PHILIPS

Fortimo

LED

Fortimo SLM VO 1205 LES15 G1

Datasheet

Fortimo SLM VO 1205 LES15 G1

The Fortimo SLM VO gen1 is a range of LED modules which aims at making a good performance accessible in downlights and spot lights without sacrificing lifetime. It offers a good Lm/W performance and there's a wide choice of CCT's available in CRI80 or CRI90. Due to it's dimensions, the Fortimo SLM VO gen1 can easily be used with a wide range of holders and reflectors which are available in the market.

Key features and benefits

- Extensive range of CCT's in CRI >80 and CRI >90
- Multiple lumen packages
- Typical 148 Lm/W (3000K CRI>80, at Tc 85°C)
- Lifetime: >50,000 hours
- System proposition: COB + holder + driver
- Five years system warranty when combined with Xitanium drivers

September 2021

Ordering data

Commercial product name	EOC	12NC	Box quantity
Fortimo SLM VO 827 1205 LES15 G1	8718699 725075 00	9290 021 33106	225
Fortimo SLM VO 830 1205 LES15 G1	8718699 725099 00	9290 021 33206	225
Fortimo SLM VO 835 1205 LES15 G1	8718699 725112 00	9290 021 33306	225
Fortimo SLM VO 840 1205 LES15 G1	8718699 725136 00	9290 021 33406	225
Fortimo SLM VO 850 1205 LES15 G1	8718699 725150 00	9290 021 33506	225
Fortimo SLM VO 927 1205 LES15 G1	8718699 725174 00	9290 021 33606	225
Fortimo SLM VO 930 1205 LES15 G1	8718699 725198 00	9290 021 33706	225
Fortimo SLM VO 935 1205 LES15 G1	8718699 725211 00	9290 021 33806	225
Fortimo SLM VO 940 1205 LES15 G1	8718699 725235 00	9290 021 33906	225

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo SLM VO 1205 LES15 G1	420	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

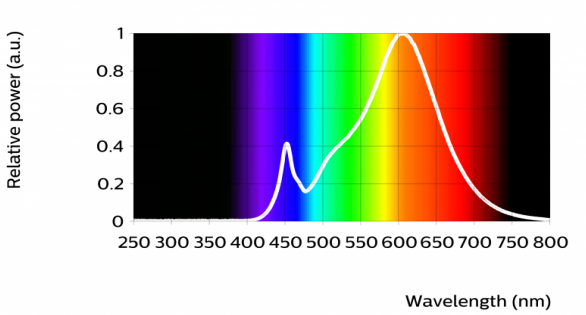
Optical characteristics - table per color (CCT)

Fortimo SLM VO 827 1205 LES15 G1

Parameter	Min	Typ	Max	Unit
Luminous flux	1913	2057	2262	lm
Module efficacy	132	142		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	

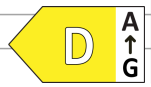
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5

Operation point	827	lm	lm/W
50% I-nom 210mA	Tc 25 °C	1192	170
	Tc-nom 85 °C	1100	161
	Tc-max 95 °C	1082	159
I-nom 420mA	Tc 25 °C	2272	154
	Tc-nom 85 °C	2057	142
	Tc-max 95 °C	2015	140
I-max 1050mA	Tc 25 °C	4903	117
	Tc-nom 85 °C	4316	105
	Tc-max 95 °C	4202	102



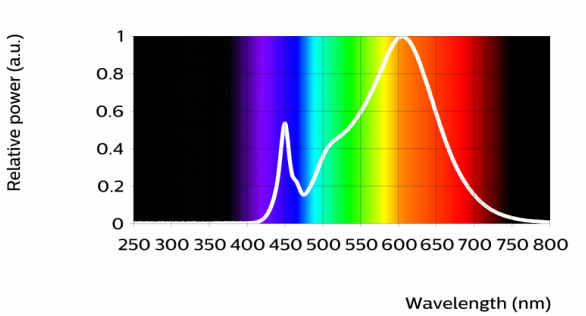
Fortimo SLM VO 830 1205 LES15 G1

Parameter	Min	Typ	Max	Unit
Luminous flux	2004	2154	2370	lm
Module efficacy	138	149		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%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5

Operation point	830	lm	lm/W
50% I-nom 210mA	Tc 25 °C	1248	179
	Tc-nom 85 °C	1152	168
	Tc-max 95 °C	1134	166
I-nom 420mA	Tc 25 °C	2380	161
	Tc-nom 85 °C	2154	149
	Tc-max 95 °C	2111	146
I-max 1050mA	Tc 25 °C	5138	122
	Tc-nom 85 °C	4526	110
	Tc-max 95 °C	4406	107

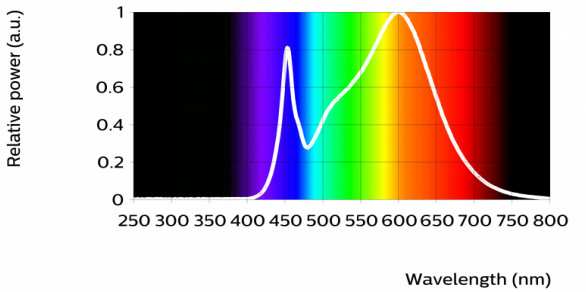


Fortimo SLM VO 835 1205 LES15 G1

Parameter	Min	Typ	Max	Unit
Luminous flux	2056	2211	2432	lm
Module efficacy	142	153		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.408, 0.393)		-
Color consistency			3	SDCM
CRI	80	82		
Photometric code		835/359		
Photobiological safety			RG1 unlimited	

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

Operation point	835	lm	lm/W
50% I-nom 210mA	Tc 25 °C	1280	183
	Tc-nom 85 °C	1182	173
	Tc-max 95 °C	1163	171
I-nom 420mA	Tc 25 °C	2442	165
	Tc-nom 85 °C	2211	153
	Tc-max 95 °C	2166	150
I-max 1050mA	Tc 25 °C	5275	126
	Tc-nom 85 °C	4647	113
	Tc-max 95 °C	4524	110

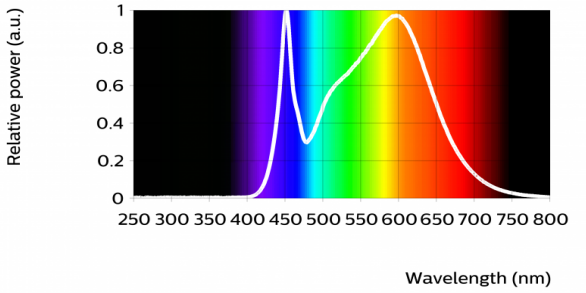


Fortimo SLM VO 840 1205 LES15 G1

Parameter	Min	Typ	Max	Unit
Luminous flux	2104	2263	2489	lm
Module efficacy	145	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	

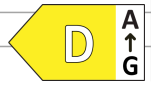
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5

Operation point	840	lm	lm/W
50% I-nom 210mA	Tc 25 °C	1310	187
	Tc-nom 85 °C	1209	177
	Tc-max 95 °C	1190	174
I-nom 420mA	Tc 25 °C	2499	169
	Tc-nom 85 °C	2263	156
	Tc-max 95 °C	2217	154
I-max 1050mA	Tc 25 °C	5401	129
	Tc-nom 85 °C	4759	115
	Tc-max 95 °C	4633	113



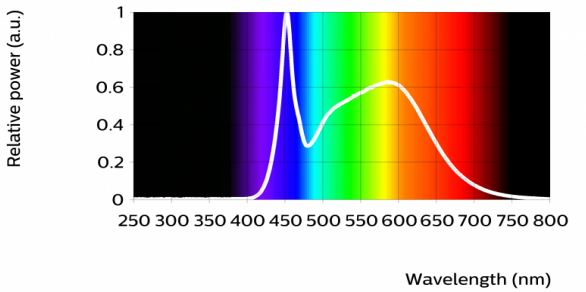
Fortimo SLM VO 850 1205 LES15 G1

Parameter	Min	Typ	Max	Unit
Luminous flux	2118	2278	2505	lm
Module efficacy	146	157		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	



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

Operation point	850	lm	lm/W
50% I-nom 210mA	Tc 25 °C	1318	189
	Tc-nom 85 °C	1217	178
	Tc-max 95 °C	1198	176
I-nom 420mA	Tc 25 °C	2515	170
	Tc-nom 85 °C	2278	157
	Tc-max 95 °C	2231	155
I-max 1050mA	Tc 25 °C	5439	130
	Tc-nom 85 °C	4794	116
	Tc-max 95 °C	4668	114

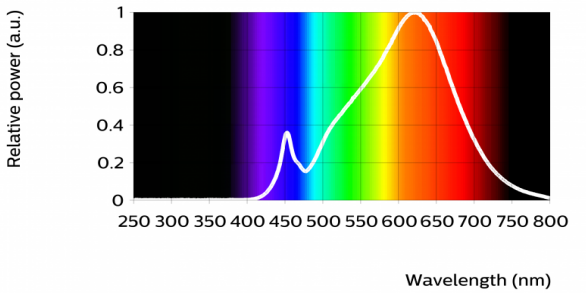


Fortimo SLM VO 927 1205 LES15 G1

Parameter	Min	Typ	Max	Unit
Luminous flux	1632	1755	1930	lm
Module efficacy	113	121		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%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5

Operation point	927	lm	lm/W
50% I-nom 210mA	Tc 25 °C	1017	146
	Tc-nom 85 °C	939	137
	Tc-max 95 °C	924	135
I-nom 420mA	Tc 25 °C	1939	131
	Tc-nom 85 °C	1755	121
	Tc-max 95 °C	1719	119
I-max 1050mA	Tc 25 °C	4180	100
	Tc-nom 85 °C	3679	89
	Tc-max 95 °C	3581	87

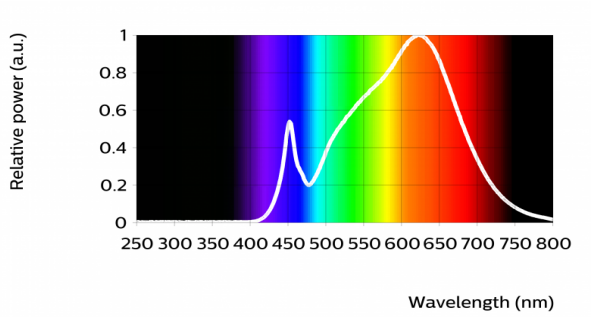


Fortimo SLM VO 930 1205 LES15 G1

Parameter	Min	Typ	Max	Unit
Luminous flux	1711	1839	2023	lm
Module efficacy	118	127		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%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5

Operation point	930	lm	lm/W
50% I-nom 210mA	Tc 25 °C	1066	152
	Tc-nom 85 °C	984	144
	Tc-max 95 °C	968	142
I-nom 420mA	Tc 25 °C	2032	138
	Tc-nom 85 °C	1839	127
	Tc-max 95 °C	1802	125
I-max 1050mA	Tc 25 °C	4385	104
	Tc-nom 85 °C	3861	94
	Tc-max 95 °C	3759	91

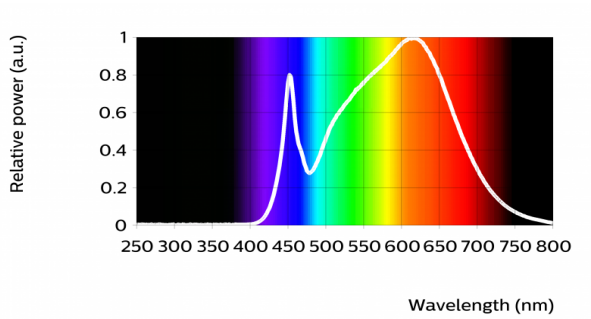


Fortimo SLM VO 935 1205 LES15 G1

Parameter	Min	Typ	Max	Unit
Luminous flux	1771	1904	2094	lm
Module efficacy	122	132		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.408, 0.393)		-
Color consistency			3	SDCM
CRI	90	92		
R9	50			
Photometric code		935/359		
Photobiological safety			RG1 unlimited	

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

Operation point	935	lm	lm/W
50% I-nom 210mA	Tc 25 °C	1103	158
	Tc-nom 85 °C	1019	149
	Tc-max 95 °C	1002	147
I-nom 420mA	Tc 25 °C	2104	143
	Tc-nom 85 °C	1904	132
	Tc-max 95 °C	1865	129
I-max 1050mA	Tc 25 °C	4539	108
	Tc-nom 85 °C	3996	97
	Tc-max 95 °C	3890	95

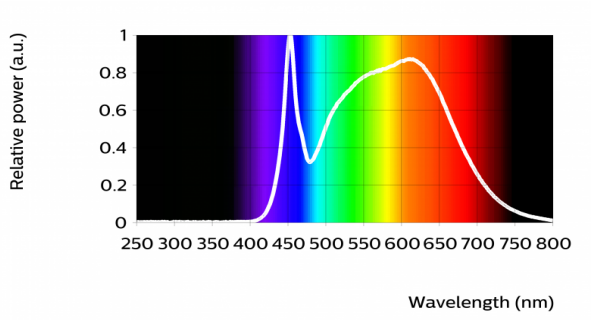


Fortimo SLM VO 940 1205 LES15 G1

Parameter	Min	Typ	Max	Unit
Luminous flux	1823	1960	2156	lm
Module efficacy	126	135		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.380)		-
Color consistency			3	SDCM
CRI	90	92		
R9	50			
Photometric code		940/359		
Photobiological safety			RG1 unlimited	

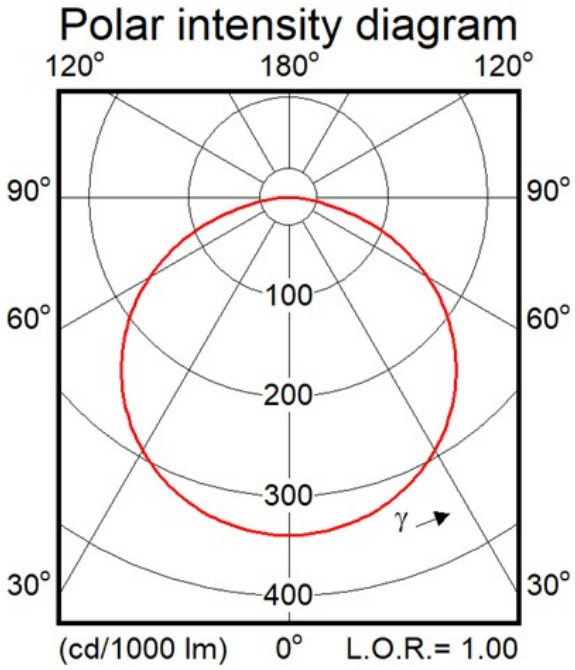
Measurement precision for flux +/- 5%, for efficacy +/- 6%., for x, y +/- 0.005, for CRI +/- 1.5

Operation point	940	lm	lm/W
50% I-nom 210mA	Tc 25 °C	1135	162
	Tc-nom 85 °C	1048	153
	Tc-max 95 °C	1031	151
I-nom 420mA	Tc 25 °C	2166	147
	Tc-nom 85 °C	1960	135
	Tc-max 95 °C	1920	133
I-max 1050mA	Tc 25 °C	4675	111
	Tc-nom 85 °C	4117	100
	Tc-max 95 °C	4009	98



Beam shape

Bare CoB



Electrical characteristics

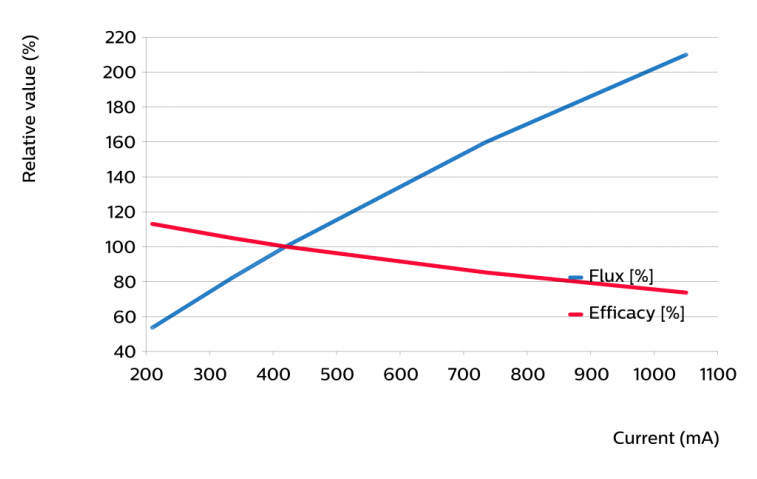
Parameter	Min	Typ	Max	Unit
Forward voltage	30.7	34.5	36.6	V
Power consumption	12.9	14.5	15.4	W = kWh/1000h

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

Tuning information

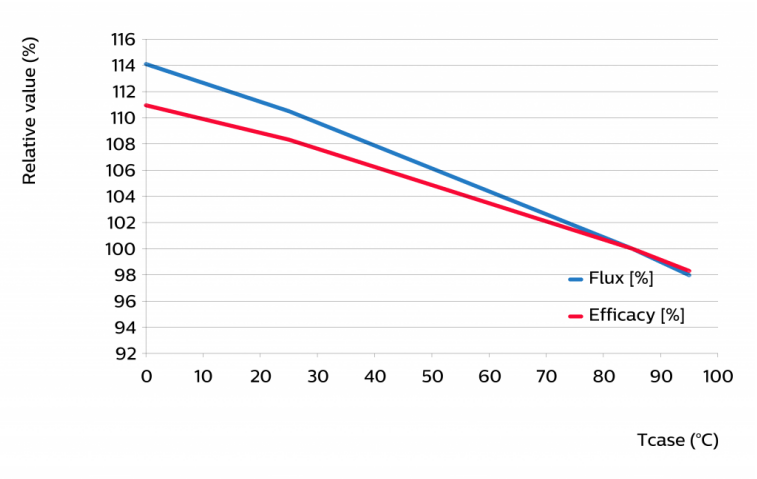
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1050	210	74
735	160	85
420	100	100
336	82	105
210	53	113



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

Tc [°C]	Flux [%]	Efficacy [%]
95	98	98
85	100	100
25	110	108
0	114	111



Lumen maintenance

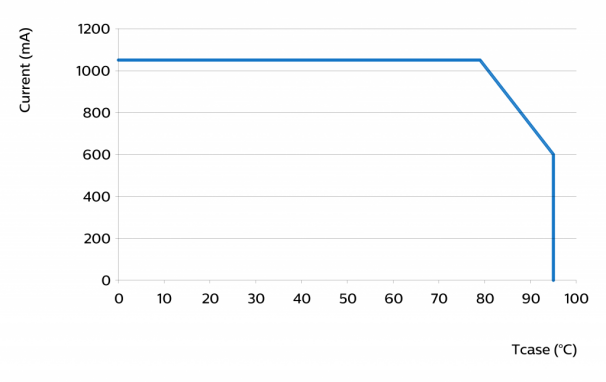
Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80%I-nom 336mA	Tc 65°C	>50	>50	>50	>50	>50	>50	>50	42	34
	Tc-nom 85°C	>50	>50	>50	>50	39	31	28	19	15
	Tc-max 95°C	>50	43	34	41	27	22	19	13	10
I-nom 420 mA	Tc 65°C	>50	>50	>50	>50	>50	>50	>50	38	31
	Tc-nom 85°C	>50	>50	46	>50	36	29	26	17	14
	Tc-max 95°C	>50	40	32	38	25	20	18	12	9
I-max 1050 mA	Tc 65°C	>50	>50	44	>50	35	28	25	16	13
	Tc-nom 85°C	40	27	21	25	17	13	12	8	6
	Tc-max 95°C	29	19	15	18	12	10	9	6	4

Lifetime

Parameter	Value	Unit
M70F50 nominal	>50000	hours

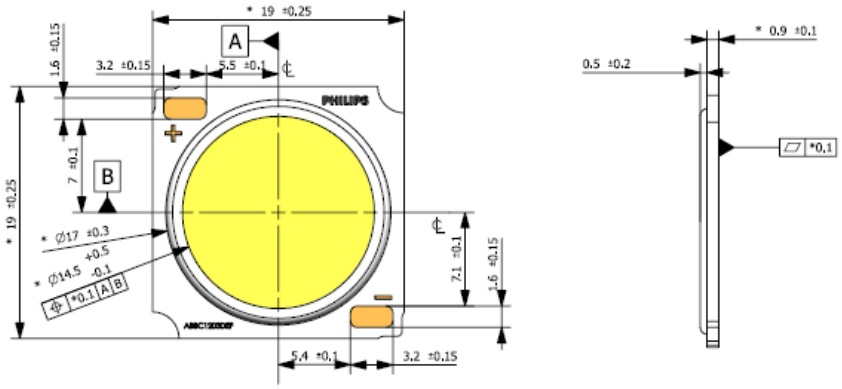
Switching cycles in accordance to EU 1194/2012: >15000

Performance Window



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	18.75	19	19.25	mm
Width	18.75	19	19.25	mm
Height PCB	0.8	0.9	1	mm
Product mass		0.93		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		1050	mA
Case temperature (Tc-max)		95	°C
ESD (direct contact)	2		kV
Working voltage		60	V_{dc}
Ambient temperature	-20	40	°C
Storage temperature	-40	80	°C

Application information

Certificates and Standards
CE
ENEC
ENEC+
IEC 62031
IEC/TR 62778
UL
UL 8750

Environmental
RoHS/REACH

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

UK importer address: 3 Guildford Business Park, GU2 8XG

08/09/2021

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