

# Three LED lighting options to know

When it comes to LEDs, there are plenty of options on the market. Your choice will involve tradeoffs between fixture performance, labor costs and capital costs. But whichever LED you choose, you'll have a light fixture that will:

- output high-quality light for 50,000+ hours
- most likely consume less energy
- turn on instantly
- integrate with lighting controls
- output rated light in cold environments
- contain zero mercury

## HERE ARE THREE COMMON LED OPTIONS TO CHOOSE:

### 1. LED tubes

LED tubes are the same length as T12 and T8 lamps and have identical pins on the end. LED tubes only emit light from one side, making light distribution a challenge. In some models, the angle of projection can be adjusted in the fixture to optimize light distribution.

One popular type of LED tube is a drop-in replacement. It has an internal DC driver and operates off of the existing fluorescent ballast. You simply pull out the fluorescent tube and pop in an LED tube. With no wiring required, this offers labor savings but consumes ballast power and requires replacement of the fluorescent ballast once it fails. Another type of LED tube bypasses the fluorescent ballast completely but requires adding a DC driver block in the fixture.

### 2. LED retrofit kits

There are two types of kits, both of which are less expensive than an entirely new LED fixture. One type uses several strips of LED diodes. You gut the existing fixture and fasten the LED strips to the empty sheet metal box. Another type is a volumetric retrofit kit, which includes sheet metal optics customized for LED lighting and completely fills the empty box. You just remove the ballast and tombstone connectors and drop in the LED sheet metal and light block. Both of these retrofit solutions require adding a DC driver block.

### 3. LED purpose-built fixtures

There are several manufacturers that have created an entirely new purpose-built light fixture using a custom design, instead of developing LED fluorescent tube lights or retrofitting. In this case, you completely remove the fluorescent fixture and replace it with the purpose-built LED fixture. This requires maximum labor and up-front capital cost but delivers the best light quantity and quality.

Find the right LEDs for your facility and start taking advantage of their performance benefits.

Contact your account manager, call 1-800-787-1706, or email [efficiency@nationalgrid.com](mailto:efficiency@nationalgrid.com).