

**ORDINANCE NO. 2021-O-610**

**AN ORDINANCE OF THE CITY OF JONESTOWN, TEXAS, AMENDING CHAPTER 3 BUILDING REGULATIONS OF THE JONESTOWN CODE OF ORDINANCES TO ADD NEW DEFINITIONS TO OUTDOOR LIGHTING REGULATIONS; REPEALING AND REPLACING DIVISION 3. LIGHTING TO INCLUDE UNIFORM LIGHT STANDARDS THAT ENHANCE THE NIGHT SKY; PROVIDING FOR REPEAL OF CONFLICTING ORDINANCES, SEVERABILITY, PROPER NOTICE AND MEETING, AND AN EFFECTIVE DATE.**

**WHEREAS**, Chapter 3 of the City of Jonestown Code of Ordinances contains the City's building regulations and Article 3.08 thereof contains the City's site development standards, including outdoor lighting regulations; and

**WHEREAS**, the City Council of Jonestown desires to amend Article 3.08 to add definitions relating to minimizing light pollution; and

**WHEREAS**, the City Council of Jonestown desires to repeal existing lighting regulations and replace with uniform lighting standards that intend to enhance the ability of the City's residents to view the night sky and promote efficient and more cost-effective lighting.

**WHEREAS**, the City Council hereby finds and determines that the adoption of this ordinance is in the best interests of the health, safety and welfare of the citizens of the City;

**NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF JONESTOWN, TEXAS, that:**

**SECTION 1.** All of the above premises are hereby found to be true and correct legislative and factual findings of the City Council, and are hereby approved and incorporated into the body of this Ordinance as if copied in their entirety.

**SECTION 2.** Chapter 3, Building Regulations, Article 3.08 Site Development, Lighting, and Landscaping of the City of Jonestown Code of Ordinances, Division I, Generally, subsection 3.08.004, Definitions is hereby amended to add the following definitions:

*Adaptive controls.* Mechanical or electronic devices, when used in the context of outdoor lighting systems, intended to actively regulate the switching, duration, and/or intensity of light emitted by the outdoor lighting system. Examples of adaptive controls includes timers, dimmer, and motion-sensing switches.

*BUG.* A luminaire classification system created by the Illuminating Engineering Society (IES) that classifies backlight (B), uplight (U) and glare (G).

*Canopy lighting.* Fixtures mounted under canopies for vehicular shelter or parking aimed downward and installed such that the bottom of the light fixture is recessed or flush with the bottom surface of the canopy. All light emitted by an under canopy fixture shall be confined to the ground surface directly beneath the perimeter of the canopy.

**Correlated Color Temperature (CCT).** A measure in degrees Kelvin (K) of light's warmth or coolness. Lamps with a CCT of less than 3,200 K are pinkish and considered warm. Lamps with a CCT greater than 4,000 K are bluish-white and considered cool.

**Emergency conditions.** Generally, lighting that is only energized during an emergency power source; lighting fed from a backup power source; or lighting for illuminating the path of egress solely during a fire or other emergency situation; or, lighting for security purposes used solely during an alarm.

**Fully shielded.** An outdoor luminaire constructed so that in its installed position, all of the light emitted from the light fixture is projected below the horizontal plane passing through the lowest light-emitting part of the fixture. See Figure 1.

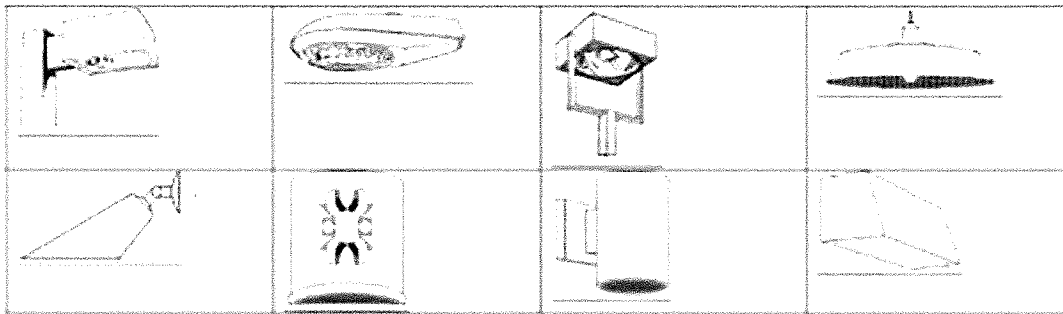


Figure 1. Examples of fully shielded light fixtures

**Full cutoff fixture.** A fixture, as installed, that is designed or shielded in such a manner that all light emitted by the fixture, either directly from the luminaires or indirectly from the fixture, is prevented from projecting above the horizontal plane running through the lowest point on the fixture where light is emitted. (See Figure 5 and 6 Exhibit A Sec. 3.08.099).

**Holiday lighting.** Lighting used for a specific celebration which may be one of the following types:

1. String, festoon, bistro, and similar lighting, provided that the emission of such lighting does not exceed, 125 lumens per linear foot of line or square foot of space. These lights must be rated at or below 2700 Kelvin. See Figure 1 Exhibit A Sec. 3.08.097 (6).
2. Low-output lamps with a maximum output of 210 lumens within any cubic foot used to internally illuminate yard art.
3. Flood or spotlights with a maximum output of 1,000 lumens each, whose light source is not visible from any other property, and which are used only as temporary lighting.

**Light pollution.** Any adverse effect of artificial light including, but not limited to, glare, light trespass, skyglow, energy waste, compromised safety and security, and impacts on the nocturnal environment.

**Light trespass.** Light emitted from fixtures that cause light to be cast on a property other than the one where it is installed, upwards toward the sky or any other location where it is not needed. See Figure 2 below.



Figure 2. Light trespass

**Lumen.** A unit of measurement used to quantify the amount of light produced by a bulb or emitted from a fixture. The lumen rating associated with a given lamp is generally indicated on its packaging or may be obtained from the manufacturer (abbreviated lm).

**Lumens per net acre.** The total number of initial lamp lumens produced by all fixtures utilized in outdoor lighting on a property divided by the number of acres or part of an acre, of the property being illuminated.

**Luminaire.** A complete lighting unit that usually includes the fixture, ballasts, and lamps.

**Net acreage.** The remaining area after deleting all portions for proposed and existing streets within a development parcel or subdivision. For parcels including special uses “recreational facilities” and “outdoor display lots” that are exempted from the lumens per acre, the area devoted to the special use shall also be excluded from the net acreage.

**New lighting.** Lighting for areas not previously illuminated; newly installed lighting of any type except for replacement lighting or lighting repairs.

**Outdoor lighting.** Temporary or permanent lighting that is installed, located or used in such a manner as to cause light rays to shine outdoors. Nonresidential fixtures installed indoors that cause light to shine outdoors are considered outdoor lighting for the purposes of this Article. Residential fixtures installed indoors generating more than 6,200 lumens (approximately equal to a 300-watt incandescent bulb) that cause light rays to shine outdoors are also considered outdoor lighting for the purposes of this Article. See Figure 3.

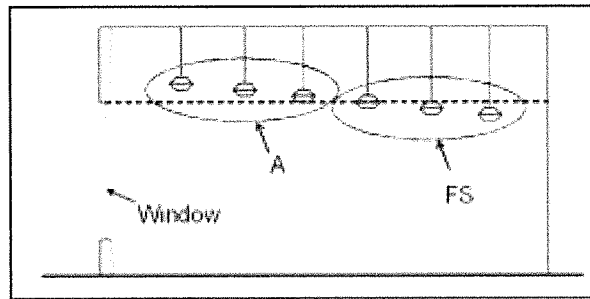


Figure 3. Elevation view showing a nonresidential application of indoor lighting, labeled FS, which will be subject to this Article and indoor lighting, labeled A, which is installed so that it is not subject to this Article. This example presumes the structure in question is not elevated such that any of the luminaries labeled A in the figure above may be seen from any other property. If the structure is elevated such that the luminaries labeled A are visible from another property, then they are subject to this Article.

**Property line.** The edges of the legally defined extent of privately owned property.

**Temporary lighting.** Lighting installed with temporary wiring and operated for less than 60 days in any calendar year. Lighting intended for uses of a limited duration, such as civic events or construction projects.

**Total outdoor light output.** The total amount of light, measured in lumens, from all outdoor light fixtures within the illuminated area of a property. The lumen value to be used in the calculation is the initial lamp lumens, as defined in this Article.

**Uplight.** For an exterior luminaire, flux radiated in the hemisphere at or above the horizontal plane.

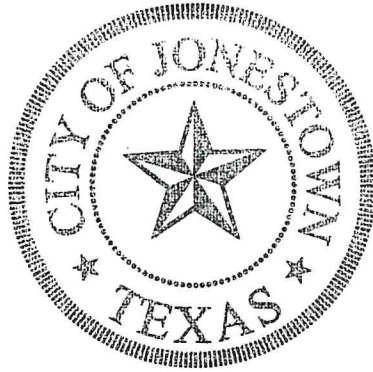
**SECTION 3.** Chapter 3, Building Regulations, Article 3.08 Site Development, Lighting, and Landscaping of the City of Jonestown Code of Ordinances, Division 3. Lighting is hereby repealed in its entirety and replaced with the following language in Exhibit “A” attached hereto.

**SECTION 4.** All provisions of the Ordinances of the City of Jonestown in conflict on the Effective Date with the provisions of this Ordinance are hereby repealed to the extent of such conflict, and all other provisions of the Ordinances of the City of Jonestown not in conflict with the provisions of this Ordinance shall remain in full force and effect.


**SECTION 5.** Should any sentence, paragraph, subdivision, clause, phrase or section of this Ordinance be adjudged or held to be unconstitutional, illegal or invalid, the same shall not affect the validity of this Ordinance as a whole, or any part or provision thereof other than the part so decided to be invalid, illegal or unconstitutional, and shall not affect the validity of the Code of Ordinances as a whole.

**SECTION 6.** It is hereby officially found and determined that the meeting at which this Ordinance was passed was open to the public, and that public notice of the time, place and purpose of said meeting was given as required by the Open Meetings Act, Chapter 551 of Texas Government Code.


**APPROVED AND ADOPTED** by the City Council of the City Jonestown on this the 9th day of December, 2021.



**CITY OF JONESTOWN**

  
Paul Johnson, Mayor

**ATTEST:**

  
Belinda Gaytan, City Secretary

**EXHIBIT A**  
**Division 3. Lighting**

**Sec. 3.08.091 Purpose**

Dark night skies have social, ecological, cultural, economic, aesthetic and health benefits for the citizens of Jonestown. Dark night skies are an asset and an important element of Jonestown's appeal as a pleasant community in which to live, and that city policy seeks to protect. The purpose of this Article is to provide uniform outdoor lighting standards to assure public safety and health, promote efficient and more cost-effective lighting, enhance the ability to view the night sky and promote a positive city image reflecting order, harmony and pride, thereby strengthening the economic, cultural, historical and residential stability of the city.

**Sec. 3.08.092 Scope and applicability**

All outdoor and/or exterior lighting installed, replaced, or repaired after the effective date of this Article shall be installed in conformance with the provisions of this Article, applicable electrical code, energy codes, and building codes except as otherwise provided herein.

**Sec. 3.08.093 Jurisdiction**

- (a) This Article applies within the city limits of the City of Jonestown.
- (b) Applicability within the City of Jonestown's Extraterritorial Jurisdiction (ETJ).
  - (1) Compliance with the requirements of this Article is mandatory for improvements and developments within the City's ETJ in order to preclude light trespass from the ETJ into the City Limits, to prevent light pollution and skyglow above the City, and to preserve the rural and historic character of the City and its environs.
  - (2) All outdoor lighting that is not in conformance with this Article on property in the City's ETJ that is subsequently brought into the City Limits ten (10) years after the effective date of this ordinance shall be brought into conformance with this Article. Nothing in this subsection may be construed as to allow light trespass or any other form of nuisance from outdoor lighting.

**Sec. 3.08.094 Nonconforming existing lighting**

All existing outdoor lighting that was legally installed before the effective date of this Article and that does not conform with the standards, rules and regulations established by this Article shall be deemed nonconforming. Nonconforming existing outdoor lighting shall be brought into compliance with this Article upon the earlier of:

- (a) All nonconforming outdoor lighting located on a property for which an application for conditional use permit, subdivision approval, building permit for construction of a new building or site plan permit, is made shall be brought into compliance with this Article

before final inspection, issuance of a certificate of occupancy, final plat recordation, or occupancy of the improvement, whichever is applicable.

- (b) All nonconforming outdoor lighting, including publicly and privately owned lighting, shall be brought into compliance with this Article not more than ten (10) years from the effective date of the outdoor lighting policy, after which all non-conforming lighting extant at the time of enactment must be brought into compliance with the policy.

### **Sec. 3.08.095 Lighting zones**

- (a) Using Table 1 as a guide, the city shall determine and maintain lighting zones within the boundaries of its corporate limits.
- (b) The lighting zone of a parcel or project shall determine the limitations for lighting as specified in this division.

Table 1. Lighting Zone Ratings and Characteristics

[https://jonestowntx.gov/vertical/Sites/%7B98C21F63-2E84-4B40-8ABA-9BA38620A6EC%7D/uploads/JONESTOWN-ZONING\\_MAP\\_updated\\_08-27-20\(1\).pdf](https://jonestowntx.gov/vertical/Sites/%7B98C21F63-2E84-4B40-8ABA-9BA38620A6EC%7D/uploads/JONESTOWN-ZONING_MAP_updated_08-27-20(1).pdf)

<b>Zone</b>	<b>Characteristic Use</b>	<b>Ambient Illumination</b>	<b><u>Lumens Per Net Acre in any contiguous illuminated area</u></b>	<b>Representative Locations</b>
LZ 1	Recreational	Dark	<u>4,500</u>	Developed areas in city parks and recreation areas. Areas where residents have expressed the desire to conserve natural illumination levels.
LZ 2	Residential	Low	<u>25, 000</u>	Rural areas, low-density urban neighborhoods and districts, residential historic districts. This zone is intended to be the default for residential areas.

LZ 3	Urban and Commercial	Medium	<u>100,000</u>	High-density urban neighborhoods, shopping and commercial districts, industrial parks and districts. This zone is intended to be the default condition for commercial and industrial districts in urban areas.
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### **Sec. 3.08.096 Exemptions**

The following luminaires and lighting systems are exempt from these requirements:

- (1) Outdoor lighting for which light is produced directly by the combustion of fossil fuels (i.e., gas pumps).
- (2) Holiday lighting from November 15 to January 15 during the hours from 6:00 a.m. to midnight each day, except that flashing holiday lights are prohibited on nonresidential properties. Flashing holiday lights on residential properties are discouraged. Holiday lights may be illuminated one additional seven (7) day period per calendar year.
- (3) Underwater lighting in swimming pools.
- (4) String, festoon, bistro, and similar lighting, provided that the emission of such lighting does not exceed 125 lumens per linear foot of line or square foot of space, dependent on compliance with this Article. These lights must be rated at or below 2700 Kelvin. See Figure 1 Sec. 3.08.097 (6).
- (5) Lighting required by law to be installed on motor vehicles.
- (6) Lighting needed during activities of law enforcement, fire and/or other emergency services.
- (7) Lighting needed during emergency repairs of roads and utilities.
- (8) Temporary lighting for theatrical, television, performance areas or construction areas.
- (9) Lighting required and regulated by the Lower Colorado River Authority, Federal Aviation Administration or other federal or state agency.

### **Sec. 3.08.097 Prohibited lighting**

The following lighting systems are prohibited from being installed or used:

- (1) Mercury vapor lighting.
- (2) Searchlights (under any circumstances).



- (3) Holiday lighting except as exempted in Sec. 3.08.096.
- (4) Outdoor laser light projections, except when associated with a special event lasting no more than one night.
- (5) Any light fixture that may be confused with a traffic control device.
- (6) Blue light luminaires. Correlated Color Temperature (CCT) of lamps shall be no greater than 3,000 Kelvin as shown in Figure 1.

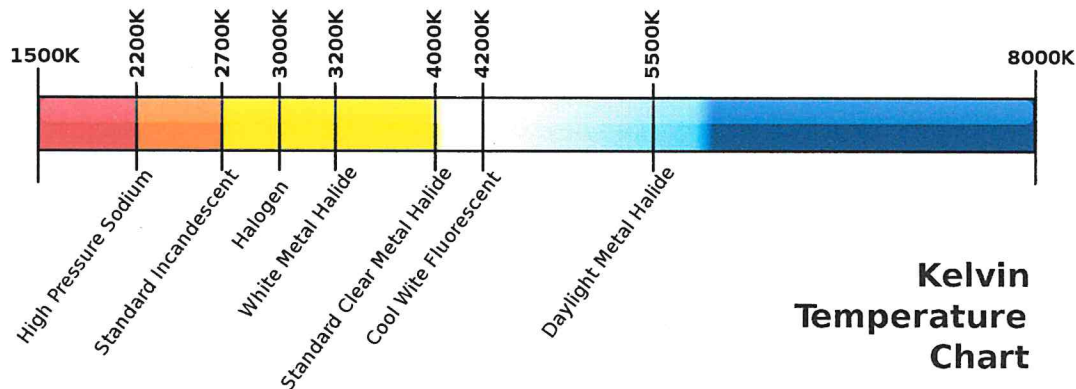


Figure 1. Kelvin Temperature Chart

- (7) Light Trespass. No luminaire installed within the City limits, except governmental owned streetlights, shall create conditions of light trespass. Governmental owned streetlights may only create light trespass below it within one hundred (100) feet of its installed location. All outdoor lighting, except governmental owned streetlights, shall be shielded so that the light source shall not be visible from any other property.

### **Sec. 3.08.098 Lumens per Net Acre Limits**

(a) Total outdoor light output (excluding government-owned streetlights used for illuminating public rights-of-way and outdoor recreation facilities) of any nonresidential property shall not exceed 100,000 lumens per net acre in any contiguous illuminated area. This lumens per net acre value is an upper limit and not a design goal; design goals should be the lowest levels that meet the requirement of the task. See Table 1 Sec. 3.08.095 (a).

(b) Total outdoor light output (excluding government-owned streetlights used for illuminating public rights-of-way and outdoor recreation facilities) of any residential property shall not exceed the following cap: 25,000 lm per net acre in any contiguous illuminated area. This lumens per net acre value is an upper limit and not a design goal; design goals should be the lowest levels that meet the requirements of the task. See Table 1 Sec. 3.08.095 (a).

(c) Outdoor recreational facilities shall follow the International Dark-Sky Association Criteria for

Community-Friendly Outdoor Sports Lighting v1.0, dated March 2018 for allowable target illumination and restrictions.

Table 2. Comparison of Efficacy by Power (120 Volt incandescent lamps)

Output (lumens)	Power (Watt)		
	Incandescent	CFL	LED
500	40	8-10	9
850	60	13-18	12-15
1200	75	18-22	15
1700	100	23-28	18

**Sec. 3.08.099 Shielding and installation requirements.**

(a) All outdoor lighting except government owned streetlights shall be fully shielded so that the luminous elements of the fixture are not visible from any other property.

(b) Government-owned streetlights, if rated by the BUG classification, shall be

- (1) Rated and installed with the maximum Backlight component limited to the values in Table 3. based on location of the light fixture where the property line is considered to be five feet (5') beyond the actual property line;
- (2) Rated and installed with the Uplight component of zero (U0);
- (3) Rated and installed with the Glare component no more than G1, although G0 is preferred.

(c) Government-owned streetlights, if not rated by the BUG classification, shall meet the qualifications to be full cutoff fixtures in order to limit light trespass. Mounting height or topography may cause the luminous elements of a governmental owned streetlight to require additional shielding to reduce glare (See figure 2).

Table 3. Government Owned Streetlights

Fixture is greater than 2 mounting heights from property line	B4 classification
Fixture is 1 to less than 2 mounting heights from property line	B3 classification
Fixture is - 0.5 to 1 mounting height from property line	B2 classification

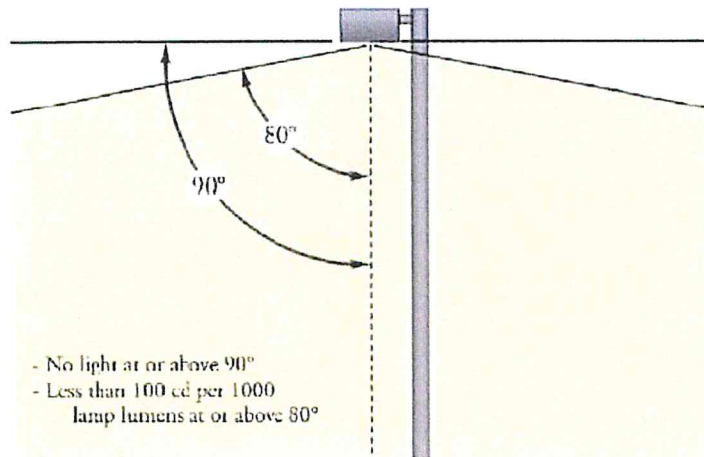


Figure 2. Full cutoff fixture

(d) Except as otherwise specified in this Article, outdoor lighting, regardless of lumen output, shall be fully shielded and aimed downward so as to minimize glare and prevent light pollution. No outdoor lighting fixture shall permit light to shine above the horizontal plane to pollute the night sky or off the property on which it is installed. This included but is not limited to:

- (1) Pedestrian lighting;
- (2) Parking lots;
- (3) Roadways and pathways;
- (4) Buildings and structures;
- (5) Barn Lights;
- (6) Recreational areas;
- (7) Building overhangs and open canopies;
- (8) Driveway entrances; and
- (9) Residential streetlights, and residential pole-mounted and eave-mounted security lights.
- (10) Flagpoles. Property owners are encouraged to not illuminate flagpoles at night, but rather to hoist flags after dawn and lower flags before sunset. If flags are illuminated at night, lighting of up to a total of two (2) flags per property is permitted with the following conditions:

- a. Flagpoles shall be illuminated only from above. This may be achieved by utilizing a luminaire attached to the top of the flagpole or a luminaire mounted above the top of the flagpole on a structure within fifteen (15) feet of the flagpole and must comply with all sections of this Article. The total light output from any luminaire mounted on top of or above a flagpole shall not exceed 800 lumens. See Figure 3.

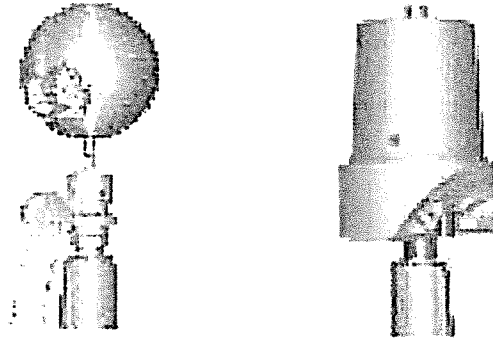


Figure 3. Examples of Flagpole Lighting

- (e) Fully shielded and full cutoff fixtures must be constructed and installed in such a manner that all light emitted by the fixture meets or falls below the specification given. (See Figures 2, 5 and 6) This includes all the light emitted by the fixture, either directly from the lamp or by a diffusing element, or indirectly by reflection or refraction from any part of the fixture. Any structural part of the fixture providing this shielding must be permanently affixed.
- (f) All outdoor lighting is encouraged to be turned off when no one is present to use the light. Adaptive controls must be used to turn lights off when not in use. Timers must comply with curfew requirements see Section 3.08.100.
- (g) New City-owned outdoor lighting. After the effective date of this Article the City may install new publicly-owned outdoor lighting, to include street lighting and lighting on other public property and rights-of-way, only upon the determination of the City Manager or their designated representative. It must be shown that a clear public safety danger or danger to City workers exists in the area to be lit and that the hazard can only be effectively mitigated through the use of outdoor lighting.
- (h) Adaptive Controls. All new publicly owned lights, including streetlights, will incorporate adaptive controls, to actively regulate the emission of light from light fixtures such that the lighting of areas is restricted to times, places and amounts required for safe occupancy.
- (i) Sign illumination. All permanent signs may be non-illuminated, illuminated by internal

indirect (halo), or lit by external indirect illumination, unless otherwise specified.

- (1) Illuminated signs shall be extinguished at 11:00 p.m. or within one (1) hour of the end of normal business hours, whichever occurs later.
- (2) Lighting should be of no greater wattage than necessary to make the sign readable at night.
- (3) No sign shall be illuminated, in whole or in part, where the illumination is intermittent or varies in color or intensity from time to time, nor shall any sign be so illuminated that it interferes with traffic or with the effectiveness of, or obscures, an official traffic sign, device or signal.
- (4) The use of searchlights is prohibited.
- (5) Luminance levels for operation between sunset and sunrise shall not exceed 100 nits (100 candelas per square meter) as measured under conditions of a full white display.
- (6) Size limit. The luminous surface area of an individual sign shall not exceed 160 square feet.
- (7) Top-down lighting. Externally illuminated signs shall be lit only from the top of the sign, with fully shielded luminaires designed and installed to prevent light from spilling beyond the physical edges of the sign.
- (8) Neon lighting is prohibited.
- (9) Electronic message center (EMC) displays are discouraged but shall comply with outdoor lighting curfews stipulated in this section.
  - a. LED's or similar lighting used in EMC sign messages may utilize more than one color per message.
  - b. Moving and/or flashing text or images are prohibited.
  - c. All sign messages display times shall be a minimum of 20 seconds; however, time and temperature may have shorter display durations.
  - d. Message content and transition times shall be limited to no longer than 0.5 second intervals, with a minimum of 1200 feet (366 meters) between installations on roadways.
  - e. Design. All EMC signs shall be a monument sign category and are not permitted to be attached to a building or other structure. The sign base must be (2) feet in height and be constructed of masonry material (brick, stone, block, etc.). The masonry material shall match or be similar to the building on lot which the EMC sign is located. The sign base shall be a minimum of seventy-five percent (75%) of sign's total width. (See Table 4)

Table 4. EMC Monument Height, Area, Quantity and Location

<u>Type</u>	<u>Max &amp; Min Height</u>	<u>Max &amp; Min Width</u>	<u>Max &amp; Min Area</u>	<u>Qty</u>	<u>Location</u>
<u>EMC: Monument Sign Structure</u>	<u>Max Height 8 ft.</u>  <u>Min. Height 4 ft.</u>	<u>Max. Width 12 ft.</u>  <u>Min. Width 6 ft.</u>	<u>Max. Area 96 sq. ft.</u>  <u>Min. Area 24 sq. ft.</u>	<u>1</u>	<u>Within the required building setback.</u>
<u>Ratio      Max. Width      Max. Area</u>					
<u>Lighted portion of EMC sign</u>	<u>3:2</u>	<u>1.5 times greater than height</u>	<u>32 sq. ft.</u>	<u>1</u>	<u>Within Monument Sign Structure</u>

(j) Canopy lighting must be fully shielded. However, indirect up-light is permitted under an opaque canopy provided that no lamp or vertical element of a lens or diffuser is visible from beyond the canopy and such that no direct up-light is emitted beyond the opaque canopy.

(k) In residential lighting applications, homeowners and designers shall assess the potential for over-lighting and adjust to the lowest light necessary, to avoid glare and light trespass. For examples of acceptable light fixtures and luminaries, see Figure 4.

(l) Residential floodlights must be projected downward and fully shielded to the extent necessary to prevent light trespass to neighboring properties.

(m) Outdoor recreational and/or athletic field lighting may be exempted from the strict shielding and short-wavelength emission requirements above provided that all of the following conditions are met:

- (1) Illuminating Engineering Society (IES) lighting guidelines (RP-6) are followed according to the appropriate class of play
- (2) Field lighting is provided exclusively for illumination of the surface of play and viewing

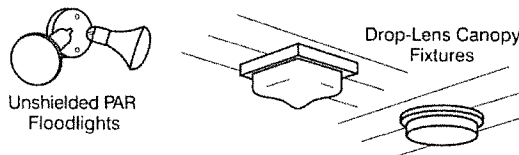
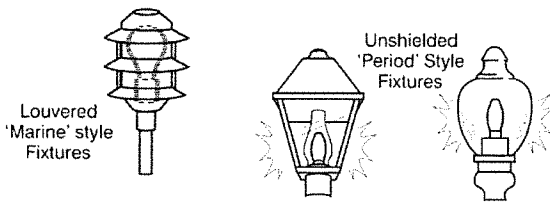
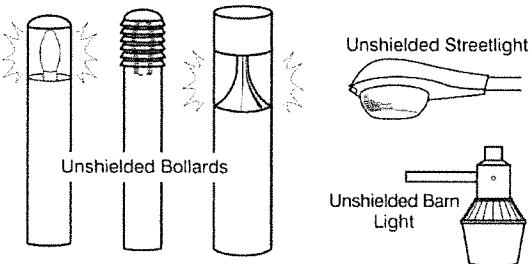
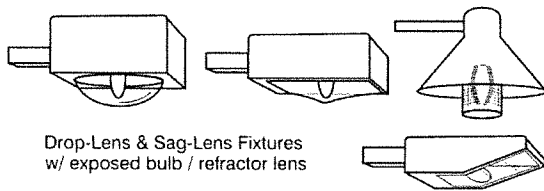
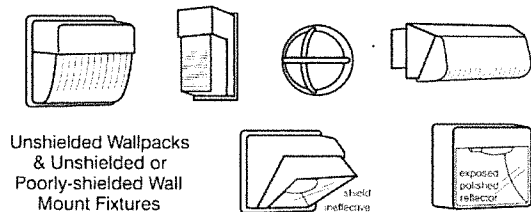
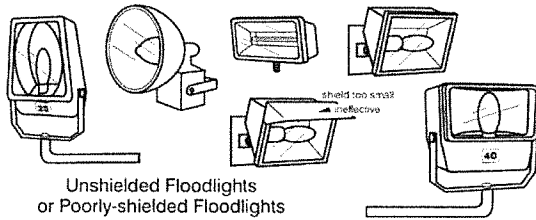
stands, and not for any other applications

- (3) Illuminance levels must be adjustable based on the task (e.g., active play vs. field maintenance)
- (4) Off-site impacts of the lighting will be limited to the greatest practical extent possible
- (5) The curfew requirement in Sec. 3.08.100 is observed
- (6) Timers shall be installed to prevent lights being left on accidentally overnight

## Examples of Acceptable / Unacceptable Lighting Fixtures

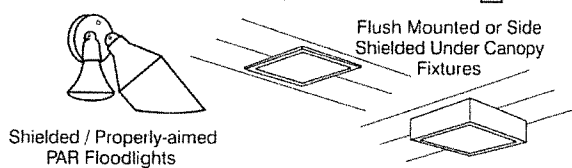
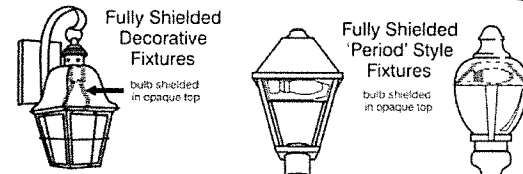
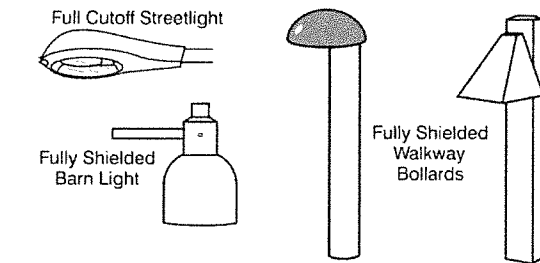
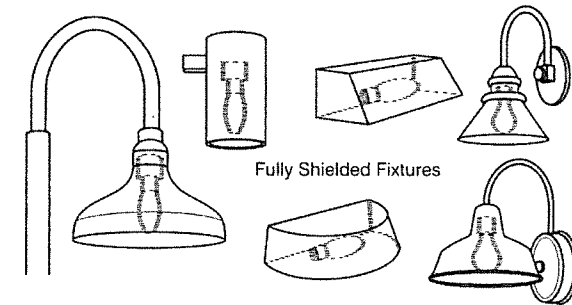
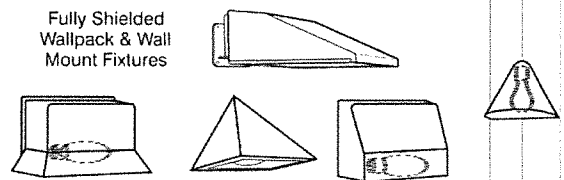
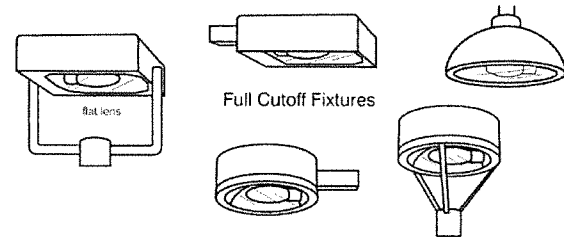
### Unacceptable / Discouraged

Fixtures that produce glare and light trespass



### Acceptable

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



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Figure 4. Examples of acceptable light fixtures and luminaires





Figure 5. Examples of Full Cutoff and Fully Shielded Luminaires

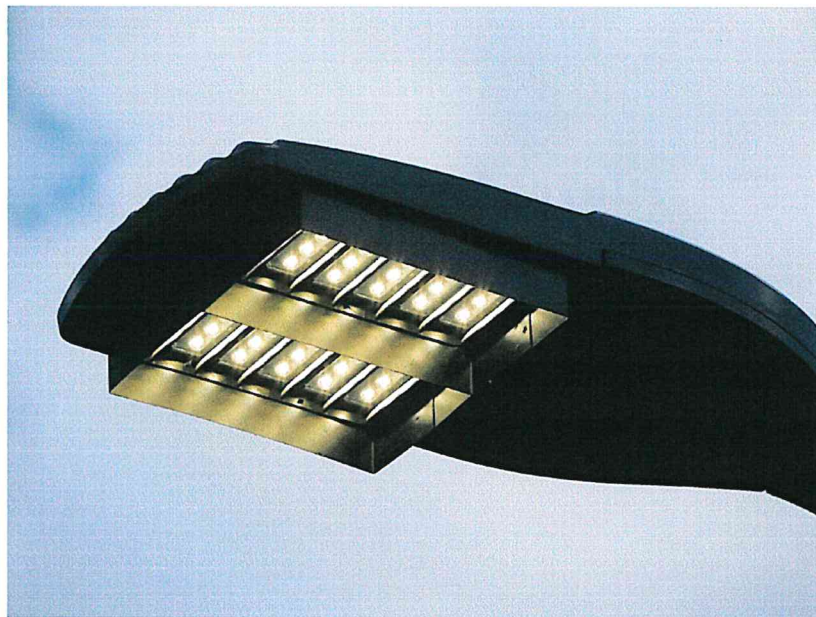


Figure 6. Example of full shielding around LED array

### **Sec. 3.08.100 Lighting curfew**

- (a) Nonresidential outdoor or exterior lighting shall not be energized more than thirty (30) minutes after closing or the completion of activities, unless reduced to 25% or less of the total light output allowed.
- (b) Light sensor switches must comply with lighting curfew requirements.

- (c) Motion sensor activation must turn off within five (5) minutes after activation motion has ceased.
- (d) Curfew shall be as follows:
  - (1) For LZ 1, the earlier of 10:00 P.M. (2200 hours) or close of business, except the Police Department shall determine hours of operation for security lighting in city parks;
  - (2) For LZ2, midnight (2400 hours), except solar landscape lights. Motion sensor activation is allowed to cause the light to resume total outdoor light output but shall be turned off within 5 minutes after activation motion has ceased;
  - (3) For LZ3, the later of midnight (2400 hours) or the close of business. All illuminated signs shall be extinguished at 11:00 p.m. or within one (1) hour of the end of normal business hours, whichever occurs later.

### **Sec. 3.08.101 Lighting plans**

- (a) A lighting plan shall be submitted with any commercial, site development and residential building permit application in which outdoor lighting is proposed or required and at a minimum provide the following information:
- (b) The location of all existing and proposed lighting fixtures including their height above grade.
- (c) A lumen calculation sheet to determine lumens per acre.
- (d) The total square footage of the area to be illuminated.
- (e) Specification sheets (photometrics) for all existing and proposed light fixtures.
- (f) Acknowledgement that the applicant has received notification of the provisions of this Article.
- (g) Verification that the construction project requiring a building permit application has complied with the provisions of this Article shall occur during the final inspection by the city Building Inspector.

### **Sec. 3.08.102 Height limits**

- (a) Pole-mounted lighting. Lighting mounted onto poles or any structures intended primarily for mounting of lighting shall not exceed a mounting height of 40% of the horizontal distance of the light pole from the property line, nor a maximum height according to Table 5, whichever is lower, with the following exceptions:

- (1) Lighting for residential sports courts and pools shall not exceed fifteen (15) feet above the court or pool deck surface.
  - (2) Lights specifically for driveways, and then only at the intersection to the road providing access to the site, may be mounted at any distance relative to the property line, but may not exceed the mounting height listed in Table 5.
  - (3) Landscape lighting installed in a tree.
- (b) Lights mounted to buildings or other structures. All lights mounted to buildings or other structures must be fully shielded. Lighting mounted onto buildings or other structures shall not exceed a mounting height greater than four (4) feet higher than the tallest part of the building or structure at the place where the lighting is installed, nor higher than 40% of the horizontal distance of the light from the property line, whichever is less, with the following exceptions:
- (1) Lighting attached to single-family residences shall not exceed the height of the eave.
  - (2) Lighting for facades may be mounted at any height equal to or less than the total height of the structure being illuminated, regardless of horizontal distance to the property line.
  - (3) For buildings less than forty (40) feet to the property line, including canopies or overhangs onto the sidewalk or public right-of-way, luminaires may be mounted to the vertical facade or the underside of canopies at sixteen (16) feet or less.
  - (4) The top exterior deck of parking garages should be treated as normal pole-mounted lighting rather than as lights mounted to buildings.
- (c) Mounting height or proximity to property lines may cause the luminous elements of a light fixture to require additional shielding to prevent light trespass.

Table 5. Maximum Lighting Mounting Height in Feet

<b>Lighting Zone</b>	<b>Lighting for Driveways, Parking, and Transit</b>	<b>Lighting for Walkways, Plazas and Other Pedestrian Areas</b>	<b>All Other Lighting</b>
LZ 1	25.0	12	4.5
LZ 2	12	8	4.5
LZ 3	37.5	18	15

**Sec. 3.08.103 Lighting Under Canopies, Building Overhangs, or Roof Eaves**

- (a) All outdoor light fixtures located under canopies, under building overhangs, or under

roof eaves must conform to all provisions of this Article.

- (b) Outdoor lighting fixtures located under canopies, under building overhangs, or under roof eaves where the center of the lamp is located at between five (5) feet and less than ten (10) feet from the nearest edge of the canopy or overhang are to be included in the lumens per net acre calculation or lumens cap, as applicable, as though they produced one one-quarter (1/4) of the lamp's rated lumen output.

#### **Sec. 3.08.104. Lighting by Special Permit**

To obtain such a special permit, applicants shall demonstrate that the proposed lighting installation:

- (1) Has sustained every reasonable effort to mitigate the effects of light on the environment and surrounding properties, supported by a signed statement describing the mitigation measures.
- (2) Employs lighting controls to reduce lighting at a Project Specific Curfew ("Curfew") time to be established in the Permit.
- (3) The city council shall review each special permit application. A permit may be granted if, upon review, the city council believes that the proposed lighting will not create unwarranted glare, sky glow, or light trespass.

#### **Secs. 3.08.105–3.08.140 Reserved**