

## Lighting – UK Comments

Firstly a general comment for the entry into force Article of this and several other proposed Regulations/Delegated Acts. You will have seen our comments on the Refrigeration lot where we ask that the application dates appear in one place only so as to avoid confusion. Our view is that the best place would be the Annex along with the Ecodesign measures to avoid any misunderstandings. Our views for lighting are the same (although only one tier proposed here).

On **lighting specifically** we are concerned that although the previous Regulations recognised health concerns of those with photosensitivity, this proposal is lacking in this and we would ask that the conclusions of the SCHEER LED report<sup>1</sup> be taken into account when addressing health concerns in this regulation.

Also as I mentioned in the Consultation Forum, we are concerned that the proposal for PstLM threshold of 1 would still allow approximately 50% of the population to perceive flicker, so this maximum value is inadequate to protect against visible periodic flicker. We would suggest that for periodic flicker above 2 Hz and below 100 Hz (for a 50 Hz mains supply, the upper limit being 120 Hz for a 60 Hz mains supply), there should be no flicker or flashes at these frequencies above 1% modulation.

Above the visibility threshold (around 80-90 Hz) the periodic flicker may be invisible but is still capable of being perceived and causing health impacts. However, no requirement is made for this in the proposal. Without such a requirement, the regulations will be inadequate to protect against flicker having adverse health effects. We would suggest that for periodic modulation frequencies from 100 Hz inclusive and above, the modulation should not be capable of having a biological effect. To achieve this, we suggest that the Physiological Percent Flicker (PPF, as defined in Price, 2017) is kept below a threshold of 1%, which will also ensure compliance with the criteria of the IEEE 2015-1789 standard on flicker in this frequency range. The IEEE standard includes an international expert consensus view on the effects of flicker. We can provide more information on this if required.

We also think that there should be a requirement to disclose any adverse level of flicker to the customer on the packaging, to enable a customer to choose a product based on quality. We recommend that the IEEE categorisation of flicker is adopted, and the testing is carried out using appropriate PPF thresholds.

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<sup>1</sup> [https://ec.europa.eu/health/sites/health/files/scientific\\_committees/scheer/docs/scheer\\_o\\_011.pdf](https://ec.europa.eu/health/sites/health/files/scientific_committees/scheer/docs/scheer_o_011.pdf)