

Kenall's TekDek™ Reduces Glare, Providing Oakland Garage with a Brighter, Safer Environment



Location: Dalziel Garage
City of Oakland, California

"People tell us the lights are great. Visibility is much better now, and these lights are easier to maintain."

– Derin Minor, City of Oakland Building Services Manager



Project Summary

Challenge: Retrofit a 14-year-old municipal garage with LED luminaires for improved energy efficiency, light distribution and aesthetics

Solution: Kenall TekDek™ LED luminaires

Benefit: Outstanding uniformity and efficacy, low glare, enhanced driver and pedestrian safety, an impressive 80% energy savings and an attractive appearance

Kenall's TekDek Reduces Glare and Brightens Dim Municipal Garage

Dalziel Garage, Oakland, CA



Dalziel Garage, a 14-year-old underground bi-level structure in Oakland, California, was in need of new lighting. The existing luminaires were dim and yellowing, resulting in significantly reduced visibility.

Scott Wentworth, the city's energy engineer, began evaluating replacement options. During the process his team considered LED luminaires from seven different manufacturers. They conducted site visits and mocked up samples in the Dalziel Garage for side-by-side comparison. Photometric performance of the serious contenders was also reviewed.

Wentworth and his team concluded that TekDek™ by Kenall yielded the most impressive results. The luminaires provided outstanding uniformity and efficacy, relatively low glare, and an attractive appearance.

The incumbent lighting design of (174) 175-Watt metal halide fixtures were replaced with Kenall's 80-Watt, 5000K TekDek LED luminaires, paired with a wireless, motion sensing system to optimize the project's energy savings. "Although the project was primarily a one-for-one replacement, we relocated some fixtures and added others in dark spots to enhance the uniformity of light throughout the structure. Through a slight but strategic increase in fixtures, when compared to the original layout, we found that we could ultimately reduce the overall energy consumption to further enhance

the project's sustainability and payback," Wentworth explained.

Although Wentworth expected strong optical performance, he admits that his expectations were exceeded.

"Even in high output mode, the fixtures are particularly low glare due to their tertiary lens, which is refreshing in an LED fixture," he said.

- Scott Wentworth, Oakland City Engineer

In addition, by combining LED technology with wireless controls, the City's energy savings has been calculated at 263,700 kWh, an 80% reduction in energy usage, totaling \$31,667 annually for all lights, including control and emergency systems, over the prior technology. Each fixture saves the city more than \$167 per year, based on Dalziel's 24-hour-per-day operation.

The Dalziel garage lighting project was partially funded through the use of incentives, including government stimulus funds, grants, and utility rebates. The City of Oakland used stimulus funds through an Energy Efficiency and Conservation Block Grant from the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy. The City also received a \$42,800 rebate from the Energy Technology Assistance Program, funded by the California Energy Commission using stimulus funds, and another rebate for \$17,000 from Pacific Gas and Electric, their local utility.

The new luminaires have greatly enhanced visibility in the garage, and the lights are much easier to maintain. Even the garage patrons have noticed and commented on the improved light levels. Wentworth has already recommended TekDek to others.



TekDek Features

- Textured tertiary lens for reduced glare
- Up-light feature to eliminate "cave-effect"
- Patented thermal management and unique optics
- Type II optical pattern designed for mounting over drive lanes
- 10-year limited product warranty

TekDek Benefits

- Enhanced driver and pedestrian safety
- Attractive, low-glare luminaires
- 80% energy savings over incumbent technology
- Simplified installation and maintenance
- \$31,667 annual savings for the City of Oakland

For more information, please visit us on the web at www.kenall.com



www.kenall.com

P: 800-4-Kenall

F: 262-891-9701

10200 55th Street Kenosha, Wisconsin 53144

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