

DIV. 4.12. OUTDOOR LIGHTING

4.12.1. Intent

The intent of this Section is to facilitate the creation of a convenient, attractive, and harmonious community and to protect and maintain the environmental quality in the City by:

- A. Providing outdoor lighting standards that support a wide variety of land uses;
- B. Limiting the environmental impacts associated with artificial lighting, minimize artificial sky glow, and glare;
- C. Limiting light trespass onto adjacent properties and the public right-of-way;
- D. Conserving energy while maintaining night-time safety, security, and productivity; and
- E. Curtailing the degradation of the night-time visual environment.

4.12.2. Applicability

A. New Fixtures

All lighting fixtures installed after the effective date of this Development Code are considered new fixtures.

B. Existing Fixtures

1. Routine maintenance, including changing the lamp, ballast, starter, photo control, fixture housing, lens and other required components, is allowed for all existing fixtures.
2. The installation of site lighting, replacement of site lighting and changes to existing light fixture wattage, type of fixture, mounting or fixture location must be made in compliance with this Section.

C. Exemptions

The following lighting and related acts are exempt from the requirements of this Section:

1. Lighting which is excluded from local regulation by State or Federal law.
2. Construction, emergency or holiday decorative lighting, provided that the lighting is temporary, and is discontinued within 7 days of completion of the project, emergency or holiday for which the lighting was provided.
3. Lighting of the United States of America or Commonwealth of Virginia flags and other non-commercial flags expressing constitutionally protected speech.
4. Security lighting controlled by sensors, generating a maximum of 6,000 lumens per fixture, and which provides illumination for 15 minutes or less. In Residential (R-) districts, security lighting must not generate more than 3,000 lumens per fixture.

4.12.3. Standards

A. Prohibited Lighting Sources

The following light fixtures and sources are not allowed:

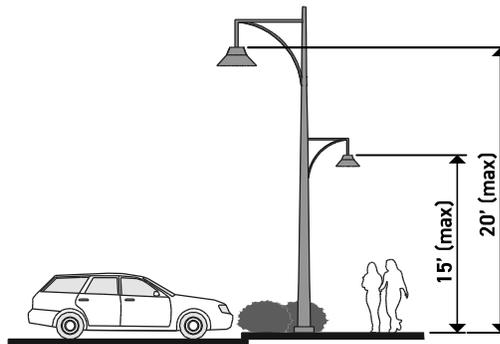
1. Cobra-head-type fixtures having dished or drop lenses or refractors, which contain sources that are not LED.
2. Temporary searchlights and other high-intensity narrow-beam, fixtures that move or shine light directly up into the sky.
3. Any laser or other device that emits light through a process of optical amplification based on the stimulated emission of electromagnetic radiation.
4. Any on-premise or off-premise digital sign that operates at a luminance of greater than 100 nits between sunset and sunrise.

B. Design and Installation

1. All lighting systems within or abutting a street right-of-way must be designed in accordance with current IESNA standards and recommended practices. See also *Code of Virginia § 2.2-1111* and any implementing regulations of the Virginia Department of Transportation regarding shielded outdoor light fixtures.
2. Light sources must be use a color temperature of no more than 3,000K, with a Color Rendering Index (CRI) value of 80 or higher.
3. Lighting must not trespass onto adjacent properties, sidewalks, or rights-of-way and the footcandles at the property line must be no more than 0.5.
4. Service connections for all freestanding lighting fixtures must be installed underground.

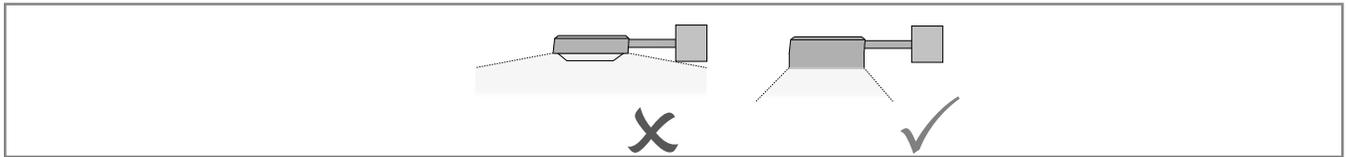
C. Parking and Pedestrian Area Lighting

1. Light fixtures within parking lots and motor vehicle use areas may be no higher than 20 feet.
2. Light fixtures within pedestrian areas mounted on poles may be no higher than 15 feet.

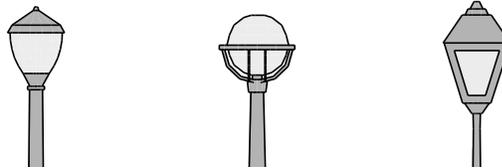


3. Light fixtures within 30 feet of any R-A, R-B or R-C District may be no higher than 12 feet.

4. All light fixtures must use fully-shielded luminaires, except



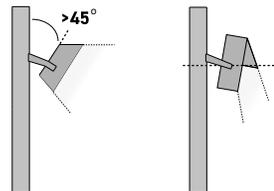
- a. Non-cutoff (unshielded) fixtures may be used when the maximum initial lumens generated by each fixture are less than 1,600 lumens.



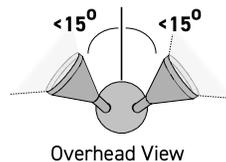
D. Flood Lights and Flood Lamps

All flood lighting must be activated only by motion-sensors, and must be on a timer limiting the illumination to a maximum of 15 minutes at a time.

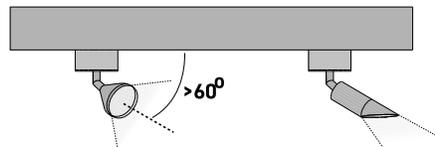
1. Flood light fixtures must either be aimed down at least 45 degrees from vertical or the front of the fixture shielded so that no portion of the light bulb extends below the bottom edge of the shield.



2. Any flood light fixture located within 50 feet of a street right-of-way must be mounted and aimed perpendicular to the right-of-way, with a side-to-side horizontal aiming tolerance not to exceed 15 degrees.



3. All flood lamps must be aimed at least 60 degrees down from horizontal or shielded so that the light is not visible from adjacent properties or the street right-of-way.



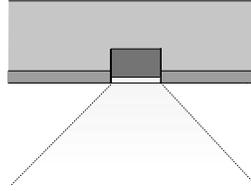
E. Awnings and Canopies

Lighting under awnings or canopies must be less than 250 lux and be designed to prevent glare off-site. Acceptable lighting designs include the following:

OUTDOOR LIGHTING

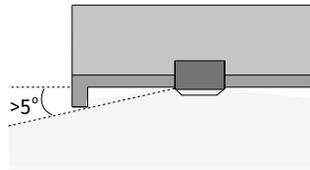
1. Recessed

Recessed fixture incorporating a lens cover that is either recessed or flush with the bottom surface of the awning or canopy.



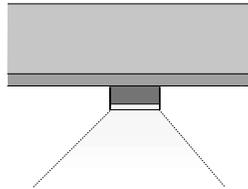
2. Shielded

Light fixture incorporating shields or is shielded by the edge of the awning or canopy itself, so that light is restrained to 5 degrees or more below the horizontal plane.



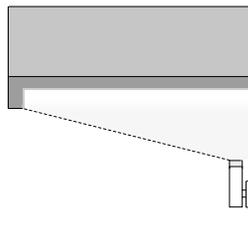
3. Surface Mounted

Surface mounted fixture incorporating a fully-shielded flat glass that restricts light distribution.



4. Indirect

Indirect lighting where light is beamed upward and then reflected down from the underside of the awning or canopy, provided the fixture is shielded so that direct illumination is focused exclusively on the underside of the awning or canopy.



F. Building Lighting

1. Lighting fixtures must be selected, located, aimed and shielded so that direct illumination is focused exclusively on the building facade, plantings and other intended site features and away from adjoining properties and the street right-of-way.

2. All wall pack fixtures must be fully-shielded fixtures.



3. Only lighting used to accent architectural features, landscape or art may be directed upward, provided that the fixture is located, aimed or shielded to minimize light spill into the night sky. Such lighting must not generate more than 1,600 lumens per fixture.

G. Pedestrian Oriented Lighting

1. Required pedestrian oriented lighting must meet the following standards:
 - a. A minimum average horizontal luminance of 10 lux .
 - b. A uniformity ratio of 3:1.
 - c. Lighting fixtures must be mounted no more than 15 feet above the walking surface.

4.12.4. Measurement

- A. Light levels are specified, calculated and measured in lux or lumens, as used above.
- B. Measurements are to be made at ground level, with the light-registering portion of the meter held parallel to the ground pointing up.