Dear Mr. Taylor

Thank you for providing us with the opportunity to make comments on the new draft of lamp. After reviewing carefully the Draft 2, we make our comments as follows :

1. Luminous Intensity Distribution Requirements

Although the purpose of LED lamps is to replace incandescent lamps, the structures of them are not identical each other.
Therefore, setting up complex requirements to completely emulate the beam patterns of incandescent lamps would raise difficulty in design.
Moreover, since PAR and MR lamps should satisfy the requirement of CBCP regarding the wattage and beam angle, we suggest to simplify luminous intensity distribution requirements as follows.

- ***Luminous intensity distribution shall satisfy 45~55% of the center beam intensity (Ic) at 0.5 •∠$_{ref.}$***

2. Life time testing Method (ETLT and ATLT)

This new draft suggests 3 options for the measurement of lumen maintenance and rated life. However, it is not easy to set up the test equipments and takes time to re-test the products which are already certified or underway by Energy Star. Also, since an on/off test should be executed with Rapid Cycle Stress Test, the on/off test during lumen maintenance test seems redundant and unnecessary. Furthermore, because color maintenance also should be measured, we would like to suggest the test method in ***"Integral LED lamp v1.4".***

- ***LED lamp power < 10W must operate at 25 ℃ between measurements***
- ***LED lamp power ≥ 10W must operate at 45 ℃ between measurements***

3. Power Factor Requirements

Cost-wise, it is burdensome to the manufacturers to apply at least 0.9 power factor for commercial grade Low Voltage MR16. Also, the effect of improved power factor does not show strong influence in lamp performance because Low Voltage MR16 lamps are, generally, used with external control gears. Therefore, **we suggest power factor ≥ 0.5,** which is the same requirement as lamps for residential applications, for low voltage MR16 lamps.

4. Warranty

LED lamps are still in the early stage even though it have passed several years since they appeared in the market. Thus, 5 years of warranty period is onerous though it is applied only for commercial grade. ***3 year warranty is suggested for now.***

Thank you for your consideration of these comments.
If you have further questions, please contact me directly.

Best regards,

Jaechoon Lee
Chief Research Engineer
jc71.lee@lge.com