

Valoya



PROFESSIONAL LED GROW LIGHTS

PRODUCT BROCHURE



Valoya

Since 2009 we have been committed to creating the best LED grow lights in the market. We focus on plant biology research and finding the best possible spectra for optimal plant development. Our fixtures are made up of highest quality components, including custom LED chips that produce light spectra we have patented.

Our customers receive the support and care of our photobiologists, seed to sale.

8 out of 10 world's largest agricultural companies are already using Valoya's lights.



Valoya Spectra

Valoya's wide spectra offer the best possible light for plants in an energy efficient way. Valoya's patented wide spectra are designed to optimize growth of varying plants in different applications. In addition to photosynthesis, our spectra give valuable information to plants about their environment, allowing control of plant morphology and physiological traits.

- AP67** Strong vegetative and generative growth
- AP673L** Strong vegetative growth
- G2** Enhancing vernalization process
- NS1 / NS12** Wide sun-like spectrum for research and biotech
- Architectural** Warm white spectrum for architectural applications

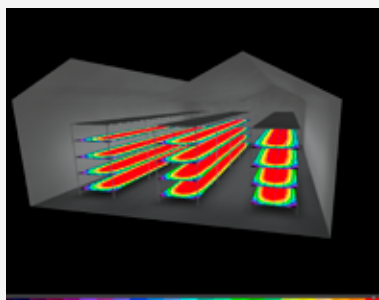
Standard Valoya Spectrum Data

Spectrum type: Wide band. US patent no: 8549787, 8850743, SG patent no: 178825 and international counterparts
Worldwide patent pending.

		AP67	AP673L	G2	NS1 / NS12	Architectural
Ultraviolet	< 400 nm	0 %	0 %	0 %	1% / 0,5%	0 %
Blue	400-500 nm	14 %	12 %	8 %	20% / 21%	14 %
Green	500-600 nm	16 %	19 %	2 %	39% / 38%	31 %
Red	600-700 nm	53 %	61 %	65 %	35% / 35%	43 %
Far-red	700-800 nm	17 %	8 %	25 %	5% / 6%	12 %
PAR	400-700 nm	83 %	92 %	75 %	94% / 94%	88 %
CCT	Kelvin	2500	2000	Not Applicable	4800 / 5000	3700
CRI		70	60	Not Applicable	80 / 91	85
B:G Ratio		1,2	1,8	25,9	0,7 / 0,6	0,6
R:FR Ratio		3,3	5,5	3,1	10,4 / 4,6	3,5

Typical values presented in the table. There may be some variation between the spectra in different fixture models due to a disparity in the LED layout.

Light Planning



We use our proprietary light planning technology as well as the industry standard Dialux to create comprehensive light plans for our customers, free of charge.

Light plans determine an optimal number of luminaires and their optimal placements to reach customers' goals.

Application Guide

All spectra are available in all luminaires. Through conducting more than 400 trials we have collected data on optimal light intensities in each growth phase for most commonly cultivated plants worldwide. We thus advise our customers on the spectrum and luminaire selection for their particular application.



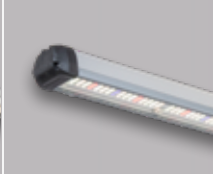


For more information please contact sales@valoya.com

Typical Spectrum Applications

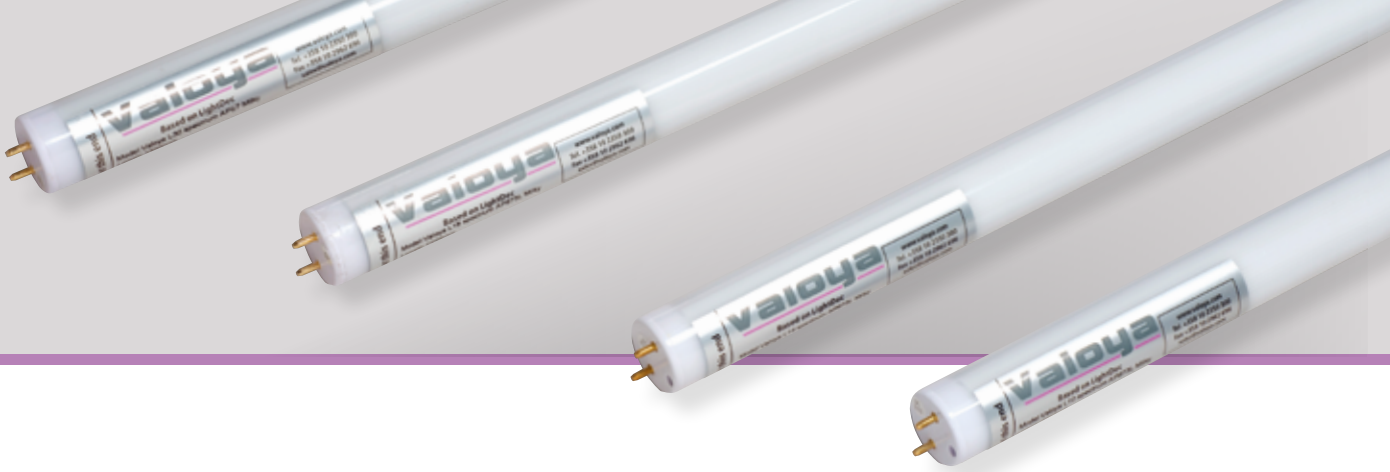
	AP67	AP673L	G2	NS1 / NS12	Architectural
Vegetative growth	◐	●		●	●
Flowering	●		●		●
Vernalization			●		
Tissue culture	●	●		◐	◐
Rooting			●		
Propagation	◐	●		◐	

● Excellent fit ◐ Good fit

Typical Luminaire Applications

					
	L-Series	C-Series	BX-Series	BL-Series	R-Series
Tissue Culture	●	●			
Vertical Farming	●	●	◐		
Greenhouses		◐	◐	●	●
Rooms and Chambers	●	●	●	◐	◐
HPS Hybrid			●	●	●

● Excellent fit ◐ Good fit



L-Series

The T8 form factor allows the L-series products to be installed in fluorescent tube fixtures without modification (fixtures with magnetic ballast). Other installation options are cost effective, easy to install end-caps with IP64 or IP67 rating for e.g. testing purposes.

- **Typical applications**

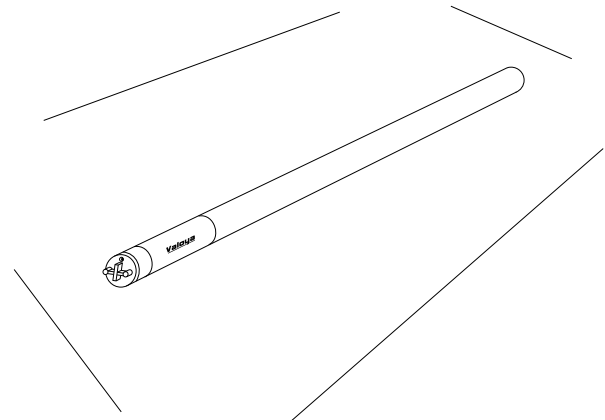
Vertical farming, tissue culture, growth chambers

- **Light intensity in typical applications**

20 ~ 150 $\mu\text{mol}/\text{m}^2/\text{s}$

- **Accessories**

Optional Valoya end-cap set with ingress protection available to order.



Optional (IP64)
single



Optional (IP64)
chain
*up to 60 luminaires
with 1 mains cable*



Optional (IP67)

	L28	L35*
Power consumption	28 W	35 W
Power input (110-240, 277 VAC 50/60Hz)	•	•
Weight	0,36 kg (0.79 lb)	0,44 kg (0.97 lb)
Dimensions, mm (Length / Diameter)	1198 / Ø 26	1498 / Ø 26
Dimensions, inches (Length / Diameter)	47.2 / Ø 1.02	59.0 / Ø 1.02
End-cap cable length	3 m	
Certifications / Approvals	CE marked , cETLus	
Distance from the plants (rec.)	< 0,5 m	
Light intensity decay	Max 10% at 35 000 h. Typical usage 50 000 h	
Light efficacy, (380 - 820 nm)	Up to 2,1 $\mu\text{mol}/\text{W}$	
Ambient operating temperature	0 - 40 °C (32 - 104 °F)	
* Please ask for additional models. Power connection G 13; IP20 without the end-caps; RoHS compliance; 3 years limited warranty		

Typical values presented. Tolerances apply. For more detailed technical specifications please download the 'Installation Guide' from valoya.com/brochures



C-Series

The C-series is ideal for growth rooms and other demanding applications where high intensity lighting is needed. These luminaires are ultra slim and lightweight which makes them easy to install even in places with very limited space. The bar shaped form factor minimizes shadow effect and makes it suitable for various vertical farming solutions.

- **Typical applications**

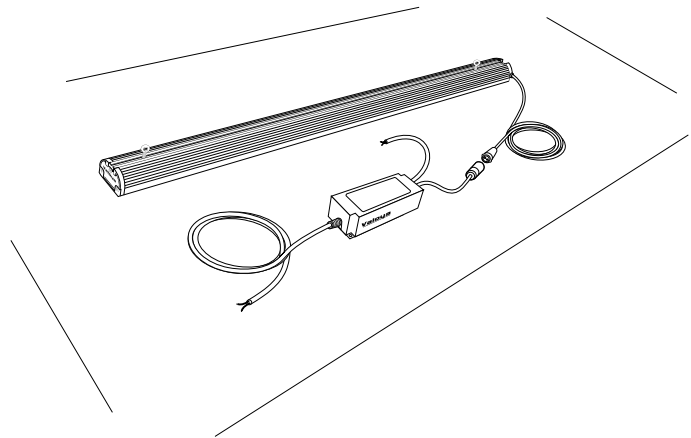
Growth rooms, vertical farms

- **Light intensity in typical applications**

50 - 250 $\mu\text{mol}/\text{m}^2/\text{s}$

- **Accessories**

Standard hook included. Optional hook available to order.



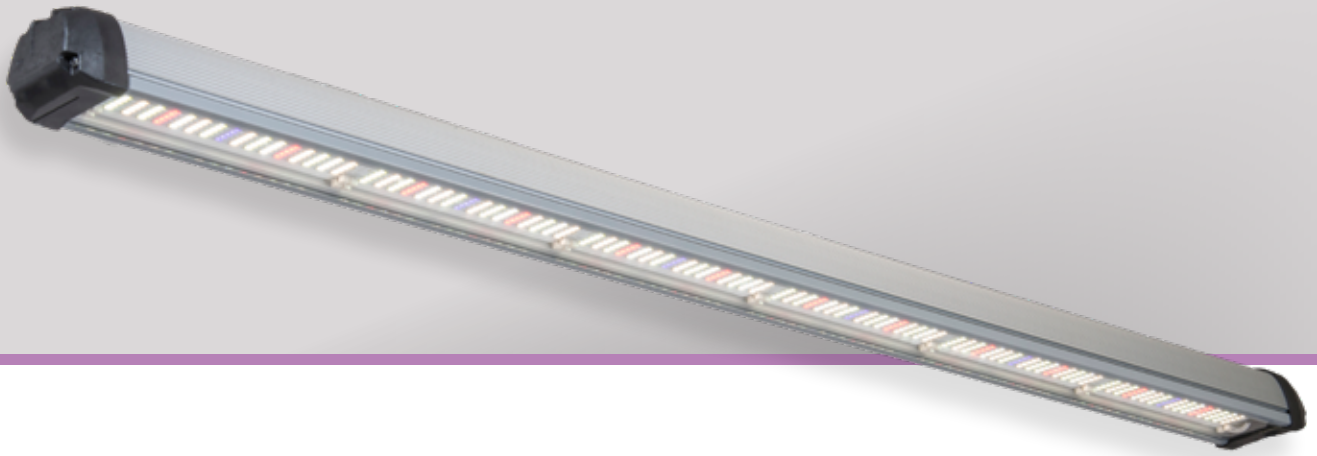
Standard



Optional

	C65	C75	C90
Power consumption (incl. PSU)	65 W	80 W	90 W
Power input 110-240, 277 VAC	•	•	•
Weight including LED driver	3,1 kg (6.8 lb)	3,6 kg (7.9 lb)	4,4 kg (9.7 lb)
Dimensions (L x W x H)	1175 x 45 x 33 mm	1475 x 45 x 33 mm	1756 x 45 x 33 mm
	46.3" x 1.77" x 1.3"	58" x 1.77" x 1.3"	69.9" x 1.77" x 1.3"
Cables	0,5 m (20") mains input to PSU, 3 m (118") PSU to luminaire, 0,3 m (11.8") dimming		
Certifications / Approvals	CE marked, cETLus		
Dimming (IEC 60929 Annex E)	0 ~ 10 V, PWM, light output: off, 6 - 100%		
Distance from the plants (rec.)	0,1 - 1,5 m		
Light intensity decay	Max 10 % at 35 000 h. Typical usage 50 000 h.		
Light efficacy, (380 nm ~ 820 nm)	Up to 1,8 $\mu\text{mol}/\text{W}$ (spectrum dependent)		
Ambient operating temperature	0 - 30 °C (32 - 86 °F)		
Ingress protection rating IP66, RoHS compliance, 3 years limited warranty			

Typical values presented. Tolerances apply. For more detailed technical specifications please download the 'Installation Guide' from valoya.com/brochures



BX-Series

BX-Series is the new generation of Valoya's bestseller, the B-Series. Light intensity of up to 2,1 $\mu\text{mol}/\text{m}^2/\text{s}$ comes in slim, light, humidity and impact resistant bar shaped luminaires. Applications demanding high light intensity with absolute light uniformity are what BX-Series was designed for.

- **Typical applications**

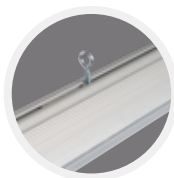
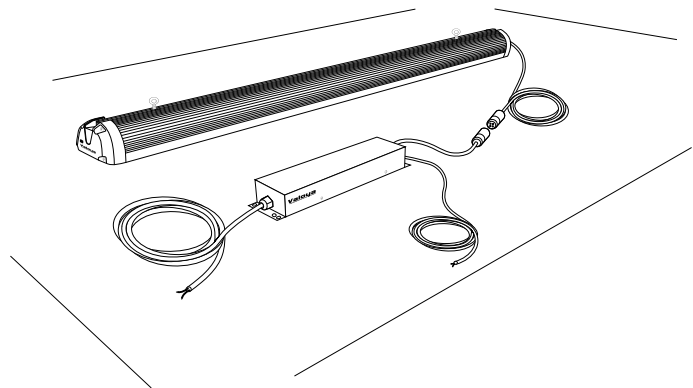
High intensity lighting, growth rooms, multilayer

- **Light intensity in typical applications**

100 ~ 800 $\mu\text{mol}/\text{m}^2/\text{s}$

- **Accessories**

Standard hook included. Optional hook available to order.



Standard



Optional

	BX90	BX120	BX180
Power consumption (incl. driver)	88 W	132 W	199 W
Input voltage	100 - 305 VAC	90 - 305 VAC	
Weight including LED driver	4 kg (8.8 lb)	4,6 kg (10.1 lb)	5,9 kg (13 lb)
Dimensions (L x W x H)	903 x 73,5 x 58 mm	1176 x 73,5 x 58 mm	1722 x 73,5 x 58 mm
	35.5" x 2.9" x 2.3"	46.3" x 2.9" x 2.3"	68" x 2.9" x 2.3"
Cables	2 m (79") mains to LED driver, 1,3 m (51,2") luminaire to LED driver, 2 m (79") dimming cable		
Certifications / Approvals	CE marked, Tested and certified to UL/CSA standards		
Dimming (IEC 60929 Annex E)	1 - 10 V, PWM. Light output: 10 - 100%		
Distance from the plants (rec.)	0,1 - 4,0 m (0.1" - 13.1')		
Light intensity decay	Max 10% at 35 000 h. Typical usage 50 000 h.		
Light efficacy, (380 nm ~ 820 nm)	Up to 2,1 $\mu\text{mol}/\text{W}$ (spectrum dependent)		
Ambient operating temperature (luminaire / LED driver)	0 - 40 °C (32 - 104 °F) / 0 - 30 °C (32 - 86 °F)		

Ingress protection rating IP67-luminaire and IP54-LED driver, Impact protection rating IK08, RoHS compliance, 3 years limited warranty

Typical values presented. Tolerances apply. For more detailed technical specifications please download the 'Installation Guide' from valoya.com/brochures



BL-Series

BL-Series combines the high intensity and durability of the BX-Series with the chainability feature allowing up to 16 luminaires to be connected to a single mains input. The LED driver is internal meaning less cables and a simple installation. The BL-Series is ideal for high light intensity applications.

- **Typical applications**

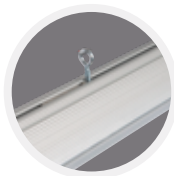
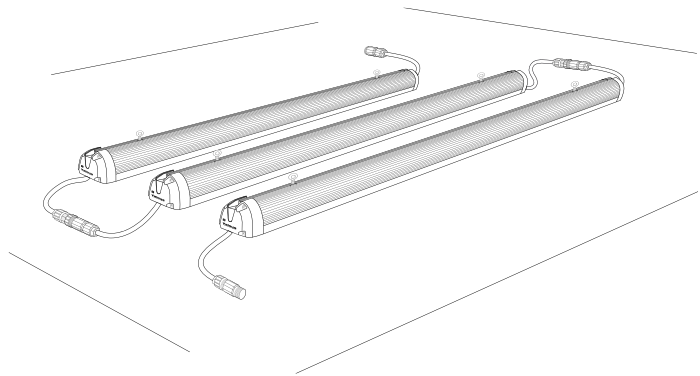
High intensity lighting, greenhouses, growth rooms

- **Light intensity in typical applications**

100 ~ 800 $\mu\text{mol}/\text{m}^2/\text{s}$

- **Accessories**

Standard hook included. Optional hook available to order.



Standard



Optional

	BL120
Power consumption (incl. driver)	125 W
Input voltage	220 - 240 VAC
Weight including LED driver	3,2 kg (7.1 lb)
Dimensions (L x W x H)	1176 x 73,5 x 58 mm 46.3" x 2.9" x 2.3"
Cables	0,3 m (11.8") from each end of luminaire
Certifications / Approvals	CE marked
Dimming	n/a
Distance from the plants (rec.)	0,1 m (4")
Light intensity decay	Max 10% at 35 000 h. Typical usage 50 000 h.
Light efficacy, (380 nm ~ 820 nm)	Up to 2,1 $\mu\text{mol}/\text{W}$ (spectrum dependent)
Ambient operating temperature	0 - 35 °C (32 - 95 °F)
Maximum no. of interconnected luminaires	16
Ingress protection rating IP66, Impact protection rating IK03, RoHS compliance, 3 years limited warranty	

Typical values presented. Tolerances apply. For more detailed technical specifications please download the 'Installation Guide' from valoya.com/brochures



R-Series

The R-series form factor resembles traditional HID lighting and offers an easy to install option for one-to-one replacement of HID lights. R-series lights are thus ideal for a step by step investment in LEDs by replacing part of HID lights with more energy efficient Valoya wide spectrum LED lights. A highly durable fixture due to all aluminium build, high IP and passive cooling.

- **Typical applications**

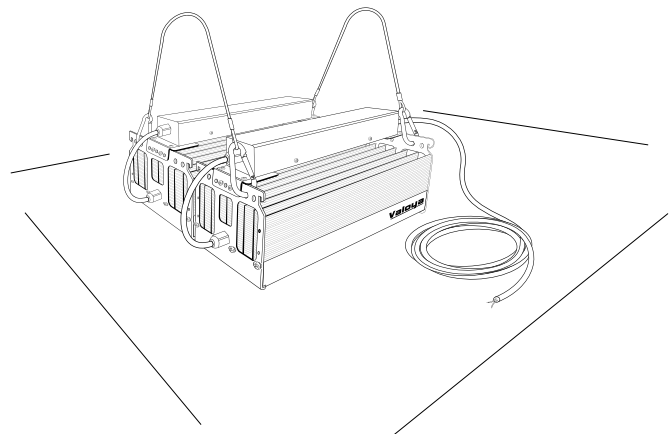
High intensity lighting, HID replacement

- **Light intensity in typical applications**

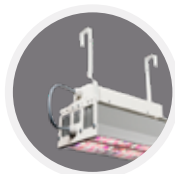
100 ~ 1000 $\mu\text{mol}/\text{m}^2/\text{s}$

- **Accessories**

PVC coated steel wire rope with carabiner hooks included as standard. Optional hooks available to order.



Standard



Optional

	R300	R300M
Power consumption (incl. PSU)	276 W	
Power input	100-240 VAC, 277 VAC	100-250 VAC
Weight including LED driver	12,2 kg kg (26.9 lb)	9,8 kg kg (21.6 lb)
Dimensions, mm (L x W x H)	340 x 380 x 175	
Dimensions, inches (L x W x H)	13.4" x 15.5" x 6.6"	
Cable	2 m (79") mains input, 2 m (79") optional dimming cable	
Certifications / Approvals	CE marked, cETLus	
Dimming (IEC 60929 Annex E)	Optionally available, 1-10 V, light output: 10 - 100%	n/a
Distance from the plants (rec.)	0,5 - 4,0 m	
Light intensity decay	Max 10% at 35 000 h. Typical usage 50 000 h.	
Light efficacy, (380 nm ~ 820 nm)	Up to 2,0 $\mu\text{mol}/\text{W}$ (spectrum dependent)	
Ambient operating temperature	0 - 30 °C (32 - 86 °F)	
Ingress protection rating IP55, RoHS compliance, 3 years limited warranty		

Typical values presented. Tolerances apply. For more detailed technical specifications please download the 'Installation Guide' from valoya.com/brochures

Other Products



Spectrometer

The handheld Spectrometer is suitable for a wide range of applications and offers a large selection of various measurements:

- Ideal for greenhouse, growth room, growth chamber and outdoor usage
- Access results immediately on the large, bright color screen. Compare spectra in overlay mode.
- Do 5 measurements with one click. Choose from over 30 parameters. Compare results side by side.



MCPET Reflective Sheets

MCPET offers many advantages over previous generation reflectors and has been embraced by all the leading companies in lighting industry.

- **Size:**
600 x 1200 mm
- **Excellent reflectivity**
99 % RB, 101 % E 3 & P3 GRADE (compared to BaS04)
- **Diffusive reflectivity is very high**
96 % RB, 97 % E3 & P3 GRADE, reducing light bulb/strip shadows enabling lower units and requiring less structural material.
- **Thermal deformation**
177 °C, Melting temperature: 240 °C.

Standards applied:

EUROPE

EN60598-1: Luminaires. General requirements and tests.

EN60598-2-1: Luminaires. Part 2: Particular requirements. Section one – Fixed general purpose luminaires.

EN62031: LED modules for general lighting. Safety specifications.

EN 62493: Assessment of lighting equipment related to human exposure to electromagnetic fields.

EN55015: Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment.

EN61547: Equipment for general lighting purposes. EMC immunity requirements.

EN61000-3-2: Electromagnetic compatibility - Limits - Limits for harmonic current emissions.

EN61000-3-3: Electromagnetic compatibility – Limits - Limits for Voltage Fluctuations and Flicker.

IEC EN 61000-4-2: Electromagnetic compatibility (EMC)- Part 4-2: Testing and measurement techniques - electrostatic discharge immunity test.

IEC EN 61000-4-3: Electromagnetic compatibility (EMC)- Part 4-3: Testing and measurement techniques - radiated, radio-frequency, electromagnetic field immunity test.

IEC EN 61000-4-4: Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test.

IEC EN 61000-4-5: Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test.

IEC EN 61000-4-6: Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields.

IEC EN 61000-4-8: Electromagnetic compatibility (EMC) - Part 4-8: Testing and measurement techniques - Power frequency magnetic field immunity test.

IEC EN 61000-4-11: Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests.

IEC 61347-2-13: Lamp controlgear. Particular requirements for d.c. or a.c. supplied electronic controlgear for LED modules.

IEC 61347-1 + A1: Lamp controlgear - Part 1: General and safety requirements.

IEC 62384 + A1: DC or AC supplied electronic control gear for LED modules. Performance requirements.

EN62471: Photobiological safety of lamps and lamp systems.

NORTH AMERICA

UL1598: Luminaire safety.

UL 8750: Light Emitting Diode (LED) equipment for use in lighting products.

CSA C22.2: #250.0.8: Safety for Light emitting diode (LED) equipment for lighting applications.

CSA C22.2 No. 250.13-14: Light Emitting Diode (LED) equipment for use in lighting products.

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