

# HOW MUCH DOES A RETROFIT COST?



**THE RETROFIT COMPANIES' COMPREHENSIVE LIGHTING PROJECT GUIDE TO  
YOUR FACILITY, REQUIREMENTS, GOALS & PROJECT VARIABLES  
WHEN PLANNING A LIGHTING RETROFIT**

## How much does a lighting retrofit project cost?

Or “*How much is my lighting project going to cost?*” is the question we hear first and most often in more than 20 years in the lighting industry, and it is truly the most difficult to answer of all the things our clients ask when we propose projects.

Sometimes lighting professionals and energy-efficient lighting project designers can tell you the costs of fixtures, lamps, labor, and a whole host of other items that go into a lighting retrofit project; however, it is really very difficult to give an ‘average price’ or a ballpark price for a project “in general” because the factors vary so widely from project to project.

So, today **we’re going to tell you the 4 major cost factors that go into building your lighting project** from the ground up. We are going to give you all the nitty-gritty details and examples that can heavily affect not only the cost of your lighting retrofit, but the overall success of your project. We want to tell you how to go in armed with knowledge when you are ready to take on a lighting upgrade or retrofit project. Our first bit of advice for not breaking the bank is to ***read this e-book before you sign on any lighting project.***



## FACTOR 1: YOUR FACILITY

*Your building size, structure, hours of operation, your existing electrical service and even your industry can impact the cost of a lighting project. **A reputable contractor isn't going to give you a cookie cutter "One Size Fits All," energy efficient fixture** as the answer to the complex equation that is your lighting project. When you engage with the person that will be doing the lighting survey (auditing) your facility, be prepared to answer a lot of questions about your building and your existing lighting system. In order to put together the best project, they will spend a fair amount of time taking into consideration your entire facility, how it is currently working, and how you need it to work in the future.*

## How big is your building, or the area you want to include in the project?

Oftentimes bigger spaces require more fixtures for more light, or those with taller ceilings will need to beef up fixtures; however, the greater the project cost, the greater the potential for savings opportunities.

## What is your current electrical service?

120 volt system? 277 volts or 480? This will affect the fixture configuration and in some cases the lighting technology available for your application.



## What are your hours of operation?

How much energy you use on average, and when, can dramatically affect your rebate, energy costs, and payback calculations.

## Are you a candidate for daylight harvesting?

Do you have many windows? What about sky lights? Perhaps it is dark outside during your business hours or you have no windows. However, if sunlight streams into your building, consider it an asset and possibly integrate some dimming technology into your fixtures so that you save energy when the sun shines!

## What is the general accessibility to the light fixtures?

Factors here include more than ceiling height and ceiling type. Project planners must also consider any equipment in the way of accessing the light fixtures such as: machinery, desks, furniture,

displays, racking, or any items that may be stationary or immovable during the project. Additionally, there may be objects that are light spread barriers, meaning to achieve your lighting needs, fixtures would be added. Another part of the general accessibility also includes the current schedule at your facility. How often are your spaces occupied? Are you open 24/7? Do you have special security clearance needs?

### **What is the working environment in your facility?**

The needs of a health care facility (open 24/7, with patients present) are going to vary from the needs of a retail store (open regular business hours, empty when closed). Even more dramatically different can be the environments in various manufacturing facilities, with a spectrum from food production, to light manufacturing, to heavy industrial operations like a foundry, which is hot, dirty and can be very dangerous for anyone not trained to work in one.

### **Notes on your facility:**

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## FACTOR 2: YOUR REQUIREMENTS

*The second factor in building your new lighting system is your existing lighting system and your operational requirements. What does this mean? Let's go through the three main points about your current lighting system that can impact the cost of a lighting retrofit.*

*You will see how these points can impact the cost of your lighting project:*

- *the condition of your current fixtures*
- *the amount of light you want*
- *your future business processes*

*Consider these important points about your existing lighting and operational requirements that can impact the final price of your lighting retrofit project. As you read each question, make a short note of your answers.*

## What is the condition of your current light fixtures?

Will you retrofit them (replace only lamps and ballasts, while keeping the same light fixture in place) or will you replace the entire fixture for a complete upgrade?

Maybe your building is relatively new, or maybe it's an historical setting that needs to be preserved. Perhaps the fixture is outdated, dirty, and worn, or the technology you are upgrading to requires a new style of fixture. These scenarios begin to address part of **the decision between Retrofitting and Upgrading**. So, consider the condition of your existing lighting fixtures at the start of a lighting project to determine if your costs will fall into the retrofit or complete upgrade category.

## Notes on Existing Fixture Condition:

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## Does your current lighting system give you enough quality light for the tasks at hand?

**How much light do you need? Are you over-lighting or under-lighting for your application?** Industry standards exist for recommended amount of foot candles for all types of specific lighting applications, ranging from surgical suites to parking ramps.

For example, you may not need ten foot candles of light in your parking ramp, when the specified range is 1-5 foot candles based on the application. Keep in mind that ***you may not need more light; you may need a better quality of light.***

Note your concerns about your existing light quality, if any:

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In the near future, are you planning to upgrade, remodel or change processes in the space you plan to do your retrofit?

Upgrading your lighting fixtures could be a complete waste if in the near future your facility will be going through a complete overhaul. Perhaps a change in manufacturing processes or tasks performed in a space will be changing. This could impact your operational requirements for a lighting project.

Feasibly you could plan your project in stages to recoup the most from your energy-efficiency investment. The most benefit may be achieved by planning a full lighting re-design, giving you the exact lighting system that is best for your facility, your operational requirements and your goals. **Be sure the current uses of the space and any future uses are considered when planning to re-light and upgrade or retrofit your building.**



## FACTOR 3: YOUR GOALS

*We will now evaluate your goals for a lighting project by discussing five major points that can impact the final price of your lighting retrofit project.*

***Your goals should be the project priority, whether you were approached by a lighting consultant, were given a directive to do a lighting project from up the ladder, or researched energy-efficiency and learned that **upgraded lighting can be a simple, immediate way to reduce operating costs and have a positive environmental impact.*****

*If your scenario is similar to these we discuss, or something completely different, you should have your goals in mind for a successful lighting project. We will discuss some common goals that previous clients have looked to achieve by implementing energy-efficient lighting. Each is an important factor in the success of a lighting project. Which will be most important to you?*

### Are you looking to make an investment in your facility?

Property management companies or building owners can increase the value of their buildings, potentially increasing lease revenues, by improving the facility's lighting system.

### Do you have to meet corporate Sustainability or Environmental Goals?

An obvious byproduct of using less energy is the preservation of natural resources (coal, oil, etc.) that are used to create electricity. One way to reduce the amount of energy your facility uses is to reduce the overall wattage of its lighting system.

### Are your financial goals long term or short term?

Consider whether ROI or Payback data make the most sense for how your company does business. A reputable lighting contractor should be able to show you how your project makes financial sense for you.

*US Small Business Administration says, "Depending on the type of business you operate, **lighting accounts for 20% to 50% of electricity consumption.** This means that significant cost savings can be achieved with energy-efficiency improvements, and due to continually improving equipment, **lighting usually provides the highest return-on-investment of major upgrades.**"*

### Have you considered Maintenance Savings as a goal?

Maintenance savings can reduce the overall perceived cost of a lighting project, especially for large buildings without a full-time maintenance staff, who must hire out all the work to a

## CAN YOU AFFORD TO REMAIN INEFFICIENT?

You cannot escape the cost of lighting, it is an unavoidable expense of operating your business so consider if you can afford to remain inefficient.

With future utility cost projections showing increasing prices, look for ways to minimize the impact of expensive overhead costs. Specifically, imagine cutting your utility bill now AND paying less-than-you-would-be later.

maintenance firm. If your building has high cost maintenance areas that require special lifts or scaffolding to reach, or if changing bulbs is a full-time job, many lighting contractors should be able to account for those expenses before a lighting project; and for the subsequent savings upon completion of an energy-efficient, long life lighting system.

### Is reducing your overhead a goal?

**Lowering monthly, ongoing utility expenses through energy savings is a primary goal for many lighting projects.** The actual kilowatt or kilowatt hour savings, including savings achieved by employing control systems like sensors, day lighting, dimming, time clocks, and more will be crucial information included on any project quote you receive. Whether or not reduced overhead is your primary goal, it is a major benefit of upgrading your lighting system. These savings could help off-set the cost of the project, as well.

## FACTOR 4: PROJECT VARIABLES

*Your facility, your existing lighting system, your needs, and your project goals are all factors in the cost of a lighting retrofit; a few more tangible factors also come into play. Our best advice to anyone comparing multiple lighting project quotes from multiple vendors is to **be sure you are comparing apples to apples**, in all aspects of the project: Services, Products and Extras. Here are the most easily identifiable variables you should be aware of when you consider the cost of a lighting retrofit or upgrade.*

*By staying organized and making sure that each quote is addressing all of your concerns, you will be able to confidently sign on the line for a quality lighting project from a reputable lighting contractor. Let's read about some project variables that could impact you.*

## What products are to be installed? Which brands of lamps, ballasts and fixtures are being used in your project?

Are the names national brands or a fly-by-night manufacturer using untested, sub-par materials? Be sure you understand the quality of the products you are buying, the warranty that is issued with them and that they are fully tested for dependability and safety. Additionally, if your lighting application is very specific or rare (explosion proof, underwater, etc.) the fixtures required will likely be more expensive. Some lighting types lend themselves to energy-efficient, cost-conscious options, but highly specialized products are an exception. Keep in mind that quality, tested products from respected brands will likely cost a premium, but an experienced lighting contractor will also know that those products work reliably and that is why they spec them.

## What Lighting Technology is being used for your retrofit or upgrade?

Be aware that the type of lighting you choose, or require, can profoundly impact the success and the cost of your lighting project. Newer technology like LED is more expensive and more efficient, generally, than older technologies like linear fluorescents like T8 or T5 lamps. Some of the newest LED technology may not be as tried and market tested as linear

### Some bulb types might include:

- Fluorescent T8
- Fluorescent T5
- LED
- Induction
- Others

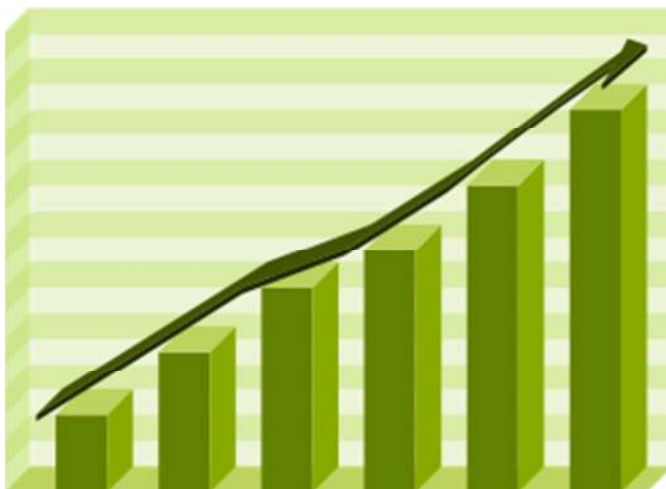
fluorescent or induction technology, but based on your needs and goals, your lighting contractor will find a solution to make your project a success. (Also note that LED third party testing entities exist to protect consumers, and offer certifications on qualifying LED products that pass their tests for lamp life, performance and efficiency. Ask for the LM-79, LM-80, L70 and TM-21 ratings on any LED fixtures your lighting contractor specs, they can tell you what those numbers mean for a quality product.)

### What is the location and length of your project?

These are both labor factors to take into account for your lighting project. Will the electricians doing the work have to travel to you? If so, there is a chance your project price includes drive time, per diem, and lodging expenses.

### Recycling Costs (have they been included in your quote?)

**All of the items that are taken out of your existing lighting system should be responsibly disposed of after the completion of your job.** These items include: universal waste lamps, ballasts, fixture housings, wiring, packaging, transportation to the recycling facility, and actual recycling fees. (learn more about [Lamps and Universal Waste Recycling](#))



### Are you paying an engineer or lighting designer for a Lighting Study?

Every quality project needs to be designed, more or less, from the ground up by taking an inventory (auditing) the

existing lighting system, along with hours of operation, and utility costs and calculating those factors against a proposed, new, energy-efficient lighting system based on your needs and goals. Depending on the size of your facility and how intricate your system is, this study can cost thousands of dollars. Be sure you are spending your money wisely. **If you are hiring an engineer or architect to build this study, there is a chance your one-time fee will be sizeable and non-reimbursable. If you hire a lighting company to do this study, find out if this fee is reimbursable.** Ask if the cost of the study will be applied to the total cost of your lighting project, if the project is signed with the firm that completes your lighting study. Knowing this information before you engage in a lighting project is crucial. **Understanding this single, powerful point could save you thousands of dollars.**

### **Rebates & Incentives for your lighting project (Are you getting a utility rebate for your project?)**

Finally, one of the most exciting aspects of any lighting project is the potential for utility rebates or incentives. These funds, commonly provided through money contributed to a utility's Conservation Improvement Program by fees on every monthly utility invoice, are re-distributed as incentives for individuals and businesses that invest in energy-efficient or energy saving equipment.

**Essentially, utility companies want to reward smart energy consumers that make steps to improve efficiencies.** Lighting project incentives are usually based on watts saved by replacing your existing lighting system with a new, energy-efficient one.

## Two kinds of rebates exist: Prescriptive and Custom.

- Prescriptive Rebate amounts are based on pre-determined scenarios. [Replace Existing Fixture A with New Fixture Y and you will receive X dollars rebate].
- Custom Rebates are just that, custom. Often lighting designers will submit retrofit project plans, with watts saved, to the utility company and try to achieve a greater rebate. This method is also used for facilities and lighting types that may not be exceedingly common.

All utilities require a fair amount of paperwork and documentation to issue these rebates. The amount available in rebate funds is usually maxed out each year, so **applying early in the year for your project dollars is important.** Additionally, most utilities max out individual rebate amounts at a certain percentage of total project cost.

**In a nutshell: Rebate dollars are limited.** You must submit proper Prescriptive or Custom rebate paperwork to achieve maximum savings, and you must provide appropriate documentation to have money issued to your project. A reputable lighting contractor is able to assist their clients with all of these items, and many times you only need to provide them with a couple of your previous utility invoices and access to your facility for a lighting study so they can get started. •



## YOUR LIGHTING PROJECT NOTES

*So, you've taken the time to review our four primary factors that impact the cost of a lighting retrofit, while the topics are still at top of mind take 15 minutes to review the points for each. We've created this resource for you as you begin researching and getting quotes for your lighting project. Add your answers and notes to the following pages.*

*Until you decide which lighting contractor will be the best one for you, please know that The Retrofit Companies is available to answer any questions you may have about what you have read in this e-book or any topics that were not addressed here.*

***Call us any time: 800-795-1230***

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How big is your building, or the area you want to include in the project?

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What is your current electrical service?

☐ 120 volts   ☐ 277 volts   ☐ 480 volts

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What are your hours of operation?

Hours per day:

Days per week:

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Are you a candidate for daylight harvesting? (check if YES)

- ☐ Do you have many windows?
- ☐ What about sky lights?
- ☐ Is it dark outside during your business hours?
- ☐ Do you have no windows?

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What is the general accessibility to the light fixtures?

At what height are your fixtures mounted? (ceiling height in ft.)

Does special equipment block access to any fixtures?

Do you have special security clearance needs?

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What is the working environment in your facility?

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Does your current lighting give you enough quality light for the tasks at hand?

☐ YES   ☐ NO

If no, what are the problems?

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In the near future, are you planning to upgrade, remodel or change processes in the space you plan to do your retrofit?

☐ YES ☐ NO

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Are you looking to make an investment in your facility?

☐ YES ☐ NO

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Do you have to meet corporate Sustainability or Environmental Goals?

☐ YES ☐ NO

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Are your financial goals long term or short term?

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Have you considered Maintenance Savings as a goal?

☐ YES ☐ NO

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Is reducing your overhead a goal?

☐ YES ☐ NO

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What products are to be installed? Which brands of lamps, ballasts and fixtures are being used in your project?

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What Lighting Technology is being used for your retrofit or upgrade?

☐ T8 ☐ T5 ☐ LED ☐ CFL ☐ Other

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What is the location of your project?

City/State:

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Recycling Costs (have they been included in your quote?)

☐ YES ☐ NO

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Are you paying an engineer or lighting designer for a Lighting Study?

☐ YES ☐ NO

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Are you getting a utility rebate for your project?

☐ YES ☐ NO

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