

Eco-design for Energy-using Products Directive – Supplemental analysis of Directional Lamps

Note of Stakeholder meeting – Wednesday 9th June 2010

Brussels

Note (28/06/10) –for the purposes of clarification there is a minor amendment to this note, as compared with previous versions, in the penultimate bullet point of the Task II notes.

Panel

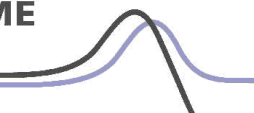
Defra (Chair)	Steven	Mills
Market Transformation Programme	Arani	Mylvaganam
Market Transformation Programme	Jenni	Donato
eceee	Nils	Borg
Silver & Conway	Kathryn	Conway
Navigant Consulting Europe	Michael	Scholand

Delegates

ASSOLUCE / CELMA	Fabrizio	Tironi
ZVEI / CELMA	Dieter	Schornick
CELMA	Stéphanie	Mittelham
On behalf of Australian Government	Stuart	Jeffcott
ECOS	Edouard	Toulouse
IKEA	Katarina	Maaskant
KSLD	Kevan	Shaw
Philips Lighting	Bob	Knijnenburg
Texas Instruments	Stephen	Bonner
OSRAM	Lars	Stuehlen
General Electric	Zoltan	Pilter
Philips	Kees van	Meerten
Öko-Institut e.V.	Stephanie	Zangl
Federal Public Service (FPS) Health, Food Chain Safety and Environment	Evelien	Nijs
VITO	Paul	Van Tichelen
European Lamp Companies Federation (ELC)	Jürgen	Sturm
KREIOS	Lieven	VANHOODYONCK
Energetic Lighting NV	Marc	van Hoof
Agentschap NL / NL Agency	Hans-Paul	Siderius
Megaman UK Limited	Claire	Delmau
LA/CELMA	Lawrence	Barling
Toshiba Systèmes France	Noritaka	Tano
Havells Sylvania	Gunther	Van De Poel
European Lamp Companies Federation (ELC)	Chiara	Briatore
VHK	Rene	Kemna
ZVEI/CELMA	Peter	Besting

European Commission

European Commission (DG ENER)	Andras	Toth
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Task I – International MEPS Review

1. MEPS
2. Test Procedures
3. Test methods for LEDs

Comments

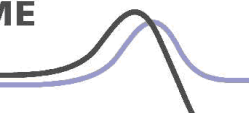
- The EU has a very different history and background to the US and Canada, therefore should we be comparing the situation with them in this area, or should we concentrate on our market? Response – We feel it is useful to scan what other countries are doing in this area and whether there have been any lessons learnt. The Australian market is similar and therefore a comparison is particularly relevant.
- Should we be comparing these data with BAT data? Response – this is done further along the process and incorporated into the other Task Reports.
- It was commented that the goniophotometer can be used in a number of different ways than that described in the presentation; however this is a more detailed discussion which can be had at a later date.
- A lot of manufacturers don't have their own goniophotometers and send their lamps out to be tested. The catalogue data does cover some, but not all data needed but the Australians are looking to simplify the data needed into something which most consumers can understand.
- Test methods need to be comparable, verifiable and the parameters should compare and highlight 'good quality' lamps. Response - Task 2 covers the test methods in more details so this should be covered later.
- A request was made that the calculations behind voltage comparisons used in Tasks 1 and 2 were made available. Response – the consortium will publish a memo on this topic on the website. There are issues in comparing LEDs and other types of directional lamps and we need to make sure we are testing LEDs accurately.
- There needs to be a balance between the exact scientific measurements and establishing a pragmatic, universal way of testing in a timely fashion. Response – general agreement that pragmatism and common solutions were required.

Task II – Beam Angles and Directional Lamps

1. Terminology and Concepts
2. Review of Correction Factors
3. Comparison of efficacy requirements

Comments

- The correction factor of 1.2 for LEDs requiring external power supplies was discussed. Industry clarified that this figure was indeed their proposal.



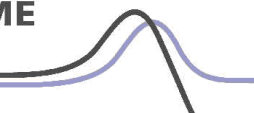
- It was suggested that dichroic reflector lamps had been left out of this part of the study and that the variation on dichroic coating technologies has an impact on quality (e.g. cheap lamps and cracked coatings etc.)
- A detailed debate about glare and the need to consider glare at different beam angles, for example between 60 and 90 degrees. It was advised there is a 30 degree rule for downlighters and industry suggested 60 to 90 degrees to simplify. There was some disagreement, and it was commented that it depends on the application of the lamp. Response – suggestions on how to resolve this issue were welcomed, and it was generally agreed this would be a discussion for the Consultation Forum. Mike Scholand directed interested parties to pages 548 and 549 of the VITO study.
- It was stated that designers and specifiers need to know about the Field and Beam angle to be able to decipher the lamp which is relevant for each application. Industry added that there has to be a distinction between the regulation and what data the consumer needs and that if the intention is to focus on energy efficiency then the valid discussion to have was deciding between 90° and 120°; 180° is not a solution.
- It was added that in the real world it is not designers etc. who decide which lamps to use, but essentially the builders who then do not necessarily use the appropriate lamps in the appropriate applications, for example in built-in kitchens so to test to 180 degrees may be the solution. Further, it was discussed that it is possible to do a sphere test for about a 10th of the price of a goniophotometer test and enforcement will then be easier and cheaper. A goniophotometer may be the best, if you had a high end product, however a lot of enforcers don't: it was therefore suggested that 4 angles are picked to measure and if this doesn't include the peak intensity angle, then they quite often provide inaccurate readings. The participant summed up by saying the majority of real life scenarios would work to 180 degrees (though there are associated problems with this beam angle choice; however if less than 180° was to be used, then only measure inside the cone, rather than account for spill. His suggestion would be to not to use a goniophotometer.
- The 10% tolerance on MEPS was disputed. There was a comment that setting the 10% tolerance was about the difference in testing between the laboratories and inherent natural variability of the manufacturing process. .
- A manufacturer added that we shouldn't forget the regulations include CFL and we need to remember these have been making efficiency savings already and they need to be included in the regulations without any negative impact into their development.

Task V – Technology Prospects for Directional Lamps

1. Light Source trends
2. Recent Product Introductions
3. Cost and performance survey

Comments

- The group was reminded that the main purpose of 1st stage MEPS was the clear really poor products from the market; it was queried whether the 2nd stage MEPS levels could be set to push the market towards LEDs in the medium term. A question



was raised as to what would happen to LED decoration lamps (some of which are less efficacious than 50W incandescent).

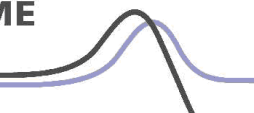
- Industry stated their concern about the number of different LED products on the market (a number of products are currently under the 60 lumens and therefore not covered within the regulations, however this is expected to rise and therefore these products would come within the regulations) They would like regulation to be technology neutral and therefore not exclude a technology if market improvements are already underway. Provided efficacy standards are met, the market, not regulations, should decide what products remain on the market.
- It was commented that the market is currently very 'locked-in' and we don't want to further limit the number of products on the market and the choice for the consumer. The designer commented that a lot of work is going into building LEDs into technology to fit into 140 and 280 V sockets, and we need to focus on getting rid of 240V lamps and develop low voltage technology.
- Further, it was added that the market needs to focus on moving towards energy efficient luminaires rather than maintaining a focus on retrofit lamps.
- A retailer added that consumers need the choice. For example the retailer promoted CFL lights on low margins to boost sales, but then got complaints from consumers about quality. They don't want the same to happen if they start to promote LEDs for \$80! The quality of light is a huge issue. Also there is no point developing a light to last 20+ years when consumers only keep lamps for a maximum 10 years due to moving / re-decorating etc.
- One delegate commented that people want a choice but there is a transition phase. Shops are specifying the products through in-built lighting in furniture etc, which may limit the replacement lamp choices that consumers have in the future.
- There was a long debate about a technology neutral approach, for example if we specify MEPs and any technology is allowed time to meet them (for example halogens) and can't then that is fair approach. When we start thinking about consumer opinion, the approach gets complicated as everyone has their own viewpoint.

Task III – Review of Sales and Inventory Estimates

1. Inventory Stoke Model – Methodology
2. Revised estimates
3. Sensitivity and Conclusions

Comments

- A stakeholder welcomed having a second source of data, but stressed that for the purposes of the impact assessment there were no expectations that any dataset could ever be perfect.
- VITO commented that there were lots of assumptions in the work and that the projections may not be linear, it could be a curved progression so future projections may not be so accurate.



- It was commented that there were a lot of building developments in 2007-2008 which included certain types of lighting and this may not be the case anymore, so we need to be aware of peaks in installation, rather than ongoing trends.
- MTP stated that they were aware that their data may not accurately reflect market saturation issues.
- The EC and UK MTP requested more data from industry for better figures to be produced and used in studies similar to these, e.g. sales data. At present the only data are the Eurostat data and there is a need for more hard data to be able to do projections of numbers of products on the market etc.

Task IV – Distinction between Residential and Tertiary

1. An overview of the Task was provided as the Task has just to be started

Comments

- There were general comments about the output to this study and how the findings would impact the regulations
- Mike Scholand commented that the regulations may differ slightly depending on the sector and issues may arise due to this, therefore there would be a benefit from undertaking this work.

Chair's summary and Round up of Discussions

Steven Mills' summary

- Vision – the UK has a high-level vision of (being close to) a LED solution by c. 2020. Reviews of the EuP measure could aid with this – should this remain at 5 years or should this be brought forward due to the fast paced of developments in the sector?
- Issues arising around the importance of the choice for consumers. What does this mean? Do they actually know the specific details of the products they require?
- There is an important role for Consumer Groups and Retailer Groups and we encourage these to be involved in the process.
- There is a need for pragmatism and setting standards quickly to allow us to reach a long term vision.

Comments

- As before, a participant stressed his concern over moving towards LED, at the exclusion of other technologies. He advised that the improvements in tungsten filaments came to an end due to strict US regulations.
- The group were reminded that there would be exceptions where needed; and in the opinion of one panel member the halt of R&D in the above case was less to do with the regulations, but perhaps more to do with the lighting companies' priorities and strategies. The panel member pushed the Commission to be a bit daring with the regulations in order to push industry; and then develop a compromise acceptable for everyone.

Industry (ELC / CELMA) pointed out there was a synergy of these discussions in the joint ELC / CELMA LED Forum they ran at the Light+Building Fair on 14 April 2010, details of which are available on the ELC & CELMA websites.

- One delegate asked if everything moved towards LED, would we have enough materials to provide for this. A technical expert responded by saying there are new mines from which to source materials, however the material prices were hard to project.
- There was a question about the definition of a directional lamp and Mike Scholand replied to advise the definition was set in the 2009 regulation on non-directional lamps and is clearly outlined in the VITO study.
- There was a general agreement that the standardisation and the test methods should be harmonised. It was stressed that we need to stick to the timeframe outlined. Industry commented that the standard framework will be completed by end of 2011 so this should help. A CELMA / ELC overview Guide about LED related standards is available on the ELC & CELMA websites.
- Recognition was given of the consortium's work on this independent analysis, and any such further studies were generally welcomed.

This supplemental analysis discussed at this meeting is supported by the UK Department for Environment, Food and Rural Affairs (Defra), the Swedish Energy Agency and the European Council for an Energy Efficient Economy (eceee). Attendees and other stakeholders are encouraged to offer comments in writing by 23 June 2010.

