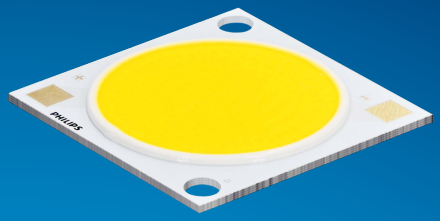
PHILIPS

Fortimo

LED

Fortimo SLM C 9xx 1216
L22 2828 G8N HE



Datasheet

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

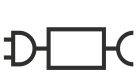
Fortimo LED SLM CRI90 G8N HE

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 1216 L22 2828 G8N HE	8720169 384224 00	9290 039 10180	2093774	10
Fortimo SLM C 930 1216 L22 2828 G8N HE	8720169 384255 00	9290 039 10280	2093836	10
Fortimo SLM C 935 1216 L22 2828 G8N HE	8720169 384286 00	9290 039 10380	2093803	10
Fortimo SLM C 940 1216 L22 2828 G8N HE	8720169 384316 00	9290 039 10480	2093641	10
Fortimo SLM C 950 1216 L22 2828 G8N HE	8720169 384347 00	9290 039 10580	2093796	10
Fortimo SLM C 930 PW 1216 L22 2828 G8N HE	8720169 384378 00	9290 039 10680	2093781	10
Fortimo SLM C 935 PW 1216 L22 2828 G8N HE	8720169 384408 00	9290 039 10780	2093668	10
Fortimo SLM C 940 PW 1216 L22 2828 G8N HE	8720169 384439 00	9290 039 10880	2093782	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 1216 L22 2828 G8N HE	1440	2880	2880	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

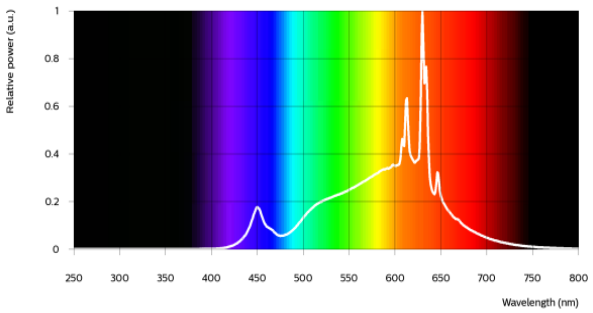
Optical characteristics - table per color (CCT)

Fortimo SLM C 927 1216 L22 2828 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	7486	7880	8668	lm
Efficacy		158		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 1152mA	Tc 25 °C	6723	171
	Tc-nom 65 °C	6383	164
	Tc-max 95 °C	6115	158
I-nom 1440mA	Tc 25 °C	8301	165
	Tc-nom 65 °C	7880	158
	Tc-max 95 °C	7548	152
I-max 2880mA	Tc 25 °C	15731	141
	Tc-nom 65 °C	14919	135
	Tc-max 95 °C	14280	130

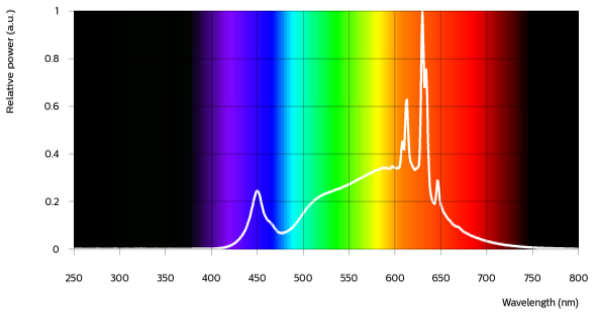


Fortimo SLM C 930 1216 L22 2828 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	7961	8380	9218	lm
Efficacy		168		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 1152mA	Tc 25 °C	7149	181
	Tc-nom 65 °C	6787	174
	Tc-max 95 °C	6503	168
I-nom 1440mA	Tc 25 °C	8828	175
	Tc-nom 65 °C	8380	168
	Tc-max 95 °C	8027	162
I-max 2880mA	Tc 25 °C	16732	150
	Tc-nom 65 °C	15869	144
	Tc-max 95 °C	15190	138

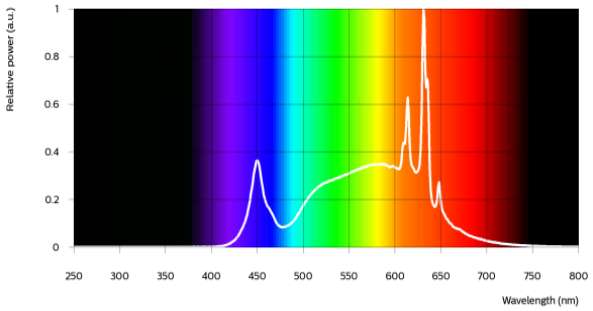


Fortimo SLM C 935 1216 L22 2828 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	8122	8550	9405	lm
Efficacy		171		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 1152mA	Tc 25 °C	7294	185
	Tc-nom 65 °C	6925	178
	Tc-max 95 °C	6634	171
I-nom 1440mA	Tc 25 °C	9007	179
	Tc-nom 65 °C	8550	171
	Tc-max 95 °C	8190	165
I-max 2880mA	Tc 25 °C	17072	153
	Tc-nom 65 °C	16192	147
	Tc-max 95 °C	15499	141

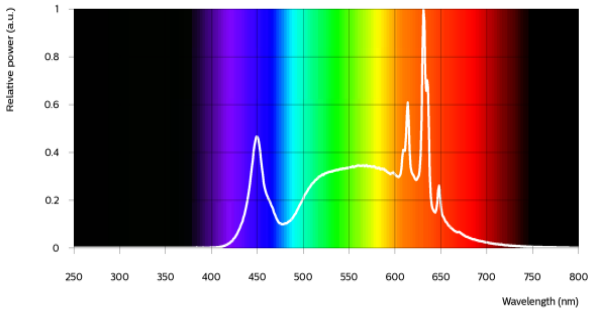


Fortimo SLM C 940 1216 L22 2828 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	8241	8675	9542	lm
Efficacy		174		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 1152mA	Tc 25 °C	7400	188
	Tc-nom 65 °C	7026	180
	Tc-max 95 °C	6731	174
I-nom 1440mA	Tc 25 °C	9138	181
	Tc-nom 65 °C	8675	174
	Tc-max 95 °C	8310	168
I-max 2880mA	Tc 25 °C	17324	155
	Tc-nom 65 °C	16431	149
	Tc-max 95 °C	15728	143

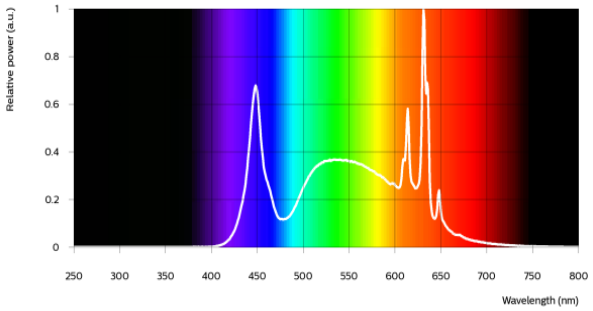


Fortimo SLM C 950 1216 L22 2828 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	8160	8590	9449	lm
Efficacy		172		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 1152mA	Tc 25 °C	7327	186
	Tc-nom 65 °C	6957	178
	Tc-max 95 °C	6665	172
I-nom 1440mA	Tc 25 °C	9049	180
	Tc-nom 65 °C	8590	172
	Tc-max 95 °C	8229	166
I-max 2880mA	Tc 25 °C	17156	154
	Tc-nom 65 °C	16272	147
	Tc-max 95 °C	15576	142

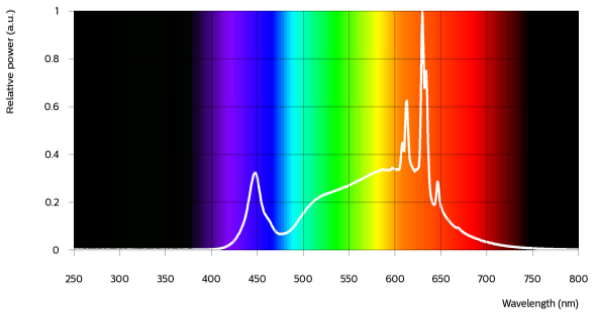


Fortimo SLM C 930 PW 1216 L22 2828 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	7885	8300	9130	lm
Efficacy		166		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 1152mA	Tc 25 °C	7081	180
	Tc-nom 65 °C	6722	172
	Tc-max 95 °C	6440	166
I-nom 1440mA	Tc 25 °C	8743	173
	Tc-nom 65 °C	8300	166
	Tc-max 95 °C	7951	161
I-max 2880mA	Tc 25 °C	16573	149
	Tc-nom 65 °C	15719	142
	Tc-max 95 °C	15046	137

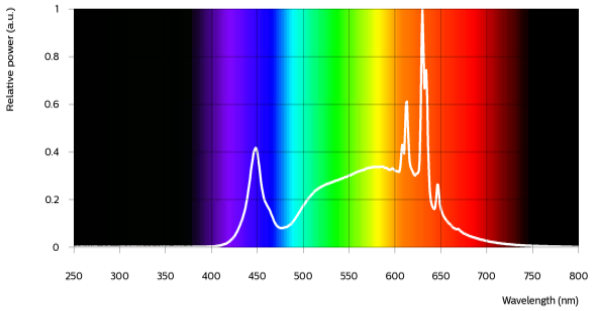


Fortimo SLM C 935 PW 1216 L22 2828 G8N HE

Parameter	Min	Typ	Max	Unit
Luminous flux	8122	8550	9405	lm
Efficacy		171		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 1152mA	Tc 25 °C	7294	185
	Tc-nom 65 °C	6925	178
	Tc-max 95 °C	6634	171
I-nom 1440mA	Tc 25 °C	9007	179
	Tc-nom 65 °C	8550	171
	Tc-max 95 °C	8190	165
I-max 2880mA	Tc 25 °C	17072	153
	Tc-nom 65 °C	16192	147
	Tc-max 95 °C	15499	141

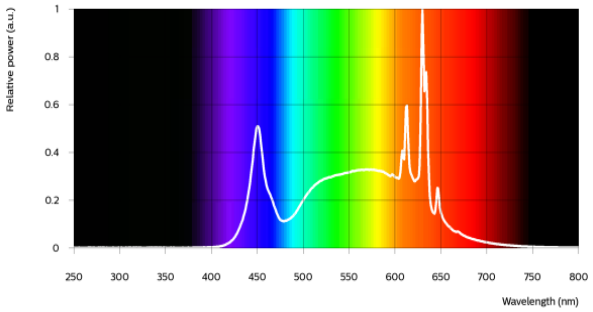


Fortimo SLM C 940 PW 1216 L22 2828 G8N HE

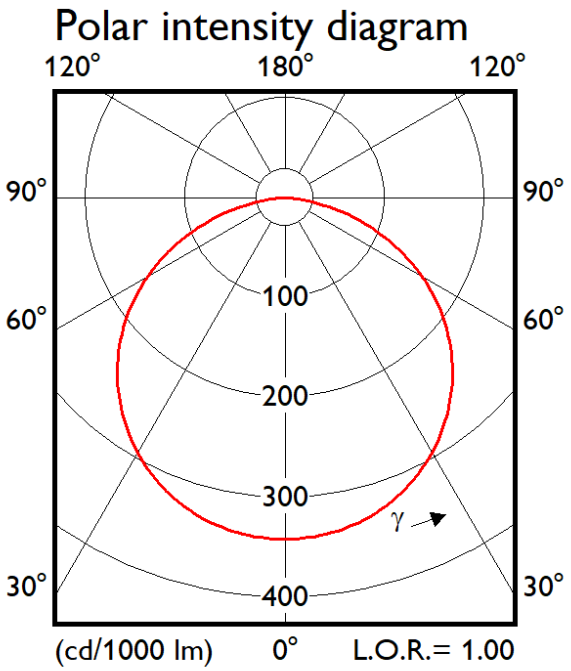
Parameter	Min	Typ	Max	Unit
Luminous flux	8160	8590	9449	lm
Efficacy		172		lm/W
Correlated color temperature (CCT)		4000		K
Color coordinates (CIEx, CIEy)		(0.374, 0.364)		-
Color consistency			2	SDCM
CRI	90			
R9	>50			
Photometric code		940/259		
Photobiological safety		RG1 unlimited		

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 1152mA	Tc 25 °C	7327	186
	Tc-nom 65 °C	6957	178
	Tc-max 95 °C	6665	172
I-nom 1440mA	Tc 25 °C	9049	180
	Tc-nom 65 °C	8590	172
	Tc-max 95 °C	8229	166
I-max 2880mA	Tc 25 °C	17156	154
	Tc-nom 65 °C	16272	147
	Tc-max 95 °C	15576	142



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

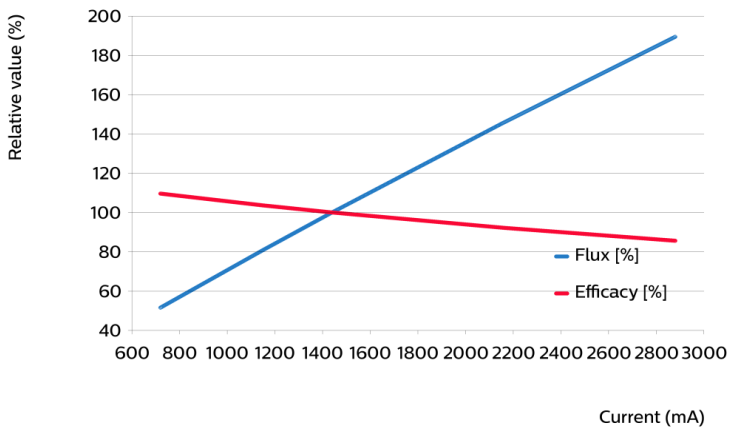
Parameter	Min	Typ	Max	Unit
Forward voltage	32.5	34.7	37.0	V
Power consumption	46.8	50.0	53.3	W = kWh/1000h
Number of modules in series per chain			1	
Number of modules per chain			1	
Number of modules in parallel			1	

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

Tuning information

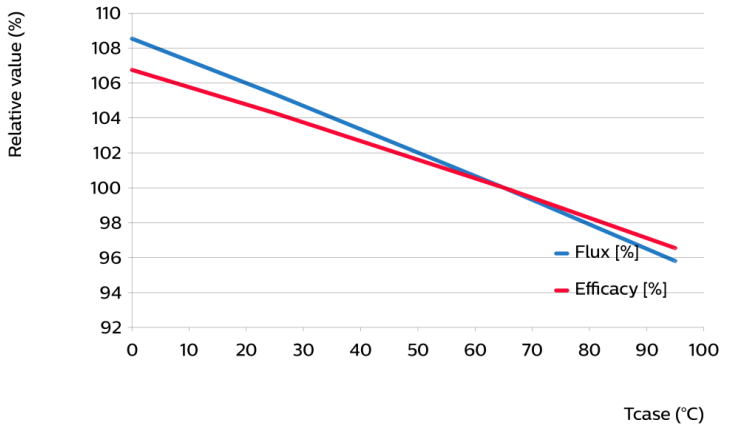
Flux and efficacy versus current (at Tc nominal)

I [mA]	Flux [%]	Efficacy [%]
2880	189	86
2160	146	92
1440	100	100
1152	81	104
720	52	110



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

Tc [°C]	Flux [%]	Efficacy [%]
95	96	97
65	100	100
25	105	104
0	109	107



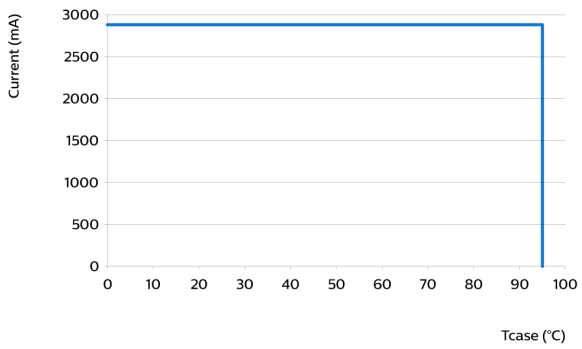
Lumen maintenance

Operation point	Lumen maintenance x 1000 hours	L70			L80			L90		
		B50	B20	B10	B50	B20	B10	B50	B20	B10
80% I-nom 1152mA	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 1440mA	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 2880mA	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

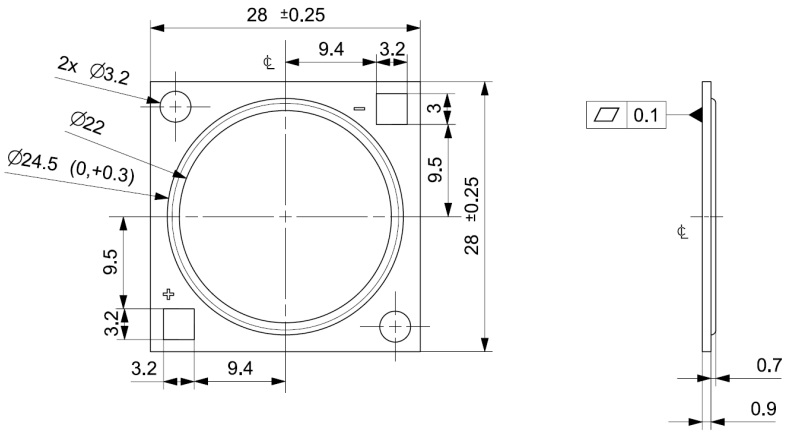
Parameter	Value	Unit
M70F50 nominal	>66000	hours

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		2.2		gram



Absolute ratings

Parameter	Min	Max	Unit
Current through the LED module (I-max)		2880	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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