

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



OFFICE OF  
AIR AND RADIATION

June 20, 2017

Dear ENERGY STAR<sup>®</sup> Partner or other Interested Stakeholder:

With this letter, the U.S. Environmental Protection Agency (EPA) is finalizing amendments to the ENERGY STAR Lamps specification (V2.1). These changes do not affect existing or pending lamp certifications. In light of our decision to delay implementation of certain changes, V2.1 will replace V2.0 on October 1, 2017 and will be operative for new certifications from that date forward.

**Refinements:**

As a result of stakeholder feedback and follow up discussions, the following refinements to the draft amendments are reflected in the final document:

- EPA is proceeding with the proposed 15,000-hour minimum lifetime requirement for directional lamps with a delay until October 1, 2017 due to compelling and detailed feedback received on supply chain logistics.
- EPA is deferring its Section 7.1 proposal to allow LED package variations at this time based on the substance of stakeholder comments received;
- EPA added language to Section 9.2 to address decorative wattage equivalency claims not supported by the table of referenced incandescent lamps in the specification.
- EPA received general support for its refined flicker proposal. EPA's intent at this time is for multiple metrics (e.g., Percent Flicker, Flicker Index,  $P_{st}$ , SVM, ASSIST  $M_P$ ) to be reported based on the waveform data generated by a single flicker test. The chosen methodology was based on NEMA 77-2017, an industry consensus-based standard. Because the lighting industry has not fully embraced a single metric for light source flicker, EPA will collect the waveform data for further analysis. EPA received requests to collect the stroboscopic visibility measure (SVM), defined in NEMA 77, as well as the amplitude modulation values for the California Energy Commission's (CEC) JA10 cut off frequencies. At this time, EPA is adding an SVM reporting requirement. JA10 amplitude modulation values are already being collected by the CEC, therefore collecting the same data would be duplicative and overly burdensome to an already complex third party certification process. However, measurement characteristics outlined in section 12.4 support a single measurement to fulfill all reporting requirements for ENERGY STAR as well as the CEC. Partners will have the flexibility of taking one or multiple measurements to fulfill all reporting requirements.

As a reminder, V2.1 also includes the following changes as originally proposed:

- References to DOE test procedures have been updated for clarity.
- IESNA LM-80-15 has been included as an acceptable test method for reporting LED component level lumen maintenance data, in addition to LM-80-08.
- Addendum B to TM-21-11 and Addendum A to LM-80-08 are referenced.

- The requirement for noise for dimmable lamps was clarified that the measurement must be taken within one meter of the lamp.
- Definitions not referenced in the specification were removed.
- A definition for filament style LED lamp was added to support its reference.
- Clarification for confirming dimensions of variations that impact lamp dimensions (i.e. lamp base, lamp envelope shape and lamp neck) has been added due to ongoing confusion in product certification listings.

All materials related to EPA's development of these amendments can be found at [www.energystar.gov/lamps](http://www.energystar.gov/lamps).

Certification bodies may begin certifying product to Version 2.1 as of October 1, 2017. Training for flicker measurement and calculations will be offered to interested parties. Please contact us if you are interested in this training.

As a reminder, these changes do not impact existing or pending certifications – models certified prior to October 1, 2017 will not need to be re-certified. Please feel free to contact me with questions, comments or concerns at (202) 343-9042 or [Jantz-Sell.Taylor@epa.gov](mailto:Jantz-Sell.Taylor@epa.gov) or Daniel Rogers, ICF, at (908) 233-0554 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 (202) 287-1604 or [Lucy.Debutts@ee.doe.gov](mailto:Lucy.Debutts@ee.doe.gov).

Thank you for your contributions towards the development of this new specification, and for your continued support of ENERGY STAR.

Sincerely,



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