

## Chapter 12.20 - OUTDOOR LIGHTING

**Sections:**

## 12.20.010 - Title, purpose, and scope.

- A. This article shall be known and cited as the "Outdoor Lighting Ordinance."
- B. The purpose of this article 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 article shall apply within the town, hereinafter referred to as town, and within the surrounding areas where the town asserts powers of extraterritorial jurisdiction.

(Ord. No. 10-08-346, 8-17-2010)

## 12.20.020 - Definitions.

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

"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 candlepower).

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

"Foot candle (fc)" means the illuminance measured one foot from a one 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 foot candles" means 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 square foot, each point of which is one foot from a one candela source, yielding an illuminance of one foot candle 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 non-governmental activities.

"Public lighting" means outdoor light fixtures located on property owned, leased, or controlled by the town 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 town 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. 10-08-346, 8-17-2010)

#### 12.20.030 - Existing 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 (see Exhibits 1 and 2).
  - (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.
  - (3) Wallpacks shall be shielded or replaced with full cut off wallpacks.
- B. It shall be the responsibility of the town to publish this article in the newspaper of record and to disseminate the ordinance by other appropriate means; to identify those spotlights, floodlights, and wallpacks requiring adjustment; and to inform their owners of these provisions.
  - (1) Any required adjustments shall be completed within six 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.

It is not the intent of this article to require an additional investment in order to comply with these provisions.

- C. All exterior lighting shall comply with this lighting ordinance on or before January 1st, 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 town 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. 10-08-346, 8-17-2010)

12.20.040 - 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. Strobe lights on communication towers and other hazards to aerial navigation, required by the Federal Aviation Administration during the daytime and permitted but not required at night, may not be used at night. Other lights used at night on such structures shall not be brighter than the minimum required by the FAA.
- C. All outdoor lighting fixtures shall be full cutoff fixtures (see Exhibit 3).
  - (1) New streetlights shall be full cutoff fixtures of approved historical design, 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 feet above the ground five 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 town shall evaluate the complaint. Where light trespass is found to occur, the town shall take appropriate steps to eliminate or minimize the unwanted light emanating from a light on town 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.
- D. In the interest of conserving energy and protecting the environment, mercury vapor fixtures are prohibited.
- E. Each flag shall be lighted by one spotlight emitting no more than one thousand eight hundred (1,800) lumens.

(Ord. No. 10-08-346, 8-17-2010)

12.20.050 - 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 foot candles. 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 (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 board shall set acceptable levels of illuminance upon request based on guideline 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. 10-08-346, 8-17-2010)

#### 12.20.060 - Large outdoor lighting projects.

- A. An outdoor lighting project reasonably expected to utilize one hundred thousand (100,000) lumens or more in the aggregate shall file a lighting plan with the planning and zoning board, hereinafter called the board. A lighting plan shall be filed at the same time as any other plans required by the town and shall specify the following:
- (1) Number and type of light fixtures to be used;
  - (2) Their output in lumens; and
  - (3) Photometric data from the manufacture(s) showing the spatial distribution of the output of the proposed fixtures.
- B. The board shall review the lighting plan taking into account factors including but not limited to levels of luminance, glare, safety hazards, light trespass, and light pollution. The board shall approve or reject the plan within thirty (30) days of submission, returning it to the applicant with an explanation. The applicant shall not move forward with the outdoor lighting project until the lighting plan is approved.

(Ord. No. 10-08-346, 8-17-2010)

#### 12.20.070 - Exemptions, amendments, and variances.

- A. This article 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 article 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 article 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 planning and zoning board of the town shall have the power to grant variances in the application of the provisions of this article.

(Ord. No. 10-08-346, 8-17-2010)

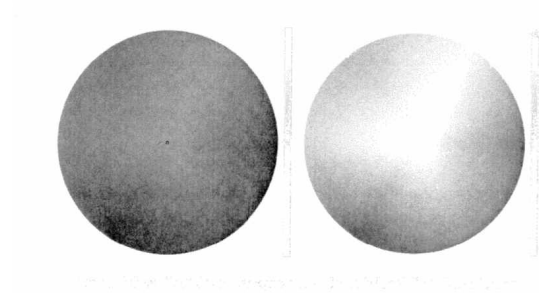
12.20.080 - Notification.

- A. All building permit applicants shall be notified of the Van Horn Lighting Ordinance.

(Ord. No. 10-08-346, 8-17-2010)

12.20.090 - Sign illumination.

- A. All permanent signs may be non-illuminated, illuminated by internal, internal indirect (halo), or lit by external indirect illumination, unless otherwise specified. All illuminated signs shall be extinguished at eleven 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. Where white or other night bright colors are part of a logo, such colors are permitted in the logo only, provided that such logo shall represent not more than fifty (50) percent of the total sign area permitted. Colors considered to be "night bright," as used in this provision, are defined with reference to the color wheel in subsection C below.
- C. [Color Wheel.]



Color Wheel "A" Sign Background - Color Wheel "B" Logo Color

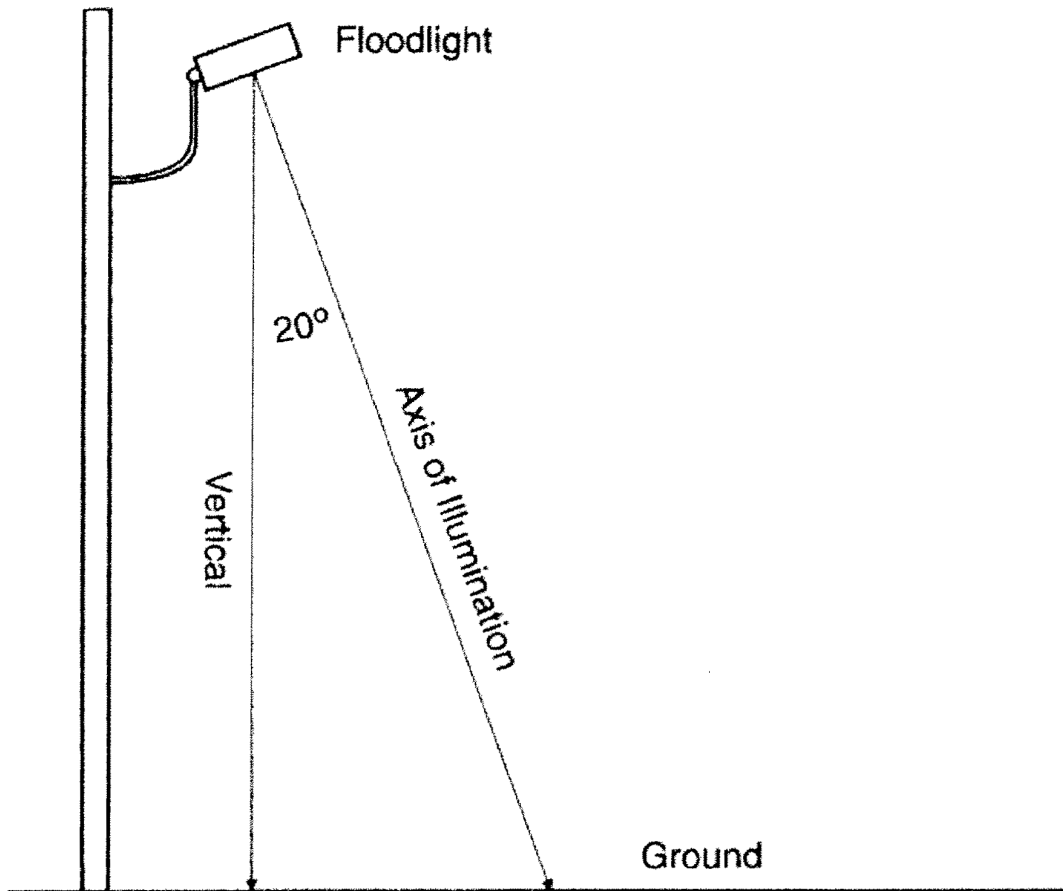


Exhibit 1. See *An Ordinance to Improve Outdoor Lighting in the City of Alpine, Texas, Section 3 (A) 1*: For spotlights and floodlights mounted overhead on poles and used for area lighting, the axis of illumination shall be adjusted to an angle not more than 20 degrees from the vertical line between the fixture and the ground.

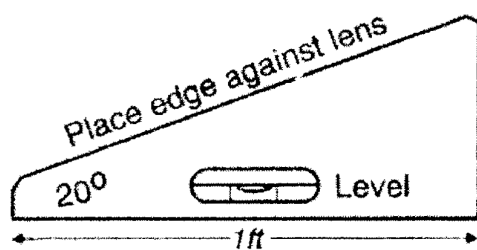
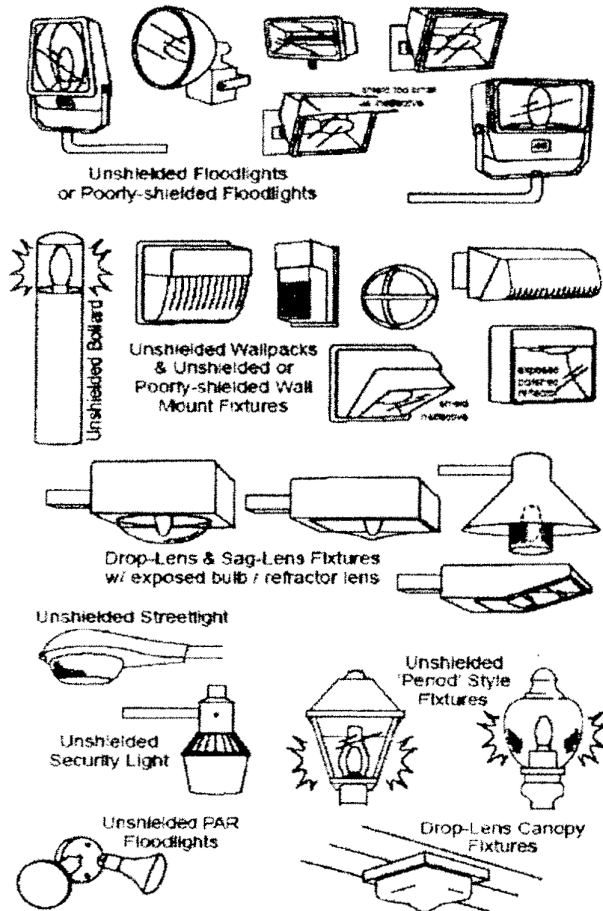


Exhibit 2. A tool for aiming lights as in Exhibit 1, above. Place the upper edge of the tool against the lens, and adjust the fixture so the bubble shows level.

Exhibits 1 and 2.

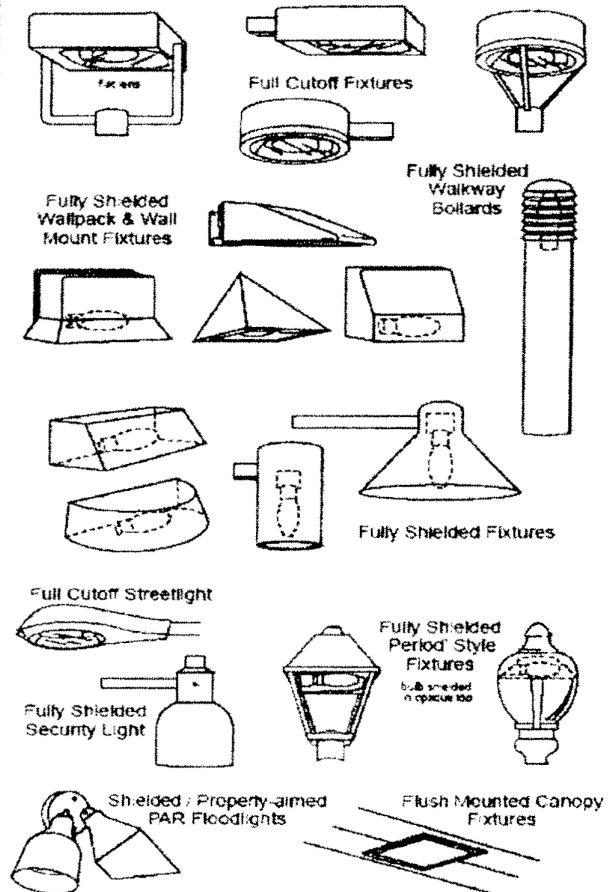
## Unacceptable Fixtures

Fixtures that produce glare and light trespass



## Acceptable Fixtures

Fixtures that shield the light source to minimize glare and light trespass and to facilitate better vision at night



BC 5-23

Exhibit 3. Unacceptable Fixtures and Acceptable Fixtures

(Ord. No. 10-08-346, 8-17-2010)