

## **SOLUTION AT A GLANCE: CUSTOM LIGHTING COMMISSION YIELDS SERIOUS ENERGY SAVINGS, WHILE PRESERVING PRODUCTION STANDARDS**

### **SECTOR**

Industrial

### **BARRIER**

Identifying or evaluating energy-saving technologies

### **TOOL TYPE**

Case Study

### **BUILDING TYPE**

Industrial, Furniture

### **TECHNOLOGY**

Lighting, Interior

### **OVERVIEW**

One of Steelcase's largest plants is its wood manufacturing facility in Caledonia, Michigan. This facility was the first LEED certified manufacturing facility in the world, certified in 2001, but high-bay lighting largely consisted of metal halide fixtures. As one of Steelcase's largest facilities, this was the perfect target for an energy efficiency project.

In an effort to reduce plant energy consumption, Steelcase chose to replace the existing plant lighting with uniform High-Bay LED fixtures. Steelcase initiated the work in 2016, replacing over 1,100 metal halide fixtures and over 200 T-8 fixtures with LED fixtures.

To maximize energy and cost savings, an advanced cloud-based control system was also installed. Energy managers now remotely monitor, control, and schedule light conditions, enabling deep energy savings by dimming fixtures (in groups of 16 or smaller) to optimal levels, and turning off sections of lights when they are not needed.

The final project cost was less than \$500,000, due to incentives from local utility Consumer's Energy. Steelcase realized a simple payback period of 2.5 years for the project, as lighting-system

energy demand dropped from 565 KW to 242 KW. Overall, lighting-system energy consumption is expected to be reduced by over 65% per year. Estimated energy cost savings are \$185,000 per year, with about a quarter of these savings resulting from the advanced control system.

In addition to energy consumption and savings, Steelcase realized a number of additional benefits from this retrofit project. The new LED fixtures have a 27,000-lumen output, which is significantly brighter than that of the previous lights, and provide the necessary temperature and visibility to ensure product quality standards are maintained at the highest levels.