THE DOS & DONTS

LED LIGHTING UPGRADES

WRITTEN BY WLS LIGHTING
WWW.WLSLIGHTING.COM

DO
KNOW WHAT YOU WANT
OR NEED

Even if you don't have a complete vision for your project, every little bit helps. Gather everything from spec sheets and criteria requirements to similar project images and inspiration photos. Know the type of applications you need lighting for and what you might envision for the project.

DONT
BUY CHEAP

Buying cheap doesn't equate to being thrifty or searching for the best "bang for your buck". Buying cheap is buying the lowest possible price you find and it's a big no-no. Lower cost fixtures can often translate into higher energy and maintenance costs over time. In some cases, it also translates to higher install costs because more luminaires are required for the same lighting result. They aren't joking when they say, "you get what you pay for"!

DO
WATCH THE WARRANTY

You're going to be spending valuable time and money on your new project so make sure that you're covered with the product's warranty. As lighting consultants, more than half of the problem WLS manages regularly are related to issues under warranty. The more fixtures you have on a project, the greater the chance there will be for a manufacturing defect.

Warranty issues could arise because of many reasons. It could have simply been a bad batch of fixtures or bad electrical drivers. With LED fixtures, there is no bulb to replace. Instead, LEDs are dependent on electronic drivers that control the light diodes. Whatever the reason may be, your product warranty should have no problem covering these errors.

So, what's a quality warranty? Watch out if you're only getting a 1-year manufacturer's warrany. Typically, good warranties span between 3 and 5 years. Even better manufacturers provide 10-year warranties. The number of years covered for a product's warranty should be easy to find. Typically, it should be shown on the product's specification sheet or cut sheet.

DO

USE REPUTABLE PRODUCTS

LEDs are basically just computer chips. Most manufacturers can make them, but that doesn't necessarily mean they use the best practices for creating them.

That being said, always buy LED light fixtures from companies that have a name for themselves. Skip the newbies! High-quality manufacturers typically have field-replaceable and serviceable parts. Many lower-cost fixtures will have color variations, and usually don't have serviceable parts, making it hard for you to obtain a near replacement in the event of a warranty issues.

DONT
FORGET ABOUT REBATES

Rebates are easy to forget about and tedious to find and manage. A great place to get started is the Department of Energy (DSIRE). If you're not finding what you're looking for, always ask your lighting consultant!

Learn more about our process on rebate research here.

DO

TRUST LONG-LIVED MANUFACTURERS

Beware of a manufacturer's years in business! Think twice about using manufacturers that are new startups, unheard of, or who have been in business less time than their advertised product warranties. They may offer cheap prices now, but they may not be there to assist you when that product fails on your project.

PRO TIP:

If you're upgrading your project for the long term (perhaps you're a property owner), always trust tried and true fixture manufacturers.

DO

KEEP YOUR POLES

Upgrading your parking lot lighting to LED doesn't mean you have to buy new poles too. Chances are your poles should work just fine for your new LED fixtures. Lighting poles can be steel, concrete, aluminum or even fiberglass. If you're unsure about if your poles are safe/secure to keep using, contact a professional engineer to verify their structural integrity.

Many new LED fixtures are designed for super low EPA (Effective Projected Area) values. Whereas older HID fixtures were 3 to 6 times higher in EPA values due to the extra space needed for ballasts. Because of the lower EPA values, most poles will live up to the new standards of the LED fixture.

PRO TIP:

Always make sure that you know what your city or county criteria requirements are when undergoing a LED lighting upgrade project. For example, your city might have new requirements for pole height. Steel poles can always be cut down to achieve the new maximum height requirements.

DONT
REPLACE 1-FOR-1

A LED lighting upgrade, whether it's exterior or interior, can be quite overwhelming. You may think the easiest and cheapest way to do it is replacing your current fixtures 1-for-1 with new LED fixtures. Don't assume the lighting will be the same as your old HID lighting system! The lumen output, quality of light, and foot-candles will all be different with an LED fixture.

It used to be that you had to add fixtures to a pole for more light output. This is no longer the case with LED. LED fixtures come in different lumen packages to meet your project's lighting criteria. By simply increasing the LED fixture's lumen package instead of adding multiple fixtures to a pole, you're saving both energy and money.

PRO TIP:

If you're replacing an older LED fixture to a newer LED fixture, check the types of chips and diodes your existing fixtures have to make sure you replace with something similar in output and performance. Technology improves at an exponential rate making newer LED fixtures more efficient. This gives you more lumens per watt, and better overall quality of light for the same (or less) wattage than older LED fixtures.

DO
VALUE ENGINEER

Value Engineering is taking an existing lighting package and altering the fixture spec or the layout to decrease pricing and the electrical load of the site. A professional and full-service lighting company will be able to do this in the photometrics department.

Many lighting manufacturers will create lighting photometrics and site plans with an overwhelming number of poles just because they don't take the time to put much more thought into the project. Companies like WLS will put more time and care into a site lighting plan because this is one of many services we offer nationwide.

DO
USE BALLAST BYPASS OPTIONS

When you're installing new LED replacement lamps for CFL (Compact Fluorescent Lighting) (4-Pin and Bi-Pin) replacements, always use ballast bypass options whenever possible! Ballast bypass options take a key fail point out of the system and lengthens the life of the new installation. Removing ballasts from the system also results in minimized maintenance cost for the repair of the system, as no ballast kit is needed for the lighting to work properly with LED.

DONT TAKE A CRASH COURSE ON LIGHTING DESIGN

It's easy to be a jack of all trades, but you'll get the most out of your time by leaving it to the professionals. The placement and selection of fixtures is more than just aesthetics. It's about performance, efficiency, and value. Lighting designers know exactly what a space needs and will design the lighting layout most efficiently.

Many times, fixtures are placed where they would be aesthetically pleasing but not where they would be at top performance. True lighting designers are unbiased and take all aspects into account (aesthetics, performance, placement, specifications, criteria, and budget). Whereas someone like an electrical engineer may only be concerned with specifications and code compliance. Every profession has their place in a lighting project.

PRO TIP:

Consider a lighting consultant in lieu of a lighting designer. Lighting consultants, like WLS, start with your project's end goal and work their way back. Budget-based design from the beginning. Lastly, don't forget to consider the effect of day lighting in your space!

DO
CONSIDER YOUR LANDSCAPE

Particularly if your property is older, remember to maintain your tree's canopies. It's the perfect time to do some trimming just before your new LED lighting upgrade. You want to make sure there's no major obstructions in the light's path for the best possible light spread.

DO

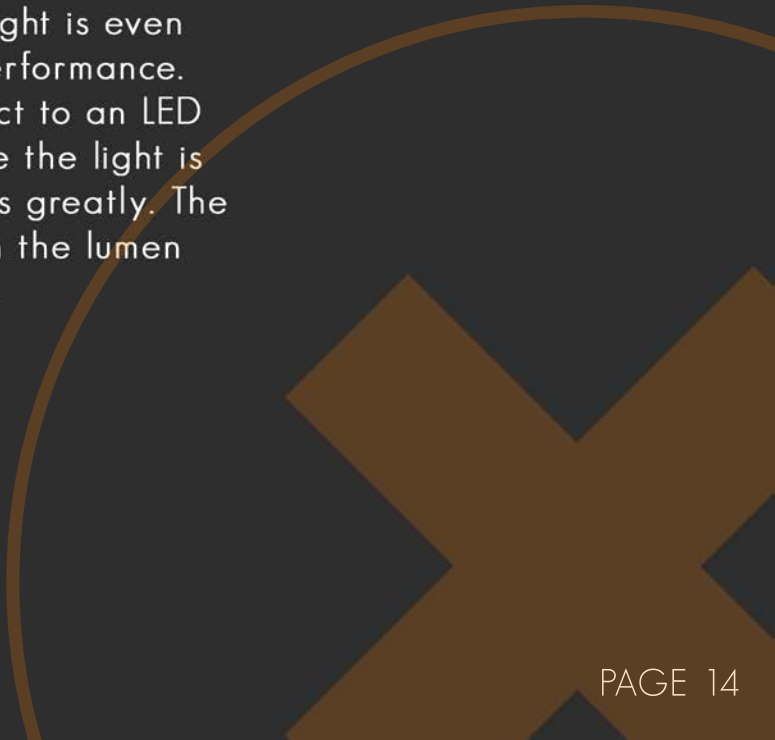
INSTALL WIRELESS CONTROLS

Why go LED if you can't control dimming? Installing wireless controls not only gives you full control over the dimming capabilities of LED, but also allows you to manage and control your lights remotely. Even though you now have better energy efficiency with LED Lighting, don't assume that's the best you can do! Continue to be energy conscience with your new energy efficient products. All LED lighting is capable of dimming, but the ability to dim depends on other components of the equipment. For example, for an exterior LED site lighting fixture, you must have a dimmable driver to dim the fixtures. Don't pass up controls capabilities on your next project!

Learn more about netLiNK wireless controls here.

DONT
RELY ON LUMEN OUTPUT

While lumen values are important to the performance of a light fixture, the distribution of the light is even more so. Lumen output does not equal performance. The lumen output may be similar in respect to an LED fixture's performance, but how and where the light is directed will affect the overall light levels greatly. The performance of a fixture is dependent on the lumen values, distribution, and mounting height.



DO
OVERBUY

Believe it or not, it may be a good thing to buy a few extra exterior fixtures to have on hand just in case you need replacements in the future. We find that some companies require the same fixture to be replaced in the case one is damaged over time.

Just like any technology, lighting fixtures are always being improved and upgraded to new models. "Overbuying" fixtures on your project now will save you complications if the fixture model gets discontinued in a few years, therefore extending the life of your project. This way you're able to replace your damaged fixture with the exact same fixture. Lighting professionals recommend buying about 5% over.

DONT OVERDESIGN

In many cases for interior lighting projects, non-lighting professionals purposely overlight the space with the intention of dimming to achieve the light levels the clients ultimately desire.

Overdesigning is not a good option, nor is it cost efficient. When you find out your project is being designed with more lighting fixtures than you truly need, you're not a happy camper! Nobody wants to install more light fixtures than they need, nor should you have to. Always consult with lighting professionals to verify your lighting fixture quantities and the photometric layout.

DO

KNOW THE KELVIN COLOR SCALE

First thing's first, know your existing color temperature so that you can share this information with the lighting professional you're working with on your LED upgrade.

Kelvin temperatures for commercial lighting applications typically range from 2,000K - 6,500K. Both warmer (2,000K) and cooler (6,500K) temperatures have their place for different types of lighting applications. Warmer temperatures may fit interior spaces better while cooler temperatures are ideal for parking garages.

PRO TIP:

The AMA recommends lower kelvin temperature LED fixtures for exterior lighting applications to reduce the effects of lighting on human sleep patterns (circadian rhythm). This is a reason as to why we now have "Night Modes" on cell phones.

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