



CELMA LED(SM)077

ELC/CELMA comments on the “DEFRA” report concerning the various LED-related documents submitted by ELC/CELMA to the European Commission in March as input for the future EcoDesign Domestic Lighting Part 2 Regulation

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Note: ELC/CELMA has provided a number of papers to the Commission (see documents CELMA LED(SM)049_ELC CELMA LED input EU Reg domestic lighting part 2_09032010.zip + CELMA LED(SM)054_ELC CELMA LED Background Information papers_part 2 Reg_24032010.zip . In the DEFRA report (see document CELMA DOM(SM)141_Defra draft-comments-on-ELC-CELMA LED related comments DIM 2.pdf) apparently some confusion has arisen due to the fact that for some ELC/CELMA papers a short summary has been made (but which should not be dealt as a separate document).

Chapter 1.1 LED Directional lamps

- The report comments the definitions chosen in the ELC/CELMA papers. All definitions used by ELC/CELMA are directly taken from relevant IEC standards as they will also form the reference base for the new EU Regulation.
- ELC/CELMA is aware of the fact that according EU Regulation 244/2009 clear lamps have to fulfill different (= lower) requirements than non-clear lamps. The same principle has been applied in the proposals for the new EU Regulation for DLS.
- ELC/CELMA agrees that LED lamps of the clear type will become more energy efficient than Clear lamps on basis of other technologies. However, specifying higher minimum requirements only for LED lamps in the new Regulation for DLS would lead to an unbalanced situation, also if compared to EU Regulation 244/2009.
- ELC/CELMA emphasizes that the situation on the minimum required Power Factor is much more complicated than presented in the DEFRA report. We propose an European-wide, separate discussion on the subject.
- Functionality Requirements for LED Retrofit lamps have been drafted on basis of the existing format of Table 4 of the Regulation 244/2009 and with the defined values of CFL-I products as a direct reference. In addition we remind of the fact that we are dealing with minimum performance requirements.
- We note the support in the report for the ELC proposed division of beam-width categories and are willing to consider the recommendation on the revised definition of the NSP category.

Chapter 1.2 LED modules

- The Defra report refers to the definition (and explanation) of a LED module. ELC/CELMA refers to the definitions as laid down in relevant IEC standards. Changes in the definitions (as proposed) can only be implemented via the proper IEC channels.
- The exemptions mentioned (1) individual LED's and 2) LED modules fully integrated in Luminaires) are correct. The first exempt category is normally a component of a LED module and the second category is a unique combination of LED module and luminaire of which the LED module cannot be tested as a separate item.
- For products life of LED products the report supports the ELC/CELMA definitions. The Commission may set minimum requirements for product life which have to be met by all products. The Module manufacturer will declare the exact product lifetime for a particular LED module which may well exceed the minimum requirement.
- The report assumes that LED modules don't have optical systems: this is incorrect. LED modules usually have primary optics (which are also used as protective encapsulation of the bare chip) and often come with additional secondary optics. LED modules may therefore already provide the full optical performance required for the luminaire such that further optical systems of the luminaire can be omitted or reduced. Efficiency requirements for LED modules should therefore be in line with those for Directional LED lamps.
- The reference in the report to efficiency values as defined by the US Department of Energy is incorrect. These particular values are for "Cool White" (4800 – 7000K) and *"assume a linear progression from the current 2008 fixture and driver data"*. The ELC/CELMA values refer to 3000k Warm White products. It should also be noted that the specific test conditions need to be considered carefully before making any comparison (for further details, please check Table 3 incl. footnotes of *CELMA LED(SM)054D_ELC CELMA Backgroundinfo_LED Modules_domestic part 2 Regulation.pdf*)
- The correction factors of Table 3 are to a large extent determined by Regulation 244/2009. These correction factors have been chosen by the Commission, not by ELC/CELMA.
- The values of Table 4 have been chosen in direct comparison with those for Directional LED lamps, although minimum life has been increased.

ELC/CELMA stresses once more the danger of setting too high minimum performance requirements. If minimum requirements are set too high, there will be too little space left for differentiation and users/consumers will always be forced to purchase products which might be "overdesigned" and "overpriced" in relation to the intended use/application.

Chapter 1.3 Directional LED lamps

This ELC/CELMA paper is a summary of the document as dealt with in 1.1. We refer to the comments made in that chapter.

Chapter 1.3 ELC/CELMA paper on LED modules (CELMA LED(SM)054D)

This ELC/CELMA paper is a summary of the document as dealt with in 1.2. We refer to the comments made in that chapter as well as to comments made on Task 2 regarding lumen measurement methods.