



# Electrical Connections

For regulatory authorities in the electrical inspection community.



## Luminaire Ballast Retrofits and Conversions

How does that affect the luminaire listing?

### Is it permitted as part of the Listing of a luminaire to retrofit a T12 ballasted fluorescent luminaire with a T8 ballast and lamp and not affect the Listing of the luminaire?

The short answer is that the impact is unknown.

Recent energy efficiency legislation and rebates from utilities and the government have increased the amount of luminaire ballast retrofits and field conversions as well as conversions to other sources of lighting, such as light emitting diodes (LED). This has raised questions in the electrical trade and the inspection community regarding what “happens” to the UL Listing when a luminaire is modified.

When a UL Listed product leaves the factory, the UL Listing Mark signifies that the manufacturer declares the product was in compliance with the UL requirements in effect for Listing at the time of manufacture. When a product is modified in the field, such as replacing a T12 ballast with a T8 ballast, the manufacturer and UL no longer know if that product continues to comply with UL requirements. Where determining compliance in the field is needed, UL offers a Field Evaluation service.

The AHJ, as part of their approval process, is responsible to determine if a Listed product is acceptable within their jurisdiction. Local regulations and practice determine whether

luminaire servicing and retrofits require inspection and how compliance is established. Replacing a ballast is typically considered by AHJ's as servicing of the luminaire and the modification as acceptable. Replacing a T12 ballast with a T8 ballast changes the electrical and lighting characteristics of the luminaire. Most AHJ's would not consider this to be servicing and therefore require evaluation of the luminaire modification. Neither the luminaire manufacturer nor UL are in a position, sight unseen, to comment on compliance. That's the purpose of UL's Field Evaluation service.

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## Luminaire Ballast Retrofits and Conversions (continued)

An alternative to a Field Evaluation to determine if the product complies with UL requirements is to use a luminaire conversion retrofit kit that is UL Classified under the product category Luminaire Conversions, Retrofit (IEUQ). More information about the UL product category IEUQ may be located in the UL White Book or by using the UL Online Certification Directory located at [www.ul.com/database](http://www.ul.com/database) and entering IEUQ at the Category Code search field.

Luminaire Conversions, Retrofit (IEUQ) covers retrofit devices or kits consisting of parts and/or subassemblies intended for field installation in UL Listed luminaires, office furnishing luminaires or portable luminaires. These products have been investigated to determine that, when used in accordance with the manufacturer's instructions, they do not adversely affect the operation of the complete unit.

This category includes reflector kit retrofits and other retrofit devices. Reflector kits are intended to be used to add or replace reflectors in fluorescent luminaires and may also involve relocation, removal or replacement of wiring, lampholders and ballasts. Reflector kits are not intended to be installed on luminaires used as air-handling registers unless the accompanying reflector kit installation instructions specify this combination as suitable.

This category also includes retrofit kits consisting of light-emitting-diode (LED) light sources intended to replace a fluorescent lamp and where it is necessary to modify the luminaire. The modification involves removing the fluorescent lamp ballast and rewiring lampholders within the luminaire in order to power the LED light source or removing the fluorescent ballast and installing an LED driver (power supply) and rewiring the lampholders. A luminaire that is modified so it can no longer accept the original lamp has a label affixed (provided by the retrofit kit manufacturer) indicating the luminaire has been modified and can no longer operate the originally intended lamp(s).

The UL Classified Mark can identify these conversion retrofit kits. The Classification Mark of Underwriters Laboratories Inc. on the product is the only method provided by UL to identify products manufactured under its Classification and Follow-Up Service. The Classification Mark for these products includes the UL symbol, the word "CLASSIFIED" above the UL symbol and the following additional information:


### For reflector kits



**CLASSIFIED**  
**UL**  
LUMINAIRE CONVERSION, RETROFIT  
FOR USE ONLY WITH + IDENTIFIED IN  
MANUFACTURER'S INSTRUCTIONS  
Control No.

### For nonreflector kits

The Classification Mark for retrofit devices that are other than reflector kits includes the Classification Mark elements detailed above and the following additional information:



**CLASSIFIED**  
**UL**  
LUMINAIRE CONVERSION, RETROFIT  
(WITH RESPECT ONLY TO \_\_\_\_\_)  
FOR USE ONLY WITH \_\_\_\_\_+  
Control No.

\*FLUORESCENT LUMINAIRES, INCANDESCENT LUMINAIRES, HID LUMINAIRES, OFFICE FURNISHING LUMINAIRES or PORTABLE LUMINAIRES

\*RISK OF FIRE or RISK OF SHOCK (the entire parenthetical phrase is provided only if found applicable by UL)

For more information on Field Evaluations go to [www.ul.com/field](http://www.ul.com/field) or call 877.854.3577, Ext. 2 or by e-mail at [fieldevaluations@us.ul.com](mailto:fieldevaluations@us.ul.com).

For more information on UL's Field Modification Policy, see page 41 in the 2010 UL White Book.

