

**Comments on the second criteria draft by January 20, 2006 to Richard Karney,
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Zartman, D&R International, at sgardner@drintl.com.**

Comments by

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Introduction

The Asia Pacific Economic Cooperation comprises twenty one economies around the Pacific Rim. These economies are: Australia; Brunei; Canada; Chile; People's Republic of China; Hong Kong, China; Indonesia; Japan; Republic of Korea; Malaysia; Mexico; New Zealand; Papua New Guinea; Peru; Philippines; Russia; Singapore; "Chinese Taiwan", Thailand, United States and Vietnam.

Energy efficiency requirements were at an early stage identified as a potential barrier to trade, and accordingly the Energy Ministers of APEC member economies set up the Steering Group on Energy Standards in 1997 to investigate the issues and form recommendations on how to deal with them. The Department of Energy provided the USA representation on the Steering Group. The main outcome of the work of the Steering Group was that APEC Energy Ministers agreed to work towards common energy efficiency requirements by: giving preference to the use of energy efficiency requirements already existing; notifying all other member economies of work being undertaken on developing standards (in a wide sense of the word) for energy efficiency; making energy efficiency standards readily available to other member economies.

It was recognized that common test protocols ought to have higher priority than common performance requirements or common labelling requirements. Notification of energy efficiency standards is undertaken via the APEC Energy Standards Information System (see www.apec-esis.org) and by the establishment of the APEC Energy Efficiency Test Procedures Coordinator, a position that I have the honour to hold. Meetings of APEC Energy Ministers have consistently agreed to work towards common energy efficiency standards.

The following comments are therefore made primarily in the hope that the specification being developed can more nearly follow the direction agreed to and prescribed by the US Secretary of Energy. This would be to the benefit of both lamp manufacturers and the energy efficiency organisations of other economies, and would also encourage more lamp suppliers to become Energy Star partners.

General comments

1. It would be helpful for users of the document to have the test protocols both complete and in a separable portion of the document, thereby making it easier for others to adopt the test protocol, and for those performing testing to follow what is required. The present layout, with test procedures scattered within the document and often being references to tests within other, obscure (to non-Americans) documents makes testing and adoption by others difficult.
2. Many of the test procedures are contained within referenced US-based documents. Tests on lighting components are relatively straightforward, and in many cases the same test procedures are specified in recognised international standards. More use ought to be made of IEC and CIE documents, as these are more likely to be familiar to

users of your document. Also have you investigated the relationship between FCC 47 CFR and CISPR requirements in respect of electromagnetic compatibility?

3. Certain requirements reflect conditions in the United States and in effect exclude lamps that are to be used in other geographical areas. Prime examples are the lamp base type (specified as Edison screw) and the operating voltage. It would be preferable for other ranges to be allowed into the programme (e.g. bayonet cap lamps, and those for operation on 230 volts) with specifically local requirements added for lamps to be used in North America in a similar way to the current special provisions for lamps to be used in Canada.
4. With regard to the selection of test laboratories, there has been a lot of work undertaken over the last eight years on mutual recognition of laboratory accreditation bodies, but a disappointingly low uptake of such provisions by test laboratory clients. It would be more in the spirit of international cooperation for an accredited laboratory to be defined as, “a laboratory accredited for the specific tests by NVLAP or by an accreditation body recognised by NVLAP under a mutual recognition agreement.” This would make it easier for lamp manufacturers to have their product tested by an acceptable, independent laboratory and thereby improve confidence in lamp quality. It should also reduce the number of tests results submitted from manufacturers’ own laboratories, which cannot be accredited.
5. I am generally not commenting on the performance values prescribed, since selecting these is your prerogative. However, there have been several comparative studies made that are very relevant to the exercise of reviewing your specification, and I would urge that you study and consider these studies. I would particularly recommend two papers from the Right Light 6 conference held in May 2005 in Shanghai, namely:
— Opportunities and Issues Surrounding International Harmonization of Voluntary Lighting Specifications, USA and China
by Peter Banwell, EPA Energy Star Program, USA & Tienan Li, CEPC, China
available for download from:
http://www.rightlight6.org/english/proceedings/Session_13/Opportunities_and_Issues_Surrounding_International_Harmonization/f053banwell.doc
and
— Harmonisation of CFL Specifications in the US, China, and Brazil
by David Fridley, Lawrence Berkeley National Laboratory, USA
available for download from
http://www.rightlight6.org/english/proceedings/Session_13/Harmonisation_of_CFL_Specifications/f121fridley.doc

Specific comments

6. Re: 1) Scope — ought not to restrict to screw-based (see general comment 3 above).
7. Re: 1) Scope B — It is two hundred and thirty years since the Declaration of Independence, and surely past the time when USA ought to still be dependent on British Imperial units of measurement . . .
8. Re: 1) Scope penultimate paragraph — I would suggest that the intent ought to include keeping consumers happy with CFLs so that they do not revert to incandescent lamps.
9. Re: 2) G — do you mean the lumen maintenance to be based on the initial luminous flux or the rated luminous flux? The latter would be more logical.

10. Re: 2)H — the length of time declared by the manufacturer at which no more than 50% of any large number of lamps reaches the end of their individual lives.
11. Re: 2 L — see general comment 2 above
12. Re: 2 M — the use of the term “start fully” is open to misinterpretation; suggest the term “strike” is used instead.
13. Re: 2 O — “**Starting temperature range**: The minimum and maximum temperatures ~~at~~ between which the lamp will reliably start.
14. editorial Re: 2 W — “Insulated ceiling airtight fixture” may be a better word order.
15. Re: 3 — See general comment 2 above.
16. Re: 3 Notes: — See general comment 3 above.
17. Re: 4 Laboratory requirement — see general comment 4 above.
18. Re: 4C requirements for rapid cycle stress test — once per every two hours of rated lamp life is unrealistically low for a lamp that is intended to replace an incandescent lamp. In America the average lamp is switched several times for each hour of running. The European requirement is likely to be one switching per hour of rated life.
19. Re: 4C requirements for warranty — either use a generic term for “800 number” (a telephone number that the consumer may call at no charge to himself) or make this a USA/North American-only requirement.
20. Re: 4C requirements for starting temperature — some suggested starting temperature values could be provided. One obvious one is 5 degrees Celsius (approximately 35 degrees Fahrenheit) as an ordinary refrigerator may be used as a test chamber.
21. Re: 4C CFL/Incandescent equivalency chart — The requirements specified are supported. However, I would question the validity of the statement “The table shows typical luminous flux for A-shaped, soft white, incandescent bulbs.” Manufacturers’ published data are consistently lower than the values stated.
22. Re: 5C FTC Labelling Requirements — See general comment 3 above.

Editorial comments

23. editorial Re: 2) F — since the last six words are a defining clause there ought not to be a comma after the parentheses.
24. editorial Re: 2) J and elsewhere — There is only one black body locus, so the plural form of the word (loci) is inappropriate.
25. editorial Re: 2) J — the correlated colour temperature (Kelvin) can be used to express ~~define~~ the colour appearance.