Optec LED LIGHTING

DIVING INTO BENEFITS WITH LED LUMINAIRES IN NATATORIUM

Waukesha South High School Natatorium
Waukesha, WI

Waukesha South High School is Waukesha's oldest high school, opening in 1957. Today, the 1,460 students use a swimming pool complex that was rebuilt in 2005, replacing a smaller and much older pool, spectators and locker room facility. The current natatorium is larger than in most schools, measuring 25 yards x 30 meters and the oversized perimeter accommodates nearly 2,000 spectators.

The 27,000 square-foot natatorium is used extensively by the high school physical education department, the school's swim team and the Waukesha Express Swim Team.

Lighting

The complex was originally designed with a metal halide (MH) indirect lighting system to reflect light from the ceiling to minimize glare on the water's surface. Over the years the ceiling and walls darkened due to deteriorating light levels and fixtures burning out, creating a cave-and dungeon-like atmosphere. Replacing the burned out fixtures was so challenging that they were typically left until there were enough to warrant bringing out the lift.

Tom Cherone, master electrician Waukesha School District, knew the lighting system needed improving:

- spectators were complaining they couldn't see the swimmers because the lights were so dim;
- the low light levels were a safety issue for the lifeguards;
- he was worried while conducting maintenance on the MH fixtures that if glass dropped and broke in the pool the 480,000 gallons of water would need to be drained;
- and MH technology requires 10-15 minutes of "cool down to relight," meaning that the bulbs needed to cool down enough before they could be re-lit again, which was very inconvenient.

The improved light quality and visibility from Optec LED luminaires ensures spectators can see participants during competitions

Optec LED LIGHTING

DIVING INTO BENEFITS WITH LED LUMINAIRES IN NATATORIUM

Through Wisconsin-based Hein Electric Supply, which has a long-time relationship with Waukesha School District, Cherone learned about retrofitting the existing lighting system with LED high bay luminiaires to improve illumination quality, safety and security while also reducing energy costs and consumption.

Recently, in a one-for-one replacement, 42,1000-watt MH fixtures were replaced with 240-watt LED high bay luminaires and eight, 72-watt florescent tubes were retrofit with 80-watt LED high bay luminaires.

“The new lights are terrific,” said Cherone. “They strike instantly, provide more lumens than our old MH lights, will last for years and are cost effective.” “When all the fixtures are on we’re saving an astounding 70 percent in energy over the previous MH lights,” Cherone continued.

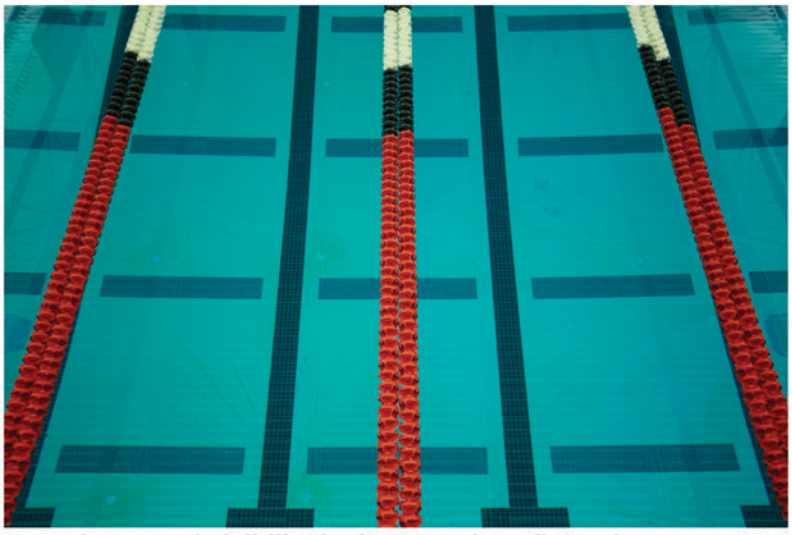
Because they emit far less heat than MH fixtures, the school will be able to run the air conditioning less in the summer months, further reducing the energy bill.

Additional power savings are achieved from turning off the fixtures when not in use. The previous lights were left on continuously because they took so long to warm up to full brightness. These LED luminaires light immediately, eliminating the need to have them on all the time.

“At swim meets I used to apologize to the visiting teams because it was so dark,” said Blaine Carlson, CEO/head coach Waukesha Express Swim Team. “Now, with these new lights, I think we can even attract additional meets to this facility,” Carlson continued.

Cherone is so pleased with the reduction in maintenance, energy savings and consumption, and the dramatic improvement in light quality that he’s planning to replace all of the MH lights in the district schools’ pools with LED high bay luminaires.

In addition to upgrading the natatorium lighting, the district is implementing an exterior lighting program for the schools’ parking lots; saving the district more money and, most importantly, improving security through better light levels.



Increased visibility in the water benefits swimmers and improves safety