

Chapter 28 - OUTDOOR LIGHTING

Sec. 28-1. - Title, purpose and scope.

- (a) This chapter shall be known and cited as the "Outdoor Lighting Ordinance."
- (b) The purpose of this chapter is:
 - (1) To provide safer, more efficient and attractive outdoor lighting;
 - (2) To conserve energy;
 - (3) To make our community a better place to live and work and a more inviting place to visit; and
 - (4) To preserve the darkness and clarity of the night sky, mindful of the needs of McDonald Observatory.
- (c) This chapter shall apply within the city, hereinafter referred to as city, and within the surrounding areas where the city asserts powers of extraterritorial jurisdiction.

(Ord. No. 12-104, 2-14-12)

Sec. 28-2. - Definitions.

The following definitions are hereby adopted for the purposes of this chapter:

Area lighting means light fixtures located on public or private property that are designed to light spaces including but not limited to parks, parking lots, and sales lots.

Axis of illumination means the midline of the beam emitted by a light fixture.

Beam of a light fixture means the spatial distribution of the emitted light.

Candela (cd) means the unit of measurement of the intensity of a point source of light (approximately equal to one (1) candlepower).

Existing light fixtures means those outdoor light fixtures already installed at the time this chapter is adopted.

Footcandle (fc) means the illuminance measured one (1) foot from a one (1) candela source.

Floodlight means a light fixture having a wide beam.

Full cutoff means a shielded light fixture that emits no light above a horizontal plane touching the lowest part of the fixture.

Glare means visual discomfort or impairment caused by a bright source of light in a direction near one's line of sight.

Horizontal and vertical footcandles mean the illuminance measured by a light meter in those positions (illuminance may also be measured in other specified positions or directions).

Illuminance means the intensity of light in a specified direction measured at a specific point.

Lamp or *bulb* means a source of light.

Light fixture means the assembly that holds or contains a lamp or bulb.

Light pollution means the sky glow caused by scattered light emitted upward from unshielded or poorly aimed light fixtures.

Light trespass means unwanted light falling on public or private property from an external location.

Lumen means the unit of luminous flux, the total amount of light falling uniformly on or passing through an area of one (1) square foot, each point of which is one (1) foot from a one (1) candela source, yielding an illuminance of one (1) footcandle at that distance (the output of lamps and bulbs is customarily measured in lumens, a common one hundred (100) watt incandescent light bulb, for example, having an output less than one thousand eight hundred (1,800) lumens).

Private lighting means outdoor light fixtures located on property owned or controlled by individual persons, including, but not limited to, families, partnerships, corporations, and other entities engaged in the conduct of business or other nongovernmental activities.

Public lighting means outdoor light fixtures located on property owned, leased, or controlled by the city or other governmental entity or entities, including but not limited to streets, highways, alleys, easements, parking lots, parks, playing fields, schools, institutions of higher learning, and meeting places, and all entities completely or partly funded by grants obtained by the city or its agents from federal, state or private sources.

Sag-lens or *drop-lens* means a clear or prismatic refracting lens that extends below the lowest opaque portion of a light fixture.

Searchlight means a light fixture having a narrow beam intended to be seen in the sky.

Spotlight means a light fixture having a narrow beam.

Wallpack means a floodlight mounted on the wall of a building or other structure.

(Ord. No. 12-104, 2-14-12)

Sec. 28-3. - Existing outdoor light fixtures.

(a) To reduce glare, safety hazards for drivers and pedestrians, light trespass, and light pollution, all existing spotlights, floodlights, and wallpacks shall be adjusted in accordance with the following provisions, excepting the lights at existing sports facilities used temporarily during scheduled sporting or related events.

(1) For spotlights and floodlights mounted overhead on poles and used for area lighting, the axis of illumination shall be adjusted to an angle not more than twenty (20) degrees from the

vertical line between the fixture and the ground.

- (2) For spotlights and floodlights mounted at or near ground level and used to light a building, billboard, or other structure, the axis of illumination shall be adjusted to minimize the amount of light escaping above, below, and to the sides of the illuminated object.
- (b) It shall be the responsibility of the city to publish this chapter in the newspaper of record and to disseminate the ordinance by other appropriate means; to identify those spotlights, floodlights, and requiring adjustment; and to inform their owners of these provisions.
- (1) Any required adjustments shall be completed within six (6) months from the date of the adoption of the lighting ordinance. Any owner who fails to comply with these provisions shall be issued a warning notice. Any owner who further fails to comply after thirty (30) days from the issuance of such warning notice shall be subject to a fine of twenty-five dollars (\$25.00) for each day of noncompliance, not to exceed five hundred dollars (\$500.00.)
- (c) All exterior lighting shall comply with this lighting ordinance on or before January 1, 2015.
- (d) An owner of a grandfathered luminaire may replace or modify the luminaire so that it conforms to this light ordinance if requested by a designated city official or a member of the McDonald Observatory staff. However, the replacement or modification of the luminaire must be provided at no cost to the owner including materials and labor. For example, a grandfathered mercury-vapor outdoor light may be retrofitted with a light shield to make it fully shielded.

(Ord. No. 12-104, 2-14-12)

Sec. 28-4. - New light fixtures installed after the adoption of this article, including replacements for existing fixtures.

- (a) Lighting at public and private outdoor sports facilities, including but not limited to playing fields, arenas, tracks, and swimming pools, shall be shielded as well as is practicable to reduce glare, safety hazards, light trespass, and light pollution; shall provide levels of illuminance consistent with nationally recognized Illuminating Engineering Society of North America (IESNA) standards; and shall be operated on a schedule that coincides with scheduled events.
- (b) No lighting of towers and associated facilities is allowed, except as required by the Federal Aviation Administration or other federal or state agency. In coordination with the applicable federal or state agency, the applicant shall determine the maximum height of the tower that would not require lighting. If a proposed tower would require lighting, the applicant shall demonstrate that a tower height that requires lighting is necessary. Such justification shall include documentation showing:
- (1) Coverage limitations;
 - (2) Type of system (e.g., cellular, radio, television);
 - (3) Technical and engineering details of the lighting to be installed; and

- (4) Requirements of federal, state, and local agencies.
- (c) If a tower height that requires lighting is justified, the applicant shall demonstrate how the lighting will be shielded from the ground. Shielding of tower lighting onto nearby properties shall be installed as part of construction of the tower. If lighting is justified, slowly blinking red lights must be used at night. White strobe lights at night are prohibited.
- (d) All outdoor lighting fixtures shall be full cutoff fixtures.
 - (1) New streetlights and replaced existing streetlights shall be full cutoff, LED fixtures conforming to IESNA standards, utilizing a minimum output consistent with the safety of drivers and pedestrians.
 - (2) Sag-lens or drop lens fixtures are prohibited.
 - (3) Streetlights and private lighting shall be allowed to shine on adjacent property in the absence of a complaint of light trespass by an owner or occupant.
 - (4) Light trespass is defined as 0.2 fc measured five (5) feet above the ground, five (5) feet inside the property line with the detector aimed at the source. Upon receiving a complaint of light trespass from an owner or occupant, the city shall evaluate the complaint. Where light trespass is found to occur, the city shall take appropriate steps to eliminate or minimize the unwanted light emanating from a light on city property, or from private lighting. If a violation is found to occur, the offender may switch to a lower wattage bulb or convert to FCO fixtures to become compliant.
- (e) In the interest of conserving energy and protecting the environment, mercury vapor fixtures are prohibited.
- (f) Each flag shall be lighted by one (1) spotlight emitting no more than one thousand eight hundred (1,800) lumens.

(Ord. No. 12-104, 2-14-12)

Sec. 28-5. - Maximum maintained levels of illuminance required or permitted at specific facilities.

- (a) Maximum, MAXIMUM average, and minimum levels of illuminance (MAINTAINED) for different facilities are listed below in horizontal footcandles. Unless otherwise specified, minimum levels shall be the lowest consistent with safety and security.
 - (1) Parking lots and parking areas: average 2.0 fc; minimum 0.2 fc.
 - (2) Entry areas near buildings: maximum 5.0 fc.
 - (3) Service stations and other fueling facilities: maximum ten (10) fc in the area surrounding pump islands; parking areas and entry areas shall be lighted as required in subsections (a)(1) and (a)(2) above; drop-lens fixtures are prohibited, whether mounted under canopies or on poles.
 - (4) Sales lots where merchandise, including automobiles, is displayed at night: maximum fifteen

(15) fc.

- (b) For locations and facilities not specified herein, the acceptable level of illuminance request is based on guidelines established by the IESNA.
- (c) The use of searchlights is prohibited for advertising, attracting attention to any event, and for any other use except for emergency purposes.

(Ord. No. 12-104, 2-14-12)

Sec. 28-6. - Large outdoor lighting projects.

Any outdoor lighting project that will produce a luminous power of one hundred thousand (100,000) lumens or more in the aggregate shall file a lighting plan with the city building officials' office. A lighting plan shall be filed at the same time as any other plans required by the city and shall specify the following:

- (1) Number and types of light fixtures to be used;
- (2) Their output in lumens; and
- (3) Photometric data from the manufacturer(s) showing the spatial distribution of the light output from the proposed fixtures, both on the ground and as a function of angle from the vertical (nadir).

(Ord. No. 12-104, 2-14-12)

Sec. 28-7. - Exemptions, amendments and variances.

- (a) This chapter shall not apply to the following:
 - (1) Decorative holiday lighting from November 15 through the next January 15;
 - (2) Lighting required by the law to be installed on surface vehicles and aircraft;
 - (3) Airport lighting required by law;
 - (4) Temporary emergency lighting;
 - (5) Temporary lighting other than security lighting at construction projects; and
 - (6) Governmental facilities where compelling needs for safety and security are demonstrated.
- (b) This chapter may be amended from time to time as local conditions change, and as changes occur in the recommendations of nationally recognized organizations such as the Illuminating Engineering Society of North America and the International Dark-Sky Association.
- (c) Nothing in this chapter shall be construed as limiting the right of any person or entity to pursue legal action against any other person or entity under any applicable law, including the doctrine of light trespass.
- (d) The city shall have the power to grant variances in the application of the provisions of this chapter after review and recommendation by the building official.

(Ord. No. 12-104, 2-14-12)

Sec. 28-8. - Notification.

All building permit applicants shall be notified of the outdoor lighting ordinance.

(Ord. No. 12-104, 2-14-12)

Sec. 28-9. - Sign illumination.

- (a) All permanent signs may be nonilluminated, illuminated by internal, internal indirect (halo), or lit by external indirect illumination, unless otherwise specified. All illuminated signs shall be extinguished at 11:00 p.m. or when the use or activity closes, whichever is later.
- (b) Internal illumination. Outdoor, internally illuminated signs, including, but not limited to, awning/canopy signs, cabinet signs (whether freestanding or building mounted), changeable copy panels or service island signs, shall be constructed with an opaque background and translucent letters and symbols, or with a colored background and lighter letters and symbols.

(Ord. No. 12-104, 2-14-12)