

Chapter 3.100

DESIGN STANDARDS FOR OUTDOOR LIGHTING

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Section 3. DEFINITIONS

The following terms and definitions shall apply in the enforcement and interpretation of this chapter:

Class I lighting (General) shall mean all outdoor lighting used to illuminate outdoor areas other than areas described for Classes II through IV.

Class II lighting (Accent/Decorative) shall mean all outdoor lighting used for accent or decorative effects. Examples of Class II lighting include, but are not limited to, the illumination of landscape features, flags, pennants or banners, fountains, statues, art work, and building walls.

Class III lighting (Street Lighting) shall mean all outdoor lighting used to illuminate public streets or highways and private roads subject to public access easement.

Class IV lighting (Outdoor Recreational Facilities) shall mean all outdoor lighting used to illuminate outdoor recreational facilities.

Class V lighting (Salt Creek Tiger Beetle Environs) shall mean all outdoor lighting used to illuminate the area within the Salt Creek Tiger Beetle environs (this is a holding class for anticipated Federal Standards).

Cutoff and Full-Cutoff shall mean outdoor light fixtures shielded or constructed by the manufacturer so as to comply with the [former](#) Illuminating Engineering Society of North America (IESNA) [luminous classification system](#) definition for cutoff and full cut-off outdoor lighting fixtures as found in the IESNA Lighting Handbook, 9th edition, [or the new IESNA TM-15-07 Luminaire Classification System for Outdoor Luminaires, as more particularly set forth in Addendum A for IESNA TM-15-11: Backlight, Uplight and Glare \(BUG\) Ratings. Under the BUG Ratings, an outdoor light fixture with a Backlight Rating of 3, Uplight Rating of 1, and Glare Rating of 3 shall be considered equal to cutoff, and an outdoor light fixture with a](#)

[Backlight Rating of 3, Uplight Rating of 0, and Glare Rating of 3 shall be considered equal to full cutoff.](#)

Display Area shall mean the area used for the outdoor display of merchandise for sale including aisles between the display.

Field Angle shall mean the angle of the cone of light from reflector lamps or flood luminaires encompassing the central part of the beam out to the angle where the intensity is 10 percent of maximum.

Foot-candle (abbreviated fc) shall mean a unit of measure of illumination (number of lumens per area) or how much light is on a surface. A foot-candle is defined as one lumen per square foot.

Glare shall mean the amount of direct or indirect artificial light (measured with the meter vertical at 5 feet above ground level and rotated in a horizontal plane so it is facing the brightest source) in excess of the vertical foot candle limits allowed by Section 9 of this chapter.

IESNA shall mean Illuminating Engineering Society of North America.

Illuminance shall mean the amount of light falling onto a unit area of a horizontal surface (luminous flux per unit area) measured in lumens per square foot (foot-candles) at 3 feet above ground level.

Light trespass shall mean the amount of direct or indirect artificial light (measured with the meter horizontal and facing upwards at 3 feet above ground) in excess of the horizontal foot candle limits allowed by Section 9 of this chapter.

Lumen shall mean a unit of light emitted from a source. Where used in this chapter, lumen shall mean the “initial” manufacturer published amount emitted from the light source. (Example: a LED lamp equivalent to a 100 watt incandescent lamp has approximately 1700 lumens of light output.)

Luminaire shall mean a complete manufactured and UL listed lighting unit consisting of a light source, together with the parts designed to distribute the light, to position and protect the light source and to connect the light source to the power supply. (Roadway luminaires are exempt from UL listing.)

Mounting height shall mean the distance from finished grade to the bottom most portion of any light emitting source, (e.g. LED, surface of lens).

Nit is a unit of luminance equal to one candela per square meter.

Outdoor recreational facilities shall mean public, or private facilities designed and equipped for the outdoor conduct of sports, leisure time activities, and other customary and usual recreational activities. Outdoor recreational facilities include, but are not limited to, fields or stadiums for softball, baseball, football, soccer, golf courses, driving ranges and other “field sports,” and courts for tennis, basketball, volleyball, handball and other “court sports.”

Parking area shall mean an area, other than a street, designed or used primarily for parking of vehicles. This includes both “required” and “surplus” parking areas for residential, commercial and industrial uses, and inventory storage areas for automobile dealerships, but not display areas.

Person shall mean any natural person, firm partnership, association, corporation, company, or organization of any kind.

Private shall mean an area, street or facility that is not available for use by the general public.

Public shall mean an area, street or facility, whether publicly or privately owned, that is available for general public use, either free or for remuneration.

Residential shall mean an area or development in which the land use is zoned or used for single family, two-family or multi-family dwelling units. It shall include public streets and private roads within such areas.

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Section 4. CLASS I LIGHTING (GENERAL)

4.1 Requirements

- A. Exterior lighting for outdoor vehicle display area shall not exceed an average maintained illuminance of 20 foot-candles.

If any portion of the outdoor auto display area is within 500 feet of residential zoning, the average maintained illuminance shall not exceed 20 foot-candles and the luminaires shall be full cutoff for the entire outdoor vehicle display area.

- B. Outdoor areas under lighted canopies, such as gas pump islands and ATM bays, shall not exceed an average maintained illuminance of 20 foot-candles.

If any portion of the canopy area is within 500 feet of a residential zoning district, the average maintained illuminance shall not exceed 20 foot-candles and the luminaires shall be full cutoff or mounted so that the bottom of the lens is recessed or flush with the bottom surface of the canopy for the entire canopy area.

- C. Outdoor areas under lighted marquees (canopies attached to buildings and overhanging public property) shall not exceed an average maintained illuminance of 4 foot-candles.

~~E~~D. Class I lighting in residential zoning districts shall not exceed an average maintained illuminance of 4 foot-candles. All other Class I lighting, including but not limited to lighting of entrance ways, dining areas, display of merchandise other than vehicles and outdoor work areas shall not exceed an average maintained illuminance of 6 foot-candles.

~~D~~E. All Class I lighting levels shall be reduced to an average maintained illuminance level of 4 foot-candles after business hours.

~~E~~F. Illuminance level shall not exceed 4 foot-candles average maintained on parking surface for off-street parking.

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Section 9. LIGHT TRESPASS AND GLARE

A. All lighting except, Class III (street lighting) or as otherwise exempted elsewhere in this chapter, shall meet the requirements for luminaire, shielding, placement and aiming to minimize light trespass and glare such that:

1. No more than 2.0 foot-candles is measured on a vertical plane located at the property line of the adjacent property.

2. The glare measurements from a zero setback property line that is adjacent to a public street, private road, or an outlot not reserved for future development shall be no more than 2.0 foot-candles measured in a vertical plane located ten feet (10') from the zero setback property line and parallel to said property line.

~~2~~3. Light trespass from a non-residential use abutting, or across the alley from, a residential district shall not exceed 0.5 foot-candle at the residential property line measured on a horizontal plane.

B. Exterior building surfaces shall not exceed an average surface brightness of 750 nits.

C. Signs are regulated for surface brightness by Chapter 27.69 of the LMC. Sign illumination shall be included in the measurement of light trespass.

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