

Cree Lighting - Outdoor Fittings Maintenance & Recommendations

RECOMMENDATIONS

Cree Lighting's luminaires are designed and tested to be installed and used in normal condition and environments. If a use in a heavy-duty environment is planned (vibration higher than usual, aggressive chemical agents, high ambient temperature etc..) please contact Cree Lighting before the installation.

Use luminaires only with an insulation class suitable with the insulation class of the plant. Luminaires in insulation class I can be installed only in plant with insulation class I.

For installation with an electrical insulated support, like wooden or fiberglass poles, we advise to use luminaires in insulation class I. The earth connection will grant a higher protection to all problems due to the ESD. ESD events may be caused by atmospheric agents or by electrical working conditions.

Before install the luminaire check that the normal ambient temperature is in the range of admissible ambient temperature of the luminaire. Check in the luminaire's datasheet or in the Cree Lighting's website.

Verify that the mains voltage of the plant is compatible with the allowed mains voltage of the luminaire. Check correct mains voltage range on the Cree Lighting's website or on the luminaire datasheet.

If a use with 1-10V or DALI control systems are planned, make sure that the control system are compatible with the 1-10V or DALI interfaces of the luminaire. Check in the luminaire's datasheet or in the Cree Lighting's website.

All Cree Lighting luminaires are supplied with integrated overvoltage protections (both for mains and LED's boards) that allow an intrinsic protection of the entire luminaire much higher than the standard requirements.

For the level of protection, both for Common Mode & Differential Mode, check the luminaire's datasheet.

However, for reduce the risk of failure due to overvoltage events, we advise to:

- For Luminaires installed in suburban and/or rural environments with a high risk of lightning (check the lightning risk map of your country): Install also a surge protection for the entire plant, for reduce the residual overvoltage coming to luminaires via mains connection.
- For Luminaires installed in an electrical system where there can be overvoltage due to other systems or equipment like big inductive loads (such as big electrical motors, ventilation systems etc.): Where it is possible, use separated electrical system for luminaires. If it isn't possible, before installing luminaires, check the plant for possible voltage and current fluctuations, especially during turn-on and turn-off of the inductive loads.

MAINTENANCE

In Cree Lighting's catalog there are fixtures with exposed optics and glass. The glass used is always a soda lime low iron tempered glass (extra-clear). The optics designed and used by Cree Lighting are made in a special patented PMMA, ACRYLITE.

This material has a high resistance to the normal atmospheric agents (tested in according to the automotive standard SAE J576) and guarantee an efficiency loss lower than 3% in 10 years.

However, it may be possible that, high aggressive chemical agents (industrial plants using acidic, etc..) or a high pollution (highway tunnel, heavy industrial plant etc..) can cause a loss of efficiency higher than the 3% in 10 years.

PRESENCE OF AGGRESSIVE CHEMICAL AGENTS

If you intend to use Cree Lighting fixtures in an ambient where you already know there are a possibility of presence of aggressive agents please contact Cree Lighting before buy or install the fixture.

POLLUTION

The efficiency losses due to dirt accumulation caused by pollution can be simple avoided by a good cleaning program. The cleaning program has to be scheduled according with the lighting calculation (see table below, ISO/CIE TS22012:2019 tab. C.5) and, in any case, must provide a cleaning intervention at least every 3 years. The cleaning of the optics must be done using water or at least neutral and non-aggressive soap.

Optical Compartment IP Rating	Pollution Category	Exposure Time ^a (Years)				
		1,0	1,5	2,0	2,5	3,0
IP2X	High	0,53	0,48	0,45	0,43	0,42
	Medium	0,62	0,58	0,56	0,54	0,53
IP5X	Low	0,82	0,8	0,79	0,78	0,78
	High	0,89	0,87	0,84	0,8	0,76
IP6X	Medium	0,9	0,88	0,86	0,84	0,82
	Low	0,92	0,91	0,9	0,89	0,88
IP6X	High	0,91	0,9	0,88	0,85	0,83
	Medium	0,92	0,91	0,89	0,88	0,87
	Low	0,93	0,92	0,91	0,9	0,9

^a Equivalent to cleaning interval as used in this document.

M39-02
Ultima rev: 17/01/20

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