From: Bob Henry [mailto:bob@infinilux.com]
Sent: Thursday, February 26, 2009 4:10 PM
To: SSL
Subject: RE: SSL Replacement Lamp Comment Period Closes Feb. 27

Hello Richard,
In addition to the general comments I submitted before, please accept the following in support of our P4 product which we intend to submit in the "non-standard lamp" category. We see 3 important matters related to the draft spec.

1) It is our opinion that allowing for both dimmable and non-dimmable designs will speed the entry of products into the market. There are many applications that can benefit from non-dimmable products. The associated power savings are potentially large. We are willing to insert detailed descriptions of circuits the products should not be used on.

2) By requiring that "Integrated Lamp" manufacturers perform 6,000 hr (8.5 month) of testing, the introduction of this new technology is delayed. While this is a good idea, and should probably be required eventually, to facilitate quick market entry, we suggest allowing the use of LM-80 data from the LED manufacturer coupled with a report from the "Integrated Lamp" manufacturer indicating that the thermal design of the "Integrated Lamp" does not allow the LED-Tj to exceed the LED manufacturer's stated conditions for LM-80 compliance.
This could be done on a set of 10 samples at 25C. Performance at higher ambient temps is easily estimated.
Lamps with thermo-couples inserted could be submitted to DOE for CALiPER style verification.
Note: We see no issue proving compliance to the "integrated Lamp" spec: 25,000 hrs L70.

3) We would suggest that any "Integrated Lamp" be UL certified in order to qualify for Energy Star.

We'd like to remain close to this process.

Thank you, regards, Bob

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From: Bob Henry [mailto:bob@infinilux.com]
Sent: Thursday, February 05, 2009 4:52 PM
To: SSL
Subject: RE: ENERGY STAR For LED Replacement Lamps

Hello Richard
To offer some feedback.

The trick seems to be develop a labeling system so it quite clear what applications the products are suitable for.

I think you should allow for both dimming and non-dimming products.
This seems to be an easy distinction and would allow for many applications
to move to SSL quickly.
The distinction should apply to “standard AC wall dimmers”
The 2-3 varieties of such are fairly well known and all are equally troubling to SSL products.

Or literally, make the manufacturer state what dimmer technology they work well with.
Example: Dimmable, rheostat
The manufacturers could be required to include an insert with notes on this including references
To dimmers which are known to be acceptable and those which would be harmful

Dimming also brings up the idea of efficiency while dimmed.
Most LED products that will work with an existing dimmer, are extremely inefficient when dimmed.
The SSL products essentially only tolerate the dimmed power input. There is little-to-no energy saved operating
at lower power.
The testing lab could test at full, mid and low power and report efficacy at each using dimming technology
prescribed by the manufacturer

I like your separation of directional and non-directional lamps.
Even just targeting directional PAR style lamps still gives SSL a huge oppty.
If SSL lamp makers are required get optical cone profiles from qualified optical labs,
then all of the guess work is removed. (see the attached cone diagram from a traditional GE lamp)

For SSL products, you could require both directional and non-directional specs.
You just have to require the appropriate optical tests, from qualified labs, to demonstrate performance.

I would also suggest disclosing whether the device is suitable for closed fixtures.
(for example, up in recessed cans in a ceiling) Many SSL products are not suitable for such installations.
There are however many existing lamps are used in open fixtures so the energy benefit still exists for
open fixture product deployments
A small sketch of an open fixture might get the point across.
How you recommend testing this eludes me. There could be many perturbations to a test like this.
However, I still like the idea of making a firm statement about whether a product is suitable for closed fixture
use.

Example label data:

- Dimmable, triac
- Directional
- Open fixture only

Please call me with any questions,
Regards, Bob

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