

<b>Topic:</b>	Lighting
<b>Resource Type:</b>	Regulations
<b>State:</b>	North Carolina
<b>Jurisdiction Type:</b>	Municipal
<b>Municipality:</b>	Town of Apex
<b>Year (adopted, written, etc.):</b>	Unknown
<b>Community Type - applicable to:</b>	Suburban; Rural
<b>Title:</b>	Town of Apex Exterior Lighting Ordinance
<b>Document Last Updated in Database:</b>	January 25, 2017

### ***Abstract***

While the primary purpose of the ordinance is for human safety and minimizing the negative effects of lighting disturbance to neighboring properties, reducing excessive lighting not only conserves energy, but also increases visibility of the night sky resource.

### ***Resource***

#### **1. 8.6 EXTERIOR LIGHTING**

##### **1. 8.6.1 Purpose and Intent**

The provision of outdoor lighting heightens nighttime safety and visibility, and is used to enhance the security of property and people. Lighting should be provided in areas of heavy vehicle and pedestrian use, and areas that are dangerous if unlit such as stairs, intersections, or changes in grade. It is important to set clear guidelines so that lighting adequately serves the site while minimizing negative impacts on surrounding properties.

##### **2. 8.6.2 Lighting Plan**

Any proposed development requiring a site plan or subdivision plan shall include, as part of site plan or subdivision plan submission, a detailed exterior lighting plan. This plan shall include:

1. A) Specifications for the lighting fixtures such as: type of unit (cutoff, non-cutoff, glare shields, etc.), lamps (wattage, etc.), electrical load requirements, utility company involved, method of wiring, routing/location of lines, location of lights, and mounting heights.

- 2. B) An isofootcandle plan that shows typical foot-candle contours and a point photometric grid that indicates foot-candle levels measured at grade across the site. Other information such as: maximum, average, and minimum site foot-candles, uniformity ratio (average/minimum), and depreciation factors should also be included.
  
- 3. C) Plan certification by a licensed lighting engineer and/or lighting manufacturer verifying that the plans meet the town's design requirements and illumination standards.

**3. 8.6.3 Illumination Standards**

The tables below set forth standards for lighting intensity based upon the land use or activity involved. Values are presented in maintained foot-candles measured at grade. In general, site lighting should not exceed these average foot-candle levels.

**Table 8.6-1: Lighting Standards for General Parking and Pedestrian Areas**

Level of Activity	Horizontal Illuminance			Uniformity Ratio
	Max	Avg	Min	(maintained foot-candles) (avg/min)
HIGH  - Major athletic, cultural, and civic facilities  - Regional retail  - Retail with drive-thru	9.00	(3.1-4.1)	0.2	4/1
MEDIUM  - Cultural, civic, and recreational facilities  - Residential complex	6.0	(1.9-2.9)	0.2	4/1

Level of Activity	Horizontal Illuminance			Uniformity Ratio
	Max	Avg	Min	(maintained foot-candles) (avg/min)
- Commercial, general				
LOW	2.0	(1.3 – 0.3)	0.2	4/1
- Neighborhood retail				
- Industrial facilities				
- Educational facilities				
- Churches				

**Table 8.6-2: Other Exterior Lighting Standards**

Location	Horizontal Illuminance	Uniformity Ratio
	Avg	(initial foot-candles)
Active entrances and vital locations (security)	5.0	4/1
Inactive entrances	1.0	4/1
Private sidewalks (residential)	0.3	4/1
Private sidewalks (non-residential)	0.8	6/1
Vehicular use area (service areas, approach ways, private access roads, etc)	1.0	4/1
Storage yards, active	5.0	6/1
Storage yards, inactive	1.0	6/1
Loading/unloading docks and platforms	15.0	2/1

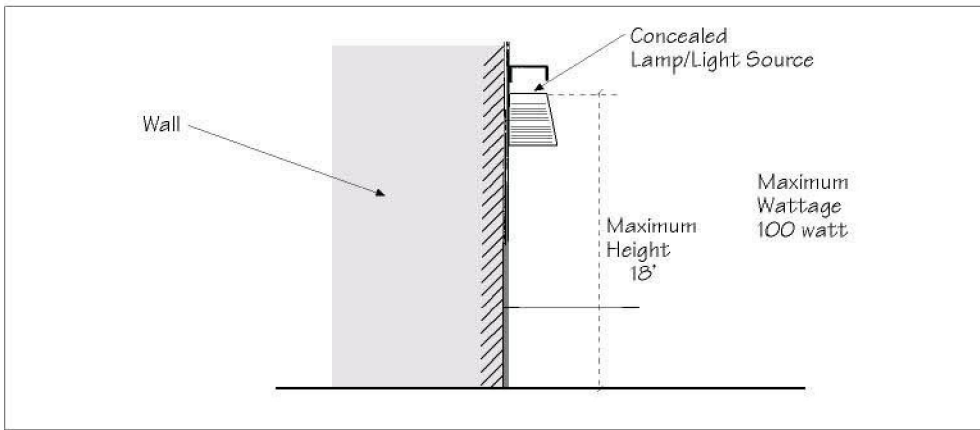
Auto sales/display	15.0	2/1
Recreational areas (fields, playgrounds, courts)	10.0	4/1

**4. 8.6.4 Design Requirements**

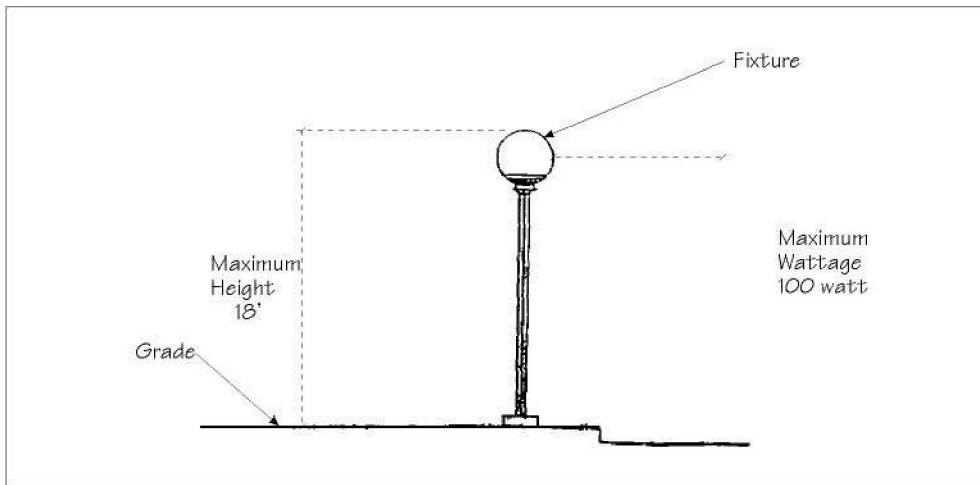
Exterior lighting, such as that used in and around buildings, recreation areas, parking lots, and signs, shall be designed to prevent the excessive spillover of light onto adjacent properties. It shall also be designed to protect against glare onto public rights-of-way thereby impairing the vision of motorists and adversely impacting adjoining properties. All exterior lighting shall be shielded from adjacent properties by existing vegetation, thick evergreen vegetated buffers, berms, walls, or fences, and/or the use of directional lighting, lighting shields, special fixtures, timing devices, appropriate light intensities, luminaries, and mountings at appropriate heights. All outdoor lighting shall conform to the following design standards:

**1. A) Mounting Heights**  
**Outdoor lighting fixtures shall be designed, located and mounted at heights no greater than:**

1. 1) 18-feet above grade for *non-cutoff* lights and wall-pack units;
- 2.
3. 2) 35-feet above grade for *cutoff* lights;

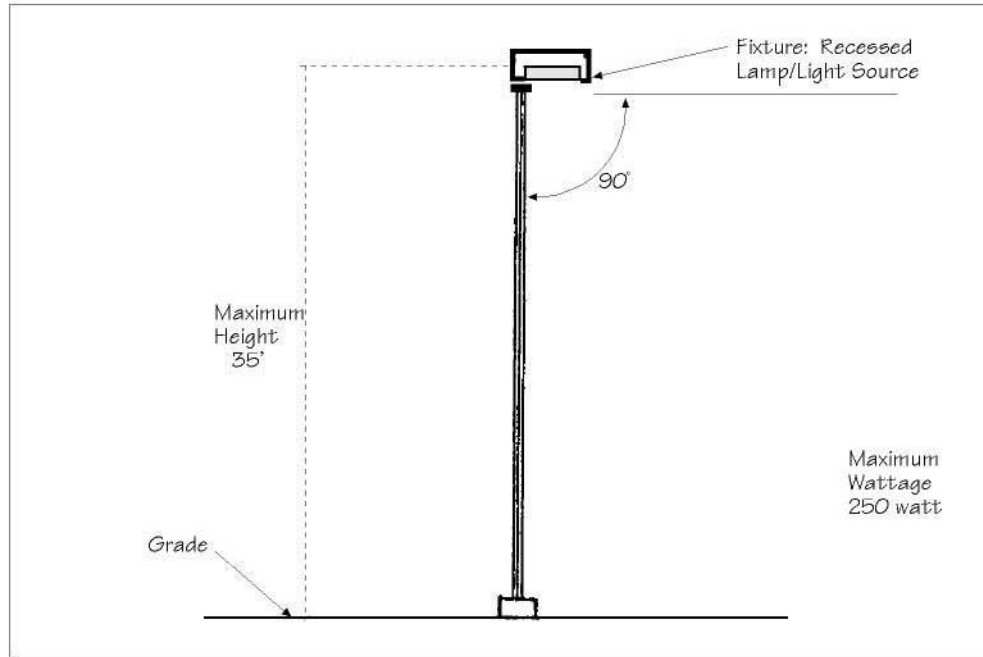


WALL-PACK LIGHT FIXTURES



NON-CUTOFF LIGHT FIXTURE

4. 3) Mounting height is measured from the finished grade or surface and includes the total height of the fixture, pole, and any base or other supporting structure required to mount the light(s).

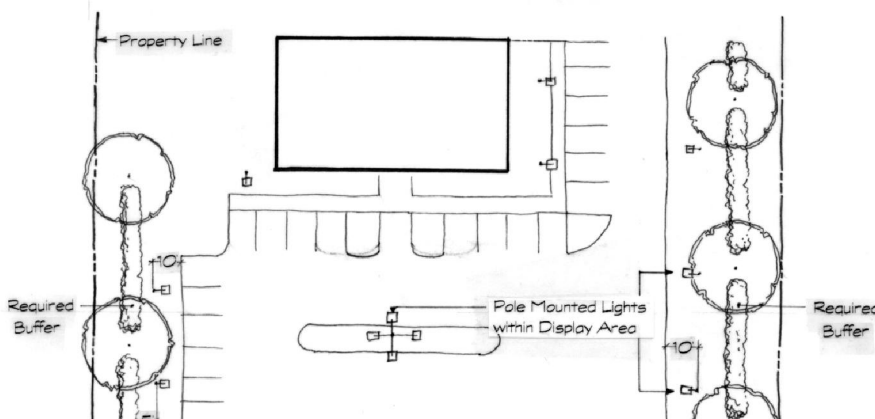


CUTOFF LIGHT FIXTURE

**2. B) Location**

- 1) All outdoor lighting fixtures shall be located a minimum of 10 feet from a property or right-of-way line, and should be kept out of and at least 2 feet away from any required perimeter or streetscape buffer, and tree save area.
- 2) Lighting for outdoor display areas, such as auto dealerships, must be located inside the illuminated area or no more than 10 feet away from the outside edge of the illuminated area so that the amount of direct glare and the visual field of view does not present a safety hazard to the passing motorist.

**8.7.4 B Location/ Lighting for Outdoor Display**

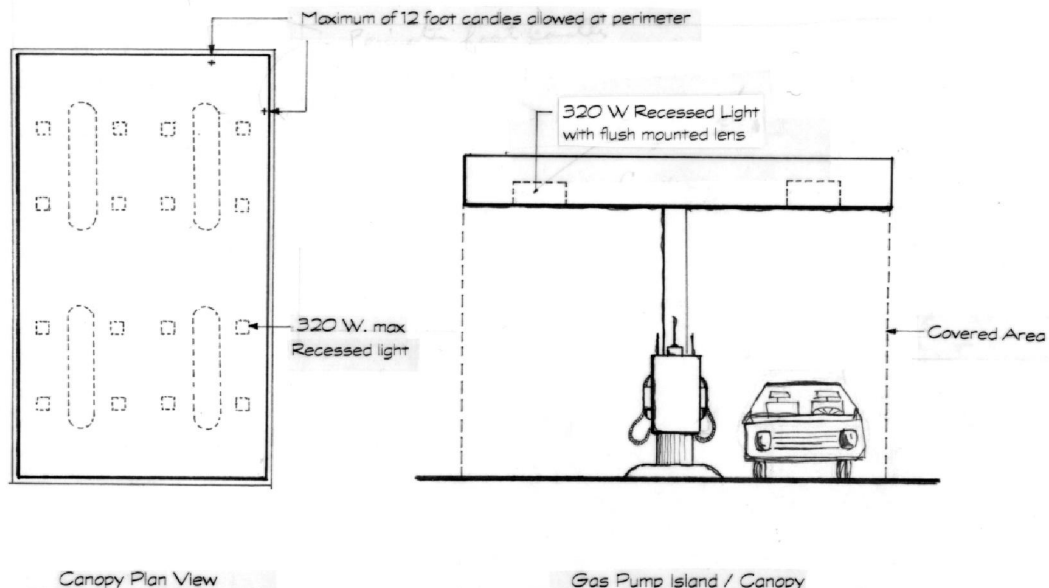


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4.                   D)                   ***Spillover Light***  
All outdoor lighting shall be designed and located such that the maximum illumination measured in foot-candles at the property line shall not exceed 0.3 onto adjacent residential sites and 1.0 onto adjacent commercial sites and public rights-of-way.
  
5.                   E)                   ***Wattage***  
Lamps for non-cutoff fixtures shall not exceed 100 watts. Lamps for cut-off fixtures shall not exceed 250 watts unless the Director of Planning gives special permission and the overall lighting plan is approved during the development review process.
  
6.                   F)                   ***Wall-pack Fixtures***  
Wall packs on buildings may be used at entrances to a building or to light unsafe areas. They should not be intended to draw attention to the building or provide general building or site lighting. Wall packs shall be fully shielded, true cutoff type fixtures (concealed lamp/light source). The lighting must be directed downward, and the wattage must not exceed 100 watts.
  
7.                   G)                   ***Floodlights***  
Floodlights or other types of lighting attached to light poles that illuminate the site and/or building(s) are prohibited unless the Director of Planning gives special permission and approval is given through the development review process.
  
8.                   H)                   ***Building Façade Lighting***  
Floodlights, spotlights, or any other similar lighting shall not be used to illuminate buildings or other site features unless approved as an integral architectural element on the development plan. On-site lighting may be used to accent architectural elements but not used to illuminate entire portions of building(s) or sign(s). Where accent lighting is used, the maximum illumination on any vertical surface or angular roof surface shall not exceed 5.0 average maintained foot-candles. Building façade and accent lighting will not be approved unless the light fixtures are carefully selected, located, aimed, and shielded so that light is directed only onto the building façade and spillover light is minimized.

9. I) ***Awning and Canopy Lighting***  
 Awnings and canopies used for building accents over doors, windows, and etc. shall not be internally lit (i.e., from underneath or behind).
10. J) ***Flashing Lights***  
 Lights that flash, move, revolve, rotate, scintillate, blink, flicker, vary in intensity or color, or use intermittent electrical pulsation are prohibited.
11. K) ***Lighting for Gas Station/Convenience Store Canopies***  
*Canopies*  
 Lighting for canopies for service stations and similar uses shall be restricted to no more than two 320 watt recessed lighting fixtures (including lenses) mounted flush with the bottom of the canopy on each side of a gasoline pump island, or any other design that meets the standards of this ordinance. Lighting for canopies for service stations and other similar uses shall not exceed a maintained average of 12 foot-candles as measured at ground level at the inside of the outside edge of the canopy.

**8.7.4 K Exterior Lighting Design Requirements -  
 Lighting for Gas Stations & Convenience Store Canopies**





3. 3) Fixtures must be designed and aimed so that their beams fall within the primary playing area and the immediate surroundings, so that off-site direct illumination is significantly restricted (spillover levels at the property line must not exceed 0.3 foot-candles).
4. 4) Lighting shall be extinguished no later than one hour after the event ends.

5. **8.6.5 Exemptions**

The standards of this section shall not apply to:

1. A) Individual residential lighting that is not part of a site plan or subdivision plan.
2. B) Lighting associated with temporary uses that have been permitted.
3. C) Seasonal lighting that is part of customary holiday decorations and annual civic events, provided that it meets all the requirements of Sec. 8.7.1(A)(8).
- 4.
5. D) Lighting associated with sign illumination as set forth in Section 8.8.
6. E) Municipal lighting installed for the benefit of public health, safety, and welfare.

6. **8.6.6 Final Acceptance**

Before certificates of occupancy are released, the owner/builder must supply the Town with a final letter of certification from the lighting engineer and/or lighting manufacturer verifying that all site lighting is installed according to Town standards, the approved plans, and any applicable conditions.