

**Project:** Case study  
**Subject:** Sunoptics® daylighting installation for distribution center  
**Client:** Acuity Brands, Inc. / Sunoptics

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## Seeing is Believing for One Orlando Daylighting Customer

### SITUATION

Sometimes, all it takes is a little encouragement and, perhaps, some proof. After that, the benefits of using today's more advanced skylight products to provide lighting to your operations are readily apparent. That was the case when Dennis Kuhn, senior project manager for commercial roofing company CentiMark Corp., had just *one, single* Sunoptics® Signature Series skylight installed at Florida Distributing, an Orlando-based beer distributor. Sunoptics is a California-based company owned by Acuity Brands, Inc., the largest lighting and controls manufacturer in North America, specializing in high-performance prismatic skylights for the commercial market.

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Re-roofing an off-site building owned by Florida Distributing was just one idea discussed by Dennis Kuhn, senior project manager for commercial roofing company CentiMark Corp., and George Feltner, vice president of operations for the beverage distributor. Eventually, those talks led to a conversation about replacing existing skylights on that building with daylighting products from Sunoptics. Florida Distributing eventually sold that building, but Feltner's interest in the daylighting products was maintained. Soon, he was focusing on the company's main distribution center.

"Because we sold him on replacing some skylights on that first building, he was interested in trying them out at his facility," Kuhn said. "It's a big, beautiful, clean distribution center that was using conventional lighting. (Feltner) was interested in being green and in reducing costs. He asked about the Sunoptics product."

Kuhn said to Feltner, "I know it's tough to visualize what kind of light it's going to bring in," and a light went off, so to speak. Feltner agreed with Kuhn on having CentiMark install the one Sunoptics daylighting unit, and that led to an agreement for the installation of seven more.

"He was very impressed," Kuhn said of his new customer. "That completed a section of the facility and it looked fantastic. So we were able to put that eight in, and (Feltner) was able to get managers to pull the trigger on the entire project."

A total of 113 high-velocity, hurricane-zone-approved Sunoptics prismatic skylights measuring 5'x8' were subsequently installed.

"It sells itself," Kuhn said. "It's really difficult to put into words. You can describe it; you can put it on paper. But until you can see it, you can't know. It's just a different feel."

### MORE TECHNOLOGY INCLUDED

Even The Sunshine State experiences a cloudy day, so photosensors were added to the skylights to allow the artificial lighting to kick on when light levels dropped below a certain level.

On average, the measure of footcandles in the distribution center was 12 before the installation of the daylighting system; it reaches 25 now . That's with a 2.6% coverage of the roof in skylights.

As for the potential for the skylight installations to draw more Florida heat into the facility, the science actually works in favor of skylighting, said Kuhn, by reducing the amount of heat typically produced by artificial lighting overhead.

Of course, the significant reduction in overall energy consumption by artificial lighting is the most apparent benefit to daylighting, though the numbers might not be apparent immediately after installation.

"It'll be a full year before we realize any cost savings," Kuhn said of the Orlando building, talking specifically about an average three-year return on overall investment. In the meantime, he said, "It brought free, natural light into the space. That's good for production, for the guys in there."

While the decision to install daylighting was as much an operational decision for Florida Distributing as it was a cost-saving decision, according to Kuhn, the company has a strong mission toward sustainable practices. The company's Web site promises:

"Florida Distributing Company is committed to a green supply chain that contributes to our brewing partners' sustainable development initiatives and conserves resources for our communities today, tomorrow, and forever into the future."

To that end, the company has also incorporated fluorescent (vs. metal halide) lighting and motion sensors to further reduce electricity consumption.

According to Myles Sosnoff, Eastern Region sales manager for Sunoptics, the Florida Distributing project is an example of how organic a company's transition from artificial lighting to daylighting can be once evidence is presented to the right decision-makers.

"The great thing here that is noteworthy," he said, "is that CentiMark, a strategic partner, is a roofing company, one of the biggest in county. But theirs was not an opportunity to replace skylights that were leaking."

Instead, he noted, "Dennis was professional enough to discuss daylighting. He went outside the normal service means and then brought us in as their vendor partner." Sunoptics did an analysis for the project, and helped CentiMark in other ways to allow for an easy installation.

"It was truly an organic beginning," Sosnoff continued. "CentiMark developed an opportunity where skylights didn't even exist, and we were able to be there from beginning to end. We worked hand-in-hand."

The result inside the building once the project was completed, however, was quite the expected outcome.

"This is about bringing light in; using light, not glare, not hotspots," Sosnoff said. "It's the use of prismatic property at its best."

**Project:** Case study  
**Subject:** Cutting lighting costs for big-box retailer, Sam's Club  
**Client:** Acuity Brands, Inc.

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## Services Capabilities Simplify Lighting Upgrade Project for Big-Box Retailer

### CHALLENGE

When a retailer known for straightforward, low-price shopping wanted to cut costs and revitalize stores, delivering value required competitive product pricing and a rapid return on investment through lower energy and maintenance costs. For two Sam's Club® properties, it also required managing the entire projects, from start to finish.

### SOLUTION

Putting resources where they best fit, Sam's Club selected Acuity Brands® to provide complete, products-plus-services solutions for replacing its fluorescent high-bay lighting with more energy-efficient LED lighting at clubs in Morrow and Marietta, Georgia. The scope of both projects involved everything from initial site audits and lighting-design layouts, to the testing of newly installed lighting and controls.

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In 2013, Wal-Mart Stores, Inc., opened its first all-LED-lighting store, a 185,000-square-foot Walmart supercenter, with LED lighting on the sales floor, plus in refrigerated cases, building signage and parking lots. Over the next 10 years, the company expects to save more than 620 million kilowatt hours in the U.S. alone as part of a program to install 100% LED ceiling fixtures in stores throughout the U.S., Asia, Latin America and the UK.

But Wal-Mart is a retail giant, not a lighting company, and needs to focus on other business initiatives. So when it came time to renovate lighting at its Sam's Club locations near Atlanta, the Simple Lux™ program from Acuity Brands was especially appealing. Simple Lux is designed to provide modern, energy-efficient lighting and controls products – plus customer-focused project-management services – for a hassle-free experience.

“Our team went to the headquarters in Bentonville, Arkansas, and met with Wal-Mart's management and talked through their needs,” said Cary Shackelford, director of services for Acuity Brands.

“They were under a tight timeline and we had the resources they needed,” Shackelford said. “Acuity was requested to select the contractor and lighting technologies, and to perform audits and address problems such as permits and site coordination. We stepped in and helped them; we simply project-managed the project.”

A contractor certified by the Simple Lux program first conducted a site audit of the clubs. After reviewing the audits and establishing a design plan, the Acuity Brands team decided on products to be used.

### NO-NONSENSE SELECTIONS

Steve Schroeder, director of corporate accounts for Acuity Brands, knew that Wal-Mart, known as the low-price leader, would want a strong return on its lighting spend with the tightest of parameters. “The result Wal-Mart expects is not in five or 10 years for that return, but in two or three years,” he said.

Another challenge, he said, was to change the dark appearance of the two Sam's Clubs. "More light was needed, which would usually mean adding fixtures and higher wattage," Schroeder said, "but not with LED solutions designed for performance with superior optical packages."

Selected for the job were the I-Beam IBH LED high-bay and the 8-foot MS Series LED linear TMSL fixture, both from Lithonia Lighting®. They'll provide significant energy and maintenance savings, and will likely qualify for rebates from local utilities that encourage such energy-based transitions.

"It was all about value," Schroeder said. "We were under no delusions about up-selling; we had to bring value. With these products, Sam's Club will get lower wattage, better illumination, and longer life."

Once the products were approved in Bentonville, and following a bit more back-and-forth on details of the renovations, Wal-Mart's management issued a purchase order.

"Once we had the purchase order," Shackelford said, "we shipped the materials to the location, which is where we normally would stop." Instead, Acuity Brands oversaw the removal of existing lighting fixtures, which were recycled, and the installation of the new fixtures.

In the Morrow location, 327 three-lamp and 197 eight-lamp T8 fluorescent fixtures, all high-bay, were removed. Installed were 226 IBH fixtures in a 30,000-lumen package and 135 TMSL fixtures in a 20,000-lumen package. In the Marietta location, 464 three-lamp and 182 eight-lamp T8 fluorescent high-bay fixtures came out; 221 IBH and 177 TMSL LED luminaires went in.

"In terms of installation the turnkey process was relatively seamless; I was happy with the design and layout of the fixtures and the team's response to our changes and comments," said John Davidson, Wal-Mart's senior manager of engineering for the Sam's Club projects. Noting the improved overall lighting levels, he said the company, nevertheless, will continue to review the project's ROI carefully.

Both of the projects were executed exclusively during hours that the sites were closed for business in order to minimize disruptions to Sam's Club customers. Once Sam's Club members entered the newly relighted buildings, they took note of the changes.

"The overall lighting levels are much improved as well as the quality of light," said Kyle Engler, a Sam's Club store designer, who noted the LED conversion went smoothly. "Members thought we had done something to the Club but they could not put their finger on it."

## **CONTROLS DO DOUBLE DUTY**

With the lighting-renovation projects at both the Morrow and Marietta properties nearly completed, Wal-Mart issued one last change order – to have lighting controls installed in the Marietta location. To make sure they worked properly, Acuity Brands managed the commissioning of the controls, another service of the Simple Lux program.

In addition to giving local Sam's Club managers the capability to minimize light output to save energy during off-hours, the company would use the dimming for test purposes. By running through different light-level sequences, Wal-Mart engineers could determine what light output will be ideal for balancing energy savings with customer satisfaction in all of its stores converting to LED lighting.

“It was determined that they could cut down on lumen packages going forward, which will have additional impact on costs” Shackelford said. “We lit the Marietta club and were able to dim it down to what they wanted.”

“When they showed up, we had the room at 60% output,” Schroeder said. “We had just significantly reduced the number of fixtures for strong energy savings and, at that 60% light level, we were still able to improve the quality of light over the fluorescent that was replaced.”

Schroeder said the dimming capabilities conveyed another important point to the Wal-Mart corporate team – that lower foot-candle measurements don’t necessarily mean “lower lighting” when you consider the quality and efficiency of LED lighting.

“You have what you see on paper,” he said, “but you must consider, ‘What am I seeing in the space?’”

**Editor’s note: Wal-Mart Stores, Inc., is the name of the corporate entity for its retail brands Walmart and Sam’s Club.**

### ***Application Details***

**Projects:** Sam’s Club retail locations in Morrow and Marietta, Georgia

**Acuity Brands products:** Lithonia Lighting® I-Beam IBH LED high-bay and Lithonia Lighting® MS Series TMSL LED linear fixtures; Sensor Switch: nLight® controls (Marietta only)

### ***Project Sizes***

Square footage, Morrow: 115,609

Square footage, Marietta: 136,000

### ***Possible photo captions:***

*The I-Beam® IBH high-bay LED luminaire provides superior energy savings and costs less to operate and maintain than fluorescent lighting products. Similarly, the MS Series TMSL LED fixture cuts operational lighting costs in linear applications by up to 40% over traditional T8 fluorescent lighting.*

*Started in 1983, Sam’s Club is working to shed its “Walmart-like appearance” and appeal to more affluent consumers than does its sister store brand. Still, the retailer demands value in lighting, with strong ongoing cost containment for a rapid return on investment.*

*Acuity Brands placed 30,000-lumen fixtures in open areas of the Sam’s Club properties, and 18,000-lumen fixtures in the high-stack, continuous-row areas. By choosing to outfit the Marietta location with lighting controls, Wal-Mart engineers were able to test various lumen levels for use in future renovation projects.*