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Ms. Taylor Jantz-Sell
Environmental Protection Agency
ENERGY STAR Lighting Program Manager
1200 Penn. Ave NW 6202J
Washington, DC 20460

Subject: Comments on ENERGY STAR Lamps Specification V1.0 Draft 4

Dear Ms. Jantz-Sell,

Philips has reviewed the ENERGY STAR Lamp Specification V1.0 Draft 4 and as a stakeholder, appreciates the opportunity to provide comments.

We look forward to working with the EPA on the development of the ENERGY STAR Lamp specification V1.0. If you have any questions, please contact Jennifer Burns at 202-403-8092 or Jennifer.burns@philips.com.

Sincerely,

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Philips Comments to Lamp Specification V1.0 Draft 4

Section 4. Definitions
Decorative Lamp: A lamp with a candle-like or globe shape envelope including shapes B, BA, C, CA, DC, G and F as defined in ANSI C79.1-2002. For purposes of this specification, lamps with candelabra bases and compact fluorescent lamps with purely decorative envelopes may be categorized as decorative lamps. Proposal: Clarify definition to clearly include CFL A lamps. "purely decorative ***and outer envelope (cover***) shall be categorized as decorative lamps".

Section 7.1 Product Variation Table 2: Allowable Variations
CCT – The additional test data requirement for lumen maintenance and rated life testing to 40% (CFL) and lumen maintenance to 6000 hours (SSL) for each variant does not provide the benefit of using the test reports for the tested representative model. Having to conduct test based on this requirement does not speed up the market introduction time for variants as ENERGY STAR products. Proposal: Remove this requirement and allow initial test data for variants for CFL and SSL products.

Section 9.1 Luminous Efficacy
Draft 4 does not include a provision for a lower efficacy for Dimmable CFL lamps as in current CFL 4.3 version. Dimmable lamps for the fact of having additional circuitry to perform the dimming function, have inherently a lower efficacy. Proposal: Set requirements to <15W 55 lm/W; ≥ 15W 62 lm/W.

Section 9.4 Center Beam Intensity
Target PAR38 Halogen/Incandescent lamps typically have a maximum beam angle of no greater than 40°. Current CFL-I designs have 120° or more. Therefore, PAR 38 CFLi lamps will not have any target lamp available for comparison. This effectively eliminates any CFLi PAR38 from compliance of this section. Proposal: Exempt PAR38 CFLi lamps from this requirement.

Section 9.5 Luminous Intensity Distribution
90% of the luminous intensity measured values (candelas) shall vary by no more than 25% from the average of all measured values. All measured values (candelas) shall vary by no more than 50% from the average of all measured values.
We fully agree with that manufacturing tolerances should be taken into account and it is reasonable to change it from 100% to 90%. However, 20% deviation from the average intensity should be valid. Proposal : Adjust the criteria to 90% of the luminous intensity measured values (candelas) shall vary by no more than 20% from the average of all measured values.

Section 9.6 CCT
Correct language under supplemental testing guidance from "Passing Test: All units shall fall within the defined 7-step ANSI quadrangle for the target correlated color temperature" to align with 9 out of 10 units found in the requirement section.

Section 10.1 Lumen Maintenance

Supplemental Testing Guidance

CFL - omnidirectional lamps ≥ 10 watts, shall be tested in accordance with the ENERGY STAR Elevated Temperature Life Test using the Option A test method or using test methods Option B or C with an operating temperature of 45°C ±5°C. Since this requirement now covers more than just reflector lamps, this will result in a cost increase to improve CFL products to comply with the lifetime requirement in the elevated temperature set up. Proposal: Only require directional lamps to be tested according to the Elevated Temperature life test.

SSL - All directional lamps > 20 watts shall be tested in accordance with the ENERGY STAR Elevated Temperature Life Test using the Option A test method or Option B test method with an operating temperature of 55°C ± 5°C. Presumably the thought behind this requirement is that higher power lamps will have higher ambient temperatures. This is not the case, in general, since higher power lamps are generally larger in size, they have more extensive heat sinking. Proposal: Change the operating temperature back to 45ºC ± 5°C for both Option A and B.

10.2 Rated Life

Rated life requirement of ≥ 10,000 hrs will present a problem for covered CFLs. CFLs will need to improve the electronics to comply with the 10K hours requirement in the elevated temperature set up. Additionally, this will be very difficult to meet for Reflector and Covered products. Since these products have an outer bulb on top of the discharge tube, they inherently run hotter than bare lamps as the electronic components of the ballast are subjected to higher thermal stress. Proposal: Allow 8000 hours for covered lamps and 10,000 for bare lamps.

10.3 Rapid Cycle Stress Test

CFLs with a start time of ≤100 milliseconds, shall survive cycling once per every two hours of rated life, at 5 minutes on, 5 minutes off. European Directive standards have 300 milliseconds as the differentiation point between instant start and preheat (cathode) lamps. Proposal: Adopt the same differentiation point (300 msec.) for standardization purposes.

11.5 Run-up Time

Reported value of time for lamp to achieve 80% stabilized light output shall be ≤ 120 seconds. Current amalgam lamp technology is used to obtain greater efficacy. However, run-up is typically greater than 120 seconds. Proposal: Change requirement to a maximum of 150 seconds.

12. Dimming Performance

This section requires an excessive amount of testing. 10 dimmer samples will be labor intensive and very costly. Proposal: Reduce the dimmer sample to 5 dimmers for testing.

The requirement that at least one dimmer must have one of the following features: Microprocessor with Power Supply, Voltage Compensation, or Pre-set levels are very problematic for CFL-I dimmable lamps and cause incompatibility issues. Proposal: Remove this requirement.

In regards to the requirement that dimming performance testing for certification is not required to be performed by a third party laboratory. We feel that since the data is not being reviewed by the CBs and not being used for decisions regarding certification, we feel that having to submit the data to the CB does not add value. Proposal: Continue to rely on manufacturer declaration and require that the data is made available on the manufacturers website.

12.1 Maximum Light Output

Actual measurement data should be taken as the baseline light output to calculate the ratio and not rated light output, in order to keep consistency with the test method. Proposal: Change wording from "….shall not exceed the lamp's rated light output by more than" to "…..***shall not exceed the lamp's light output (when operated without a dimmer) by more than…***."

Supplemental Testing Guidance

Sample size: It is not appropriate to limit the compatible number of lamp per dimmer. For example, some dimmers may only be compatible with 2 dimmers. Proposal: Add wording such as: Sample size: 1 lamp per dimmer and 4 lamps per dimmer (or indicate the minimum and maximum number of lamps compatible with the tested dimmer)

12.3 Flicker

As a first specification on flicker, we suggest that Energy Star use the original specification found in Draft 3, and tighten the spec as necessary in the future. After all, there are no specifications on flicker now, and complaints are not high. Not all applications need flicker below 0.12 at 120 Hz. Cost will increase to meet the tighter flicker specification. In general, energy storage within the lamp will have to increase in order to decrease flicker. Proposal: Return requirements to flicker index <0.15 at 100 Hz, increasing linearly to 0.50 at 800 Hz. Applies at full and dimmed measurement conditions.

Light Output on a Dimmer Test Method

Under the Test Conduct section 6.1 C, power factor and total harmonic distortion are required to be taken at each measurement point. However, the report (Section 8) does not require these values to be reported. Proposal: For the interest of saving testing time, remove the power factor and total harmonic distortion requirement.