

## DOCKETED

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## **Lighting**

*Additional submitted attachment is included below.*

March 1, 2018

Submitted via email: [doCKET@energy.ca.gov](mailto:doCKET@energy.ca.gov)

Docket No. 17-BSTD-02

Mr. Andrew McAllister  
Commissioner  
California Energy Commission  
1516 Ninth Street  
Sacramento, California 95814

**45-day Express Terms, 2019 California Code of Regulations Title 24, Part 6, Building Energy Efficiency Standards Rulemaking #17-BSTD-02**

Dear Commissioner McAllister,

Acuity Brands appreciates the opportunity to provide comments regarding the proposed requirements for Title 24 Building Energy Code. Acuity Brands has a long history of working with the Commission and contractors to promote the adoption of the state building code to promote high efficiency lighting installations. We look forward to discussing our comments and working collaboratively on revisions necessary to ensure an effective building code.

Acuity Brands is the leading manufacturer of luminaires and lighting controls in North America. We operate facilities throughout California under the Peerless, Hydrel, Lighting Control & Design and Sunoptics product brands. In addition, our western region manufacturing and distribution center is located in Ontario, CA. The California building code has a direct impact on our investment of nearly 400 California based employees.

Our comments are based on the 45-day express language for the 2019 Standards posted on January 19, 2018, and the CEC staff presentations from the February 5<sup>th</sup> and 6<sup>th</sup> public hearing, and focus primarily on the proposed residential lighting requirements, nonresidential lighting requirements for outdoor lighting sources, demand response provisions, and necessary clarifications for Joint Appendix 8. We also have included recommendations for your consideration.

Please contact me to discuss our comments in more detail.



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## 1. Residential Lighting –

### a. **Correlated Color Temperature (CCT) for integrated LED (inseparable)**

**luminaires** – In our previously docketed comments, we stated that we believed the Commission had erred in its decision to tighten color temperature to 3500K for inseparable luminaires used in habitable spaces which was previously 4000K maximum. We applaud the Commission’s reconsideration of the proposal. The 45-day language as written, will leverage the updated portfolios of JA8 certified inseparable luminaires providing choices for consumer’s preferences.

## 2. Outdoor Light Sources –

- a. **Lighting Power Allowances** - The Commission continues to propose a new set of outdoor lighting power allowance values using LED lighting as the baseline. We support utilizing LED technology as the baseline for the lighting power allowances and believe that the values in Table 140.7-A and Table 140.7-B will be achievable by 2019, however, the values are aggressive, and will restrain design flexibility of applications using **decorative post tops and other luminaire types that have an efficacy handicap due to the dissimilar design criteria and features** from other area lighting products.

**Recommendation:** Include an adjustment factor of 1.2X for installations using decorative and historical post top luminaires, defined as luminaires with open or transmissive sides that are designed to be mounted directly over a pole using a vertical tenon or by fitting the luminaire directly into the pole, and with photometric output measured using Type C photometry per IES LM-75-01.

- b. **Exemption (by wattage/initial lumens) for Cutoff Distribution** - Previously luminaires with wattage less than 150W were exempt from the maximum zonal limits for uplight and glare, and the Commission is proposing to lower the wattage for this exception by limiting the initial lumens of the luminaire to 5500 lumens. In general, “initial lumen” values are not available on luminaires spec sheets or other marketing materials. In some cases, the lumen value of the product is not stated in lieu of providing lumen package option values.

We continue to urge the Commission to review luminaire wattage data for multiple LED luminaire types, specifically decorative post tops, and move forward with an exemption to ensure that the threshold does not eliminate the use of decorative, historical or other specialty type of products from the code. The proposal is a significant % reduction from the previous standard, although LED technology has not yet achieved these levels of reduced energy performance for all outdoor lighting luminaire types.

**Recommendation:** Set the exemption threshold at maximum 70W and 6500 lumens.

- 3. Demand Response** – In Section 110.10(a)(2) for demand response controls, the Commission added a requirement that all demand responsive controls shall be capable of using one or more of the following for communications that occur within the building: Wi-Fi, ZigBee, BACnet, Ethernet, or hard-wiring. Acuity Brands requests that the Commission confirm what is meant by “communications that occur within the building.” Is this requirement meant to define communications between a dedicated VEN and a supervisory controller device (lighting, HVAC, or other), between VEN and Utility DRAS, or other? In the case where distributed digital controls are used, does the communication requirement extend down to communication used between a system controller and its distributed control devices? In the case where a system controller supports functionality of being a VEN, again what is the scope of “communications within the building?” How the demand response signal is propagated or transmitted within a given building system after the internet webservice signal is received by the OpenADR Virtual End Node (VEN) is the decision of the building owner and the manufacturer providing the system. Additionally, the list cited in 110.10(a)(2) is a mix of communication protocols and physical layers and is missing other open communication protocols used in the building industry.

**Recommendation:** Remove clause 110.10(a)(2) due to ambiguity and inconsistent interpretations.

- 4. Joint Appendix JA8** – Lumen Maintenance, Rated Life, and Survival Rate Requirements – In general, we were pleased to see the Commission pointing to industry standards like Energy Star lighting specifications to simplify the language of JA8 and allow manufacturers to leverage testing we already conduct for product qualification. We believe; however, the rewrite still leaves the testing requirements vague, confusing and incomplete for luminaires with integrated sources. We submit the following recommendations:

- a. **JA8.3.5 Lumen Maintenance and Rated Life Tests** – The requirement states that luminaires within the scope of the Energy Star Product Specification for Luminaires V2.0 shall be tested for Rated Life in Section 10 of the Specification. All other light sources shall be tested for Lumen Maintenance and Rated Life as specified in Section 10 of the Energy Star Product Specification for Lamps V2.1, notwithstanding scope.

Not all integrated LED luminaires that fall under the scope of JA8 in Table 150.0.0-A fall under the scope of the Energy Star Luminaires specification. For example, linear pendants and panels are excluded products under the Energy Star specification, but may be JA8 certified to be used in a residential setting, including high-end residences and common areas of multi-family dwellings. These types of products should also be allowed to use the long-established method of determining lumen maintenance and rated life values for the luminaires, i.e. the IES LM-80 test method and TM-21 projections, and not be required to be tested inappropriately to the Energy Star Lamp Specification.

**Recommended revision for JA8.3.5:**

The **Lumen Maintenance and Rated Life** testing for **luminaires** shall be as specified in Section 10 of the Energy Star Product Specification for Luminaires

Version 2.0. All other light sources shall be tested as specified in Section 10 of the Energy Star Product Specification for Lamps Version 2.1, notwithstanding scope.

- b. JA8.4.5 Lumen Maintenance, Rated Life and **Survival Rate** – In the 45-day language, the Commission removed the exception for the Survival Rate requirement previously granted for inseparable luminaires and specifies passing criteria for sample sizes of ten and less than ten.

Typically, Survival Rate testing is conducted concurrently with Lumen Maintenance testing for lamps and light sources on the same set of samples. It is a long-term test, and cannot be simulated using IES LM-80 lumen maintenance data. It is not our belief that the Commission intends to impose an additional 9-month test to determine the Survival Rate for luminaires certified to JA8.

**Recommendation to Reinstate Exception to JA8.4.6:**

Exception to Section JA8.4.6(c): Luminaires evaluated for Lumen Maintenance and Rated Life as specified in the Energy Star Luminaires specification.