



July 23rd, 2013

Taylor Jantz-Sell
US Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Subject: ENERGY STAR® Lamps V1.0 Specification Final Draft

Dear Ms. Jantz-Sell,

Cree has reviewed the ENERGY STAR® *Lamps V1.0 Final Draft Specification* received via email on July 9th, 2013. We recognize the importance of the EPA and industries efforts to develop and release a specification for lamps in an effort to promote energy efficiency within the lighting industry for one of the most recognized product categories in the ENERGY STAR portfolio. Cree respectfully submits the following comments and request that each be carefully considered prior to finalizing the specification for release.

Thank you in advance for your consideration. Please feel free contact me at 919.407.4077 with any further questions that you may have.

Sincerely,

A handwritten signature in black ink, appearing to read "JV", with a stylized flourish at the end.

Jonathan Vollers
Product Qualification Program Manager



GENERAL

Additional Testing Requirements: In an effort to ensure consistency between all Manufacturers, Testing Laboratories and Certification Bodies, Cree would request that a comprehensive list be provided as part of the final specification release which outlines the additional testing that is required to bring a product which is qualified to Integral LED Lamps 1.4 into compliance with the Lamps 1.0 specification. As a lesson learned from previous releases of the ENERGY STAR specifications, this is something that would be beneficial for all stakeholders and would eliminate the need for FAQ's and other correspondence addressing these concerns.

SECTION 2 - EFFECTIVE DATE

Effective Date (Page 2): Cree requests that the EPA clearly identify the date at which products will no longer be able to be qualified to the Integral LED Lamps 1.4 specification.

SECTION 7 - PRODUCT CERTIFICATION

Product Variations (Page 7): In the allowable variations section of the specification as it relates to Correlated Color Temperature, the EPA has removed the requirement for Lumen Maintenance and Run-Up Time, however, still are requiring that Color Maintenance testing be performed. Cree would strongly recommend that the requirement for Color Maintenance testing also be removed from the specification and that the LM-80 data for the LEDs being used in the products be leveraged. This data has been widely accepted to date and we should not levy additional testing on these products.

SECTION 9 – PHOTOMETRIC PERFORMANCE

Light Output – Omnidirectional Lamps (Page 11): For omnidirectional lamp types, the final draft specification has a table which associates the rated wattages of incandescent lamps to a range of values for initial light output. Since the purpose of this section is for equivalency claims to incandescent bulbs, why would the light output not correlate to actual incandescent lamps being referenced? A quick survey of commonly available incandescent lamps will find numerous examples of 60W frosted lamps which vary in total lumens from 650 to 830. Note that this variation applies to other wattage lamps as well. Even after taking into consideration the minimum allowable lumen maintenance for LED bulbs of 91.8% at 25,000 hours, a product initially rated at 800 lumens would have a worst case lumen output of approximately 735 lumens. Even after 25,000 hours of operation the lumen output of the lamp would far exceed that of commonly available 60W incandescent light bulbs.

Cree recommends a just, fair and equitable alignment of the associated light output ranges to more closely represent that of the incandescent bulbs on the market today. The following table outlines our



recommendations for lumen output ranges and will ensure that the LED bulbs will be as bright as the incandescent bulbs that they are replacing even when taking into account the allowable lumen depreciation of the lamps. The lower end of the lumen range was calculated by taking 90% of the values that are currently recorded in the specification. Leaving the upper end of the range where it is, will ensure that all products already listed on the ENERGY STAR Qualified Products List will not be impacted by this change. This modification will help accelerate the adoption of energy efficient lighting by not forcing manufacturers to increase design costs and at the same time will not compromise or change the user experience. By continuing on the present course, the EPA is increasing costs and thereby slowing adoption, as well as increasing lumen output and power consumption thus limiting potential energy savings.

Rated Wattage of Incandescent Lamp (watts)	Light Output (Lumens)
25	225 - 499
40	405 - 799
60	720 - 1,099
75	990 - 1,599
100	1,440 - 1,999
125	1,800 - 2,549
150	2,295 - 3,000
200	2,700 - 3,999
300	3,600 - 6,000

This proposed change applies only to incandescent lamp equivalency claims and not to the lumen output indicated on the FTC mandated Lighting Facts Labels. These would still clearly state the actual nominal lumen output of the lamp.

SECTION 9 – PHOTOMETRIC PERFORMANCE

Light Output – Directional Lamps (Page 11): In the first two bullet points under the direction category, the draft specification requires that BR30 type lamps that are \leq 50 watts or equal to 65 watts have a light output that is \geq 10x the lamps rated wattage. However, for BR30 products that are rated for 55 or 60 watts, the proposed specification would require that the light output be \geq 11x the lamps rated wattage. Cree believes that this is an oversight and that BR30 type bulbs that are in this range also be required to have a light output \geq 10x the lamps rated wattage. By moving forward with this requirement as written, qualified products that are 60W replacements and have a lumen output of 600 lumens be delisted from the ENERGY STAR qualified product listing. Cree requests that the EPA modify this requirement to allow for these products to remain qualified or provide a clear understanding as to why only products in this narrow range must produce a lumen output of 11x the claimed wattage.



SECTION 10 - LUMEN MAINTENANCE AND RATED LIFE

Lumen Maintenance and Rated Life (Page 17): In the Integral LED Lamps 1.4 specification, directional lamps with wattage < 10 watts are required to be tested in a 25°C environment. The proposed Lamps 1.0 specification requires that these same directional lamps now be tested in an elevated 45°C environment. Notes on a previous draft of the Lamps 1.0 specification justify this by claiming that "...despite consumer education efforts and information on product packaging, consumers often install efficient lighting into applications for which the lamps were not designed, resulting in early failures which leave consumers questioning the value proposition of efficient lighting technologies generally." While we appreciate the stated intention of decreasing the possibility of consumer dissatisfaction, we feel these concerns are very limited due to the fact that these very low power lamps produce little heat. We feel as though this is an over test condition for all sub ten watt lamps regardless of shape and application. Furthermore, the best way for the EPA to decrease consumer dissatisfaction is to cease adding regulation that drives up the costs for manufacturers and prices for consumers. Purchase price for energy efficiency lighting has been shown to be the #1 consumer dissatisfaction item. Also, this change in requirement will require that all directional products < 10 watts that were previously qualified or are in-process of being qualified must go back and complete another 6,000 hours of lifetime testing. This will cause manufacturers to incur additional hardware and testing costs.

As a point of reference, other regulatory bodies that are responsible for issuing safety approvals for LED lamps do not make a distinction between omnidirectional and directional type products. Both lamp types are tested using the same methodology and test conditions in accordance with UL 1993 and are rated accordingly. These low wattage products produce very little heat and the elevated temperature testing will only be adding cost to these products without adding additional value.

Cree strongly recommends that the Lamps V1.0 specification be updated to allow directional lamps that are < 10 watts to be tested in the same environment as the omnidirectional lamps which are producing the same amount of heat and are regularly installed in the same recessed cans. This would be in line with the Integral LED Lamps V1.4 specification. By aligning these requirements, it will also eliminate an area of re-test for products already ENERGY STAR qualified reducing the cost burden of having to retest products.