

## § 174-12.1 Outdoor Illumination [Amended 4-11-2005, Art 40]

- A. Purpose. This section recognizes the benefits of outdoor lighting and provides clear guidelines for its installation, so as to help maintain and compliment Southborough's character. The intent of this section is to encourage lighting that provides safety, utility and security; prevent glare on public roadways; protect the privacy of residents; promote energy-efficient outdoor lighting; limit the total allowable illumination of lots located in the Town of Southborough; and to reduce atmospheric light pollution. Appropriately regulated, and properly installed, outdoor lighting will contribute to the safety and welfare of the residents of the Southborough.
- B. Applicability. Outdoor illumination by flood or spot luminaires rated at nine hundred (900) lumens or more (which is approximately equal to one 60-watt incandescent light bulb) or by any other luminaires rated at one thousand eight hundred (1800) lumens or more (which is approximately equal to one 120-watt incandescent light bulb) shall be subject to the provisions of this Section, with the following exceptions: emergency lighting; hazard warning; temporary decorative or holiday lighting or public roadway illumination. It shall also not apply to any luminaire intended solely to illuminate any freestanding sign, flag or the walls of any building but such luminaire shall be shielded so that its direct light is confined to the surface of such sign, flag or building.

The replacement of existing fixtures shall be subject to the provisions of this Section; however, the replacement of existing nonconforming lamps or fixtures with the same or lower output nonconforming lamps or fixtures is exempted.

The Planning Board in performing review pursuant to Section 174-10, Site plan approval, may determine that special circumstances of the site, context or design make an alternative lighting design at least equally effective in meeting the purposes of this Section and in such cases, may modify the requirements of this Section.

- C. Definitions. For the purposes of this Section, the following terms shall be defined as indicated below. Although set forth here for convenience, the terms shall have the same effect as if set forth in Section 174-2 of this Bylaw.

Fixture: The assembly that houses a lamp or lamps, and which may include a housing, a mounting bracket or pole socket, a lamp holder, a ballast, a reflector or mirror, and/or a refractor, lens or diffuser lens.

Full Cutoff: A luminaire designed with an opaque shield surrounding and extending below the lamp, such that no direct light is emitted above a horizontal plane;

Glare: Light emitted from a luminaire with intensity great enough to produce annoyance, discomfort or a reduction in a viewer's ability to see, and in extreme cases causing momentary blindness.

Lamp: The component of a luminaire that produces the actual light.

Light Trespass: The shining of direct light produced by a luminaire beyond the boundaries of the lot on which it is located.

Lumen: A measure of light energy generated by a light source. One foot candle is one lumen per square foot. For purposes of this Bylaw, the lumen output shall be the initial lumen output of a lamp, as rated by the manufacturer.

Luminaire: A complete lighting system, including a lamp or lamps and a fixture.

- D. Exterior Lighting Plan. Applications subject to the provisions of Section 174-10, Site plan approval, shall submit a lighting plan which shall include the following information, except to the extent waived by the Planning Board. All other lighting not subject to the provisions of said Section 174-10 does not require a lighting plan but shall meet the standards as set forth in this Section, unless as may otherwise be provided herein. The lighting plan shall include the following information:
- location, orientation and type of outdoor luminaire, including the height of the luminaire, both existing and proposed;
  - luminaire manufacturer's specification data, including lumen output and photometric data showing cutoff angles, as well as a description of all illuminating devices, fixtures, lamps, supports, reflectors, both existing and proposed; this may include but is not limited to, catalog cuts and illustrations by manufacturers;
  - type of lamp such as metal halide, compact fluorescent, high pressure sodium;
  - photometric plan showing the intensity of illumination expressed in footcandles at ground level within the interior of the property and at the property boundaries;
  - evidence that the plan complies with light trespass restrictions as set forth herein.
- E. Flickering and Flashing Lights. No flickering or flashing lights shall be permitted. Processes, such as arc welding, which create light flashes shall be confined within buildings or shielded to prevent either direct glare or flashing.
- F. Wall Mounted Fixtures. In Nonresidential Districts, a luminaire attached to the exterior of a building or structure for area lighting shall be mounted no higher than fifteen (15) feet above grade and shall be shielded to control glare. "Wal-pac" lighting fixtures are prohibited.

G. Pole Mounted Fixtures. Pole mounted exterior lighting fixture types are defined and restricted as follows:

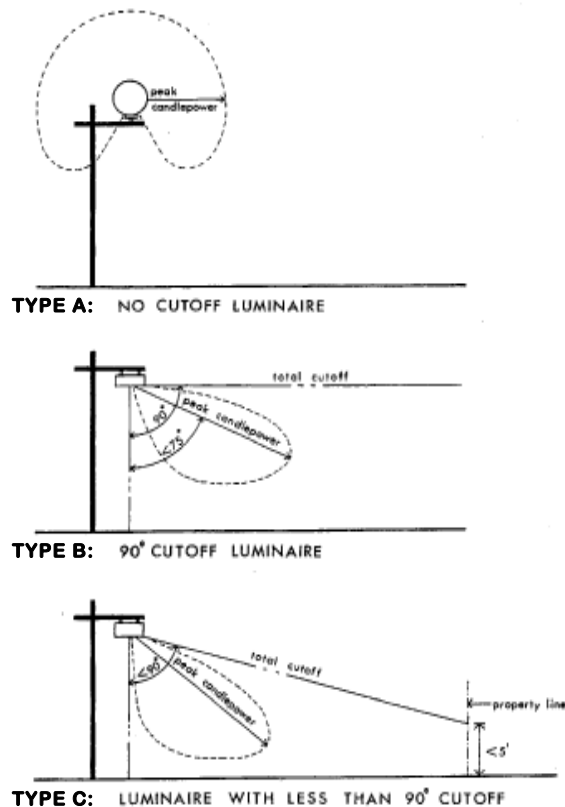
Type A. No light cutoff.

Type B. Luminaire shielded such that peak candlepower is at an angle of 75 degrees or less from straight down, and essentially no light is emitted above the horizontal.

Type C. Luminaire shielded such that total cutoff is at less than 90 degrees from straight down, and no light source is in direct view of an observer five (5) feet above the ground at any point off the premises.

H. Pole Mounted Fixtures Height Limitation. Illustrations of pole mounted exterior lighting fixture types are shown in Chart I herein. Pole mounted fixtures shall not exceed the applicable pole mounted height limitation set forth in Chart II in any district. The Type A pole mounted exterior lighting fixture is prohibited in all Nonresidential Districts, unless equipped with shields.

### CHART I. ILLUSTRATIONS



## CHART II. POLE MOUNTING HEIGHT LIMITATIONS

	District	
	Residential	Nonresidential
	Maximum Luminaire Mounting Height (feet above grade)* “District” is that in which fixtures are located.	
Fixture Type A	10	Not allowed (unless shielded)
Fixture Type B	15	20
Fixture Type C	20	20

\*Feet above grade refers to the overall average grade of the area being illuminated.

- I. Ceiling Mounted Fixtures. In Nonresidential Districts, luminaires mounted on an exterior ceiling such as under a canopy shall be mounted with the refractor or lens flush with or recessed in the ceiling or fixture.
  
- J. Lighting Levels. Any luminaire with a lamp or lamps rated at a total of one thousand eight hundred (1800) lumens or more (which is approximately equal to one 120-watt incandescent light bulb) and all flood or spot luminaires rated at nine hundred (900) lumens or more (which is approximately equal to one 60-watt incandescent light bulb), shall not emit any direct light above a horizontal plane through the lowest direct-light-emitting part of the luminaire. If any spot or flood luminaire rated 900 lumens or less is directed or focused such as to cause direct light from the luminaire to be cast toward residential buildings on adjacent or nearby land, or to create glare perceptible to persons operating motor vehicles on public ways, the luminaire shall be redirected or its light output controlled as necessary to eliminate such conditions.

The Planning Board reserves the right to limit and regulate the amount of illumination on a project site between the hours of 10:00 p.m. and 6:00 a.m., while understanding the need for safety and security lighting.

- K. Light Trespass Limitations. There shall be no light trespass by a luminaire beyond the property boundaries of the lot on which it is located.\*

\* Except no limit within a street right-of-way.