

AMEND ZONING BY-LAW - OUTDOOR LIGHTING – SECTION XXI OUTDOOR
LIGHTING

ARTICLE 7 To see if the Town will vote to amend the Zoning By-Law by adding a new section on outdoor lighting as described below and to act fully thereon:

Explanation: This new section provides standards for outdoor lighting for all parcels except those containing one and two family dwellings and other specified exemptions.

21.1 Purpose

The regulation of outdoor lighting is intended to enhance public safety and welfare by providing for adequate and appropriate outdoor lighting, provide for lighting that will complement the character of the town, reduce glare, minimize light trespass, and reduce the cost and waste of unnecessary energy consumption.

21.2 Applicability

The requirements of this section shall apply to outdoor lighting on lots and parcels in all districts except as provided in Section 21.3.

When an existing outdoor lighting fixture is being modified, extended or expanded, it shall be subject to the requirements of this section.

21.3 Exemptions

The following outdoor lighting shall be exempt from the specific requirements of this by-law but, any such lighting shall, nevertheless, be placed and directed so as to minimize the detrimental effects of glare on motorists, pedestrians and abutting lots:

- 21.3.1 Outdoor lighting that is accessory to a one or two family dwelling use on a lot where such a use is the principal use.
- 21.3.2 Outdoor temporary holiday lighting, provided it is illuminated only during traditional holiday periods.
- 21.3.3 Outdoor municipal lighting which shall be guided by a municipal outdoor lighting policy.
- 21.3.4 Traffic lights.
- 21.3.5 Warning and alarm lights that alert to a malfunction or emergency situation.
- 21.3.6 Lighting of flag poles.

21.4 Definitions

In addition to the terms defined in Section II of this By-Law, the following technical terms applying to lighting shall have the meaning indicated below. Although set forth here for convenience, the terms shall have the same effect as if set forth in Section II, Definitions.

DIRECT LIGHT: Light emitted from the lamp, off the reflector or reflector diffuser, or through the refractor or diffuser lens, of a luminaire.

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.

FOOTCANDLE (FC): A measurement of the amount of light reaching an object. A footcandle is the measurement of the intensity of one lumen of light falling on one square foot of surface area one foot away from the source.

FULLY-SHIELDED LUMINAIRE: A lamp and fixture assembly designed with a cutoff angle of 90°, so that no direct light is emitted above a horizontal plane.

GLARE: Light emitted from a luminaire with an intensity great enough to produce annoyance, discomfort, or a reduction in a viewer's ability to see.

HEIGHT OF LUMINAIRE: The vertical distance from the finished grade of the ground directly below to the lowest direct light emitting part of the luminaire.

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

LIGHT FIXTURE – A lighting device that may be secured to a wall, ceiling, pole, or post and is used to hold one or more lamps. Lighting fixtures are designed to distribute the light, to position and protect the lamp(s), and to connect the lamp(s) to the electrical power supply.

LIGHT TRESPASS: The shining of direct light produced by a luminaire beyond the boundaries of the lot or parcel 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 By-Law, 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.

“Outdoor lighting” means the nighttime illumination of an outside area or object by any manmade device that produces light, including lights located indoors which are directed for outdoor illumination.

21.5 Control of Glare and Light Trespass

21.5.1 Any luminaire with a lamp or lamps rated a total of more than 2,000 lumens (as reference, a 100-watt incandescent lamp emits about 1750 lumens) shall be of fully shielded design and shall not emit any direct light above a horizontal plane passing through the lowest part of the light emitting luminaire.

21.5.2 All luminaires shall be equipped with whatever shielding, lenses, or cutoff devices are required to eliminate light trespass onto any street or abutting lot or parcel and to minimize glare perceptible to persons on any street or abutting lot or parcel.

21.5.3 All luminaires shall be fully shielded and directed downward, except that the walls of any building or freestanding sign may be up-lit to a limited extent as long as the direct light from the light fixture shall be confined to the surface of such sign or building.

21.6 Lighting Hours

Outdoor lighting shall not be illuminated between midnight and 6:00 a.m. with the following exceptions:

21.6.1 If the use is being operated, such as a business open to customers, or where employees are working or where an institution or place of public assembly is conducting an activity, normal illumination shall be allowed during the activity and for not more than one half hour prior to and after the activity ceases

21.6.2 Low level lighting sufficient for the security of persons or property on the lot may be in operation between midnight and 6:00 a.m. provided the average illumination on the ground or on any vertical surface is not greater than 0.5 foot candles.

21.7 Illumination Levels

Lighting levels shall be limited to that needed for good visibility. Guidelines for average illumination levels of area to be lit are:

Parking areas	1.0 foot candles
Building exteriors – entry	5.0 foot candles
Building grounds	1.0 foot candles
Commercial roads	2.0 foot candles
Residential roads	0.4 foot candles

21.8 Lighting Plan

Wherever outside lighting is proposed, every application for a building permit, a special permit, a special permit with site plan review, a variance, or an electrical permit, shall be accompanied by a lighting plan which shall show the location and type of any outdoor luminaires, including the height of the light fixture; the light fixture manufacturer's specification data, including lumen output and photometric data showing cutoff angles; the type of lamp such as metal halide, compact fluorescent, or high pressure sodium; and a photometric plan showing the intensity of illumination at ground level, expressed in foot candles. The lighting plan shall demonstrate by manufacturer's data, cross section drawings, or other means that all luminaires shall comply with the requirements of Section 21.5.

By request of the Planning Board.