

Position Statement

Light at night: the importance of quality lighting and night preservation

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Benefits of light at night

In our modern 24-hour society, lighting is important for the safety and comfort of people outdoors between sunset and sunrise or in such places as parking garages, alleyways and pedestrian tunnels. Roadway lighting contributes significantly to traffic safety, enabling road users to detect obstacles, moving vehicles and other dangerous situations. In outdoor amenity areas, a good overview of the surroundings and the ability to see other people at sufficient distance is crucial for a positive social atmosphere and to feel safe in public spaces. Lighting can contribute to the character of an area, influencing mood and behaviour of occupants. Professionals at work between sunset and sunrise, such as those engaged in emergency services, industry, transport and logistics, depend on good lighting to be safe and effective in their jobs. Existing outdoor application standards provide minimum recommendations for lighting to achieve these benefits.

Importance of night preservation

Biological evolution and human history on Earth have been influenced by natural solar day-night cycles. As such, Earth's inhabitants and biosphere have developed biological dependencies based on these cycles. The introduction of electric lighting during the night in our built and natural environment can impact biological processes and limit our ability to access and study the cosmos and experience the aesthetic pleasures of the stars as seen in a truly dark night-sky. For these reasons, it is important that we employ lighting at night in a manner that preserves the night in a respectful way.

Low quality, incorrectly specified, or improperly installed outdoor lighting can detract from night preservation as well as waste energy. Lighting road edges, curbs and sides enables detection of people and animals near the road. However, light spilled beyond the useful area may be detrimental and should be avoided. Spill light shining out of the intended useful area (e.g. from illuminated sports fields) and negatively impacting nearby residents as glare or light trespass is called obtrusive light¹. Other sources of light pollution are lit facades and billboards. Uncontrolled upward light towards the sky should be avoided. It causes skyglow which hinders observation of the night sky and can disorient wildlife. Light pollution² is wasted energy and can be reduced and, in many cases, avoided by using good quality sensor controlled or connected lighting³.

¹ Obtrusive light is spill light which, because of quantitative or directional attributes, gives rise to annoyance, discomfort, distraction or a reduction in ability to see essential information such as transport signals (CIE ILV).

² Light pollution is the sum total of all adverse effects of artificial light (CIE ILV).

³ Connected lighting may be defined as the connection of lighting, controls and sensors, either wired or wirelessly, to allow operation of the lighting to be automatically controlled.

Lighting special areas

While light is important in facilitating human activity at night, there are special areas where other activities or species need additional attention. For the protection of wildlife near populated areas, lighting should be aimed carefully with appropriate shielding if required. Lighting can be significantly dimmed or switched off when not needed for human safety and orientation. Interference of outdoor lighting with nearby astronomical observatories or disturbance of nocturnal wildlife, such as migrating birds, bats and insects, can be alleviated by using special light spectra⁴ in combination with dimming or connected lighting.

Global Lighting Association recommendations

High quality outdoor lighting is a joint responsibility of lighting designers, owners and operators of lighting installations and lighting manufacturers.

1. **Make a proper lighting design**
 - a. Select the appropriate light sources, taking a broader perspective beyond initial cost and energy efficiency
 - b. Include requirements for special areas where applicable
 - c. Apply relevant outdoor lighting application standards while avoiding overlighting
2. **Use good quality lighting controls**
 - a. Use sensors and controls where possible
 - b. Use connected lighting for light management and maintenance
3. **Use light only where needed**
 - a. Use shielding and aim the light beam where needed to avoid light spill and light trespass
 - b. Use appropriate luminaire optics to limit glare
4. **Use light only when needed**
 - a. Use electric light between sunset and sunrise consistent with human nighttime activity
 - b. Dim or extinguish electric lighting during the quiet hours

About the Global Lighting Association

The Global Lighting Association (GLA) is the voice of the lighting industry on a global basis. GLA shares information on political, scientific, business, social and environmental issues of relevance to the lighting industry and advocates the position of the global lighting industry to relevant stakeholders in the international sphere. See www.globallightingassociation.org.

⁴ Examples of special light spectra in this context include reduced yellow to red spectral content which is less disturbing to migrating birds, or a spectrum with a high red-orange content which strongly reduces insect attraction and disturbance to bats. It should be noted that correlated colour temperature is not a suitable proxy for spectrum.