

New Chapter

Chapter 81 Outdoor Lighting Standards

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Outdoor Lighting Standards

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§ 81-1. Title

This Chapter shall be known as “Outdoor Lighting Standards”

§ 81-2. Purpose

It is the purpose and intent of this chapter to balance the goals of providing efficient and practical lighting which provides the necessary safety, utility and security for residents and businesses in the Village of Cold Spring, but still maintains the Village’s scenic and aesthetic character, by minimizing light pollution that may interfere with the enjoyment, health, safety, and welfare of citizens and visitors, and reducing energy consumption. It is intended to reduce problems of glare, minimize light trespass into public spaces and private property and protect the nighttime character of the Hudson Highlands sky.

§ 81-1. Definitions

As used in this chapter, the following terms shall have the meanings indicated:

Candela - One candela is a unit in the International System of Units (SI) that is equal to the luminous intensity in a given direction, of a source that emits monochromatic radiation of frequency 540×10^{12} Hz and has a radiant intensity in that direction of 1/683 watt per steradian.

Footcandle - A foot-candle is a non-SI unit of illuminance or light intensity. One foot-candle represents "the illuminance cast on a surface by a one-candela source one foot away." This unit is commonly used in lighting layouts in parts of the world where United States customary units are used.

Full Cutoff - A luminaire with no direct uplight above the horizontal.

Joule - The SI unit of work or energy, equal to the work done by a force of one newton when its point of application moves one meter in the direction of action of the force, equivalent to one 3600th of a watt-hour.

Kelvin – The **kelvin** (symbol: K) is the base unit of temperature in the SI. The kelvin is defined as the fraction $\frac{1}{273.16}$ of the thermodynamic temperature of the triple point of water (exactly 0.01 °C or 32.018 °F). In other words, it is defined such that the triple point of water of water is exactly 273.16 K.

Light Emitting Diodes (LED) - A light-emitting diode (**LED**) is a semiconductor device that emits visible light when an electric current passes through it. The light is not particularly bright, but in most LEDs it is monochromatic, occurring at a single wavelength.

Light Trespass - Light trespass is a form of light pollution, and it occurs when unwanted light creeps onto another property.

Lumens - a unit of luminous flux in the SI, that is equal to the amount of light given out through a solid angle by a source of one candela intensity radiating equally in all directions.

Luminaire - a complete electric light unit (used especially in technical contexts).

Newton - The SI unit of force that is equal to the force that would give a mass of one kilogram an acceleration of one meter per second.

Output - *Light output* is an informal term for how much light a fixture produces, and how the fixture emits and distributes that light.

Steradian – A Steradian is a unit in the SI that is a solid angle, equal to the angle at the center of a sphere subtended by a part of the surface equal in area to the square of the radius.

Triple point - In thermodynamics the triple point of a substance is the temperature and pressure at which the three phases (gas, liquid and solid) of that substance coexist in thermodynamic equilibrium.

Watts - The *watt* (symbol: W) is a unit of power. In the SI it is defined as a derived unit of 1 joule per second, and is used to quantify the rate of energy transfer.

§ 81-3. Conformance

All outdoor lighting and lighting fixtures shall be installed in conformance with the provisions of this chapter and the applicable building code currently in effect in the Village. This Chapter applies to all Zoning Districts.

Conflicting regulations Where any provision of federal, state, county, or village statutes, codes, or laws conflicts with any provision of this chapter, the most restrictive shall govern unless enforcement will result in a violation of the federal, state, county or village statutes, codes, or laws.

§ 81-4. Applicability

- A. **New Lighting.** All outdoor lighting installed after the effective date of the ordinance codified in this chapter shall conform to the standards established in this chapter.
- B. **Existing Lighting.** All lighting installed prior to the effective date of the ordinance codified in this chapter shall not be subject to the requirements of this chapter, except that any existing lighting that is directly impacted as part of a project that requires an application for a Village of Cold Spring site plan or Building Permit is required to be brought into conformance with this chapter. All lighting shall be upgraded to conform to this chapter prior to the issuance of the certificate of occupancy or final inspection.

§ 81-5. General Outdoor Lighting Standards

- A. Lamp and Shielding. All permanent light fixtures are required to be full cutoff fixtures with the light source fully shielded for all uses and directed downward, including single-family and multifamily residential uses.
- B. Light Emitting Diodes. Due to their high energy efficiency, long life and spectral characteristics, Light Emitting Diodes (LED) lamps are the preferred illumination source throughout the Village. Their use is encouraged for outdoor illumination whenever it would not be detrimental to the use of the property.
- C. Light Trespass Standard. All light fixtures, including security lighting, shall be aimed and shielded so that the direct illumination shall be confined to the property boundaries of the source. Particular care is to be taken to assure that the light trespass not fall onto or across any public or private street or road. Motion sensing light fixtures shall be fully shielded and properly adjusted, according to the manufacturer's instructions, to turn off when detected motion ceases.
- D. Total Outdoor Light Output Standards. Non-residential and Multi-family Uses. Total outdoor light output shall not exceed one hundred thousand (100,000) lumens per net acre for all development except single family residential uses. The goal should be the lowest levels of lumens necessary to meet the lighting requirements of the site.
- E. Outdoor Light Output Standards – Single-Family Residential Uses. Outdoor lighting for single-family residential uses is not subject to a lumens per net acre cap, but is subject to the lamp fixture and shielding requirements, and light trespass standards
- F. Height. Any lighting fixture attached to a structure shall be placed below the eave or parapet, whichever is lower. Different height restrictions may be imposed as a condition of approval by the Planning Board.
- G. Commercial Lighting Time Limitations. All non-essential (non-security) commercial exterior lighting shall only continue in operation until 11:00 p.m. or for as long as the business is open or area is in active use and shall remain off until the business reopens or until daylight the following day.

§ 81-6. Outdoor Lighting Standards by Type

- A. Parking Lot Standards. Parking lot lighting poles shall be sized in such a manner that the top of any fixture does not exceed seventeen (17) feet above adjacent grade. Parking area lights are encouraged to be greater in number, lower in height and lower in light level, as opposed to fewer in number, higher in height and higher in light level. LED lamps are encouraged. Alternatively, in industrial areas, parking lot lighting poles may be allowed to a height of thirty (30) feet above adjacent grade provided full cutoff light fixtures with built-in motion sensors for each pole are used. Motion sensors must reduce the light level to fifty percent (50%) when no motion is detected for thirty (30) minutes.
- B. Luminaire Mounting Height. Freestanding luminaires within a residential zone, except street lights, shall be mounted at a height no greater than twelve (12) feet from ground level to the top of the luminaires.
- C. Landscape and Accent Lighting. Subject to the approval of the Planning Board or Code Enforcement Officer, ground-mounted lighting may be allowed to accent unique features of a building and/or surrounding landscaping (such as outstanding architecture features, specimen trees with dense year-round foliage or large native shrub masses). Architectural lighting is

allowed if (a) full cutoff light fixture(s) is used, and the source of illumination is directed downward.

- D. Flagpoles. Up lighting for flags is permitted, provided the flag is of a government and the maximum lumen output is thirteen hundred (1,300) lumens.
- E. Signs. See Chapter 104.
- F. Street lighting. Street lights shall be full cutoff LED, unless otherwise determined that another type is more efficient. Streetlights along residential streets shall not exceed three thousand kelvin, with twenty-five (25) watt LED light with a lumen output of twenty-nine hundred (2,900), with sixty-five (65) watt LED light with a lumen output of sixty-eight hundred (6,800), or with ninety-five (95) watt LED light with a lumen output of ninety-five hundred (9,500). Streetlights along non-residential streets or at intersections shall not exceed eighty (80) to ninety-three (93) watt LED each, with a lumen output of ten thousand (10,000), except the lights at major intersections on state highways shall not exceed ninety (90) to one hundred twenty-five (125) LED watts. If a light type other than LED is permitted, then the equivalent output shall be the limit for that light type. (See also §111-15)

§ 81-7. Prohibited Lighting

- A. Searchlights, laser source lights, strobe or flashing lights, neon, pulsating, illusion lights or any similar high intensity light shall not be permitted except in emergencies by police and fire personnel or for approved special
- B. Up lighting. Except as specifically allowed in this chapter.

§ 81-8. Additional Requirements for Special Uses

- A. Outdoor Recreational Facilities. Lighting for proposed outdoor recreational facilities that does not comply with this chapter may be approved with the project site plan based on the following:
 - 1) When the proposed lumens per acre exceed the lumens per net acre limits, the installation shall be designed to achieve no greater than the minimum illuminance levels for the activity as recommended by the Illuminating Engineering Society of North America (IESNA).
 - 2) Every such lighting system design shall be certified by a New York registered engineer as conforming to all applicable restrictions of this code.
 - 3) Such lighting shall not include any light trespass as determined by the Planning Board.
 - 4) Fully cutoff light fixtures shall be required for fields designed for sports activity.
- B. Service Station Canopies. All service station canopies shall comply with the following:
 - a. Shielding. All luminaires shall be flush with the lower surface of canopies and utilize flat glass or plastic covers.
 - b. Total Under-Canopy Output. The total light output used for illuminating service station canopies, defined as the sum of under-canopy initial bare-lamp output in lumens, shall not exceed forty (40) lumens per square foot of canopy. All lighting mounted under the canopy shall be included in the total. Fifty (50) percent of the total lumen output of all lamps mounted within or under a canopy shall be included in the lumen per acre cap.
- C. Other Special Use Lighting. Lighting for special uses that are not specified in this chapter must be approved by the Planning Board through a special use permit or along with a site plan application.

§ 81-9. Exemptions

- A. Emergency lighting, used by police, firefighting, public works or medical personnel, or at their direction, is exempt from all requirements of this code for as long as the emergency exists.
- B. Spotlights are permitted for single-family residential use, provided they are fully shielded and directed downward.
- C. Swimming Pool and Decorative Water Fountain Lighting. Underwater lighting used for the illumination of swimming pools and decorative water fountains is exempt from the lamp type and shielding standards, though they must conform to this Chapter and any other provisions of the Village of Cold Spring Code. (See also §114-4.D)
- D. Seasonal decorations are exempt from this chapter.

§ 81-10. Plan Submittal and Evidence of Compliance

- A. Plan Submittal. Whenever a person is required to obtain a permit for outdoor light (a building permit, a special use permit, subdivision approval, or any development plan approved by the Village Planning Board, Zoning Board of Appeals, or Historic District Review Board, or any Village board including all Village sponsored projects), the applicant shall, as part of the application process, submit sufficient information to enable the Code Enforcement Officer or the applicable Board to determine whether the proposed lighting complies with this code. All applications may be subject to review and action by the Planning Board if referred by the Code Enforcement Officer, or another applicable board.
- B. Applications. All applications shall include the following:
 - a. A site plan indicating the location of all lighting fixtures, both proposed and any already existing on the site.
 - b. A description of each illuminating device, fixture, lamp, support and shield, both proposed and existing. The description shall include, but is not limited to, manufacture's catalog cuts and illustrations (including sections where required); lamp types, wattages and initial lumen outputs.
 - c. Such other information that the applicable Board or Code Enforcement Officer may determine is necessary to ensure compliance with this code.
- C. Plan Approval. If the applicable Board or Code Enforcement Office determines that any proposed lighting does not comply with this Chapter, the permit shall not be issued nor the plan approved.
- D. Lamp or Fixture Substitution. Should any outdoor light fixture or the type of light source therein be changed after the permit has been issued, a change request must be submitted to the applicable Board or Code Enforcement Officer for approval, together with adequate information to assure compliance with this code, which must be received prior to substitution.
- E. Certificate of Installation. For all projects where the total initial output of the proposed lighting equals or exceeds one hundred thousand (100,000) lamp lumens, certification that the lighting, as installed, conforms to the approved plans shall be provided by a certified engineer before the certificate of occupancy is issued. Until this certification is submitted, approval for use of a certificate of occupancy shall not be issued for the project.

§ 81-11. Approved Materials and Methods of Construction or Installation/Operation

- A. Approval of Alternatives. The provisions of this code are not intended to prevent the use of any design, material, or method of installation or operation not specifically proscribed by this code, provided any such alternate has been approved by the Planning Board or the Code Enforcement Officer. The Planning Board may approve any such proposed alternate if it:
 - 1) Provides at least approximate equivalence to the applicable specific requirement of this code, and
 - 2) Complies with the intent of this code.

§ 81-12. Violations, Legal Actions and Penalties

- A. Violations and Legal Actions. If, after investigation, the Code Enforcement Officer finds that any provision of this chapter is being violated, the Code Enforcement Officer shall give notice by hand delivery or by certified mail, return receipt requested, of such violation to the owner and/or occupant of such premises, demanding that the violation be abated within thirty (30) days of the date of hand delivery or of the date of mailing of the notice. The Code Enforcement Officer shall be available to assist in working with the violator to correct said violation. If the violation is not abated within the thirty (30) day period, the Code Enforcement Officer may institute actions and proceedings, either legal or equitable, to enjoin, restrain or abate any violations of this chapter and to collect penalties for such violations.
- B. Penalties. A violation of this chapter, or any provision thereof, shall be punishable by a civil penalty of seventy-five dollars (\$75) per day and each day of violation after the expiration of the thirty (30) day period shall constitute a separate offense for the purpose of calculating the civil penalty.

§ 81-13. Information Sheet

The Village Clerk has on file at the Village Office an information sheet which contains samples and examples of outdoor lighting fixtures. The Village does not endorse or discriminate for or against any manufacturer or company that may be shown, portrayed or mentioned on this sheet.