

New Construction: Doing it Right the First Time

SMALL COMMERCIAL LIGHTING PROGRAM — CASE STUDY

“The Bay Plaza store provides bright even lighting without the glare. This makes it a pleasure to work here.”

- Allie Patel,
Assistant Manager

Project Profile

Type of Space

Retail
Sporting Goods

Square Footage

11,780 of
Retail Space

Project Objective

High-quality lighting to make the store and product appealing while providing energy cost savings

Project Benefits

Bright, cheerful store

Brilliant colors and displays

Lower utility bills

Modell's, a sporting goods retailer with over fifty stores in New York State, recently built a new store to serve the Co-Op City neighborhood in the Bronx. Modell's realized that it needed to distinguish the new establishment from the neighboring big box stores. Management recognized that good lighting would attract customers and help it meet sales targets despite the close proximity of competitors. Management also knew that good lighting would keep operating costs in line.

Shelving and other types of displays can interfere with lighting, so a challenge of general retail lighting design is to provide light on both vertical and horizontal surfaces. Modell's was concerned about using typical deep-cell parabolic fixtures that would make the ceiling look dark. Modell's preference was “the brighter, the better.”

Modell's management engaged Peter Johnson at Duke Supply, an Ally Distributor in the New York Energy SmartSM Small Commercial Lighting Program. Working together, they created a lighting design that met Modell's requirements. An aesthetically pleasing and visually comfortable environment is now provided for staff and patrons, while energy costs are minimized—an effective, energy-efficient lighting design.

Effective, Energy-Efficient Lighting Overcomes Retail Challenges

To meet these challenges a combination of fixture styles was employed. For general lighting, Lamar T-8 low-profile parabolic fixtures were used, all properly spaced within Lamar's recommendations. All of the selected fixtures

meet the Small Commercial Lighting Program requirement for glare control, directing light away from people's eyes and making it more comfortable and pleasant for staff and customers.

Lighting for the wall displays was provided by Lamar T-8 wall-washers. Hidden from view, these fixtures provide even illumination and surface brightness. High color rendering “800” series lamps enhance the attractiveness of the space by emphasizing the colors of merchandise and clothing.

The results are horizontal light levels appropriate for general retail stores. Equally important, the



Clothing colors look natural under the store's effective lighting.

40 to 50 footcandles provided on the vertical plane yield uniform lighting for customers to view the merchandise and for store staff to stock the floor displays. To attract the attention of shoppers to featured merchandise, higher levels of lighting are used for the wall displays.

Oscar Flores, Assistant Manager, has worked at other retail stores during his career. He points out that the lighting in the Modell's Bay Plaza store provides “a much brighter appearance than other stores. The balance of floor, wall, and ceiling brightness makes it a pleasant place to work and shop.” Employees agree that the

lighting is comfortable and sufficient for the tasks they perform.

Lighting maintenance costs for Modell's are minimal, based on the 20,000-hour average rated life of the T-8 linear fluorescent lamps. Using this energy-efficient technology also keeps energy costs low and help reduce cooling costs in the summer. The 32-watt "800" series linear fluorescent lamps used in the fixtures not only produce more accurate color rendition than the standard "700" series, but further contribute to reduced energy costs by producing more light output using the same amount of energy. This reduces the number of fixtures needed in a given area, further keeping lighting costs low.

The Bottom Line

Lighting energy use for Modell's is well below the maximum level allowed by the Energy Conservation Construction Code of New York State. General lighting is provided with only 1.21 W/ft², and accent lighting is accomplished with only 0.58 W/ft², resulting in a very energy-efficient retail store lighting project. As a result, Modell's is enjoying real energy cost savings that exceed \$9,000 per year.

The material costs for low-profile parabolic fixtures were just slightly more than standard fixtures, but the operating cost savings that Modell's is reaping year after year offsets this incremental first cost.

For More Information

The New York State Energy Research and Development Authority (NYSERDA) offers businesses energy-saving opportunities through the New York Energy SmartSM Small Commercial Lighting Program. Additional programs can help businesses reduce utility costs, including the New York Energy SmartSM Smart Equipment Choices Program, which offers financial incentives to businesses for energy-efficient lighting equipment and a variety of other electric-efficiency measures. Low interest rate financing may be available through the New York Energy SmartSM Loan Fund Program.

To learn more about these incentives and to make your lighting more effective and efficient, visit www.nyserdera.org/scslp or call toll-free 1-866-NYSERDA (1-866-697-3732).

Balancing light levels on walls and on displays provides even illumination.



Selling Sporting Goods since 1889

Tech Specs

- Glare-controlled 2X4 and 2X2 low profile T-8 parabolic fixtures
- Two-lamp T-8 linear fluorescent wall washers in a continuous row
- High color rendering linear fluorescent lamps
- 1.79 installed watts per square foot for lighting
- Estimated kilowatts reduced compared to typical retail store: 17.8 kW
- Estimated annual kilowatt-hours saved compared to a typical retail store: 92,500 kWh
- Estimated energy savings compared to a typical retail store: \$9,250*

* Savings based on a \$0.10 kWh rate and 5,200 operating hours per year.