

**ENERGY LABELLING and ECODESIGN
WORKING DOCUMENT
for discussion on 23 September 2011**

ADDENDUM

**Questions to the Technical Subgroup of the Ecodesign Consultation Forum
on the draft energy labelling and draft ecodesign regulations discussed on 5 July 2011**

11. Supplementary questions

11.1. Removability of LED modules

We would like to have a requirement for LED modules to be always removable for independent testing. Should the requirement be set on LED luminaires ("their LED modules shall be removable"), or on LED modules ("should be available for independent testing, even if they are placed on the market integrated into luminaires")? How to define removability for testing purposes in practical terms? E.g. "Can be removed without permanently damaging the luminaire"?

11.2. Return on investment on infrared coated halogen production facilities

One of the options is to require as a minimum that halogen bulbs are of infrared-coated efficiency, at least for those lamps that are low voltage. However, this would mean that industry would have to invest into mass-producing this IRC-coated technology. As everybody expects that LEDs will be the dominant technology in a few years' time, does it make sense to require industry to invest into a technology that is likely to be marginalised in the very near future? To what extent is there a risk that industry's search for a return on investment under a short time span would drive the price of IRC-coated bulbs too high for affordability / life cycle cost savings?

11.3. Colour requirement complementary to colour rendering for LEDs

Would it make sense to include an additional colour rendering requirement that the light should have a red component, ie $R9 > 0$? It would exclude those cases when the skin looks greyish or greenish even with lamps of a high colour rendering. A CRI=80 $R9>0$ lamp would satisfy most consumers, there may not even be a need to go above 90 CRI in a household setting (which makes the lamp more expensive and less efficient).

11.4. Colour maintenance for LEDs

Do we need any requirement on colour maintenance (that the colour of the light does not change as the lamp ages)? If, yes what should that be?

11.5. Angular colour uniformity for directional LEDs

Do we need any requirement on angular colour uniformity for directional LEDs (the extent to which the colour of the light can change across the beam)? If, yes what should that be?

11.6. Parameter for LED colour consistency

Should we not measure colour consistency in $\Delta u'v'$ deviation in a rectangular mask rather than in Macadam ellipse? The previous approach fits better with the binning procedure in the production of LEDs. The elliptic approach is certain to result in chips that are not conform to the allowed deviation and that will have to be discarded or used in other products.

11.7. Power factor / harmonic distortion requirement for extra low voltage LEDs

Do you agree that if a power factor or harmonic distortion requirement is set at all, it should not apply to extra low voltage LED retrofits, because the transformer will interfere with the values?

11.8. Compatibility of LEDs with dimmers

How to address the question of appropriate consumer information on the conditions in which the lamp will operate optimally (e.g. compatibility with particular dimmers)?

Would it be possible and would it make sense to extend the ecodesign regulation to dimmers, and require particular features from dimmers that would make them compatible with all LED technologies that are claimed as dimmable? If yes, what features should be required from dimmers?

11.9. Verification procedure for premature failure rates

What would be the verification procedure for testing the 2% failure rate after 10% of the lifetime? Testing 50 lamps simultaneously? Is that not too expensive and disproportionate, considering that the standard verification procedure requires a sample batch of 20 lamps?