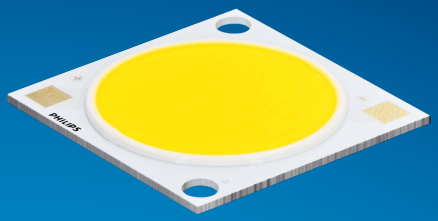
PHILIPS

Fortimo

LED

Fortimo SLM C 9xx 1211
L22 2828 G8N HE



Datasheet

Best combination of quality of light and efficacy with industry standard footprint

Fortimo LED SLM CRI90 G8N HE

Philips continues to develop its tried and trusted high efficiency COB range of products (since 2020) by introducing the third generation Fortimo SLM G8 HE. The Fortimo SLM CRI90 G8 HE range boasts an impressive 5% increase in efficacy and maintains color consistency of 2 SDCM similar to its predecessor, Fortimo SLM CRI90 G7HE+. Drawing on our four years of industry and R&D experience with high efficacy COB platforms, we have further optimized the quality of light and enhanced the product's robustness.
With the superior efficiency and color consistency, Fortimo SLM G8 HE helps unlock the extraordinary potential of light, facilitating innovation and inspiring the next generation of luminaire design for our OEM customers.
Check out the online Easy Design-in Tool for your perfect system combination (www.easydesignintool.com).

Key features and benefits

- Most widely used footprint to enable ease of use
- Best quality of light available for all applications
- ~5% efficacy improvement vs. current Fortimo SLM G7 HE+ range
- Excellent color consistency management (2 SDCM)
- System proposition (Module + Driver + Holder)
- Flexibility to optimize luminaire performance (high efficacy or high lm output)
- 50,000 hours lifetime

October 2024

Ordering data

Commercial product name	EOC	12NC	EPREL registration #	Box quantity
Fortimo SLM C 927 1211 L22 2828 G8N HE	8720169 383388 00	9290 039 07380	2093838	10
Fortimo SLM C 930 1211 L22 2828 G8N HE	8720169 383418 00	9290 039 07480	2093663	10
Fortimo SLM C 935 1211 L22 2828 G8N HE	8720169 383449 00	9290 039 07580	2093653	10
Fortimo SLM C 940 1211 L22 2828 G8N HE	8720169 383470 00	9290 039 07680	2093802	10
Fortimo SLM C 950 1211 L22 2828 G8N HE	8720169 383500 00	9290 039 07780	2093805	10
Fortimo SLM C 930 PW 1211 L22 2828 G8N HE	8720169 383531 00	9290 039 07880	2093777	10
Fortimo SLM C 935 PW 1211 L22 2828 G8N HE	8720169 383562 00	9290 039 07980	2093775	10
Fortimo SLM C 940 PW 1211 L22 2828 G8N HE	8720169 383593 00	9290 039 08080	2093664	10

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

Drive currents

Parameter	Nominal*	Life**	Max***	Unit
Fortimo SLM C 9xx 1211 L22 2828 G8N HE	990	1980	1980	mA

Module temperatures

Parameter	Nominal*	Life**	Max***	Unit
T_c (case temperature at T_c point)	65	95	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

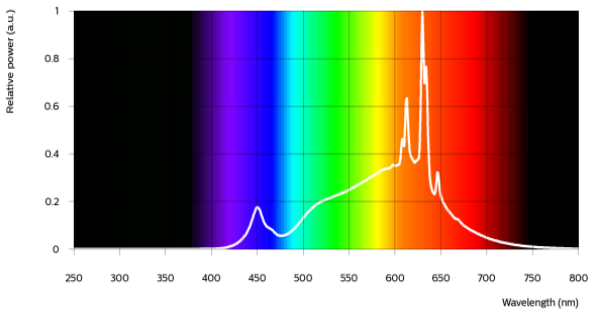
Optical characteristics - table per color (CCT)

Fortimo SLM C 927 1211 L22 2828 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	5272	5550	6105	lm
Efficacy		161		lm/W
Correlated color temperature (CCT)		2700		K
Color coordinates (CIEx, CIEy)		(0.458, 0.410)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		927/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 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 792mA	Tc 25 °C	4727	174
	Tc-nom 65 °C	4499	167
	Tc-max 95 °C	4276	161
I-nom 990mA	Tc 25 °C	5834	168
	Tc-nom 65 °C	5550	161
	Tc-max 95 °C	5273	155
I-max 1980mA	Tc 25 °C	11038	145
	Tc-nom 65 °C	10475	139
	Tc-max 95 °C	9923	133

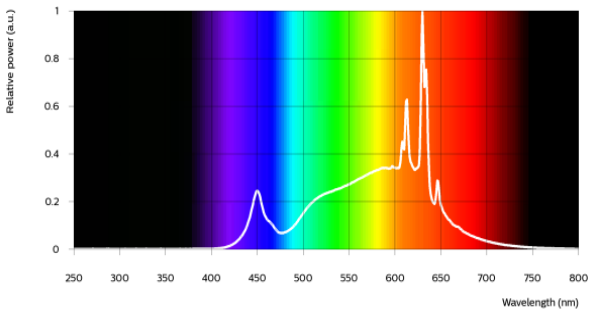


Fortimo SLM C 930 1211 L22 2828 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	5605	5900	6490	lm
Efficacy		172		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.434, 0.403)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		930/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 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 792mA	Tc 25 °C	5025	185
	Tc-nom 65 °C	4783	178
	Tc-max 95 °C	4546	171
I-nom 990mA	Tc 25 °C	6201	179
	Tc-nom 65 °C	5900	172
	Tc-max 95 °C	5606	165
I-max 1980mA	Tc 25 °C	11736	154
	Tc-nom 65 °C	11138	148
	Tc-max 95 °C	10553	141

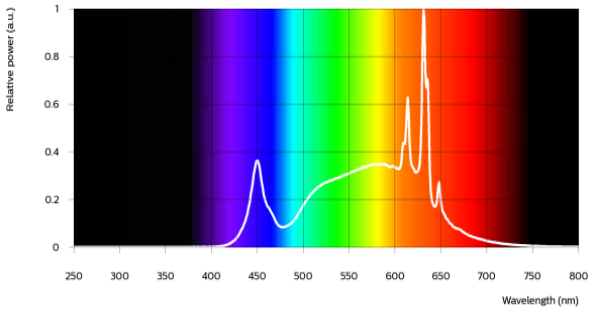


Fortimo SLM C 935 1211 L22 2828 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	5719	6020	6622	lm
Efficacy		175		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.408, 0.393)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		935/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 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 792mA	Tc 25 °C	5127	188
	Tc-nom 65 °C	4880	181
	Tc-max 95 °C	4639	174
I-nom 990mA	Tc 25 °C	6327	182
	Tc-nom 65 °C	6020	175
	Tc-max 95 °C	5720	168
I-max 1980mA	Tc 25 °C	11975	157
	Tc-nom 65 °C	11366	151
	Tc-max 95 °C	10769	144

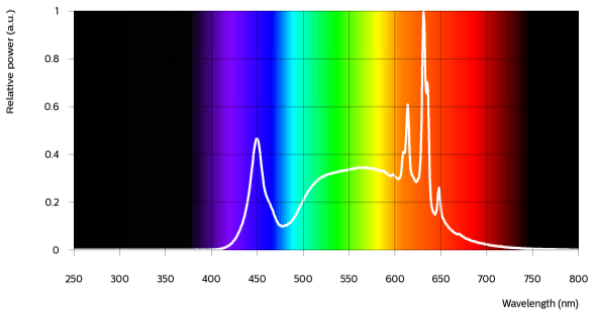


Fortimo SLM C 940 1211 L22 2828 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	5800	6105	6716	lm
Efficacy		177		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.382, 0.380)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		940/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 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 792mA	Tc 25 °C	5199	191
	Tc-nom 65 °C	4949	184
	Tc-max 95 °C	4704	177
I-nom 990mA	Tc 25 °C	6416	185
	Tc-nom 65 °C	6105	177
	Tc-max 95 °C	5801	171
I-max 1980mA	Tc 25 °C	12145	159
	Tc-nom 65 °C	11528	153
	Tc-max 95 °C	10923	146

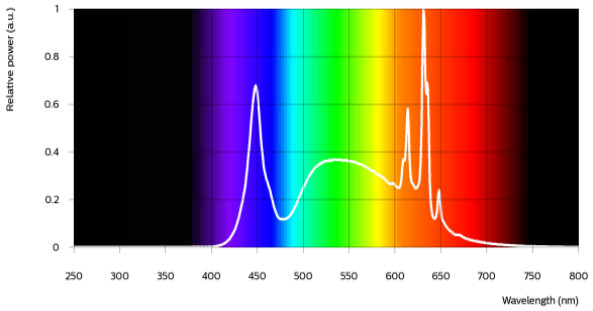


Fortimo SLM C 950 1211 L22 2828 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	5748	6050	6655	lm
Efficacy		176		lm/W
Correlated color temperature (CCT)		5000		K
Color coordinates (CIEx, CIEy)		(0.345, 0.355)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		950/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 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 792mA	Tc 25 °C	5151	189
	Tc-nom 65 °C	4904	182
	Tc-max 95 °C	4662	175
I-nom 990mA	Tc 25 °C	6358	183
	Tc-nom 65 °C	6050	176
	Tc-max 95 °C	5749	169
I-max 1980mA	Tc 25 °C	12037	158
	Tc-nom 65 °C	11426	152
	Tc-max 95 °C	10828	145

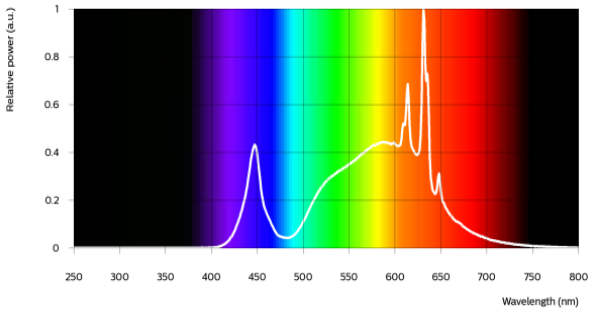


Fortimo SLM C 930 PW 1211 L22 2828 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	5553	5845	6430	lm
Efficacy		170		lm/W
Correlated color temperature (CCT)		3000		K
Color coordinates (CIEx, CIEy)		(0.422, 0.386)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		930/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 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 792mA	Tc 25 °C	4978	183
	Tc-nom 65 °C	4738	176
	Tc-max 95 °C	4504	169
I-nom 990mA	Tc 25 °C	6143	177
	Tc-nom 65 °C	5845	170
	Tc-max 95 °C	5554	163
I-max 1980mA	Tc 25 °C	11627	153
	Tc-nom 65 °C	11035	146
	Tc-max 95 °C	10456	140

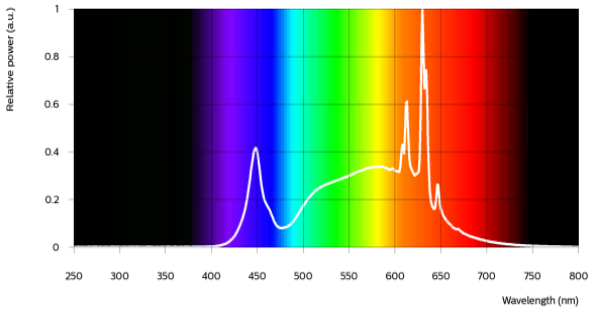


Fortimo SLM C 935 PW 1211 L22 2828 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	5719	6020	6622	lm
Efficacy		175		lm/W
Correlated color temperature (CCT)		3500		K
Color coordinates (CIEx, CIEy)		(0.398, 0.376)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		935/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 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 792mA	Tc 25 °C	5127	188
	Tc-nom 65 °C	4880	181
	Tc-max 95 °C	4639	174
I-nom 990mA	Tc 25 °C	6327	182
	Tc-nom 65 °C	6020	175
	Tc-max 95 °C	5720	168
I-max 1980mA	Tc 25 °C	11975	157
	Tc-nom 65 °C	11366	151
	Tc-max 95 °C	10769	144

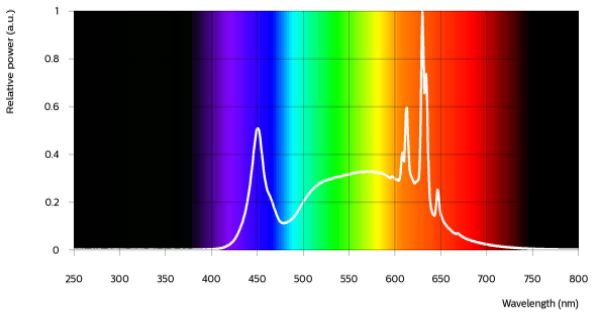


Fortimo SLM C 940 PW 1211 L22 2828 G8N HE

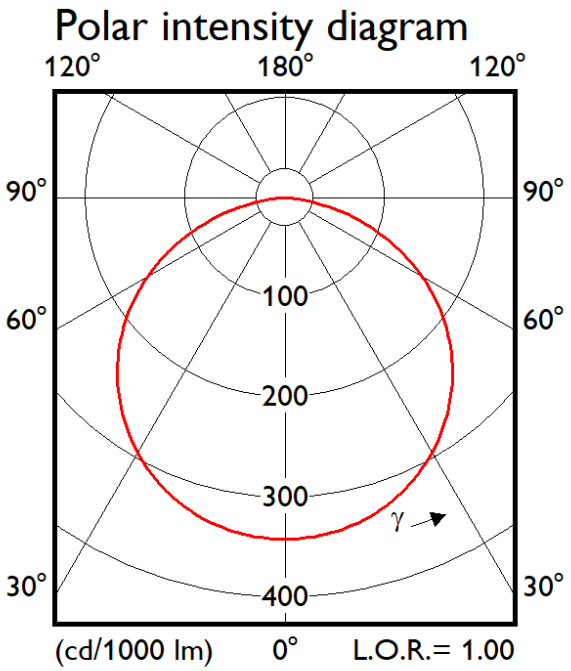
Parameter	Min	Typ	Max	Unit
Luminous flux	5748	6050	6655	lm
Efficacy		176		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.374, 0.364)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		940/259		
Photobiological safety		RG1 unlimited		

Measurement precision ± 5% for the flux data and ± 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 792mA	Tc 25 °C	5151	189
	Tc-nom 65 °C	4904	182
	Tc-max 95 °C	4662	175
I-nom 990mA	Tc 25 °C	6358	183
	Tc-nom 65 °C	6050	176
	Tc-max 95 °C	5749	169
I-max 1980mA	Tc 25 °C	12037	158
	Tc-nom 65 °C	11426	152
	Tc-max 95 °C	10828	145



Beam shape


Polar intensity diagram
120°
180°
120°
90°
90°
60°
60°
100
200
300
γ
30°
30°
400
(cd/1000 lm)
0°
L.O.R.= 1.00

Electrical characteristics

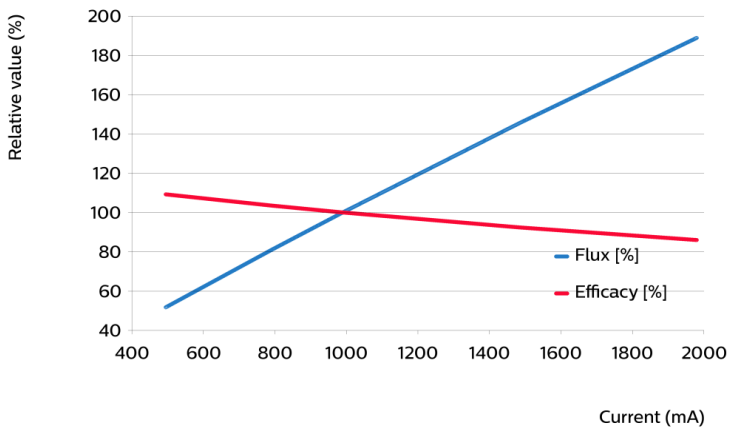
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	34.7	37.0	V
Power consumption	32.2	34.4	36.6	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

Tuning information

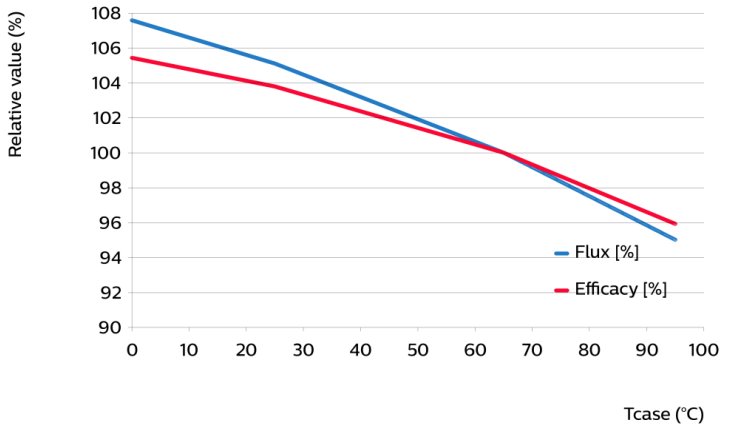
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
1980	189	86
1485	146	92
990	100	100
792	81	103
495	52	109



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

Tc [°C]	Flux [%]	Efficacy [%]
95	95	96
65	100	100
25	105	104
0	108	105



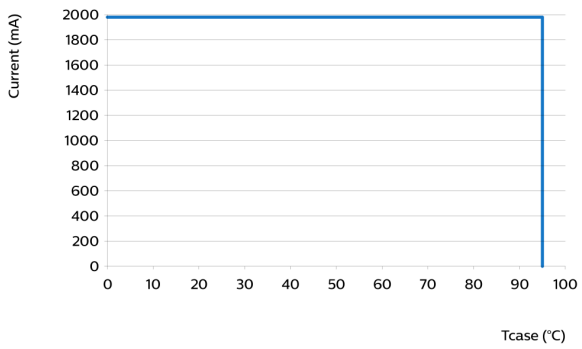
Lumen maintenance

Operation point	Lumen maintenance	L70			L80			L90		
	x 1000 hours	B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 792mA	Tc 50°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
	Tc 65°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
	Tc 95°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
I-nom 990mA	Tc 50°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
	Tc 65°C	>66	>66	>66	>66	>66	>66	>66	>66	>66
	Tc 95°C	>66	>66	>66	>66	>66	>66	>66	>66	62
I-max 1980mA	Tc 50°C	>66	>66	>66	>66	>66	>66	50	42	39
	Tc 65°C	>66	>66	>66	>66	>66	62	38	32	29
	Tc 95°C	>66	>66	60	49	41	38	23	19	17

Lifetime

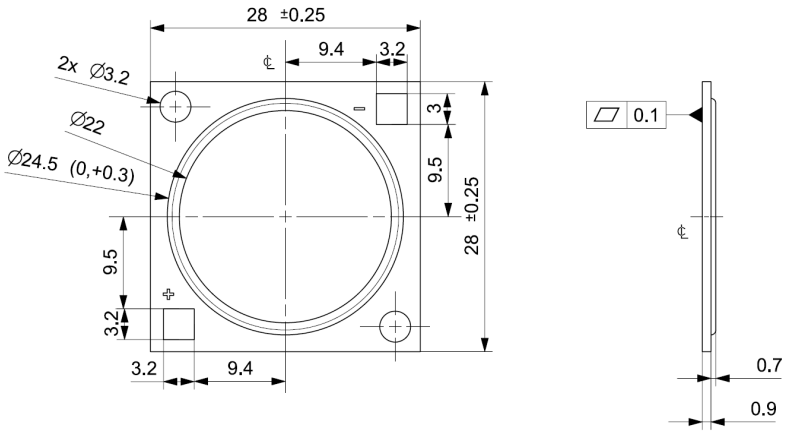
Parameter	Value	Unit
M70F50 nominal	>66000	hours

Performance Window



Mechanical characteristics

Parameter	Min	Typ	Max	Unit
Length	27.75	28	28.25	mm
Width	27.75	28	28.25	mm
Height	0.8	0.9	1	mm
Height	1.3	1.6	1.9	mm
Product mass		2.19		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		1980	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 illumination levels exceeding 1342 lux risk group classification may be RG2.

Application information

Certificates and Standards
CB
CE
ENEC
ENEC+
EPRS 001
IEC 62031
UKCA
UL
UL 8750

Environmental
RoHS/REACH

Application	
Dimming	Yes

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11/10/2024

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