

From: Ocano, Quata [mailto:quata.ocano@ledengin.com]
Sent: Thursday, February 26, 2009 3:05 PM
To: richard.karney@ee.doe.gov; SSL
Cc: Livschitz Leonard; Tahmassebi David; Yan Xiantao; susan@ledengin.com
Subject: LedEngin Submitted Comments for Energy Star Program for Integral LED Lamps

Dear Richard,

Please find below the comments from LedEngin on
ENERGY STAR[®] Program Requirements for
Integral LED Lamps
DRAFT 1-16-09

Pg 5, Directional Lamp Requirements
MR16, PAR16, PAR20, PAR30S, PAR30L, PAR38

Comment #1:
Minimum luminous efficacy:
Current proposal: 45 lumens per watt

Comment: It is our opinion that **lumens per watt** is not an accurate measure for directional lamps delivering light in accent or spot applications typical of MR16 lamps. Several LED solutions can meet the lumens per watt and minimum lumens requirement and still not deliver an acceptable Lux or candela at the targeted area. This leads to a poor perception of LED replacements for MR16 and other directional lamps. We believe that **foot-candles/watt** or **Lux/watt** are more appropriate. We recommend Maximum Beam Candle Power (MBCP) / Watt.

Example from LedEngin product family

MR16 replacement

Lumens: 240

Power consumption: 6.5 watts

Calculated efficacy: 37 lm/w

However

MBCP: 1200 candela (better than 20W halogen calculated)

MBCP / watt: 184 cd/w – this value can be as much as twice the value of other LED solutions which “meet” current proposed efficacy standards

Comment #2:
Minimum luminous efficacy:
Current: 45 lm/w

If the efficiency units remain lumens / watt; we believe that 45 lm/w is too high for MR16 applications. We recommend 35 – 40 l lm/w.

Pg 6: Luminous intensity distribution

Comment #3:

Add beam uniformity specifications to prevent significant hot spots or dark rings within the beam angle; measuring gradient across the beam.

Regards,

Quata Ocano

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