

## LED to the Rescue: “Back of the Envelope” Formulas Evaluate the Potential of a LED

LED lighting is energy efficient, has a long useful life, and with recent advances meets high levels of specification requirements. And most importantly, LED lighting is very cost effective – to put it mildly.

As to LED products meeting high levels of specifications, more recent advancements have expanded the LED platform to include installations in high end department stores, where lighting is a critical factor in product display. LED lighting is also now utilized by museums as well as art galleries, which also have high quality lighting demands. These are all users that do not settle for second best solutions.

So for those who have facility responsibilities, there should be no question that there are LED solutions available for retro-fits that can meet even the most exacting requirements. At the same time with LED products, you are not looking at a trade-off or compromise – higher levels of lighting quality vs. cost savings. With LED you get both.

With regard to savings side of the LED platform, the energy/cost savings from a LED retro-fit can be very substantial, especially when you consider the fact that these savings are not a one-time payment - like a Con Ed rebate - but are ongoing and continue year after year. The actual savings realized for any one project will depend on the level efficiency (or inefficiency) of the lighting to be replaced by LED. Here are some quick “back of the

envelope” formulas to evaluate the potential of a LED retro-fit for your facility.

**Incandescent to LED** - If you have a facility that has a high percentage of incandescent lighting, a retro-fit to LED will result in a very high level of energy reduction. What drives the energy reduction? Most LED lamps only consume about 10% of the energy as compared to an incandescent lamp. The significantly lower levels of LED energy consumption as compared to incandescent lighting following a LED retro-fit equates to very low energy bills. Think in terms of a payback in under twelve months. Your utility bills will drop to the point where the accrued utility bill savings in just under one year will offset the cost of the LED product used to replace the incandescent lighting. If your retro-fit qualifies for Con Ed funding, expect your payback to improve from less than twelve months to just two or three months.

**Fluorescent to LED** - If your facility is heavily weighted toward older fluorescent products, a retro-fit to LED tubes will also result in energy savings. Think in terms of a payback based on lower utility bills in the twenty four month range. With Con Ed funding, the payback period will improve to the twelve month range.

**Fluorescent to Facility Upgrade Utilizing LED Lighting Fixtures** – If your facility is in need of an upgrade, include LED lighting ceiling fixtures as part of your retro-fit. Instead of just replacing the fluorescent



lamps with LED tubes, replace the old lighting with new LED fixtures. The combination of the new fixtures with new ceiling tiles will dramatically improve the look of your facility. Your upgrade will self-finance with the savings realized from the energy saved from the LED products. Think in terms of a three year payback based on your lower utility bills. With Con Ed funding, the payback period will be reduced to about two years. Remember, you will not receive Con Ed funding for the new fixtures or the new ceiling tiles, but the energy reduction from the LED products will finance the project – it will just take a little more time for the accrued energy savings to do the job.

The next step that needs to be addressed before jumping into the LED pond is the LED product itself - specifically LED quality issues. There are a large number of LED quality products available. There are also a large number of lesser quality LED products promoted as lower cost alternatives. Don't even think of going there. Focus only on high end quality manufacturers such as Phillips, Hubbell or Acuity, whose products come with warranties as well as Energy Star or DLC designations. These designations are a qualifying requirement for Con Ed funding.

While there are many quality LED options available for most retro-fits, identifying the specific LED product that will work best for an application requires an expert. In depth knowledge of product specifications from all of the quality manufacturers is essential, as well as how individual products perform under different field conditions. LED products from the various quality manufacturers have characteristics that need to be evaluated as part of the selection process. It is not realistic to embark on a successful LED retro-fit without this level of product knowledge.

The smart move is to work with an independent industry expert who is not tied to any one manufacturer. Even better, select an independent expert who is a **Con Ed Marketing Partner**, who can not only guide you through the process, but source Con Ed funding as well.

Expert navigation and the ability to effectively source funding are the key ingredients to a successful LED retro-fit.

George Crawford, Principal of Green Partners LLC  
[gscrawford@greenpartnersny.com](mailto:gscrawford@greenpartnersny.com)

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