

Inter-Office Memo

Government and Industry Relations

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Subject: California Quality LED Lamp Specification (120BSTD-03)

From: Pamela Horner, OSRAM SYLVANIA

To: Owen Howlett, California Energy Commission
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California Energy Commission

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Thank you for the opportunity to comment in person at the recent public meeting regarding the California Quality LED Lamp Specification and to further elaborate with our written comments. OSRAM SYLVANIA generally supports the idea of a quality LED lamp spec to create a higher standard for at least a portion of the CA market and we appreciate the CFL experience that has driven this initiative. We are willing to work with staff to continue to refine the details of the specification.

These OSRAM SYLVANIA comments pertain only to certain parameters that differ from the proposed (draft 2) Energy Star unified lamp specification.

- *CRI 90*: We realize that the bar is set high with a value of 90, requiring more complexity in some designs and a higher price point than lower CRI options; however, knowing that the specification is designed specifically to incentivize higher quality that will undoubtedly have higher initial price points, we support the CRI 90 minimum.
- *R9>0 at 25 and 55°C*. We support this value.
- *4 step MacAdam ellipse at time 0, centered on 2700 or 3000K at both 25 and 55°C*. We support this value.
- *2 MacAdam steps from average, both at 25 and 55°C*. This does require very tight LED binning thereby increasing cost of product for no realistic benefit. We do not support this value.
- *Dimming*. Putting compatibility information for 3 dimmers on the package is not only insufficient – it requires space that is not available. OSI has tested and published data on some lamps with over 40 different dimmers. Data on 3 dimmers would represent a trivial share of the market / installed base. Complete compatibility information should be made available on a web site that is cited on the package. The site could be accessed through in-store kiosks or customer's smartphone directed by QR and/or UPC bar code printed on the package.
- *Power factor ≥ 0.9*. While this likely has no influence on consumer purchasing decisions, it can be an important parameter that discourages lower quality lamps. We support.



- *Extra floodlamp specs.* The California Quality LED Lamp Specification intensity distributions refer to Energy Star, which requires testing on-axis plus at up to 4 more off-axis angles; however, California would additionally require testing these 5 angles in 3 planes (0, 45, and 90 degrees) compared to Energy Star's two planes (0 and 90), plus a monotonic decrease in intensity as you go away from the center beam. These additional testing requirements are overly restrictive and burdensome. We do not support anything beyond Energy Star in this area. Further to that point, we do not even support the current version of the Energy Star reflector lamp specification as it relates to the performance at various angles is so prescriptive as to limit design. We would be willing to work with the CEC to develop a much simpler, less prescriptive set of parameters for reflector lamps that does not include intensity distribution performance limitations.
- *Longevity:* The California Quality LED Lamp specification uses the same distinction made by Energy Star Draft 2 in terms of "commercial" and "residential" products, with two different lifetimes. We do not support making such a distinction, either in showcasing these products to the market or in requiring a different lifetime. We support choosing one single lifetime for this product of 25,000 hours.
- *Warranty:* The warranty should be clear that it means 5 years at 3 hours/day (i.e., 5 x 365 x 3 hours). We also recommend that the complete warranty be allowed to be published on our website, since packaging space is severely limited.

In summary, we are pleased that the Commission is entertaining a specification that is based upon lessons learned from the past with compact fluorescent lamps and that primarily builds upon tests that manufacturers must perform to attain Energy Star qualification. It must be remembered to strike a balance between the desire for quality and the need for practicality, in that if the standards set by California are too rigid, users will find alternative methods to purchase LED lamps (e.g., internet sites and across state borders) that meet their application and budget requirements.

Thank you again for the opportunity to provide comments.



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CC: Dr. Markarand Chipalkatti, Roy Harvey, Ellen Sizemore, Constance Pineault, Phil Rioux