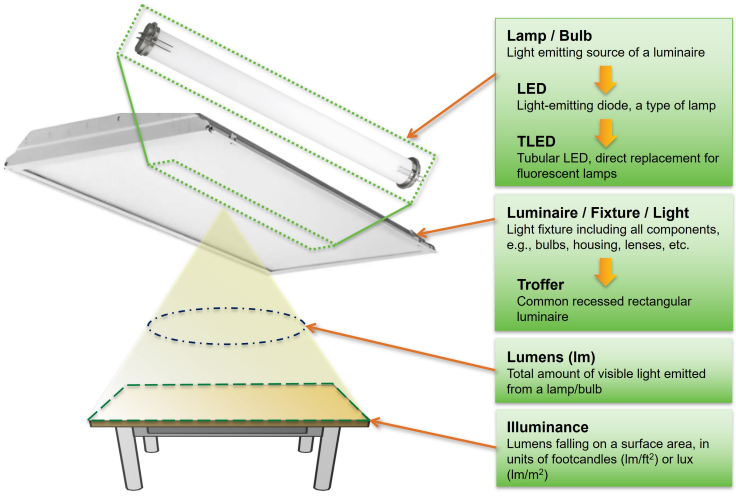
FEMP
Federal Energy Management Program

LED Design and Acquisition for BIE Schools

This document is supplemental material for a training webinar and contains key definitions and takeaways for upgrading to light emitting diode (LED) lighting, from design to acquisition to disposal for Bureau of Indian Education (BIE) schools



Key vocabulary.

Benefits of LEDs Compared to Fluorescents

- 20-60% less energy use
- Similar or better color qualities
- No warm-up period
- More durable
- More environmentally friendly (no mercury)
- Longer lifespan (reduces replacement frequency)

Acquisition with SFTool

SFTool is a resource created by the General Services Administration (GSA) with information on sustainability, energy, and health in building design and operation. Access at: www.sftool.gsa.gov/

There are pages with lighting information and guidance, including:

- Lighting system components and concepts
- Product procurement information and comparisons
- Cost-benefit information
- Work order language
- Disposition guidance

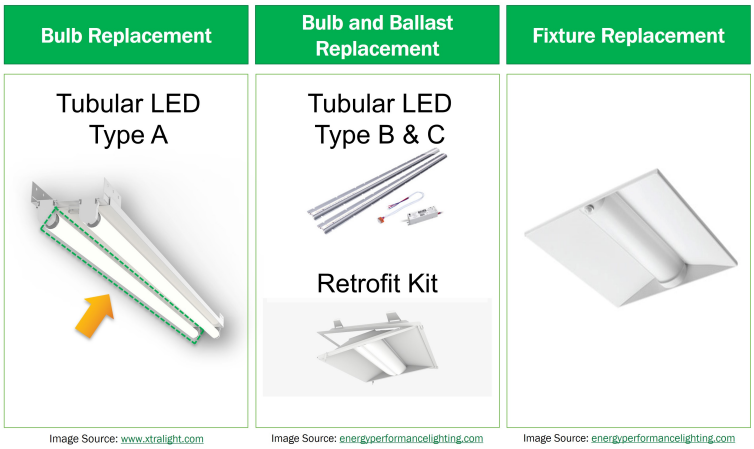


Image Source: www.xtralight.com
Image Source: energyperformancelighting.com
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Bulb replacements are typically less expensive and easier to install than a bulb and ballast replacement or fixture replacement, but they are not as energy efficient, have a shorter lifespan, and are more likely to fail due to ballast incompatibility.

Resources

- DOE LED Retrofit Guide: This is a case study summarizing an LED retrofit at the DOE headquarters buildings.
- LED Troffer Retrofit Lighting and Controls Best Practices: This is a guide with considerations for retrofitting fluorescent troffers with LEDs.
- UL Certified LED Retrofit Kits for Luminaires: This document contains a FAQ on UL certification listings for LED retrofit kits.
- LRC How to Select Bulbs and Fixtures: This document contains information on common lighting terms and product specs and how to read them.

DISCLAIMER: These images are used as an example to show what different types of LED upgrades look like. DOE-FEMP does not endorse any of these brands.