

November 12, 2014

U.S. Environmental Protection Agency

Energy Star Program

Attn: Ms., Taylor Jantz-Sell

Re: Responses to Proposed Change to be incorporated into Luminaires 2.0

Dear Ms. Jantz-Sell,

Good Earth Lighting appreciates the opportunity to comment on the proposed changes which may be included in the Energy Star Luminaires V2.0 Specification Document. The proposed changes are positive, streamlining and simplifying the requirements while maintaining the integrity of the Energy Star goals. There are, however, three areas we feel the proposed changes could actually result in decreased savings or even loss of achieved energy savings over time. Below is our executive summary and detailed discussion of these issues:

EXECUTIVE SUMMARY of Good Earth's position on the three areas with the proposed changes:

1. Changes to Efficacy Levels – Accent Lights and Under Cabinet Lights

Good Earth suggests raising the efficacy of Under Cabinet lights from 29LPW to 40LPW, Accent lights from 35LPW to 45LPW in order to meet consumer aesthetic demands.

2. Changes to Product Category Scope - Elimination of the "Without Lamps" Category for Linear Luminaires.

Good Earth suggests the "Without Lamps" category be maintained for applications such as linear fluorescent where including the lamps in the luminaire packaging has proven ineffective in the past.

3. Light Source Flexibility – a certification path allowing Energy Star Certified Luminaires to ship with medium (screw) base certified LED lamps.

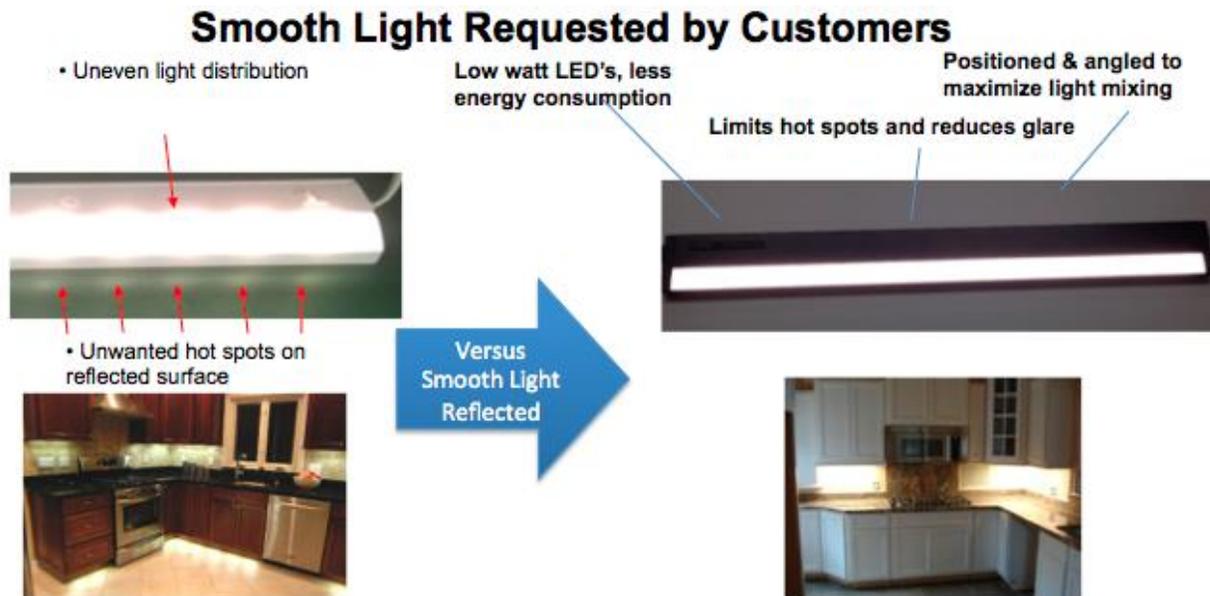
Good Earth does not support allowing any light source socket mounting which would allow legacy light sources of low efficacy or thermal/electrical performance to be used as a replacement light source.

DETAIL DISCUSSION on Good Earth's reasoning behind our positions:

1. Changes to Efficacy Levels – Accent Lights and Under Cabinet Lights

Focus on improving adoption rates must also be included with increased efficiency

- Increased adoption rates will only come from improved products at a price competitive with less efficient options.
- Current Energy Star products meet (and exceed) current efficiency levels but are not achieving significant sales increases as they do not have some of the features consumers look for in terms of aesthetics and costs due to a focus primarily on efficacy and not on luminaire aesthetics such as smooth light (see chart below).



- We are finding that our major retail partners are challenging us, as manufacturers of accent and cabinet lighting, to develop light fixtures that offer smooth light output and very thin product chassis at reasonable costs to improve sales volumes.
- The technology exists to make thinner fixtures with smoother light distribution while improving efficacy nearly 40% over current standards. More aggressive increases would limit the implementation of consumer demanded improvements in aesthetics as well as increase manufacturing costs. Again, please see the chart above, which demonstrates why consumers are demanding smooth light.

We suggest that the efficacy be raised from 29 LPW to 40 LPW for Under Cabinet (from 35LPW to 45LPW for Accent). This would allow:

- As much as a 37% increase in energy efficiency.
- A modest enough increase to allow consumer driven aesthetic improvements.
- Higher adoption rates due to better consumer acceptance.

2. Changes to Product Category Scope - Elimination of the “Without Lamps” Category for Linear Fluorescent Luminaires.

Elimination of the “without lamps” option would mean the only possible path to Energy Star Certification for a linear luminaire becomes including the lamps in the fixture. This, by its very nature, will make Energy Star branded Linear Fluorescent fixtures non-competitive and result in a negative impact on all of the goals of the Energy Star program. Here are some of the impacts:

- a. Much lower adoption and satisfaction as different color temperature options would likely not be available due to inventory considerations for stocking entire fixtures with different color bulbs included.
- b. Increased luminaire packaging to accommodate bulb size while supporting the lamps included in the fixture for shipment. Compared to what is required for lower efficiency fixtures without lamps with separate bulk packaged lamps the following comments apply:
 - Much more packaging waste per fixture, per lamp.
 - More cubic volume per fixture shipped increasing carbon waste on a fixture-by-fixture basis.
 - Increased user dissatisfaction due to increased breakage rates.
 - Increased waste as consumers return entire fixtures for broken lamps.
 - More mercury released due to increased breakage rates
- c. Too few options available for linear fluorescent lamps on the Energy Star Qualified Components Data Base.
- d. Consumers would pay more for the luminaire as it would include the increased packaging, increased transportation and most of all, lamp costs.

The result of this change would be:

- Linear Fluorescent (and to some degree, all linear due to limited color options) would no longer have an Energy Star certified option which would be competitive with lower performance, efficiency and quality options.
- Additionally, this is one of the highest unit volumes for Energy Star branded luminaires and the product portfolio has included linear luminaires since the inception of the Energy Star program for lighting products.
- The consumer has accepted and used Energy Star not only as a gage for an efficient fixture, but also as an indication of high product quality, both in performance and integrity (i.e. manufacturing, design and materials).
- Energy Star required packaging and marking requirements, which have guided and aided the consumer would no longer be required as non-branded products take over Linear Fluorescent luminaires.
- With the main focus of Energy Star in the residential (consumer based) market, it is imperative the consumer is able to find an Energy Star certified light for all of his applications, including linear. It would be a detriment to the customer for Energy Star to not have a competitive presence in the linear lighting product category.

Good Earth suggests the “Without Lamps” category be maintained for applications such as linear fluorescent where including the lamps in the luminaire packaging has proven ineffective in the past.

3. Light Source Flexibility – a certification path allowing Energy Star Certified Luminaires to ship with medium (screw) base certified LED lamps.

The last area of concern is the proposed change in Light Source Flexibility: Dedicated Sockets category. Here are a few of the key issues:

- a. Having screw based sockets in Energy Star qualified fixtures will allow efficient light sources to be replaced in the aftermarket by less expensive, readily available but highly inefficient light sources. Research done by the New York Times, USA today, Huffington post (references attached), as well as others, shows conservative estimates that as much as 30% of the population has stock piled a life time of incandescent bulbs.
- b. The customer experience with Energy Star branded luminaires will also be compromised:
 - There are currently no screw-based solutions for totally enclosed fixtures such as flush mount luminaires.
 - Using any of the current screw based LED or fluorescent options will cause premature failures, some of which can be catastrophic due to thermal performance issues in totally enclosed fixtures. This may be less of a concern in open, vented or “enclosed” fixtures per the UL1993 definition as airflow is possible but the majority of fixtures sold are not these types but rather the totally enclosed flush mount type.
 - The shortened life, or worse yet failures, in these high volume fixture types as outlined above, will lead to a very poor image of Energy Star branded luminaires, exactly as happened to screw based fluorescent in the past.
- c. Consumers will have limited color temperature selection of complete fixtures and likely “swap in” their preferred color temperature of a less expensive inefficient light source. The consumer will not purchase a new, efficient light source just to improve the color.
- d. The most efficient solution is to use integrated LED light engine (much higher luminaire efficacy due to directionality of the light engines), which can be replaced if necessary. With lifetime exceeding 36000 hours or 16 years of normal use, the need for replacement would not be significant.

Good Earth does not support allowing any light source socket mounting which would allow legacy light sources of low efficacy or thermal/electrical performance to be used as a replacement light source.

In conclusion, we like the new draft and that Luminaires 2.0 will offer simplified requirements with streamlined processes but suggest the focus include requirements that drive costs down while raising efficacies. As discussed above, some of the changes proposed would have significantly increased costs such as overly aggressive increases in efficacy and elimination of the “without lamps” category or the potential loss of achieved energy savings over time (medium base sockets in luminaires). These increased cost would raise retail prices compared to non-certified, less efficient products, lowering adoption rates, the opposite direction we want to go.

Energy Star should be consistent in breaking down all of the roadblocks to higher adoption rates. If we challenge manufacturers with higher efficacy levels, we should also challenge the sales chain with making sure the energy efficient replacement parts are easy to find, purchase and use. Compromising realized energy savings by allowing the potential use of less efficient light sources should not be considered in place of having the replacement parts readily available.

We look forward to work together in the evolution of Luminaires 2.0 and the improvements it will bring.

Sincerely,

The Good Earth Lighting Energy Star Team