

**Outdoors Light Ordinance
Final Draft February 2008
SAINT HEDWIG, TEXAS**

AN ORDINANCE OF THE CITY OF ST. HEDWIG, TEXAS, PROVIDING STANDARDS APPLICABLE TO LIGHTING WITHIN COMMERCIAL AND RESIDENTIAL AREAS; PROVIDING FOR PERMITS, FEES, AND INSPECTIONS; TO PROVIDE FOR A PENALTY FOR CONVICTION OF VIOLATION OF THE TERMS OF THIS ORDINANCE; TO PROVIDE FOR SEVERABILITY AND PROVIDE FOR THE REPEAL OF ORDINANCES IN CONFLICT HERewith:

Whereas, the City Council of the City of St. Hedwig for the purposes of providing for the orderly, safe, attractive and healthful development of the community, to maintain natural nighttime environment and starry night skies, and to promote the health, safety, and general welfare of the community and its residents has evaluated the impact of lighting in commercial and residential areas; and

Whereas, Council finds that lighting in both residential and commercial areas is sometimes excessive and causes glare or spillover of lighting to adjacent properties, or may otherwise interfere with a property owner's quiet enjoyment of their property; and

Whereas, Council believes that the image of the city of St. Hedwig is consistent with lower light levels, to preserve the rural, small town atmosphere, and wishes to ensure that developments do not use excessive lighting or cause glare or spillover onto adjacent properties, and believes that the public purpose will be served by such regulation of lighting; and

Whereas, to effect this goal, council finds that it is necessary to establish requirements for the installation and maintenance of lighting elements in residential and commercial developments; and

Whereas, The Planning and Zoning Commission has recommended approval of the regulations contained herein; NOW, THEREFORE:

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF ST. HEDWIG, TEXAS, THAT:

SAINT HEDWIG, TEXAS
Outdoors Lighting Ordinance
Ordinance Number: 0802

Intent

It is the intent of this Chapter to provide standards for appropriate lighting practices and to encourage "good neighbor" lighting practices, systems, and fixtures that promote energy conservation, minimize light trespass, light pollution and glare from shining onto abutting properties or into street traffic, curtail the degradation of the nighttime visual environment, and preserve the rural environment while not compromising the safety and well being of the citizens of Saint Hedwig.

Section 1.0

1.1. Definitions: For the purposes of this Chapter, terms used shall be defined as follows:

Accent lighting: any luminary that emphasizes a particular object or draws attention to a particular area for aesthetic purposes.

Cut-off angle: the angle of a luminary measured from the lowest point between a vertical line from the center of the lamp extended to the ground and the first line of sight at which the bare source is not visible. Cut-off angles limit the direction of light emitted.

Direct light: light emitted directly from the lamp, off of the reflector diffuser, or the refractor or diffuser lens, of a luminary.

Fixture (also called a "Luminary"): a complete lighting unit including the lamps, together with the parts required to distribute the light, to position and protect the lamps, and to connect the lamps to the power supply.

Foot-candle: a unit of light measurement or luminance equal to one lumen per square foot. "Foot-candle" means a measure of how bright a light appears to the eye. As an example, a typical 60-watt incandescent lamp (840 lumens) produces a luminance of 0.1 foot-candles at a distance of about 25 feet.

Fossil fuel light: any outdoors lighting fixture producing light directly by the combustion of natural gas or other fossil fuel.

Full cutoff: A luminary light distribution in which intensity occurs at or above an angle of 90 degrees above nadir. Additionally, the candela per 1000 lamp lumens does not numerically exceed 100 (10 per cent) at or above a vertical angle of 80 degrees at or above nadir. This applies to all lateral angles around the luminaries.

Fully hooded: a fixture constructed or shielded in such a manner that all light emitted by the luminary is projected below the horizontal plane through the luminary's lowest light emitting part.

Glare: a luminance produced by bright sources in the field-of-view superimposed on the image in the eye reducing contrast and hence visibility.

Grandfathered luminaries: Luminaries that were in place at the time this code became effective and did not conform to this code. When an ordinance "grandfathers" a luminary, it means that such already-existing outdoors lighting does not need to be changed unless a period is specified for adherence to the code.

IESNA: The Illuminating Engineering Society of North America, a non-profit professional organization of lighting specialists that has established recommended design standards for various lighting applications.

Indirect lighting: a light source separated from the surface of the object illuminated.

Intermittent lighting: luminaries that exhibit light for various intervals of time, whether displayed randomly or switched on at planned intervals not extending beyond four hours.

Lamp: the light-producing source installed in the socket portion of a luminary.

Light pollution: general sky glow caused by the scattering of artificial light in the atmosphere and resulting in decreased ability to see the natural night sky.

Light trespass: an undesirable condition in which spill light is cast where it is not wanted.

Lumen: a unit of light measurement equal to one-foot candle per square foot

Luminance: the quantity of light arriving at a surface measured in lux or foot-candles.

Luminary/luminaire: see definition for "Fixture. "

Lux: See *Lumen* or *Foot Candle*.

Notice: actual notice or written notice sent by registered or certified mail.

Outdoors lighting: nighttime illumination of an outside area or object by any man-made device that is located outdoors and produces light.

Outdoors lighting fixture: a permanently installed or temporary luminary outside of an enclosed building or structure or any luminary directed such that it primarily illuminates outdoors areas.

Semi cutoff: ISENA classification that describes a luminaire distribution in which the candela per 100 lamp lumens does not numerically exceed 50 (5%) at or above an angle of 90 degrees above nadir and 200 (20%) at or above a vertical angle of 80 degrees above nadir. This applies to all lateral angles around the luminaire.

Shielding: construction or design on a light fixture that prevents emission of light rays above the horizontal plane running through the lowest point of the fixture.

Spill light: light that falls outside of an area to be lighted.

Spotlight: any lamp that incorporates a reflector or a refractor to concentrate the light output into a directed beam in a particular direction.

Temporary outdoors lighting: lighting for a specific unusual purpose an outside area or object by any man-made device that produces light for a period of less than 7 days, with at least 30 days passing before being used again.

Trespass lighting: light emitted by a luminary that shines directly or indirectly outside the boundaries of the property on which the luminary is sited.

Zenith: the angle pointing directly upward from the luminaire, or 180 degrees. Zenith is the opposite of nadir.

2.0 Generally

2.1 All public and private outdoors lighting installed in the City of Saint Hedwig shall be in conformance with the requirements established by this ordinance. All previous language in the City of Saint Hedwig bylaws and ordinances regarding outdoors lighting is replaced with this Ordinance unless otherwise stated. In the event of a conflict between the requirements of this Chapter and any other requirement of the Texas Local Government Code, the more restrictive requirement shall apply.

2.2 General Standards

The following general standards shall apply to all non-exempt outdoors lighting fixtures and accent lighting:

A. Light trespass: Light trespass shall be reduced to the greatest extent possible by using appropriately shielded and angled fixtures and lower wattage lamps.

B. Fixtures

1. Outdoors lighting fixtures and accent lighting must be shielded and aimed downward onto the ground surface to greatly minimize glare and sky pollution. Light shall not be emitted above horizontal. The shield must mask the direct horizontal surface of the light source. Some examples of acceptable and unacceptable light pollution control shielding are shown in *Section 18*.
2. All outdoors lighting fixtures and accent lighting shall be designed, installed, located and maintained such that there is minimal light trespass.
3. Spot and Accent lighting shall be directed downward onto the illuminated object or area and not toward the sky or onto adjacent properties or public rights of way. (See *Examples and Exhibits in Section 18*.) Direct light emissions of accent lighting shall not be visible above the roofline or beyond the building, structure, or object edge.
4. Flag Display: US, State, or other patriotic flags may be illuminated dusk to dawn provided that such light is used for accent only and any illumination is directed only on the flag.

C. Control of Glare

1. Lighting fixtures shall be fully shielded to greatly minimize glare. Any luminary that is aimed, directed, or focused such as to cause light escaping from the luminary to be directed toward residential buildings on adjacent or nearby land, or to create glare perceptible to persons operating motor vehicles on public rights of way is prohibited.
2. To the extent allowed by federal and state law this ordinance limits luminaries used for public roadway illumination to a maximum height of 25 feet, the location of which may be positioned at that height up to the edge of any bordering property.

D. Lighting Categories

Types of outdoors lighting to which this Chapter shall apply include, but are not limited to, are:

1. Building and structures including but not limited to, overhangs and canopies
2. Commercial lighting
3. Residential lighting
4. Landscape lighting
5. Street lighting
6. Security lighting
7. Parking lot lighting
8. Recreational areas

E. Commercial Permits

Detailed illumination plans shall accompany all commercial remodeling or building permits for sites or structures used or zoned for commercial purposes. The light plan shall include but may not be limited to: adjacent property uses; the number, type and location of fixtures; the shielding method to be used to limit glare to within the property; the method of illumination for such lights; whether any lights are solar-powered or motion detectors as stated herein; details for temporary lighting used during site planning and construction; state the approximate times that all lights

shall be illuminated; lighted sign information (as required in the Saint Hedwig Sign Ordinance 0702); light output values for individual fixtures; and total light output.

3.0 Commercial and Building Lighting

A. A detailed illumination plan shall be included with all building or remodeling permits for sites or structures used or zoned for commercial purposes. See *Section 2.2, Commercial Permits*.

B. Building Lighting Location and direction:

1. Building mounted lights shall be mounted and installed such that all light is directed downward, unless the lights are decorative as defined in this ordinance.
2. Only finished and shielded fixtures shall be used on building facades.
3. Fixtures shall be full cutoff or semi cutoff.
4. No wall packs or similar lights shall be permitted unless the cutoff angle effectively eliminates visible glare from beyond the property lines.
5. No light fixtures shall be mounted above the parapet or, for pitched roofs, above the eave unless they are motion-detection security lights.

C. Decorative Building Lighting

Decorative building lighting, in which the purpose is enhancement of building appearance, shall be permitted provided that:

1. Lighting fixtures shall be carefully located, aimed and shielded so that light is directed only onto the building façade without trespass or glare.
2. Lighting fixtures mounted on the building and designed to "wash" the façade with light are preferred.

D. Commercial Lighting

1. Detailed illumination plans shall be included with all commercial building or remodeling permits.
2. All commercial lighting shall be hooded, shaded or recessed with a cut off angle that limits light from being directed upward.
3. Nonessential lighting (illumination for displays, signs, landscape, or aesthetic purposes.) shall be turned off from 30 minutes after the business closes and shall remain off until 30 minutes before the business opens. Shielded site security and safety lighting and shielded parking lot lights necessary for safety may be left on.
4. All commercial lighting shall comply with any standards or regulations that have been approved by City Council for exterior lighting.
5. Signs: All lighting of signs shall be indirect. 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.
6. Gas Station Canopy and Apron Lighting: The intent is to keep all the light under the canopy. This lighting should be provided with low glare luminaries that do not cause light pollution or deliver nuisance glare to adjacent properties. The following standards, in addition to parking lot lighting regulations in *Section 8.0*, apply to the special design needs and features of gasoline service stations:
 - a. To minimize glare, no "drop," "sag" or convex lenses shall be used on lighting under the gas station canopy unless recessed within the canopy ceiling or shielded by appropriate glare shields.

- b. No lighting shall be mounted on building or canopy fascias or rooftops unless the fixtures are full cutoff.

E. Construction Site Lighting

1. Temporary construction lighting does not require a separate permit.
2. All lighting shall be shielded and directed on the construction site.
3. All lighting, with the exception of fixtures necessary for safety or motion activated security lighting, shall be extinguished when the site is inactive.

4.0 Residential Lighting

- A. Regulations of this Chapter applicable to residential lighting upon adoption of this Ordinance shall include prohibited fixtures, lighting and fixtures for spot, accent, flag display, landscape, building (parapet, eaves, and rooftop), and security (pole, yard, safety, service, or motion activated lights) fixtures.
- B. Non-conformance regulations of this Ordinance and grandfathered fixtures shall apply to residential lighting.

5.0 Landscape Lighting

- A. Landscape lighting shall be accent type only and shall not produce upward sky glare or other light trespass. See *General Standards Sec. 2.2*.

6.0 Street Lighting

- A. Street lighting installed after adoption of this Ordinance shall be full cutoff.
- B. Any nonconforming streetlight present at adoption of this ordinance shall be grandfathered. See *Exemptions Section 15.0, A.2*.

7.0 Security, Yard, or Safety Lighting

- A. Intermittent lighting fixtures are preferred and shall be of the "motion sensor" type that allows the luminary to be activated for a period of time not to exceed 10 minutes only when motion is detected on the site.
- B. All security lighting fixtures shall be shielded and aimed so that illumination is directed only to the designated area and not cast on other areas. In no case shall lighting be directed above a horizontal plane through the top of the lighting fixture, and the fixture shall include shields that limit or prevent the light source or lens from being visible from adjacent roadways and properties. See *Section 18*. Flat lenses and full cutoff fixtures with non-tilting features are preferred. General floodlighting fixtures shall be prohibited

8.0 Parking Lot Lighting

- A. All parking lot lighting shall be fully hooded, shaded or recessed, and shall not be adjustable beyond full cutoff.

9.0 Outdoors Recreational Facilities

- A. Any light source permitted by this Chapter may be used for lighting of outdoors recreational facilities.
- B. No outdoors recreational facilities shall be illuminated from 11 PM local time to sunrise except to conclude a specific recreational activity already in progress.
- C. Outdoors recreational facilities illuminated by nonconforming means shall not be illuminated from 11 PM local time to sunrise except to conclude a specific activity already in progress.
- D. Lighting for parking lots and other areas surrounding the recreational field or facility shall comply with this Ordinance.

E. Fixtures shall be fully shielded or designed with cut-off capability to prohibit upward light distribution.

10.0 Outdoors Advertising Signs

A. Illuminated outdoors advertising signs shall conform to the requirements specified in this ordinance and in the City of Saint Hedwig Sign Regulations, Ordinance Number 0702. To the extent there is a conflict, the more restrictive regulations or requirements shall apply.

B. Outdoors advertising signs of the type constructed of translucent materials and wholly illuminated from within do not require shielding. Dark backgrounds with light lettering or symbols are preferred.

C. Compliance Deadline. All non-conforming advertising lighting ("grandfathered luminaries") present at the time of adoption of this Ordinance shall come into compliance with these regulations or be removed at no expense to the city on or before January 1, 2012.

11.0 Temporary Outdoors Lighting

A. Temporary lighting that conforms to the requirements of this ordinance shall be allowed. Nonconforming temporary outdoors lighting may be permitted after considering:

1. The public and or private benefits that will result from the temporary lighting
2. Any annoyance or safety problems that may result from the use of the temporary nonconforming lighting
3. The duration of the temporary nonconforming lighting

B. The applicant shall submit a detailed description of the proposed temporary nonconforming lighting to City Council, who shall consider the request at the next scheduled meeting.

12.0 Historic District Regulations (Reserved for Future Use)

13.0 Nonconforming Luminaries

A. All nonconforming luminaries lawfully in place prior to the effective date of the Ordinance shall be grandfathered. Any provision to the contrary herein notwithstanding, all non-conforming lighting ("grandfathered luminaries") shall come into compliance with these regulations or be removed at no expense to the city on or before January 1, 2012.

1. Except for lamp replacement only, no grandfathered luminary may be repaired and/or modified to perpetuate its existence unless the repair and/or modification maintains conformance or accomplishes conformance. If a lamp is available that makes a grandfathered luminary conform, or progress towards conformance, then such a lamp must be utilized when the lamp is replaced.

2. Grandfathered spotlights, yard lamps and floodlights elevated above the ground on poles or buildings and used for area lighting must be adjusted so that their axis of illumination is at an angle not greater than 20 degrees measured from the vertical line between the fixture and the ground. (See Appendix 18.2, Exhibit 1.)

3. Outdoors recreational facilities illuminated by nonconforming means shall not be illuminated from 11 PM local time to sunrise except to conclude a specific recreational activity already in progress.

4. Outdoors display lighting using nonconforming grandfathered outdoors luminaries with metal halide bulbs must not be used for security lighting after 11 PM local time to sunrise or after closing hours if before 11 PM local time to sunrise.

14.0 Prohibited Fixtures

A. The following fixtures (luminaries) are prohibited:

1. Laser Source Lighting: The use of laser source light or any similar high intensity light, such as used for outdoors advertising or entertainment, when projected above the horizontal is prohibited unless authorized by City Council by specific ordinance as a special event such as a laser light show.
2. Searchlights: The operation of searchlights for advertising purposes is prohibited.
3. Quartz lamps
4. Unshielded or non-cutoff lamps
5. Mercury vapor; high pressure sodium; and low pressure sodium lamps

15.0 Exemptions.

A. The following are exempt from the provisions of this Chapter:

1. Traffic control signals and devices.
2. Street lights installed prior to the effective date of this Chapter, provided that when a street light fixture becomes inoperable, any replacement street light fixture shall be subject to the provisions of this Chapter.
3. Temporary emergency lighting (i.e. fire, police, repair workers) or warning lights.
4. Moving vehicle lights.
5. Navigation lights (i.e. radio/television towers, docks, piers, buoys) or any other lights where state or federal statute or other provision of the City of Saint Hedwig, Texas Municipal Code requires lighting that cannot comply with this Chapter. In such situations, lighting shall be shielded to the maximum extent possible, and lumens shall be minimized to the maximum extent possible, while still complying with state or federal statute.
6. Seasonal decorations (also known as Christmas lights and festive lights) do not have to be shielded. Spot and accent lights when used as part of the decoration are not exempt and must comply with this ordinance.
7. Outdoors lighting approved for temporary or periodic events (e.g. fairs, nighttime construction).
8. Lighting used for internally and externally illuminated signs that are regulated by the sign ordinance. Those not regulated by the sign ordinance are not exempt.
9. Fossil fuel lights.
10. Existing conforming lights in use before 11:00 p.m. Non-conforming lights in use upon adoption of this ordinance are not exempt from this ordinance.
11. Underwater lighting used for the illumination of swimming pools and fountains.

16.0 Administration and Enforcement

A. Enforcement: The civil and criminal provision of this ordinance shall be enforced by those persons or agencies designated by municipal authority.

B. Penalties: Anyone charged with negligently, recklessly, knowingly or intentionally violating any provisions of this ordinance shall be cited for a misdemeanor offense, and upon conviction for such violation shall be punished by a penalty of not greater than \$2,000.00. Each day of continuation of each violation may be a separate offense and punishable as such.

C. Severability: If any section, subsection, paragraph, sentence, clause, phrase, or word in this ordinance or application thereof, to any person or circumstance is held invalid or unconstitutional in a court of law, such findings shall not affect the validity of the remaining portions of the same and the City Council hereby declares it would have passed such remaining portions despite such invalidity.

D. Law Governing Conflicts: Where any provision of federal, state, county, or town statutes, codes, or laws conflicts with any provision of this code, the most restrictive shall govern unless otherwise regulated by law.

17.0 Variances

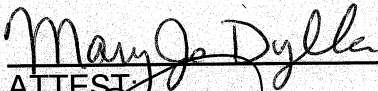
A. City Council or Council's designated agent may grant variances to the terms of this ordinance where a literal enforcement of the provisions of this Ordinance will result in unnecessary hardship. A variance request must be submitted to the administrator in writing that sets out the basis for the request along with payment of \$25.00 to cover the cost of processing the request. No variance can be granted unless:

1. Such variance will not be contrary to public interest;
2. Such variance will be in harmony with the spirit and purposes of this ordinance;
3. The plight of the owner of the property for which the variance is sought is due to unique circumstances existing on the property, and the unique circumstances were not created by the owner of the property and are not merely financial; and
4. The variance will not substantially weaken the general purposes of this Ordinance.

B. A variance may be granted with respect to any regulation contained in this Chapter deemed appropriate by City Council.

This ordinance shall take effect immediately upon its passage, approval and publication as prescribed by law.

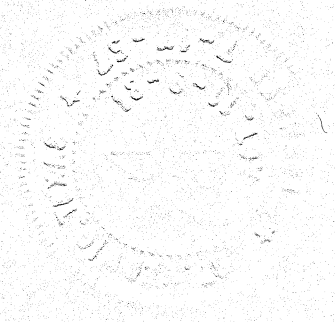
PASSED AND APPROVED AT ST. HEDWIG, TEXAS, THIS 8th DAY OF MAY, 2008.


_____, Mayor

ATTEST:



City Secretary



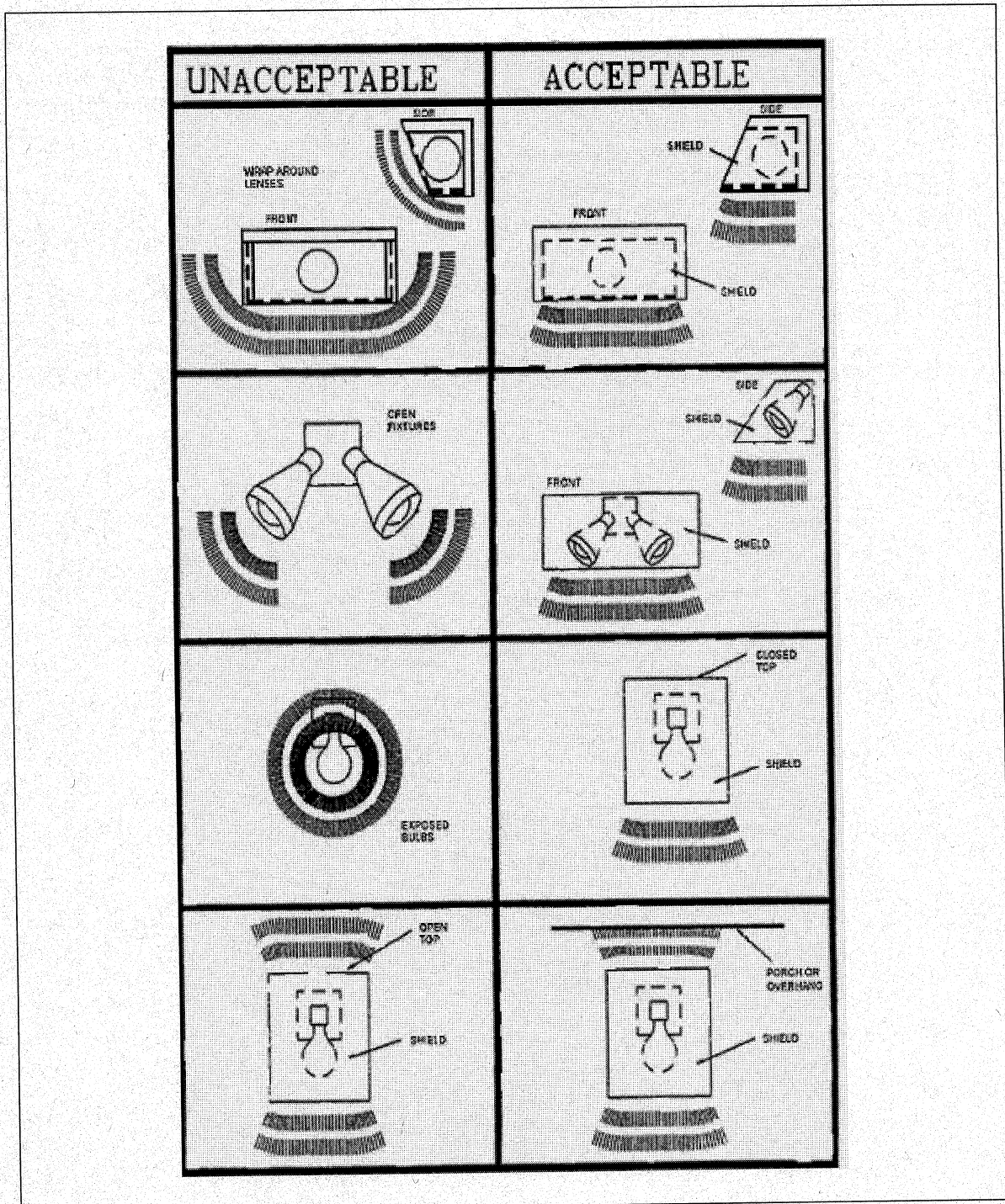
18.0 Appendix

18.1 Fixture Examples

18.2 Fixture Examples

18.3 Shielding and Angle Examples (Exhibits 1 and 2)

18.4 Table of Common Light Measurements (Lux)



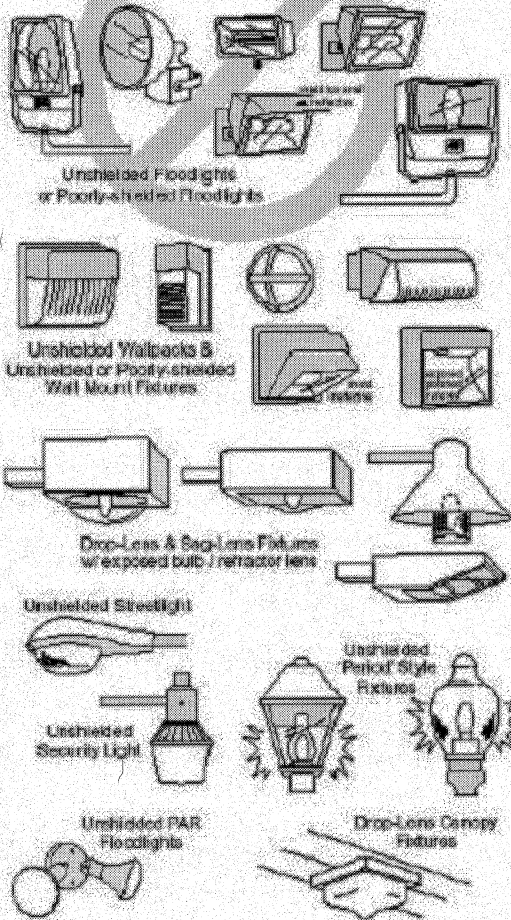
18.1 Fixtures: Diagrams of acceptable and unacceptable fixtures

18.2 Examples of acceptable and unacceptable fixtures

Examples of Acceptable / Unacceptable Lighting Fixtures

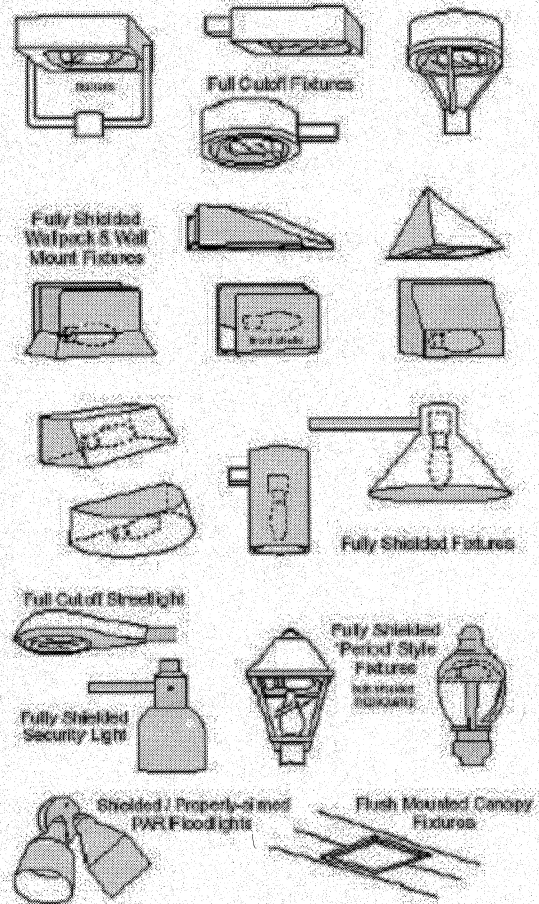
Unacceptable / Discouraged

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



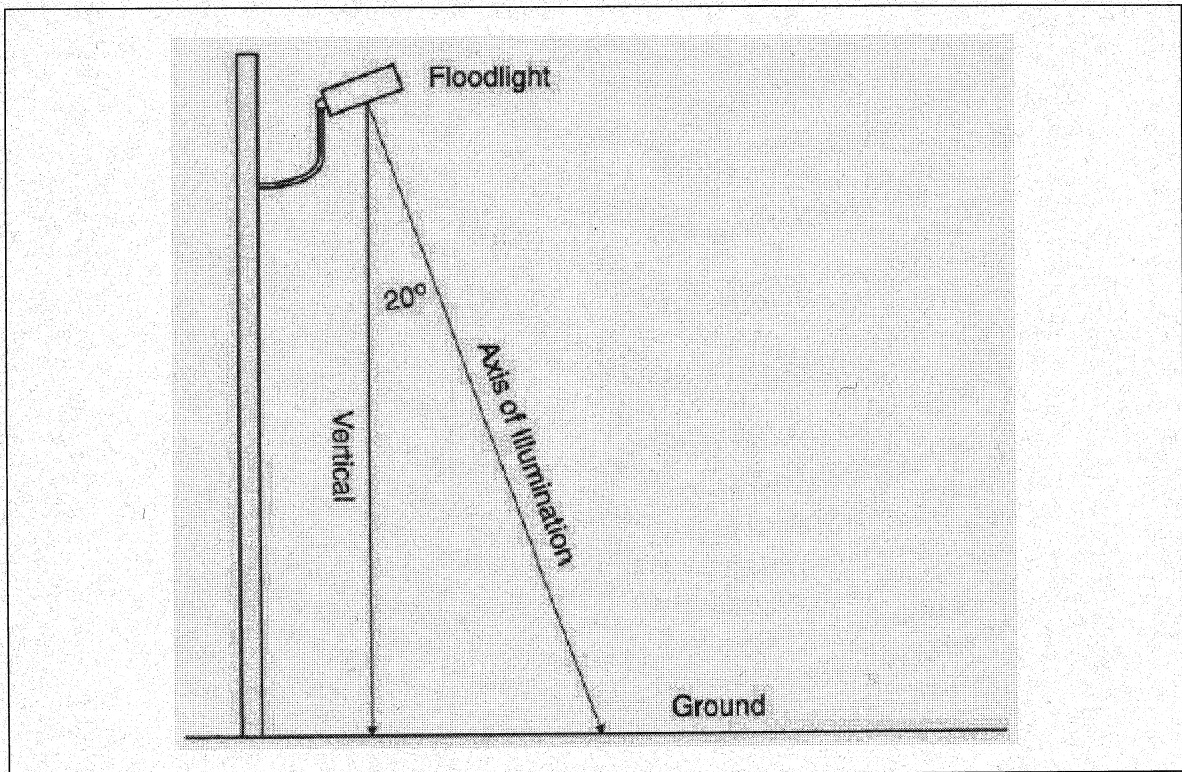


Exhibit 1. The axis of illumination shall be adjusted to an angle not more than 20 degrees from the vertical line between the fixture and the ground.

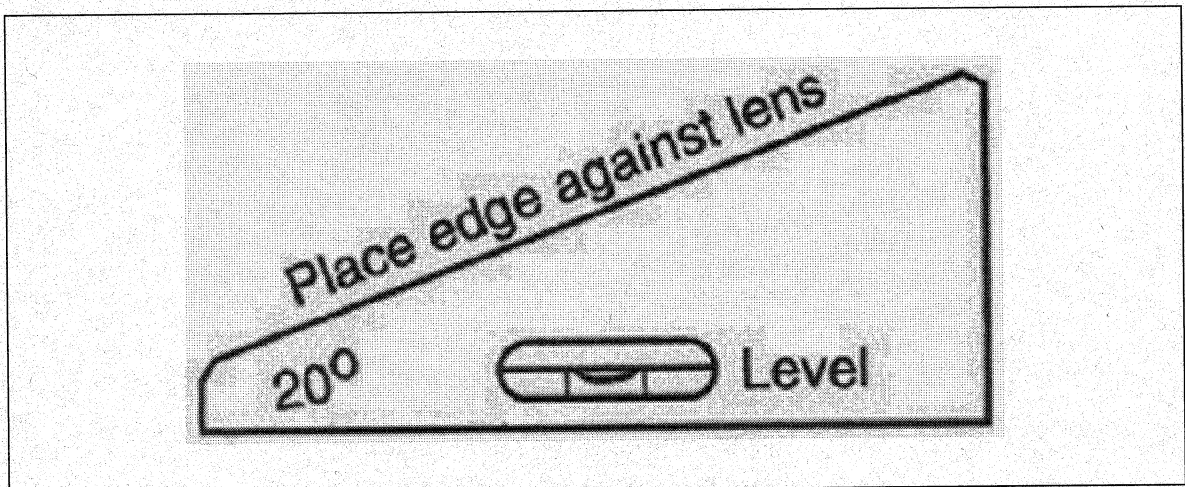


Exhibit 2. A tool for aiming lights, as in Exhibit 1, above.

18.3 Shielding and angle exhibits

Illuminance	Example
0.00005 lux	Starlight
<1 lux	Moonlight
0.0001 lux	Moonless overcast night sky
0.001 lux	Moonless clear night sky
0.01 lux	Quarter Moon
0.25 lux	Full Moon on a clear night [2]
10 lux	Candle at a distance of 30 cm (1 ft)
50 lux	Family living room [3]
80 lux	Hallway/Toilet [4]
400 lux	A brightly lit office
400 lux	Sunrise or sunset on a clear day.
1000 lux	Typical TV studio lighting
32000 lux	Sunlight on an average day (min.)
100000 lux	Sunlight on an average day (max.)

18.4 Table of Light (Lux) Values