

C-50

50 Watt Ultra Rad-Hard LED Luminaire



Product flyer, Version 1.0, August 2022

Ultra radiation resistant LED Luminaire for Hot cell lighting

C-50 is latest generation of ultra radiation resistant LED Luminaires, proudly created and made by DITO Lighting, Slovenia, EU.

C-50 is Nuclear grade Ultra radiation resistant LED Luminaire, designed primarily for Hot cell lighting. The Luminaire is based on our proven **H** Series of Ultra Rad-Hard LED products, sharing the same radiation resistance properties. The Luminaire has been tested to total integrated dose (TID) of more than 500 kGy (50 Mrd) gamma.

C-50 is true “all in one” product. The complete electronics is built-in inside the Luminaire. The unit is connected directly to the mains, without any external boxes mounted elsewhere outside radiation area.

The housing is made of aluminium. The unit is small, compact and very lightweight, therefore easy to handle. Despite small form factor, overall system efficacy is more than 120 lm/W.

C-50 is preferred choice for Hot cell lighting, replacing mature lighting technologies like fluorescent Lamps.

Small form factor enables the **C-50** to be inserted thru circular opening with the 90 mm diameter.



Besides Hot cell lighting, **C-50** can be used for any other nuclear application with high radiation impact. **C-50** is designed for dry places, where ambient temperatures do not exceed 60 °C.

C-50 uses silicone optics. Silicone optics is flexible, has operational temperature range of over 200 °C, is 100 % shatter proof and chemically stable.

Custom holders are available. The Luminaire is equipped with 5 meters of high performance, radiation resistant mains cable. Other lengths are available on request.

For latest, up to date information please visit:

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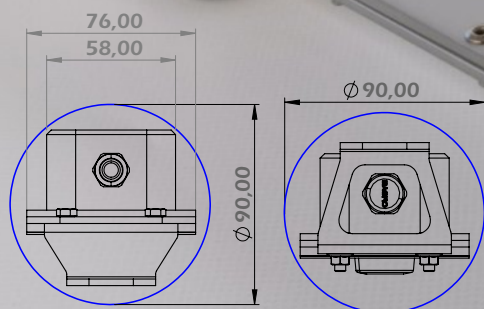


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Two different holders are supplied together with the Luminaire as standard. User can simply select/change appropriate holder. In both cases, the Luminaire with the holder can be inserted thru the circular opening with the diameter of 90 mm or more.

Specifications:

Rated power:	50 W
Rated voltages:	100-277 V AC or DC
Power factor:	> 0.9
Luminous flux:	> 6000 lm
CCT:	4800 K
CRI:	> 80
Luminaire efficacy:	> 120 lm/W
Electronics location:	built-in, internal
Housing material:	Aluminium
Optics material:	Silicone
Ingress protection:	IP 50, dry places
Impact protection:	IK 07
Ambient temperature:	-10 °C to 60 °C
Cable length:	5 m
Weight:	1.1 kg w/o cable
Dimensions, w/holder:	556 × 76 x 70 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 TID:	5×10^5 Gy
Neutrons 1MeV (Si):	5×10^{14} n/cm ²

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 gamma spectrum.

The product is available with different input voltages ranging from 100 to 277 VAC or VDC, 50 or 60 Hz.

Custom cable length and custom Luminaire holders are available on request.

The Luminaire is designed for professional use only and can not be used in commercial applications.