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Cree Comments on Title 20 15-Day Language

Additional submitted attachment is included below.



Mr. Andrew McAllister Commissioner Docket Unit California Energy Commission Docket No. 15-AAER-6 1516 Ninth Street, MS-4 Sacramento, CA 95814-5512

January 22, 2016

Cree Comments on Small Diameter Directional LED Lamps and General Purpose LED Lamps – 15-Day Express Terms

Dear Commissioner McAllister

Cree welcomes the continued opportunity to participate in the rulemaking process with the CEC, and to provide the attached comments on the Proposed Title 20 recommendations for Small Diameter Directional Lamps and General Purpose LED Lamps.

Cree (Nasdaq: CREE), headquartered in Durham, N.C., is the leading U.S.-based developer and manufacturer of LEDs and LED Lighting products. Cree is leading the widespread adoption of LED lighting making energy-wasting traditional lighting technologies obsolete through the use of energy-efficient, mercury-free LED lighting. Cree is a leading innovator of lighting-class LEDs, LED lighting and semiconductor products for power and radio-frequency (RF) applications.

Cree has been granted over 4,000 US and Foreign patents, and is focused on developing and providing innovative technologies and products to save energy and to provide consumers with a better lighting experience. While LED lighting can easily provide energy savings through more efficient lamps and fixtures, just as important is the need to provide customers with a satisfactory user experience. Cree believes everyone deserves better light, and supports the efforts in California to ensure products sold in the state meet customers' expectations.

Our detailed comments follow, and we welcome the opportunity to contribute to this important effort.

Regards,

Greg Merritt

Vice President, Marketing and Public Affairs

Cree, Inc.

4600 Silicon Drive Durham, N.C. 27703 (919) 407-7836 – office Following are Cree's comments and recommendations on the 15-Day Express Terms for Small Diameter Directional LED Lamps and General Purpose LED Lamps. We address the following items:

- 1. Section 1602 Definitions
- 2. Section 1605.3 State Standards for Non-Federally-Regulated Appliances, (k), (2) C (i)
- 3. Section 1605.3 State Standards for Non-Federally-Regulated Appliances, (k), (2) C (ii)-(iii)
- 4. Section 1605.3 State Standards for Non-Federally-Regulated Appliances, (k), (2) C (vi)
- 5. Section 1605.3 State Standards for Non-Federally-Regulated Appliances, (k), (2) Table K-14
- 6. Section 1607 Marking of Lamps, (B)

Item (1) Section 1602 Definitions

The proposed language in **Section 1602 Definitions** augments the criteria for a "State-regulated small diameter directional lamp" by adding "capable of operating at 12 volts, 24 volts or 120 volts."

Comments: Cree supports the most recent modification of this definition to prevent evasion of the requirements.

Item (2) Section 1605.3 State Standards for Non-Federally-Regulated Appliances, (k), (2) C (i)

The proposed language for color point and color consistency references Table 1 of Annex B of ANSI C78.377-215.

Comments: Cree commends the commission for aligning this requirement with industry practice.

Item (3) Section 1605.3 State Standards for Non-Federally-Regulated Appliances, (k), (2) C (ii)-(iii)

The proposed language requires a minimum CRI of 82 and minimum individual R1-R8 scores of 72.

Comments: Cree supports these requirements, as they will help guarantee that customers will receive lamps that meet their expectations without requiring a CRI minimum of 90. This flexibility will allow manufacturers to adjust lamps to better meet customer preferences.

Item (4) Section 1605.3 State Standards for Non-Federally-Regulated Appliances, (k), (2) C (vi)

The proposed language in **Section C** (vi) for Omnidirectional light distribution requires lamps to meet specifications that are aligned with the recent ENERGY STAR Product Specification for Lamps Version 2.0.

Comments: Cree commends the commission for aligning this requirement with the ENERGY STAR Specification.

Item (5) Section 1605.3 State Standards for Non-Federally-Regulated Appliances (k), (2), Table K-14

The proposed language increases the minimum efficacy from 65 to 68 lumens-per-watt, and also increases the minimum compliance score from 277 to 282.

Comments: The proposed increases in efficacy and the compliance score somewhat counter the benefits of the delay in the implementation date. If the rationale for delaying the effective date was to allow manufacturers time to develop the technology necessary to meet the requirements, then increasing the difficulty of the requirements would argue for additional time.

Cree Recommendation: Use the minimum efficacy and compliance score requirements from the 45-Day language.

Item (6) Section 1607 Marking of Lamps, (B)

The proposed language in (B) requires LED lamps to meet all of the stated requirements before including comparisons to incandescent lamps, but allows reference to wattage equivalence if the lamps meet the specified minimum lumen output.

Comments: Cree commends the commission for adjusting this requirement to allow comparisons to incumbent technologies that will help consumers make informed choices.

Summary

Cree believes that providing GSL and decorative lamp products that meet the proposed standards as of January 1, 2018 is quite possible, and will provide California consumers with the Better Light they deserve.