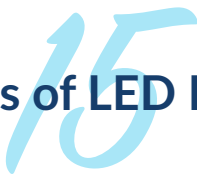


# Benefits of LED Lighting



## 1 – Technology Leads to Efficiency

LEDs use less energy because they require less heat and gases to generate light. Simply put, if you are using less heat, you are using less electricity which in turn means you are spending less money.

## 2 – Long Lifetime

Not only do LED fixtures use less energy in comparison to traditional lighting options, they also stand out because of their expected operational lifetime. There are some LED fixtures that are rated for 200,000 hours; that's nearly 23 years of continuous use. This reduces the need to purchase additional replacement bulbs and the associated cost of replacing the bulbs such as rented equipment, disruptions to business operations, and potential injuries resulting from the replacement process.

## 3 – Eco-friendly

Contrary to fluorescent or incandescent light bulbs, LED lights contain no toxic materials and are 100% recyclable; which helps your carbon footprint.

## 4 – Durability

With most LED fixtures being made of plastics and metals they are far more durable and resistant to shock which makes them less likely to be inoperable if they were dropped or outside in an environmentally high-stress or hazardous setting.

## 5 – Minimal Heat

Unlike incandescent and fluorescent bulbs, most LED lights are cool to the touch even after they are on for hours, which lowers the risk of accidental fire or burns. There is also the HVAC cost component to consider. A single 100w light bulb costs about \$1.13/month just to cool the heat it produces. The less heat the bulbs are giving off, the cooler the room will be which lowers the amount of energy being used on cooling systems, and in turn lowering the amount of money spent on electricity.

## 6 – No Emissions

LED illumination produces little infrared light and close to no UV emissions. Because of this, LED lighting is highly suitable not only for goods and materials that are sensitive to heat, but also for illumination of UV sensitive objects or materials from artwork in museums to plastics in a kitchen.

## 7 – "Dimmability"

Most LED light bulbs are dimmable, resulting in a dynamic control of light, color, flexibility and distribution. A well-designed LED illumination system can achieve fantastic lighting effects, not only for the eye but also for the mood. LED mood illumination is already being implemented on airplanes, classrooms and we can expect to soon see them in our homes, offices, hotels and restaurants. Fun fact - Studies have shown stores with LED lighting sell 30% more merchandise.



## 8 – Light Disbursement

LED fixtures are directional by design and can be focused to a specific location without the use of an external reflector, achieving higher application efficiency than conventional lighting.

## 9 – Instant Lighting

LED fixtures provide instant light and illumination when powered on, unlike traditional incandescent bulbs which can take up to a few minutes to reach optimum illumination levels and flicker when first powered on. The immediate illumination has great advantages for infrastructure projects such as, traffic and signal lights. LED fixtures work as soon as the electrical current is passed through them - no flickering.

## 10 – Frequent Switching

LED fixtures can switch on and off as frequently as needed without affecting the bulb's lifetime or light emission, unlike traditional light bulbs where frequent powering on or off can drastically reduce operational life expectancy.

## 11 – Low-Voltage

Since LED light bulbs use much less energy than traditional incandescent or fluorescent bulbs and fixtures, a low-voltage power supply is sufficient for LED illumination. This makes it easy to use LED lighting in outdoor settings by connecting an external solar-energy source. This can be especially helpful when using LED technology in remote or rural areas.

## 12 – Long-Term Cost

LED fixtures can be more expensive than traditional lighting options, but they operate far longer at a cost far less when compared to long term replacement costs. While incandescent light bulbs can last for 800 to 1,500 hours, and fluorescent lights up to 30,000 hours, some LED fixtures can last up to a whopping 200,000 hours. That's more than 6.5x longer than fluorescent bulbs and 133x longer than incandescent bulbs. This can provide substantial savings when considering the costs associated with replacing fluorescent and incandescent bulbs.

Not only can you save by replacing the bulbs, but many times when converting to LED fixtures you can bypass the ballasts (used to limit the electrical current) which are expensive to replace and soak up a lot of energy.

## 13 – Short-Term Cost

Prices of LED light bulbs have significantly dropped in the last year and by using less energy you save every minute your lights are burning. If you used a LED light bulb for just 2 hours a day and paid the national average of \$0.115 per kilowatt-hour, a single 9-watt LED will cost you about \$1.00/year. Comparable CFLs that consume about 17 watts come to \$1.99/year and for a 60-watt incandescent light bulb in that scenario about \$6.00/year.



## 14 – Noise

Fluorescent tubes are notorious for being noisy, especially when they have been used for an extended amount of time. These light bulbs tend to make intermittent clicking sounds, as well as, a low buzzing sound that can become distracting, especially in the work place. LED light bulbs don't have this problem and operate silently.

## 15 – Color

Fluorescent lights are infamous for their limited color profile. While some fluorescent tubes now use a different type of phosphorous powder to produce a warmer color, most fluorescent light bulbs produce only a blue/white light. It can be seen as stark and unwelcoming for certain environments or situations. LED light bulbs on the other hand provide a range of colors for different needs and situations. This is what makes LED light bulbs so adaptable. They can be used in almost any environment or lighting situation fulfilling any lighting need.

LEDs are also app compatible so you can control your lights from your phone. Best of all, new federal regulations, tax benefits, state rebate programs and utility incentives have made it inexpensive and easier than ever for businesses to upgrade to LED technology.

