shat-r-shield® INC.

case study

Hoover City Schools

Hoover, Alabama - LED High Bay Retrofit

Every aspect of a student's learning environment is vital, from staff and teaching methods to classroom settings and even lighting. In fact, next to sleep and nutrition, lighting has the most powerful impact on a student's ability to learn and perform. Research shows that the presence of good lighting has a profound and positive effect on human behavior, increasing visual performance, cognition, information retention, vigor, positive moods and alertness. South Shades Crest Elementary School made a progressive decision to retrofit antiquated light sources in their facilities and adopt LED lighting technology in order to create a better learning environment for their students. With a total of 18 schools across the district looking for updates, there have now been 8 schools updated.

Challenge:

The Hoover School District of Birmingham, Alabama wanted to replace inefficient 400 watt metal halide lamps in the SSCE gymnasium with an LED source that would significantly reduce energy consumption and carbon emissions while simultaneously improving illuminance levels. By doing so, they would save money on electricity usage, lamp replacements and labor expenditures. The new light source must be able to withstand the extremely hot conditions of the environment, as well as work in conjunction with air conditioning units to reduce their outputs.

Solution:

Leaders of the Hoover School District collaborated with local electrical supply distributor, Graybar, to identify an LED fixture that met their criteria. Manufacturer's rep, Ashby Company, presented them with Shat-R-Shield's 200W Ironclad® LED High Bay fixture and leveraged a 4 for 60 promotion that allowed the district to install 4 of the fixtures for 60 days, free of charge, to test in their facility. The visible difference in quality of light was immediately noticeable and further testing, along with a projected 13 month payback, determined that this was indeed the ideal solution for the project.

"The school board is very pleased with the results and if the fixtures continue to work as advertised, we will take steps to replace all the metal halides at the other schools in the district as well," said Philip Johnson of Graybar. "They are impressed with the changes and increased morale as a result of the new fixtures."

before:

after:

- **Total Annual kWh Savings:** 73,580 kWh
- **Total Annual Energy Cost Savings:** $7,358.00
- **Initial Cost of LED Fixtures:** $8,000.00
- **Projected Return on Investment (ROI):** 13 months

