

Maintenance-Free LED Lighting Saves Flex West Columbia \$80,000 Annually

\$80K

annual energy savings

\$11K

maintenance savings

55K

annual kWh savings

“The overall cost savings on our energy bills speak for themselves, and I couldn’t have asked for any better return.”

James Southerland
Facilities and Security Manager at Flex

Company: Flex West Columbia, South Carolina

Application: 460,000 square-foot contract manufacturing facility

Overview: Initially built in 2000 with high pressure sodium high bay lighting that was later converted to T5 fluorescent lighting, the Flex West Columbia plant facilities manager was constantly replacing bulbs, ballasts and troubleshooting dark lighting, which was particularly troublesome in quality control areas. In late 2014, the facilities manager chose Flex Lighting Solutions to provide new Flex Essentials LED lighting to achieve good, even, and consistent lighting that was maintenance free.

Key Results

- Saved \$80,000 annually
- Eliminated \$11,500 in annual maintenance costs
- Reduced total energy needs by 57.5 percent
- Lowered energy costs by \$55,855 annually
- Improved working conditions

Challenge

James Southerland, the facilities and security manager at Flex West Columbia South Carolina, typically couldn't replace failed T5 fluorescent bulbs or ballasts until the end of a quarter because the plant was so busy. As a result, he had to listen to frequent complaints about the poor lighting and dark areas in the 460,000-square-foot plant floor. To achieve the 100 footcandle requirements needed by new customers for quality inspection areas, he had to bring in costly spot lighting because the plant's T5 fluorescent fixtures were only able to achieve 15 to 30 footcandles, he said.

If those problems weren't enough, Southerland was constantly at odds with the plant general manager who wanted to know why the plant's vinyl composite tile floor always looked dingy and yellow. "I was always telling him he could eat off of it because it was so clean and that it looked dirty because of the lighting, but he thought I was blowing smoke," Southerland said.

Knowing that LED lighting might solve all three of the plant's lighting issues and save energy, Southerland began looking for a lighting solution that would improve the plant's light and working conditions.

Solution

Southerland looked at several LED manufacturers before settling on Flex Lighting Solutions, which joined the Flex family in 2012. He had been an LED advocate since the lighting technology appeared

on the market, but for years it was too expensive to consider. Now with the technology more affordable, Southerland only had to convince the plant's general manager that a lighting change was in order. When a new customer was considering Flex West Columbia South Carolina for their contract manufacturing, Southerland installed 20 Flex Essential High Bay LED fixtures in a 40-square-foot area to meet the 100 footcandle requirements the new customer sought for its quality inspection area. "I also wanted to show the general manager how much better the lighting was."

And boy was it. "We almost had to put on sunglasses," Southerland said. "Immediately the place came to light, and it was totally unbelievable. I didn't believe the change was going to be that drastic myself, and it sold him right there: his floors were white again."

Benefits

About a year and a half ago, Southerland began installing 652 Flex Lighting LED fixtures, enough to cover two-thirds of the facility, which is generally used for one shift a day. He plans to install another 330 to cover the remaining third. He instantly began hearing about the better lighting from employees. "The workers love me now," he said. "They can now see what they are doing."

"I'm very impressed with the overall lighting; its color and evenness," he added.

Southerland is also impressed with the lack of

maintenance he's experienced in the past year and a half. "I would have bet you a year's salary that there would be some fallout by now, but we've had none," he said. "That makes me very happy. The overall cost savings on our energy bills speak for themselves, and I couldn't have asked for any better return."

The new, lower-wattage LED fixtures reduced the plant's energy costs by 57.5 percent to some \$40,000 a year Southerland said. Annually, the energy savings of 538,545 kWh equates to a savings of 37 metric tons of Co2 or taking 7 cars off the road for a year.

Because the new LED fixtures are maintenance free, he estimates he has saved \$11,500 in maintenance costs, and additionally, he's seen a drop in the energy needed to run the facility's HVAC system for an additional savings of \$14,137. All total, he has seen a savings of \$80,000 a year. "In less than two years, that's goodness to our bottom line," he said.

"We're seeing a better return than what I thought," Southerland said. "I was a little skeptical, and I didn't think I would see that much savings from energy side, but I'm exceeding what I expected."

In addition to the substantial cost savings, "the type of light we got is a cool, more natural light and it's even; there are no shadows. It's absolutely perfect," Southerland said.

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