

## Conservation Series #1

Recommendations for  
**LIMITING LIGHT POLLUTION**  
**IN ALBANY TOWNSHIP, BERKS COUNTY, PENNSYLVANIA**

[11/2/2020]

**Outdoor lighting regulations are addressed in the Albany Township Zoning Ordinance in Section 511 *Outdoor Lighting and Glare* on page 5-5. The non-compulsory advisory below augments current regulations to improve the environment in the township.**

Uncontrolled outdoor lighting causes a variety of problems for people and wildlife, including:

- Glare
- Light trespass
- Wildlife disruptions and mortality
- Energy waste
- Skyglow inhibiting night-sky viewing

This advisory is provided to residents and to builders of new developments to support safe, aesthetically pleasing, and energy-efficient outdoor lighting that preserves views of the night sky within Albany Township and minimizes harm to species disturbed by artificial lighting.

Albany Township has many key important wildlife areas. The *Kittatinny Ridge Conservation Landscape* traverses Albany Township's northern border. It is home to the Appalachian Trail, a National Park, and is designated a state, national, and globally Important Bird Area (IBA) and state Important Mammal Area (IMA). The ridge is also a key migration corridor for many birds. An astronomical observatory is located near the Pinnacle.

Wildlife and wild places can be disrupted by light pollution. In addition, using proper lighting can save energy. Twenty to thirty percent of normal outdoor residential lighting is lost to the night sky (see [www.darksky.org](http://www.darksky.org)). In keeping with the rural character, scenic beauty, and conservation values of Albany Township, the Albany Township Environmental Advisory Council (AT EAC) provides the following recommendations on lighting within the township.

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In all zoning districts, lighting of buildings, roads, and driveways should be housed in downward, fully shielded, focused-light housing to limit light scatter to the sky and light scatter beyond the property. Lighting that illuminates only on motion can further reduce non-essential lighting, particularly in less visited areas.

In Agriculture and Woodland Conservation zoning districts, lighting of buildings, accessory buildings, tower structures, particularly on or near the Kittatinny Ridge, the township strongly encourages all outdoor lighting to be fully shielded to limit light scatter and light trespass.

Cell towers, wind turbines, or other structures that exceed 200 feet in height and that must be lit by Federal Aviation Administration (FAA) regulations, should be marked with red blinking lights – not red or white steady-burning lights – to minimize confusion and subsequent mortality by bird and bat migrants. Steady-burning lighting ‘captures’ migrants and can lead to large mortality events.

Accessory structures on ridge or hilltop areas should be unlit or lit only with fully downward-shielded lights to limit light scatter to the night sky. Guidelines to limit wildlife damages suggest the use of LED lights on all ridge-top/hilltop structures. These lights turn off more quickly, saving energy and bird lives. When marking towers or structures using a flash rate limited to 27 and 33 flashes per minute, which is approved by the FAA when coupled with LED lighting, improves survival of night-migrating wildlife, allowing them a chance to escape the lighted areas.

#### DEFINITIONS

- A. BUG – A rating of the amount of Backlight, Uplight, and Glare of a luminaire.
- B. Cutoff – A lighting fixture from which no more than 2.5% of its lamp’s intensity is emitted at or above a horizontal plane drawn through the bottom of the fixture, and no more than 10% of its lamp’s intensity is emitted between 80° and that horizontal plane.
- C. Footcandle – A unit of incident light stated in lumens per square foot and measurable with an illuminance meter, a.k.a. footcandle or light meter.

D. Full Cutoff – A lighting fixture from which none of its lamp’s intensity is emitted at or above a horizontal plane drawn through the bottom of the fixture, and no more than 10% of the lamp’s intensity is emitted between 80° and that horizontal plane.

E. Fully Shielded – A lighting fixture from which in the installed position, none of its light output, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the fixture (excepting only incidental reflections from supporting brackets or arms), is projected above a horizontal plane through the fixture’s lowest light-emitting part, as determined by photometric test or certified by the manufacturer. Any structural part of the fixture providing this shielding shall be permanently affixed.

F. Glare – The sensation produced by lighting that causes an annoyance, discomfort, or loss in visual performance and visibility to the eye.

G. Illuminance – The quantity of incident light measured in footcandles.

H. Light Trespass – Light emitted by a lighting installation which extends beyond the boundaries of the property on which the installation is sited.

I. Lumen – The light-output rating of a lamp (light bulb), as used in the context of this Ordinance.

J. Luminaire – A complete lighting unit

K. Shielded – The description of a luminaire from which no direct glare is visible at normal viewing angles by virtue of its being properly aimed, oriented, located, and fitted with such devices as shields, barn doors, baffles, louvers, skirts, or visors.

REFERENCES on light impacts on birds:

[www.abcbirds.org/collisions](http://www.abcbirds.org/collisions)

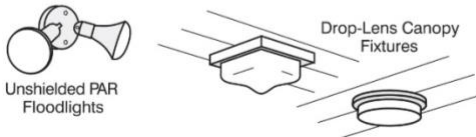
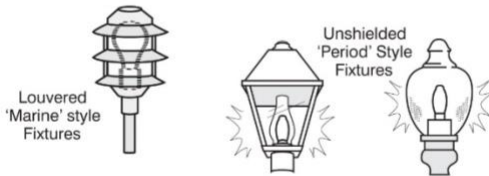
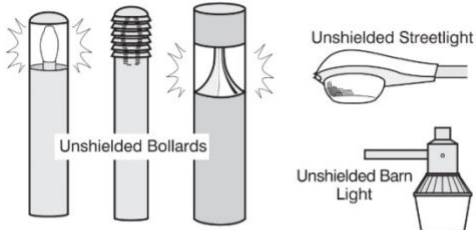
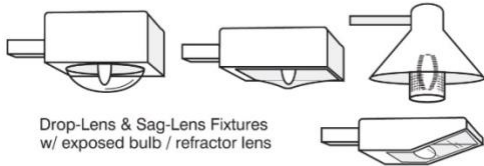
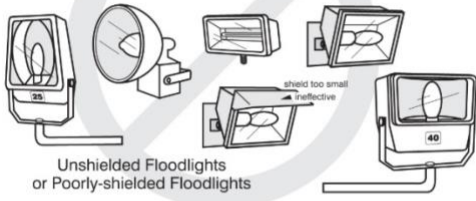
[www.darksky.org](http://www.darksky.org)

[wwwdark.flap.org](http://wwwdark.flap.org)

# Examples of Acceptable / Unacceptable Lighting Fixtures

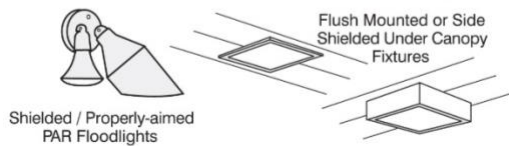
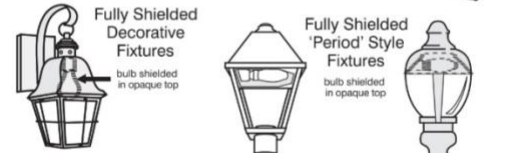
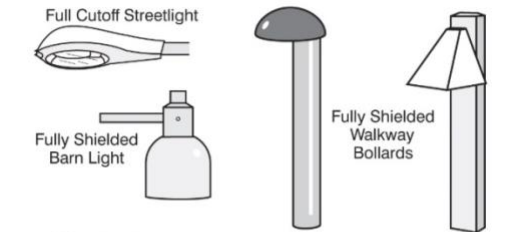
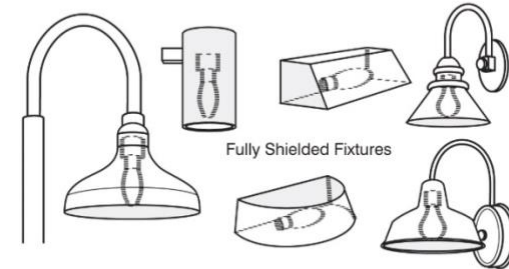
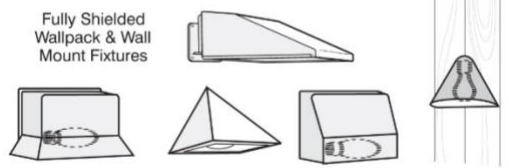
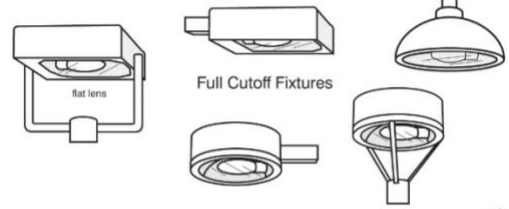
## Unacceptable / Discouraged

Fixtures that produce glare and light trespass



## Acceptable

Fixtures that shield the light source to minimize glare and light trespass and to facilitate better vision at night



Illustrations by Bob Crelin© 2005. Rendered for the Town of Southampton, NY. Used with permission.

**Note: The above graphic is an example to show lighting types but is not prescribed by ordinance.**