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29 November, 2016

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

ENERGY STAR Program Guidance Regarding LED Package, LED Array and LED Module Lumen Maintenance Performance Data Supporting Qualification of Lighting Products Comments

Dear Ms. Jantz-Sell:

NICHIA Corporation appreciates the opportunity to provide the attached comments on the subject proposal. These comments are submitted on behalf of NICHIA Corporation.

Editorial

1. Page 3: change from Nichia "183A Series" to Nichia "757G Series"

Series: subcomponents marketed with naming that implies common construction processes and materials, and common performance attributes. Where this is not the case, series-related provisions detailed in this document must not be employed.

Examples illustrating "series":

- Bridgelux "RS Array Series"
- Citizen Electronics "CL-L253E Series"
- Cree XP-G 'series'
- Lumileds LUXEON M 'series'
- Nichia "183A Series"
- OSRAM Opto Semiconductors Golden DRAGON Plus 'series'

2. Page 5: change from LED package to COB LED packages
In section 7, LED package means "COB" LED package. Since, LED package and Chip-on-board (COB) LED packages have their own definitions (page 3), LED package is not appropriate in section 7.
3. Page 8: "item 5.1.e be revised to only" in the Note box 13 should be item 5.1.d ii.

Proposal

4. 3. *Content of LM-80 Test Reports for ENERGY STAR Certification*
 2. *LM-80 test reports must comply with the reporting requirements outlined in IES LM-80-08 and its Addendum A, or in IES LM-80-15, and include each of the items below, except as otherwise detailed in this document or in ENERGY STAR specifications.*
 - h. Average current density per LED die (i.e., mA/mm²); and,*

(Comment)



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Basically, NICHIA agrees EPA's proposal (using current density per LED for LM-80 for COB LED packages). However, the current density per LED die is sensitive information for us because LED die size can figure out by the current density.

Also, the current density information is not a part of LM-80-08, LM-80-15 and TM-21-11 requirements. Since LM-80 report is widely used in the lighting market, various LM-80 report formats in different usage/purpose may cause users' confusion.

If this proposal is fixed and LED manufacturers will need to disclose the current density per LED die to applicants, making a document that can fill out the additional information is preferable. In other words, the LM-80 report should keep complying with LM-80 and TM-21 requirements only.

Additionally, conditions of the current density per LED die need to be clarified or add an example in the guidance.

5. *i. Color Rendering Index (Ra) and R9, or spectral power distribution (SPD) for wavelengths from 380 nm to 780 nm (at a minimum), with an interval not greater than 5 nm.*

(Comment)

Same to the current density per LED die, Ra, R9 and SPD are not part of LM-80-08, LM-80-15 and TM-21-11 requirements. These information should be provided separately from LM-80 report. Conditions of Ra, R9 and SPD need to be clarified or add an example in the guidance.

In addition, some testing labs may not be measured Ra, R9 and SPD, but transition period is only 90 days after the final publication of the guidance.

If a testing lab did not measure them, it is impossible to provide the information after 90 days transition period. Thus, exception is needed in case Ra, R9 and SPD were not measured before the guidance is released.

Thank you for consideration of these comments. We look forward to working with you further on this important project. If you have any questions on these comments, please contact me.

Sincerely,

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

Saori Mitsuhashi
Assistant Manager
LED Lighting Solutions Dept.
Product Development Division
NICHIA Corporation