

Good day to you !

We would like to share our comments with reference to ENERGY STAR Lamps Second Draft.

1. We have been developing a series of LED BR reflectors that will replace the incandescent BR30 the mostly widely used residential indoor floodlight, as well as BR40 and R20.

These BR30 incandescent lamps make up 85% of the indoor reflector bulbs used in residential applications. Halogen Par makes up the other 15% .

LED Par is suitable for commercial applications, outside applications and indoor applications that are beam spread specific. BR LED is the most suitable replacement for incandescent indoor reflectors not LED PAR. The cost of the PAR is 40% higher than BR and does not replace the incandescent as well as BR.

Incandescent BR lamps have a wider beam angle and wider light distribution thus LED BR is the proper choice as opposed to LED Par . The standard should encourage the quick adoption of the most suitable LED replacement for a incandescent BR lamp due to its popularity in American homes. Therefore, R and BR LED lamps should not be required to meet the ES definition on directional lamps started; "The light output in the 120-degree angle must be at least 80% of total light output". Since the LED bulb that best replaces a Incandescent BR30/40 is LED BR not PAR.

2. Lamp Labeling Requirements (model number)

The current ES CFL and LED Lamp specs do **not** require lamp model number to be printed on the lamp as will appear on the ES Qualifying product list.

The draft requires that lamp model number to be printed on the lamp as will appear on the ES Qualifying product list.

We think that this new labeling requirement in the draft should be removed for the following reasons:

As per UL requirements, a product's UL model needs to be printed on the lamp. Since color temperatures and packaging types do not affect product safety, a product's

UL model usually does not show color temperatures and packaging types. For example, the UL model of CFL mini spiral 13W is 13W/MS. 13W/MS needs to be printed on the lamp

and it can represent any color temperature and packaging type such as 1-pack (a color box holds one lamp),2-pack (a color box holds two lamps), 3-packs, and etc.

If it is a 2700K lamp, we print 13W/MS 2700K on the lamp. Here 2700K is not part of the model.

A product's Energy Star model number usually shows color temperature and packaging type. For example, if it is CFL mini spiral 13W 2700K 1-pack, the product's ES model number is 13W/MS/27K/1. If it is CFL mini spiral 13W 2700K 2-pack, the product's ES model is 13W/MS/27K/2. If it is CFL mini spiral 13W 4100K 3-pack, the product's ES model number is 13W/MS/41K/3.

Therefore, if the new labeling requirement in the draft becomes effective, then we will need to print both UL model and ES model on the lamp. Both models look similar, but not the same.

It will create confusion. In addition, a lamp's base has limited space and does not have enough room to print two models. Finally, supposed that we have an order to produce CFL mini spiral 2700K in 1-pack, 2-pack, and 3-pack the same time. They are the same lamp with different packaging types (1-pack, 2-pack, 3-pack). When workers pick up a lamp and put it into the

color box, they will need to look at the ES model number printed on the lamp first. If the printed ES model is 13W/MS/27K/1, then the lamp goes into 1-pack color box. If the printed ES model is 13W/MS/27K/2, then the lamp goes into the 2-pack color box. This will greatly slow down the packaging process and will be easy to be mixed up (for example, 13W/MS/27K/1 goes into a 2-pack color box).

Therefore, this new labeling requirement in the draft should be **removed**. A product's ES model number should only appear on the packaging as specified in the current ES CFL and LED Lamp Specs.

3. CFL Run-up time

The draft requires that covered CFL lamps reach 100% stabilized light output in 90 seconds, and bare CFL lamps reach 100% stabilized light output in 60 seconds.

The run-up time requirement is too high. Technically, some lamps will not be able to meet the new requirement. The new requirement is higher than the current European run-up time requirement and future European run-up time requirement. Below are the current European run-up time requirement and future European run-up time requirement:

Current European run-up time requirement:

Covered lamps reach 60% stabilized light output in 120 seconds
Bare lamps reach 60% stabilized light output in 60 seconds.

Future European run-up time requirement (effective Sept.1, 2013):

Covered lamps reach 60% stabilized light output in 100 seconds;
Bare lamps reach 60% stabilized light output in 40 seconds.

We think that the new CFL run-up time requirement should be revised to be the same as the European requirement.

4. Rapid cycle stress requirement for CFL

The new requirement requires that lamps survive cycling once per hour of rated life. LED lamps have no problem meeting the new rapid cycle stress requirement.

For CFL with 10,000-hour life, the new requirement means that lamps should survive 10,000 cycles. For CFL lamps with lower wattages such as the most popular mini spiral 13W lamps, to meet the new requirement, manufacturers will have to add a component called "PTC (a thermal resistor) to the ballast.

The addition of the PTC will increase the lamp cost. In addition, PTC consumes electricity. This will result in lamps having a lower lumen per watt (efficacy).

Furthermore, with PTC, lamps will not start instantly when being switched on. Lamps will start after about 600 milli-seconds after being switched on. This is called pre-heat start. Consumers will not like this feature. Without PTC, lamps will start instantly after being switched on. This is so called "instant-on" or "instant start" which is a feature consumers like.

Finally, with the addition of PTC, manufacturers will need to change the filament type from filaments with low resistance values to filaments with high resistance values.

Filaments with high resistance values will consume more electricity than filaments with low resistance values. This will further reduce a lamp's lumen per watt (efficacy).

Therefore, we suggest that for all CFL lamps (or CFL lamps with wattages less than 18W), the requirement be revised to "lamps survive cycling once **per two hours** of rated life.

5. GU24 lamps

At present, GU24 lamps are covered under "Luminaries Specification" and "CFL Specification / LED Lamp Specification/ upcoming Lamp Specifications". This results in GU24 lamps having to be tested twice under "Luminaries Specification" and upcoming Lamp Specification, respectively. Could Energy Star only makes one standard for GU24 lamps to reduce manufacturers'

testing burden ? In addition, "Luminaries Specification" and upcoming Lamp Specification have different requirements on packaging's. This means people have to have two different sets of packaging's for GU24 lamps.

Best Regards



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