

L-50

50 Watt Rad-Hard LED Luminaire

*Radiation certified
CB, CE, FCC certified*

Product flyer, Version 2.2, February 2023

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 **5×10^{13} n/cm² 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 built-in inside the Luminaire itself. 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
Available voltages:	100, 120, 220, 230, 277 V
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

2014/30/EU (EMC)

2014/35/EU (LVD)

Radiation tolerance:

Gamma:	5×10^4 Gy
Neutrons 1MeV (Si):	5×10^{13} n/cm ²

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.