

# L-100

## 100 Watt Rad-Hard LED Luminaire

Radiation certified  
CB, CE, FCC certified

Product flyer, Version 2.2, February 2023

## Nuclear grade High-Bay LED Luminaire.

**L-100** latest generation of high radiation and high temperature resistant series of LED products, proudly created and made by DITO Lighting, Slovenia, EU.

**L-100** is a nuclear grade High-Bay LED Luminaire, designed to be used in moderate to high radiation, high temperature areas.

The Luminaire is simplified, yet more affordable, cost effective version of his older brother, the **H-100**. They are sharing the same mechanical, photometric and electrical properties.

The housing is made of anodized aluminium. The Luminaire is very light, easy to handle and is preferred choice for less demanding nuclear applications.

Typical applications are Hot-Cell lighting, spent fuel storage and processing facilities, industrial nuclear facilities.

**L-100** is tested for TID of **50 kGy** gamma, combined with  **$5 \times 10^{13}$  neutron/cm<sup>2</sup> 1MeV (Si)** equivalent neutron fluence.

**L-100** is fully potted, without trapped air inside, therefore insensitive to sudden ambient pressure changes.



Soft mounting of the electronics means high seismic capacity, no sensitivity to vibrations and excellent protection against water, hot steam and other chemicals.

Complete electronics (driver) is located inside the Luminaire. The unit is connected directly to the mains, without any external boxes mounted elsewhere outside radiation area.

The Luminaire is designed for simple upgrading of existing mature lighting technologies on one-to-one basis. In most cases no rewiring is needed.

For latest, up to date information please visit:

[www.dito-lighting.com](http://www.dito-lighting.com)  
[nuclear@dito-lighting.com](mailto:nuclear@dito-lighting.com)

# L-100

## 100 Watt Rad-Hard LED Luminaire



### Specifications:

Rated power:	100 W
Available voltages:	100, 120, 220, 230, 277 V
Power factor:	> 0.9
Luminous flux:	> 16.000 lm
CCT:	5000 K
CRI:	> 80
Luminaire efficacy:	> 160 lm/W
Electronics location:	internal
Housing material:	Aluminium
Optics protection:	Silicone
Ingress protection:	IP 65
Impact protection:	IK 07
Ambient temperature:	-20 °C to +80 °C
Weight:	2.4 kg
Dimensions:	dia 320 × 208 mm
Warranty:	5 years

### In compliance with (partial list):

MIL-STD-883, Method 1017 neutrons  
MIL-STD-883, Method 1019 gamma  
ESA ESCC No. 22900 gamma

2014/30/EU (EMC)

2014/35/EU (LVD)

### Radiation tolerance:

Gamma:	$5 \times 10^4$ Gy
Neutrons 1MeV (Si):	$5 \times 10^{13}$ n/cm <sup>2</sup>

### Reliability (environment: GB @ 50 °C):

Calculation method:	MIL-217F N2
MTBF:	3.758.857 h
Predicted lifetime:	> 22 years
Confidence level:	95 %

### Notes:

Irradiation tests performed inside the core of the TRIGA MkII nuclear research reactor with the representative NPP spectrum.

Different input voltages versions are available: 100, 120, 220, 230 and 277 VAC/VDC. Mains frequency can vary between 45 and 65 Hz. The Luminaire does not support wide input voltage range.

The Luminaire is designed for professional use only.

Custom cable length and custom Luminaire holder are available on request.