

International Dark-Sky Association
Board Policy on the Application of the Lighting Principles
Adopted January 28, 2021

Whereas, light pollution is defined by IDA as any adverse impact or effect attributable to the use of artificial light at night, including but not limited to skyglow, glare, spill light, and impaired nighttime visibility; and

Whereas, light pollution is known or suspected to negatively influence natural ecosystems, human health, public safety, astronomical observations, energy security, and global climate; and

Whereas, scientists have identified the emission of short-wavelength (“blue”) visible light into the nighttime environment as a significant astronomical and biological concern; and

Whereas, the Board adopted the IDA-IES Five Principles for Responsible Outdoor Lighting (hereafter the ‘Principles’) on February 27, 2020; and

Whereas, IDA asserts that outdoor lighting should be designed to minimize the impact on the environment; and

Whereas, IDA challenges lighting manufacturers, engineers, and designers to develop and advance more lighting options and positive examples in support of the Principles; and

Whereas, IDA sets a short-term conservation goal of no net increase in light pollution per capita and a long-term conservation goal of the restoration of intrinsic darkness; and

Whereas, IDA will provide guidance that can be broadly applied, empowering diverse jurisdictions, communities, and interests to select responsible outdoor lighting.

NOW, THEREFORE BE IT RESOLVED, to direct IDA’s advocacy and technical guidance on the implementation of the Principles, the IDA Board agrees as follows:

- 1) Responsible outdoor lighting must consider all five principles in its design and installation and only through attention to all five principles will light pollution be minimized to its practical extent.
- 2) Where existing fixtures are replaced, the project should demonstrate how they will reduce light pollution, or at a minimum not increase it.
- 3) Where new installation or lighting retrofit projects are proposed, they should be guided by an assessment process to determine if such lighting is necessary and responsible.
- 4) To reduce skyglow, glare, spill light, and over-lighting, indoor and outdoor lighting should contain and minimize the emission of light beyond the intended target. Light emitted towards or above the horizon can have extraordinarily high environmental impacts.
- 5) To prevent overlighting, actual illumination levels should be as close as reasonably practical to the minimum values recommended by accredited professional bodies (such as IES and CIE) and

appropriate for the task and environmental setting. IDA will collaborate with professional bodies to ensure that recommended illumination values are well-founded in science.

- 6) New installations should have active controls to reduce illumination levels or extinguish lighting completely based on time of day or occupancy. Such controls are currently underutilized in outdoor lighting and can substantially reduce light pollution and save energy. Energy conservation codes are increasingly calling for active controls.
- 7) The spectral content, or color, of light should be limited to only what is necessary for the task. Because of the disproportionate impact on the nighttime environment, particular attention should be paid to reducing the total emissions of short-wavelength or “blue” light (defined for the purposes of this resolution between the wavelengths of 380 nm and 520 nm) through light source spectrum management.¹
 - a) IDA recommends that most lighting installations use lamps rated at 2200K CCT², Phosphor-Converted Amber LED, or some filtered LEDs, based on evidence that these colors have less impact on the environment.
 - b) Where higher than 2200K CCT is selected, the total emission of blue light into the environment should be kept to as low as reasonably possible through low intensities, careful targeting, and reduced operating times.³
 - c) Near sensitive sites, such as conservation areas, sensitive wildlife habitat, ecological reserves, parks, astronomical observatories, or stargazing sites, IDA recommends that lighting installations use 0% blue light and a narrower spectrum of emission.
 - d) Critically sensitive environments should be kept naturally dark.
- 8) IDA recognizes that there is no single solution that will work for all situations; therefore IDA will develop a range of scenarios and guidance for common lighting situations. Solutions that result in no net increase in light pollution should be considered a minimum requirement, whereas best management practices would result in the maximum practical restoration of intrinsic darkness.
- 9) Because context matters, IDA recognizes that advocates and lighting professionals need the flexibility to identify how the Principles are best applied within their local area to meet valid needs while observing all regulatory frameworks (guidelines, procedures, standards and codes, and laws). Where required or feasible, such decisions should be guided by an appropriate environmental assessment and supported by monitoring of light levels in the surrounding environment.
- 10) IDA will periodically update guidelines in response to changing technology, changes in available market solutions, evolving social values, and scientific progress.

¹ Outdoor light emission in the ultraviolet portion of the spectrum (below 380 nm) should also be avoided as it often has deleterious consequences for wildlife while providing no benefit or human utility.

² IDA recognizes that there is no widespread agreement on a more relevant metric than CCT for spectrum evaluation and will continue to advocate that one is developed. In the interim, CCT may be used as a placeholder, although it should be verified that the source emits no more than 8% blue light emissions.

³ IDA has captured many examples of how lighting with higher blue content can be done in a responsible manner. IDA’s Community-Friendly Sports Lighting Certification is one such example.