



Gwinnett County Public Schools

TWH LED Wallpack Luminaires



TWH LED Wallpack Luminaires
Energy savings, long life.



BEFORE

AFTER

- Project: Gwinnett County Public Schools, Georgia
- Project Size: 39 luminaires installed at two schools

- Product Used: TWH LED Wallpack Luminaires

THE SITUATION

Every school system strives to create secure and aesthetically pleasing facilities for students, staff and visitors. Gwinnett County Public Schools (GCPS) – Georgia’s largest school system – is also committed to excellence from an operational standpoint, which involves keeping its 132 schools and support facilities safe, attractive and energy efficient.

A recipient of the U.S. Department of Education Green Ribbon Award, GCPS decided to replace the 150- and 250-watt high pressure sodium (HPS) wallpack luminaires with LED luminaires at two of its high schools. The metro Atlanta area school district had several goals: determine how well the new luminaires illuminated the space, observe how they looked on the buildings, verify how long they lasted and measure the energy savings.

Reduced maintenance was also paramount. The school system has an in-house maintenance staff that routinely travels to school locations to change failed lamps and ballasts. Although the district has a preventive maintenance program, GCPS personnel

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still make three or four trips to schools each year for repairs according to Steve Jaggears, System-Wide Maintenance Engineer.

“We usually wait until several fixtures fail, but if school personnel call to report an outage, we make the repair immediately,” Jaggears said.

THE SOLUTION

The GCPS maintenance staff installed TWH LED wallpack luminaires from Lithonia Lighting® in high traffic areas at Central Gwinnett High School in Lawrenceville and South Gwinnett High School in Snellville. Maintenance staff personnel replaced the existing wallpack units one for one. The LED luminaires are mounted at the same locations and are 10 to 12 feet above the ground and spaced 40 to 60 feet apart.

“The TWH LED wallpack luminaires

have the same footprint as the previous units, which allowed us to make a seamless transition without rewiring.” Jaggears said. “These new luminaires are identical in appearance to the HPS luminaires.”

The school system mounted 14 TWH LED wallpack luminaires outside two gymnasiums at South Gwinnett High School and 25 luminaires on the back side of Central Gwinnett High School adjacent to the stadium. The LED luminaires also illuminate the exterior of the three-story Black Knight Castle concession stand, a landmark named for the school’s mascot that houses public facilities, the press box and coaches viewing area.

“This area is very congested during football games and track events,” Jaggears confirmed.

Central Gwinnett High School is bordered by a county highway and nearby residences and South Gwinnett High School is located on a state highway. Illumination, therefore, had to be restricted to the school properties. Luminaires at both schools are lit 4:30 to 7:30 a.m. and 6 to 9:30 p.m. except during scheduled events. The luminaires are controlled by a central

photocell and include a tempered glass lens that will not discolor which was a problem with the HPS fixtures.

THE RESULTS

Students, faculty and others immediately noticed the difference in the lighting.

“We piloted the use of LED wallpacks at two facilities, retrofitting 250- and 150- watt high pressure sodium fixtures,” said Mark Brock, Director of Building Maintenance, Gwinnett County Public Schools. “At both locations, the LED lighting improved the illumination of the area and the aesthetics of the buildings.”

Jaggears added: “We took before and after photographs and were amazed at the difference in the light distribution which is apparent whether you’re standing outside the buildings or viewing the photos.”

Energy consumption decreased substantially, with the HPS luminaires operating at 310 and 185 watts compared to 104 and 72 watts for the LED luminaires, respectively. According to Jaggears, it is difficult to quantify the energy savings as the school district installed air

conditioning in the gymnasiums, adding to the energy load.

“Even with the air conditioning of our gyms we have witnessed a downward trend in our kilowatt hour consumption,” Jaggears said. “This is due to not only our energy efficiency upgrades, but to the daily operation of our energy management system.”

The GCPS district expects the LED wallpack luminaires to substantially reduce maintenance costs by delivering more than 100,000 hours of maintenance-free operation compared to 20,000 hours for the HPS luminaires.

“We plan to retrofit additional facilities with LED wallpacks, not only for the illumination, but for the labor savings provided by the LED lamp life,” Brock said.

The TWH LED wallpack luminaires include 20 and 30 LEDs, with a 5000K color temperature and color rendering index (CRI) of 65.

One-hundred-and-twenty-five schools within the GCPS district are ENERGY STAR certified.

KEY FEATURES

PRODUCT USED	% SAVINGS IN ENERGY COSTS OVER HID	EXPECTED LIFE	REPLACE
TWH LED WALLPACK LUMINAIRES	64%	20+ YEARS	150- & 250-WATT HIGH PRESSURE SODIUM
LUMENS	LUMEN MAINTENANCE	WATTAGE	CCT (CRI)
4,910 & 6,728	100,000+ HOURS	72 WATTS & 104 WATTS	5000K

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