



Petroleum - New Construction

Sheetz

Raleigh, NC

Corporate-wide, Sheetz is transitioning to LEDs for both its interior and exterior lighting and is turning to Cree as a partner in this initiative. At its Raleigh, NC, location, Sheetz has installed Cree® lighting featuring Cree TrueWhite® Technology inside its stores and BetaLED® Technology in the canopy outside.

- 45 percent or more in estimated total energy savings
- Annual estimated maintenance savings of \$2,500 to \$3,000
- Return on investment within two and a half years



SHEETZ SHINES BRIGHT UNDER CREE LEDS

OPPORTUNITY

Sheetz® is much more than a convenience store – it's a "mecca for people on the go," serving soccer moms and road warriors alike with a made-to-order café inside and quality gasoline outside. Whether you need to refuel your car or refresh your body, Sheetz has what you need to keep you moving on to whatever comes next.

Providing this kicked-up convenience 24/7/365 requires a solid infrastructure, and a key component of that is an interior and outdoor lighting system that lends a sense of warmth and security while operating cost-effectively and near maintenance-free.

Sheetz has a commitment to using quality equipment and building materials when constructing its stores. "In considering a new lighting system," says Doug Knisely, Sheetz Director of Petroleum and Building Construction, "we felt that LED technology has improved dramatically over the past several years, and have collectively determined it was time to start utilizing it."

The bottom-line objectives were to provide premium lighting, conserve energy and avoid maintenance that necessitates shutting down pumps, thus causing inconvenience and, potentially, lost revenue.

SOLUTION

Sheetz has been rolling out Cree LED interior and exterior lighting at a number of its stores across the country. At its newest Raleigh, NC, location, the switch was made to Cree LEDs featuring Cree TrueWhite® Technology inside the store and Cree BetaLED® Technology in the canopy outside.

On the interior, this solution included the Cree LR6™ lamp and LR24™, CR14™ and CR24™ troffers, replacing 84-watt fluorescents and 60-watt CFLs. These new Cree interior fixtures are now installed over the register and in the café seating area, restrooms and the entryway, and in the employees' office and utility rooms.

Designed to deliver uncompromising performance, style and affordability, the LR6 LED downlights elevate the look of petroleum spaces along with their bottom lines.

Powered by Cree TrueWhite® Technology, only Cree indoor LED fixtures can deliver an exclusive combination of industry-leading efficacy, 90+ CRI and consistent warm or cool color temperatures, giving convenience stores years of beautiful, consistent light and energy savings.

Sheetz also benefits from Cree architectural troffers that illustrate how high-quality lighting doesn't have to come at a premium, delivering a superior mix of performance and payback with unmatched longevity and color consistency, all backed by a ten-year industry-leading fixture warranty.

The CR14 troffer provides a minimum 90 lumens per watt standard efficacy and is designed to last 50,000 or 75,000 hours, while the CR24 troffer delivers up to 5,000 lumens of 90+ CRI light with 90 to 110 LPWs. For applications that require high-ambient light levels, the LR24 troffer is a revolutionary architectural lay-in ideal for use in commercial new construction or retrofit applications.

On the exterior, Sheetz had been using 400-watt metal halide canopy and area lights, 175- to 250-watt wall packs and 250-watt bollards. For high-performance illumination, Sheetz installed Cree 227 Series™ canopy lights — recessed and low-profile surface-mount luminaires ideal for petroleum station canopy applications and building soffits. Sheetz also replaced metal halides with Cree Edge™ area, security and flood luminaires, which provide lasting durability, optimum illumination and unobtrusive architectural blending, all while using 50 percent less energy in most applications.

BENEFITS

Knisely says he anticipates approximately 45 percent to 50 percent energy savings via this new Cree solution. This projection includes total lifetime savings, total watts saved and kilowatt hours saved annually. He also is anticipating an annual savings in maintenance of \$2,500 to \$3,000.

Based on current kilowatt hour rates, Knisely says he expects to see the return on their investment within two and a half years. "Obviously, as rates increase and the cost of the fixtures decrease, the ROIs become even that much more appealing," he adds.

Using LED lighting fits in with a corporate-wide awareness of sustainability and also qualifies for LEED certification credits. In November, Sheetz held the grand opening for their 10,000-square-foot, state-of-the-art wellness center — the first LEED-certified building in Blair County, PA.

Knisely says there are now subtle differences in the quality of light that help enhance the products and the décor, and that the parking lot is better lit, creating a "much safer-feeling atmosphere for our customers."

In sum, Knisely says, "The long life of the Cree LED lights, their quality of light, and recognized energy and maintenance savings mean this solution is a very sound one."



“ We consider ourselves a customer-service brand, and I see this installation as an initiative to keep us on the cutting edge and allow us to continue to provide outstanding customer service. ”

Doug Knisely, *Director of Petroleum and Building Construction, Sheetz*





"The long life of the Cree LED lights, their quality of light, and recognized energy and maintenance savings mean this solution is a very sound one."

Doug Knisely, Director of Petroleum and Building Construction, Sheetz

IN THIS CASE STUDY

LR6 DOWNLIGHT

- 650 lumens; 10.5 watts
- 90 CRI
- 2700K - 3500K CCT
- 10-year limited warranty
- Up to 50,000-hour lifetime
- 0-10V dimming to 20%



LR24 TROFFER

- L 24" x W 24" x H 5.8" dimension
- 2200 lumens; 22 watts
- 90-110 LPW
- 90 CRI
- 3500K - 4000K CCT
- Up to 50,000-hour lifetime
- 0-10V dimming to 5%, step level to 50%



CR Series TROFFERS

- L 47.7" x W 23.7" x H 4.9" or
L 47.7" x W 11.7" x H 4.9" dimension
- 2200 - 5000 lumens; 22 - 50 watts
- 90-110 LPW
- 90 CRI
- 3000K - 4000K CCT
- 120-277 VAC
- Up to 50,000-hour lifetime with standard
or 75,000-hour lifetime with HE option
- 0-10V dimming to 5%, step level to 50%



Cree Edge™ Series

- 2539 - 12,501 initial delivered lumens;
37 - 172 system watts
- Minimum 70 CRI
- 5700K standard; 4000K optional
- 10-year limited warranty
- 120-277V
- 350mA - 525mA



227 Series™

- 11,574 initial delivered lumens; 140 system watts
- Minimum 70 CRI
- 5700K standard; 4000K optional
- Warranty: 10-year limited warranty
- 120-277V
- 350mA
- Up to 123,000 lifetime (L_{70}) hours @ 25°C



Join the LED Lighting Revolution.

Learn more at: www.cree.com/lighting | info@cree.com | 800.236.6800



Cree TrueWhite® Technology begins with the highest performing commercially available LEDs. Cree TrueWhite® Technology mixes the light from red and unsaturated yellow LEDs to create beautiful, warm, white light. This patented approach enables color management to preserve high color consistency over the life of the product. Cree TrueWhite® Technology also enables a CRI of at least 90 while maintaining high luminous efficacy – a no compromise solution.



Cree BetaLED® Technology uses a total systems approach combining the most advanced LED sources, driver technologies, optics and form into each product. The patented NanoOptic® technology, available in more than 20 distributions, provides a level of optical control and thermal management that traditional light source technology cannot provide. Combined with the DeltaGuard® Finish, the finest industrial-grade finish available, the result is outstanding target illumination, lasting performance and optimum energy efficiency.

PARTICIPANTS

End User: Sheetz

Lighting Distributor: The Hite Agency

Cree Rep Agency: Red Leonard & Associates