

# L-50

## 50 Watt Rad-Hard LED Luminaire

*Radiation certified  
CB, CE, FCC certified*

Product flyer, Version 2.0, November 2021

## Nuclear grade Low-Bay LED Luminaire.

**L-50** is latest generation of high radiation and high temperature resistant series of LED products, proudly created and made by DITO Lighting, Slovenia, EU.

**L-50** is a nuclear grade low-bay LED Luminaire, designed to be used in moderate to high radiation, high temperature areas. The Luminaire is simplified, yet more affordable version of his older brother, the **H-50**, sharing the same mechanical, photometric and electrical properties.

The housing is made of aluminium. Overall weight is very low, 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-50** is tested for TID of **50 kGy** gamma, combined with  **$5 \times 10^{13}$  n/cm<sup>2</sup> 1MeV (Si)** equivalent neutron fluence.

**L-50** uses silicone optics. Silicone optics is flexible, has operational temperature range of over 200 °C, is 100 % shatterproof and chemically stable.

**L-50** is fully potted. 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:

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### Specifications:

Rated power:	50 W
Rated voltages:	100-277 V AC or DC
Power factor:	> 0.9
Luminous flux:	> 8000 lm
CCT:	5000 K
CRI:	> 80
Luminaire efficacy:	> 160 lm/W
Electronics location:	internal
Housing material:	Aluminium
Optics material:	Silicone
Ingress protection:	IP 65
Impact protection:	IK 07
Ambient temperature:	-20 °C to +80 °C
Weight:	1.8 kg
Dimensions:	dia 240 × 124 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  
IEEE 344 -2013  
IEC 60980  
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>

### Seismic capacity:

Frequency range:	1 to 35 Hz, random
Base excitation:	> 10 g @ any axis

### 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 research reactor with the representative NPP spectrum.

The product is available with different input voltages ranging from 100 to 277 VAC or VDC, 50 or 60 Hz.

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