

**Lincoln's current
lighting regulation and
proposed guidance or
bylaws under
consideration.**

Jan 2025



Lincoln's current exterior lighting bylaws and guidance

Bylaws

- 13.5 Exterior Lighting: All artificial lighting permanently installed in any district, shall consist only of fully shielded light fixtures and be so installed or shielded as to prevent direct light or glare from the light source from interfering with the vision of motorists or pedestrians passing in the street or streets abutting the premises and as to prevent direct light or glare from illuminating neighboring properties.
- 13.5.1 All exterior lamps shall have a Correlated Color Temperature (CCT) value of 3000K or below.

Guidelines for exterior lighting (Additional items added in 2015)

- Exterior lighting on structures will be allowed only where required by the Massachusetts Building Code or where the Planning Board determines that lighting is needed to enhance safety of occupants or visitors.
- Individual light fixtures shall not exceed 900 lumens.
- Exterior lighting of structures or landscape for architectural or aesthetic effect is not permitted.
- Driveway lighting will not be allowed; however, lighting in parking areas and walkways adjacent to a home may be allowed. Such lighting should be mounted no more than 3 feet above finished grade.
- To identify street numbers, reflective numbers on mailboxes are preferred. In unusual circumstances, the Planning Board may allow lighting of street numbers placed on the exterior of a residence or on a plaque or bollard placed near the street.

Existing fixtures prior to 2015 are exempt from this regulation

DarkSky Approved Luminaires and Bulbs



Responsible Home outdoor lighting

- <https://darksky.org/what-we-do/advancing-responsible-outdoor-lighting/home/>

The easiest and best solution

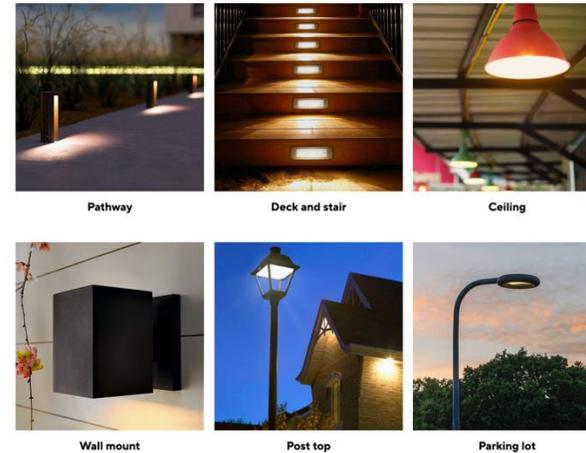
Turn off the lights when not in use.
No need to have lights on all night.

DarkSky approved luminaires

- <https://darksky.org/what-we-do/darksky-approved/luminaires/>
- <https://designlights.org/our-work/luna/>

Search by Use

Store / Search by Use



Some examples



Motion activated
lights: \$40



Fully shielded
entrance lights: \$50

Light Bulbs

- www.1000bulbs.com

Choose 2700K or less

Light intensity and color

Light Color Temperature (Kelvin)



- Color temperature describes the hue of the light, it is measured in degrees of Kelvin
 - Candle flame: 1800K
 - Incandescent: 2700K
 - Operating room: 4000K
 - Day light: 5000K
 - Blue sky: 8000-10000K
- Blue rich light causes most glare and is the most disruptive to sleep and wildlife.

Light intensity (Lumens)



- The light output of a source is measured in Lumens
 - Watts is the energy used to generate light.
A 9-watt LED is equivalent to a 60 watts incandescent bulb
- How many lumens is needed depends use
 - 200-500 lumens is considered sufficient to illuminate an entrance way
 - Lincoln's outdoor lighting guidance restricts a light source to 900 lumens
 - Illumination, measured in foot-candle or lux, is what matters

<https://darksky.org/>

<https://nvlightingga.com/blog/how-bright-should-outdoor-lighting-be>

<https://www.streetlights-solar.com/how-many-lumens-do-i-need-for-outdoor-lighting.html>

Summary of Proposed Guidance/Bylaws Updates

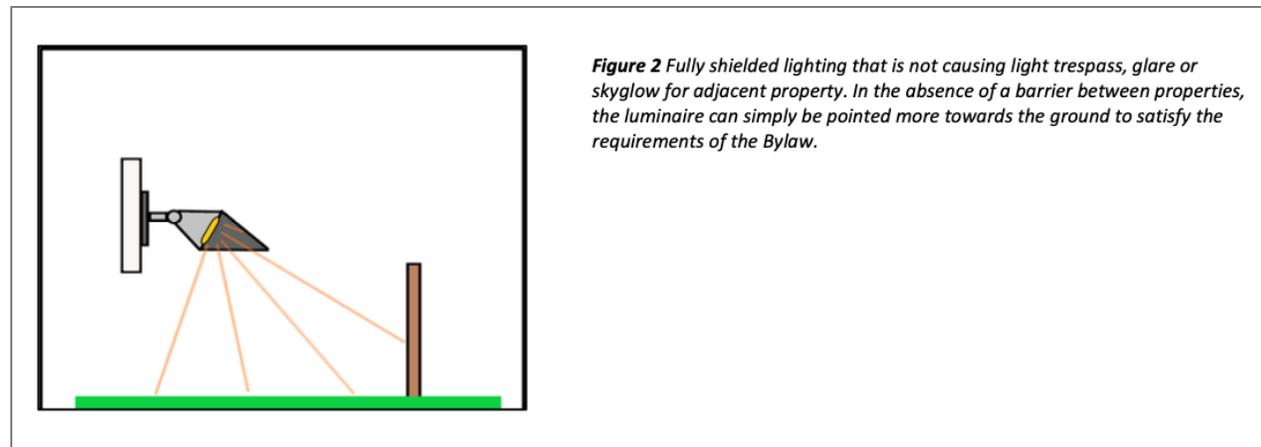
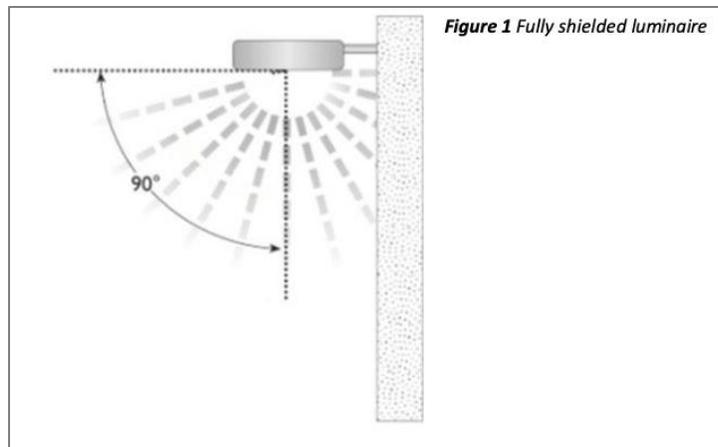
The Planning Board can grant exceptions to those bylaw for safety or security reasons.

Useful and Controlled Use light for a purpose and when needed

- We recommend motion activation so that the light is only on when needed. Dim the light to the level that is required.
- Accent lighting, including landscape lighting, shall be focused directly at the target and shall not exceed 250 lumens per fixture and a total of 2000 lumens. Such lighting should be turned off or dimmed at 9:00 pm.

Targeted: Directed only where needed

- Unless exempted, all exterior luminaires shall be fully shielded.



When you reach for the stars you may not quite get one, but you won't come up with a handful of mud either. (Leo Burnet)

Summary of Proposed Guidance/Bylaws Updates

The Planning Board can grant exceptions to those bylaw for safety or security reasons.

Low level, not brighter than necessary

- Maximum of 900 lumens per fixture with limited lumens/property to 10,000 lumens
We recommend not using more light then needed: example: 200-500 lumens in entrance ways
- Illuminance on nonresidential properties shall not exceed the values recommended by the Illuminating Engineering Society (IES) for the application by more than 50%.

Warm colored

- The correlated color temperature (*CCT*), of the light emitted by the luminaires shall not exceed 2700K.

Street lights and Public Buildings

- We propose that the town evaluates the cost and feasibility of bringing public lighting in compliance with those general By-laws.
- We propose to turn off or dim street lights that are a nuisance or not needed.

Implementation

- All non-conforming *luminaires* shall be brought into conformance within five (5) years of adoption of this By-law for property owned by the Town or other public governmental agencies, within five (5) years of adoption of this By-law for other property, and ten (10) years for property containing only a single- or two-family dwelling.

It is not in the stars to hold our destiny but in ourselves. (William Shakespeare)

Video to watch

Responsible Home outdoor lighting

<https://darksky.org/what-we-do/advancing-responsible-outdoor-lighting/home/>

Presentations from James Lowenthal, Smith College

<https://www.youtube.com/watch?v=MIHp-B0DTMw>

https://www.youtube.com/watch?v=k_mZignBh6c

Presentation from Tim Brothers

<https://www.youtube.com/watch?v=R8HKaye8Uog>

Contact the Lincoln Dark Skies Committee:

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