ELS electronic lighting science
LED TECHNOLOGY

Unsolicited Project Proposal
Gap, Inc. Lighting Retrofit Project
South Bay Galleria store location

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Executive Summary

Electronic Lighting Science is a manufacturer Energy Efficient LED lighting applications. Our LED fixtures and components conserve up to 90% energy, as opposed to Incandescent, Halogen, Fluorescent, and Metal Halide lighting applications. Our LED lamps and fixtures combine highly efficient materials that allow our LEDs a efficacy well above other brands in the marketplace. ELS's technology ascend our LED products to achieve unprecedented light levels.

ELS LED lamps and fixtures are thoroughly tested for conformity and electrical specifications. Our high brightness LED products are useful in a wide range of lighting applications.

Objectives

- ELS would like to assist you in choosing energy efficiency as a path to sustainability. By doing so, your organization can cut cost, while protecting the environment.
- Assist your organization in increasing lighting efficiency and energy savings by implementing LED lighting applications within your store locations. To achieve the greatest energy savings, LED lighting technologies are the only realistic and reliable replacements today.
- Supply a definitive model to demonstrate the efficacy of LED lamps and fixtures for your organization.
- Reduce maintenance by eliminating need to consistently change halogen and fluorescent bulbs. LEDs have a life span of up to 50,000 hours with a 3 year warranty, as opposed to 2500 to 5000 hours of halogen and fluorescent bulbs.
- LEDs produce very little heat. As a cool lighting source, LED bulbs will help reduce HVAC energy consumption in your store locations.
- The Project will replace the following: 142 Par38 and 50 T8 lamps with ELS LED lamps in your Manhattan Beach location.

GAP, INC. can now benefit from the efficiency and savings of LED lamps. Lighting is estimated to constitute 42% of energy cost in Retail facilities in California[1]. Lighting retrofits can save over 50 percent of lighting energy as well as 10 to 20 percent of cooling energy. This proposal points to a potential +50% immediate savings on energy consumption and longer term system-wide economies on maintenance and lighting renewal.

Solid state lighting or LED technologies are rapidly evolving, and new efficiencies and capacity are emerging each year. Early indications point to exponential new efficiencies project savings upward of 70% of energy use. Coupled with the savings in maintenance and renewal, these are estimated to produce typical annual savings to the local tax base.

[1] U.S. Energy Information Administration, Energy consumption in retail buildings by end use for five U.S. climate zones

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Economic Analysis and Savings Data

Lamp Description	Quantity	Energy Use (W)	Total Demand (kW)	LED Energy Use (W)	Total Demand (kW)	Estimated Savings
Halogen Par38	142	75	10650	18	2556	76.00%
Fluorescent T8	51	42	2142	15	765	64.29%
TOTALS			**12792**		**3321**	**74.04%**

1. Total Kilowatt(kW) demand will be reduced by 9,471kW, representing a 74.04% reduction in lighting energy consumption.

Lamp Description	Quantity	Energy Use (W)	Total Demand (kW)	Cost of Energy	LED Energy Use (W)	Total Demand (kW)	Cost of Energy	Estimated Energy Savings
Halogen Par38	142	75	10650	$6,367.32	18	2556	$1,528.16	$4,839.16
Fluorescent T8	51	42	2142	$1,280.64	15	765	$457.37	$823.27
TOTALS			**12792**	**$7,647.95**		**3321**	**$1,985.53**	**$5,662.43**

1. Cost of lighting energy consumption is calculated based upon 12 hours of daily operation, 365 calendar days, with a kW rate of $0.1365/kWh. The kWh rate is based upon the Department of Energy Commercial rate for the state of California.
2. Total energy consumption will decrease by 74.04%, not including increased savings due to reduction in HVAC energy consumption expenses.
3. Total savings of $5,662.43 on energy consumption for first year. Estimated lighting energy expenditure of $1,985.53 per annum the following years.

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ROI and Environmental Impact Data

- The estimated Payback period for the LED retrofit project is 1.64 years.
- 5 Year Cash Flow is estimated to be $19,025.76.
- ROI for this investment estimated to be 60.86%.

Environmental Impact

ELS LED lamps are environmentally friendly. Our products utilize recyclable plastic and contain no mercury or other hazardous materials. Our bulbs are also free of harmful UV and IR emissions.

By utilizing ELS LED products within your stores, GAP can help reduce your Carbon Footprint by the following:

Average Reduced Air Pollution (lbs. Carbon Dioxide) = 15,153.6 lbs.

Average Reduced Air Pollution (g. Sulphur Dioxide) = 50,196.3 g.

Average Reduced Air Pollution (g. Nitrogen Oxides) = 26,518.8 g.