

# L-100 Gen IV

## 100 Watt Rad-Hard LED Luminaire



Product flyer, Version 1.1, Rev A, April 2019

## Generation IV Rad-Hard LED Luminaire.

**L-100** is fourth generation of high radiation and high temperature resistant series of LED products, proudly created and made by DITO Lighting, Slovenia, EU.

**L-100** 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, cost effective version of his older brother, the **H-100**. They are sharing the same mechanical, photometric and electrical properties.

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

Standard holder for the Luminaire is tiltable. Custom holders are available upon request

**L-100** is tested for TID of **50 kGy** gamma, combined with  **$5 \times 10^{13}$  neutron/cm<sup>2</sup> 1MeV (Si)** equivalent neutron fluence.

Overall system efficacy is more than 160 lm/W.

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



**Generation IV** is fully potted, no trapped air inside. 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 opto couplers. 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](http://www.dito-lighting.com)  
[info@dito-lighting.com](mailto: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 07
Ambient temperature:	-20 °C to +80 °C
Weight:	2.4 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:	$5 \times 10^4$ Gy
Neutrons 1MeV (Si):	$5 \times 10^{13}$ n/cm <sup>2</sup>

### 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 other input voltages.