LED Lighting Comparison Tool
Which Lighting System is Right for You?

LED lighting systems are changing the way we light our indoor and outdoor spaces. LEDs offer significant energy savings and dramatically reduce maintenance costs by lasting two to five times longer than fluorescent and HID bulbs.

When LEDs include customizable smart controls, you can save substantially more energy and the lighting can be adjusted to meet your needs. Use the chart below to determine which lighting system best fits your needs.

YOUR LOGO

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	 New Retrofit **LED Lamp** without Controls	 New **LED Fixture** or **Retrofit Kit** without Controls	 New LED Fixture or Retrofit Kit with **Integrated Controls**
COMFORT			
Quality of Light	Good	Better	Best
Smart Capabilities	On/Off	On/Off	On/Off, Dim, Occupancy, Daylight, Color Tuning
Life	🕒 / 🕒🕒 *varies by lamp type*	🕒🕒	🕒🕒🕒
INCENTIVES AND SAVINGS			
Utility Incentives *(contact your utility for more information)*	Limited	Better	Best
Energy Savings	Good	Better	Best
Total Cost of Ownership	Good	Better	Best
COST			
Equipment Cost	$ / $$ *varies by lamp type*	$$$	$$$
Installation Cost	$	$$	$$$
Maintenance Cost	$ / $$ *varies by lamp type*	$	$

THINGS TO CONSIDER

There are many important factors to consider before beginning your lighting upgrade. Your results will vary based on location, facility layout and electricity costs, among other things.

If you're not ready for LEDs, ask your lamp supplier about reduced wattage fluorescent lamps. They use far less energy than standard fluorescent lamps at comparable cost, quality and light levels.

QUALITY OF LIGHT

From the color of the LED light to the lighting distribution of the fixture, retrofitting to LED can improve the quality of lighting in your space compared with traditional technologies. LED lighting tends to show colors more accurately and vibrantly than fluorescent or HID, improving the look of the space.

LED fixtures and retrofit kits can also light the space more effectively. The fixture manufacturer can shape the lighting distribution of the fixture (how the light comes out of the fixture) to optimize the lighting in your space. The optimization could be to get more light on the walls, which will brighten the look of the space, or in a higher ceiling space, to increase the lighting intensity by pushing more light to the floor.

One major benefit of new fixtures is that they don't have to be put in the same locations as the existing lights. Reconfiguring the lighting in the space allows for adding more light to areas that are under lighted or removing lights (or intensity) to over lighted areas.

LIFE

LEDs offer significantly longer life compared with incandescent, fluorescent and HID technologies, resulting in much less frequent replacement and lower maintenance costs. For Type A plug and play LED lamps that utilize an existing ballast, the ballast may fail before the LED lamp which will require the ballast to be replaced. Unfortunately, there is no visible indicator that the ballast failed and the only way to test is to install the existing LED lamp in a fixture that is operating properly.

LED life ratings are based on the age at which the fixture or lamp will produce 70% of the light produced compared with its original light output. This is shown on manufacturers' specification sheets as the L70 designation. Some manufacturers are listing L90, which is the life when the fixture is still producing 90% of its initial light output. Look for an L70 of at least 70,000 hours or L90 of 50,000 hours.

SMART CAPABILITIES

When paired with sensors and controls, LEDs can offer a range of "smart" capabilities. These features and functions can improve the lighting quality, enhance the occupant experience, decrease operation costs, help your new system meet building code, improve occupant performance and safety, and even help your business run more efficiently. A few of the more common "smart" capabilities include:

Dimming: vary the light output of the fixture, enabling energy savings and greater occupant satisfaction.

Occupancy or vacancy control: regulate lighting based on presence or absence of people in a space, enabling energy savings and reduced maintenance costs.

Daylight control: regulate the light level in response to changing daylight conditions in the space, enabling energy savings.

Task tuning: adjust the output of individual lights or group of lights to a set lower maximum level, enabling energy savings, greater occupant satisfaction, and lower maintenance costs thanks to longer system life.

Networking: connect all fixtures as a network, allowing them to exchange information with each other and with an Energy or Building Management Systems (EMS or BMS). Networked fixtures can be configured and controlled individually or as a group; some allow for remote configuration and control. Networking enables reduced wiring, maintenance and reconfiguration costs and greater energy savings.

Zoning: ability to configure groups of fixtures to perform the same lighting strategies (same occupancy time-outs, same task tuning, etc.). Zoning often results in reduced cost of wiring, maintenance and reconfiguration and greater energy savings.

Color tuning (only available with color-tunable LEDs): ability to adjust the color temperature of the lamp, enabling higher occupant satisfaction and performance.

Automation and tracking: Sensors embedded in light fixtures can be used to perform a wide range of functions, from identifying unused meeting rooms, to automating door operation, to track products in a warehouse, enabling improved space utilization and business efficiency.

Utility Incentives: Utilities often offer enhanced incentives lighting systems that include controls. Contact your local utility to learn about lighting controls incentives available in your area.