

# LED Lighting Retrofit + Controls

## Costco

Case Study



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Membership warehouse club Costco is committed to running its 800+ locations worldwide in an energy efficient and environmentally responsible manner. With more than 150,000 square feet of retail space at each location, the company was upgrading its high bay lighting to more energy efficient LED technologies and adding controls to further enhance sustainability as part of a reLED project underway in 2023. For one Oregon location, a rebate utility offer also delivered significant bottom-line project savings.

## Project Details

Annual Energy Savings

70%

Incentives Project Savings

50%+

### The Project

EMC was tasked with upgrading almost 500 high bay fixtures and installing a new controls system for the Roseburg, Oregon, store. As part of EMC's incentives process, their team of incentives experts began a thorough search for incentives savings that could be applied to the project.

Local utility Energy Trust of Oregon came back with an opportunity that was beyond exceptional: a standard incentive for lighting and controls that would deliver more than 50% project savings. A past collaborator with EMC, the utility was actively engaged in making the incentive work, advising on paperwork and promptly responding to inquiries with help and advice.

### The Solution

Since the incentive was based on reducing fixture wattage, the new installation involved reducing wattage by more than half, replacing old 350-watt lighting with 162-watt LEDs that met Energy Trust of Oregon's incentive program requirements and achieved Costco's desired light levels.

Each new LED high bay fixture has a Synapse wireless control module and a communication gateway installed in the lighting control panel, allowing for wireless real-time control and monitoring of the fixtures.

The new EnFlex lighting controls system EMC installed uses schedules and photocells to dim lights according to occupancy and ambient light levels. A user interface allows warehouse managers to adjust schedules, photocell setpoints and zone overrides.



## The Results

With the new lighting and controls solution in place, the Costco Roseburg store now sets the new high bay zones for a maximum power of 90% and minimum of 15% that adjust linearly with photocell readings taken from individual fixtures. The EnFlex system directly controls the power level of each zone and tracks the overall dim average for each, which typically are 55% – 65%, including 35% for restocking times. The retailer can continue to refine how they use the system to meet energy needs and monitor sustainability goals.

The record incentives savings delivers a more than 70% reduction in lighting energy consumption for the store, and Costco is looking to replicate the project at other Oregon Costco locations.

After



## MAXXimize Your Lighting

EMC's turnkey project management approach, EnergyMAXX®, helps customers maximize the results of each project phase—from multisite energy audits to maximizing utility savings with energy rebates and incentives—bringing an immediate and positive impact to their bottom line.



The EnergyMAXX® Process ensures your lighting retrofit's success by maximizing results in each project phase:

### **Prioritize**

Formulate an effective lighting + controls strategy for your business

### **Audit**

Ensure accurate baseline to develop an effective solution and executable proposal

### **Design**

Select the best fit and performance for your existing equipment and application

### **Logistics**

Coordinate turnkey services to support daily business and project needs

### **Installation**

Complete on time with a comprehensive and clear scope

### **Service**

Maintain long-term safety, value and effectiveness of your new disinfection solution



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