Email received on January 9, 2011 from Keith Cook.

Philips Electronics North America Corporation is pleased to supply these comments in response to the U.S. Environmental Protection Agency release of the Final Draft of the ENERGY STAR Luminaires V1.0 specification and a request for comments.

We would like to raise a concerns about blocking products from the program with a Tc higher than 4100K, taking as a reference the Fluo products. In a review of the comments made in 2010, NEMA commented that this might be valid for fluo but certainly not for LEDs as these have a higher efficacy in the higher Tc range. However, there is another reason and that is the future development we see in photobiological needs of people to receive their daily dose of blue light to support their biological rhythm and other functions. To this end Philips introduced 8 years ago the Activiva range of fluo lamps with even a Tc of 17000K. Recent breakthroughs in our SchoolVision projects show that with changes in lux and Tc levels children in schools perform better. So we see more developments are to be expected in the field of education with additional application areas (hospitals, workplaces) with the use of sources with higher blue content. It is for the above reason that Philips wants to 'reserve' a part of the achievable energy savings with new light sources for the capability of lighting systems to give people indoor their daily needs of biological light.

Philips would also like to encourage closer coordination in specifications between Energy Star and IEC for SSL performance. Currently they are very similar but different enough to require duplication of testing at significant cost to manufacturer and delayed market entry. Examples follow:

1. Ambient Temperature

Ambient Temperature	
Energy Star – LM-80	**IEC – LED** Performance requirements
55 °C, 85 °C and a third temperature selected by the manufacturer	40 °C, 50 °C and 60 °C

It would be most convenient and effective if those temperature requirements are aligned, so that we can use the data we generate for both Energy Star and IEC. If this is not the case it would most likely double our costs since we need two complete setups.

2. Duration of tests

Although it is globally accepted that 25% of the claimed life time of the device should be proven by tests, the implementation for Energy Star and IEC differs:

Duration of reliability tests	
Energy Star	**IEC – LED** Performance requirements
a) 25% of the claimed life time. b) Energy Star certification can be obtained	a) 25% of the claimed life time with a maximum of 6,000 hours.

after 6,000 hours with the obligation that the remaining time of the 25% of the claimed life time is completed and reported.	b) Test duration is 10% of rated life time up to a maximum of 2,000 hours provided the manufacturer or responsible vendor shall make available the reliability data of the principle components (LEDs, electronics, and diffusers). *[Change accepted just before Christmas]*

Again, it would be most convenient and effective if those requirements are aligned and we can use the same data to obtain both Energy Star and IEC certification.

As an example the situation for the Fortimo DLM module that has a claimed life time of 50,000 hours:

Duration of reliability tests for Fortimo DLM – Claimed life time 50,000 hours	
Energy Star	**IEC – LED** Performance requirements
12,500 hours, with certification after 6,000 hours.	6,000 hours, however, since we have reliability data of the principle components, we need only have 2,000 hours.

3. Temperature of optical measurement

Energy Star is considering requiring the optical measurement of the reliability tests to be executed on the same temperature of the setup, e.g. 55 °C, 85 °C and a third temperature selected by the manufacturer. Of course it would be very nice if this new requirement is aligned with IEC or is abandoned altogether.

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