

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460



OFFICE OF  
AIR AND RADIATION

February 13, 2015

Dear ENERGY STAR® Lighting Stakeholders:

This letter announces the Environmental Protection Agency's (EPA) release of the first draft of the ENERGY STAR Lamps specification version 2.0, intended to replace the Lamps specification version 1.1 (the "existing specification"). The specification development process, including subsequent specification drafts and stakeholder comment periods, is anticipated to conclude in the spring of 2015. Until the lamps specification is finalized with an announced effective date, version 1.1 specification remains in effect.

EPA believes the ENERGY STAR program can achieve the greatest overall reduction in energy use by helping consumers identify lamps that use less energy and meet performance expectations. Since the development and release of Lamps V1.0, LED lamp performance, efficiency, and availability have continued to improve, while prices have continued to decline. The market now reflects an opportunity for additional efficiency gains by raising efficacy levels for all lamps, while encouraging the continued improvement in performance of LED lamps.

### **Overview of Key Changes from Existing Specification**

The changes proposed are focused on raising existing minimum efficacy requirements and including new technology, such as connected (e.g. wirelessly controlled), color tuning, and electrode-less induction driven fluorescent lamps.

The proposed changes for version 2.0 are intended to avoid the need for partners to retest products, however they do account for updated industry standards and future alignment with a final DOE test procedure for integrated LED lamps. The following summarizes proposed changes in draft 1; more information on EPA's rationale for these changes is detailed in note boxes located throughout the specification.

### **The primary goals for Lamps V2.0 include:**

1. Increase efficacy levels.
2. Broaden the scope and the features.
3. Provide for use of DOE's pending LED lamp test method.
4. Improve harmonization between ENERGY STAR lighting specifications.

### **Increasing Efficacy**

- EPA is proposing a single efficacy level for each of the three main lamp types, omnidirectional, decorative and directional.
  - In determining these levels, EPA performed efficacy analysis based on various factors and did not find a strong enough correlation between efficacy and other

metrics, including CCT, CRI, lamp size, lumen output, and/or wattage to justify different levels for variations in these factors.

- EPA is proposing efficacy levels in advance of a 2016 effective date to keep pace with technology and market developments.

### **Adjustments to Specification Scope**

- EPA is proposing to include several lamp technologies that had been on the list of considerations for future revisions, including connected lamps, color tunable and self-ballasted induction-driven electrodeless fluorescent lamps.
- Draft 1 includes provisions for testing and certifying color tunable and connected lamps consistent with the first draft of the ENERGY STAR Luminaires specification V2.0.

### **Harmonize requirements across ENERGY STAR specifications**

The following proposed requirements align with proposals made in Draft 1 of ENERGY STAR Luminaires V2.0 specification.

- **Color rendering:** Positive R9 performance for all lamp types. Analysis shows that 82% of certified lamps have an  $R9 > 0$ . A positive value is important for ensuring accurate rendering of skin, produce and wood tones.
- **Start time:** Reduction from 1 second (1000 milliseconds) to 500 milliseconds. Approximately 95% of currently certified lamps meet this proposal.
- **Run-up time:** Revised to 60 seconds or less for all CFL products. 89% of certified CFLs meeting the efficacy levels proposed in this draft meet this proposal.
- **Correlated Color Temperature Labeling:** Requirements have been added to address inconsistent color temperature terminology in the market. EPA believes consistent terminology for CCT levels will help improve consumer satisfaction and accelerate adoption of ENERGY STAR lighting.

### **LED testing and reporting to align with DOE's pending test method & updated references**

- EPA has added references to the upcoming DOE Test Procedure so that the test procedure can be used for ENERGY STAR certification, once it is finalized. EPA has proposed adjustments throughout the specification to align with DOE's current proposed test method, including updating passing rate requirements for rated lifetime and lumen maintenance.
- EPA is proposing to align reported performance figures with DOE and FTC for all lamps, including those not covered by the current regulation, for consistency. As a result EPA is removing tolerances on light output, lumen maintenance and efficacy from this draft.

### **Other Items**

- In this draft EPA is proposing that ambient temperature life testing only applies to lamps labeled "not for use in totally enclosed or recessed fixtures" on the lamp and lamp packaging.
- EPA is proposing to remove the rapid cycle stress test requirement for solid state products, and will consider a robustness requirement when a better test method is developed.
- EPA is aware that a working group is in the process of updating ANSI C78.376-2001 and ANSI C78.377-2011 to add CCT bins for 2200K and 2500K and requests stakeholder feedback about broadening the scope to include these bins.

- EPA has included additional clarification to the supplemental testing guidance for determining operating frequency to assist EPA in monitoring product performance.

### **Summary**

EPA seeks comment on a wide variety of issues; partners and stakeholders are encouraged to submit comments on the first draft to [lighting@energystar.gov](mailto:lighting@energystar.gov) by **Friday March 13, 2015**. Please indicate “ENERGY STAR Lamps 2.0 First Draft Comments” in the email subject line. **Please note that comments received will be posted to the ENERGY STAR website unless otherwise requested.**

On **Tuesday March 3, 2015**, EPA will host a webinar and in-person meeting providing an overview of the Lamps V2.0 Draft 1 specification, and provide a more detailed discussion of the proposed changes from the existing specification. Stakeholders will have the opportunity to ask questions via phone, web or in person. To register for this webinar please [click here](#). If you wish to attend in person, please RSVP for the meeting to [lighting@energystar.gov](mailto:lighting@energystar.gov) with the subject line “RSVP Lamps V2.0 Draft 1 Meeting”.

The strength of the ENERGY STAR program is derived in large part from the active interest and participation of our partners. EPA appreciates your contribution to the development of this specification and welcomes individual inquiries; please contact me with questions, comments or concerns any time at (202) 343-9042 or [jantz-sell.taylor@epa.gov](mailto:jantz-sell.taylor@epa.gov) or [lighting@energystar.gov](mailto:lighting@energystar.gov). For questions pertaining to the U.S. Department of Energy test procedures, contact Lucy Debutts, DOE, at [lucy.debutts@ee.doe.gov](mailto:lucy.debutts@ee.doe.gov) or (202) 287-1604. As always, thank you for your support of ENERGY STAR.

Sincerely,



Taylor Jantz-Sell  
ENERGY STAR Lighting Program Manager  
U.S. Environmental Protection Agency