

LoRad-100HBS Gen III®

100 Watt Rad-Hard LED Luminaire



Product flyer, Version 1.0, Rev A, May 2018

Generation III Rad-Hard LED Luminaire.

LoRad-100HBS Gen III® is third generation of high radiation and high temperature resistant series of LED products, proudly created and made by DITO Lighting, Slovenia, EU.

LoRad-100HBS Gen III® is a nuclear, military, medical and space grade High-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 **HiRad-100HBS Gen III®**, sharing the same mechanical, photometric and electrical properties.

The housing is made out of aluminium. Overall weight is very low, easy to handle and is preferred choice for less demanding nuclear applications.

LoRad-100HBS Gen III® is tested for TID of 50 kGy gamma, combined with $5 \times 10^{13} \text{ n/cm}^2 \text{ 1MeV (Si)}$ equivalent neutron fluence.

Overall system efficacy is more than 160 lm/W. Available with two types of silicone optics - medium and wide. Different types of optics enable simple one-to-one replacement of mature lighting technologies in almost any lighting scenario.

Silicone optics is flexible, has operational temperature range of over 200 °C, is 100 % shatter proof and chemically stable.



Generation III has fully vented housing. Therefore insensitive to sudden ambient pressure changes. Soft mounting of the electronics means high seismic capacity, no sensitivity to vibrations and excellent protection against water, hot steam and other chemicals.

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.

For latest, up to date information please visit:

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



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100 Watt Rad-Hard LED Luminaire



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:	Aluminium
Optics protection:	Silicone
Ingress protection:	IP 65
Impact protection:	IK 08
Ambient temperature:	-20 °C to +80 °C
Weight:	1.5 kg
Dimensions:	dia 330 × 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
EN 55015, EN 61547
IEC/EN 60598-1, IEC/EN 60598-2-1
IEC/EN 61347-1, IEC/EN 61347-2-13

Radiation tolerance:

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

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 also available with US input voltage 120 V AC 60 Hz or 120 V DC.