

# H-50

## 50 Watt Ultra Rad-Hard LED Luminaire

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

H-50 with Standard optics displayed

Product flyer, Version 2.5, June 2024

## Nuclear grade 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 made of Stainless Steel. 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 Total Integrated Dose (TID) of **500 kGy** gamma, combined with  **$5 \times 10^{14}$  n/cm<sup>2</sup> 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 % shatter proof, browning proof, silicone optics.

**H-50** is true "all in one" product. The complete electronics is built-in inside the Luminaire. The unit is connected directly to the mains, **without any external boxes** mounted elsewhere outside radiation zone. Internal electronics is soft mounted, protected against seismic shocks, vibrations, water, hot steam and most chemicals.



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

The product is available with three types of optics:

- Standard optics for typical High-bay applications,
- Asymmetric optics for wall mounting typically for hallway illumination and
- Wide square optics for illumination of rooms with low ceiling.

For latest, up to date information please visit:

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**H-50** is registered model.

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## 50 Watt Ultra Rad-Hard LED Luminaire



H-50 with Wide square optics displayed

### 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:	Stainless Steel
Optics material:	Silicone
Ingress protection:	IP 68, IP69K
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:	$5 \times 10^5$ Gy
Neutrons 1MeV (Si):	$5 \times 10^{14}$ n/cm <sup>2</sup>

### LOCA compatibility:

Ambient operational:	80 °C / 350 h
Ambient non operational:	140 °C / 24 h

### 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 supports both AC and DC voltage, but does not support wide input voltage range.

The Luminaire is designed for professional use only.