

## **Ecodesign Preparatory Study on Light Sources - Lot 8/9/19**

### **ANEC & BEUC preliminary comments**

4/3/2015

#### **A. Scope**

We welcome the inclusion of aspects associated to luminaires in the scope of the study. From a consumer perspective it is important that minimum requirements on efficiency, lifetime etc. as well as labelling do not only cover light sources (such as lamps) but the whole functional unit of a 'luminaire'. This is especially relevant as more and more consumers buy luminaires with integrated LED-modules and hence, seek for information on the luminaire itself. We also welcome that compatibility of retrofit lamps with existing luminaires is also covered by this study. This is highly relevant as often consumers face difficulties in choosing compatible retrofit LEDs for existing luminaires. However, currently the exact coverage of luminaires under the scope of the study on light sources (Lot 8/9/19) and under the study on lighting systems (Lot 37) is unclear. We stress the importance of exploring under this study (Lot 8/9/19) all luminaires relevant for consumers as they are products that the consumer is likely to choose without the technical support of a light planner.

We also welcome the proposal to include 'appliance-integrated lamps' into the scope (Task 1, p. 43) both in terms of minimum requirements as well as in terms of labelling. We acknowledge the challenges associated with the category of 'decorative' lamps and agree that the cut-off point of decorative and non-decorative lamps is unclear (Task 1, p. 44).

Additionally, we support that even if most of the directional lamps in households are low-voltage directional lamps (e.g. 12 V) mains voltage directional lamps should be taken into account within the scope of the study (Task 1, P. 63).

Finally, we agree with the recommendation that emerging lighting technologies (e.g. OLED, see p. 64-65, Task 1) should have to meet performance requirements -as LEDs already do- in an effort to avoid marketing of poorly performing 'new technologies'.

#### **B. Special purpose lamps**

Under a market surveillance project<sup>1</sup>, UK's National Measurement Office (NMO) investigated whether special purpose lamps comply with the legislation requirements. For the purposes of the project the NMO conducted both market research as well as test purchases. The NMO officers examined both the lamps and the packaging of the 44 lamps that were purchased. The examination revealed that indeed the lamps and the packaging met the legal obligations. In order to assess future trends in the market the NMO distributed an optional questionnaire to 29 businesses. The NMO received 18 complete responses, which revealed that the industry considers the special purpose lamp market to be diminishing due to the fact that the cost of LEDs is dropping and consumers are progressively turning to LEDs. However, this investigation revealed that there is a wide variety of special purpose lamps broadly available and easily accessible. It also showed that certain online distributors could be contributing to the misconception that special purpose lamps are fit for household lighting through their product descriptions.

It is hard to assess to what extent special purpose lamps are used for general lighting purposes. However, with LED becoming increasingly affordable, the motivation that drives consumers towards special purpose lamps for general lighting purposes could be associated to quality characteristics of LED lamps such as possible flickering, compatibility and light quality.

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<sup>1</sup> <https://www.gov.uk/government/news/nmo-investigation-into-special-purpose-lamps>

### **C. Measurement of lamp lifetime**

Task 1, page 98 states that *'currently, for most lamp types in almost all jurisdictions, proving the claimed life of the lamp involves ageing a set of lamps to the claimed lifetime and checking that at least 50% of the samples have survived. Thus, this test actually proves the claimed median life of the lamp model. However, it could be argued that consumer expects that the claimed lamp life, as printed on the product packaging, is a minimum expected lifetime, or possibly a mean lifetime. Consumers may be surprised to learn that a claimed lifetime of 10,000 hours means that, even under ideal laboratory conditions, only half of the lamps will survive to 10,000 hours. Additionally, lifetime testing of lamps is undertaken under ideal laboratory conditions of voltage and temperature, which may mean that, under real-world conditions, actual lamp lifetime is shorter.'*

We agree with this statement and we consider this practice misleading for consumers, who cannot conclude that a particular lamp will last as long as its package says it will.

### **D. Product durability**

Since the end of 2011, our Portuguese member DECO Proteste together with other consumer organisations test LED lamps. Twice a year they buy new batches. By now, the organisations have results for a total of 450 lamps (5 models for each of the 90 models tested). In a publication from March 2015<sup>2</sup>, our Portuguese member DECO Proteste reports improvements on the durability of LEDs. According to DECO's durability test, 4 out of the 15 models purchased in 2011 did not comply with regulation 1194/2012<sup>3</sup> - that requires 90% of LEDs to continue functioning after 6000 hours maintaining at least 80% of their initial lumen- since they lost over 20% of their light intensity after 5000 hours. However, this failure was observed in only 3 out of the 75 models purchased later in 2012 and 2013 and no failure was observed in their latest purchase. Among the oldest bulbs, 18% of those purchased until early 2012 failed before passing the 5000 hours test compared to 3 % of those acquired later in 2012 and 2013. Given that manufacturers declare product lifetimes that can go beyond 30.000 hours, DECO Proteste conducted longer durability tests. These tests revealed that although more than one third of the older light bulbs (purchased in 2011 and early 2012) burned out after 10.000, only 10% of the most recent purchases (purchased in 2012 and 2013) failed.

The findings illustrate a positive development. However, issues associated to the quality of the light and their compatibility with dimming mechanisms still stand. Particularly with regards to light quality, the suitability of the current test is a recurrent problem during product testing.

### **E. Close monitoring of health associated concerns of LEDs is essential**

Chapter 5.1 focuses on health associated concerns. An in depth analysis of health concerns associated to LEDs is essential as health impacts may aggravate once LEDs will become the most common lighting solution. According to this chapter (Task 3, page 79) flicker *'...can lead to headache, migraine, dizziness and impaired visual performance. Some LED lamps are free of flicker while others reach the maximum percent flicker value of 100%'*. As LEDs are expected to broadly replace halogen lamps it is recommended to further investigate the extent of the issue and identify potential requirements to ensure stable and constant light.

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<sup>2</sup> [46 Proteste 366 • March 2015](#)

<sup>3</sup> [Commission Regulation \(EU\) No 1194/2012 of 12 December 2012 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for directional lamps, light emitting diode lamps and related equipment](#)