

Chapter 11

Outdoor Lighting

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11.01 **PURPOSE AND INTENT**

The purpose of this ordinance is to improve night-time public safety, utility and security by restricting the night-time emission of light rays which are the source of light trespass and/or unnecessary glare, and/or are detrimental to the safety and/or security of persons, property or vehicular traffic, and/or are detrimental to the traditional aesthetic values of the Town and/or unnecessarily restrict persons from the peaceful enjoyment of their property. Furthermore, the ordinance is intended to regulate and reduce the nuisance caused by unnecessary intensity of artificial illumination of property and buildings, mitigate the impact on ecosystems, promote the safety and welfare of its citizens by restricting glare producing sources of light and generally establish proper levels of lighting. The intent is not to regulate residential or agricultural lighting since lighting concerns can be addressed by Chapter 823 of the Wisconsin State Statutes.

11.02 **DEFINITIONS.**

The following words, terms and phrases, when used in this section, shall have the meanings ascribed to them in this subsection, except where the context clearly indicates a different meaning:

Acreage, net. The area of a parcel being developed for a development project including the open space required by the zoning district.

Classifications of lighting. Lighting shall be classified in one of the following categories:

- (a) *"Functional" lighting.* All outdoor lighting used for, but not limited to, outdoor sales or eating areas, assembly, advertising and other signs, recreational facilities and other

similar applications where color rendition is important to preserve the effectiveness of the activity.

- (b) *"Safety" lighting.* All outdoor lighting used for, but not limited to, illumination for walkways, roadways, equipment yards, parking lots and outdoor security where general illumination for safety or security of the grounds is the primary concern.
- (c) *"Decorative" lighting.* Any outdoor lighting used for decorative effects including, but not limited to, architectural illumination, flag and monument lighting, and illumination of trees, bushes, and similar features.
- (d) *Multi-class lighting.* Any outdoor lighting used for more than one purpose, such as security and decoration, such that its use falls under the definition of two or more classes as defined above. All multi-class lighting shall comply with the most restrictive class of which it falls under.

Color Rendition. How a light source makes the colors of objects appear to the human eye and how subtle variations in color shades are revealed.

Development project. Any residential, commercial, business, industrial, institutional or mixed use development plan which is required to be submitted to the Town for approval.

Direct illumination. Illumination resulting from light emitted directly from a lamp or luminaire, not light diffused through translucent signs or reflected from other surfaces such as the ground or building faces.

Foot-candle. A unit of light expressed in lumens per square foot.

Fully shielded fixture or full cutoff fixture. An outdoor light fixture shielded in such a manner that 100 percent of all light emitted by the fixture, either directly from the lamp or indirectly from the fixture, is projected below the horizontal plane as determined by photometric test or certified by the manufacturer.

Glare. Intense light from an illumination source which may result in visual impairment or discomfort. Also, a light ray emanating directly from a source such that it falls directly upon the eye of the observer.

Hardscape. Permanent hardscape improvements to the site including parking lots, drives, entrances, curbs, ramps, stairs, steps, medians, walkways and non-vegetated landscaping that is 10 feet or less in width. Materials may include concrete, asphalt, stone, gravel, and similar materials.

Height. The vertical distance of a light structure measured from the uppermost extremity of any light fixture, pole or supporting member and the ground level at the light structure.

Light Fixture. See Luminaire.

Light source. A single artificial device or source whose primary function is to produce visible or near-visible radiant energy for general illumination.

Light Structure. An outdoor illuminating device consisting of a base, pole (or support structure) and light fixture.

Light trespass. Light emitted by a luminaire that shines beyond the boundaries of the property on which the luminaire is located.

Lumen. The unit used to measure the actual amount of light which is produced by a lamp. For all lamp types and sources, the initial output, as defined by the lamp or source

manufacturer, is the value to be considered. For avoidance of doubt, a lumens to watts comparison table is below:

Lumens	Incandescent Watts	Fluorescent/LED Watts
375lm	25W	6.23W
600lm	40W	10W
900lm	60W	15W
1125lm	75W	18.75W
1500lm	100W	25W
2250lm	150W	37.5W
3000lm	200W	50W

Luminaire. The complete lighting unit consisting of a lamp or lamps together with the parts designed to distribute the light, to position and protect the lamps and to connect the lamps to the power supply.

Measurement. For the purposes of this section, unless otherwise stated, illumination levels shall be measured at a point three feet above grade with the measuring device aimed directly at the light source(s) being measured. Measurements shall be taken using baffles or shields to separate the sources(s) under review from other existing or ambient sources such as streetlights, in a manner that eliminates to the greatest extent possible other light sources.

Opaque. A material that does not transmit light from an internal illumination source through that material.

Outdoor light fixtures. Outdoor electrically powered illuminating devices, outdoor lighting or reflective surfaces, lamps and similar devices, either permanently installed or portable, which are used for illumination or advertisement. Such devices shall include, but are not limited to, linear strip lights, search lights, spot lights and flood lights for:

- (a) Buildings and structures;
- (b) Recreational areas;
- (c) Parking lot areas;
- (d) Landscape and architectural lighting;
- (e) Signs (advertising or other);
- (f) Product display areas.
- (g) Private roadway and driveway lighting
- (h) Building overhangs and open canopies
- (i) Any similar use.

Outdoor light output, total. The maximum total amount of light, measured in lumens, from all outdoor light fixtures. For all lamp types and sources, the initial output, as defined by the lamp or source manufacturer, is the value to be considered.

Partially shielded fixture. An outdoor light fixture shielded in such a manner that more than zero but less than ten percent of the light emitted directly from the lamp or indirectly from the fixture is projected at angles above the horizontal, as determined by photometric test or certified by the manufacturer.

Shielding. A lighting fixture constructed in such a manner that all light emitted by the fixture, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is shielded from view from adjacent properties. Any structural part of the light fixture providing this shielding must be permanently affixed.

Temporary lighting. Lighting which does not conform to the provisions of this ordinance and which will not be used for more than one 30-day period within a calendar year, with one 30-day extension, unless a longer extension is granted by specific approval by the Plan Commission. Temporary lighting is intended for uses which by their nature are of limited duration; e.g., civic events, or construction projects, not including exempt lighting listed in section 11.04 (4). Temporary lighting shall be approved by the Plan Commission.

Uniformity ratio. The ratio of the average lighting level in lumens for the area to be lit to the minimum lighting level in lumens of the area to be lit.

Use, abandonment of. The relinquishment of a property, or the cessation of a use or activity by the owner or tenant for a period of six months, excluding temporary or short term interruptions for the purpose of remodeling, maintaining, or otherwise improving or rearranging a facility. A use shall be deemed abandoned when such use is suspended as evidenced by the cessation of activities or conditions which constitute the principle use of the property.

Watt. The unit used to measure the electrical power consumption of a lamp, or when describing a fixture, the fixture input wattage before ballast losses.

11.03 APPLICABILITY

- (1) This Chapter shall apply to Commercial, Business, Industrial, Institutional and all Conditional Use Permits except Keeping of Poultry or Livestock, Legal Nonconforming Use and Solar Energy Systems. Specifically, lighting of sites in the B-1, B-2, B-3, M-1, and P-1 zoning districts, and all Conditional Use Permit uses except Keeping of Poultry or Livestock, Legal Nonconforming Use and Solar Energy Systems, including but not limited to the following:
 - a. Existing commercial, business, industrial and institutional developments shall comply with these regulations no later than June 30, 2024.
 - b. All new developments, buildings, structures and modifications for:
 1. Commercial Uses
 2. Business Uses
 3. Industrial Uses
 4. Institutional uses
 - c. Any change of use to an existing building or structure, except in the case of a single tenant in a multi-tenant building, shall meet the requirements of this section for the entire property to the greatest extent possible as determined by the Plan Commission.
- (2) Subsection 11.05 shall apply to special uses not addressed in other subsections.

11.04 REGULATIONS FOR COMMERCIAL, BUSINESS, INDUSTRIAL, INSTITUTIONAL AND RELATED CONDITIONAL USE PERMIT USES.

- (1) Total outdoor lighting lumen output shall not exceed 2.5 lumens per square foot of hardscape. The following shall be included in this limit:
 - a. Outdoor lighting fixtures that are pole mounted, ground mounted, mounted on buildings or affixed in any way to provide light on the premises on which the proposed use is taking place, unless otherwise exempt as stated in this code.
 - b. Outdoor lighting fixtures that are fully shielded and installed under canopies, roof eaves and building overhangs.

- (2) All outdoor lighting fixtures shall be designed, located and specified with shielding or be a cut-off type fixture so that no glare or illumination is cast outside the boundaries of the property where the luminaire is located so as to constitute light trespass. No light levels shall be greater than 0.2 foot-candles measured at a height of 3 feet above the grade at a property line or high water mark of a lake on which the luminaire is located, except as set forth herein. Outdoor lighting shall not be aimed toward or directed at a neighboring property
 - a. All lighting.
 1. Luminaries attached to a building shall not exceed 16 feet in height from grade.
 2. All outdoor luminaries shall be reduced to 25% of total illumination by 10:00 p.m. with the following exceptions:
 - a. Commercial, business, industrial and institutional uses which remain open after 10:00 p.m. as permitted by zoning regulations or conditional use requirements shall be allowed to keep their approved outdoor lighting on for the period of time they remain open and up to one-half hour after closing.
 - b. Approved commercial, business, industrial, and institutional security lighting shall be allowed in accordance with the provisions of this Code.
 - c. Motion sensor lighting shall be allowed for security purposes.

 - b. Functional lighting.
 1. The maximum illumination of any interior or exterior illuminated sign, including subdivision signs, shall not exceed 15 foot-candles when measured with a light meter held perpendicular to the sign at a distance of 12 inches.
 2. The maximum illumination of any vertical building surface shall not exceed 10 foot-candles.

- c. Safety lighting.
 1. Parking lot lighting shall maintain a two-foot-candle average and a uniformity ratio of 12:1.
 2. The height of parking lot light structures shall not exceed 20 feet. Existing light structures that exceed the height limitation shall be allowed to remain as installed.
 3. Light structures intended for pedestrian traffic shall not exceed 10 feet in height and have average illumination levels between 0.5 and one foot-candle.
 4. Bollards shall not exceed 42 inches in height and 8,500 lumens per fixture with 0 percent of lumen output at or above the horizontal plane.
 5. Security lighting shall not exceed 25 percent of the total allowed lumen output.
 6. Lighting at entrance and exit doors shall not exceed 1.5 foot-candles at the floor or grade level.
 - d. Decorative lighting.
 1. Only the United States flag and the state flag shall be permitted to be illuminated from dusk to dawn. Other flags may be illuminated if they are located on the same pole or part of a group or array that includes the United States or state flag. Flag lighting sources shall not exceed 10,000 lamp lumens per flag pole and shall be shielded to prevent viewing the fixture opening, and designed to apply 80 percent of the fixture output onto the area of the flag.
 2. Lighting of aesthetic features for commercial, business, industrial and institutional uses, including but not limited to hardscape and landscape features, fountains, displays, and statuary shall not exceed 500 lumens per fixture.
 3. The maximum illumination of any vertical building surface or facade shall not exceed 10 foot-candles.
- (3) Prior to the erection, installation or placement of any exterior artificial light source, an application for permit shall be filed with the Town Administrator. All applications shall include
- a. a scaled plan depicting the existing and proposed number of fixtures, specific locations, intensity (stated in wattage and lumens) and total lumens.
 - b. manufacturers iso-footcandle curve reference plot
 - c. light distribution contour plan
 - d. manufacturers fixture and pole cut sheets with proposed luminaire elements clearly defined on them
 - e. type of illumination of all light sources.
 - f. chart indicating the total hardscape area of the site
 - g. chart indicating luminaries and lumen output for the entire lighting system.

The Town Administrator shall forward the information to the Plan Commission for approval. The plans submitted in compliance hereto shall not necessarily be deemed sufficient to fulfill the technical requirements of the building and electrical ordinance of the Town but are in addition thereto.

Any permit issued by the building inspector under the provisions of this section shall expire and be null and void if not implemented within one year of the date of approval. Whenever a permit is granted in conjunction with a site plan approval, such permit shall be valid for the same time period as the related site plan.

- (4) The following types of lighting shall be prohibited except as otherwise approved by Plan Commission as allowed in the exceptions below:
- a. Swivel mounted luminaries.
 - b. Outdoor neon lighting.
 - c. Any artificial light source that creates glare within the normal range of vision from any public walk or thoroughfare under normal weather conditions.
 - d. Display of intermittent lights or flashing, blinking, moving lights except as follows:
 - 1. Where such lights are required by state or federal law.
 - 2. Where such lighting is of a temporary nature including but not limited to holiday displays and grand opening events.
 - e. Laser source light. The use of laser source light or any similar high intensity light is prohibited.
 - f. Searchlights.
 - g. Light intended to illuminate naturally occurring environmental features including but not limited to wetlands, rivers, lakes and dedicated open spaces shall be prohibited except as approved as by the Plan Commission.
 - h. *Exceptions.* The Plan Commission, may approve exceptions to the provisions of this subsection where, in their opinion, strict compliance to the regulations is impractical and the alternative would further the public interest.
 - i. *Exemptions.* The following types of lighting shall be exempt from the outdoor lighting regulations:
 - 1. Seasonal decorations are exempt from the requirements of this chapter unless it constitutes a public nuisance (traffic, safety, etc.).
 - 2. Tower lighting or any other lighting which is required by federal or state regulations.
 - 3. Special events when use and lighting are approved by the Plan Commission and Town Board.
- (5) Property owners seeking a variance to allow existing light fixtures to remain on existing buildings shall be reviewed and approved by the Plan Commission.

11.05. REGULATIONS FOR SPECIAL USES

- (1) Illuminated outdoor recreation facilities.

- a. Lighting for outdoor recreational facilities including athletic fields, courts, or tracks shall be exempt from the lumens per acre limits of this section.
 - b. All lighting installations shall be designed to achieve no greater than the minimal illuminance levels for the activity as recommended by the Illuminating Engineering Society of North America. (IESNA RP-6)
 - c. Lighting trespass requirements are maintained.
 - d. Lighting shall only be used for the period of time that the recreational use continues.
- (2) Public and Private street lighting. Where private street lighting is installed, on private or public roads, the luminaries shall be fully shielded and not exceed 2,700 lumens per fixture.

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