



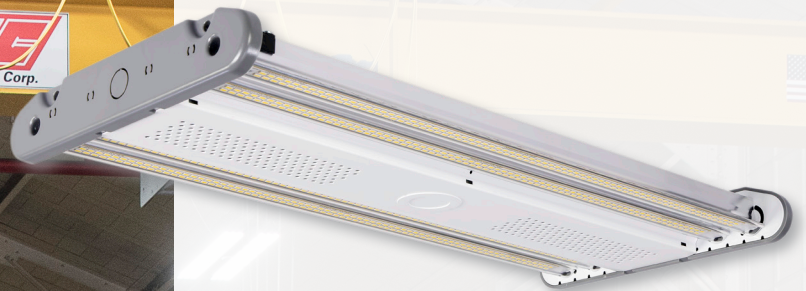
Rexnord



CASE STUDY

Location: **Milwaukee, WI**

Application: **Manufacturing Facility**



Essentials Series 4.0 (ES4)

The ES4 delivers superior performance, quality and versatility in low bay and high bay applications. Designed with an even higher efficacy and a best-in-class thermal management for ambient temperatures up to 65°C, the Essentials Series 4.0 provides the highest reliability and best lumen maintenance in the industry while providing the lowest TCO.

RESULTS

Rexnord replaced 400W and 250W HID lamps with Essentials Series High Bays. The upgrade doubled the footcandles, which improved employee morale and productivity. Plus, with added controls, the facility was able to reduce costs by not keeping the lights on 24/7.

\$480,000

ANNUAL ENERGY SAVINGS

2x

BRIGHTER

540,000 kWh

ANNUAL ENERGY REDUCTION

OVERVIEW

The Milwaukee gear plant was poorly lit with 400 and 250 watt HID lamps. The plant facilities manager wanted to reduce energy costs while at the same time improving working conditions for plant employees who were complaining about the deteriorating quality of light. In mid-2015, the facilities manager chose 6M LED Essentials Series lighting, among other LED solutions, which greatly increased the footcandle reading and quality of light, dramatically lowered energy costs, and eliminated maintenance costs.

CHALLENGE

Three years ago, the employees at the Rexnord gearbox manufacturing plant in Milwaukee began complaining about the poor lighting conditions. The lighting was yellow and so low — at an average of 30 to 35 footcandles — that the Facilities Energy & Electrical Project Manager brought in auxiliary task lights to augment the high bay lighting just so employees could read drawings and use their micrometers. While that brightened the workspace temporarily, the facilities manager knew it was only a short-term fix. Armed with a corporate directive to reduce energy costs, the manager began looking for more energy efficient ways to light the plant and improve working conditions.

SOLUTION

Rexnord executives evaluated many lighting options, including fluorescent and LED fixtures from several vendors.

"We tested multiple applications and received samples from a number of different manufacturers," the manager said. "Most of them could not deliver what they claimed we would see when we installed their fixtures. We weren't getting anywhere near the footcandles readings they said. When they said their fixtures took a certain amount of watts, we learned that we would need double what they said for a particular layout."

When Rexnord tested the photometric layouts



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Picking Essentials Series was pretty much a no brainer and our company is now getting onboard with retrofitting other plants with the amount of energy we're saving. Having good lighting above employees as opposed to what we had before really makes a big difference in the quality of life at work..”

- Manager, Rexnord

provided by Jeff Lithgow of the Lithgow Agency, the evaluation team was surprised.

"Jeff and Essentials Series High Bays gave us a footcandle layout and guaranteed it would be 1 percent to 2 percent within the parameters of the layout," the manager said.

Because of the poor showing by other lighting manufacturers, the Rexnord team was skeptical that Essentials Series High Bays would deliver better results.

"That's the number one reason we went with them," the manager said. "They delivered what they said they could. It was a no brainer to choose Essentials Series High Bays. The others didn't even compare."

Rexnord installed a variety of new LED fixtures including many 6M LED Essentials Series fixtures in a phased approach of several high bays at a time starting in mid-2015.

RESULTS

"We pretty much installed every fixture they offered depending upon the height of the application," the manager said. "We are now using the Performance model to get the most energy savings."

Employees immediately complimented the manager on the improved lighting that went from yellow to white.

The footcandle reading doubled to an average of 60 to 65, while energy needed to power those lights dropped from an average of 400 watts in different applications to the 260 or so watts that power the 6M LED and other fixtures. The auxiliary lights were no longer needed.

"Initially we really wanted to hit a certain amount of footcandles," the manager said. "But we got the bonus of energy savings. We knew there would be savings but we didn't realize how much."

Because the new fixtures were installed with occupancy sensors that turn lights off after 30 minutes of inactivity, the lights are no longer left on for 24 hours at the plant, which runs one 10-hour shift a day. That amounted to a whopping 540,000-watt reduction in the energy used, which equated to a monthly savings of \$40,000 or \$480,000 annually, the plant facilities manager said.

"Before, we had to rely on someone to turn off the lights, which rarely happened," he said. "Now, we are using two-thirds less energy." The payback for the project was 1.5 years, and under the payback for healthy projects stipulated by finance, he said. That ROI doesn't include the reduction in maintenance costs, he added.

Previously, they had to get a lift, and spend man-hours to either swap a bulb out, or replace ballasts, which meant taking them down, rebuilding them and putting them back up. "We no longer have those maintenance costs," he said.





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