

H-50

50 Watt Ultra Rad-Hard LED Luminaire

*LOCA certified
Seismic certified
Radiation certified
CB, CE, FCC certified*

Product flyer, Version 2.0, November 2021

Nuclear grade Low-Bay LED Luminaire.

H-50 is a member of extremely high radiation, high temperature resistant series of LED Lighting products, proudly created and made by DITO Lighting, Slovenia, EU.

H-50 is a nuclear grade low-bay LED Luminaire, designed to be used in high radiation, high temperature areas. The Luminaire is available in Stainless Steel housing. The product is compatible with typical DBA and LOCA scenario. Main application for the **H-50** is lighting inside the RB of the NPP.

H-50 is tested for TID of **500 kGy** gamma, combined with **5×10^{14} n/cm² 1MeV (Si)** equivalent neutron fluence.

H-50 is small, light, extremely efficient 50 W LED Luminaire, designed for simple one-to-one replacement of the existing tungsten or fluorescent based fixtures. LEDs are protected with soft, high temperature, 100 % shatterproof, browning proof, silicone optics.

Proprietary electronics is based on full discrete design without integrated circuits, electrolytic capacitors and optocouplers. Predicted lifetime is more than 20 years. Mission profile 24/7 at 50 °C ambient temperature.



The product is fully potted, without any trapped air inside, therefore insensitive to external pressure changes.

Internal electronics is soft mounted, protected against seismic shocks, vibrations, water, hot steam and most chemicals.

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:	> 8500 lm
CCT:	5000 K
CRI:	> 80
Luminaire efficacy:	> 170 lm/W
Electronics location:	internal
Housing material:	Stainless Steel
Optics material:	Silicone
Ingress protection:	IP 68, 69K
Impact protection:	IK 08
Ambient temperature:	-20 °C to +60 °C
Weight:	3.3 kg
Dimensions:	dia 240 × 125 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:	5×10^5 Gy
Neutrons 1MeV (Si):	5×10^{14} n/cm ²

LOCA compatibility:

Ambient operational:	80 °C / 350 h
Ambient non operational:	170 °C / 24 h

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 nuclear 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.