

1. What, if any, other adjustments should be considered for the color angular uniformity requirement for directional luminaires?

WE AGREE WITH IDEA OF REVISING THE REQUIREMENT THAT THE VARIATION OF CHROMATICITY BE WITHIN 0.006 FROM THE WEIGHTED AVERAGE POINT ON THE CIE 1976 (U',V') DIAGRAM AND ONLY LOOK AT THE AREA OF INTEREST, THE BEAM.

2. Which additional zonal lumen density requirements, if any are necessary for cove lighting, under cabinet lighting, downlighting or accent lighting?

MAYBE TOO LATE, BUT WE HAVE NOTICED THAT THE ZONAL LUMEN DENSITY REQUIREMENT FOR **PORTABLE LUMINAIRES** FORCES US TO RECESS THE LIGHTSOURCE AND LOSE LUMEN OUTPUT IN ORDER TO KEEP THE MAJORITY OF LUMEN OUTPUT IN 0-60 ZONE. PROTOTYPES WE HAVE TESTED WITH A WIDER BEAM SPREAD APPEAR TO DO A GREAT JOB OF ILLUMINATING THE WORKSPACE EFFICIENTLY, AND WE ARE NOT PERCEIVING A VISUAL BENEFIT OF THE NARROWER REQUIREMENT.

QUOTING JAY LEGGET OF LIGHTING DESIGN SOLUTIONS, LLC, *"THE ENERGY STAR CRITERIA TO REQUIRE THE MAJORITY OF THE PRODUCED LUMENS IN THE 0-60 DEGREE CATEGORY CERTAINLY MAKES SENSE FOR LAMPS AIMED AT THE GROUND OR OBJECTS ON A WALL 6-8 FEET AWAY, BUT CERTAINLY DOESN'T APPLY TO A DESK LAMP 16 INCHES ABOVE A TASK SURFACE. TASK LAMPS (LAMPS USED WITHIN DISTANCES OF LESS THAN 36 INCHES) SHOULD HAVE A SEPARATE CRITERIA THAT APPLIES TO THEIR SPECIFIC FUNCTION, WHICH IS SPREADING THE ILLUMINATION OVER A MUCH WIDER AREA THAN THE 0-60 DEGREE RANGE."*

3. In order to allow for scaling based on worst-case, the primary consideration would be power density of the fixture and the light source. Are there other considerations that need to be evaluated?
4. Are there additional testing considerations for scaling directional luminaires outside of a simple integrating sphere test?
5. What additional or alternate approaches that work with EPA's third party certification scheme for allowable variations should be considered to help reduce testing costs?
6. Do stakeholders have any additional suggestions for simplifying or reformatting the specification to improve the clarity and ease of use?

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