

Paris, October, 26th 2010

## STATEMENT FROM SYNDICAT DE L'ÉCLAIRAGE

### RELATED TO A.N.S.E.S. ADVICE ON LIGHTING SYSTEMS USING LED AND SANITARY EFFECTS TO CONSIDER

Yesterday evening October, 25<sup>th</sup> 2010, the French National Health Safety Issues Agency for Food, Environment and Work (ANSES), has made public a report on LED.

Concerning lighting, the Syndicat de l'éclairage which has been interviewed by ANSES in July 2009, is currently analysing the 300 pages report of ANSES.

This report, which is a "première" as such a study has never been carried out before, puts forwards the numerous benefits of LED (energy savings, light control, etc) and mentions:

- risks of glare associated to the use of certain LED lamps with high luminance (luminous beam intensity on a surface, expressed in candela/m<sup>2</sup>) under certain use conditions,
- photobiological risks induced by certain LED of which the light composition is rich with blue colour<sup>1</sup>.

Within the framework of its expertise and under a pioneering context, the ANSES has carried out several tests **maximising photobiological risks: by placing user's eye at 200 mm from the light source and in the vision axe** (maximal evaluation conditions of EN 62471 standard, as interpreted by ANSES). These tests lead ANSES to emit several recommendations relating to the information of the consumer, to the further development and implementation of standards as well as the acquisition of new knowledge about artificial lighting.

As far as glare due to luminance of LED is concerned, the Syndicat de l'éclairage reminds that other lamp types used since several years present comparable luminance.

However, it is in all cases recommended:

- not to look at the light source, whatever it is, from the front,
- to use a LED light source equipped with a diffuser and/or an lamp integrated reflector and/or
- to integrate the light source in a luminaire which, by its design and its reasonable implementation, limits luminance that the user perceives in places that comply with prescriptions of European standards<sup>2</sup>.

As a matter of fact, these recommendations are relevant for all lamps types, professional or domestic currently available.

In normal conditions of usage, LED do not give any particular sanitary risk.

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<sup>1</sup> Three methods enable to obtain white light with LED. This is one of those methods which is evaluated in this report, the one using LED emitting in blue.

<sup>2</sup> NF X 35 103 « principles of visual ergonomics » and the norm NF EN 12 464-1 of which the luminance values are around few millions of candela/m<sup>2</sup>

**The Syndicat de l'éclairage aligns with the opinion of ANSES** about the necessity of informing the professional chain and in particular public and private contractors and the buildings administrators in order to have compliance of the standards and the accompanying lighting project approach.

Like ANSES, the Syndicat de l'éclairage wishes that the lighting standard today voluntary becomes mandatory (NF EN 13201, NF EN 12464-1, etc.) and reinforcing market surveillance. We work daily in that direction, since too often lighting installations are carried out without preliminary study.

**The syndicat de l'éclairage aligns with the ANSES advise** regarding the evolution of the **European Standard EN 62471<sup>3</sup>**, so that the latter **includes sensitive risk populations**: i.e. those which the Trystalline is not mature (children), persons who are sensitive to light (affected notably by macular degeneration associated with age) or who are particularly exposed because of their work conditions.

**The marking of lighting products relating to photobiological risk is ongoing at the international electro-technical commission (IEC) level.** The Syndicat de l'éclairage is involved in this work through its representative, who is Chairman of the French TC 34 (lamp committee and luminaire committee) and in liaison with TC 76 (in charge of all types of radiation).

**This normative marking should be available in 2011** and would therefore allow the French public authorities to take decisions relating to the placing on the market of lamps belonging to the highest risk groups and to remind to the respect of recommendations according to the various end-uses.

LED technology should replace part of the existing technologies. It is therefore important to support its development by appropriate standards and regulations, enabling light quality and usage safety.

The Syndicat de l'éclairage also counts on the dynamism of the French supply chain/industry for setting up and updating good practices (Association française de l'éclairage), for research and development (Light Cluster) and for international representation. With regards to this last point, the International Energy Agency has assigned – in Spring 2010 – to France, represented by ADEME, within the framework of the 4E<sup>4</sup>, project the setting up of an international work programme aiming at controlling quality and efficiency of LED based lighting and to setting up measurement protocols; Marc Fontoynt, Professor at ENTPE<sup>5</sup> has been appointed coordinator of this work.

NB: This report also deals with use of LED in toys for children or car lamps, sectors for which the exposure modes are not the same. The Syndicat de l'éclairage is not habilitated to cover both areas but understands that this is about end-uses with high luminance, where the products deserve as well to be controlled and be covered by use recommendations.

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<sup>3</sup> Norme EN 62 471: This standard applies to lamps and devices using lamps. It recommends exposure limits for radiation from these light sources. It considers all of the photobiological hazards that may affect the eye (thermal and photochemical hazards) and defines 4 risk groups: risk group 0 (no risk), risk group 1 (low risk), risk group 2 (moderate risk), risk group 3 (high risk).

<sup>4</sup> Annexe 4E: Efficient electrical End-use Equipment.

<sup>5</sup> ENTPE: Ecole Nationale des Travaux Publics de l'Etat à Lyon.