Cree helps Milwaukee School of Engineering set a new standard for sustainability with the construction of Viets Field, one of the first 100 percent LED-lit competitive athletic fields in the country.

- Unique athletic facility with parking deck reduces energy consumption and costs with LED lighting
- Anticipated energy usage savings of 200,000 kW-h annually in parking deck
- Significant decrease in required maintenance for high field lights
LIGHTING THE PATH TO VICTORY

OPPORTUNITY

When Milwaukee School of Engineering® began designing a new home field for their men and women’s soccer teams, they were ready to push the limits on what an athletic field could be – and where it could be located. In 2013, the university cut the ribbon on a state-of-the-art athletic facility built on top of an in-ground 780-car-capacity parking deck in the heart of downtown Milwaukee, Wisconsin. With Viets Field, MSOE® sets a new standard for sustainability on university campuses, constructing one of the first 100 percent LED-lit competitive athletic fields in the country. When selecting lighting for the facility, MSOE engineers and designers turned to Cree, the industry leader in LED lighting, to provide the crisp, clear light needed to lead the MSOE Raiders to victory.

SOLUTION

Founded in 1903 and located in the center of downtown Milwaukee, Milwaukee School of Engineering is an independent, non-profit university with about 2,600 students. The university has a national academic reputation and longstanding ties to business and industry.

“We recognize that LED is the future of lighting and are committed to changing to LED campus-wide,” says Scott Ramlow, Partner at Uihlein/Wilson Architects and architect for Milwaukee School of Engineering. “Cree was on the forefront of the technology we wanted, and brought to the table a series of products that best fit our needs.”

To maximize the light distribution across the large athletic field, MSOE installed Cree Edge™ High Output Area fixtures on 70-foot poles across the field. The Cree Edge™ High Output Area luminaire redefines high output illumination performance, delivering significant reductions in energy and maintenance costs with unprecedented color quality.

“The light quality is much better than any other field I’ve seen before,” says Jon Jansen, Project Executive with Hunzinger Construction Company. “When you’re watching people on the field, it’s much clearer and brighter.”

In addition to the outdoor lighting, Cree 304 Series™ parking structure LED luminaires were installed in the parking deck underneath the field, providing improved illumination performance over traditional lighting options while significantly reducing energy and maintenance costs. Additional Cree fixtures installed throughout the facility include Cree CS18™ High Bay LED luminaires, Cree Edge™ Security LED luminaires, and Cree CR-LE LED light engines.

BENEFITS

Building such a large, unique structure in the middle of a heavily populated city like Milwaukee surely turns heads, but doesn’t come without its obstacles. City and county building guidelines created design challenges that Ramlow found easier to manage with the use of LED lighting.

“When you design such a large structure in a downtown, urban setting, there is a complicated set of rules you have to follow,” says Ramlow. “We had to be very particular about photometrics and had restrictions from the city in terms of light spill, glare and light pollution. The spread and control of the light that we found with the Cree® LED fixtures were much better than traditional lighting options.”

Energy usage and maintenance savings were key benefits considered by MSOE when evaluating its lighting choices for the 10,000+square-foot athletic facility. By using 100 percent LED lighting, the university was able to reduce energy costs and consumption — in the parking deck alone, the university anticipates seeing energy usage savings of 200,000 kW-h annually — while also saving time and money earmarked for maintenance needs.

“The maintenance savings we anticipate will be a huge benefit to us,” says Tom Barsokine, Director of Facilities at MSOE. “With 70-foot-high field lights, the savings from not having to get up that high to change bulbs will be a major plus. We can reduce the amount of equipment needed to access the lighting to change the bulbs, since they don’t require nearly as much maintenance as other lighting options.”

According to Jensen, installation was an important factor as well: “The Cree Edge™ High Output fixtures were easy and quick to install. They came pre-fabricated, which was a big advantage when you’re talking about 70-foot poles and larger fixtures. Also, the parking deck fixtures were straightforward and systematic to install, which saved us a lot of time.” But the benefits to the Cree 304 Series fixtures used in the parking deck didn’t stop at easy installation and energy usage savings. The step dimming feature of the luminaires allows the fixtures to dim or brighten based on occupancy in the building.

“We use step dimming in the parking luminaires, which makes a big difference,” says Ramlow. “It’s a great energy saver and an important passive security measure. The dimming capability makes it easy to tell if someone is in the decks or in the stairwells, which is key to making visitors feel safer in such a large space, and helps the security team keep a better eye on what’s happening throughout the facility.”

With Viets Field, MSOE continues to make strides towards whole-campus sustainability and has provided its students with a beautiful, 100 percent LED-lit field to compete on for years to come.

The field lights are on roughly four hours per evening, and the parking deck lights are on 24-7. With lights that are in constant use, the energy cost savings we’ll see with the LED fixtures really made it a no-brainer.

Paul Szepi
Facilities Maintenance,
MSOE
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Jon Jansen
Project Executive
Hunzinger Construction Company
IN THIS CASE STUDY

Cree Edge™ Series
HIGH OUTPUT AREA LUMINAIRE
• Minimum 70 CRI
• CCT: 4000K (+/-300K), 5700K (+/-500K)
• Utilizes BetaLED® Technology
• UL wet listed
• Modular, low-profile design

304 Series™
PARKING STRUCTURE LUMINAIRE
• Minimum 70 CRI
• CCT: 4000K (+/-300K), 5700K (+/-500K)
• UL wet listed
• Two-Level options
• Integrated occupancy sensor
• Low-profile design

Cree Edge™ Series
SECURITY LUMINAIRE
• Minimum 70 CRI
• CCT: 4000K (+/-300K), 5700K (+/-500K)
• Utilizes BetaLED® Technology
• UL wet listed
• Multi-level options
• Modular, low profile design

CS Series
LINEAR LUMINAIRE
• Minimum 90 CRI
• CCT: 3500K or 4000K
• 4000, 7500 or 8000 lumen options
• Utilizes Cree TrueWhite® Technology
• 0 - 10V dimming to 5%
• Up to 75,000-hour lifetime
• 10-year limited warranty

CR Series
LIGHT ENGINE
• Minimum 90 CRI (Cree TrueWhite® Technology)
• 80+ CRI
• CCT: 3000K, 3500K, 4000K or 5000K
• 2000 to 5000 lumen options
• Step level to 50%, 0-10V dimming to 5% or Lutron EcoSystem® enabled to 5%

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PARTICIPANTS
End User: Milwaukee School of Engineering, Milwaukee, WI
Architecture: Uihlein/Wilson Architects, Milwaukee, WI
Electrical Engineer and Lighting Design: exp, Milwaukee, WI
Contractor: Hunzinger Construction Company
Photography: Courtesy of Milwaukee School of Engineering