

# Chapter 10-20: Administration, Procedures, and Enforcement

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## Division 10-20.40: Permits and Approvals

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[non-lighting sections omitted]

### 10-20.40.100 Outdoor Lighting Permits

#### A. Applicability

Whenever a Building Permit, electrical permit for outdoor lighting or signs, a Conditional Use Permit, subdivision approval, or Site Plan approval is required, the applicant shall, as part of said application, submit sufficient information to enable the Director to determine whether the proposed lighting will comply with this Division.

#### B. Review and Final Decisions

1. The Director shall determine whether the Outdoor Lighting Permit may be issued or if additional information is required from the applicant to complete the permit application in compliance with the Review Schedule on file with the Planning Section. If the Outdoor Lighting Permit application is denied, the reason shall be stated in writing.
2. The Director's decision to approve an application for an Outdoor Lighting Permit shall be based on the following:
  - a. The proposed lighting is designed in such a manner as to minimize light pollution and trespass to the maximum extent feasible;
  - b. The proposed lighting will comply with the general intent of this Division;
  - c. The permit will be in the public interest; and,
  - d. For Temporary Outdoor Lighting Permits, the purpose for which the lighting is proposed is limited to no more than 30 days.

#### 3. Temporary Permit Renewals

Temporary Outdoor Light Permits are effective for 30 days. The Director may grant one renewal of a Temporary Outdoor Light Permit for an additional 30 days, if it is determined that, because of an unanticipated change in circumstances, a renewal would be in the public interest. The Director may not grant more than one Temporary Outdoor Lighting Permit and one renewal for a 30-day period for the same property within one calendar year.



## Division 10-50.70: Outdoor Lighting Standards

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### Sections:

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### 10-50.70.010 Purpose

- A. The City was recognized as the world's first International Dark Sky City on October 24, 2001 for its pioneering work in the development and implementation of lighting codes that balance the need to preserve Flagstaff's dark sky resource with the need for safe lighting practices. The purpose of this Division is to help assure that dark skies remain a resource to be enjoyed by the Flagstaff community and its visitors, and to provide safe and efficient outdoor lighting regulations that protect Flagstaff's dark skies from careless and wasteful lighting practices. Dark starry nights, like natural landscapes, forests, clean water, wildlife, and clear unpolluted air, are valued in many ways by the residents of this community, and they provide the natural resource upon which our world-renowned astronomical industry depends.
- B. The use of outdoor lighting is often necessary for adequate nighttime safety and utility, but common lighting practices can also interfere with other legitimate public concerns. Principle among these concerns is:
  1. The degradation of the nighttime visual environment by production of unsightly and dangerous glare;
  2. Lighting practices that produce excessive glare and brightness that interferes with the health and safety of Flagstaff's citizens and visitors;
  3. Unnecessary waste of energy and resources in the production of too much light or wasted light;
  4. Interference in the use or enjoyment of property that is not intended to be illuminated at night by light trespass, and the loss of the scenic view of the night sky due to increased urban sky-glow; and

5. The impact of inappropriately designed outdoor lighting that disrupts nocturnal animal behavior, particularly migrating birds and other species.
- C. The concerns of safety, utility, dark sky protection and aesthetic appearance need not compete. Good modern lighting practices can provide adequate light for safety and utility without excessive glare or light pollution. Careful attention to when, where, and how much night-time lighting is needed results in better lighting practices, darker skies and reduced energy use and costs.
  - D. It is therefore the intent of this Division to encourage lighting practices and systems which will:
    1. Minimize light pollution, glare, and light trespass;
    2. Conserve energy and resources while maintaining night time safety, utility, security, and productivity; and
    3. Curtail the degradation of the night time visual environment.
  - E. It is recognized that since topographic and atmospheric conditions surrounding the City are uniquely suited for astronomical observation and since observatories have been established in the City's vicinity, the City promotes the reduction of light pollution which interferes with the successful operation of these observatories.
  - F. The sensitivity of different areas to the different obtrusive impacts of outdoor lighting use depends on many factors, including the dominant use of the area (e.g. residential, industrial or commercial). Further, the effect of outdoor lighting on light pollution to the observatories is strongly dependent on the distance of those lights from the observatories. Therefore, three Lighting Zones are established, with varying standards designed to address the principal issues associated with the different areas.

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### **10-50.70.020 Conformance with Applicable Codes**

All outdoor lighting fixtures shall be installed in conformance with the provisions of this Division and the applicable Building Codes currently in effect in the City under appropriate permit and inspection.

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### **10-50.70.030 Applicability**

- A. **Existing Buildings and Uses**  
Any new outdoor lighting installed on a building or parcel shall meet the requirements of this Division with regard to shielding and lamp type. The total outdoor light output after the new outdoor lights are installed shall not

exceed that legally nonconforming or pre-approved on the site before the modification, or as permitted by this Division, whichever is larger.

**B. New Uses, Buildings, and Major Additions or Modifications**

1. The requirements of this Division apply to any and all new and major additions to land uses, developments, buildings, or structures.
2. If a major addition occurs on a property, the entire property shall comply with the requirements of this Code. For purposes of this section, the following are considered to be major additions:
  - a. Additions of 25 percent or more in terms of additional dwelling units, gross floor area, seating capacity, or parking spaces, either with a single addition or with cumulative additions subsequent to the effective date of this provision; and
  - b. Single or cumulative modification or replacement of outdoor legally installed lighting fixtures constituting 25 percent or more of the lumens that would be permitted under this Division for the property, no matter the actual amount of lighting already on a non-conforming site, constitutes a major addition for purposes of this section.

**C. Minor Additions or Modifications**

Additions or modifications of less than 25 percent in terms of additional dwelling units, gross floor area, seating capacity, or parking spaces to existing uses shall require the submission of a complete inventory and site plan detailing all existing and any proposed new or modified outdoor lighting. Any new or modified outdoor lighting on the site shall meet the requirements of this Division with regard to shielding and lamp type; the total amount of lighting after the modifications are complete shall not exceed that on the site before the modification, or that permitted by this Division, whichever is larger.

**D. Change of Use**

1. Except as provided in Section 10-20.60.080 (Nonconforming Outdoor Lighting), whenever the use of any existing building, structure or premises is intensified through the incorporation of additional dwelling units, gross floor area, seating capacity, or other units of measurement which create a need for an increase in the total number of parking spaces of 25 percent or more either with a single change or cumulative changes subsequent to the effective date of this Zoning Code, then all outdoor lighting shall be reviewed and brought into compliance with the requirements of this Division before the use is resumed to the maximum extent feasible as determined by the Director.
2. For changes of use or intensity which require an increase in parking of less than 25 percent cumulative, the applicant shall only have to meet the requirements of this Division for any new outdoor lighting provided.

- E. **Public Rights-of-Way Exempt**  
The provisions of this Division shall not apply to streetlights installed in public rights-of-way.
- F. In accordance with A.R.S. § 49-1101, all outdoor light fixtures on property or buildings that are owned and operated by the City of Flagstaff shall be fully shielded.

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**10-50.70.040 Establishment of Lighting Zones**

- A. **Establishment of Lighting Zones**  
Three Lighting Zones are established, with varying development standards specific to their location within the City. Lighting Zones are shown in Division 10-90.50 (Lighting Zone Map).
- B. **Lighting Zone Boundaries**  
The boundaries of the Lighting Zones are illustrated in Division 10-90.50 (Lighting Zone Map).
- C. **Split Parcels**  
A parcel located in more than one of the described zones shall be considered to be only in the more restrictive Lighting Zone.

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**10-50.70.050 General Requirements – All Lighting Zones**

- A. **Preferred Source – Low-Pressure Sodium (LPS) lamps and Narrow-Spectrum Amber LEDs**  
Due to their high energy efficiency, long life, and spectral characteristics, Low-Pressure Sodium (LPS) lamps are the preferred illumination source throughout the City. Their use is encouraged, when not required, for outdoor illumination whenever their use would not be detrimental to the use of the property. In all applications where LPS lighting is required or preferred, an acceptable alternative is Narrow-Spectrum Amber LEDs.
- B. **Lighting Classes**
  - 1. Class 1 Lighting is lighting used for applications where color rendition is required to preserve the effectiveness of an activity. Recognized Class 1 Lighting applications include only the following. Application of Class 1 Lighting standards to uses not included in this list requires a finding by the Director of the essential nature of color rendition to preserve the effectiveness of the activity.
    - a. Outdoor sales areas, including service station canopies;
    - b. Primary customer building entry/exit areas (does not include service or emergency entry/exits);

- c. Outdoor seating areas at restaurants;
  - d. Outdoor assembly or repair areas where assembly or repair work occurs at night on a regularly scheduled basis;
  - e. Outdoor recreational field/track/arena areas; and
  - f. External and internal lighting for signs.
2. Class 2 Lighting is lighting used for applications where general illumination for safety or security is the primary concern.
    - a. Examples of Class 2 Lighting applications include the following:
      - (1) Pedestrian walkways and driveways;
      - (2) Parking lots; and
      - (3) Outdoor security.
    - b. Low-Pressure Sodium (LPS) lamps or Narrow-Spectrum Amber LEDs are required in all Class 2 Lighting applications, except that up to 10 percent of all lighting of all classes may be non-LPS lighting as noted in Table A (Maximum Total Outdoor Light Output Standards).
  3. Class 3 Lighting is outdoor lighting used for decorative purposes.
    - a. Examples of Class 3 Lighting applications include the following:
      - (1) Architectural illumination;
      - (2) Flag and monument lighting; and
      - (3) Landscape lighting and the illumination of trees, shrubs, or other vegetation.
    - b. Class 3 lighting Fixtures shall be included in the total lumen calculations for the site. If decorative lighting is applied to the exterior wall of a building using LED lights or similar technologies that allow for the color of the light to change, only one color change every two minutes is permitted.
  4. The use of solar powered light systems as a light source in all Lighting Classes is appropriate.

### C. Total Outdoor Light Output

1. Total Outdoor Light Output, excluding streetlights and pedestrian lighting used to illuminate public rights-of-way and any interior lighting shall not exceed the following limits averaged over the entire

development (values listed are total initial lamp lumens per acre and per residence).

<b>Table 10-50.70.050.A: Maximum Total Outdoor Light Output Standards</b>			
<b>Land Use</b>	<b>Zone 1</b>	<b>Zone 2</b>	<b>Zone 3</b>
<b>Commercial, Industrial, and Multi-family Residential (lumens per net acre)</b>			
Total (Fully Shielded and Partially Shielded)	25,000	50,000	100,000
Partially Shielded only	0	5,500	5,500
Non-LPS	2,500	5,000	10,000
<b>Single-family Residential (lumens per parcel inclusive of accessory structures)</b>			
Total (Fully Shielded and Partially Shielded)	10,000	10,000	10,000
Partially Shielded only	0	4,000	4,000

2. For determining compliance with this Section, light emitted from outdoor lighting is to be included in the Total Outdoor Light Output as follows (see Figure A):
  - a. Light fixtures installed as described below shall be included in the Total Outdoor Light Output by adding 100 percent of the initial lumen outputs of the lamps used:
    - (1) All unshielded or partially shielded fixtures, regardless of location;
    - (2) Light fixtures installed on poles (such as parking lot light fixtures);
    - (3) Light fixtures installed on the side of buildings or other structures but not located as described in paragraphs b. or c. below; and
    - (4) Light fixtures installed within open parking garages, or under canopies, building overhangs, or roof eaves that are not fully shielded or are fully shielded but not located as described in paragraphs b. or c. below.
  - b. Fully shielded light fixtures installed as described below shall be included in the Total Outdoor Light Output by adding only 25 percent of the initial lumen outputs of the lamps used:
    - (1) Fully shielded light fixtures located within open parking garages, or located under canopies, building overhangs, or roof eaves, where all parts of the light fixture are located at least five feet but less than 10 feet from the nearest outdoor opening, canopy, or overhang edge.

- c. Fully shielded light fixtures installed as described below shall be included in the Total Outdoor Light Output by adding only 10 percent of the initial lumen outputs of the lamps used:
  - (1) Fully shielded light fixtures located within open parking garages, or located under canopies, building overhangs, or roof eaves, where all parts of the light fixture are located 10 feet or more from the nearest outdoor opening, canopy, or overhang edge.

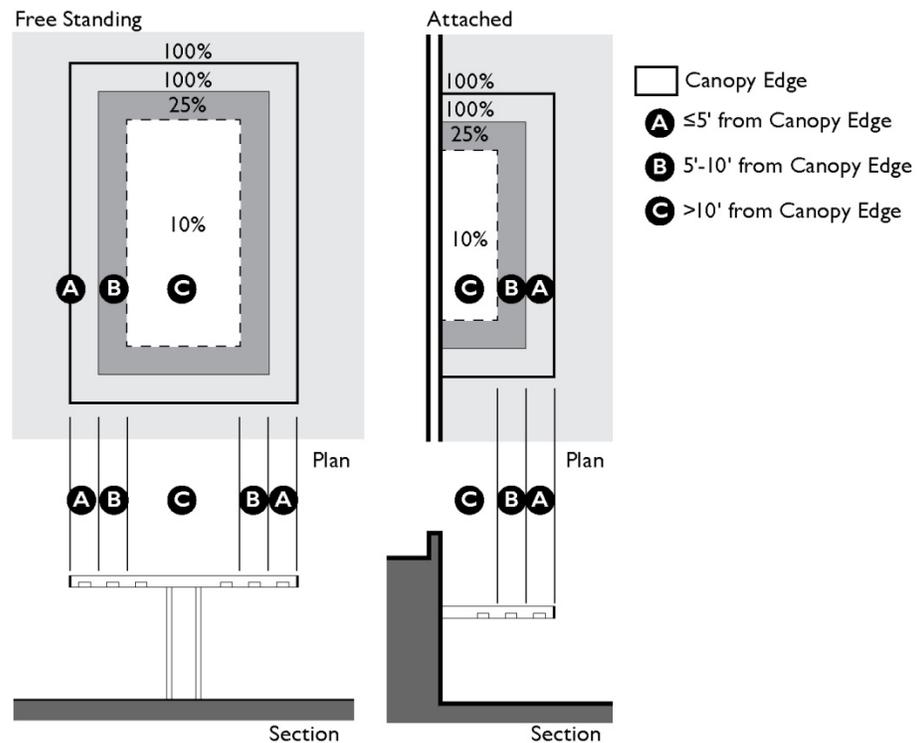


Figure A. Elevation and section views of a freestanding and attached canopy or overhang, showing fixture location and initial lamp output percentage counted toward total outdoor light output

**D. Lamp Source and Shielding:**

The standards provided in Table B (Lamp Type and Shielding Standards) shall apply:

**Table 10-50.70.050.B: Lamp Type and Shielding Standards**

Lamp Type and Lighting Class	Zone 1	Zone 2	Zone 3
<b>Non-Residential<sup>2</sup> Outdoor Lighting</b>			
Class 1 Lighting (Color Rendition):			
All lamp types and outputs	FS	FS	FS
Class 2 Lighting (General Illumination):			
All lamp types and outputs	FS	FS	FS
Class 3 Lighting (Decorative):			
All lamp types 2,500 lumens <sup>1</sup> or above per Fixture	X	A	FS
All lamp types below 2,500 lumens <sup>1</sup> per Fixture	FS	A <sup>3</sup>	A <sup>3</sup>
<b>Residential<sup>2</sup> Outdoor Lighting</b>			
Class 1-3 Lighting			
Lighting (Color Rendition):			
All lamp types 1,000 lumens <sup>1</sup> or above per Fixture	FS	FS	FS
All lamp types below 1,000 lumens <sup>1</sup> per Fixture	FS	A <sup>3</sup>	A <sup>3</sup>

**Key:**

FS = Allowed; Only Fully Shield Fixtures permitted  
 A = Allowed; Fully Shielded Fixtures preferred, and Partially Shielded Fixtures permitted subject to the amounts listed in Table A (Maximum Total Outdoor Light Output Standards).  
 X = Prohibited

**End Notes**

<sup>1</sup>Examples of lamp types of 2,500 and 1,000 lumens and below for commercial and residential applications respectively are provided in Table C (Lamp Type and Wattage with Outputs below 2,500 and 1,000 lumens). The acceptability of a particular lamp is decided by lumen output, not wattage. The values listed are approximate, and the manufacturer’s specifications for a particular lamp must be checked.

<sup>2</sup>For purposes of this subsection, residential refers to property developed primarily for residential purposes, including single-family residences, manufactured homes, duplexes, and triplexes as well as multi-family (i.e. apartment, condominium, townhome) uses. Non-residential uses include all other uses.

<sup>3</sup>For purposes of determining total light output from a light fixture, lighting assemblies which include multiple unshielded or partially shielded fixtures or lamps on a single pole shall be considered as a single fixture (see Figure B). Partially shielded lighting is limited to the amounts listed in Table A (Maximum Total Outdoor Light Output Standards).

Table 10-50.70.050.C: Lamp Type and Wattage with outputs below 2,500 and 1,000 lumens		
Lamp Type	2500 lm (Commercial and Industrial)	1000 lm (Residential)
Standard incandescent and less	100 watt	60 watt
Tungsten-halogen (quartz) and less	100 watt	60 watt
Fluorescent and less	25 watt	15 watt
Compact Fluorescent and less	26 watt	13 watt
No available data for High-Pressure Sodium or Metal Halide lamps		

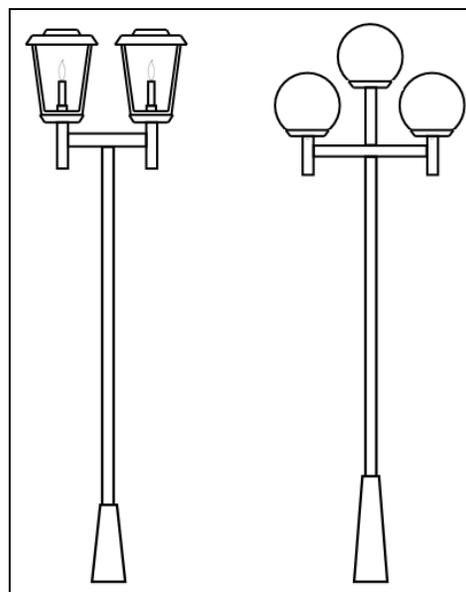


Figure B. Light Fixture with Multiple Unshielded Fixtures or Lamps

**E. Effective Shielding**

All light fixtures that are required to be fully shielded shall be installed in such a manner that the shielding satisfies the definition of a fully shielded fixture.

**F. Light Trespass Standard**

1. All light fixtures, including security lighting, shall be located, aimed and shielded so that the direct illumination from the fixture shall be confined to the property boundaries of the source.
2. Any privately or publicly owned outdoor light fixture with a lamp of initial output over 10,000 lumens located within 50 feet of any residential (including multi-family residential) property or public right-of-way shall utilize an internal or external shield, with the light fixture and shield oriented to minimize light trespass over the adjacent property or right-of-

way line. If an external shield is used, its surface must be painted black to minimize reflections (Figure C).

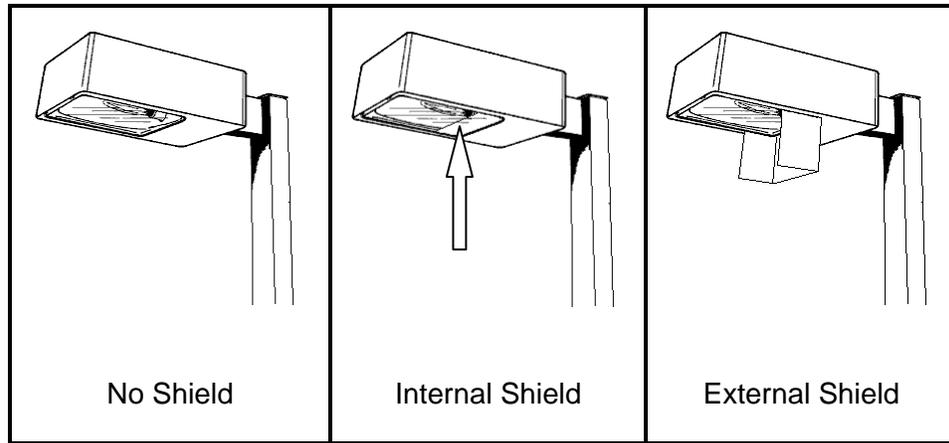


Figure C. Shielding Configurations

**G. Motion Sensing Light Fixtures**

Motion sensing light fixtures shall be fully shielded.

**H. Time Limits for Outdoor Lighting**

All outdoor Class 1 and Class 3 lighting, and outdoor Class 2 lighting located more than 50 feet from any building or outdoor product display or storage area shall be turned off at the times listed in Table D (Time Limits for Outdoor Lighting), or no later than 30 minutes after the business closes, whichever is later, and remain off for the remainder of the night or until the business reopens. Decorative holiday lights are exempt in accordance with Section 10-50.70.080.D, and outdoor recreation facilities are exempt in accordance with Section 10-50.70.060. B.

**Table 10-50.70.050.D: Time Limits for Outdoor Lighting**

	Zone 1	Zone 2	Zone 3
Time limit when outdoor lights must be turned off	9:00 p.m.	11:00 p.m.	11:00 p.m.

**I. Sign Illumination**

Standards for external and internal sign illumination are provided in Division 10-50.100 (Sign Standards). Lighting used for the external illumination of signs is included toward the Total Outdoor Light Output standards of Subsection C.

**J. Neon Building Lighting**

Neon building lighting is included in the Total Outdoor Light Output calculations for the site. Lumens for neon lighting are calculated on a per foot basis, rather than per "fixture." Any unshielded neon lighting is limited by the unshielded lighting limits of Subsection C.

**K. Multi-class Lighting**

Multi-class lighting must either conform to the lamp-type and shielding requirements of the strictest included class as shown in Table A (Maximum Total Outdoor Light Output Standards) and Table B (Lamp Type and Shielding Standards), or conform to the time limitations of the least restrictive included class as shown in Table D (Time Limits for Outdoor Lighting).

**L. Internally Illuminated Architectural Elements**

Any architectural element including walls or portions of buildings that are internally illuminated and that is not a sign or fenestration (windows or doors) shall have 100 percent of the initial lamp output of all lamps used to provide such illumination counted toward unshielded lighting for the purposes of calculating Total Outdoor Light Output for the site and is subject to the standards of Subsection C.

**M. Architectural/Landscape Lighting**

Architectural lighting used to illuminate the wall of a building or landscape lighting used to illuminate trees or other landscape elements is permitted subject to the following:

1. Architectural and landscape lighting that is directed downward onto a wall, tree or other landscape feature shall be included in the Total Outdoor Light Output standards provided in Table A (Maximum Total Outdoor Light Output Standards), based on whether a fully shielded or partially shielded light fixture is used; and
2. Architectural and landscape lighting that is directed upward onto a wall, tree or other landscape feature shall be included in the lumen caps for unshielded Fixtures provided in Table A (Maximum Total Outdoor Light Output Standards).

**N. Emergency Lighting**

Emergency lighting that is only turned on in the event of a power failure or when an alarm is activated is permitted in all lighting zones and is excluded from the total lumen calculations for the site.

**O. Use of Mercury Vapor Light Fixtures**

1. No new mercury vapor outdoor light fixtures shall be installed after the effective date of this Zoning Code. No replacement equipment other than bulbs for mercury vapor lighting fixtures shall be sold in the State after January 1, 1991 and the use of mercury vapor light fixtures is prohibited after January 1, 2011.
2. The provisions of this section shall not apply to outdoor light systems erected prior to 1950.

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**10-50.70.060 Special Uses****A. Service Station Canopy Lighting****1. Lighting Class**

Lighting for service station canopies shall be considered Class 1 Lighting.

**2. Shielding**

All light fixtures mounted on or recessed into the lower surface of service station canopies shall be fully shielded and utilize flat lenses. Such shielding must be provided by the fixture itself; shielding by surrounding structures such as canopy edges is not permitted.

**3. Total Under-Canopy Output**

The total light output used under service station canopies, defined as the sum of all under-canopy initial lamp outputs in lumens, shall not exceed 40 lumens per square foot of canopy in Lighting Zone 2 and 3, and shall not exceed 20 lumens per square foot in Lighting Zone 1 (note: these values are not foot-candle illuminances).

**4. All lighting mounted under the canopy, including but not limited to light fixtures mounted on or recessed into the lower surface of the canopy and any lighting within signage (but not including any lamps mounted within the pumps and used to illuminate information indicating the total cost of such items as fuel pumped and price per gallon), shall be included in the Total Outdoor Light Output for the site and is subject to the standards of Section 10-50.70.050.C.****B. Outdoor Recreation Facilities****1. Lighting Class**

Lighting for field/track/arena areas only shall be considered Class 1.

**2. Lumen Cap Exemption**

- a. In Lighting Zone 1, lighting for field/track/arena areas is subject to the lumens per acre limit set in Section 10-50.70.050.C;
- b. In Lighting Zones 2 and 3, lighting for field/track/arena areas is not subject to the lumens per acre limit set in Section 10-50.70.050.C; and,
- c. Illumination levels for the field/track/arena shall be designed to be no higher than recommended for Class IV play, as defined by the Illuminating Engineering Society of North America publication IESNA RP-06-01.

**3. Shielding**

Fixtures used for field/track/arena areas shall be fully shielded.

**4. Time Limits**

No illuminated sports facility shall be illuminated after the time limits listed in Table 10-50.70.050.D (Time Limits for Outdoor Lighting), except to conclude a scheduled recreational or sporting event in progress prior to the time limitation.

**5. Certification**

Lighting systems for outdoor recreational facilities shall be designed and certified by an engineer registered in Arizona as conforming to all applicable restrictions of this Code before construction commences. Further, after installation is complete, the system shall be again certified by a registered engineer to verify that the installation is consistent with the certified design.

**C. Street Lighting**

1. Standards for street lighting installed on public rights-of-way are found in the City Engineering Standards, Title 12 (Street Lighting).
2. Street lighting installed on private rights-of-way shall be included within the Total Outdoor Light Output for the development.

**D. Parking Garages****1. Lighting Class**

Lighting installed for general illumination of parking areas within parking garages, where the parking areas are open to the outside, shall be considered Class 2.

**2. Inclusion Toward Total Outdoor Light Output**

The lumen output of lamps mounted on or within open parking garages shall be included toward the Total Outdoor Light Output standards in Section 10-50.70.050.C.

**3. Shielding**

All light fixtures used on open parking garages, including those mounted to the ceilings over the parking decks, shall be fully shielded.

**E. Outdoor Display Lots****1. Lighting Class**

Outdoor lighting for outdoor display lots shall be considered Class 1 lighting, and shall conform to applicable lumens per net acre limits applied to the entire parcel.

**2. Lighting Time Limitations**

Outdoor display lot lighting shall conform to the hours of operation as established under Class 1 Lighting Standards. Any lighting on after the time limitations shall be considered Class 2 lighting and shall conform to all restrictions of this Division applicable to this class.

**3. Shielding**

All light fixtures used in outdoor display lots shall be fully shielded and be aimed so that the direct illumination shall be confined to the property boundaries of the source.

**F. Temporary Lighting**

Temporary lighting which does not conform to the provisions of this Division may be approved by the Director subject to the approval of an Outdoor Lighting Permit in accordance with the provisions of Section 10-20.40.100 (Outdoor Lighting Permits). Temporary lighting is intended for uses which by their nature are of limited duration, including for example, holiday decorations, civic events or construction projects.

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**10-50.70.070 Prohibited Outdoor Lighting**

The following types of outdoor lighting are prohibited:

- A. Outdoor floodlighting by flood light projection above the horizontal plane.
- B. Search lights, flood lights, laser source lights, or any similar high intensity light, except in emergencies by police, fire, or medical personnel or at their direction; or for meteorological data gathering purposes.
- C. Any lighting device located on the exterior of a building or on the inside of a window which is visible beyond the boundaries of the lot or parcel with intermittent fading, flashing, blinking, rotating or strobe light illumination.

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**10-50.70.080 Exceptions****A. Airport Lighting**

Required navigational lighting systems at airports for the safe and efficient movement of aircraft during flight, take off, landing and taxiing is exempt from the provisions of this Division. Lighting used for illumination of aircraft loading, unloading, and servicing areas is exempt from the lumens per acre limits provided in Section 10-50.70.050.C, although it must conform to all other requirements of this Division. All other outdoor lighting at airport facilities shall comply with the provisions of this Division.

**B. Infrared Security Lighting**

Lights emitting infrared radiation used for remote security surveillance systems is permitted in all zones with the following restrictions:

- 1. Fixed lights must be fully shielded; and
- 2. Movable lights, such as spot lights attached to infrared sensitive cameras, must be mounted such that the lights cannot be directed higher than 20 degrees below the horizontal, measured from the center of the light beam.

C. **Emergency Lighting by Emergency Services**

Searchlights, floodlights, laser source lights, strobe or flashing lights, or any similar high intensity lights are permitted when used in emergencies by police, fire, medical, or utility personnel or at their direction.

D. **Holiday Decorations**

In all lighting zones low voltage holiday decorations may be unshielded and remain on all night from November 15 to January 15.

E. **Solar-powered Lighting**

Solar-powered lights of 5 watts or less per fixture used in residential landscaping applications and to illuminate walkways are exempt from applicable lamp type and shielding standards and are excluded from the total lumen calculations for the site.

F. **Construction and Renovation of Municipal Facilities**

All outdoor lighting used for construction or major renovation of municipal buildings, structures and facilities is exempt from the provisions of this Division.

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**10-50.70.090 Nonconforming Outdoor Lighting**

Section 10-20.60.080 (Nonconforming Outdoor Lighting) provides the standards and regulations for nonconforming outdoor lighting.

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**10-50.70.100 Violations and Enforcement**

- A. It shall be unlawful to install or operate an outdoor light fixture in violation of this Division. Any person violating any provisions of this Division shall be guilty of a misdemeanor. Each and every day during which the illegal erection, maintenance, and use continues shall be considered a separate offense.
- B. The requirements of this Division shall be enforced in compliance with the enforcement provisions of Division 10-20.110 (Enforcement).

# Division 10-50.100: Sign Standards

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[non-lighting sections omitted]

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## 10-50.100.050 General Requirements for All Signs

[non-lighting sections omitted]

### C. Sign Illumination

All temporary signs must be non-illuminated. Allowed permanent signs may be non-illuminated, or illuminated by internal light fixtures, halo illuminated, or external indirect illumination, unless otherwise specified. All illuminated signs shall comply with the time limitations of Section 10-50.70.050.H.

#### 1. Externally Illuminated Sign Standards

a. Lighting Class: External illumination for signs shall comply with all provisions of this Division, and shall be treated as Class 1 lighting, as defined in Section 10-50.70.050.B. All external sign lighting is included within the total outdoor light output limits of Section 10-50.70.050.C, and shall comply with applicable lamp source and shielding restrictions.

b. Except as provided in Subsection c, externally illuminated signs shall be illuminated only with steady, stationary, fully shielded light sources directed solely onto the sign without causing glare.

c. A light fixture mounted above the sign face may be installed with its bottom opening tilted toward the sign face provided:

(1) The bottom opening of the light fixture is flat (i.e., it could be covered by a flat board allowing no light to escape); and,

(2) The uppermost portion of the fixture's opening is located no higher than the top of the sign face, as shown in Figure H. Light fixtures aimed and installed in this fashion shall be considered fully shielded for purposes of calculating the total outdoor light output limits of Section 10-50.70.050.C.

**Permitted and Prohibited External Sign Lighting Configurations**

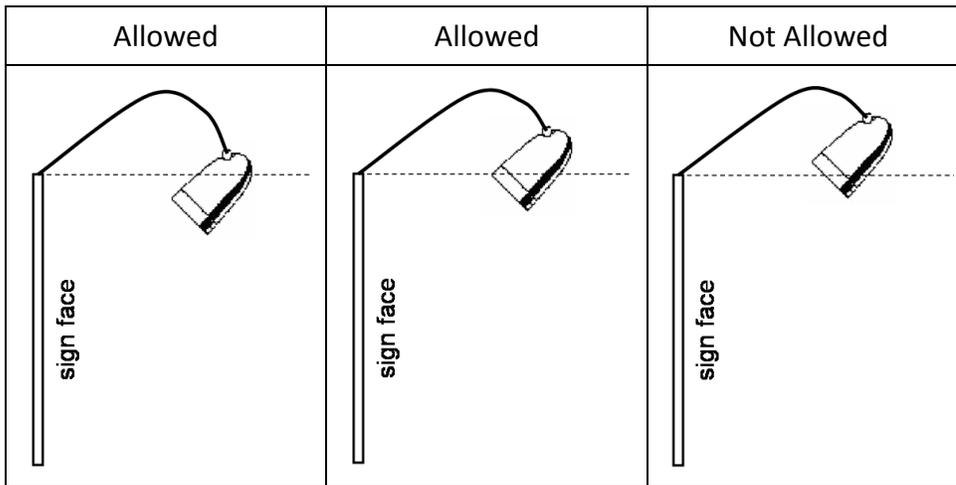


Figure H. External Sign Lighting Configurations

**2. Internally Illuminated Sign Standards**

a. Internally illuminated signs shall either be constructed with an opaque background and translucent text and symbols, or with a colored (not white, off-white, light gray, or cream) background and generally lighter text and symbols (Figure H). Lamps used for internal illumination of internally illuminated signs shall not be counted toward the total outdoor light output limits of Section 10-50.70.050.C.

**(1) Lighting Zone 1**

The sign face(s) shall be composed of illuminated text and symbols against an opaque (non-illuminated) background. The colors of these elements are not restricted.

**(2) Lighting Zones 2 and 3**

The sign face(s) shall be either composed of illuminated text and symbols against an opaque background (as in Subsection (1) above), or with generally lighter text and symbols against a colored (not white, off-white, light gray, or cream) background. Text and symbols may be white, off-white, light gray, or cream (See Figure I).

Light Background Not Allowed	Colored Background Allowed	Opaque Background Allowed
RESTAURANT CAFÉ	<b>GAS STATION</b>	HOTEL

Figure I. Internally Illuminated Signs

b. Other internally illuminated panels or decorations not considered to be signage according to this Division (such as illuminated canopy margins, building faces, or architectural outlining), shall be considered Class 3 lighting, as defined in Section 10-50.70.050.B, and shall be subject to the standards applicable for such lighting, including but not limited to the lamp source, shielding standards, and total outdoor light output limits established in Section 10-50.70.050.C.

**3. Neon Sign Standards**

Neon sign lighting shall be treated as Class 3 (decorative) lighting and shall be included within the total outdoor light output limits of Section 10-50.70.050.C. Neon lighting extending beyond the area considered to be the sign area (as defined in this Division) shall comply with all provisions of Division 10-50.70 (Outdoor Lighting Standards).



Figure J. Neon Sign

**4. Single-Color LED Sign Standards**

Single-color LED signs shall be considered as internally illuminated signs, and shall not have their lumen output counted toward the total outdoor light output limits of Section 10-50.70.050.C. Any lighting extending beyond the area considered to be the sign area (as defined in this Division) shall be treated as Class 3 lighting and shall comply with the lumen limits of Section 10-50.70.050.C.

**5. Time Limitations**

All signs shall be turned off by 9:00 p.m. if located in Lighting Zone 1 and 11:00 p.m. if located in Lighting Zones 2 or 3, or when the business closes, whichever is later. Signs subject to time limitations are required to have functioning and properly adjusted automatic shut-off timers. See Division 10-90.50 (Lighting Zone Map) for lighting zones.

# Chapter 10-80: Definitions

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## Division 10-80.20: Definition of Specialized Terms, Phrases, and Building Functions

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[non-lighting definitions omitted]

**Abandonment of Use:** See “Use, Abandonment of.”

**Acreage, Net:** The remaining ground area after deleting all portions for proposed and existing streets within a development or subdivision.

**Automobile/Vehicle Sales and Services, new and used:** A retail or wholesale establishment selling and/or renting automobiles, trucks and vans, trailers, motorcycles, and other motor vehicles new or used. Vehicles for sale may be displayed outdoors or indoors, as authorized by the required Use Permit (Use Permit required in the CC Zone). Does not include auto towing storage yards, see “Industrial, Light - General.” Does not include bicycles, see “General Retail Business.”

**Automobile Service Station and Convenience Store:** An establishment providing sales of vehicle fuel and such services as lubrication, oil and tire changes, and minor repairs. This use does not include paint spraying or body repair, automobile top or upholstery repair, or tire retreading and repair, see “Automobile/Vehicle Repair Garages - Major.” This does not include equipment rental (see “Automobile and Trailer Rental”) or outside storage or display of used or new merchandise (see “Automobile/Vehicle Sales and Services, new and used”).

**Awning:** An architectural feature that:

1. Provides protection from the elements to pedestrians below, or to occupants within the building; and
2. Is temporary in that, whether stationary or retractable, it can be removed from the building without altering the building structure.

**Billboard:** A sign designated for use with changing copy which may include but is not limited to goods produced or services rendered or sold at locations other than the premises on which the sign is located.

**Building Official:** The Chief of Building Inspectors or his official representative, who is charged with the administration and enforcement of the building code.

**Building Permit:** The permit required for new construction and additions pursuant to the City Code.

**Canopy, Non-Structural:** See “Awning.”

**Canopy, Structural:** An architectural feature that:

1. Projects from, and is the exterior wall of a building or by a combination of building wall and support posts;
2. Provides protection from the elements to pedestrians below, or within the building; and
3. Is permanent in that it is not retractable and cannot be removed from the building without altering the building face or structure.

**Certificate of Occupancy:** An official authorization to occupy a structure as issued by the Community Development Director.

**Change of Use:** See “Use, Change of.”

**City:** The City of Flagstaff, Arizona.

**Class 1 Lighting:** See “Lighting, Class 1.”

**Class 2 Lighting:** See “Lighting, Class 2.”

**Class 3 Lighting:** See “Lighting, Class 3.”

**Color:** Any distinct tint, hue, or shade including white, black, or gray.

**Colors, Night-Bright:** For the purposes of the Zoning Code, colors identified as "night-bright", shall be based upon the *Gerber Scientific Products GSP 230 Scotchcal Translucent Film Specifications Guide* that provides color swatches of vinyl products available for plexiglas sign faces. Individual colors identified on the aforementioned Specifications Guide as white #230-20; Ivory #230-005; and Yellow #230-015, or comparable colors provided by other sign vinyl suppliers, shall be deemed as "night-bright" colors. Colors not shown on the Specifications Guide or product information of other sign vinyl suppliers which include but are not limited to pale gray, baby blue, or light pink, shall also be considered to be "night-bright" colors.

**Developer:** The legal or beneficial owner(s) of a lot or parcel of any land proposed for inclusion in a development, including an optionee or contract purchaser.

**Development:** The carrying out of any building activity, the making of any material change in the use or appearance of any structure or land, or the dividing of land into parcels by any property owner. When appropriate to the context, "development" refers to the act of development or to the result of development within the City. Within the context of this Zoning Code, development shall include the following activities or uses:

1. The reconstruction, alteration of, or material change in the external appearance of a structure on land or water;
2. A change in the intensity of use of land, such as an increase in the number of dwelling units in a structure or on land, or an increase in the number of businesses, manufacturing establishments, or offices;
3. Alteration of a shore or bank of a pond, river, stream, lake, or other waterway;
4. Commencement of drilling (except to obtain soil samples), mining, or excavation on a parcel of land;
5. Demolition of a building or structure;
6. Clearing of land as an adjunct to construction, including clearing or removal of vegetation, any significant disturbance of vegetation, or any soil manipulation; and
7. Deposit of refuse, solid or liquid waste, or fill on a parcel of land.

For the purpose of this Zoning Code the following operations or uses shall not be taken to mean "development":

1. Work by a highway or road agency or railroad company for the maintenance of a road or railroad track if the work is carried out on land within the boundaries of the right-of-way;
2. Work by any utility, and other persons engaged in the distribution or transmission of gas or water, for the purposes of inspecting, repairing, renewing, or constructing on established rights-of-way, sewers,

mains, pipes, cables, utility tunnels, power lines, towers, poles, tracks, or similar facilities (exclusive of the activities requiring a Conditional Use Permit as specified in Chapter 10-40 (Specific to Zones));

3. The maintenance, renewal, or alteration of any building or structure, where only the interior or the color of the structure or the decoration of the exterior of the structure is affected;
4. The use of any structure or land devoted to dwelling uses for any purpose customarily incidental to enjoyment of the dwelling;
5. A change in the ownership or form of ownership of any parcel or structure;
6. Work involving the landscaping of a detached dwelling; and
7. Work involving the maintenance of existing landscaped areas and existing rights-of-way.

**Direct Illumination:** Illumination resulting from light emitted directly from a lamp or luminaire, not light diffused through translucent signs or reflected from other surfaces such as the ground or building faces.

**Director:** The City of Flagstaff Planning Director, or designee.

**Display and Parking of Vehicles, Mobile Homes and Travel Trailers:** The permanent or temporary outdoor display of vehicles, mobile homes, and travel trailers incidental to an adjacent indoor retail use and certain independent outdoor retail sales facilities.

**Duplex:** A building with two attached dwelling units on one lot or parcel. Said units may be attached front-to-back, side-to-side or stacked one atop the other.

1. **Front-to-Back:** An attached building type with two independent living units with one unit placed behind the other and sharing a common or party wall.
2. **Side-by-side:** An attached building type with two side-by-side independent living units sharing a common or party wall.
3. **Stacked:** An attached building type with two independent living units stacked one on top of the other.

**Dwelling:** One or more habitable rooms for residential use that are used as a home, residence, or sleeping place by one or more persons and which may contain sleeping, sanitary, and cooking facilities. Dwelling includes an apartment or condominium. This does not include a motel or hotel room (see “Lodging”) or suite or guest rooms in a boarding house (see “Boarding and Rooming Facilities”) or bed and breakfast (see “Bed and Breakfast Establishment”).

**Dwelling, Cluster:** Fully detached single-family residential uses located on individual lots that include, as part of the subdivision design, common open space.

**Dwelling, Multiple-Family:** A dwelling contained in a building comprised of four or more dwelling units.

**Dwelling, Secondary Single-Family:** An existing detached residential unit, secondary in scale and bulk to the primary residence, used either as a second unit on an existing lot or on a separate parcel in connection with a land split. Refer to Section 10-40.60.300 (Secondary Single-Family Dwelling).

**Dwelling, Single-Family:** Single-family residential uses, including all singlefamily detached dwelling units, factory built homes, and modular homes, built on lots at one unit per lot unless the zone provides for additional units. See also “Factory Built Building” and “Modular Homes.”

**Dwelling, Two-Family:** A residential building designed to be occupied by two families living independently of each other.

**Engineer:** Registered professional engineer in the state of Arizona.

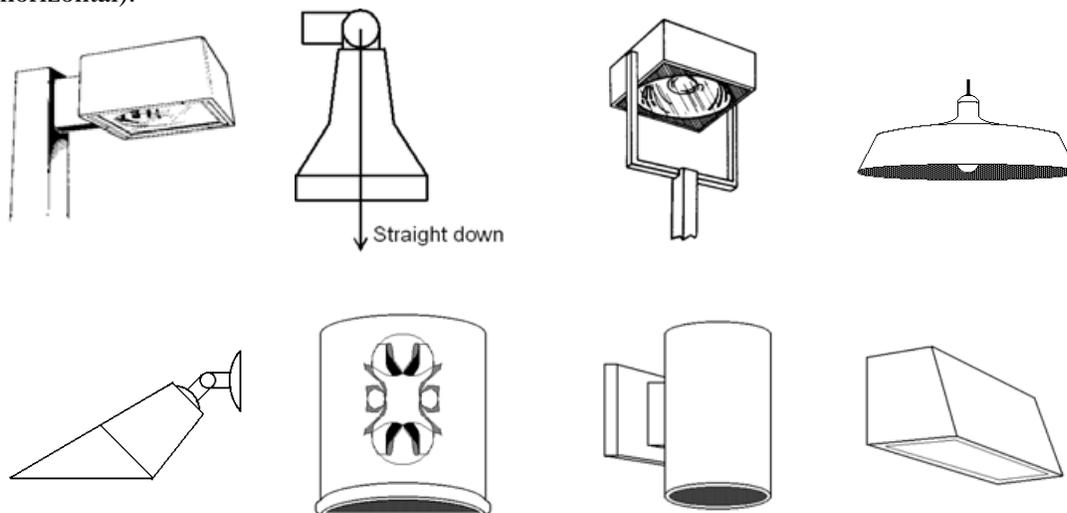
**Engineering Standards:** The *City of Flagstaff Engineering Design and Construction Standards and Specifications for New Infrastructure* as may be amended from time to time.

**Façade:** The exterior wall of a building that is set along a frontage line.

**Final Plat:** A map of a land subdivision prepared in a form suitable for filing a record with necessary affidavits, dedications, and acceptances; and with complete bearings and dimensions of all lines defining lots and blocks, streets, and alleys, public areas and other dimensions.

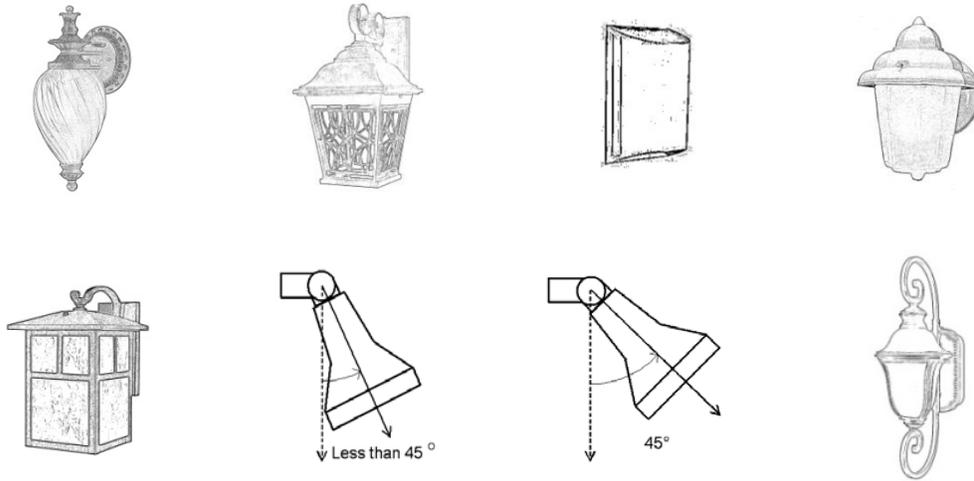
**Fixture:** See "Light Fixture, Outdoor."

**Fixture, Fully Shielded:** A light fixture or luminous tube constructed and mounted such that all light emitted by the fixture or tube, either directly from the lamp, tube, or a diffusing element, or indirectly by reflection or refraction from any part of the light fixture, is projected below the horizontal. If the lamp or tube, any reflective surface, or lens cover (clear or prismatic) is visible when viewed from above or directly from the side, from any angle around the fixture or tube, the fixture or tube is not fully shielded. Examples of fully shielded light fixtures include, but are not limited to, those illustrated below: (Note: to be fully shielded these fixtures must be closed on top and mounted such that the bottom opening is horizontal):



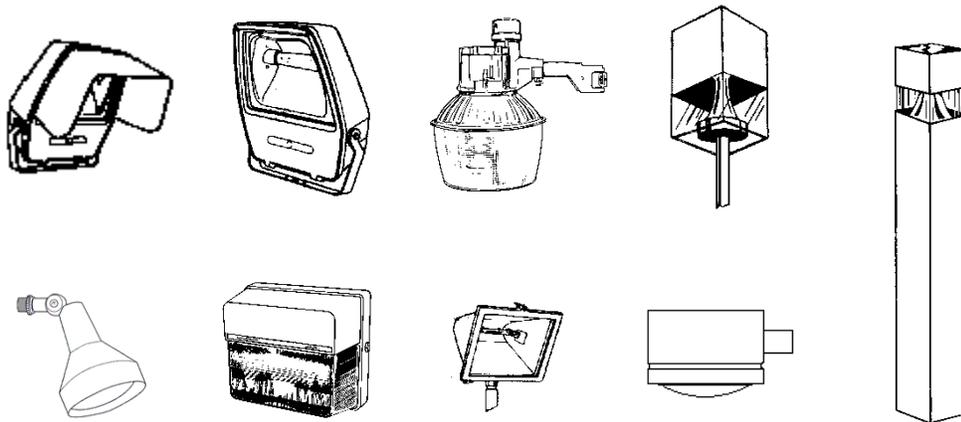
Examples of fully shielded light fixtures

**Fixture, Partially Shielded:** A light fixture constructed and mounted such that most light emitted by the fixture, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the fixture, is projected below the horizontal. Light emitted at or above the horizontal direction (sideways or upwards) arises only from incidental decorative elements or strongly colored or diffusing materials such as "honey" or colored glass or plastic. Fixtures using spot or flood lamps are considered partially shielded if the lamps are aimed no higher than 45 degrees above straight down (half-way between straight down and straight to the side). Examples of partially shielded fixtures include, but are not limited to, those illustrated below:



Examples of partially shielded light fixtures

**Fixture, Unshielded:** A light fixture that is not fully shielded or partially shielded. Examples of fixtures that are unshielded include, but are not limited to, those illustrated below (Note: even though the lamp in these fixtures is shielded from direct view when viewed from the side or above, reflective surfaces and/or lens covers are directly visible from the side):



Examples of unshielded light fixtures

**Flood Lamp:** See “Spot Lamp.”

**Fully Shielded Light Fixture:** See “Light Fixture, Fully Shielded.”

**Indirect Illumination:** A source of external illumination for a sign located away from the sign.

**Individual:** Any person or his agent, lessee, firm, partnership, association, joint venture, corporation, or agent of the aforementioned groups or the state of Arizona or any agency or political subdivision of the state.

**Internal Illumination:** A source of illumination contained entirely within the sign that makes the contents of the sign visible at night by means of light being transmitted through a translucent material, but wherein the source of the light is not visible.

**Internally Illuminated Architecture:** Any architectural element including walls or portions of buildings that is internally illuminated and that is not a sign, windows, or doors.

**LED, Narrow-Spectrum Amber:** A light emitting diode (LED) with a peak wavelength between 585 and 595 nanometers and a full width at 50 percent power no greater than 15 nanometers.

**Light Fixture:** See “Light Fixture, Outdoor.”

**Light Fixture, Outdoor:** A complete lighting assembly (including the lamp, housing, reflectors, lenses, and shields), less the support assembly (pole or mounting bracket); a light fixture. Includes luminous tubes, lamps or similar devices, permanently installed or portable, used for illumination, decoration, or advertisement. Such devices shall include, but are not limited to, lights used for:

1. Parking lot or parking garage lighting;
2. Roadway and driveway lighting;
3. Pedestrian or walkway lighting;
4. Entryway lighting;
5. Buildings and structures;
6. Recreational areas;
7. Landscape lighting;
8. Billboards and other signs (advertising or other);
9. Product display area lighting;
10. Building or structure decoration; and,
11. Building overhangs and open canopies.

**Light Trespass:** Light falling across property boundaries, on property not containing the originating light source.

**Lighting, Class 1:** All outdoor lighting used for applications where color rendition is important to preserve the effectiveness of the activity.

**Lighting, Class 2:** All outdoor lighting used for, but not limited to, illumination for walkways, roadways, equipment yards, parking lots and outdoor security where general illumination for safety or security of the grounds is the primary concern.

**Lighting, Class 3:** Any outdoor lighting used for decorative effects including, but not limited to, architectural illumination, flag and monument lighting, and illumination of trees or bushes.

**Lumen:** The unit used to measure the actual amount of light which is produced by a lamp.

**Luminaire:** See “Light Fixture, Outdoor.”

**Luminous Tube:** A glass tube filled with a gas or gas mixture (including neon, argon, mercury, or other gasses), usually of small diameter (10-15 millimeters), caused to emit light by the passage of an electric current, and commonly bent into various forms for use as decoration or signs. A "neon" tube. Does not include common fluorescent tubes.

**Major Development:** A commercial, institutional or research and development use containing 20,000 or more square feet of floor area and multi-family residential uses containing 50 or more units.

**Mixed Use:** The development of a single building containing more than one type of land use or a single development of more than one building and use including, but not limited to, residential, office, retail, recreation, public, or entertainment, where the different land use types are in close proximity, planned as a unified complementary whole, and shared pedestrian and vehicular access and parking areas are functionally integrated.

1. **Horizontal Mixed Use:** Two or more different types of uses are placed next to each other on the same parcel, planned as a unit, and connected together with pedestrian and vehicular access. For instance, a subdivision containing single-family dwellings that is adjacent to a neighborhood commercial development and office complex.

2. **Vertical Mixed Use:** Where two or more different uses occupy the same building usually on different floors. For instance, retail on the ground floor and office and/or residential uses on the second and/or third floors. In which there exists three or more separate activities with direct exterior access, and in which there are appurtenant shared facilities. Distinguishing characteristics of a multi-tenant building or use may, but need not, include common ownership of the real property upon which the building or use is located, common wall construction and multiple occupant use of a single structure.

**Multiple-Family Dwelling:** See “Dwelling, Multiple-Family.”

**Neon Tube:** See “Luminous Tube.”

**New Construction:** Structures for which the "start of construction" commenced on or after the effective date of this Ordinance.

**New Development:** Any development which commenced on or after the effective date of this Ordinance, including any new construction, reconstruction, redevelopment, rehabilitation, structural alteration, structural enlargement, structural extension, or new use which requires a building permit or any change in use of an existing building, structure or lot requiring any form of City approval.

**Nonconforming Sign:** Any sign legally established prior to the effective date of this Zoning Code or subsequent amendment to it, which does not fully comply with the standards imposed by the individual sections of this Zoning Code.

**Nonconforming Use:** An activity, use of land, building, sign, and/or structure, which was legally established prior to the effective date of this Zoning Code or subsequent amendment to it, and which would not be permitted to be established as a new use in the zone in which it is located by the regulations of this Zoning Code.

**Opaque:** Opaque means that material must not transmit light from an internal illumination source.

**Outdoor Advertising Use or Structure:** See “Billboard.”

**Outdoor Display Lot:** An area designed for the outdoor merchandising of product where active nighttime sales activity may occur, and where accurate color perception by customers is required. Outdoor display lots include: areas, temporary and seasonal sales, and any other uses as determined by the Director.

**Outdoor Light Output, Total:** The maximum total amount of light, measured in lumens, from all outdoor light fixtures. Includes all lights and luminous tubing used outdoors or in areas open to the outdoors, and lights used for external illumination of signs, but does not include lights used inside of internally illuminated signs or luminous tubing used in neon signs. For luminous tubes used outside of signage, output is calculated per linear foot of tubing rather than per lamp. For lamp types that vary in their output as they age (such as high pressure sodium, metal halide and fluorescent), the initial output, as defined by the lamp manufacturer, is the value to be considered.

**Parcel:** A defined area of land not part of a platted subdivision.

**Parking Structure:** A building containing two or more stories of parking above natural grade.

**Partially Shielded Light Fixture:** See “Light Fixture, Partially Shielded.”

**Person:** Any individual, firm, partnership, association, joint venture, corporation, or the state of Arizona or any agency or political subdivision of the State.

**Plat:** A map of a subdivision.

**Residential:** A land use type that is designated to accommodate single-family and multiple-family dwellings. Includes mobile and manufactured homes.

**Sign:** A structure, device, figure, display, message placard or other contrivance, or any part thereof, situated outdoors or indoors, which is designed, constructed, intended or used to advertise, or to provide information in the nature of advertising, to direct or attract attention to an object, person, institution, business, product, service, event or location by any means, including words, letters, figures, designs, symbols, fixtures, colors, illumination or projected images.

**Sign, Cabinet:** A sign with its text and/or logo symbols and artwork on a translucent face panel that is mounted within a metal frame or cabinet that contains the lighting fixtures which illuminate the sign face from behind.

**Sign Copy:** Any graphic, word, numeral, symbol, insignia, text, sample, model, device, or combination thereof that is primarily intended to advertise, identify or notify.

**Sign, Electronic Message:** A type of changeable copy sign that uses changing lights to form a sign message or messages, and wherein the sequence of messages and the rate of change is electronically programmed and can be modified by electronic processes. Any electronic or electronically controlled message board, where scrolling or moving copy changes are shown on the same message board or any sign which changes the text of its copy electronically or by electronic control.

**Sign, Externally Illuminated:** Any sign, the facing of which reflects light from an external light source intentionally directed upon it.

**Sign, Internally Illuminated:** Any sign in which the source of light is entirely enclosed within the sign and not directly visible.

**Sign, LED:** A sign consisting of light emitting diodes (electronic components that let electricity pass in only one direction) that emit visible light when electricity is applied.

**Sign, Logo:** A stylized group of letters, words, symbols or combination thereof used to represent and distinguish a business or product from the competition.

**Sign, Multicolor Changeable-Copy LED:** A sign composed of LEDs of more than one color and programmable to allow changing displays.

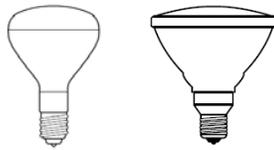
**Sign, Multicolor Fixed-Copy LED:** A sign composed of LEDs of more than one color with a fixed (not changeable or programmable) copy or display.

**Sign, Neon:** A sign including luminous tubes formed into text, symbols or decorative elements and directly visible from outside the sign cabinet.

**Sign, Single-Color LED:** A sign composed of single-color LEDs, including signs with fixed and changeable copy.

**Site Plan:** A graphic depiction of features on a site such as existing and proposed structures, paved areas, ingress/egress points, and landscaped areas along with certain information as required by Chapter 10-20 (Administration, Procedures, and Enforcement).

**Spot Lamp:** A specific form of lamp designed to direct its output in a specific direction (a beam) with a reflector formed from the glass envelope of the lamp itself.



**Temporary Lighting:** Lighting which does not conform to the provisions of Division 10-50.70 (Outdoor Lighting Standards), and which will not be used for more than one 30 day period within a calendar year, with one 30 day extension.

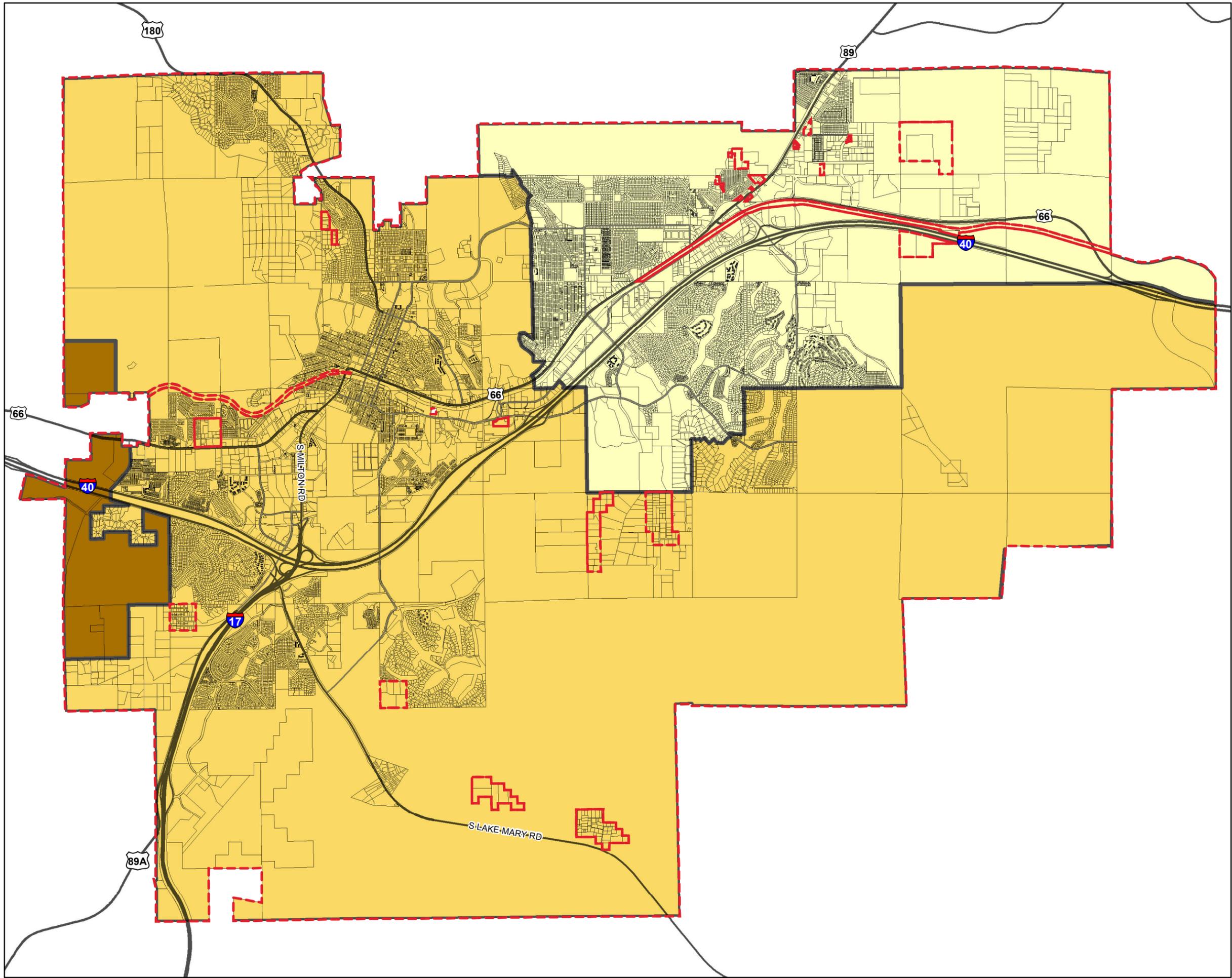
**Unshielded Light Fixture:** See “Light Fixture, Unshielded.”

**Use:** The purpose or activity for which land or any building or structure thereon is designated, arranged, or intended, or for which it is occupied or maintained; or any activity, occupation, business or operation carried on or intended to be carried on in a building, structure, or on a parcel or lot.

**Use, Abandonment of:** The relinquishment of a property, or the cessation of a use or activity by the owner or tenant for a period of six months, excluding temporary or short term interruptions for the purpose of remodeling, maintaining, or otherwise improving or rearranging a facility. A use shall be deemed abandoned when such use is suspended as evidenced by the cessation of activities or conditions that constitute the principal use of the property.

**Use, Change of:** The cessation of activities or conditions associated with a principal use of a property and the commencement of activities or conditions associated with a different principal use. A use shall be deemed to be changed when a change in the distinguishing traits or primary features of the use of a building or land, as evidenced by a change in parking requirements, change in occupancy designation and/or occupancy load, change in outdoor storage or other features occur after the effective date of this Zoning Code.

**Watt:** The unit used to measure the electrical power consumption of a lamp.



### Division 10-90.50: Lighting Zone Map

-  City of Flagstaff Boundary
-  Parcels
-  Lighting Zone 1
-  Lighting Zone 2
-  Lighting Zone 3

