LoRad-50 Linear®

Gen II Rad-Hard LED Luminaire

Extremely Reliable
Extremely Heavy Duty
Extremely Efficient

Product flyer, Version 2.0, Rev A, May 2017

Generation II Rad-Hard LED Luminaire.
A member of *Extreme³ HD Series®* LED products.

LoRad-50 Linear® Gen II a member of ***Extreme³ HD Series®*** LED products, designed and made from ground up by DITO Lighting, Slovenia, EU. **Gen II** is improved version of our first generation, with better radiation tolerance.

LoRad-50 Linear® is high performance, mid power, low-bay, radiation tolerant LED Luminaire, designed for less demanding nuclear applications.

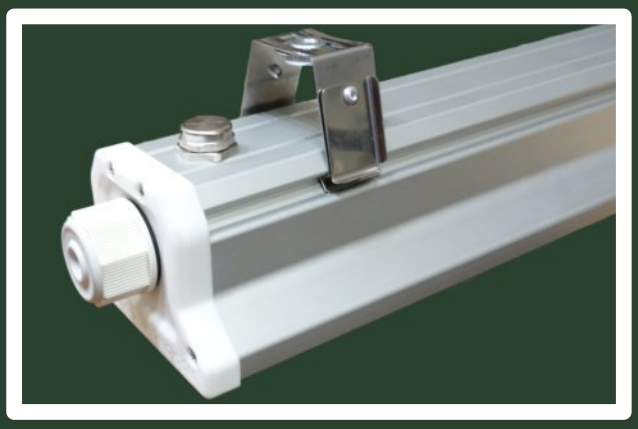
LoRad-50 Linear® is cost effective, affordable solution, for applications where low to moderate radiation can be expected.

Applications include, but not limited to:

- Nuclear Power Plants
- Nuclear waste treatment facilities
- Spent fuel storage facilities
- Particle accelerators
- Medical and military facilities

LoRad-50 Linear® is small, lightweight, easy to install, but powerful 50 W LED Luminaire, designed for simple one-to-one replacement of the existing tungsten or fluorescent based Luminaires.

LoRad-50 Linear® enables simple in-line wiring and classic “fluo” style quick snap brackets for easy mounting and maintenance.



LoRad-50 Linear® is tested for total dose of:

- **20 kGy gamma**, combined with
- **1×10^{13} n/cm² 1 MeV (Si) neutron fluence.**

LED control gear is developed and produced in-house. Electronics is based on full discrete design without integrated circuits, electrolytic capacitors and optocouplers. Predicted lifetime is more than 20 years, operational 24/7 at 50 ^{0}C ambient temperature.

For latest, up to date information please visit:

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Gen II Rad-Hard LED Luminaire

Specifications:

Nominal power:	50 W
Nominal voltage:	230 V AC or DC
Power factor:	> 0.97
Luminous flux:	> 5100 lm
CCT:	5000 K
CRI:	> 70
Overall luminaire efficacy:	> 102 lm/W
Electronics efficiency:	> 89.0 %
Housing:	Aluminium
Optics protection:	Polymer Diffuser
Ingress protection:	IP 64
Ambient temperature:	-20 °C to +50 °C
Weight:	1.9 kg
Dimensions [mm]:	672 × 88 × 72
Warranty:	5 years

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

Radiation tolerance:

Gamma:	20 kGy
Gamma dose rate:	< 300 Gy/h
Neutron fluence 1MeV (Si):	1×10^{13} n/cm^2
Neutron flux:	$< 1 \times 10^{11}$ n/cm^{2}s

Reliability (environment: GB @ 50 °C):

Calculation method:	MIL-217F N2
MTBF:	3.758.857 h
Predicted lifetime:	> 22 years
Confidence level:	95 %

In compliance with (partial list):

MIL-STD-833, Method 1017 neutrons
MIL-STD-833, Method 1019 gamma
ESA ESCC No. 2290 gamma
EN 55015, EN 61547
IEC/EN 60598-1, IEC/EN 60598-2-1
IEC/EN 61347-1, IEC/EN 61347-2-13

Note:

Irradiation tests performed in the TRIGA MkII research reactor with the representative NPP spectrum.

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