

H-100 Gen IV

100 Watt Rad-Hard LED Luminaire



LOCA certified

Product flyer, Version 1.0, Rev A, March 2019

Generation IV Rad-Hard LED Luminaire.

H-100 is a member of extremely high radiation, high temperature resistant series of LED products, proudly created and made by DITO Lighting, Slovenia, EU.

H-100 is a nuclear, military, medical and space grade High-Bay LED Luminaire, designed to be used in high radiation, high temperature areas. The housing of the Luminaire is made out of stainless steel. The product is LOCA tested and certified. Typical application for the **H-100** is High-Bay lighting inside the RB of the NPP.

H-100 is tested for TID of **500 kGy** gamma, combined with **5×10^{14} neutron/cm² 1MeV (Si)** equivalent neutron fluence.

Generation IV is designed for high ambient temperatures:

- 60 °C - normal operation
- 80 °C - operational for 350 hours
- 170 °C - non operational for 24 hours

H-100 is small, light, extremely efficient 100 W LED Luminaire, designed for simple one-to-one replacement of the existing mature lighting technologies. LEDs are protected with soft, high temperature, 100 % shatter proof, browning proof, optics.



Proprietary electronics is based on full discrete design without integrated circuits, electrolytic capacitors and opto couplers. 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:

www.dito-lighting.com
info@dito-lighting.com



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Specifications:

Nominal power:	100 W
Nominal voltage:	230 V AC or DC
Power factor:	> 0.95
Luminous flux:	> 16.000 lm
CCT:	5000 K
CRI:	> 80
Overall Luminaire efficacy:	> 160 lm/W
Electronics efficiency:	> 90.0 %
Housing:	Stainless Steel
Optics protection:	Silicone
Ingress protection:	IP 68 / IP 69 K
Impact protection:	IK 08
Ambient temperature:	-20 °C to +60 °C
Weight:	5.8 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
IEEE 344 -2013
IEC 60980
2014/30/EU (LVD)
2014/35/EU (EMC)

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 also available with other input voltages.