



## **Energy Star Luminaires Version 1.0 Draft 2**

Juno Lighting Group appreciates the opportunity to offer comments on the Energy Star Luminaires Version 1.0 second draft as an individual company and as part of NEMA. Thank you for your efforts to bring the Energy Star program for lighting to the next level. Our comments are as follows:

### **Definitions: Inseparable SSL Luminaires Page 4**

When viewing a recessed downlight, SSL retro-fits and the terms separable versus inseparable, there is a concern that the retro-fits are being qualified with the same performance requirements as separable luminaires when the individual components cannot be replaced thus requiring that the entire retro-fit assembly would need to be replaced. If this is allowed then there should also be an allowance for a complete downlight luminaire where the light engine (LED, driver, optic, etc.) can be replaced as an assembly where the individual components of the assembly cannot be upgraded individually.

### **Product qualification Page 7:**

We feel that the term “thermal management components” is left open for interpretation and therefore will be a point of inconsistent application at the Certification Body level. Therefore we would like to see the referenced thermal management components defined in more detail with specific examples of what is included and excluded.

### **Measurement Tolerances Page 8:**

Tolerances should also be published in the manufacturer’s guide as well as being supplied to the Certification Bodies.

## **Luminous Efficacy, Output and Zonal Lumen Density Requirements: DIRECTIONAL RESIDENTIAL Luminaires**

### **Pages 12&13:**

It is our understanding that verification testing allows a -5% tolerance to the specification, the manufacturers guide allows -10% on luminaire minimum light output and -3% on luminaire efficacy to allow for variations in manufacturing at the supply chain, final assembly and to cover test lab variations. We feel that these same tolerance should be allowed during the initial submittal when worst case scenarios are considered. These tolerances should be applied to all applicable requirements including Luminaire Efficacy, Luminaire Minimum Light Output and Zonal Lumen Density Requirements. This would allow for nominal specifications to exceed the stated minimum requirements without resulting in over specified and thus more costly products which would negatively drive Energy Star products. We feel this should be a general requirement versus stating the tolerance at each specification to eliminate undue confusion in the specification. This needs to be clearly defined to ensure that all Certification Bodies apply the same requirement equally across the board to all manufacturers thus not allowing an unfair advantage to any manufacturer regardless of which CB they happen to utilize.

Specifically regarding Undercabinet luminaires we disagree with any zonal requirements as it restricts usage to normalized applications and does not allow flexibility for unique or special uses. In addition it restricts aesthetics and light source regression solely for zonal light levels and not necessarily luminaire efficacy.

### **Color Angular Uniformity Requirements: Directional Solid state Indoor Luminaires Only**

We agree that proposed requirement would only address the most obvious deficiencies. This testing through third party sources has been quoted at nearly \$2000 per test. This expense seems unnecessary unless the fixture has obvious color uniformity issues when viewed in typical luminaire applications. Therefore we recommend that this testing only be required when these obvious deficiencies are observed. An alternative evaluation could be a self certified review of CCT within the useful lighting zone of the luminaire with a +/-100 CCT variation allowed. This would give a solid indication whether a luminaire has color uniformity issues and avoid unnecessary costs to qualify an Energy Star luminaire. Ultimately the cost to qualify a luminaire as Energy Star must be controlled or sales price variation between Energy Star products and non Energy Star products will expand thus driving consumers away from Energy Star qualified products.

## **Lamp Shipment Requirements: Directional and Non-Directional Luminaires Page 23:**

We understand the EPA's desire to have manufacturers include a lamp that is known to meet the Program Requirements for Luminaires and not allow the consumer to select something that does not meet those requirements. However, as in the Program Requirements for RLF, the lamp types can be identified in detail on the packaging. There are several reasons not to ship a lamp with these recessed fluorescent downlight products:

- \* Good quality lamps that are identified in the NEMA matrix and described on the packaging are readily available.

- \* Many recessed fluorescent luminaires are capable of accepting multiple lamp wattages as well as Energy Star acceptable Correlated Color Temperatures. To ship with one specific lamp would turn one SKU into many SKU's. There is also the lamp vendor issue, where some customers are under contract to use one certain lamp vendor while other customers are required or prefer to use another. This too drives SKU's up, therefore inventory goes up and inevitably cost which provides no value added.

- \* Finally, in shipping CFL lamps that contain mercury, there is that likelihood that a certain percentage of lamps will break in shipment and/or handling. This not only poses a liable hazard to the customer, it also puts the customer in a worse situation than if that customer knew lamps were required in the first place (i.e. while they were still at a location to purchase the lamp separately).

It is highly recommended that the exceptions from the Program Requirements for RLF be carried over into these Program Requirements.

Lamp Shipment exception: 1. Recessed downlight fixtures and recessed downlight retrofit kits.

## **Source Replaceability Requirements: Directional and Non-Directional Luminaires Page 26:**

We disagree with the requirement that a lamp base must accommodate all applicable wattages that a given ballast can support. Often times a universal wattage ballast is used in a dedicated wattage luminaire. This is done for various economic, manufacturing and agency approval reasons. To require that the lampholder accommodate all wattages is overbearing and will generate other interchangeability issues dependent upon the product type. As long as the Energy Star performance are met we don't see why this should be a requirement. We recommend removing this requirement.

## **Dimming Requirements: All Luminaires Marketed as Dimmable Page 27:**

The term “smooth dimming” is in need of further definition as it can be interpreted to mean different things. We feel that the dimming function also needs to be continuous through the dimmer function to ensure a quality user experience. Therefore we recommend changing the term to read “smooth and continuous dimming”

**Operating Frequency Requirements: Directional and Non-Directional Luminaires Page 32:**

The term “visible flicker” requires additional definition as it is very subjective. Our experience is that what is visible flicker to one individual is not visible to another. Until such time that a standard is available to measure flicker, changing the term to read “readily visible flicker” will help resolve the ambiguity of this requirement.

**Electromagnetic and Radio Frequency Interference Requirements: Directional and Non-Directional Luminaires Page 34:**

We feel that products marked as dimmable should meet this specification throughout their dimming range.

**Thermal Performance Requirements Page 35:**

In the fluorescent section additional language is needed under Passing Test “...manufacturer shall be lower **or equal to** the manufacturer recommended maximum”.

**Minimum Operating Temperature Requirements: Directional and Non-Directional Outdoor Luminaires (Exemption: Indoor Luminaires) Page 36:**

Many indoor luminaires (especially recessed downlights) have damp and/or wet location approvals for covered ceiling applications. These luminaires can and are installed in exterior soffits and overhangs which are outdoor applications however their temperature exposure is reduced due to their installation limitations (covered ceilings). Many of the ballasts used in these fixtures are rated to 0°F (-18°C). The draft 2 requirements are -20°C min operating temp (outdoor). To eliminate the need to re-rate these ballast to -20°C it is recommended that the requirement be changed to -18°C.

Page 36, Minimum Operating Temperature Requirements (all source types) should read: “Luminaire shall have a minimum operating temperature of -18°C or below. “

**Safety Requirements Page 38:**

We suggest that the demonstration of compliance with the ANSI/UL standard is unnecessary. The NEC already requires that all luminaires be Listed. Waiting on the Listing of the product for demonstrating

compliance is an unnecessary delay in the qualification of a product under the Energy Star program when both these applications can occur simultaneously.

Source Type	Energy Star Requirements	Methods of Measurement and/or Reference Standard	Supplemental Testing Guidance
	_____ Compliance with ANSI/UL 153-2002	ANSI/UL 153-2002	<del>None.</del> No supplemental documentation required.

Source Type	Energy Star Requirements	Methods of Measurement and/or Reference Standard	Supplemental Testing Guidance
	_____ Compliance with ANSI/UL 1598-2008	ANSI/UL 1598-2008	<del>None.</del> No supplemental documentation required.

Demonstrate  
**Product Labeling and Packaging Requirements Page 40:**

See comment under page 23 for luminaires shipped with lamps. Also, the dimming capability and compatibility labeling requirement would be difficult to keep current with new dimming products and technology and result in obsolete markings as this compatibility list continues to expand as we continually evaluate dimmers. Therefore a basic statement on capability and instructions to visit the manufacturers website for full details on compatibility is a much more maintainable and realistic approach to keep information up to date.

Demonstrate  
 If you should have any comments, questions or concerns regarding the above comments please feel free to contact me to discuss.

Thanks for your consideration

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