

Fact Sheet for “An Act Improving Outdoor Lighting and Increasing Dark–Sky Visibility”

A bill titled “An Act Improving Outdoor Lighting and Increasing Dark–Sky Visibility” has been introduced by Sen. Cynthia Creem (SD.1324) and by Rep. Sean Garballey (HD.1809). As of February 4, 2019, it has robust, bipartisan legislative support with 24 co-sponsors.

These bills would promote energy-efficient lighting practices throughout the Commonwealth by:

- requiring municipal- and state-funded projects to use fully-shielded exterior lighting in new or replacement installations, and to install that lighting only where it is needed;
- requiring these installations to use lighting with a correlated color temperature (CCT) of no higher than 3000K, which researchers advocate for human circadian health and nocturnal habitats.
- requiring Mass. Dept. of Transportation to review and update its criteria for roadway lighting to conform to commonly accepted best practices; and
- requiring the MA Department of Public Utilities to establish reduced-rate tariffs for low-wattage LED streetlights and for streetlights that are dimmed or turned off during the night. this would benefit towns that want to install LED streetlights with electronic dimming controls.

Poorly designed or excessive night lighting harms the environment in many ways, including:

- **Energy waste:** by one estimate, light streaming up into the night sky from the Boston area alone equates to about \$20,000,000 in wasted electricity annually.
- **Visual impairment:** poorly designed lighting causes harsh glare that blinds and distracts drivers, especially in bad weather and for elderly drivers with poor visibility.
- **Environmental consequences:** overlit buildings disorient many birds, especially during their seasonal migrations, causing death due to impact or predation.
- **Loss of the starry sky:** skyglow from light pollution reduces enjoyment of the night sky. More than two-thirds of Americans can’t see the Milky Way from their homes.

By contrast, well-designed lighting illuminates the ground without wasting energy and without being a burden or nuisance to the environment or other people and property. Lighting professionals recognize that the most straightforward means to create a glare-free nighttime environment is to utilize fully-shielded lighting fixtures, which emit all of their light down (below horizontal) and none of it directly up into the sky.

Note that the bill’s requirements would apply only to new or replacement lighting installations — existing lighting would not be affected, and provisions are included to permit waivers when deemed necessary by special circumstances. Nor would it add to project costs, because well-designed, fully-shielded lighting is now almost universally available from manufacturers.

The primary sponsor is the International Dark-Sky Association (darksky.org) and its Massachusetts chapter. If you have questions regarding this bill, please contact Kelly Beatty (kbeatty@darksky.org), Tim Brothers (brotherstimothy@gmail.com), or Mario Motta (mmotta@massmed.org).

References:

“Human and Environmental Effects of Light Emitting Diode Community Lighting” (American Medical Association, CSAPH Report 2-A-16, 2016; <http://bit.ly/1XZzs3>)

“Visibility, Environmental, and Astronomical Issues Associated with Blue-Rich White Outdoor Lighting” (International Dark-Sky Association, 2010; <https://is.gd/wBJaGc>).