

MaxLite Solves Installation Challenge with Custom Kits for LED ECO-Ts at CSU Dominguez Hills



"I have been searching for a solution for two years for the honeycomb ceilings, but everyone I spoke to wanted me to install a fixture that would attract birds and wasps. This design eliminates all those concerns and puts the light down where we need it instead of wasting it up in the ceiling cavity. With the new LED fixtures mounted flush to the honeycomb, I now have two footcandles at 10 percent and 10 footcandles at 50 percent. The old U-Tubes had five to seven footcandles at 100 percent."

— Kenny Seeton, manager central plant at CSU Dominguez Hills

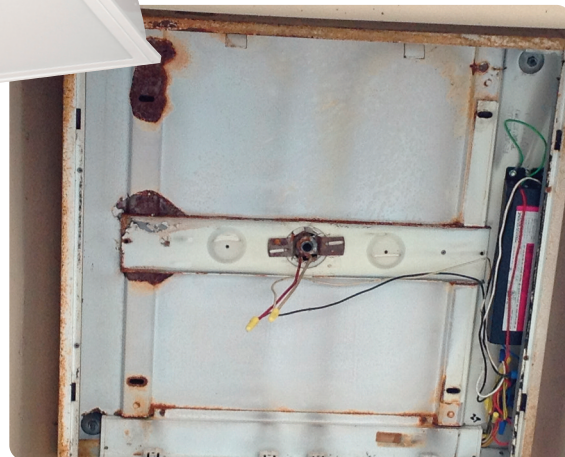
The Challenges

Located in Los Angeles' South Bay, the California State University, Dominguez Hills (CSUDH) in Carson, California, was in need of newer and more energy efficient lighting to illuminate its outdoor covered pedestrian walkways. The walkways, which serve as external hallways for students, are constructed of prefabricated concrete ceilings that provide light with two-lamp U-bend fluorescent fixtures installed recessed within the architectural honeycombs. These rusted fixtures, installed in the early 1970s, were lined with insect carcasses, wasp nests and spider webs. Additionally, the fixtures were recessed 15 inches within the honeycombs, resulting in poor light distribution as the light bounced and was lost within the recessed cavity.

The Solution

Enlighted, a lighting controls company based in Sunnyvale, California, recommended MaxLite's energy-efficient ECO-T™ LED Recessed Troffers for the university outdoor pedestrian walkway installation. In a trial installation, four 59-watt fixtures with two U-bend lamps and electronic ballast were replaced with four 45-watt 2'x2' ECO-Ts at the Natural Science and Mathematics building near the center of campus. The fixtures were installed with ease by a single installer. The university is now pursuing funding to replace 222 fluorescent fixtures with MaxLite's ECO-Ts; additionally, approximately 178 fixtures will be installed after phase two is complete.

To overcome the 15-inch cavity depth and avoid bouncing light within the honeycombs, MaxLite Vice President of Product Marketing and Engineering Pat Treadway and Vice President of Sales West David Wyatt modified the ECO-Ts to accept a down-rod and designed a custom 18-gauge steel "frame out" suspension kit that lowered the fixtures to the bottom of the honeycomb, creating a surface-mounted fixture that distributed even light to the walkway below. The kit also prevents the penetration of insects and birds within the fixtures, which helps to maintain the fixtures' clean aesthetics. The ECO-Ts were also painted to match the color of the honeycombs, creating a seamless ceiling canopy.

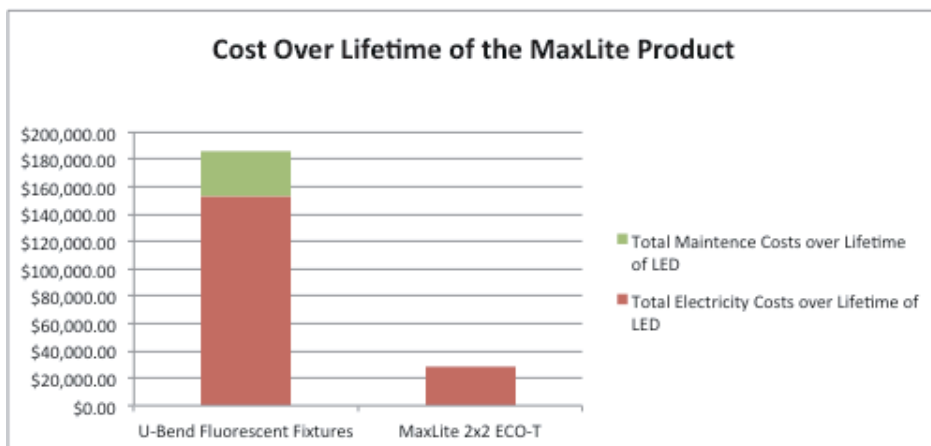


Previous rusted fluorescent troffer

The Benefits

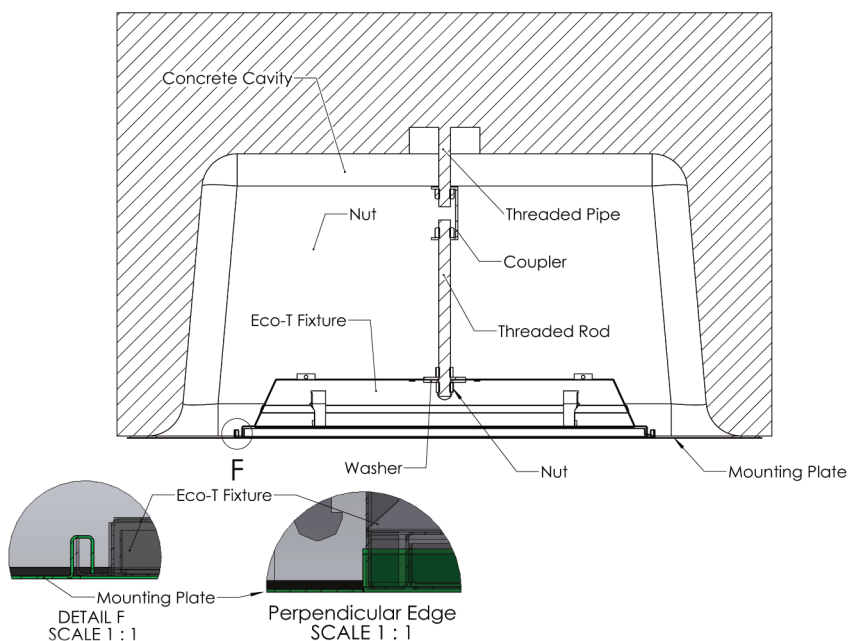
Not only do the ECO-Ts deliver crisp, white light to the university's exterior walkway, but they also reduce energy consumption by nearly 25 percent. However, the fixtures operate with Enlighted's controls system and are dimmed down to just 10 percent, which enables the fixtures to utilize just 11 watts of energy and reduce energy consumption by more than 80 percent compared to the former 59-watt two-lamp fluorescent fixtures. Also, while the fluorescent fixtures had a rated lifetime of 20,000 hours, the ECO-Ts are L70-rated for 50,000 hours, which will help to reduce maintenance costs for years to come.

Once the 400 fixtures are retrofitted with ECO-Ts, the university will save 960,000 kWh and \$157,800 in energy and maintenance savings over the lifetime of the fixtures. However, the university will purchase the fixtures with a special \$0.24 kWh rebate from Southern California Edison (SCE), for an additional savings of about \$230,000.



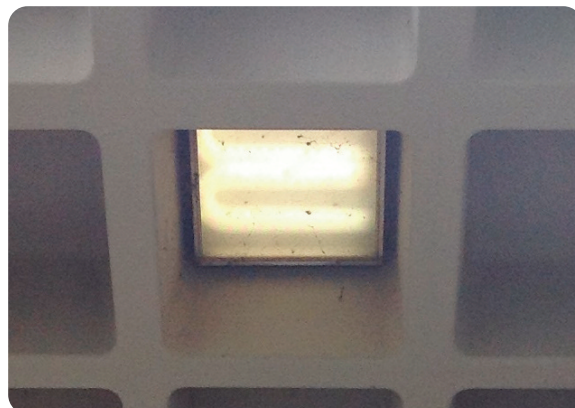
MaxLite

MaxLite has been committed to providing energy efficient lighting products for the last 20 years, and was one of the first movers into LED technology in the industry. An ENERGY STAR® Partner of the Year, MaxLite established the MaxLED® brand, an extensive line of indoor and outdoor lighting fixtures featuring innovative LED luminaires and lamps using the latest state-of-the-art LED technology.



Assembly cross section of ECO-T recessed in honeycomb

Before



After

