

Chapter 19.77 OUTDOOR LIGHTING

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19.77.010 Purpose.

Adequate nighttime outdoor lighting is important to allow human activity to safely continue at night. However, inappropriate outdoor lighting practices can result in undesirable effects such as light trespass and decreased safety through glare; poor lighting color; poor energy conservation; adverse impacts on wildlife and natural ecosystems; and creation of skyglow that can diminish human enjoyment of the natural world. The regulations in this Chapter seek to mitigate the adverse impacts of inappropriate outdoor lighting and lead to desired outcomes such as improved enjoyment of private property; increased health and safety of residents and others; improved nighttime ambiance and aesthetics; diminished adverse impacts on natural wildlife and ecosystems; and conservation of natural resources.

19.77.020 Definitions.

The following definitions shall apply to this chapter:

“*Accent architectural lighting*” means lighting of building surfaces, landscape features, statues and similar items for decoration or ornamentation.

“*Activity area*” means walkways and open spaces where people walk or congregate, except parking lots.

“*Correlated color temperature (CCT)*” means a metric characterizing the color content of the light output of a lamp expressed in units of kelvin (K). CCT information is available on data sheets and product packaging for most lighting sold in the United States.

“*Director*” means the city’s director of community and economic development, the director’s designee, or any designee of the city’s manager.

“*Floodlight*” means a fixture or lamp designed to “flood” an area with light.

“*Foot-candle*” means a unit of measurement for the total amount of light cast on a surface (illumination). One foot-candle is equivalent to the illumination produced by a source of one candle at a distance of one-foot.

“*Full cutoff light fixture*” means a light fixture that restricts a lamp from radiating any illumination above a horizontal plane running through the lowest point on the fixture where light is emitted, nor shall any portion of a lamp extend below this same horizontal plane. Drop lenses are not allowed. Minimal up light caused by the reflection of light from support structures or arms shall not disqualify what is otherwise defined as a full cutoff light fixture.

“*Glare*” means the sensation produced by a bright source within the visual field that is sufficiently brighter than the level to which eyes are adapted to cause annoyance, discomfort, or loss in visual performance and visibility; blinding light. The magnitude of glare depends on such factors as size, position, brightness of the source, and on the brightness level to which the eyes are adapted.

“*Hotspot*” means an isolated pool of bright downlight that creates unneeded contrast resulting in dark areas immediately outside the hotspot area and may also increase glare.

“*Incandescent lamp or light bulb*” means an electric light with a wire filament heated to such a high temperature that it glows with visible light (incandescence).

“*Illumination or illuminated*” means a measurement of light expressed in foot-candles (fc) on a given surface resulting from light emitted from a lamp.

“*Kelvin*” means a unit of measurement used to measure the correlated color temperature (hue) of a specific light source.

“*Lamp*” means any light source in a self-contained package composed of an envelope (containing gas, filaments, etc.), filament or electrodes, base, contacts, gas and any support structures. The source can be of the incandescent, fluorescent, quartz halogen, LED or arc type. Quite often this term is used interchangeably with light source and is sometimes commonly referred to as the light bulb.

“*Light fixture*” means the assembly that holds a lamp, or lamps. It includes the elements designed to give light output control, such as a reflector (mirror) or refractor (lens), the ballast, housing, and the attachment parts.

“*Light trespass*” means a condition created when a lamp provides illumination beyond that allowed by this chapter on any property other than the property on which the light is installed.

“*Lumen*” means a unit of measurement used to describe the actual amount of visible light which is produced by a lamp as specified by its manufacturer.

“*Net acre*” means the area measured to the property lines of the parcel or lot after all deductions are made. Deductions include the area of streets and street dedications.

“*Qualified lighting professional*” means a person who both (a) is a professional engineer certified by the Utah State Division of Professional Licensing, and (b) has a professional certification from a legitimate, lighting-industry-recognized organization that requires recertification, current industry involvement and demonstrated knowledge in specific aspects of lighting.

“*Single-family zone*” means any F-1, R-1 or RR-1 designated zone in the city.

“*Skyglow*” means the overhead glow from light emitted sideways and upwards.

“*Spectrum*.” See “correlated color temperature,” above.

“*Visual acuity*” means sharpness of vision, measured by the ability to discern letters or numbers at a given distance according to a fixed standard.

19.77.030 Applicability.

A. Conformance required. Any new outdoor lighting in a single-family zone shall be installed in conformance with the provisions of this Chapter. In any situation where there is a conflict with federal or state regulations, and/or applicable sections of adopted building code, the more restrictive provisions shall apply.

B. Modifications to existing structures or land uses. New additions to buildings, or areas of expanded land use, in a single-family zone shall comply with the requirements of this chapter.

C. Routine maintenance. In a single-family zone:

1. Repairing any component of a light fixture, except the lamp, is permitted for all existing outdoor lighting fixtures; and
2. Lamps shall be replaced in accordance with the provisions of this chapter; provided, however, if no lamp exists which complies with this Chapter, then the fixture shall be replaced.

19.77.040 Lighting standards—Single-family zones.

The following regulations shall apply to all properties in single-family zones (a) constructed after the enactment of this chapter, or (b) covered by Section 19.77.030.

A. *Fixture Types.* All outdoor light fixtures that house lamps radiating more than 500 lumens shall be full cutoff and oriented as intended per manufacturing instructions.

B. *Height.* Except for down-lighting within soffits, light fixtures shall not exceed 12 feet in height.

C. *Illumination.* Total site illumination shall not exceed:

1. 21,780 lumens per net acre for any property in a single-family zone east of Wasatch Boulevard.

2. 43,560 lumens per net acre for any other property in a single-family zone.

D. *Spectrum.* No lamp shall exceed 3,000 kelvin.

E. *Automatic switching controls.*

1. Except for entry doors and essential security lighting, outdoor lighting should have controls that automatically extinguish lamps when daylight is available and by 11:00 p.m. Security lighting should be limited to 25% of the total light fixtures used and is encouraged to utilize motion activated sensors that extinguished the lamps within two minutes after motion has ceased.

2. Automatic lighting control standards are not required for the lighting of steps, stairs, walkways, and building entrances when required by the city's building code and shall not count toward the 25% of lighting fixtures permitted for security lighting.

19.77.050 Lighting standards—Other zones.

The following regulations shall apply to all properties in non-single-family zones.

A. *Permitted light fixture types.* All outdoor light fixtures that house lamps radiating more than 500 lumens shall be full cutoff and oriented as intended per the manufacturer's instructions.

B. *Height.* Light fixtures shall not exceed 25 feet in height and shall not exceed 18 feet in activity areas.

C. *Illumination.*

1. The average illumination at finished grade level shall be between 0.5 and 2.5 foot-candles. No point on the property shall be illuminated greater than 10.0 foot-candles. Properties in the CR, MU, and PDD zones may have an average illumination at finished grade up to five (5) foot-candles.

2. At the property boundary, the illumination at grade level shall not exceed 0.2 foot-candle.

3. Lighting shall increase its illumination by an even gradient toward activity areas, internal and street sidewalks, and driveway entrances to the site. Lighting shall be designed to avoid hotspots that reduce visual acuity.

4. To avoid light trespass, illumination shall not exceed 0.1 foot-candle at five-feet beyond the property lines not adjacent to a public street measured five-feet above grade level.

5. Total site illumination shall not exceed:

a. 43,560 lumens per net acre for any multi-family residential zone, or within the RO zone.

b. 50,000 lumens per net acre for any property in the NC zones, properties in the PF zone with government buildings, or any non-residential use within residential zones.

c. 100,000 lumens per net acre for all other properties in any other zone or area.

D. *Spectrum*. No lamp shall exceed 3,500 kelvin.

E. *Walkways*. Pedestrian walkways shall be lighted with bollards or light fixtures at a spacing that complies with Section 19.77.050(C).

F. *Automatic switching controls*. Applicants for approval of outdoor lighting plans should consider installing controls that automatically extinguish all outdoor lighting when daylight is available and within one hour after business hours or by 11:00 pm, whichever is sooner, except for essential security lighting which should be no more than 25% of the total light fixtures used. Security lighting is encouraged to utilize motion activated sensors and be extinguished within two minutes after motion has ceased.

19.77.060 Exceptions

Exceptions to the lighting standards outlined in Section 19.77.030 are permitted for land uses and light fixtures as identified in this section.

A. *Signs*. Signs are regulated by Chapter 19.82 – Signs.

B. *Outdoor athletic and recreational facilities*. At the time of application, the applicant shall submit a plan prepared by a qualified lighting professional that certifies by signed, written statement that every reasonable effort has been undertaken to mitigate the effects of light on surrounding properties and the creation of skyglow. Outdoor athletic and recreational facility lighting shall be shut-off by 11:00 pm with the exception of essential security lighting which shall be no more than 25% of the total light fixtures used.

C. *Gasoline station and convenience store canopies*. Gasoline station and convenience store canopies shall provide adequate lighting for customers, but lighting shall not be so intense as to be as an attention device for the business, as provided in this Section.

1. Light fixtures in the ceiling of a canopy shall be fully recessed in the canopy.

2. Light fixtures shall not be mounted on the top or fascia of a canopy.

3. The fascia of a canopy shall not be illuminated, except for approved signage.

4. Areas around gasoline pump islands and under canopies shall have a minimum illumination at grade level between one and five and one-half foot-candles. The ratio of average illumination to the minimum illumination at grade in the areas around the gasoline pumps shall not exceed four to one (4:1).

D. *Car-wash lighting*. See Section 19.76.040(H).

E. *Accent architectural lighting*. Buildings light fixtures may illuminate a structure's vertical surfaces and shall be directed downward. Up-lighting is prohibited, except for properties in the Public Facility (PF) zone, church buildings, publicly owned art, and flag poles for national, state and local government flags. Illumination of vertical surfaces shall not exceed an illumination of five foot-candles.

F. *Flood lights*. Full cutoff flood lights shall be angled provided that no light escapes above a 25 degree angle measured from the vertical line from the center of the light extended to the ground, and only if the light does not cause glare or light to shine on adjacent property or public rights-of-way. All wall pack light fixtures shall be full cutoff light fixtures.

G. *Swimming pool lighting*. Underwater light fixtures are not regulated by this chapter.

H. *Seasonal lighting*. Temporary exterior lighting intended as holiday/seasonal decorations may be illuminated for up to 180 nonconsecutive days per year, provided that individual lamps do not cause unreasonable light trespass or glare as determined by the director.

I. *Parking structure lighting.* Interior lighting within parking structures shall be limited to ten foot-candles for parking areas, ramps and entrances. Stairways may be illuminated up to 20 foot-candles.

J. *Public safety.* Upon recommendation by the police or fire department, the illumination and kelvin thresholds may be exceeded in situations where the director finds that an increased level is crucial to public safety or law enforcement activities. In no case shall kelvin levels exceed 5,000.

19.77.070 Prohibited lighting.

The following lighting shall be prohibited:

A. Blinking, flashing, moving, revolving, flickering, changing intensity of illumination, and changing color lights, except for seasonal lighting as provided in Section 19.77.050(H);

B. Uplighting of building and illumination of roofs and internal illumination of awnings;

C. Mercury vapor lights;

D. Search lights, laser source lights, or any similar high-intensity light except in emergencies by police, fire, and other emergency service personnel or at their direction.

19.77.080 Street lighting.

Street lighting shall be governed by Section 12.24.190 of this code.

19.77.090 Lighting plan requirements.

A. *Lighting plans.* Lighting plans shall be required whenever the applicability provisions apply as described in Section 19.77.20, and shall include the following:

1. A site plan indicating the location of all light fixtures, both proposed and any already existing on the site. The lighting plan shall include a photometric plan illustrating horizontal foot-candles at a minimum of two by two feet in spacing and at five feet beyond the property line. The photometric plan shall be submitted on a “maintained” basis at one-year after burn-in and state the light loss factors used in the calculation.

2. A description of each light fixture, lamp, support and shield, both proposed and existing. The description shall include, but is not limited to, manufacturer’s catalog cuts and illustrations; lighting fixture lamp types, wattages and initial lumen outputs.

3. Except for single-family residential properties, the lighting and photometric plan shall be prepared by a qualified lighting professional.

4. At the city’s discretion, the city’s public safety departments or providers may review and provide feedback on lighting plans as part of the development review process. This review shall be administered by the city’s development review committee (DRC).

B. *Lamp or light fixture alteration.* Should any lamp or light fixture be altered after a permit has been issued, a change request must be submitted to the director for approval, together with adequate information to assure compliance with this Chapter, which must be received prior to alteration.

C. *Certification of installation.* For all projects where the total initial output of the proposed lighting equals or exceeds 75,000 lumens per acre, certification that the lighting, as installed, conforms to the approved plans shall be provided by a qualified lighting professional before any certificate of occupancy or business license is issued. Until this certification is submitted, approval for use of a certificate of occupancy shall not be issued for the project.