

Tuesday, May 18, 2010

Kichler Lighting feedback to the EPA for the E-STAR proposed "Draft 1 version 1.0 Specification"

1. Pg. 10 - The split between the "directional and non-directional" definitions is a bit blurry. What about mini-pendant applications with decorative glass? Is this a non-directional or task application? For a decorative non-directional application more than 10% of the lumens may be needed to create a pleasing fixture when illuminated.
2. Pg. 10 - Kichler appreciates the need to be aggressive with the minimum source lumens, but is 850 too high to make the SSL version provide comparable luminaire output for the consumer? This seems like a quick/easy solution was chosen that maybe needs to be broken down just little more by product types. Again, you are using the term luminaire and mixing it with output values of sources (60W incandescent). Not addressing zonal distribution issues won't make them disappear.
3. Pg. 12 - Under cabinet requirement for 25% in the 60-90 degree zone is not practical. LED's are perfect for this application and most do not meet this zonal distribution forcing manufacturers to add expensive optical control and create larger luminaires. Kichler understands the desire to eliminate the "cave effect", but 25% is not needed. Under cabinet lighting is both an ambiance type as well as task type lighting product. Getting as many lumens as possible onto the counter surface where it is needed while putting enough light onto the backsplash is important. This can and has been done effectively without wasting lumens on the backsplash. This seems like some outdated spec from T-8 technology..... Also, this is not a symmetrical situation either. What about the opposing zone off the front of the counter surface? This needs work.
4. Pg. 10-13 - Need clarification for the 70lm/W efficacy being the same for a "light engine" as it is for the entire "inseparable luminaire". This requirement is biased and seems to have motive to push manufacturers to employ off-the-shelf modules (pre-approved light engines) instead of integrating innovative and possibly higher profit generating designs. This efficacy requirement should be adjusted to fairly qualify products based on industry understood "luminaire efficacy" values based on fixture type. A light engine at 70lm/W will not be 70lm/W once installed into a luminaire. Maybe the inseparable luminaires should be some averaged efficacy

based on the empirical data. Just make both measure points fair. Either source efficacy or luminaire.

5. Pg. 17 - While Kichler appreciates the need to validate the L70 for the luminaire system and not just the LED Tj. 6000 hour testing (done multiple times) will clearly affect the number of products developed for, and subsequently submitted for E-STAR certification due to time and cost issues. This needs some serious work. Again, this seems as though it would have an agenda towards promoting the use of off-the-shelf Light Engine modules. There is nothing wrong with modules, just make it equitable for companies that want to engineer their own products. The luminaire losses are there whether a light engine is used or the manufacturer integrates the system. Don't give one approach the advantage.
6. Pg. 18 - The SSL specification is not very clean. Again it seems to be making it easier if you use pre-existing modules. If an OEM places a pre-measured module into a luminaire that has a colored glass decorating it, it could change the resultant light that the consumer has to live with. The consumer does not see this before they purchase in most cases. Other than the potential shift due to running temperature, why is the OEM that chooses to integrate to maximize performance and profit have to prove the luminaire is good, while the module user gets a pass? This needs work as well.
7. Pg. 25 - Why is fluorescent getting by on $>.5$ PF, and SSL has to meet $>.7$?
8. Pg. 12 - The "linear" definition may need work. What about products that are on strings that install onto/into track? For example, Kichler has LED linear that is sold in 15' reels and can (optionally) be installed into cut-able 4' long sections of track. This could be confusing?
9. Pg. 22 - Why is SSL exempt from Start Time limits?
10. Pg. 24 - Kichler also has concerns about the typical quality of an affordable photo-sensing device.
11. Pg. 30 - Is the driver measure point validated anywhere? Is it part of some agency recognition procedure? Is it documented in this process somehow? Who's checking that the driver internals are OK? This could be a major issue.
12. Pg. 33 - What about the other UL/ANSI categories (1838, 2108, etc)?
13. Pg. 29 - "Ballast or drivers in all luminaires must be accessible and removable....." Kichler feels that this should be discussed as there are applications where this is not practical, doesn't make economical sense, and would cause some product to be unnecessarily large. Could language be added that for non-replaceable drivers, the luminaire manufacturer will be required to provide a warranty that covers the life that the product is rated for? In some under cabinet products, the driver is a bare circuit board. The product is not even designed to be opened during installation. Adding connectors and additional complexity often only introduces additional failure modes. In the case of some outdoor Landscape products, the driver is fully potted into the housing to prevent failure due to moisture. In these small size products, the cost of the LED'(s) (or MCCB sub-assembly) and driver/power supply could constitute 70% of the total luminaire cost. Replacement of the entire luminaire would cost the consumer less than a field troubleshoot, strip, and rebuild.

14. Should more attention be paid to "systems" type applications where a shared power supply or driver is used with variable numbers of luminaires? Under cabinet and outdoor landscape lighting are important lighting categories and limiting language to the "luminaire" is not good enough for these systems. The system efficacy values ("at the plug") vary with the number of luminaires installed.

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