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Supersedes FLASH 04-01-FL

Wiring of T-8 lighting

Recently, ESA has been made aware of a number of field problems associated with energy-efficient-retrofitted T8 fluorescent fixtures. When improperly wired during retrofit, these fixtures have been known to create arcing causing overheating of the lamp base and deforming, melting or charring the lamp holder.

In some cases, the damage from the arcing could cause the lamp to fall from the lamp holder. In other cases; the arcing could result in fixture failure. In one instance the failure resulted in a fire.

Background

This problem affects fluorescent fixtures that have been retrofitted with an instant-start Ballast and bi-pin T-8 lamps and wired incorrectly. Most common are the four-foot T-8 lamps with high frequency electronic instant-start ballasts.

Installation

Figure F1 shows correct installation method. Two wires of the each lamp holder are recurred to be connected together prior to connecting them to the appropriate single lead of the instant start-ballast. Check that all lamp holder contacts are in good condition and show no signs of arcing or pitting.

Figure F2 shows incorrect and not acceptable wiring method. This method uses T-8-bi-pin instant-start-lamp holders, which have a factory-installed jumper between the two lamp contacts.

Other wiring configurations.

No other wiring configuration is recommended. Incorrect wiring configurations allow excessive current to pass through the lamp(s) cathodes, potentially overheating the lamp base and the lamp holder excessively, resulting in lamp holder deformation, melting or charring and failure.

Refer to LSD-2-1998 Wiring Requirements for T8 Lamps from the National Electrical Manufacturers Association. The document can be found on the website www.nema.org

Figure F1 – Correct wiring method

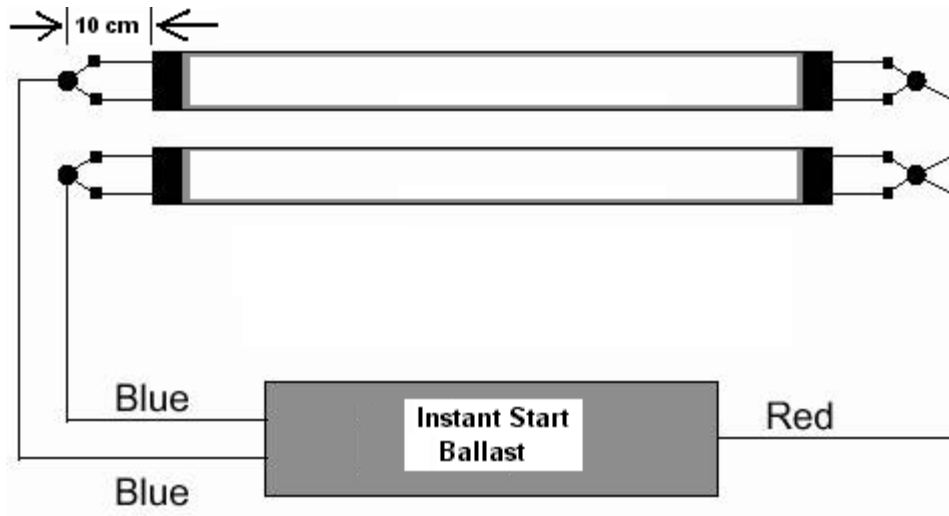


Figure F2 - Incorrect and not acceptable of wiring method or its electrical equivalent

