

LIGHTING

10

10.1 PURPOSE & INTENTION

The purpose of this section is to regulate exterior lighting in order to enhance the areas being lit; ensure the safety of pedestrians, cyclists, and drivers; and minimize light trespass and glare.

10.2 APPLICABILITY & ADMINISTRATION

10.2.1 APPLICABILITY

All lighting in the Town and the ETJ shall be subject to the standards of this section.

10.2.2 ADMINISTRATION

A lighting plan shall be required as part of any landscape plan submitted through a site plan or design review process (See Section 14).

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10.3 EXEMPTIONS & PROHIBITIONS

10.3.1 EXEMPTIONS

The following lighting types shall be exempt from the requirements of this section:

- A. All temporary emergency lighting needed by the Police or Fire Departments or other emergency services, as well as all vehicular luminaires.
- B. All hazard warning luminaires required by Federal regulatory agencies - all luminaires used must be red and must be shown to be as close as possible to the federally required minimum lumen output requirement for the specific task.
- C. Individual residential lighting that is not part of a site plan or subdivision plan for street or other common or public area outdoor lighting.
- D. Lighting associated with holiday, festival or other temporary uses.
- E. Lighting of public art that has been permitted or otherwise approved by the Town.
- F. Other Municipal or State lighting installed for the benefit of public health, safety, and welfare.
- G. All fixtures installed or temporarily used by public agencies, their agents, or contractors for the purpose of illuminating public streets.
- H. Lighting of US and North Carolina State Flags provided the flag standard does not exceed the maximum permitted building height for that planning area.

10.3.2 PROHIBITED LIGHTING TYPES

The following types of lighting are prohibited:

- A. Mastheads:** Masthead street lights.
- B. Lasers:** Laser source light or any similar high intensity light for outdoor advertising or entertainment, that is projected above the horizontal.
- C. Searchlights:** The operation of searchlights for advertising purposes.
- D. Flashing Lights:** Flickering or flashing lights.

10.4 DESIGN STANDARDS

10.4.1 GENERAL STANDARDS

The following standards are required of all exterior lighting with the exception of street lighting (See Section 10.5):

- A. Design:** Exterior lighting shall be consistent with the architectural character of the building as determined by the reviewing body.
- B. Quantity:** The quantity of fixtures to be provided shall be based upon the desired level of uniform illumination as established in Sections 10.4.2 and 10.4.3.
- C. Location:** Fixtures shall be placed to provide uniform distribution of light and to avoid intense lighting that produces excessive glare.
 1. All lighting poles shall be located at least 10 feet from property lines defining rear and side yards.
 2. Light sources shall not be located within any perimeter-landscaped areas with the exception of pedestrian walkways.
- D. Shielding**
 1. Building lighting and landscaping lighting shall be located, aimed, and shielded so that direct illumination is focused exclusively on the building facade, plantings, or other site features and away from adjoining properties and the street right-of-way.
 2. Lighting used to illuminate pedestrian walkways and signage shall be downcast or cutoff type lighting fixtures.
- E. Maximum Height:** The maximum height as measured from grade for outdoor lighting, except outdoor recreation and performance areas, shall be:
 1. Non-Cut-Off Lights: 12 feet
 2. Cut-Off Lights: 25 feet

10.4.2 AVERAGE MAINTAINED FOOTCANDLES REQUIREMENTS

- A. Measurement:** The maximum permitted illumination shall be measured in average maintained footcandles from ground level. This average shall be arranged to prevent light spillage as specified in Section 10.4.3.
- B. Level of Illumination:** The level of illumination shall be based on the primary activity in each area to be lighted as shown in the table below. Foot-candle designations represent measurements for the average maintained intensity at grade.

TABLE 10-1: AVERAGE MAINTAINED FOOTCANDLES REQUIREMENTS			
LIGHTING TYPE	MAINTAINED FOOTCANDLES		ADDITIONAL NOTES/REQUIREMENTS
	MAXIMUM	MINIMUM	
1. Utility Lighting			
a. Street Lighting	2.0	0.5	<ul style="list-style-type: none"> Also see Section 10.5 for additional street lighting standards
b. Pedestrian Paths/Sidewalks	1.0	0.5	
2. Area Lighting			
a. Commercial/Mixed-Use Areas	2.0	1.0	<ul style="list-style-type: none"> As measured at the property line Outdoor lighting from commercial and mixed-use areas shall not shine directly into the yard or windows of a residence.
b. Residential Areas	0.3	n/a	<ul style="list-style-type: none"> As measured at the property line
c. Landscaped Areas	2.0	n/a	<ul style="list-style-type: none"> Lighting shall be focused exclusively on the plantings and away from adjoining properties and the street right-of-way
d. Parking Lots	4.0	1.0	<ul style="list-style-type: none"> Lighting shall be coordinated with trees and landscaping so as not be obscured by such plantings. Lighting fixtures of more than 2,000 lumens shall be cut-off fixtures. Decorative lighting fixtures no more than 18 feet in height shall be installed along pedestrian walkways, as approved by the Administrator. Such lighting shall provide uniform distribution of lighting to produce minimal shadows.
e. Outdoor Recreation and Performance Facilities	n/a	n/a	<ul style="list-style-type: none"> Fixtures shall be designed and aimed so that their beams fall within the primary playing or performance area and the immediate surroundings only so as not to shine onto adjacent properties. All fixtures shall be fully shielded or installed with a manufacturer's glare control package so as to minimize up-light, spill-light and glare. Fixtures must not exceed 80 feet in height as measured from grade.
3. Building Exteriors			
a. Entrances (frequent use)	6.0	2.0	–
b. Entrances (infrequent use)	1.0	0.5	–
c. Building Facade	5.0	2.0	<ul style="list-style-type: none"> Lighting shall be focused exclusively on the building features and away from adjoining properties and the street right-of-way.

This table is derived from recommendations of the Illuminating Engineering Society

10.4.3 LIGHT SPILLAGE REQUIREMENTS

Lighting intensities shall be controlled to assure that light spillage and glare are not directed at adjacent properties, neighboring areas, drivers, or the sky. The table below shows the maximum light permitted, as measured in footcandles, at the property line in order to prevent light spillage.

TABLE 10-2: LIGHT SPILLAGE REQUIREMENTS	
LIGHTING TYPE	MAXIMUM FOOTCANDLES AT PROPERTY LINE
1. Commercial/Mixed-Use Areas	2.0
2. Residential Areas	0.3
3. Parking Lots	4.0
4. Outdoor Recreation and Performance Areas	2.0
5. All Other Areas	0.3 (non cut-off lights); 1.5 (cut-off lights)

10.5 STREET LIGHTING

10.5.1 REQUIRED IMPROVEMENTS

The owner, developer, or subdivider of property shall install street lighting via underground distribution along all proposed streets and along all adjoining existing streets in conformance with Duke Energy and Town of Davidson standards at the developer's expense. Detailed improvement requirements are in Section 6 - Infrastructure Standards.

10.5.2 DESIGN AND MAINTENANCE

A. Type: Pedestrian-scale street lighting that is no more than 18 feet in height shall be provided using decorative lighting fixtures, as approved by the Planning Director. Such lighting shall be prioritized over automobile lighting in all districts.



- B. Location:** The placement of street lighting fixtures in residential areas shall be at 160 to 200 foot intervals (300 to 500 foot intervals in the Rural Planning Area), and at each intersection unless:
1. The roadway length is less than 200 feet, a street light is placed at the intersection, and no natural features obstruct the light source, in which case a street light will not be required at the end of the street; or
 2. The vertical and horizontal street alignment or natural features necessitate shorter spacing intervals.
- C. Shadows:** Pedestrian lighting shall be placed to minimize shadows on sidewalks.
- D. Maintenance:** The Town will accept responsibility of the lights at the time streets are accepted for maintenance and one-time decorative fees have been paid to the Town or light provider, with the exception of any lighting that is eight feet or less in height. Such lights shall be maintained by HOA.