

Email received on June 20, 2010 from Craig Wright.

Please find comments from Progress Lighting related to the first draft of the proposed comprehensive Energy Star lighting standard. Send comments/questions to my attention for immediate response. These comments may be shared with other stakeholders to encourage further discussion and collaboration on language.

Thanks!

Product Scope (pg 1)

- Why have exterior bollards, pathway, and steplights been excluded from qualification? These products are currently included in SSL 1.1.
- Further clarification of “portables” is necessary to distinguish between directional and non-directional.
- It is highly recommended that only directional luminaires be fully defined. Anything else would therefore fall into an “others” category with qualification based on the source.

Directional Product Inclusions (pg 2)

- The need to qualify LED downlights based on luminaire efficacy (and absolute photometry) is agreed; however, the requirement to requalify CFL downlights will require extensive testing and possibly redesign to comply. These products have been offered for many years with great success. Most OEM's offer CFL trims that are either identical or substantially similar to incandescent versions. It would not seem practical or necessary to design CFL-centric residential downlight trims given the history of consumer acceptance to date. The fear is that many trims will not be capable of meeting the efficacy requirements (e.g. wet location lensed, wall wash, and finish offerings for all). This will make it very confusing to consumers who simply want to make use of an energy efficient light source. Progress offers photometry on its 3 available wattages (13W, 18W, & 26W) to consumers; however, the availability of this coupled with very good product efficiencies has not swayed consumers from the 26W CFL to lower wattages (26W is 75% of total CFL downlight volume).

Inseparable Luminaires (pg 4)

- It is assumed that the 70lpw requirement for inseparable luminaires is intended to align with that of replacement lamps. Understood this is also a carry over from SSL 1.1 category B.
- LED's present a very unique light source that allows OEM's to design equally unique luminaires. To capture this unique quality, it may be necessary to develop inseparable light engines. 70lpw is extremely high given the current state of SSL technology. While potentially feasible, it will instill significant cost in the product which will limit sales, and will also limit introduction of unique designs.
- While the general definition is understood, a great deal of discussion is necessary to understand how it applies to product qualification. It is generally understood that a “separable” luminaire is one that affords ease of component replacement in the field with typical tools (e.g. a screwdriver). While this may be feasible, is it practical depending on complexity or the number of screws needed to be removed?

Lab Accreditation (pg 7)

- It is recommended that only NVLAP accreditation be required for photometric testing (.ies procedures), and UL/CSA/ETL for thermal/electrical/mechanical testing (UL/CSA procedures). Duplication under Energy Star will complicate things to a significant extent, and will instill unnecessary cost burdens for both manufacturer partners as well as EPA (to manage the program).

Technical Notes (pg 8)

- Bullet [2] states the need for the lab to provide a scope of accreditation including test procedures. This would seem to be unnecessary and a duplication of traditionally practiced and accepted procedures in the lighting industry (i.e. UL/CSA and IES).
- Bullet [3] states that testing must be completed using the specific lamp(s) to be (and/or included) with the luminaire. Why is this necessary given that only lamps on the approved NEMA matrix and built to ANSI design standards are used?
- Bullet [5] states that the QPI must include the specific ballast(s) light to be used in the luminaire. Why is this necessary given that only ballasts on the approved NEMA matrix and built to ANSI design standards are used?

Photometric Performance Requirements – Non-Directional Luminaires (pg 10)

- The requirement for >70lpw efficacy of lamp sources may severely limit qualified lamp availability. MaxLite has indicated that this requirement may immediately eliminate up to 45% of lamps currently qualified for Energy Star. This efficacy requirement will further deplete availability of compliant lower wattage lamps which are commonly used in decorative luminaires (13W or less).

Luminous Efficacy – Directional Luminaires (pg 12 & 13)

- The requirement of 3 complete luminaires for testing will result in significant incremental cost. This will require luminaire manufacturers to produce 3X prototypes at 3X cost, and will/may result in extended lead times for qualification. How does testing 3 luminaires result in greater accuracy in determining overall performance? Accredited labs must meet specific tolerances for testing, so there will be very limited variance in data between tests. Additionally, product samples will most likely include components manufactured in the same production run, and will provide very small variations in performance.
- Lumen requirements for exterior post-tops are not necessary. This data is very rarely requested in the industry as these luminaires are most often installed for aesthetics rather than optical performance. Inclusion of the requirement for full cutoff is a duplication of the Dark Sky program which is widely accepted in the industry by manufacturers, retailers, utilities, and end users. It is therefore recommended that the standard only require that the product be qualified as compliant to Dark Sky criteria for full cutoff.

Lumen Maintenance – Technical Notes (pg 17)

- It is understood that EPA strongly recommends requiring option 2 (luminaire testing) to convey maintenance of the entire luminaire. While the technical nature is understood and accepted, much more evaluation is necessary related to general test procedures, costs, impact on product qualification time frame, etc, is necessary prior to implementation. There is a technical committee that is evaluating requirements for power supplies concurrently with development of these standards. The details of this committee need to be fully conveyed to lighting partners to assess the need for limiting maintenance testing to option 2 only.
- Related to the above, has EPA collected data on fluorescent ballasts and deemed that hot spot testing in luminaires is insufficient to guarantee life expectancy in the application? What is the overall driving factor leading to consideration of testing complete SSL luminaires that differentiates reliability from fluorescent?
- The greatest impact that option 2 may present is time-to-market and availability of qualified products. LED manufacturers often begin LM-80 testing prior to disclosure of new designs to luminaire manufacturers. At the point of disclosure, luminaire manufacturers will then begin the ideation process for luminaire development (then prototypes, then testing). It is strongly advised that EPA evaluate the typical time gap between when chip manufacturers start LM-80 testing and when luminaire manufacturers may begin product testing. This gap is expected to be several months which may result in components no longer being viable by the time the luminaires are qualified.

- It is advised the EPA investigate the feasibility of fixture OEM's making necessary equipment, personnel, and procedural plans to comply with testing SSL luminaires per option 2. How long did it take to get LM-80 published (2.5 years?)?
- It is strongly encouraged that EPA consider the publishing of TM-21 as well as a standard to test non-directional luminaires/engines in conjunction with the effectivity of the comprehensive standard as well as the planned sunsets of the current standards.

CCT Limitations (pg 18)

- Exterior site/area/street lighting often is specified with 5000 or 5500 CCT sources. The limitation of 4100K CCT for Energy Star qualification will therefore exclude some products from qualification regardless of consumer preferences. It is strongly encouraged that EPA engages end users, architects, LEED authorities, etc. to garner voice-of-the-customer on this subject.

Lamp Shipment Requirements (pg 21)

- What technical information does EPA have that it can disclose to partners that would indicate the necessity to ship lamps with luminaires?
- Products are tested and labeled for use with only lamps (and ballasts) that are on the approved NEMA matrix, and are compliant to applicable ANSI design/manufacturing standards. Most (if not all) lamps commonly available in retail and wholesale distribution are compliant to ANSI standards, so there would appear to be little risk associated with allowing consumers to select and purchase the lamps they desire to be used with the luminaires.
- End users may have differing lamp requirements depending on the application (commercial or residential). Requiring OEM partners to ship lamps with luminaires while also meeting the varying demands of customers, will require them to stock several different sku's that differ only in the lamps included in the box. This will result in sku duplication and will incur significantly higher costs (and prices) that will slow the incremental growth of Energy Star qualified luminaires.
- Today, end users have several options related to fluorescent lamps. These include CCT, CRI, wattages (GU24 primarily), and dimmability (GU24 primarily). Again, to comply with Energy Star's requirement of including lamps, OEM's will be forced to extend duplicated sku offerings. Why should Energy Star and OEM's dictate the lamps that end users should use? Allowing end users to select ANSI/Estr lamps will enhance the overall product offering, reduce costs and market prices, and will allow end users to take advantage of the wide offering of lamps at their disposal.
- Energy Star qualified luminaires are becoming ever more popular in commercial applications as well. Often, lamps and luminaires are purchased by different groups/sub-contractors with separate budgets. For these types of projects, the luminaire buying groups do not want to incur the cost of lamps.
- Also, market level pricing is greatly impacted due to costs and subsequent price mark-ups. This only detracts from incremental sales opportunities due to inflated luminaire costs. For example, a \$2 lamp cost to the luminaire manufacturer may result in a \$12 price adder at the retail level.
- Exterior luminaires will not easily accommodate inclusion of lamps. Significant effort will be required to evaluate and redesign packaging as needed. Further, Progress has very little information from the field indicating that lamps are desired to be shipped with these products. Again, doing so will unnecessarily inflate the overall market price levels for the products.
- Please consider the following installation time line for recessed downlights. There is significant concern that electrical contractors will not accept lamps being shipped with the cans as it requires them to store them until they are actually needed. It is strongly recommended that EPA further investigate the requirements for and overall feasibility of shipping lamps with recessed as well as any other products based on comments above.
 1. Cans are installed by the electrical contractor during rough-in construction.

2. Drywall is installed (i.e. ceiling is put up).
3. Ceilings are painted.
4. Electrical contractor returns to install the trims (sold and shipped separately) and now the lamps.

Lampholder Requirements (pg 23)

- In commercial applications, customers often request that luminaires be labeled for use with reduced wattage lamps (e.g. luminaire capable of use with 42W CFL but labeled for 32W max). This is done to comply with requirements for lighting power densities.
- Related to the above, OEM's often offer products with ballasts capable of operating lamps at higher wattages than the luminaire is designed to accommodate. This is done to limit the number of ballasts used in manufacturing.
- There is a potential issue with the requirement of lampholders operating wattages in accordance to the capabilities of the ballast. Often, ballasts that can operate 26, 32, and 42W CFL's are used with lampholders that are limited to 26 and 32W. It is recommended that EPA investigate the potential to allow compliance only through labeling which is the commonly practiced method in the industry.

Photosensors (pg 24)

- Progress Lighting is in full support of removing this requirement from the standard. Consumer trends are moving towards CA Title24 compliance which does not require the inclusion of photocells. This is due to significant nuisance cycling at the application.

Power Factor (pg 25)

- Canada now requires that self-ballasted lamps include high power factor ballasts. It is strongly encouraged that EPA evaluate how Estr Canada will differ with the US standard; however, Progress is not advocating that HPF ballasts be required in the US.

Label/Packaging Requirements (pg 34)

- For products shipped without lamps, why is it necessary to specify a specific CCT? It should only be necessary to advise the end user to use lamps that are within the Energy Star criterion (i.e. <4100K). What data does EPA have that it can share that would indicate the importance of specifying CCT on the product? It is assumed that as long as an ANSI lamp designation is specified, that CCT should not be necessary as it has no bearing on overall performance. Including CCT on the packaging would publicize limitations of available lamps to customers.

Warranty (pg 36)

- Why is it necessary to differentiate warranty periods between GX24 and GU24, and separable and inseparable LED luminaires?
- A typical life span for GX24 ballasts is 24K hours. The proposed 3 year requirement is over 26K hours of continuous operation. Only one supplier to Progress has thus far acknowledged intent to comply via redesign and production transition. At the product level, this will require significant effort to include compliant ballasts as well as transition inventory of finished goods. Overall, this requirement could limit availability of compliant ballasts, and could impact overall product cost.
- Further to the above, there has been no indication from the field that a 3 year warranty on existing Energy Star fluorescent luminaires is required by customers; however, LED products are required by the markets to include a 3-5 year warranty depending on type and application.
- How does EPA intend to handle the NEMA matrix of approved ballasts during the transition period between RLF 4.2 and the comprehensive standard?
- Please advise that the 2 year warranty for replaceable LED light engines is for "separable" SSL luminaires.

Standards Sunsets

- The plans to obsolete SSL 1.1 and RLF 4.2 in favor of the new comprehensive standards need to be discussed during the stakeholder period. There are many proposed changes that will take significant time and effort to transition to the comprehensive standard (e.g. option 2 for SSL maintenance, 3 year GX24 ballast/fixture warranty, lamps-included for exterior requiring packaging redesign, etc).
- It is recommended that EPA consider the typical milestones and literature cycles for traditional residential fixture OEM's. Product launches are centered primarily around January to coincide with Dallast lighting market (June often includes interim, minor introductions). Printed literature is typically revised and published on a 2 year cycle again coinciding with January lighting market, and is a requirement for overall product success in the residential lighting markets.
- If the comprehensive standard is scheduled for effectivity in June 2011, then it is strongly recommended that EPA consider a 1 year sunset on the current standards once the comprehensive standards becomes effective. Given that the comprehensive standard is scheduled for publishing in Sept. 2010, a June 2011 effectivity would only afford manufacturers 9 months to comply with all of the new requirements.

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