

CHAPTER 1124. STANDARDS FOR EXTERIOR LIGHTING

1124.01. Purpose.

Lighting standards are established to protect the public health, safety, and general welfare, including a process for review and compliance to determine if an existing or proposed development complies with the exterior lighting standards of this Chapter.

The purpose of this Chapter is to control the installation of exterior lighting fixtures to prevent light pollution in the forms of light trespass and glare and to preserve, protect and enhance the character of the City and the lawful nighttime use and enjoyment of property located within the City. Appropriate site lighting, including lights for signs, buildings and streets, shall be arranged to provide safety, utility and security; control light trespass and glare on adjacent properties and public roadways; and reduce atmospheric light pollution so as to protect Perkins Observatory and its scientific research from light pollution in any form.

Specifically, these provisions are intended to achieve, among others, the following purposes:

- (a) Establish performance standards, including a process for review and compliance to ensure an environment free from elements that may jeopardize the health or welfare of the public, or degrade the quality of life in the City of Delaware.
- (b) Establish exterior lighting standards to:
 - (1) Control the installation of exterior lighting fixtures to prevent light pollution in the forms of light trespass and glare.
 - (2) Provide safe roadways and pleasing community vistas free from distracting and debilitating glare.

1124.02. Exterior lighting standards.

- (a) A lighting plan is required for all uses that are required to file a development plan or subdivision plat and shall be approved according to the procedures set forth in Chapters 1105 and/or 1106.
- (b) All existing uses on which exterior lighting is installed or changed shall conform to these standards. The lighting plan shall demonstrate compliance with the exterior lighting standards of this section and shall include the following items:
 - (1) A site plan showing location of all exterior light fixtures, controllers and transformers.
 - (2) Property boundaries, building location(s), parking lot layout, pedestrian paths, adjacent rights-of-way, north arrow and scale.
 - (3) Specifications and drawings or photographs for all exterior light fixture types, poles, conduit and appurtenant construction.
 - (4) Lamp wattage of all proposed luminaires.
 - (5) Information that indicates a minimum light level of 0.5 footcandles at grade in all vehicular use areas and connecting pedestrian paths.
 - (6) Cut sheets for all proposed exterior light fixtures and poles.

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(7) Point-to-point plot with light levels meeting the light uniformity ratio standards of subsection (g) hereof.

(8) Any other information and data reasonably necessary to evaluate the required lighting plan.

(c) General Requirements.

(1) All exterior fixtures shall be full cut-off fixtures, unless exception F. below is used

A. Architectural/accent lighting.

B. Street lighting.

C. Landscape lighting.

D. Area lighting for recreational uses.

E. Exterior residential lighting.

F. Lighting listed in A. through E. above, may be semi-cutoff or non-cutoff luminaires which shall be installed or located so that no lamp or reflector image is directly visible from any site boundary, at or above grade, when the initial lumen output exceeds 2850 lumens (equivalent to a 150 watt incandescent A lamp).

(2) No portion of a lamp, reflector, lens, or refracting system may extend beyond the housing or shield so as to be visible from off-site or cause disabling glare. Streetlights shall be exempt from this provision.

(3) All light fixtures, including streetlights, shall be directed downward. Uplighting is prohibited, except for accent lighting for buildings or signs, which may be approved as part of a Development Plan and meet the criteria of (1) C. above

(4) Exterior residential lights are exempt from subsections (2) and (3) above when the initial lumen output does not exceed 2850 lumens (equivalent to a 150-watt incandescent A lamp).

(5) All outdoor light poles shall be constructed of metal, fiberglass or finished wood and shall be approved by the Delaware City Chief Building Official.

(6) All developments with ten (10) or more parking spaces are required to provide exterior lighting for all vehicular use areas including entrance and exit access drives and pedestrian paths connecting parking areas and principal buildings.

(7) Automobile-oriented uses such as gasoline stations, automotive service stations and drive-through facilities shall install recessed ceiling fixtures in any canopy. The maximum allowable foot candle at 3.5 feet above grade under the canopy shall not exceed 35.

(8) Public street lighting shall conform to the engineering design standards for public streetlights.

(d) Maximum Height Requirements.

(1) The total height of exterior lighting fixtures shall not exceed the following maximum height requirements. Height shall be measured from the natural grade:

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Schedule 1124.02(d)
 MAXIMUM HEIGHT OF LIGHT FIXTURES

District	Maximum Height
All Residential Districts	20 feet
Commercial Districts ¹	
Under 500 Spaces	25 feet
Over 500 Spaces	30 feet
Industrial Districts ¹	30 feet
1. When adjacent to residential districts the maximum height shall be 20 feet.	

- (2) All outdoor recreational/sports facility lighting will be reviewed for compliance with the intent of the Delaware Lighting Guidelines to minimize the impact on all surrounding properties and public rights-of-way.
- (e) Extinguish Requirement. All office, business, industrial, recreational and institutional use exterior lighting (i.e., sign illumination, illumination for decorative effects, recreational facility or sports field illumination) shall reduce lighting to no greater than twenty-five percent (25%) illumination no later than one (1) hour after closing.
- (f) Light Pollution Standards.
 - (1) Artificially produced light that strays beyond property boundaries shall be considered a public nuisance when intensity levels exceed the maximum illumination levels at or beyond five (5) feet into the adjoining property as listed in Schedule 1158.03(f).
 - (2) Lighting required exclusively for the illumination of entrance/exit access drives and pedestrian ways from the public right-of-way shall be permitted to illuminate to the far limit of the right-of-way.

Schedule 1124.02(f)
 MAXIMUM LIGHT POLLUTION ILLUMINANCES

Receiving Area Classification	Maximum Horizontal (footcandles) at Grade Beyond the Property Line	Maximum Vertical (footcandles) at the Structure Height
Residential	0.4	0.8
Commercial	1	1
Industrial	1.5	1.5
Note: When two differing area classifications abut, the lower light level value shall take precedence along the common boundary.		

- (g) Measurement.
 - (1) Light levels shall be measured in footcandles with a direct reading, portable light meter. Readings shall be taken only after the cell has been exposed long enough to take a constant reading.
 - (2) Measurements shall be taken at a height of three and one-half (3.5) feet above the ground.
 - (3) Light Uniformity Ratios.
 - A. For any one luminary, the light uniformity ratio shall comply with the following ratio:

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- B. Maximum to minimum: 10:1
- C. The average light uniformity ratio for all luminaires located on a site shall comply with the following ratio:
 - D. Average to minimum: 4:1
- (h) Exemptions. The following luminaires are exempt from the provisions of this Section:
 - (1) Luminaires required by the Building Code that operate only in an emergency mode.
 - (2) Outdoor light fixtures that produce light directly from fossil fuel, such as kerosene lanterns or gas lamps.
 - (3) Low-voltage lighting and holiday lighting.
 - (4) Illuminated poles for governmental or institutional flags.
 - (5) Lighting required by federal regulation such as, but not limited to communication towers or airports.

1124.03. Performance bond for lighting plan completion.

No certificate of building and zoning compliance shall be issued until the improvements required by this chapter and as depicted in the lighting plan are completed as certified by City inspection, or their completion is guaranteed by a performance bond from a banking institution of sufficient amount to cover the estimated cost of materials and labor, as approved by the Chief Building Official, has been posted.