available via your sales representative.
Please refer to the performance window to ensure that your operati

Performance Window



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	23.8	24	24.2	mm
Width	19.8	20	20.2	mm
Height PCB	0.9	1	1.1	mm
Height including dam	1.2	1.5	1.8	mm
Product mass		1.2		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		1050	mA
Case temperature (Tc-max)		95	°C
Power at rated Vf-max and I-max		41.3	W
ESD (direct contact)	8		kV
Ambient temperature	-20	40	°C
Storage temperature	-40	80	°C

Application information

Certificates and Standards
IEC 62031:2008/A1:2012/A2:2014
EN 62031:2008/A1:2013/A2:2015
Relevant clauses of IEC 62471:2006 (Incl. 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 62471:2008 (With IEC/TR 62471-2: 2009 and IEC/TR 62778: 2014)
Relevant clauses of EN 60838-1:2004/A1:2008/A2:2011 with EN 60838-2-2:2006/A1:2012
UL 8750
ENEC+
CE

Environmental
RoHS/REACH

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

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