

TOWN OF PARADISE VALLEY

Lighting (Article 10, Section 1023 Outdoor Lighting and Illumination: Article 22, Section 2208 Outdoor Lighting; Article 25, Section 2506 Lighting; and Special Use Permit Guidelines, Section 2 Lighting)

Text Amendment

Town Council

November 3, 2016

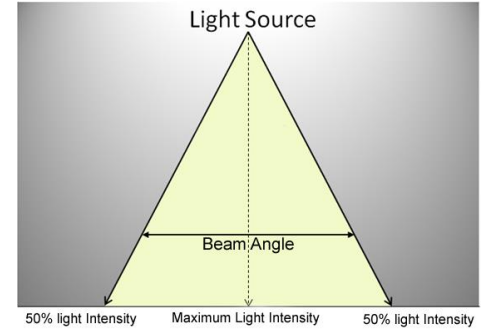


DISCUSSION

- Major Revisions to Section 1023 (non-hillside lighting) include:
 - Addition of a Definition Section. Most of the definitions are not new, but were previously only in the Hillside Lighting Section. The definitions are now in both sections. The definitions of Lumens and Beam Angle are new and the definitions of Footcandle and Visual Enjoyment Lighting were revised.



Definitions



- Section 1023 Outdoor Lighting and Illumination. 65 repealed 201 374
- Definitions: For the purposes of this section, exterior lighting is defined and regulated by the following definitions and categories:
 - Beam Angle – two times the vertical angle at which the intensity is 50% of the maximum.
 - **Beam angle is the angle of the cone of light where the intensity is 50% of the maximum intensity at center beam.**
 - Footcandle (fc) - A unit of illuminance equal to the light from one candle projected on a one foot square surface at a distance of one foot from the candle. **One foot-candle equals one lumen.**
 - Fully Shielded (Full Cut-Off) - A fixture shielded with an Opaque material so that light rays emitted by the fixture are projected only below a horizontal plane running through the lowest point on the fixture where light is emitted.

- Fully Shielded (No Cut-Off) - A fixture that allows light rays to be emitted up and down and shielded with an Opaque material in such a manner to prevent the Luminaire from being seen.
- Lumens – The Standard International (SI) unit of luminous flux
- Luminaire (Light Fixture) - A complete lighting unit consisting of a lamp or lamps and ballast(s) (when applicable) together with the parts designed to distribute the light, position and protect the lamps, to connect the lamps to the power supply.
- Opaque - Impervious to the passage of light.
- Safety Lighting - Low-level lighting used to illuminate vehicular and pedestrian circulation.
- Security Lighting - Lighting that is Fully Shielded that is intended to provide bright illumination during emergency situations only. Lighting shall be on a motion sensor.

- Translucent – A material through which light can pass but the light source is obscured.
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- Trespass Lighting - Spill light that encroaches onto neighboring properties.
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- Visual Enjoyment Lighting - Lighting intended to illuminate outdoor living areas. Outdoor living areas include: a furnished patio, dining area, kitchen or cooking area, a fire pit or lounging area. Does not include outdoor, active recreation areas such as sport courts.
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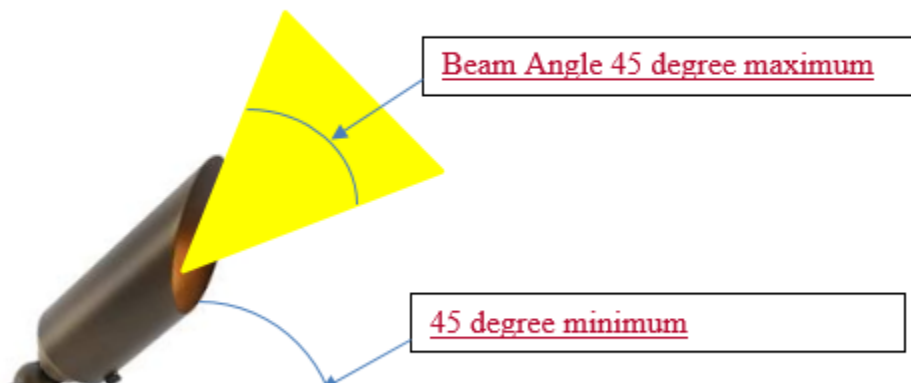
– All references to wattage removed and replaced with Lumens were appropriate.

. The following light sources shall not exceed a height of thirty-six (36) inches above natural or excavated grade, whichever is lower, and shall not exceed ~~the equivalent projected brightness of a twenty five (25) watt incandescent bulb~~300 Lumens:

- a. ~~All~~Lighting or illumination of landscape (with the exception of Luminaires in trees);
- b. Accent or aesthetic lighting of buildings or structures;
- c. Any illumination device that only directs light above a horizontal plane.



Fully Shielded tree uplights are permissible with a maximum Beam Angle of 45.



- The following light sources shall not exceed a height of thirty-six (36) inches above natural or excavated grade, whichever is lower, and shall not exceed **300 Lumens** the equivalent projected brightness of a twenty-five (25) watt incandescent bulb:
 -
 - a. All Lighting or illumination of landscape **with the exception of Fully Shielded Down Light Luminaires in trees);**
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 - b. Accent or aesthetic lighting of buildings or structures;
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 - c. Any **Fully Shielded Up Light** illumination device that **only** directs light above a horizontal plane.
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 - **d. Rope lighting shall not exceed 80 Lumens per lineal foot and must be shielded so the individual Luminaires are not visible.**

- Lighting used for security and safety shall be an integral part of and attached to the building. The light source and reflecting device shall be shielded or hooded with an opaque cover so that it is not visible from off the property and shall not be higher than twenty (20) feet above natural or excavated grade, whichever is lower. ~~Each security/safety light is limited to the equivalent projected brightness of a seventy five (75) watt incandescent bulb.~~ **The light source shall not exceed 1200 Lumens. The light source must be motion activated and on a timer not to exceed five (5) minutes per motion activation.** Limited use of security/safety lighting is encouraged to prevent excessive ambient light.
- **Required entry lighting at doors and garages shall be Partially Shielded Luminaires. However, this would not prohibit hanging chandelier type lights if they are shielded by the architecture of the building.**
- **Visual Enjoyment Lighting – Pole lights are only permitted when associated with an outdoor living area adjacent to the main residence. All Pole Lights shall be Full Shielded. Luminaire height cannot exceed 8.5 feet. All Pole Lights shall meet setbacks for the main house.**

- **Tree-Lighting – Exterior Luminaires affixed to trees shall not exceed 8.5 feet above the finished grade, shall not exceed 150 Lumens, shall be Fully Shielded down lights, and shall not exceed three (3) Luminaires per tree.**
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- **Temporary holiday lighting shall be permitted between October 15th and January 15th. All other decorative colored Luminaires (with the exceptions of amber bulbs not to exceed 2700 kelvins and underwater Luminaires) or bulbs and string are prohibited.**
- **11.** On Hillside lots there shall be no lighting permitted in the undisturbed areas of the property. Exterior lighting shall be kept to the minimum amount needed for the safe use of the property and all permitted lighting shall comply with all terms of this section. **Additional regulations are listed in Article XXII Hillside Development Regulations, Section 2208 Outdoor Lighting.**

ARTICLE 22 HILLSIDE DEVELOPMENT REGULATIONS

- **Beam Angle** – Beam angle is the angle of the cone of light where the intensity is 50% of the maximum intensity at center beam.
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- **Footcandle (fc)** - A unit of illuminance of equal to **the light from one candle project on a one foot square surface at a distance of one foot from the candle. One foot-candle equals one lumen** ~~1 lm/ft² (lumen / sq. ft.) or 10.76 lx (lux).~~
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- **Fully Shielded down light (Full Cut-Off)** - A fixture shielded with an **O**paque material so that light rays emitted by the fixture are projected only below a horizontal plane running through the lowest point on the fixture where light is emitted.
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- **Fully Shielded Up Light** - A fixture shielded with an **O**paque material. The maximum beam angle shall not exceed forty five (45) degrees.

All building mounted Luminaires shall be Fully Shielded. Following are the only building mounted luminaires permitted:

- **Recessed lights in exterior soffits, eaves, or ceilings - shall have a Beam Angle not greater than 90 degrees. A hanging chandelier light may be permitted if it is fully shielded by the architecture of the building.**
- **Entry Lighting -at the main entry of the primary structure a maximum of two (2) Translucent Luminaires may be permitted as long as the total Lumens, per Luminaire, do not exceed a maximum of 1200 Lumens. All other entrances shall be limited to no more than one (1) Fully Shielded downlight Luminaire, with the exception of garage doors which may have additional Luminaires. Maximum illuminance per fixture is not to exceed 1200 Lumens.**
- **Security lighting – mounted no higher than twelve (12) feet above finished grade and on a motion sensor.**

- 1. Lighted entry markers may be placed on each side of the driveway entrance and one side of an entry walkway with Hillside Committee approval. Repetitive rows of Luminaires along driveways or walkways accessing public streets are not allowed. Random placement of Luminaires along entry driveways and walkways may be allowed. Driveway/walkway Luminaires must be located on the "downhill" side and aimed toward the "uphill" side, must be Fully Shielded and only light the driveway or walkway surface. Entry markers shall not be placed within the Town right-of-way or private road areas and the total height of the marker and Luminaire shall not exceed four (4) feet above finished grade adjacent to the driveway and walkway. The light source shall not exceed 300 Lumens.**

- **Security Luminaire shall be on only when needed and shall be controlled by a timer that limits operation to 5 minutes per incident. The light source shall not exceed 1200 Lumens.** ~~Motion sensor/detector light fixtures are permitted for security lighting. Security lighting must be controlled separately from all other lighting. Security lights must be on timers that regulate their operation time to a maximum of 10 minutes and limited to lamps with a maximum of 750 lumens.~~ **The light source and reflecting device shall be Fully Shielded Down Light with an Opaque cover so that it is not visible from off the property.**



Mounting

- **Post-mounted Luminaires shall not exceed 36 inches above the ground (excepting driveway markers).**
- **Tree mounted Luminaires shall not exceed 8.5 feet above the finished grade, shall not exceed 150 Lumens, shall be Fully Shielded down lights, and shall not exceed three (3) lights per tree.**
- **Wall mounted entry Luminaires not to exceed 8.5 feet above finished grade and shielded in such a manner as to avoid creating concentrated light (hot spots) on the structures to which they are mounted.**
- **Security Luminaires shall not exceed 12 feet above finished grade and shall be an integral part of and attached to the building.**



2. The light source Beam Angle shall not exceed 45 degrees~~The lamp must be recessed to provide a minimum 45° cut-off from the vertical plane.~~

FIGURE 9 - TYPICAL UPLIGHT WITH 45° CUT-OFF



- G. Prohibitions In addition to the limitations noted above, the following ~~lights or lighting effects~~Luminaires are strictly prohibited: ~~{add in flashing language}~~
1. ~~Decorative~~ Colored lamps or bulbs ~~(with the exception for underwater Luminaires)~~ and string and unshielded rope lights; except ~~that~~ temporary holiday lighting ~~shall be permitted~~ between ~~November~~ October 15th and January 15th. ~~{Exclude under water luminaires; define color with Kelvins like signs? Allow light that is not white?}~~
 - ~~2.1.~~
 - ~~3.2.~~ Tennis court and sport court lighting.
 - ~~4.3.~~ Any ~~T~~temporary lighting that violates the provisions of this lighting section.
 - ~~5.4.~~ Exterior ~~lights~~Luminaires, except ~~security lighting~~Security Lighting, that illuminate the adjoining mountainside such that the mountainside is visible from off the property ~~between sunset and sunrise~~at any time.



ARTICLE 25 SIGNS

~~Signs may be illuminated with illumination confined to the area of the sign.~~
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~~A-B. All light sources shall be Fully Shielded so they do not create a nuisance or hazard.~~
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~~B-C. Back lighting of freestanding letters mounted on a wall shall be limited to 100 lumensLumens per square foot of sign area and the letters shall be fabricated so that the illumination source is not visible. light source cannot be seen from off the property.~~
B-C. Back lighting of freestanding letters mounted on a wall shall be limited to 100 lumensLumens per square foot of sign area and the letters shall be fabricated so that the illumination source is not visible. light source cannot be seen from off the property.

~~External sign lighting shall be shielded so that the illumination source is not visible from any adjacent street or property and does not shine beyond the sign area it is intended to illuminate. Indirect lighting of signs shall be limited to two (2) seventy five (75) watt incandescent bulbs per sign. If the sign is double faced, the same type and amount of lighting may be used on each side. The seventy five (75) watt incandescent bulbs shall be limited to seven hundred fifty (750) lumens per bulb, and shall be completely shielded from view at the nearest property line, and shall not exceed 0.75 foot candles of projected illumination measured at the nearest property line.~~
External sign lighting shall be shielded so that the illumination source is not visible from any adjacent street or property and does not shine beyond the sign area it is intended to illuminate. Indirect lighting of signs shall be limited to two (2) seventy five (75) watt incandescent bulbs per sign. If the sign is double faced, the same type and amount of lighting may be used on each side. The seventy five (75) watt incandescent bulbs shall be limited to seven hundred fifty (750) lumens per bulb, and shall be completely shielded from view at the nearest property line, and shall not exceed 0.75 foot candles of projected illumination measured at the nearest property line.

- D. Signs that are illuminated shall not exceed 0.75 foot candles of projected brightness measured at the nearest property line.
- E. On externally lit signs, the color temperature of lighting shall be no more than 3000 Kelvins.
- F. Lighting shall not be flashing, intermittent, or fluttering; shall not be moving, animated or create noise in any manner.
- G. Signs may be illuminated only during the hours that the associated establishment is open for business.
- H. Signs that are internally illuminated shall not exceed 0.75 foot candles of projected brightness measured at the nearest property line. ~~Backlit non-Opaque panels are not permitted.~~

SPECIAL USE PERMIT GUIDELINES

- iv. ~~uplighting shall be permitted so long as no light emitting device~~ Luminaire is greater than ~~25 watts or emits more than 250 lumens~~ 300 Lumens.

NEXT STEP

- Hearing on November 17th

