Akord Cone, flat-glass product for zero upward light
Orchard Theatre, Dartford

How-to guides

Light pollution

The problem of light pollution was first flagged to the British lighting industry in 1992. The emotive issue has continued to grow in intensity in the ensuing years, with current estimates indicating that as much as £96 million per annum in wasted energy is to blame.

There are three main aspects of light pollution;

Sky Glow
Upwards light, either direct or reflected, that is scattered in our atmosphere to become a background luminance that can obliterate visibility of all but the brightest celestial objects. Light emitted at angles just above the horizontal is the main concern, as this can cause sky glow problems many tens of miles away from the source itself. See the Institute of Lighting Engineers publication 'Towards understanding skyglow', co-authored by Radio Astronomer Dr. Chris Baddiley and our Environmental Strategy Manager, Tom Webster for further details.

Glare
Often associated with light trespass, the discomfort or impairment of vision experienced when the brightness of a light source is excessive in relation to the general surroundings, detrimentally affecting one's ability to undertake a given visual task.

Light Nuisance
Light falling outside the area, building or monument being illuminated, onto other areas, so as to cause a nuisance.

The Clean Neighbourhoods and Environment Act 2005 (CNE) law which came into force in April 2006, has made it illegal to put light from one premises onto another if it is undesired. The crucial clause, 102, specifically targets light that is either injurious to health or is a nuisance. Whilst there are specifically named exceptions, many lighting schemes fall within the scope of this legislation and knowledge of its far reaching powers is of paramount importance.

How to minimise light pollution

- Download and follow the guideline document 'Guidance notes for the reduction of obtrusive light', published by the Institute of Lighting Engineers.
- Do not exceed target lighting levels.
- Consider switching and dimming to control the time that a project is lit. Remote monitoring systems can be particularly effective here, for example, does a park and ride car park need to be lit all night?
- Consider part night lighting and/or dimming. Enormous savings can be achieved and again with remote monitoring systems the project can be successfully tweaked to locally appropriate levels. See ILE technical report 27 for in depth guidance on variable lighting levels.
- Specify well designed lighting equipment with accurate and efficient photometric performance. Good quality products should have the ability to retrofit appropriate shields, baffles or louvers.
- Remember long light paths at shallow angles above the horizontal contribute most to sky glow and should be avoided where possible.
- For architectural lighting close offset up-lighting techniques, with higher numbers of low powered luminaires will engender fewer problems than larger products with greater range.
- Consider down-lighting as a viable alternative to up-lighting.
- After installation ensure that the equipment has been installed and functions as envisaged. Night time inspection on a misty night can be particularly effective, as stray light becomes immediately visible.