KIMCO REALTY **CUTS ENERGY COSTS BY 86%** AT BAY AREA'S METRO SHOPPING CENTER

Project Highlights

Energy savings
86%

Energy savings from LED lighting upgrade
56%

Energy savings from lighting controls implementation
30%

Winner of 2015 LEEP Award

- **Best Use of Lighting Controls at a Single Facility**
- **Greatest Absolute Number of Facility Upgrades**
- **Largest Absolute Area of Facility Upgrades**

Kimco Realty owns approximately 745 leasable shopping establishments across 39 states as well as Puerto Rico, Canada, Mexico, and Chile. Kimco is noted as North America's largest publicly traded owner and operator of neighborhood and community shopping centers.

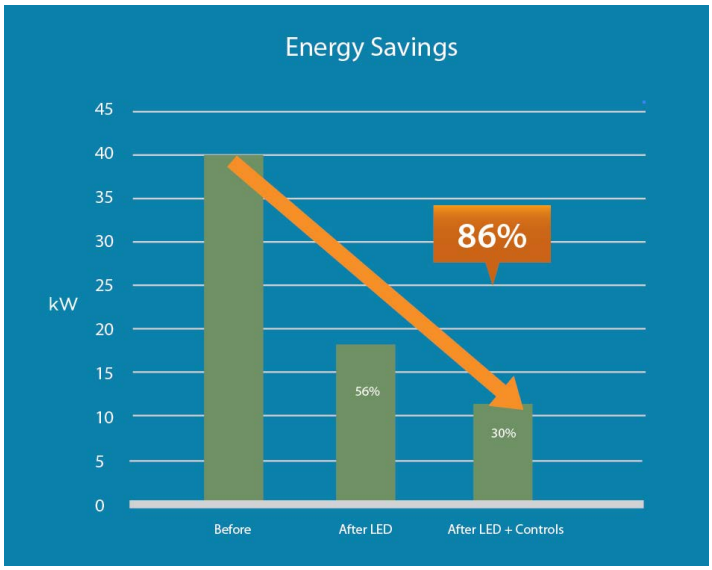
In the fall of 2014, Kimco completed a full-scale lighting upgrade with adaptive controls for the parking area of 280 Metro Center in Colma, CA. About 10 miles south of San Francisco, this open-air shopping center's tenants include Nordstrom Rack, Marshall's, Pier 1 Imports, and Home Depot with a variety of local and national small shop retailers. This site was an ideal candidate for a lighting upgrade focused on light quality and efficiency and an ideal location to develop and test a new lighting controls concept for Kimco's Illumi-Nation Program. The primary goals of the lighting upgrade included reducing energy and maintenance costs and improving lighting quality.

The lighting upgrade replaced the existing metal halide (MH) fixtures with new LED fixtures managed by the *Lumewave by Echelon™* wireless lighting control network. As a result of the lighting installation, Kimco won the national 2015 LEEP (Lighting Energy Efficiency in Parking) Award for "Best Use of Lighting Controls at a Single Facility", "Greatest Absolute Number of Facility Upgrades", and "Largest Absolute Area of Facility Upgrades".

Intelligent Parking Lot Lighting Upgrade with *Lumewave by Echelon*

The shopping center's upgraded lighting system utilizes the *Lumewave by Echelon* wireless lighting control system, enabling a highly efficient and flexible solution for monitoring parking lot lighting. The new connected lighting system features 79 high-performance 217W LED area fixtures bundled with 0-10V dimmable drivers. Each fixture contains a passive infrared (PIR) motion sensor as well as a wireless controller. The latter provides two-way communication via a central gateway device and cellular modem. The high performance LED fixtures reduced energy use by 56%. The intelligent controls contributed additional benefits, including:

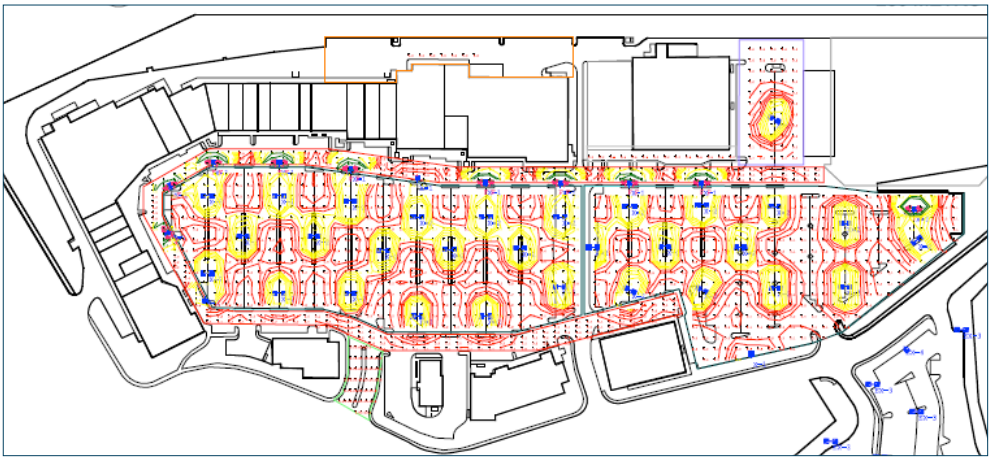
- Additional savings of approximately 30% (compared to dusk-to-dawn operation) through late-night scheduled dimming and motion-activated control
- Fixture-level motion-responsive control enhances safety and security by actively deterring unwanted activity
- Fault detection notifications reduce maintenance inspection costs and provide rapid resolution of lighting outages
- Real-time performance monitoring and reporting via central management system software



Right Light, Right Place, Right Time

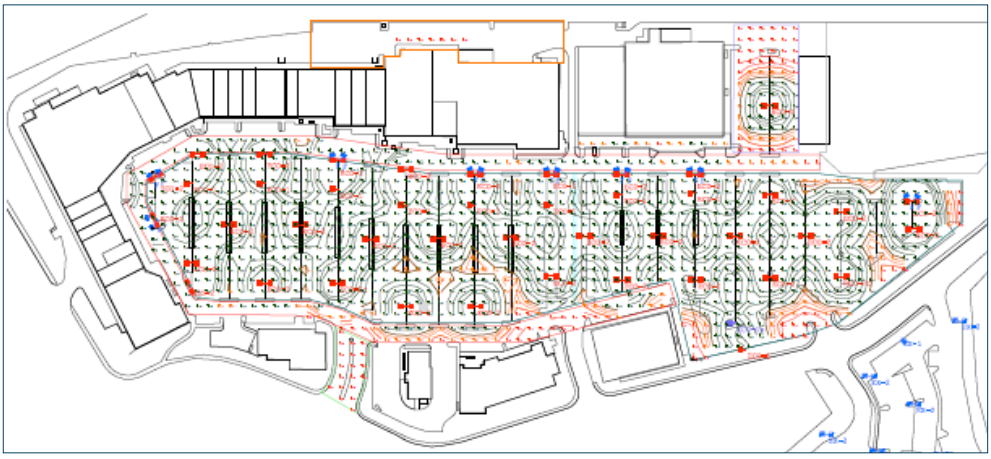
The lighting upgrade with adaptive controls dramatically improved lighting quality and light distribution. Adding fixture-level *Lumewave by Echelon* controls to the new LED fixtures enabled facility-specific lighting adjustments. A comparison of the 'Before' and 'After' lighting plans illustrate the significant improvement in increased light levels as well as uniformity (reduced contrast between light and dark spots). Kimco has received positive feedback from some of the tenants on the improved curb appeal which can lead to increased foot traffic.

Before



This site map reveals the poor lighting uniformity. The red and yellow areas denote below minimum illuminance levels.

After



This site map reveals the improved lighting uniformity throughout the parking area. The green areas denote acceptable illuminance levels.

Kimco's 280 Metro Center parking lot after LED lighting with controls upgrade. Photo credit: Kimco Realty Corporation

The *Lumewave by Echelon* wireless lighting control system enables highly granular control and monitoring of the lighting system. Motion sensors are used for motion-based dimming control during unoccupied hours. Ten virtual zones were configured across the site to dynamically respond by increasing to full output in response to motion detected by any sensor within a given zone. Each virtual zone can be overridden as needed for testing, commissioning, or servicing. The zones can be scheduled to dim to various levels and respond to motion sensing at various times throughout the night. This results in flexibility—each zone has its own tailored schedule to accommodate various tenant needs across the site.

"We are very proud to be recognized by the LEEP Campaign for the lighting improvements made at Kimco's 280 Metro Center," said Nate Mitten, Senior Manager of Property Standards & Improvements for Kimco Realty. "The project is an example of how lighting control systems will continue to be stretched beyond traditional uses to increase value and services for property owners, managers, and occupants."

Learn More

For more information about *Lumewave by Echelon* products call +1 408-938-5200 or visit www.echelon.com.

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