June 2019 **Supersedes 16-11-FL**

Luminaires retrofitted with T8 fluorescent tubes

Background

ESA has been made aware of a number of field problems associated with T12 luminaires retrofitted to more energy-efficient T8 fluorescent retrofit kits. When improperly wired during a retrofit, these retrofitted luminaires have been found 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 luminaire failure. In one instance the failure resulted in a fire.

This problem affects fluorescent luminaires that have been retrofitted with an instant-start ballast, bi-pin T8 lamps, and wired incorrectly. Most common retrofits are the 4 ft., T8 lamps with high frequency, electronic, instant-start ballasts.

Installation

Figure F1 shows correct wiring configuration. Check that all lamp holder contacts are in good condition and show no signs of arcing or pitting.

Figure F2 shows incorrect and unacceptable wiring configuration. This method uses T8, bi-pin, instant-start lamp holders, which have a factory installed jumper between the two lamp contacts.

Figure F1 – Correct wiring method

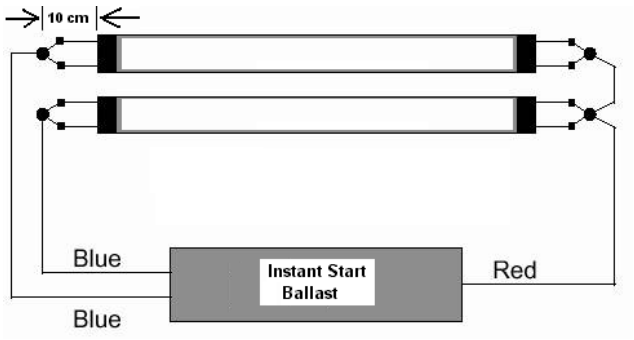
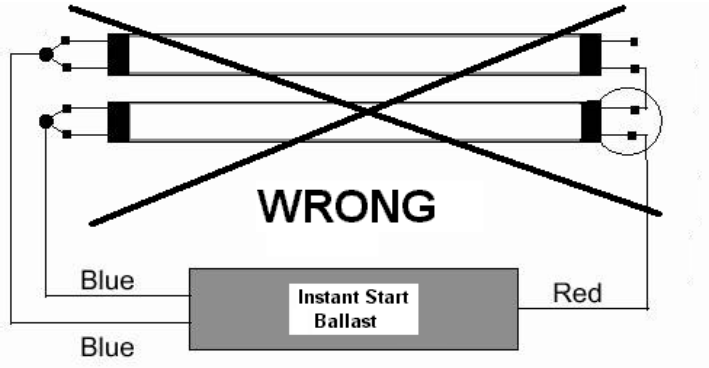


Figure F2 - Incorrect and not acceptable wiring method or its electrical equivalent



Incorrect installations - Hazard

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.