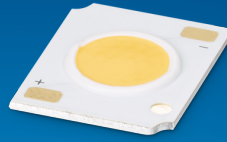


PHILIPS

Fortimo

LED

Fortimo SLM 1203
L09 1619 G7



Datasheet

Experience bright and vivid colors

Fortimo LED SLM 1203 L09 1619 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

November 2019



Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo SLM C 827 1203 L09 1619 G7	8718696 845134 00	9290 015 83806	20
Fortimo SLM C 830 1203 L09 1619 G7	8718696 845165 00	9290 015 83906	20
Fortimo SLM C 835 1203 L09 1619 G7	8718696 845196 00	9290 015 84006	20
Fortimo SLM C 840 1203 L09 1619 G7	8718696 845226 00	9290 015 84106	20
Fortimo SLM C 850 1203 L09 1619 G7	8718696 845455 00	9290 015 84206	20
Fortimo SLM C 927 1203 L09 1619 G7	8718696 845486 00	9290 015 84406	20
Fortimo SLM C 930 1203 L09 1619 G7	8718696 845516 00	9290 015 84506	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 1203 L09 1619 G7	300	see performance window	510	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)

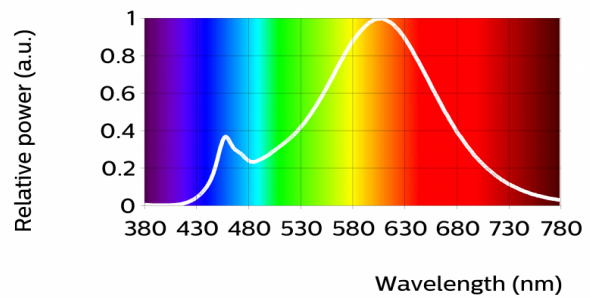
Fortimo SLM C 827 1203 L09 1619 G7

Parameter	Min	Typ	Max	Unit
Luminous flux	1341	1490	1639	lm
Module efficacy	130	144		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 240mA	Tc 25 °C	1327	160
	Tc-nom 85 °C	1224	151
	Tc-max 95 °C	1203	149
I-nom 300mA	Tc 25 °C	1624	154
	Tc-nom 85 °C	1490	144
	Tc-max 95 °C	1463	142
I-max 510mA	Tc 25 °C	2571	135
	Tc-nom 85 °C	2328	125
	Tc-max 95 °C	2280	123



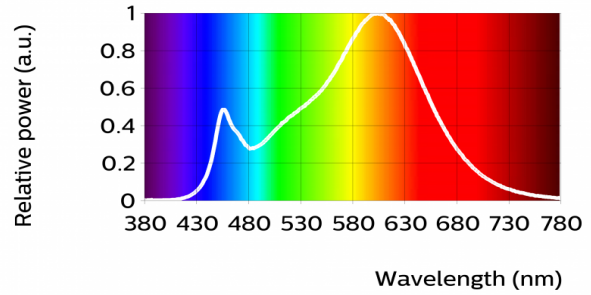
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
79	92	94	76	79	90	82	59	12	82	72	73	82	97

Parameter	Min	Typ	Max	Unit
Luminous flux	1368	1520	1672	lm
Module efficacy	133	147		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	



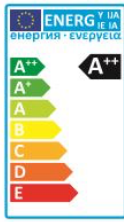
Measurement precision for flux +/- 5%. Measurement precision for efficacy +/- 6%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI 1.5

Operation point	830	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1353	163
	Tc-nom 85 °C	1248	154
	Tc-max 95 °C	1227	152
I-nom 300mA	Tc 25 °C	1657	157
	Tc-nom 85 °C	1520	147
	Tc-max 95 °C	1493	145
I-max 510mA	Tc 25 °C	2622	138
	Tc-nom 85 °C	2375	128
	Tc-max 95 °C	2325	126



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

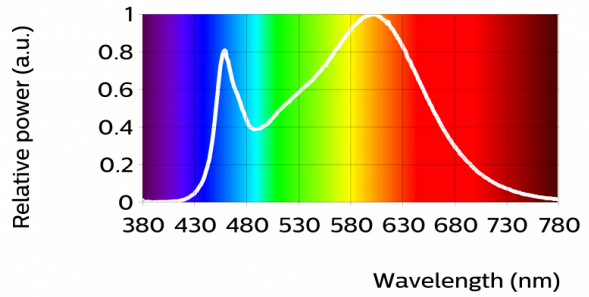
Parameter	Min	Typ	Max	Unit
Luminous flux	1404	1560	1716	lm
Module efficacy	136	151		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.407, 0.392)		-
Color consistency			3	SDCM
CRI	80	82		
Photometric code		835/359		
Photobiological safety			RG1 unlimited	



At currents higher than 504 mA the module might be classified as RG2

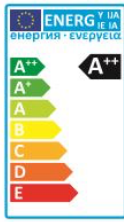
Measurement precision for flux +/- 5%. Measurement precision for efficacy +/- 6%. Measurement precision for x, y +/- 0.005. Measurement precision for CRI +/- 1.5

Operation point	835	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1389	167
	Tc-nom 85 °C	1281	158
	Tc-max 95 °C	1260	156
I-nom 300mA	Tc 25 °C	1700	161
	Tc-nom 85 °C	1560	151
	Tc-max 95 °C	1532	149
I-max 510mA	Tc 25 °C	2691	142
	Tc-nom 85 °C	2438	131
	Tc-max 95 °C	2388	129



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

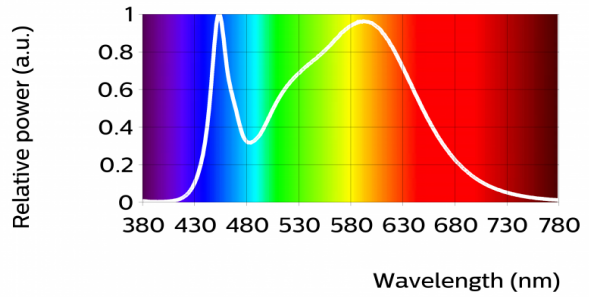
Parameter	Min	Typ	Max	Unit
Luminous flux	1449	1610	1771	lm
Module efficacy	140	156		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.380)		-
Color consistency			3	SDCM
CRI	80	82		
Photometric code		840/359		
Photobiological safety			RG1 unlimited	



Threshold illuminance for RG2 is 2163 lux

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 240mA	Tc 25 °C	1433	173
	Tc-nom 85 °C	1322	163
	Tc-max 95 °C	1300	161
I-nom 300mA	Tc 25 °C	1755	166
	Tc-nom 85 °C	1610	156
	Tc-max 95 °C	1581	154
I-max 510mA	Tc 25 °C	2778	146
	Tc-nom 85 °C	2517	135
	Tc-max 95 °C	2465	133



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

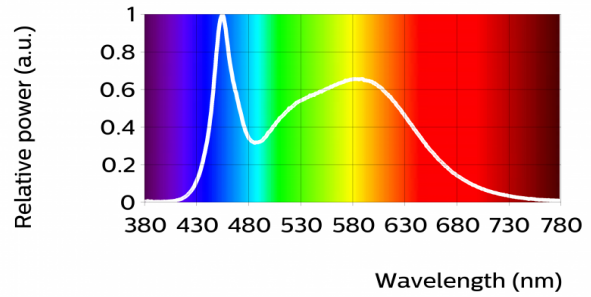
Parameter	Min	Typ	Max	Unit
Luminous flux	1449	1610	1771	lm
Module efficacy	140	156		lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.345, 0.355)		-
Color consistency			3	SDCM
CRI	80	82		
Photometric code		850/359		
Photobiological safety			RG1 unlimited	



Threshold illuminance for RG2 is 1603 lux

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 240mA	Tc 25 °C	1433	173
	Tc-nom 85 °C	1322	163
	Tc-max 95 °C	1300	161
I-nom 300mA	Tc 25 °C	1755	166
	Tc-nom 85 °C	1610	156
	Tc-max 95 °C	1581	154
I-max 510mA	Tc 25 °C	2778	146
	Tc-nom 85 °C	2517	135
	Tc-max 95 °C	2465	133



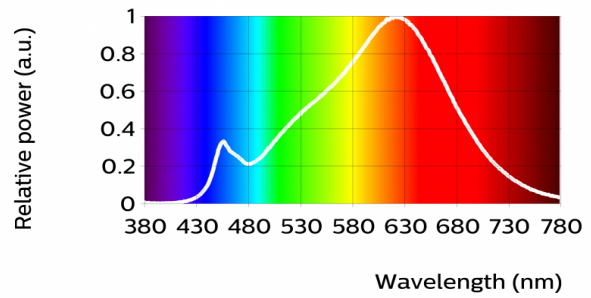
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
83	92	95	80	82	87	86	68	14	79	78	58	86	98

Parameter	Min	Typ	Max	Unit
Luminous flux	1116	1240	1364	lm
Module efficacy	108	120		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 240mA	Tc 25 °C	1105	133
	Tc-nom 85 °C	1019	126
	Tc-max 95 °C	1001	124
I-nom 300mA	Tc 25 °C	1352	128
	Tc-nom 85 °C	1240	120
	Tc-max 95 °C	1218	119
I-max 510mA	Tc 25 °C	2139	113
	Tc-nom 85 °C	1936	104
	Tc-max 95 °C	1896	102



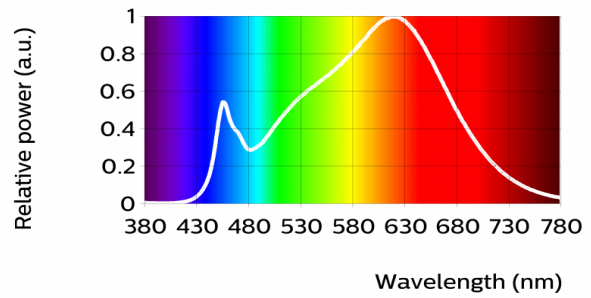
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
92	98	98	92	93	97	91	81	60	94	93	83	95	100

Parameter	Min	Typ	Max	Unit
Luminous flux	1152	1280	1408	lm
Module efficacy	112	124		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

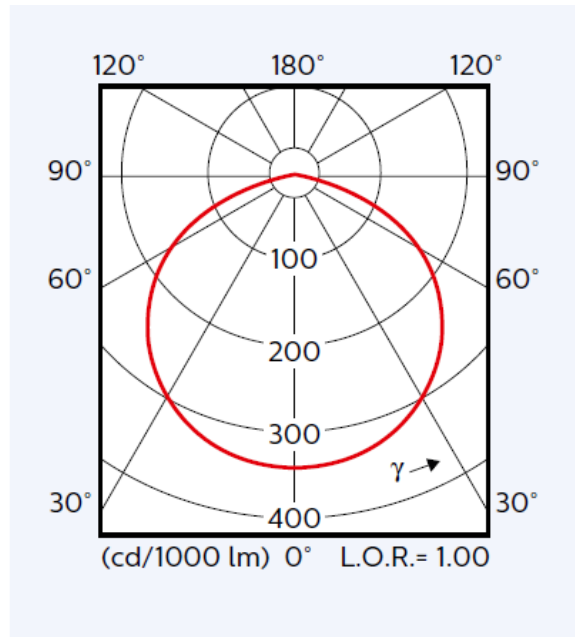
Operation point	930	lm	lm/W
80% I-nom 240mA	Tc 25 °C	1140	137
	Tc-nom 85 °C	1051	130
	Tc-max 95 °C	1034	128
I-nom 300mA	Tc 25 °C	1396	132
	Tc-nom 85 °C	1280	124
	Tc-max 95 °C	1257	122
I-max 510mA	Tc 25 °C	2208	116
	Tc-nom 85 °C	1999	108
	Tc-max 95 °C	1957	106



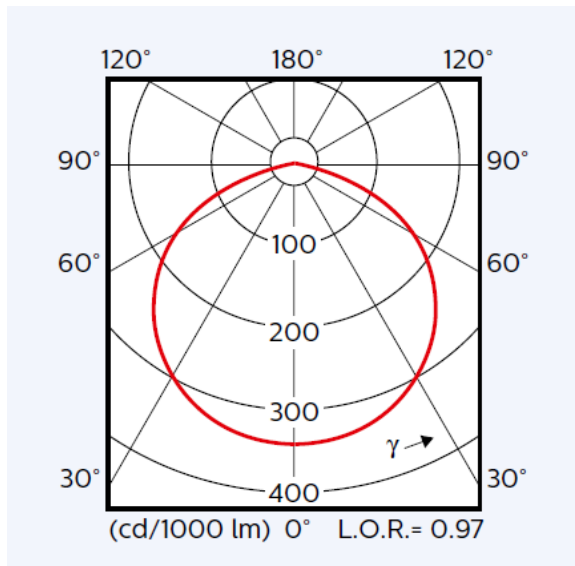
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
94	98	99	92	93	96	91	83	62	94	92	79	95	99

Beam shape

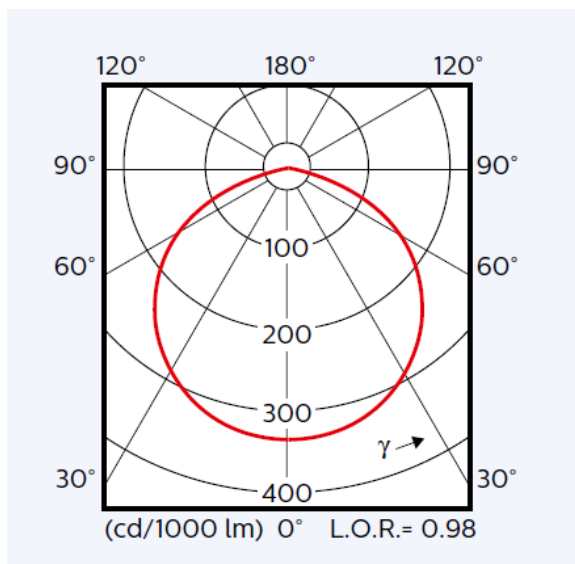
Bare CoB



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



CoB with a poke-in holder



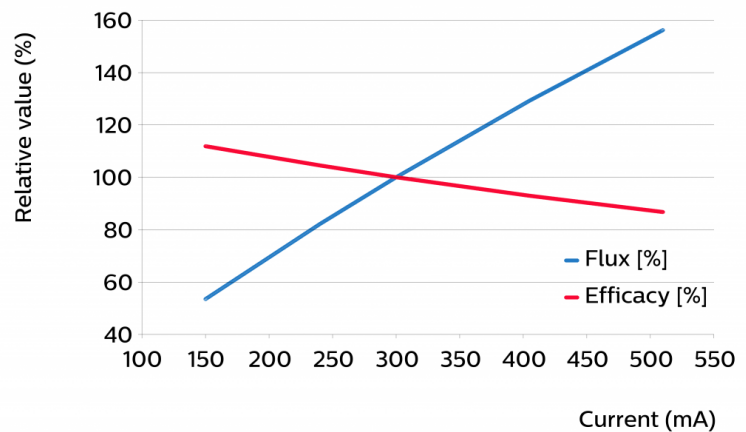
Electrical characteristics

Parameter	Min	Typ	Max	Unit
Forward voltage	32.4	34.4	37.4	V
Power consumption	9.7	10.3	11.2	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules in parallel per chain			1	
Number of modules in parallel			1	

Tuning information

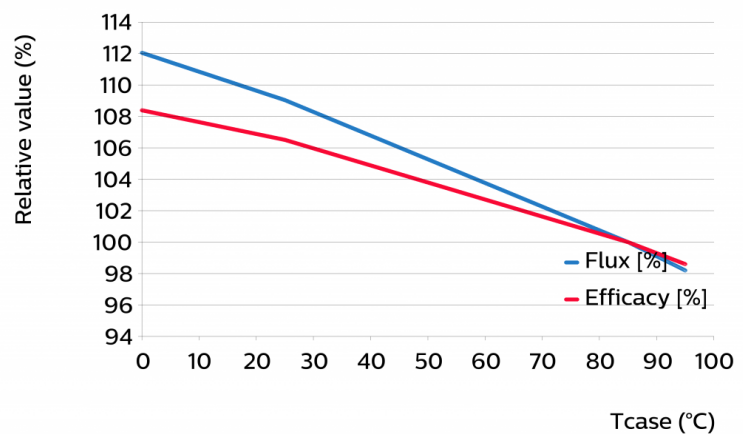
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
510	156	87
405	129	93
300	100	100
240	82	104
150	53	112



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

Tc [°C]	Flux [%]	Efficacy [%]
95	98	99
85	100	100
25	109	106
0	112	108



Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I nom 240 mA	Tc 65°C	>50	>50	>50	>50	>50	>50	>50	>50	42
	Tc nom 85°C	>50	>50	>50	>50	48	39	35	23	18
	Tc max 95°C	>50	>50	42	>50	33	27	24	16	13
I nom 300 mA	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	49	39	46	30	24	22	14	12
I max 510 mA	Tc 65°C	>50	>50	>50	>50	>50	>50	50	33	26
	Tc nom 85°C	>50	>50	41	48	32	25	23	15	12
	Tc max 95°C	>50	35	28	34	22	18	16	10	8

Lifetime

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

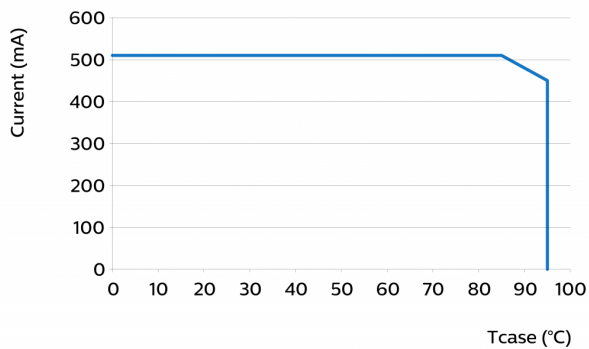
Switching cycles in accordance to EU 1194/2012: >15000

At I life L70B50>50000 hours.

Charts presenting module's lumen maintenance data are available via your sales representative.

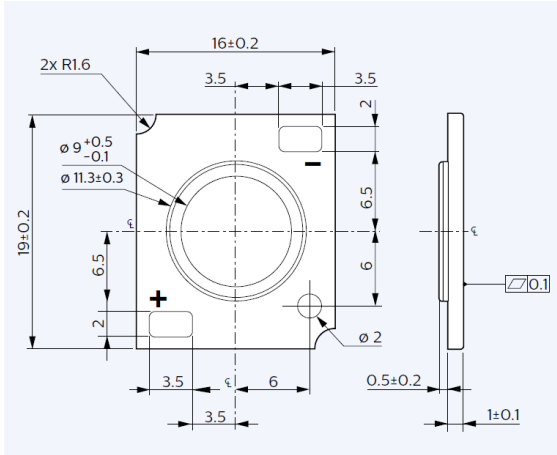
Please refer to the performance window to ensure that your operati

Performance Window



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	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)		510	mA
Case temperature (Tc-max)		95	°C
Power at rated Vf-max and I-max		19.8	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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21/11/2019