

March 11, 2021

## **Subject: Cree Lighting Recessed Troffers and Flat Panels for Suspended Ceilings for Use in Areas with Seismic Activity**

Cree Lighting and C-Lite recessed troffers and flat panels are designed in accordance with latest UL 1598 Luminaire Safety Standard requirements and are intended to be installed in accordance with NEC (National Electrical Code) and IBC (International Building Code).

NEC (NFPA 70) Section 410.36(B) states **“Framing members of suspended ceiling systems used to support luminaires shall be securely fastened to each other and shall be securely attached to the building structure at appropriate intervals. Luminaires shall be securely fastened to the ceiling framing member by mechanical means such as bolts, screws, or rivets. Listed clips identified for use with the type of ceiling framing member(s) and luminaire(s) shall also be permitted.”** All Cree recessed troffers ship with four (Note: ZR troffers have only two) mounting clips to meet this requirement. These clips are evaluated under UL1598 and are compatible with most suspended ceiling grid systems.

For seismic applications the international Building Code (IBC), defines the requirements for supplementary hanger wires and slack wires to support lay-in light fixtures in suspended acoustical ceilings. These requirements are in addition to the above mentioned NEC requirements and can be met in two ways:

**Option 1** - By installing luminaires using seismic rated mounting clips which have been evaluated to AC184 –*Acceptance Criteria for Attachment Devices for Recessed Lighting Fixtures (Luminaires) in Suspended Ceiling Systems*.

**Option 2** - Install luminaires in accordance with IBC recommendations by using independent support wires and securing luminaires to the building structure.

All Cree recessed troffers are intended to be installed using **Option 2** (*Independent support wires*). Each luminaire is designed with attachment points at each of the four corners to accommodate support wires provided by others. Cree Lighting and C-Lite recessed troffers and flat panels only require two slack wires to be attached to fixture, one at each end. The luminaires also have either T-bar accessory clips included or mechanically designed into the housing that can add additional support to the T-Grid. **This does not replace the need to add additional wires as prescribed by Option 2.**

This is determined by the International Building Code (IBC), through references to ASCE/SEI 7, Minimum Design Loads for Other Structures, American Society of Civil Engineers/Structural Engineering Institute (ASCE/SEI) and CISC (Guidelines for Seismic Restraint for Direct-Hung Suspended Ceiling Assemblies – Seismic Zones 3-4, defines the requirements for supplementary hanger wires and slack wires to support lay-in light fixtures in suspending ceilings.

There are 2 factors that determine these hanger/slack wire requirements:

1. The weight of the fixture.
2. The load carrying capacities of the suspension system tees.


The lighting fixture slack wire requirements are as follows:

Light Fixture Weight	Slack Wire Requirement
<10 lbs.	One min. 12-guage slack wire connected from the fixture housing to the structure
10-55 lbs.	Two min. 12-guage slack wires connected from the fixture housing to the structure
$\geq$ 56 lbs.	Independently supported to the structure and no slack wires are required

CREE fixtures clearly fall in the 10-55 lb. category.

If you have any questions or concerns, please do not hesitate to contact me.

Sincerely,



**Sam Syal**

*Compliance Engineering Manager | Lighting*



[www.cree.com](http://www.cree.com)

4600 Silicon Dr., Durham, NC 27703 - USA

O: +1 (919) 407-4630 | M: +1 (919) 802-6827

*Safety, Quality, Reliability, Performance, Delivery, Service, Craftsmanship*