

February 27, 2009

Richard H. Karney, P.E. ENERGY STAR Program Manager
U.S. Department of Energy

RE: ENERGY STAR Integral LED Lamps, draft 1 criteria - comments

Dear Richard,

Thank you for the draft report, including the cover letter stating key issues and design considerations requiring comment. Upon review of both documents, I have a few opinions/comments to share.

Key Issues:

1 – Dimming: This is a very important issue. As stated in the cover letter, dimming is currently a huge problem for Energy Star CFL's. A new lamp type with the same problem may be hindered as well if dimming is not feasible, especially considering the pricing of the LED replacement lamps. Specifically considering omnidirectional sources, I expect there would be no advantage to purchasing an LED lamp over a CFL because of the huge cost difference (based on existing efficacy of LED sources), unless the LED can be dimmed with existing dimmer installations.

Considering directional sources, it is clear CFL lamps fall far short in optical performance, and there is a distinct energy advantage to using LED replacement lamps. This provides validity for the higher cost of the LED lamp. However, dimming will still be required for full market penetration. May it be possible to include electronics in the lamp, or an adapter for the lamp, that will at least allow stepped dimming of the LED replacement lamp, using existing dimmers in the home?

2 – Non standard lamps: Allow for non-standard form factors, but still require luminous intensity distributions to match the incandescent lamps they are replacing. As stated clearly in the overall approach, items 1 and 2, the LED replacement lamps are intended to replace existing incandescent lamp types. While it is important to allow for innovation in the industry, Energy Star's goal for replacement lamps is specifically targeted to replace existing lamps in existing luminaires. We shouldn't expect the average consumer to understand "non-standard lamp performance", even if the packaging clearly shows what's happening. Let's leave the non-standard luminous intensity distributions to LED luminaires, whether they are Energy Star rated, or otherwise certified for performance.

3 – Low Voltage MR16's: Specifically with regards to low voltage lamps, even though the existing low voltage transformers operate optimally at 60% or more of their rated load, is it actually detrimental to the life, or reliability of the transformer to operate a lower load? Even though the transformer is not operating optimally, the transformer/LED lamp system should still use far less energy than using the halogen lamp. In hopes of avoiding more cost, might it be best to just leave it alone, and let the transformers operate with less efficiency than their potential?

Lamp Performance Criteria:

CCT: Why should Energy Star restrict the allowed CCT values for LED lamps to a maximum of 3500K, while allowing fluorescent sources to reach 6500K. Especially in light of the fact that it is still tough to get higher efficacy levels in LED's at 3500K or lower. It's understood the LED lamps are intended to replace standard incandescent and halogen sources and should match the color of those. Wasn't this also the goal of the fluorescent Energy Star lamps? As long as the color of the light is clearly communicated to the consumer, it would seem to avoid confusion if the CCT's allowed for LED and CFL sources were the same.

Non-Standard Lamp requirements: Remove this section. Consumers are still not savvy enough to understand how to use this. The fact that the largest numbers on the packaging of a 13W Energy Star CFL lamp is "60W" indicates consumers won't know what to do with a lamp that doesn't reference some incandescent lamp type. Save this for later editions of the standards.

Thank you for your time and effort putting together the standards, and reviewing the many comments. Please feel free to contact me with any questions or concerns you may have regarding these comments.

Sincerely,

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