

# A-40

## 40 Watt Radiation Resistant LED Luminaire



Product flyer, Version 0.3, Preliminary, June 2024

## Nuclear grade LED Luminaire

**A-40** is a member of high radiation resistant series of LED Lighting products, proudly created and made by DITO Lighting, Slovenia, EU.

**A-40** is our smallest, lightest, the most compact, and extremely efficient 40 W Nuclear Grade LED Luminaire, designed for less demanding non-NPP nuclear applications.

The design goal was to develop affordable nuclear grade LED solution, for cost sensitive nuclear applications, while still maintaining high performance electrical, mechanical, photo-metrical and radiation resistance characteristics.

**A-40** is simplified version of our proven and field tested **L Series**, with very similar properties. The Fixture is made of aluminium, uses similar COBs, uses the same browning-proof and shatter-proof optics and is completely riveted, without screws.

**A-40** is tested for Total Integrated Dose (TID) of **50 kGy** gamma.

**A-40** is true “all in one” product. The complete electronics is built-in inside the Luminaire. The unit is connected directly to the mains. No need for any external boxes mounted elsewhere outside radiation zone.



The Luminaire is equipped with wide square optics, designed for typical Low-bay lighting scenarios.

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.

For latest, up to date information please visit:

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## 40 Watt Radiation Resistant LED Luminaire



### Specifications:

Rated power:	40 W
Available voltages:	100, 120, 220, 230, 277 V
Power factor:	> 0.9
Luminous flux:	> 6000 lm
CCT:	4000 K
CRI:	> 80
Luminaire efficacy:	> 150 lm/W
Electronics location:	internal
Housing material:	Aluminium

Ingress protection:	IP 50
Impact protection:	IK 05
Ambient temperature:	-20 °C to +60 °C
Weight:	1.1 kg
Dimensions:	240 × 150 × 100 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

2014/30/EU (EMC)  
2014/35/EU (LVD)

### Radiation tolerance:

Gamma:  $5 \times 10^4$  Gy

### 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.