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Dear Ms. Jantz-Sell:

Thank you for the opportunity to comment on the launch of the revision process to Luminaires V2.0. The luminaire industry continues to evolve and we are eager to see the updates and provide feedback to simplify and streamline the testing and certification process.

TEST METHODS

We would like to emphasize the importance that any tests that remain in the requirements have defined test methods either by industry publication or clearly defined by the program, similar to the additions that were added to the Lamps program. It is not efficient for the partners to come across differing interpretations or methods among different laboratories where a test method is undefined. This also presents an unnecessary obstacle for the EPA enforcement team during verification testing.

CUSTOMER POINT OF VIEW – POSSIBLE LOWER VALUED TESTS

Tests that commonly pass at a high rate and may not be front facing to a customer's viewpoint are:

- Crest Factor
- Transient
- Minimum Operating Temperature
- Noise (under normal operating conditions)
- Operating Frequency of SSL products (under the current definition of test method)

Electronic ballasts for fluorescent lamps tend to put out a clean output current waveform and rarely fail the crest factor requirement. Pin based fluorescents are a low volume category.

Most products inherently have protection to the low residential joules provided by the 2500Vpk ringwave waveform as they are all electronic based now (this used to be a problem with common 60 Hz core and coil systems or simple resistive systems such as an incandescent lamp but not with the energy efficient products in the current program.)

Most SSL products work well in low temperatures and the definition of proper "operation" is undefined currently in the requirements. Customers in the northern states are aware of the limitations of fluorescent products outdoors in the winter. This test requirement is therefore inefficient.

Noise under normal operating conditions and test method (which is currently undefined and varies among labs) rarely results in audible noise levels with normal residential background levels in place. We do still see some ballasts or drivers buzzing during dimming operation.

Operating frequency of SSL products as defined by a simple light output waveform with no defined procedure does not adequately cover the flicker concerns.





COLOR ANGULAR UNIFORMITY

Intertek supports the expansion of the requirements to 0.006 and would like to see a limit on data points to stop at the beam angle. Testing out to and beyond the field angle is where the noise and higher uncertainty falls, and often is not where the customer is actively using the light source. There is a large round robin currently making its way through the main laboratories that explores the variances in CAU in lower light level conditions that should help define the uncertainties. In a laboratory setting we rarely see the color variations that were initially used to require this test (the colorful streetlight example.) We do feel however with the latest exploration of mixing different color LEDs in products that it should still be monitored in some form.

START TIME

Residential customers use lighting products much differently than commercial customers do. Residential customers tend to cycle their products on and off much more frequently and are more apt to walk into dark areas. A quick start time will continue to be more important to those customers.

Commercial lighting products however are more likely to stay on at some level, and are more likely to need compatibility with controls such as occupancy sensors, dimming, and daylight harvesting. We have received feedback from several driver manufacturers that the additional electronics for compatibility are making it difficult to comply with the one-second-and-fully-lit requirement.

Perhaps the best solution to this is if a product is compatible with any common control features the start time requirement could be eliminated and simply reported for monitoring by the program. If start time stays in the requirement the test method should be defined.

ZONAL LUMEN DENSITY

Customers tend to adjust products to their own needs in the cases of undercabinet lamps, cove lights, and accent lights. Therefore it is unnecessary to regulate the zonal density too tightly. Many outdoor wall mounted luminaires are not symmetrical and do not need to be to safely illuminate a walk area.

While it is important to keep light levels down above 90 degrees, some decorative housing and brackets inadvertently reflect light upwards. A small tolerance should be allowed.

ALLOWED VARIATIONS AND SCALING

Like the Lamps revision, specific tests should be called out for allowed variations. This is helpful to the partners, laboratories, and the certified bodies.

Many tests are already commonly grouped in the laboratory settings for luminaires such as transient, start time on the same platforms, insitu on the worst thermal design, and distribution testing on the worst case optics. Most other small items can easily be checked with a simple sphere test (color chromaticity, lumen output and efficacy, effect of a different optic, etc.)

Scaling by assigning a specific performance number can be done but only by bracketing low and high test results. It is very inaccurate to scale electrical results between two different drivers, or even on the same driver when the load is changed. Most drivers do not act in a linear fashion to make this accurate.

Scaling would be beneficial under **very** controlled conditions or there will be too much variability in interpretations, causing difficulty to the partners and an untested model to possibly fail verification. Therefore



Intertek would rather see a reduction in testing defined within a family rather than scaling where a number is assigned to untested products.

FIXTURES WITH SCREW BASED SOCKETS

It is advantageous to allow this product expansion as long as the product ships with energy efficient lighting. An extra socket label could be added to encourage replacement of the same type of product. If the industry is concerned with relamping with higher wattage lamps a current or wattage limiter requirement could be added which is typical for fan light kits now in other programs.

RETROFITS

Intertek would like to see this category expanded as it is a high demand category for customers. Many "worst case" conditions could be added such as defining a small list of reference fixtures for testing in to meet the requirements.

Intertek looks forward to participating in the future draft revisions and is available to provide additional details and data.

Best regards,

A handwritten signature in black ink that reads "Jacki Swiernik". The signature is written in a cursive, slightly slanted style.

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