

Q&As from Energy Efficient LED Technologies for Roadway Lighting webinar 2/20/2014

Q: Are any fixtures inherently Dark Sky Compliant? Or do we have to specifically ask for Dark Sky Compliance on the form?

A: I'm not aware of a manufacturer listing their products as "dark sky compliant". The current Luminaire Classification System (LCS) calls for each luminaire to have a specific BUG (Backlight Up light Glare) rating.

Q: At this point it seems photocell is weak point, are there any viable options for long-life photocell?

A: Some Manufactures offer long life photo cells with a 100,000 hour rated life.

Q: Is it true that the efficacy of the warmer (CCT 4k) LEDs is less than the efficacy of the cooler LEDs (7k - Blue)?

A: When warmer color temperatures LEDs were introduced their efficacy wasn't as high. Earlier luminaires used up to 10,000k – which is quite blue. Today the efficiencies have improved greatly in the lower temperature levels.

Q: How were the energy saving percentages derived, for example the savings estimate of 25 percent more with controls?

A: The saving is only an estimate based on various control options. You would need to calculate the actual control savings based on the control options selected for your project.

Q: Would you agree that there is a photometric bias because of lighting wave length to "see is believing" pictures?

A: Yes but it really comes down to what each person sees and likes with the new type of lighting.

Q: With LED roadway lighting it appears that energy savings is diminishing due to the need for increasing lumen output per watt.

A: The efficiency of the LED light has improved greatly and still has a ways to go. There will be a point in time where they just can't get much more efficient but there are many other ways that the total light sources will continue to become more efficient such as in the fixture or lens used to direct the LED light source. Also costs will continue to come down as manufacturing increases.

Q: Regarding maintenance the LED requires an improved phot-control. Do you have any new experience relating to improve photo eye control?

A: This can be a problem but can be controlled through impedance or heavy duty relays. Discuss this matter with prospective vendors.

Q: Any comments regarding wireless controls such as Echelon and ROAM?

A: I have no personal experience with these systems but power line carriers are making good strides. They are limited by the network in which they operate. The

longer the distances, the more issues they can have with transformers and other devices that can interrupt the flow of information.

Q: Don't minimize or forget Induction Fluorescent!! Excellent lamps and fixtures, with other photometric pros & cons. Mostly pro, however. Lower fixture cost than LED; established, long-term manufacturers like Everlast and Neptun; 100,000 hour life with 5-10 year warranties; variety of fixtures; types 1-5. Our commercial/industrial consumers love them.

A: This is correct. These can be a good option to look at.

Q: Are there any lighting companies that participate in the Guaranteed Energy Savings (GESp) Programs?

A: GESp has 11 Energy Services Companies (ESCOs) that have been pre-qualified and have entered into a Master Contract with the Department of Commerce to perform energy savings performance contracting services. These services include lighting energy conservation measures. Lighting contractors would be subcontractors to the ESCO. Lighting only contractors do not qualify as ESCOs.

Q: Where do you see the balance between total lumen output per fixture for traditional HID vs lower lumen output LED but having higher or equal delivered lumens?

A: The actual lumens may be higher with HID sources than LED but the perceived lumens or Pupil Lumens/Watt is actually higher. In fact the Lumens/Watt of some LEDs is over double that of HPS lights and 50% higher than MH lights.

Q: Are any grants that are available for street/highway lighting conversions? Where can I find information on the US Department of Agriculture grant program?

A: It is important to look at all incentives available. Local utilities, state and federal sources may all have rebates or incentives to help reduce the cost of the projects. The Federal USDA grant program is called REAP (Rural Energy for America Program). Information can be found at the following site:
http://www.rurdev.usda.gov/BCP_ReapResEei.html

Gary A. Swanson
(612) 819-7975
gswanson@EMSenergy.com