



CEE Comments on ENERGY STAR Program Requirements for Residential Light Fixtures Draft 2 Eligibility Criteria – Version 4.0

The CEE Residential Lighting Committee (Committee) would like to thank EPA for the opportunity to provide comments on Draft 2 of the ENERGY STAR Residential Light Fixtures specification. The Committee has been very supportive of this program since its inception and looks forward to working together to ensure its continued success.

The following comments and recommendations are made on behalf of the CEE Residential Lighting Committee and are supported by the organizations listed below.

TOP PRIORITY RECOMMENDATIONS

1. Lamp/Lampholder Compatibility and ANSI Standardization

As stated in its comments on Draft 1, the Committee supports EPA's efforts to provide guidance to manufacturers regarding lamp/lampholder configurations by requiring ANSI-standardized lampholders be used whenever possible. The group continues to strongly recommend that EPA create additional guidelines for manufacturers on this key issue.

The Committee's desired outcome is that consumers are able to easily identify and purchase replacement lamps for ENERGY STAR-qualified fixtures. The Committee understands EPA's reluctance to begin the process of identifying suggested lamp/lampholder connections at this time, as it may lengthen the entire specification revision process. However, due to the importance of the issue, the Committee urges EPA to take two actions: 1) include a statement of intent to begin focusing on the issue within six months of the publication date of the final specification, and 2) hold a joint-stakeholder session on this issue at the next ENERGY STAR Lighting Partner meeting.

In addition, the Committee would like additional information from EPA as to why non-ANSI lampholders are allowed to be used at all, as allowing the proliferation of non-standard lampholders seems contrary to the direction that the group would like to see the specification head.

2. Maximum Ballast Case Temperature

The Committee continues to urge EPA to institute third-party testing and verification for the maximum ballast case temperature component of the specification. In addition, the group strongly recommends that EPA reinstate the upper temperature limit of 90 degrees Celsius that exists in the current specification. The Committee also recommends that EPA modify the language to the following: "Not to exceed the ballast manufacturer maximum **warranted and rated** [not recommended] ballast case temperature during normal operation inside a fixture."

The group also urges EPA to clarify the language within the specification to show that this test is the responsibility of the fixture manufacturer and that if products fail this

component of the specification, liability rests with the fixture manufacturer, not with the ballast manufacturer.

3. Lamp Life Testing

The CEE Lighting Committee would like to thank EPA for including the recommendation that lamp life testing must be completed at 40% of rated life (4,000 hours) rather than at 1,000 hours. The group believes that this modification will help to prevent early product failures that jeopardize the success of the fixture program.

Further, due to the relationship between temperature and performance, the Committee urges EPA to consider a future specification requirement that lamp life testing be completed at either elevated temperature or in a “real-world” environment. The group understands that it may not be possible to institute this requirement within the current timeline, and asks that EPA commit to pursuing the topic within a future revision of the specification.

4. Tier II Requirements

The Committee strongly supports EPA’s efforts to establish a Quality Assurance mechanism within the ENERGY STAR Fixture Program, and thanks EPA for providing more detail on this topic within Draft 2 of the specification. Overall, the group agrees with the approach that EPA has identified. The Committee would like to note that the Challenge Protocol must be instituted above and beyond any testing that EPA would otherwise undertake, and that it should not be a substitute for regular testing of fixtures for compliance.

In terms of the product characteristics that are tested, the group would like to add lamp life and ballast life to the list.

With regard to the issue of product re-qualification every three years, the Committee understands that many fixtures have a life cycle less than three years, and believes that re-qualification should not be necessary (provided the QA protocol is functioning as intended).

5. Third Party Testing

Further to the Committee’s statement on the need for third party testing of maximum ballast case temperature above, the Committee recommends that EPA consider a broad requirement for third party testing that includes the lamp properties, efficacy, and lumen maintenance. Costs to the manufacturer could be mitigated by allowing third-party facilities without full NVLAP-accreditation to be used. Alternatively, costs could be minimized by allowing a smaller number of samples to be tested. The group believes that this testing would provide greater certainty to the consumer that the fixture will perform as expected.

In addition, the group recommends that EPA consider whether two samples is sufficient to guarantee reliability and validity of third-party test results. The Committee suggests

that three samples may provide more robust test results, and urges EPA to consider increasing the minimum sample size.

6. Ballast Requirements

On page 9 of the Draft 2 specification, EPA has requested comments on fixture categories in which the consumer may not benefit from a replaceable ballast. The Committee believes that ballast failure is an issue related to all ENERGY STAR fixtures, not just high-priced ones. Though the purchase price of certain fixtures for which an exemption is sought may be low, the cost of ballast replacement for those fixtures is as high as for any qualified product.

As such, the Committee continues to support the proposed requirement that **all** ballasts be easily replaceable without damage to the housing or surrounding carpentry. This addition to the specification should enable consumers to more easily replace a ballast if it fails prematurely without having to replace the entire fixture (likely with a non-ENERGY STAR product). In addition, the group recommends that manufacturers be required to include ballast replacement instructions in product packaging to ensure easy replacement.

As a related issue, the Committee urges EPA to include a new requirement for ballast life within the program. From both an efficiency program and consumer perspective, ENERGY STAR-qualified fixtures are expected to last significantly longer than CFLs. However, with no minimum requirement as to ballast life, this is not guaranteed. The group suggests that EPA institute a requirement for minimum ballast life of 50K hours as well as a 5-year consumer warranty. The Committee believes that these steps will give consumers confidence that their ENERGY STAR-qualified fixture will indeed be long-lived.

The group thanks EPA for including reference to the Lighting Research Center Line Voltage Socket “Design Competition” winner in the specification. The recommendation that EPA has made serves as a starting point for manufacturers, and should help to minimize the proliferation of different line voltage socket bases that would be confusing to consumers.

GENERAL RECOMMENDATIONS

1. Efficacy Improvements

As stated in its Draft 1 comments, the Committee supports the increases in efficacy that EPA has proposed. However, the Committee urges EPA to consider further increases, recognizing that the efficacy levels in the fixture specification are not as stringent as those in the ENERGY STAR CFL specification. The Committee recommends that EPA review the test data of all qualified fixtures and consider setting the increased efficacy levels at a point that challenges manufacturers to deliver the most efficient products to the consumer.

2. Lamp Requirements

The Lighting Committee supports the proposal to require fixture manufacturers to ship lamps with their fixtures, with the understanding that this will help to ensure the proper pairing of lamp with ballast and will help to lessen compatibility problems. The group thanks EPA for responding to its initial question on why recessed cans are exempted from this requirement. The Committee understands EPA's response that recessed cans are not generally shipped with lamps, though they do believe that putting the burden on the end user to find the correct lamps is not ideal. Unlike manufacturers, consumers are not aware of how to choose the optimal lamp for any given fixture, and they cannot negotiate price as a large manufacturer can. The group urges EPA to reconsider this issue.

On a related note, the Committee would also like to express support for the requirement that lamps shipped with fixtures be labeled with manufacturer and model number. However, with the additional proposed requirements for lamp labeling, the group believes that the lamp base itself could become too cluttered with information. The Committee suggests that only three items of information be required: 1) the generic bulb replacement type, 2) CCT, and 3) CRI. The Committee believes that this information would allow consumers to choose a comparable replacement lamp and would not clutter the lamp base with extraneous information.

3. Recessed Can Requirements – IC and AT

The group thanks EPA for requiring the IC and AT ratings to be printed internally within the fixture, and not solely printed on the packaging. This addition will enable efficiency program (and building code) staff that inspect recessed cans to ensure that local requirements are being met.

The Committee notes that both IC and non-IC cans are eligible for the specification, and recommends that the IC-rated recessed cans be required to be air tight as well (per ASTM E283). It is the group's understanding that this addition will help to prevent conditioned air leakage.

4. CCT Changes

The Committee would like to reiterate its support for the proposed changes with regard to measurement of Correlated Color Temperature (CCT), with the understanding that these changes will help ensure that the color of ENERGY STAR-qualified fixtures meets consumer expectations in terms of warmth and consistency.

5. Packaging Requirements

The Committee thanks EPA for instituting the additional labeling requirement for outdoor fixtures that will identify the minimum starting temperature. The group believes that this will assist customers in cold northern climates choose the correct fixture for the intended application.

6. Clarification of Manufacturer Responsibilities

In general, the Committee recommends that EPA reorganize the specification to identify



which tests are the responsibility of the lamp/ballast manufacturer, versus which are the responsibility of the fixture manufacturer. The group believes that there is some confusion regarding this question among fixture manufacturers, and that reorganizing the specification to specifically identify roles and responsibilities would alleviate it.

7. Definitions Section

The Committee recommends that EPA add electronic ballasts and magnetic ballasts to the definitions section at the beginning of the specification.

8. Effective Date, Grandfathering, and Sunset Date

The Committee supports the proposed effective date of the specification.

Due to the substantive changes proposed in Version 4.0 of the specification, the Committee supports the proposed policy that would require all fixtures be re-tested for qualification.

Once again, the Committee would like to thank the Environmental Protection Agency for the opportunity to comment on the Draft 2 proposed revisions to the ENERGY STAR fixture specification. These comments are endorsed by the Supporting Organizations listed below. Please contact CEE Residential Program Manager Rebecca Foster at (617) 589-3949 ext. 207 with any questions about these comments.

Sincerely,

A handwritten signature in black ink that reads 'Marc G. Hoffman'. The signature is written in a cursive, flowing style.

Marc Hoffman
Executive Director

CC: Ed Wisniewski, CEE



Together We Can Change
National Markets

Supporting Organizations:

American Council for an Energy-Efficient Economy
Cape Light Compact
Efficiency Vermont
National Grid
Northeast Energy Efficiency Partnerships
Northwest Energy Efficiency Alliance
NSTAR Electric
Pacific Gas & Electric
Sacramento Municipal Utility District
San Diego Gas & Electric
Seattle City Light
Tacoma Power
United Illuminating
Western Massachusetts Electric Company
Wisconsin Division of Energy