



Alex Baker

Lighting Program Manager, ENERGY STAR

Office of Air and Radiation

United Environmental Protection Agency
Washington, D.C. 20460

April 29, 2011

Re.: ENERGY STAR Lamps Specification Framework

Dear Mr Baker

Please find enclosed our comments on the framework for the ENERGY STAR Lamps V1.0 specifications development process.

1. Scope

Color temperature

We would welcome an extension of the current scope to products with lower color temperature. The current Integral Lamp specifications specify a lowest admissible CCT of 2725 K +/- 145. We have been offering a lamp with a color temperature of 2200K for two years now, which in our opinion has met with strong customer response. We believe that this product appeals in particular as a replacement of highly inefficient carbon filament type "retro" lamps. Under current specifications, this product cannot qualify for ENERGY STAR, thus depriving end-customers of an ENERGY STAR certified energy efficient alternative to incandescent lamps with a lower color temperature. We believe that the current cut-off at 2700K is arbitrary



Lamp shape

As previously argued, we believe restricting lamp shapes to those listed under ANSI C79.1-2002 is neither necessary nor desirable (and has not been a requirement for CFLs). Specifically, many LED based lamps in the A-line category exceed both MOL and maximum diameter slightly, due to the requirements of the heat sink.

However, since fitting into a fixture is generally determined by the base, and not strictly by the lamp shape, and since the glass dome in an LED or CFL based bulb will be significantly cooler than an incandescent, slightly exceeding ANSI MOL should not affect customers negatively. Conversely, heat management is critical for LEDs, and reducing the size of the heat sink has significant performance and cost implications. As a result, we believe that strict adherence to ANSI shape and measurement specification is unnecessary, and holds no benefits for the end-customer. As we have previously argued, we have sold millions of A-line LED replacement lamps, and have not received a single complaint about our lamps not fitting a fixture (our A-line exceeds ANSI MOL by about 5mm)

2. Energy Efficiency, Performance and Quality Features

Luminous Efficacy

We believe that the current Integral LED Lamp Specification minimum efficacy of 50 lumens/Watt for lamps under 10W is sufficient, and should not be raised. While we as well as many other manufacturers have reached efficacies well in excess of 50 lumens/Watt, we believe that an efficacy of 50 lumens/Watt presents a very attractive cost/benefit tradeoff. The major challenge in the short-term adoption of LEDs and other energy-efficient products will be offering consumers alternatives at accessible prices. Since after 15 years of promoting CFLs, the penetration of residential sockets by CFLs is still below 20%, the immediate challenge is to offer an alternative to CFLs for the 80% of residential sockets that still contain incandescents. LEDs, when priced attractively, offer such an alternative; ENERGY STAR should carefully weight the trade-off cost/efficacy; we believe a minimum efficacy threshold of 50 lumens/Watt for all lamps presents the best tradeoff.

Power factor

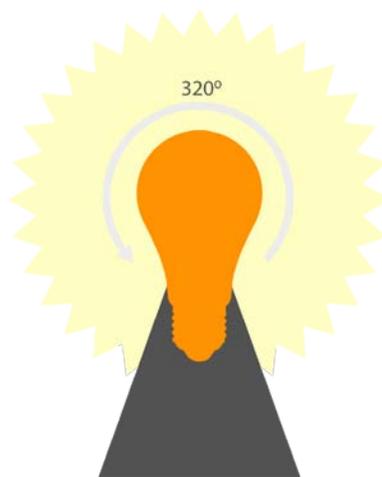
We would welcome the exemption of all lamps under 10W from power factor requirements. We do not believe that at low power levels power factor requirements present meaningful benefits; in addition, power factor correction decreases efficacy by up to 5% and adds unnecessary costs.

Luminous intensity distribution requirements

As previously argued, we believe that imposing arbitrary luminous intensity distribution requirements is fundamentally misguided, and actually harms consumers by depriving them of choice. Instead, lamps should be clearly labeled to explain the luminous intensity distribution.

The argument EPA presented in the past is that consumers expect certain light distributions based on lamp shape. We believe that this argument is not universally supported in fact: the A19 is the most common form factor for light bulbs, and while often used in omnidirectional applications, there are many fixtures that require an A19 lamp, but are directional in nature (common desk lamp fixtures being just one example).

Similarly, the application icons proposed by EPA are in our view potentially misleading, as they make unsupported assumptions about how end-customers use light fixtures. Instead, we suggest that ENERGY STAR should require informing the customer about luminous intensity distribution through a simple and standardized icon like the one below:





3. General topics

Product labeling/packaging

We welcome the new FTC labeling guidelines, and hope that ENERGY STAR will integrate the FTC labeling guidelines. Specifically, we welcome a transition from incandescent watt-equivalents to lumens. As stated above, we do not support ENERGY STARs proposed application labeling requirements for non-standard lamps, as we believe they are misleading and potentially confusing; instead, we are in favor of directly informing the customer about luminous intensity distribution via a simple and clear icon, which could be integrated into an FTC Lighting Facts label.

Early Initial Qualification

We welcome the provision for Early Initial Qualification under the Integral LED Lamps specifications. With product development cycles of one year or less, a full 6,000 hour qualification leads to products that are obsolete by the time they are ENERGY STAR certified. However, the current provision only offers a path to Early Qualification to lamps with “single color or phosphor converted LED package(s)/array(s)/module(s)...”. We hope that this path will be equally open to lightsources that mix colors (RGB or RBP or others), so as not to favor one technology approach over others.

We thank you for the opportunity to provide comments, and are always available should you require supporting evidence for any of the above topics.

With best regards,

Alex Nigg
Acting Managing Director
Lemnis, Inc.

