European Sign Federation

EUROPÄISCHER VERBAND DER LICHTWERBUNG — FEDERATION EUROPEENNE DE L'ENSEIGNE ET DE LA SIGNALETIQUE

Guideline focused on the Protection of the Night Sky and a sustainable use of energy though the use of efficient light sources.

The ESF Technical Committee believes that the use of illuminated signs is a fundamental and key component in local and national economics of any area. Every business has the right to promote its services and illuminated signs are one of the most cost effective means of achieving that goal on a local level.

ESF Technical Committee also believes that the good health of the planet is an important goal to be pursued by everybody. The efficient use of light energy, the reduction in light pollution and a reduction in the negative impact of human activities on the ecosystem, should form part of the management of all industry, including the sign industry. Although signs generally form a minute part of the light in any modern environment, a badly designed sign can contribute to sky glow, be a source of intrusive light and hence have a negative impact on the environment. ESF Technical committee also recognises that poor street lighting and light spill from buildings can far outweigh the amount of light coming from signage.

However, ESF wishes to volunteer its contribution in this field, producing a simple guideline (to be improved and extended with time) to enable its' members to encourage their members to promote and design more environmentally friendly signs.

ESF believes one tool for controlling the environmental impact may be via a maximum brightness of signs to be introduced at a European Level based on EN12464-2. However, as described below, there are other criteria to be considered. The ESF supports the use of dimmers and timers to reduce the brightness of signs late at night or during periods of low observer traffic, or to switch the sign off whenever it is not needed.

Characteristics of more environmentally friendly signs.

The following might help sign designers and makers:-

1) General points:-
    a. Use the most energy efficient light sources applicable. Halogen and filament lamps are particularly inefficient and their use should be avoided, if possible.

b. Suggest to the end user that they might want to be more environmentally friendly, and save money, by using a time switch to turn off the illumination outside normal shop opening times or between, say, midnight and 5 a.m., or one hour after closing.
c. Using the same argument, promote the use of dimmers and time switches to reduce brightness during low traffic times or switch off altogether at zero traffic times (e.g. midnight to 05:00 a.m.).

2) For externally illuminated signs.
   a. Avoid the use of up-lighting. This is very inefficient use of light and substantial amounts are wasted by missing the sign altogether, or being reflected upwards, away from the observer(s).
   b. Do use the minimum number and power of luminaires needed.
   c. Use down-lighting luminaires that can have the direction of the light well controlled with well-designed lens systems, "barn doors" or other cowling.

3) For internally illuminated signs.
   a. Ensure the finished sign conforms to the EN12464-2 limits (given below).
   b. Do use the minimum number and power of lamps needed.
   c. Efficacies of greater than 60 lumens per watt should be achievable for white internal illumination light sources.
   d. Carefully select the lamp colour to best enhance the corporate colours of the sign.
   e. Avoid the use of black or coloured letters on a white background. Reversing this will lead to less lamps needed, lower energy costs and lower light pollution. Sell this to the end user where it does not interfere with corporate colours or designs.
   f. Where possible, mask backlit, upward facing surfaces. E.g. Imagine we have a series of letters made with light transmitting sides (e.g. halo illuminated, or all sides and faces light transmitting). When above the roof line, a letter "T" will spill light vertically upwards where it cannot be seen and is wasted. Blank the horizontal top surface to reflect the light back into the letter. Clearly the same cannot be said for letters on the facade of a building as the edgelit effect will be compromised.

4) The maximum brightness of backlit signs, according to EN12464-2 is:

Zone	Max sign luminance (cd/m^2)
E1 (natural park)	50
E2 (rural and industrial areas)	400
E3 (residential areas)	800
E4 (city centre)	1000

Note 1. Exposed cold cathode (neon) letters and border tubing are exempt from the above limits.

See example 5 below.

5) 

Halo illuminated letters are effective with much lower figures than those in the above table. See example 6 below.

6) 

BY MIKE HALL AND FAUSTO MARTIN.