

# Cordelia Energy Star Comments

1. Regarding non-directional luminaires, eliminate source photometry for the following reasons;
  - A. Customers care about what comes out of the luminaire, not what's inside it.
  - B. According to the current requirements, I can get E\* on a luminaire that emits zero lumens as long as it has a 800 lumen source at 65 lm/w
  - C. Some retailers are requiring us to state source lumens and include lighting facts (luminaire lumens) on packaging which is confusing customers since luminaire lumens are usually about 30% lower than source
  - D. Retailers are advertising products online using source lumens instead of luminaire lumens
  - E. It is common knowledge that a 60 watt incandescent lamp produces about 800 lumens. Retailers are demanding that our SSL replacements of 60 watt incandescent luminaires deliver 800 lumens neglecting the fact that when you put a 60 watt incandescent lamp in a luminaire, you can lose up to 50% from source lumens. The same applies to luminaires that use multiples of 60 watt incandescent lamps
  - F. Testing for source photometry is expensive since three sphere tests are required

## Recommendations:

1. Use luminaire photometry
2. Luminaire minimum lumen requirement is to be based on test results of the luminaire using the traditional incandescent source, so for example, if we have an 11" surface-mounted luminaire with a single 60 watt incandescent lamp, the luminaire lumen maybe as low as 500 lumens, so the SSL requirement should then be 500 lumens for this type and size of luminaire. For efficacy, we suggest to use 20% of incandescent wattage, so in this case 12 watts, 42 lm/w or use 45 lm/w. Larger luminaires use two or more 60 watt lamps, so the lumens requirements would be adjusted based on the traditional number of lamps in such luminaires.
3. Use the same method in # 2 for all non-directional type luminaires
2. We need to clearly define and distinguish between the requirement for track luminaires (heads permanently fixed) and track heads
3. For outdoor porch lanterns, a product can currently qualify through 4 methods. Directional, non-directional, inseparable, and based on wall/post family. We should have only one clearly defined method for qualification. We suggest keeping the existing directional method only and strictly enforcing the no lumens above 90 degrees requirement. This will require significant changes to the existing traditional designs, so the industry would need time to come up with lamp cages/covers designs that do not emit light above 90 degrees. This requirement should apply to new products. Existing qualified product should not be disqualified.
4. An L70 of 50,000 hours should be the minimum for any product that claims a 5 year warranty. For those products which claim a 3 year warranty the L70 needs to be 27,000 hours minimum and for those products with a 2 year warranty the L70 needs to be 18,000 hours.
5. 90 minimum CRI for indoor residential recessed downlights and retrofit trims is recommended.
6. Increasing efficacy should not impact the quality of light; those products with High R9 values should have an alternate efficacy standard so that they are not penalized.

7. With regards to recessed downlights and retrofits, there are many products in the market with lumen output of 575-700+ and they all claim to replace a 65 watt BR30. Can the requirements be updated to specifically call out the lumen requirements of the 65watt BR30 replacement lamp?
8. LED's costs have dropped; 25,000+ hours is not needed to justify the purchase of a new LED product. As mentioned above, life can be scaled to match the warranty. If the market pricing can be dropped to win more market adoption by lowering life, mainly based on the driver life, then it supports the goal of lowering energy costs.
9. The recent trend in retail is more lumens for less money with little regard to glare. The candela needs to have a maximum value in the zones above 45 degrees except for outdoor area lights. Rather than limiting this to a percentage of the light, the maximum candela per square meter needs to be set to prevent the glare issues that were associated with the early CFL products. Specialty fixtures such as asymmetric products or wall wash products could have exceptions provided that the instructions and packaging clearly state the directional nature of the product. This should be reviewed as a group to get a consensus opinion on the values.
10. For scaling fixtures for Energy Star, using a worst case scenario, the driver load must be taken into consideration. Most drivers are tested at 85-100% of load to hit their target efficiency goals. Drivers used in the scaled down fixtures should be sized appropriately to maintain the fixture's stated efficacy.