

ESA Program for Acceptance of Retrofitted Luminaires



Main points

- Why is program implemented
- Overview of the Program

Why are changes needed?

Why now?

Energy efficiency legislation and rebates from utilities and the government have increased the amount of lighting retrofits.

Before : conversions were simply from Fluorescent T12 to T8.

ESA accepted these as a wiring installation (ballast replacements)

Now: more complex and majority include LED technology

Retrofits are altering the original luminaire and voiding of the approval.



(1) Pre-wired Ballast



Socket Slots

(2) Top Mount Brackets



(4) Tek Screws



(1) 2' or 4' Reflector Assembly



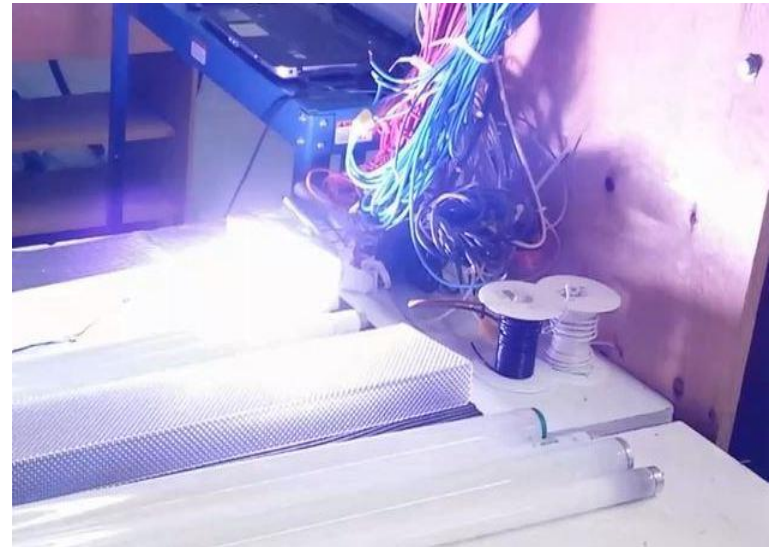
Why are changes needed?

Safety hazards

Safety issues were identified (modification may have decreased the safety integrity of the luminaire).



Safety concerns with future use and maintenance of the retrofitted luminaires.



Overview of the Program

Approval of the retrofitted luminaire

When a luminaire is retrofitted, a luminaire is no longer approved. A process is needed for re-approval.

- Electrical product is deemed to be approved where the Authority determines that an electrical product or device presents no undue hazards to person or property and the installation pass the inspection.
- Ontario Electrical Safety Code Rule 2-106(5): *“When installed electrical equipment is retrofitted with a retrofit kit and the installation conforms to the requirements of the inspection department, the equipment is deemed to be approved.”*

Overview of the Program

The Program will accept retrofitted luminaires as part of an ESA inspection if:

- An approved retrofit kit is used; and
- A pre-assessment process is completed.

If an approved retrofit kit is NOT utilized, the retrofitted luminaire is required to be re-approved by field evaluation or certification.

Overview of the Program

Pre-assessment process prior to inspection

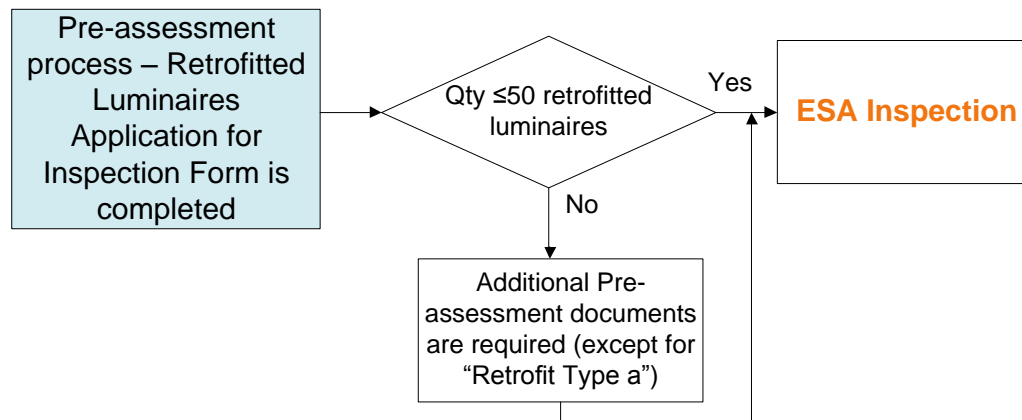
Pre-assessment process prior to inspection:

for Qty of ≤ 50 retrofitted luminaires:

- Retrofitted Luminaires Application for Inspection

for Qty of > 50 retrofitted luminaires:

- Retrofitted Luminaires Application for Inspection; and
- Additional documents (except for “Retrofit Type a”) for the retrofit kit are required to be submitted



Overview of the Program

Approved retrofit kit

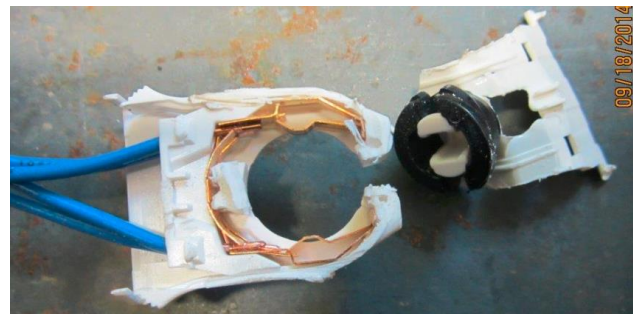
Requires to be equipped with appropriate Warning labels:

“This luminaire has been modified to operate LED lamps. Do not attempt to install or operate ____* lamps in this luminaire.”

REPLACE ONLY WITH
[Manufacturer][Catalogue Number]

*

WARNING: TO AVOID POTENTIAL FIRE OR SHOCK HAZARD, DO NOT USE THIS RETROFIT KIT IN LUMINAIRES EMPLOYING SHUNTED BI-PIN LAMPHOLDERS. NOTE: SHUNTED LAMPHOLDERS ARE FOUND ONLY IN FLUORESCENT LUMINAIRES WITH INSTANT-START BALLASTS. INSTANT-START BALLASTS MAY BE IDENTIFIED BY THE WORDS “INSTANT START” OR “I.S.” MARKED ON THE BALLAST. THIS DESIGNATION MAY BE IN THE FORM OF A STATEMENT PERTAINING TO THE BALLAST ITSELF, OR MAY BE COMBINED WITH THE MARKING FOR THE LAMPS WITH WHICH THE BALLAST IS INTENDED TO BE USED, FOR EXAMPLE F40T12/IS. FOR MORE INFORMATION, CONTACT THE LED LUMINAIRE RETROFIT KIT MANUFACTURER.



Overview of the Program

Pre-assessment process

Retrofitted Luminaires Application for Inspection Need to be completed and submitted by Contractor Retrofit Project Details

Retrofit Project Details												
Retrofit Type										Qty of Luminaires - "Retrofit Type a" ONLY		
a T12 to T8 Fluorescent BALLAST REPLACEMENT ONLY (the same number of lamps as before, NO new reflectors, NO new sockets or end plates)												
Retrofit Type List	Retrofit Type (select letter from Retrofit Type list)	Qty of Luminaires	Voltage	Are the existing lamp sockets used?		Are self- ballasted lamp installed?		Are approved retrofit kits used?		Retrofit Kit Details		
				Yes	No	Yes	No	Yes	No	Manufacturer	Model Number	Certified By:
b T12 to T8 Fluorescent Luminaires <small>(including ballast replacement, new reflectors, sockets or end plates)</small>												
c T12 or T8 to T5 Fluorescent Luminaires												
d Incandescent luminaires retrofitted to LED												
e Fluorescent luminaires retrofitted to LED												
f HID luminaires retrofitted to LED												
g LED Retrofits for Commercial Refrigerators												
h LED retrofits for Roadway or Post-Top Luminaires												
i Other (Describe in Comments section)												

**** No means of submitting online or by phone****

Overview of the Program

Pre-assessment process

Retrofitted Luminaires Application for Inspection

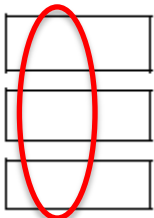
If the form is not completed, including the installation and declaration portions, the application will not be processed.

Retrofit Kit Installation (for all types except "Retrofit Type a")	COMMENTS:
Warning labels are provided and will be applied? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Installation Instructions provided will be followed? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is retrofit kit compatible with existing luminaires? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Payment Method Account <input type="checkbox"/> Credit Card <input type="checkbox"/> Cheque <input type="checkbox"/>	DECLARATION - TO BE COMPLETED FOR EACH APPLICATION: The information provided on this form is true and accurate
Card # _____ Expiry _____	Installer Name (please print): _____ Date: _____
Name _____	Signature: _____
	Total Fee Estimate: _____ Total # of pages: (including Application form) _____
<small>By submitting personal information to the Electrical Safety Authority, or its agents and service providers, you agree that ESA may collect, use and disclose such personal information in accordance with its privacy policy, applicable laws or pursuant to our administrative agreement with the Province of Ontario. If you provide us with the personal information on behalf of another individual, you represent that you have all necessary authority and/or have obtained all necessary consents from such individual to enable us to collect, use and disclose such personal information for the purposes set forth in our Privacy Policy. A copy of our policy is located on our website at www.esaSAFE.com</small>	

Overview of the Program

Pre-assessment process by Reviewers

For all retrofit types with quantity **greater than 50**, EXCEPT "Retrofit Type a"; Supply the following information:



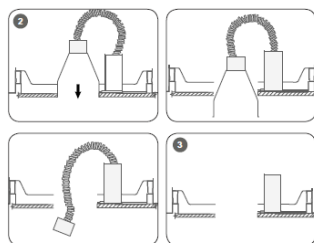
Specification sheet(s) for all retrofit kit/ components being installed

Installation instructions for all retrofit kit/ components being installed

Certification Agency file number (i.e. CSA, cUL, cETL, etc.), or Field Evaluation approval confirmation

Documents need to be faxed or e-mailed to esa.cambridge@electricalsafety.on.ca

CONVERSION AND INSTALLATION:



- STEP 1:**
Remove the existing lamp from the existing fixture. Handle with care and dispose properly.
- STEP 2:**
Remove the lamp trim from the pan according to the manufacturer's instructions. If the existing fixture is a can assembly, remove it according to the manufacturer's instructions.
- STEP 3:**
Disconnect the wiring from the Junction Box and discard it.
- Note:** If the fixture is a Compact Fluorescent Lamp (CFL) type, disconnect line voltage from ballast and terminate ballast wires according to local code.
- STEP 4:**
Dispose of the assembly properly.



Disconnect all power to the lamp fixture

- Remove ballast and starter where applicable, and the corresponding wires including branch circuit wires and ballast wires. If existing lampholder terminals are shorted by a jumper (as in instant start circuit), then remove the jumper.
- According to the Schematic wiring diagram, connect the wire of L, N in AC120V with either lampholder at the end of fixture, then apply label "Output", "Input" (refer to the below picture), in order to identify the direction for installation.cover by squeezing the spring clips into the mounting slots.



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IFAR7.E355861
Light-emitting-diode Luminaire Retrofit Kits Certified for Canada

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Light-emitting-diode Luminaire Retrofit Kits Certified for Canada

[See General Information for Light-emitting-diode Luminaire Retrofit Kits Certified for Canada](#)

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ROOM807, BLDG 1, 1758 LUCHAOGANG RD
NANHUI NEW TOWN
PUDONG NEW AREA
SHANGHAI 201308 CHINA

E355861

Retrofit Kit Model/Part No.	Retrofit Luminaire Type or Model/Part No.	Light Source	Rating
LED retrofit luminaire conversion kit			
Model KK-T8-2XX-07-5X1Y	Permanently-connected fluorescent	Replaceable-type T8 self-ballasted LED lamp	100-277V, 50/60Hz, 7W, 300 mA
Model KK-T8-4XX-13-5X1Y			100-277V, 50/60Hz, 13W, 500 mA
Model KK-T8-4XX-15-5X1Y			100-277V, 50/60Hz, 15W, 200 mA
Model KK-T8-4XX-18-5X1Y			100-277V, 50/60Hz, 18W, 500 mA

Overview of the Program

To summarize

If the **retrofit kit is approved**

- Proceed with the retrofit installation in accordance with the installation instruction, and
- The retrofitted installation is subject to Inspector's approval.

If no approved **retrofit kit is used**

- Field evaluation or field certification of retrofitted luminaires is required, and
- For projects with more than 300 retrofitted luminaires, the contractor shall contact ESA to apply for a deviation.