

Tuesday, October 26, 2010

Kichler Lighting

E-STAR version 1.0, DRAFT 2 comments.

- **Page 1-2** - Accent lights definition. By "line voltage directional track heads", is this specifically line voltage into the head, or also including line voltage located remote, with track heads having only the LED source on board? What about remote power supply & driver on the fixture head?
- **Page 15** - Many of the Directional Luminous Efficacy values could be raised slightly by the go-live date if the goal is stay near the "practical" leading edge of the technologies capabilities.
- **Page 10, 17** - For the Light Engine lumen maintenance metrics, can a worst case "in situ" be developed for each light engine or array? Similar to what is done for safety certification which would allow a manufacturer reference their worst case data? This would save large amounts of time, cost, and workload.
- **Page 17** - Option 1 could still be viable long term if some effort was put toward some basic component requirements. Also, this seems so focused on the LED and not enough on the drive electronics.
- **Page 20** - CCT issues obviously need continued work. Even with Directional SSL, any interaction with materials in luminaire can cause some color shift. Is this not also true with fluorescent technology?
- **Page 29** - Still don't understand why residential fluorescent is allowed to have a 0.5PF, and SSL Residential has to be at >0.7 ? If the reasoning published is valid, why burden the incumbent technology?
- **Page 33** - Driver replaceability. Examples of Directional Solid State luminaires that should be exempt include under cabinet modular luminaires, small accent luminaires with integrated drivers. These are often innovative products that are very small and would not be feasible with the additional complexity of making them field serviceable. Often these products are connected to the "system" with a single interconnect, and mounted with one or two screws. Electricians typically charge for time and more often than not in these very small products, simply replacing would take a fraction of time it would to remove, troubleshoot, re-build and re-install. Additionally, the cost of the light engine is easily more than 60 or 70% of the total product cost. In many cases, like small outdoor accent products (currently not included in E-STAR, but another good example) the design of the product is complicated in order to make it field serviceable. The seals and connectors introduce additional failure modes which would likely lead to more failures than a well designed non-serviceable counterpart. It would be simple (and reasonable) to "up" the warranty requirement for products that do not have replaceable drivers. Kichler has been awarded first place twice in the Lighting for Tomorrow competition with products that represent this scenario. Specific product examples can be given upon request.

- **Page 35** - Could a fully loaded, "in-situ" scenario be created for a driver sub-assembly to eliminate redundant testing? This would not be difficult to do.
- **Page 35** - Once again, there needs to be further definition of the Driver temperature verification. At this point, being below the case TMP_c would only prove that the driver is safe, it would not support an L70 of even 20,000 hours. The language "Note: This performance characteristic is separate and distinct from safety requirements." doesn't get it there. There needs to be some requirement for the manufacturer (driver or luminaire) to have test data or specification on the driver what its life expectancy is at the specific TMP_c (even if it must differ from the safety value). What about requiring the driver manufacturer to have component test and spec info available to back it up? It would even be reasonable to require the luminaire manufacturer to be accountable for this. Even though the TMP_c is required for the safety certification, it must serve a dual purpose and represent some sort of documented life claim as well. **This is a significant issue with this specification.....**

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