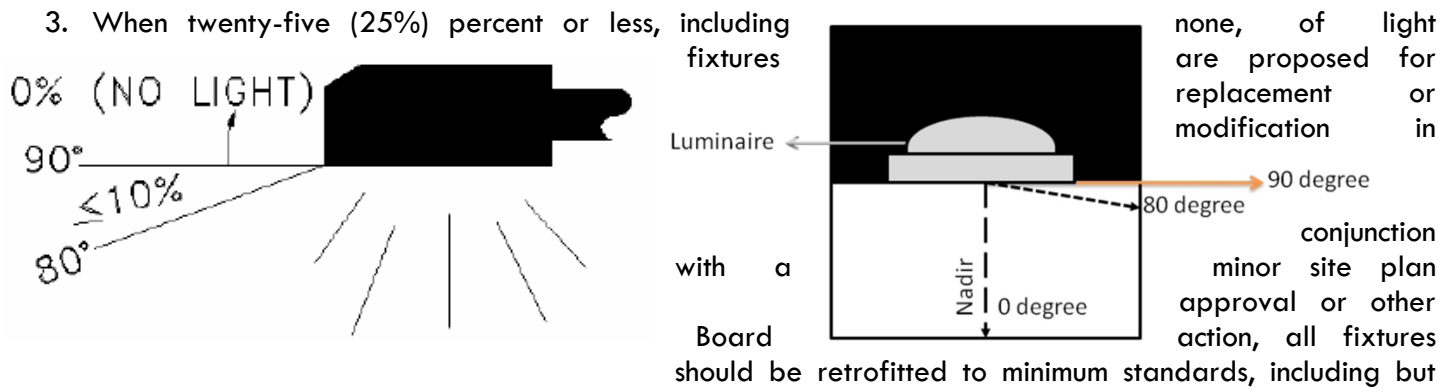


SECTION 509-A. LIGHTING.

- A. Intent. The purpose of this Ordinance is to provide regulations for outdoor lighting that will:
1. Provide sufficient lighting shall be provided on each site and along roadways for safety, utility, security, productivity, enjoyment and commerce.
 2. Be designed to avoid the creation of hazards to motorists and pedestrians or nuisance to adjoining property owners or residents.
 3. Minimize adverse offsite impacts including light trespass, obtrusive light and curtail light pollution.
 4. Conserve energy and resources to the greatest extent possible.

B. Applicability.

1. All outdoor lighting, including, but is not limited to, new lighting, replacement lighting, or any other lighting whether attached to structures, poles, the earth, or any other location, including lighting installed by any third party, shall comply with the requirements of this Ordinance.
2. When twenty-five (25%) percent or more of existing outdoor light fixtures are being replaced or modified, all lighting shall be updated to comply with the requirements of this Ordinance.
3. When twenty-five (25%) percent or less, including



- not limited to changing the wattage of fixtures, adjusting the angle of fixtures to prevent glare, painting infrastructure, adding shields, and similar improvements to conform to this Ordinance.
4. Exceptions. The following shall be exempt from the requirements of this Ordinance:
 - a. Lighting for public monuments and statues.
 - b. Lighting that is only used under emergency conditions.
 - c. Lighting required by federal, state or provincial laws or regulations.
 - d. Lighting for a private single-family home, provided they conform to the general requirements of §509-A.C.

C. General Requirements. The following shall apply to all outdoor lighting fixtures in the Township:

1. All outdoor lighting shall be installed in conformance with the provisions of this Ordinance, applicable Electrical and Energy Codes, and applicable sections of the Building Code. Lighting shall be designed to minimize energy and maintenance requirements and shall comply with the *U.S. Energy Policy Act of 1992* as it may be amended or superseded.
2. No lighting shall be directed towards traffic, shining directly or reflect into windows or onto streets and driveways in such a manner as to interfere with driver vision; or creating glare as a visual obstruction.
3. Lighting shall not be directed towards the sky, known as uplighting, to prevent interference with commercial aviation routes and reduce light pollution.
4. Flood lights, searchlights, flashing, rotating, and moving lights are strictly prohibited. The use of standard shoe box and wal-pack fixtures is discouraged.
5. At no time shall the light source be visible from adjacent properties. A maximum of 0.25 footcandles at a height of five (5') feet above the property line and/or right-of-way line, excluding points of ingress and egress for vehicles shall be permitted.

6. Pole-mounted light fixtures shall be installed at a height no greater than twenty (20') feet from ground level with said pole foundation installed to a depth of five (5') feet below grade.
 7. When concrete pedestals more than six (6") inches above grade are used to support pole-mounted light fixtures, the concrete shall have either a rubbed or brushed finish.
 8. Full cutoff flat lenses, which has a light distribution where there is zero candela at or above 90° degrees vertical from nadir and where the candela value does not exceed ten (10%) percent of the maximum intensity at or above a vertical angle of 80° degrees, shall be utilized on all sites.
 9. Shields. Light shields shall be installed on all non-conforming lights adjacent to a residential property or zone, around the perimeter of the property, and along any street right-of-way to control glare.
 10. Security Lighting. For all non-residential parcels or zones, the following requirement shall apply:
 - a. Lighting systems shall be designed so that they can be reduced or turned off when they are not necessary.
 - b. Controls shall be provided on all new lighting systems that automatically extinguish all outdoor lighting when sufficient daylight is available using a control device or system, such as a photoelectric switch, astronomic time switch or equivalent functions from a programmable lighting controller, building automation system or lighting energy management system
 - c. All site lighting shall be illuminated for safety and security reasons one hour after close of business or before 10pm, whichever occurs earlier, until sunrise at no more than forty (40%) percent of the standard lighting. Motion activated lighting systems and 24-hour operations shall be exempt from this requirement.
 11. Recreational Facilities. Lighting for outdoor athletic fields, courts or tracks shall require Planning Board approval, which shall consider the minimum standards of glare, uplift, light trespass, fixture angles, illumination levels, time of illumination, length of use, shield installation, surrounding land uses, as well as other requirements of this Ordinance.
- C. Street Lighting. All public and private streets shall be sufficiently illuminated to ensure traffic and pedestrian safety under all weather conditions.
1. Design Criteria. The design of street lighting shall take into consideration:
 - a. The brightness of the abutting uses in comparison to pavement brightness as seen by both motorists and pedestrians;
 - b. The ability to discern objects on the street or its edge in comparison to abutting uses; its brightness contrast;
 - c. The time available to the motorist and pedestrian to view such objects;
 - d. The amount of direct glare from the luminaire or lamp and reflected glare from the pavement.
 2. Location. Pole-mounted street light standards shall be located at the following places:
 - a. Local Streets. On local neighborhood streets, the following shall apply:
 - i. Seventy (70) watt luminaries shall be provided in the following locations:
 - (a) along one side of the street at three hundred (300') foot intervals on straight road segments, staggered on both sides of the roadway; and
 - (b) at curves with an inside radius of less than three hundred (300') feet, unless the standard is within three hundred (300') feet of another; and
 - (c) at the end of each cul-de-sac.
 - ii. One hundred (100) watt luminaries shall be provided at each street intersection.
 - b. Collector Streets. On collector streets, the following shall apply:
 - i. One hundred (100) watt luminaries shall be provided in the following locations:
 - (a) along one side of the street at three hundred (300') foot intervals on straight road segments, staggered on both sides of the roadway; and

(b) at curves with an inside radius of less than three hundred (300') feet, unless the standard is within three hundred (300') feet of another; and

(c) at the end of each cul-de-sac.

ii. One hundred and fifty (150) watt luminaries shall be provided at each street intersection.

c. In residential subdivisions, the poles shall be placed, to the greatest extent possible, in line with shared property boundaries, per R.S.I.S.

3. Process.

a. Street lighting shall be installed at no cost to the municipality by a developer in locations approved by the applicable Board or Township Engineer.

b. For residential subdivisions, street lighting shall be installed, prior to the issuance of any Certificate of Occupancy, along all roadways necessary to ensure at least one route of illuminated access for any occupied structure and in conformance with R.S.I.S.

c. Operating expenses for residential subdivision lighting shall be assumed by the Township when fifty (50%) percent of the section is occupied.

E. Off-Street Parking Lighting. All non-residential parking lots and residential parking lots in excess of five (5) spaces shall conform to the following requirements:

1. Sufficient illumination shall be provided for all off-street parking, loading, entrances and exits, and pedestrian areas so as to enable the safe movement of persons, vehicles, and provide for security.

2. The illumination of parking areas shall adhere to the following standards, outlined in Table 5.5:

TABLE 5.5. MAINTAINED ILLUMINATION FOR PARKING LOTS		
	Parking Area	ADA, Walkways & Driveways
<u>Horizontal Illumination</u>		
Minimum	0.2 fc	0.5 fc
Average	1.0 fc	2.5 fc
<u>Uniformity Ratios</u>		
Average to Minimum	5:01	5:01
Maximum to Minimum	20:01	15:01
Minimum Vertical Illumination	0.1 fc	0.25 fc

3. Minimum horizontal illumination shall be no lower than 0.2 footcandles.

4. Average horizontal illumination shall not exceed 2.5 footcandles.

5. Minimum vertical illumination shall be measured at five (5') feet above parking surface at the point of lowest horizontal illuminance, excluding facing outward along boundaries.

6. All light fixtures shall be uniform throughout a site. Lighting levels, lamp color, and fixture type shall be consistent throughout the subject parcel, which shall complement building architecture and landscaping.

E. Lighting Plan.

1. A lighting plan shall be provided concurrent with the submission of all site plans and subdivision plans, with the exception of minor subdivision plans, per Article VIII-A.

2. The plan shall be prepared, signed, and sealed by a Certified Landscape Architect, Professional Engineer, Professional Planner, or other qualified professional.

3. In addition to the requirements of Article VIII-A, the lighting plan shall show:

a. All existing lights, including building-mounted and canopy fixtures, within one hundred (100') feet of the site in question, including location of all poles and luminaries.

b. Computer generated photometric grid showing footcandle readings every five (5') feet, including building-mounted and canopy fixtures. The plan should note whether the lines are initial or maintained.

c. Identify the maintained horizontal illuminance shown as footcandles, including the following required and proposed levels, per area:

i. Maximum

- ii. Minimum
 - iii. Average, during operating and non-operating hours.
 - iv. Average to minimum uniformity ratio.
- d. Description of outdoor light fixtures component specifications, including pole-mounted, building-mounted, canopy lights and all exterior fixtures, including:
- i. Lamp type
 - ii. Wattage
 - iii. Isolux diagrams for each fixture
 - iv. Reflectors
 - v. Optics
 - vi. Angle of cutoff
 - vii. Shields
 - viii. Manufacturers catalog cuts.
 - ix. The number of each luminary type.
 - x. Pole height and mounting height of the luminaries and detail of the pole.
 - xi. Pole base, foundation design, and foundation detail, in accordance with the Uniform Construction Code (UCC).
- e. Show light levels along the property lines.
- f. All proposed and existing freestanding and wall-mounted lights should be indicated.
- g. Identify fixtures with existing shields and fixtures proposed for shield installation
- h. The hours of operation of the proposed use, and general notations per §509-A.C.
- i. Landscape plan to determine the correct location of canopy trees.
4. A night light function test shall be conducted by the Zoning or Planning Board Engineer to ensure lighting levels conform to approved plans, which shall be required prior to the issuance of any Certificate of Occupancy.