

# Randall Whitehead Lighting Solutions

January 18, 2013

U.S. Environmental Protection Agency  
Energy Star Program  
Ms. Taylor Jantz-Sell  
Lighting Program Manager, Energy Star  
1200 Penn Avenue NW 6202J  
Washington, D.C. 20160

Re: Lighting Designer Comments on EPA's ENERGY STAR Program Requirements Product Specification for Lamps (Light Bulbs), Version 1.0, DRAFT 3

Ms. Jantz-Sell:

Because LED lamps have now achieved brightness and color quality comparable to incandescent lamps, with instant-on and dimming capability, while using a fraction of the power, we are at the beginning of one of the largest energy savings opportunities in the history of lighting. However, for LED lamps to achieve significant market share, consumers must be confident that these lamps can give them the light quality they need and want.

LED lamps that simply replicate the color quality and overall user experience of bare spiral CFLs are unlikely to gain much market share over incandescent lamps. The slow and incomplete market adoption of CFLs demonstrates that simply because a product produces enough light, saves energy and is cost-effective, widespread market adoption of that technology is by no means ensured.

McKinsey's *2011 Lighting the Way* report suggests that consumer lighting purchase decisions are driven as much by light quality, as they are by the cost of the light bulb. Twenty percent of the residential respondents in the McKinsey report rated light quality as the most important decision criterion for lamp installation – which is on par with the 22 percent who rated purchase price as the most important factor. In all other market segments, light quality was by far the most important criterion.

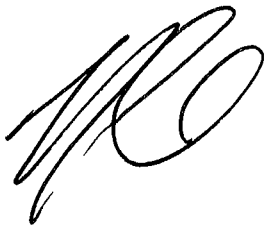
For consumers to be motivated to purchase LEDs over incandescent lamps, they must see LED based light sources as high-quality products worth the initial higher price differential. Therefore, LEDs must provide performance that is measurably better than CFLs, including higher color rendering, more predictable color appearance, and a closer replication of (and indeed significant improvement over) the incandescent and halogen lamps that they replace. With the emergence of next generation LED technology, these performance benchmarks have now been reached.

The U.S. Environmental Protection Agency (EPA) correctly points out in their new lamp specification that LED lamp color quality is a potential barrier to broader consumer adoption of energy efficient lighting. Given the critical importance of this issue, we strongly recommend that EPA address quality of light, specifically higher Color Rendering Index (CRI), in the new lamp specification.

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On behalf of the lighting design community, I strongly urge EPA to adopt color quality standards as part of the Energy Star Program.

Sincerely,

A handwritten signature in black ink, consisting of several overlapping loops and strokes, likely representing the initials 'RW'.

Randall Whitehead, IALD