

It's Not Easy Being Green

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A Bright Idea

It's time to switch to LED lighting . . . right?

Adoption of LED lighting is gaining momentum across various industries. It is no longer uncommon to see LED street lighting while driving down the highway, or to pass car dealerships whose parking lot lights have been converted to LED. The technology is no longer new, and LED pricing has dropped and leveled. Many within the restaurant industry are starting to ask the question, "Is LED right for my business?"

Though LED lighting is not a new technology, figuring out how to convert from traditional lighting to LED lighting can seem daunting. There are still many questions that you may ask:

- How important are product choices?
- How much money can I save with LED lighting?
- Can LED lighting meet the unique needs of my restaurant?
- How will LED lighting impact my bottom line?

The first question that many people ask about LED lighting is, "How much money will I save?" Your cost savings depends on the lifetime and warranty of the products that are chosen, so a more appropriate question to ask is, "How do I know I am getting a quality product?"

The Importance of Product Choices

When an incandescent bulb or fluorescent tube burns out, it is easy to run down to the hardware store and grab a bulb off the shelf to replace it. With traditional lighting, you don't have to worry about who manufactured your light bulb or whether you are choosing a quality product. You will have to replace that bulb again in six months to two years, regardless of which product you choose.

The shift in technology from traditional lighting to LED lighting requires a shift in buying practice. Quality LED products last five to 10 times longer than traditional lighting. LED lighting is often purchased through a lighting professional rather than from the hardware store, so ensuring your lighting professional is providing quality products can be the difference between a maintenance-free experience and constant warranty headaches.

Some differences in quality between products can be uncovered easily with some simple questions:

- What is the rated lifetime of the product?
- What is the warranty of the product?
- What does the warranty cover?

The lifetime of an LED product is known as the L70 within the industry. Choosing a product with a long L70 lifetime and a good warranty is the first step in determining the quality of a product. Products with longer lifetimes and warranties will also yield more savings over their lifetime, leading to a better long-term return on investment.

In addition to knowing the length of the warranty on a product, it is also important to know what the warranty includes or does not include, as well as whether the manufacturer is reputable and will be around to fulfill warranty issues.

Not All LED Products Are Made Equally

Other differences in quality among LED products are more difficult to uncover and require some deeper questions. Understanding some basics about LED lighting can help expose manufacturing inequalities. LED lights are composed of two key components:

- LED chips, which produce light
- A driver, which powers the chips

LED chips perform less efficiently and degrade faster when they are subjected to heat. For a manufacturer, the LED chips are one of the more expensive components in the product. A common way some manufacturers cut costs is to use fewer LED chips in a product and push more power through the driver to maintain the light output of the product. This may seem like a clever method, except that over-driving the LED chips produces more heat, decreasing the efficiency and lifetime of the product.

Knowing the details of how an LED product is manufactured is not as simple as asking for the L70 lifetime of the product. A lighting professional should be able to discuss with you the quality of manufacturing in depth.

Products Chosen with the Restaurant Industry in Mind

One last question to ask your lighting professional is whether the LED products chosen are going to meet the unique demands of your restaurant. Restaurants operate long hours, pointing to another reason why choosing products with long lifetimes is essential. Choosing the right product can mean no more dealing with some of the most common headaches you likely see on a regular basis, such as mop handles breaking lenses and bugs inside your light fixtures.

Within casual restaurants, it is important to ensure that the chosen LED products will provide the right ambiance. Many casual restaurants seek a warm color light, and lighting is often dimmed to provide the right mood for the dining experience. It is important to ask your lighting professional if the LED products chosen are dimmable and whether they are compatible with existing dimmer switches or

controls. If your restaurant has dimmer switches, it is usually simple and inexpensive to convert the dimmers so they are compatible with LED products. If your restaurant has a more complex controls system, your lighting professional may need to choose specific LED products that will be compatible with your system. To ensure compatibility, a good practice is to ask for samples to be installed to test compatibility before converting your entire restaurant.

Guaranteed Savings

Once you are comfortable knowing that your lighting professional offers quality products that are chosen with the restaurant industry in mind, you may wonder how much money your restaurant can save and how savings are calculated.

Each restaurant is different, and some of the factors that help determine your overall savings include the size of your restaurant, how many outdoor pole lights are in your parking lot and how long your restaurant is open every day. There are two main ways you will save money with LED lighting:

- Electricity bill savings
- Maintenance savings

LED lighting uses less electricity than traditional lighting, saving you money every month on your bill. The calculations that your lighting professional uses to determine how much money you will save require only simple multiplication. The only information required is an inventory of your current lighting, your operating hours, a copy of your electricity bill and the LED solution list.

After converting to LED lighting, you will no longer have the lighting maintenance costs of replacing bulbs and ballasts, and you will no longer have to call a crew with a bucket truck to maintain your outdoor pole lighting. Maintenance cost savings calculations are more subjective to your specific maintenance procedures but can still be estimated quite closely. Bulbs and ballasts are a known cost, and labor savings are dependent on whether maintenance is performed in house or contracted.

How Much Can I Save?

After electricity bill savings and maintenance cost savings are added, your lighting professional will provide you with a monthly or annual savings estimate. Average savings for a quick-serve restaurant is \$350 per month, but for restaurants open for breakfast or late night, those savings can be upwards of \$600 per month. For a casual restaurant, savings can be \$900 per month or more.

There is good news for restaurants located in warm climates. LED lighting runs at a lower operating temperature than traditional lighting. This means less heat coming off your light fixtures. In warm climates where air conditioning is required and in hot kitchens that often need air conditioning year round, the switch to LED lighting will make your restaurants and kitchens cooler. This gives your air conditioner a break, further lowering your electricity bill.

In addition to electricity bill savings and maintenance savings, you may be eligible to receive a one-time rebate directly from your electric company for converting to

LED lighting. Many electric companies around the country have programs that incentivize businesses to install energy-saving products such as LED lighting. Each electric company runs its own program, so rebate amounts vary. An average rebate for converting to LED lighting is 10 to 20 percent of the conversion cost, though some electric companies still offer rebates of 35 percent or more. It is important to know that rebate amounts for many of these programs are decreasing every year as more businesses choose to adopt LED lighting. Your lighting professional will be able to tell you if your electric company offers rebates.

Your Bottom Line

In addition to electricity bill savings and maintenance cost savings, switching to LED lighting can have an additional impact to your bottom line.

For QSRs, a dark parking lot can be the difference between your next drive-through customer stopping in for dinner or choosing to go across the street to a competitor's restaurant with a brighter, safer-looking parking lot. It is estimated that having a well-lit parking lot can increase after-dark business by 5 to 10 percent. LED parking lot lighting that will burn brightly for the next 15 to 20 years will help to attract more nighttime customers.

Traditional lighting maintenance is often completed on a piecemeal basis. Light bulbs are changed only as they burn out, which can lead to a restaurant with bulbs of all colors. Sometimes a warm color bulb is purchased and other times a whiter color bulb is purchased. Inconsistent lighting in the front of the house impacts customer experience and can make your restaurant seem poorly maintained. New LED fixtures will provide consistent lighting for years and will create a clean, modern aesthetic, improving customer experience.

The Time Is Now

LED lighting is no longer the way of the future; it is the way of the present. From electricity and maintenance cost savings to attracting customers with a well-lit parking lot and a modern dining experience, LED lighting can have a significant impact to your bottom line. Armed with some basic knowledge of what product questions to ask your lighting professional, converting to LED can be a simple and rewarding experience that helps to make your restaurant more profitable.

Allison Arpin is a Partner of Multi Site LED and leads the restaurant division of the company. With a background in energy analytics, she has been helping restaurant franchisees and other business owners save money on their electricity bills for more than eight years.