

Lynnwood Honda LED Lighting Upgrades Case Study



Dealership upgrades to LED lighting for improved product visibility, security, and lower energy costs

Project Background & Scope

Conservation and energy savings are important to Erik Nelson, president of Lynnwood Honda. At the same time, high-quality lighting is critical to showing their products on the lot, even though it uses a substantial amount of energy. After seeing LED lighting at another car dealer's lot, Nelson became interested in learning how LED lighting might provide energy cost savings and high quality lighting for his facility.

Nelson started with online research and a call to the Lighting Design Lab (LDL) in Seattle. The LDL referred him to their LED Qualifying Products List and the DesignLights Consortium (DLC) Qualified Products List to find products tested to perform at specified levels. During his research, he identified numerous benefits of LED lighting. He read how light trespass and skyglow issues are affecting exterior business lighting in many areas and how LED lighting can make those issues easier to address because of their directionality and less intense light. Nelson calculated that the anticipated reduction in maintenance due to the long lamp life and five-year warranty would save about \$4,000 each fall when he normally re-lamped the metal halide system. He talked with his utility, Snohomish PUD, and found he could get a grant from them to help pay for the project.

From his online research, Nelson had narrowed his choices to either a retrofit product that would be installed in the housing of the existing fixtures or a new luminaire. Having learned about the importance of thermal management to maintain the longevity and light output of LED sources, he was not convinced that the retrofit product adequately addressed this issue. He selected the new LED luminaire, the Sansi CO820 series of fixtures.



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He selected new LED luminaires of 239 W and 110 W to replace the existing 1000 W and 400 W metal halide lighting. In addition to the main show lot lighting, the dealership also used some 40W LED wallpacks and two building flood lights of 70W, and two 120W area lights, also Sansi products.

Results

Nelson is very excited about the results he is seeing from this project. The lighting upgrade was made in early January 2013 and was completed in time to use during a week-long period of dense fog. Although he had heard that LED lighting did not penetrate fog well, he thought the LEDs performed better than the metal halides performed under the same conditions. Even though the utility representative believes there was about a 30% reduction in average light level, the owner says the new LED lighting definitely makes the area seem brighter and enhances the appearance of the vehicles on the show lot. Employees, neighbors and



another car dealer have noticed these improvements and responded with favorable comments and questions.

It is too early to calculate the actual energy savings because the lights have been in operation for only a short time, including the unusually foggy conditions in January, when the lights were turned on for more hours than usual. Despite these conditions, Nelson expects the savings to be substantial.

The high cost would have been a barrier to the project, but a grant from the utility reduced this barrier. Nelson says the payback will be just under five years for the installation, and estimated savings will be \$17,000 -18,000 per year in energy costs.

Lessons Learned

Nelson's advice to other potential purchasers of LED lighting is to do a lot of research on the product you are interested in and the company selling it.

Additional Resources

- LED Qualifying Products List: <http://lightingdesign-lab.com/led-list>
- DesignLights Consortium® (DLC) Qualified Products List (QPL): http://www.designlights.org/solid-state.about.QualifiedProductsList_Publicv2.php
- Sansi USA: <http://www.sansitechusa.com/Products>
- Utility: Snohomish PUD



Sansi Cobrahead LED Lighting



Area Lighting



Wallpack Lighting

Considerations for Purchase

Before purchasing LED lighting:

- Understand warranty coverage and length. Coverage might include various components, field repair, shipping and labor, over 5 to 10 years. Warranty eligibility may require multiple LEDs to fail before replacement.
- Install a sample before committing to a purchase.
- Check your local utility for available incentives.
- Engage a professional to provide lighting that meets your needs, complies with energy code, and is compliant with utility incentive requirements.

Most utility incentives for LED lights use a qualified list:

- For light bulbs, look for ENERGY STAR products: http://www.energystar.gov/index.cfm?c=manuf_res.pt_lighting
- For commercial light fixtures, refer to Design Lights Consortium qualified product lists: <http://www.designlights.org>

Additional questions to ask are listed at this U.S. Department of Energy website: <http://www.eere.energy.gov/buildings/ssl/what-to-ask.html>