

ARTICLE 7 Exterior Lighting Standards

7.1 Purpose – These standards are established for the following purposes –

7.1.1 – To regulate exterior lighting in order to avoid unsafe and unpleasant conditions as the result of poorly designed or installed exterior lighting.

7.1.2 – To implement the light and energy conservation policies of the Comprehensive Plan.

7.1.3 – To discourage excessive lighting.

7.1.4 – To regulate the type of light fixtures, lamps and standards.

7.1.5 – To protect residential zones from the ill effects associated with nonresidential and multi-family exterior lighting.

7.1.6 – To create a safe environment during hours of darkness.

7.1.7 – To avoid excessive lighting in order to protect the Township’s natural resource of a dark night sky.

7.2 Applicability

7.2.1 – When an exterior lighting installation is part of a new development proposal requiring a site plan review, a Permitted Use application or a Special Exception or Conditional Use application, the Township shall review and approve the lighting design as part of the permitting process.

7.2.2 – The regulations of this article do not apply to agriculture, agricultural operations, single family or duplex dwelling uses.

7.2.3 – These regulations do not apply to Public Right-of-Way and shall not conflict with PennDOT or Township Street Light standards and design criteria.

7.2.4 – These regulations do not apply to lighting necessary for emergency equipment and work conducted in the interests of law enforcement or for the safety, health, or welfare of the community.

7.2.5 – The regulation of sign lighting is governed by Section 8.2.5 of this Ordinance.

7.3 General Requirements

7.3.1 – Site lighting trespass onto adjacent residential lots shall be minimized.

7.3.2 – Site lighting shall minimize light spill into the dark night sky and shall be rated by the manufacturer as dark sky compliant.

7.3.3 – Where practical, exterior lighting installations shall include timers, dimmers, sensors, or photocell controllers that turn the lights off during daylight hours or hours when lighting is not needed, to reduce overall energy consumption and eliminate unneeded lighting.

7.3.4 – Exterior lighting installations shall be designed to avoid harsh contrasts in lighting levels.

7.3.5 – Fixtures and lighting systems used for safety and security shall be in good working order and shall be maintained in a manner that serves the original design intent of the system.

7.3.6 – Vegetation and landscaping shall be maintained in a manner that does not obstruct security lighting and minimizes possible entrapment spaces.

7.3.7 – The applicant shall submit to the Township sufficient information, in the form of an overall exterior lighting plan, to enable a determination that the applicable provisions will be satisfied. The exterior lighting plan shall include at least the following:

7.3.7.1 – Manufacturer specification sheets, cut sheets or other manufacturer provided information for all proposed lighting fixtures.

7.3.7.2 – The proposed location, mounting height, and aiming point of all exterior lighting fixtures.

7.3.7.3 – If building elevations are proposed for illumination, drawings shall be provided for all relevant building elevations showing the fixtures, the portions of the elevations to be illuminated, the illuminance levels of the elevations, and the aiming point for any remote light fixture.

7.3.7.4 – If needed to review proposed exterior lighting installations, the Township may request additional information following the initial lighting plan submittal, such as:

(1) A brief written narrative, with accompanying plan or sketch, which demonstrates the objectives of the lighting.

(2) Photometric data, Color Rendering Index (CRI) of all lamps (bulbs), and other descriptive information on the fixtures, and if applicable or required, designation as Illuminating Engineering Society of North America (IESNA) "cut-off" fixtures.

(3) Computer generated photometric grid showing footcandle readings every 10 feet within the property or site, and 10 feet beyond the property lines at a scale specified by the Zoning Officer. Iso-footcandle contour line style plans are also acceptable.

(4) Landscaping information that indicates mature tree size, shrubbery and other vegetation in order to evaluate the long-term and seasonal effectiveness of lighting or screening of lighting.

7.4 Lighting Standards for Uses within 50 feet of Residential Uses or Zones

7.4.1 – For exterior lighting installations and fixtures within 50 feet of any residential uses or zones, the following requirements shall apply:

7.4.1.1 – Lighting fixtures shall be no higher than 15 feet above grade.

7.4.1.2 – Lighting fixtures shall be aimed and shielded in a manner that shall not direct illumination on adjacent residential uses or zones. Fixtures should be of a type or adequately shielded so as to prevent glare from normal viewing angles.

7.4.1.3 – Where feasible, additional landscaping or buffers may be required in accord with Section 5.13 to provide light screening between commercial uses and residential uses to help prevent light trespass. Where landscaping is used for light screening, the Township shall take into consideration the applicable landscaping standards found elsewhere in these

regulations, the design standards found elsewhere in these regulations, the creation of excessive shadows or dark spaces, and views into and out of a site.

7.4.1.4 – The height restrictions of this Section 7.4.1.1 above shall not apply to lighting used to illuminate outdoor performance areas, sport and recreation facilities, and playfields, except where such lighting fixtures are located within 50 feet of the property line of a residential use or vacant residential lot. Lighting of outdoor performance areas, sport and recreation facilities, and playfields shall also meet the standards in Section 7.7.

7.5 Open-Air Parking Lot Lighting

7.5.1 – Open-air parking lots shall comply with the standards of this section in addition to the other requirements of this article.

7.5.2 – Open-air parking lot lighting shall be designed to provide adequate vision, comfort and safety.

7.5.3 – Open-air parking lot lighting shall be designed to provide for uniform lighting throughout the facility with no dark patches or pockets.

7.5.4 – Open-air parking lot lighting shall be designed to provide a minimum value of lighting necessary for the safety and identification of features.

7.5.5 – Open-air parking lot lighting shall not cause direct illumination on adjacent and nearby properties or streets. Fixtures should be of a type or adequately shielded so as to prevent glare from normal viewing angles.

7.5.6 – In order to direct light downward and minimize the amount of light spilled into the dark night sky, all lighting fixtures serving open-air parking lots, except as allowed in Section 7.5.7, shall be full cut-off fixtures as defined by the Illuminating Engineering Society of North America (IESNA).

7.5.7 – The Township may allow an exception to full cut-off fixtures in order to achieve a particular "period" or architectural style of lighting that is mutually beneficial to the applicant and the Township provided that:

7.5.7.1 – Mounting heights of such alternative fixtures shall not exceed 15 feet above grade or pavement.

7.5.7.2 – Reasonable measures shall be applied to minimize light trespass and light spill into the dark night sky.

7.5.8 – The following mounting height regulations shall apply to open-air parking lot lighting fixtures. Mounting height shall be measured as the vertical distance between the parking surface and the bottom of the lighting fixture.

7.5.8.1 – The maximum permissible mounting height of open-air parking lot lighting fixtures within 50 feet of a residential use or zone shall be 15 feet.

7.5.8.2 – The maximum permissible mounting height of open-air parking lot lighting fixtures, not listed in Section 7.5.8.1 above, shall be 40 feet and shall be setback from the property line a distance equal to height of the light.

7.5.9 – The table below establishes open-air parking lot lighting standards¹.

Standard:	
Maximum footcandles on Pavement ²	0.2 fc
Maximum footcandles on Pavement	4.0 fc
Maximum footcandles at Property Line	0 fc
Uniformity Ratio (maximum:minimum) ³	20:1
Minimum footcandles at five (5) feet above Pavement ⁴	0.1 fc
<i>*fc=footcandle (a unit of illumination)</i>	

1. For typical conditions. During periods of non-use, the illuminance of certain parking facilities should be turned off or reduced to conserve energy. If reduced lighting is to be used only for the purpose of property security, it is desirable that the minimum (low point) value is not less than 0.1 footcandle. Reductions should not be applied to facilities subject to intermittent night use, such as at apartments, hospitals and transportation terminals.
2. Measured on the parking surface, without any shadowing effect from parked vehicles or trees at points of measurement.
3. The highest horizontal illuminance point at grade, divided by the lowest horizontal illuminance point or area, should not be greater than the values shown.
4. Measured at 1.5 meters (5.0 feet) above parking surface at the point of the lowest horizontal illuminance, excluding facing outward along boundaries.

7.6 Canopy Lighting and Lighting of Service Stations

7.6.1 – Lighting of such areas shall not be used to attract attention to the business. Signs allowed under the appropriate section of these regulations shall be used for that purpose.

7.6.2 – Lighting levels shall be adequate to facilitate the activities taking place in such locations.

7.6.3 – In order to minimize the extent of direct glare, light fixtures mounted on canopies shall be recessed so that the lens cover is recessed or flush with the bottom surface (ceiling) of the canopy or shielded by the fixture or the edge of the canopy so that light is restrained to 85 degrees or less from vertical. The figure below, entitled Recessed Fixture, illustrates this.

7.6.4 – As an alternative (or supplement) to recessed ceiling lights, indirect lighting may be used where light is beamed upward and then reflected down from the underside of the canopy. When this method is used, light fixtures must be shielded so that direct illumination is focused exclusively on the underside of the canopy.

7.6.5 – Lights shall not be mounted on the top or sides (facias) of the canopy. The sided (facias of the canopy) shall not be illuminated in a manner other than the prescribes under the section of these regulations regulating signs.

7.6.6 – Areas around service station pump islands shall be illuminated so that the minimum horizontal illuminance at grade level is at least 1.0 footcandle and no more than 5.0 footcandles. The uniformity ratio (average illumination to minimum illumination) shall be no greater than 4:1.

7.7 Lighting of Outdoor Performance, Sport and Recreation Facilities and Playfields

7.7.1 – Lighting levels for outdoor performance areas, sport and recreation facilities, and playfields shall not exceed by more than five percent the Illuminating Engineering Society of North America (IESNA) published standards

7.7.2 – Where playing fields or other special activity areas are to be illuminated, lighting fixtures shall be mounted, aimed and shielded so that their beams fall within the primary playing area and immediate surroundings, and so that no direct illumination is directed off the site.

7.7.3 – The main lighting should be turned off as soon as possible following the end of the event. The main lighting shall not remain on longer than 30 minutes following the end of the event. Where feasible, a low-level lighting system shall be used to facilitate patrons leaving the facility, cleanup, nighttime maintenance and other closing activities. The low-level lighting system shall provide an average horizontal illumination level at grade of no more than 3.0 footcandles, with a uniformity ratio (average illumination to minimum illumination) not exceeding 4:1

7.8 Architectural Accent Lighting

7.8.1 – Fixtures used to accent architectural features, materials, colors, style of buildings, or art shall be located, aimed and shielded so that light is directed only on those features. Such fixtures shall be aimed or shielded to minimize light spill into the dark, night sky. The Township may allow exceptions to this provision if minimal light escapes into the dark night sky or onto adjacent properties.

7.8.2 – Lighting fixtures shall not generate excessive light levels, cause glare, or direct light beyond the façade onto neighboring property, streets, or the night sky.

7.8.3 – The maximum illumination of any vertical surface in dark surroundings shall not exceed five footcandles.

7.8.4 – The maximum illumination of any vertical surface or angular roof surface in dark surroundings shall not exceed five footcandles.

7.8.5 – Flags of the United States or Pennsylvania may be illuminated from below provided such lighting is focused primarily on the individual flag or flags to limit light trespass and spill into the dark night sky.

7.9 Lighting of Landscaping

Illumination of landscaping shall utilize diffused or muted lighting, avoid glare, and minimize light trespass and escape beyond landscaping onto neighboring property, streets, or the night sky.

7.10 Temporary Lighting

7.10.1 – Lighting used to illuminate temporary uses shall be reviewed, and if necessary conditioned, through the Temporary Use Permitting Process.

7.10.2 – The Township may impose specific conditions for the lighting of temporary uses consistent with the purposes of this title.