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United States Environmental Protection Agency
Office of Air and Radiation
Washington DC, 20460

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Ms. Jantz-Sell,

Northeast Energy Efficiency Partnerships (NEEP) appreciates the opportunity to provide comments to ENERGY STAR's Luminaires V2.0 Specification Discussion Document. After a careful review of the document, this letter is submitted on behalf of NEEP and the Cape Light Compact.

Generally, we are very supportive of revisiting this product specification and agree completely with the goals that EPA has put forward.

Streamlining Requirements

With regards to streamlining requirements, NEEP has been involved in the Lighting Roadmapping efforts and continues to find them valuable. We agree with the EPA and NEMA that it could be helpful to revisit the current tests for luminaires and evaluate if they are still crucial to the success of this product category, but caution the EPA in cutting back on any testing requirements without a full technical understanding how it may impact product reliability, performance, and cost. At this critical early stage of LED technology, we need to avoid the mistakes of CFLs with low-quality product hitting the market and supported by efficiency programs. Specifically, we feel:

- *Color angular uniformity*: We agree that increasing the variation to .006 would be an acceptable and logical adjustment. Additionally, alignment with the Lamp specification is appreciated.
- *Start time*: While the market may have evolved, it is our understanding that start time is a relatively quick and inexpensive test. For that reason, we would consider keeping it but perhaps reducing the number of luminaires tested, to ensure we do not lose some level of quality assurance. Start time is the first interaction consumers have with ENERGY STAR Luminaires and ensuring that experience continues to be satisfactory is important.
- *Lamp current crest factor*: We agree that this may no longer be necessary.
- *Zonal lumen density (ZLD)*: We agree that there are some specialized categories of products and/or applications where the current ZLD Requirements may not be appropriate. Where justification can be made that these products/applications represent a significant energy efficiency opportunity, and the current ZLD requirements preclude consumers from choosing ENERGY STAR luminaires appropriate for those applications, we believe ENERGY STAR should explore development of additional ZLD requirements for those specific categories of products. It will be important that ENERGY STAR develop specific definitions for how those categories of products are different from existing categories so that the ZLD revisions do not become loopholes for misapplication that can lead to consumer dissatisfaction. Additionally, we encourage EPA to help ensure that consumers have adequate education on how the light is distributed for the various products. Perhaps a visual schematic could be developed for the direction categories mentioned to demonstrate how the light is distributed to suit consumer needs. NEEP offers the following specific comments to each proposed category:
 - *Non-symmetrical Downlights* - NEEP agrees that the current downlight ZLD requirements are not appropriate for non-symmetrical downlights that are often used for accent lighting. NEEP encourages ENERGY STAR to develop a new category and associated ZLD requirements for these products.



- **Accent Lighting** - NEEP seeks detailed understanding from ENERGY STAR and stakeholders as to how the current ZLD requirements are not appropriate.
- **Cove Lighting** - NEEP seeks detailed understanding from ENERGY STAR and stakeholders as to how the current ZLD requirements are not appropriate. The current asymmetric ZLD requirements were developed to ensure that light is distributed away from the cove itself to better meet consumer expectations and improve the application efficacy. Without a better understanding and justification, we question whether new ZLD requirements are needed.
- **Undercabinet Lighting** - NEEP seeks detailed understanding from ENERGY STAR and stakeholders as to how the current ZLD requirements are not appropriate. The current asymmetric ZLD requirements were developed to ensure that the full counter-top is lit uniformly to better meet consumer expectations and improve the application efficacy. Without a better understanding and justification, we question whether new ZLD requirements are needed.

Additionally, the testing of fixture families to streamline testing requirements is a practice that has been employed with success. The DOE includes a recommendation of family testing in their Solid State Lighting: Early Lessons Learned on the Way to the Market¹ report and programs such as the DesignLights Consortium (DLC) use family testing. We are supportive of ENERGY STAR considering this practice as long as the system for testing is appropriately designed to avoid potential gaming.

Efficacy Levels

NEEP applauds the industry for the significant gains in efficacy and the EPA for their direction to achieve these savings. Moving forward, we support EPA pushing forward with aggressive new efficacy levels across categories.

Regarding downlight retrofits performing better than the recessed downlights, it seems that the products have reached a natural division, and we would support the separation of these products for different efficacy levels, though encourage EPA to continue to push the recessed downlight luminaires to reach higher efficacies.

We also support the EPA's interest in establishing with this specification efficacy thresholds for the future, as that will ensure products continue to improve on efficacy without the labor of a specification review process, as well as allow efficiency programs to better anticipate the savings to be claimed from promotion of ENERGY STAR Luminaires. We think this would be a well-appreciated measure for efficiency program administrators and manufacturers alike as they can plan better when setting their goals. We do caution the EPA that setting those thresholds may be difficult, and we hope that the levels that are selected are appropriately stringent to keep up with the rapidly improving efficacy levels of LEDs. Anecdotally, it seems that as each projection of LED efficacy potential levels is published, the information is almost immediately shown to be not aggressive enough. We would be happy to work with the EPA in the next step of the specification process to identify appropriate levels.

Changes to Product Category Scope

NEEP is supportive of the proposed new and expanded product types, especially the luminaires with controllability and communication functionality. Evolving the specification with the functionality of LED light engine also seems to be a natural progression for this specification.

¹ http://apps1.eere.energy.gov/buildings/publications/pdfs/ssl/ssl_lessons-learned_2014.pdf



Additionally, NEEP supports the EPA's proposal to no longer include products that do not ship with light sources. We agree with the EPA's reasoning and feel that the specification will be stronger by excluding fixtures that ship without their light source.

Regarding adjusting the specification to allow luminaires to ship with ENERGY STAR screw based lamps, while this change could mean consumers are changing out the shipped-with lamp for an inefficient lamp, since ENERGY STAR Certified Lamps are specified to maximize consumer adoption and enjoyment of the lamp, and with considerably longer lifetimes, we feel that at this point it is very unlikely that a consumer would take out an efficient screw-based lamp from a fixture and replace it with an inefficient option. In fact, it would extend the lifetime and usefulness of the luminaire to be able to replace the bulb with another efficient option in years to come. Further, we believe that screw-base luminaires gives the consumer greater access, more choices, and lower prices for efficient LED or CFL replacement lamps compared to GU-24 based alternatives. We do caution, however, that in order for this requirement to be included in the new specification, we would strongly urge the EPA to also move forward with only allowing luminaires that ship with their light source. If the shipment requirement does not become a part of the specification, we are not comfortable allowing screw-based luminaires. Additionally, we would encourage the EPA to consider setting additional limitations on what lamps can ship with products to avoid manufacturers shipping their lowest-cost ENERGY STAR lamp that may be a CCT or lumen level that consumers are not happy with, thus encouraging early replacement. Perhaps by setting lumen output or CCT guidelines, EPA could ensure that the level of consumer satisfaction remains high.

Thank you again for offering this opportunity to provide comments on this discussion document. Please do not hesitate to contact me with any follow up questions or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read 'Claire Miziolek', with a long horizontal flourish extending to the right.

Claire Miziolek
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