

**CITY OF DUNDEE
ORDINANCE NO. 499-2011**

**AN ORDINANCE ADOPTING A DEVELOPMENT ORDINANCE AMENDMENT TO
INCLUDE EXTERIOR LIGHTING STANDARDS.**

WHEREAS, in 2006 the City of Dundee amended the Public Works Design Standards to include exterior lighting standards.

WHEREAS, the City wishes to incorporate the standards into the Dundee Development Ordinance and ensure the regulations are easy to administer, interpret, and enforce.

WHEREAS, the City wishes to ensure the standards: address sign lighting, clarify policies address non-conforming lighting, increase on-site security, minimize light trespass on neighboring residential properties, and minimize light pollution.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF DUNDEE HEREBY ORDAINS AS FOLLOWS:

1. Adopt the amendments contained in Exhibit "A".
2. Adopt the findings contained in Exhibit "B".

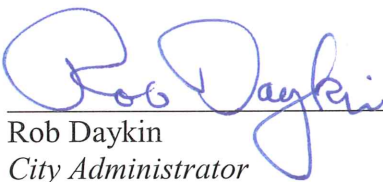
ADOPTED by the Council this 15th day of March, 2011.

Approved:



Ted Crawford
Mayor

Attest:



Rob Daykin
City Administrator

EXHIBIT “A”

Dundee Development Ordinance Amendment

Section 2.112: Exterior Lighting Standards

AMENDMENTS

2.112 EXTERIOR LIGHTING

2.112.01 PURPOSE

The purposes of the exterior lighting standards are to:

- A. Provide adequate light for safety and security;
- B. Promote efficient and cost effective lighting and to conserve energy;
- C. Minimize light pollution, glare, and nuisance light sources;
- D. Encourage quality lighting design, especially light fixture shielding;
- E. Provide an environmentally sensitive nighttime environment that protects and reclaims the ability to view the night sky.

2.112.02 DEFINITIONS

The “IES” (Illuminating Engineering Society of North America) Lighting Handbook, most recent edition, the City of Dundee Development Ordinance, and Building Code, shall be used for the definition of terms used in this ordinance but not defined herein. In the case where a definition of a term of this ordinance is found to be in conflict with a definition of a term of any other ordinance, “IES” handbook or regulation, the more restrictive definition will apply.

Decorative Lighting: Luminaries that contain small individual bulbs on a string where spacing of bulbs is not closer than three inches and where output per bulb is no greater than 50 lumens.

Exterior Lighting: Temporary or permanent lighting that is installed, located or used in such a manner to cause light rays to shine outdoors. Luminaries that are indoors and intended to light something outside are considered exterior lighting for the purpose of section 2.112.

Footcandle (fc): The amount of illumination the inside surface of a 1-foot radius sphere would be receiving if there were a uniform point source of one candela in the exact center of the sphere. The foot-candle is equal to one lumen per square foot.

Holiday Period: For the purposes of section 2.112 the holiday period is defined as the months of November, December, and January.

Horizontal Plane: A plane parallel to the horizon.

Illuminance: The amount of light falling on any point of a surface measured in footcandles/lux.

IESNA: Illuminating Engineering Society of North America (IES or IESNA). The professional society of lighting engineers.

Lamp: The generic term for an artificial light source, to be distinguished from the whole assembly (see Luminaire). Commonly referred to as “bulb”.

Light: The form of radiant energy acting on the retina of the eye to make sight possible.

Light Pollution: Artificial light emitted from a premises so as to be prejudicial to health, cause a safety hazard or create a nuisance.

Light Trespass: Light that shines onto neighboring properties.

Lighting: Any or all parts of a luminaire that function to produce light.

Lumen: The unit of luminous flux, a measure of the power of light perceived by the human eye. If a light source emits one candela of luminous intensity uniformly across a solid angle of one steradian, its total luminous flux emitted into that angle is one lumen. This should be understood to be the initial lumens value for the lamp.

Luminaire: A complete lighting unit, consisting of a lamp or lamps together with the parts designed to distribute the light, to position and protect the lamps and to connect the lamps to the power. When used, includes ballasts and photocells. Commonly referred to as “fixture”.

Milliampere: A unit of current equal to one thousandth of an ampere.

Recessed: When a light is built into a structure or portion of a structure such that the light is fully cut-off and no part of the light extends or protrudes beyond the underside of a structure or portion of a structure.

Shielded:

Shielded: A luminaire incorporating a solid barrier (the shield), which permits no light to escape through the barrier and where the lamp is recessed and is not visible from the elevation of the luminaire, and no light is emitted from its sides.

Shielded, Fully: A luminaire incorporating a solid barrier (the shield), which permits no light to escape through the barrier or shine above a horizontal plane through the luminaries' lowest light emitting part, and where the lamp is recessed and is not visible from the elevation of the luminaire, and no light is emitted from its sides.

Shielded, Partially: The bulb of the luminaire is shielded by a translucent siding and the bulb is not visible. Light may be emitted at the horizontal level of the bulb.

Unshielded: A luminaire that may emit light in any direction.

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

Streetlight: A luminaire approved by the City Engineer to primarily provide illumination for the public right of way.

Uplighting: Shielded lighting that is directed in such a manner as to shine light rays above the horizontal plane.

2.112.03 PERMITTED LIGHTING & DESIGN STANDARDS

- A. Scope. These Standards shall apply to all exterior lighting in all zones, with the exception of:
1. Lighting installed in any zone prior to April 15, 2011.
 2. Lighting required by federal or state law that cannot meet the standards of section 2.112, or used by public safety personnel.
 3. Fossil Fuel Light: Fossil fuel light produced directly or indirectly by the combustion of a natural gas or other utility-type fossil fuels is exempt from the provisions of these Standards. All fossil fuel lighting shall include an opaque top.
- B. Light Trespass. The luminance of any light shall not create a private nuisance.
- C. Fully Shielded Lighting. Luminaries with light output greater than 1,000 lumens shall be fully shielded or recessed. With the exception of Uplighting, the shielding shall be angled provided that no light is directed above a twenty-five (25) degree angle measured from the vertical line from the center of the light extended to the ground.
- D. Partially Shielded Lighting. Luminaries with light output between 450 and 1,000 lumens shall be partially shielded or recessed.
- E. Unshielded Lighting. The following types of luminaires may be left unshielded under certain conditions.
1. Decorative Lighting: Luminaires shall be limited to small individual bulbs on a string where spacing of bulbs is not closer than three inches and where output per bulb is no greater than 50 lumens.
 2. Holiday Period Lighting. During the holiday period blinking, flashing, moving, revolving, flickering, changing intensity or color, and chase lights are permitted. The light output per luminaire shall not exceed 50 lumens, and shall be spaced a minimum of three inches apart.

3. Motion Activated Lighting: Luminaires may be left unshielded if all of the following conditions are met:
 - i. the light output does not exceed 1,800 lumens; and
 - ii. the light will go on only when motion activated; and
 - iii. the light goes off within ten minutes of motion cessation; and
 - iv. the light is not activated by any movement or activity located on adjacent property except by express permission of the adjacent property owner(s).
 4. Luminaires, except sign lighting, with light output less than 450 lumens.
- F. Uplighting. Uplighting may illuminate landscaping, structures, flags, and signs under the following conditions:
1. Landscaping Uplighting: The light output for landscaping uplight shall not exceed 900 lumens, and shall be directed solely onto the landscaping. The lighting shall be shielded. The full beam width shall not exceed 40 degrees.
 2. Structure Uplighting: The light output for structure uplight shall not exceed 900 lumens. The uplighting shall be directed solely onto the structure. The lighting shall be shielded. The full beam width shall not exceed 40 degrees.
 3. Flag Uplighting: The light output for flag uplight shall not exceed 3500 lumens. All uplighting shall be shielded. A spotlight shall be used for flag uplighting. The full beam width shall not exceed the width of the flag.
 4. Sign Uplighting. The light output for sign uplight shall not exceed 900 lumens. The uplighting shall be directed solely onto the sign. The lighting shall be shielded. The full beam width shall not exceed the width of the sign.
- G. Sign Lighting. Except otherwise provided in sections 2.206.01 to 2.206.07 of the Dundee Development Code (the sign code), all permanent signs may be internally illuminated, externally illuminated, or illuminated by exposed neon. The illumination of signs shall comply with the following standards:
1. When neon tubing is employed on the exterior or interior of a sign, the capacity of such tubing shall not exceed 300 milliampere rating for white tubing or 100 milliampere rating for any colored tubing. Exposed neon tube illumination is permitted on permanent signs in non-residential zoning districts only.
 2. No exposed reflective type bulb, PAR (parabolic aluminized reflector) spot or incandescent lamp, which incandescent lamp exceeds 250 lumens, shall be exposed to direct view from a public street or highway, but may be used for indirect light illumination of the display surface of a sign.

3. Exterior lighting shall meet the standards of 2.112.03 (F). The illumination level of all exterior sign lighting shall not exceed that necessary to illuminate and make legible a sign from the closest adjacent public right-of-way.
 4. When fluorescent tubes are used for interior illumination of a sign such illumination shall not exceed:
 - i. Within residential districts, illumination equivalent to 425 milliamper rating tubing behind a sign face with tubes spaced at least seven inches, center to center.
 - ii. Within non-residential districts, illumination equivalent to 800 milliamper rating tubing behind a sign face spaced at least nine inches, center to center.
- H. Minimum Requirements. To improve public safety, the illuminance levels for parking lots, sidewalks, and other walkways shall meet the minimum recommended illuminance levels and shall not exceed the maximum recommended illuminance levels listed in the most current IESNA Recommended Practices. (See References: IESNA RP-33-99 Lighting for Exterior Environments; IESNA RP-20-98 Lighting for Parking Facilities; IESNA DG 5-94 Recommended Lighting for Walkways and Class I Bikeways. See PGE Dark Sky Friendly Fixture Recommendations)
- I. Height Limit. Any freestanding luminaire shall not exceed 25 feet in height, with the exception of street lights. Any luminaire attached to a building shall not exceed the height limit of that zone. There shall be no height limit for holiday period lighting or decorative lighting.
- J. Equivalent Materials. The provisions of section 2.112 are not intended to prevent the use of any design, material or method of installation not specifically prohibited by this article provided any such alternate has been approved by the City Administrator or his/her designee. The City Administrator or his/her designee may approve any such alternate if the proposed design, materials or methods provide an equivalent or superior method of satisfying the standards in section 2.112.

2.112.04 PROHIBITED LIGHTING

The following types of lighting are prohibited in all zones:

- A. Lighting that may be confused with or construed as a traffic control device.
- B. Search lights, laser source lights or any similar high intensity light.
- C. Blinking, flashing, moving, revolving, flickering, changing intensity or color, and chase lights that are not part of a holiday period lighting display.
- D. Low pressure sodium lamps.
- E. Mercury vapor luminaire or lamps.

F. Drop (sag) lens luminaire.

2.112.05 APPROVAL PROCEDURES

A. Lighting Plan Required: Any building permit, Type IA, Type IB, or Type II application, where lighting is proposed shall include lighting plans in order to verify that new and existing lighting conforms to the provisions of these Standards. The lighting plan shall include:

1. A site plan showing the location of all building and building heights, parking, and pedestrian areas on the lot or parcel;
2. The location and height above grade of all proposed and existing light fixtures on the subject property;
3. The type, initial lumen rating, and shielding of each lamp source;
4. A photometric plan showing the footcandle level at the property line, and a copy of the manufactures catalog information sheet. A photometric plan is not required for a building permit application for single- and two-family dwellings.
5. Control descriptions including type of controls (timer, motion sensor, time clock, etc.), the light fixtures to be controlled by each type, and control schedule when required.

B. Any lighting that is not part of a building permit, Type IA, Type IB, or Type II application shall meet the requirements of section 2.112. However, no lighting plan is required to be submitted to the City for approval.

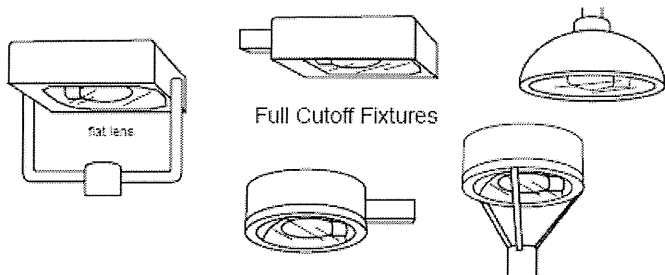
2.112.06 VARIANCE PROCEDURES

All variance requests regarding the standards of this chapter shall be processed as a major variance and follow the procedures contained in section 3.104.04.

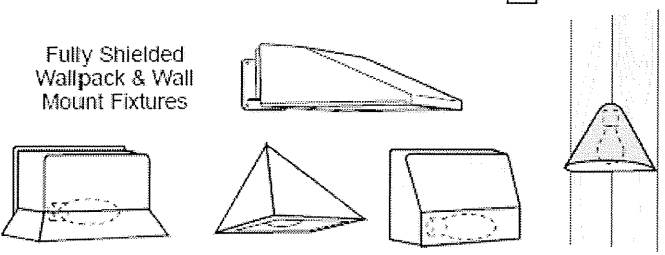
2.112.07 NON-CONFORMING LIGHTING

Exterior lighting installed prior to April 15, 2011 does not need to conform to the standards of section 2.112 until such time as the light fixture is replaced or April 15, 2021, whichever occurs first.

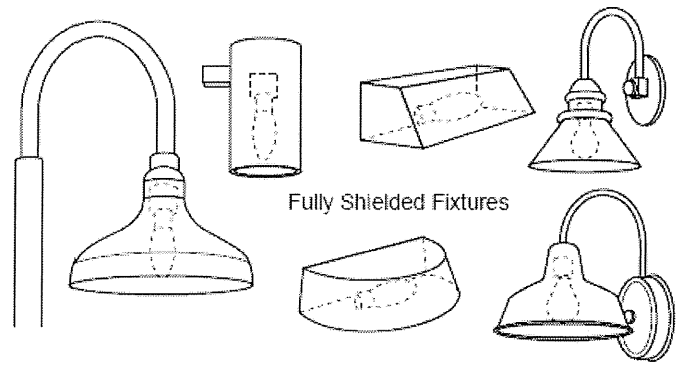
2.112.08 EXAMPLE ILLUSTRATIONS OF FULLY SHEILDED FIXTURES



Full Cutoff Fixtures



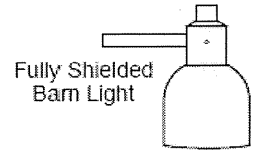
Fully Shielded Wallpack & Wall Mount Fixtures



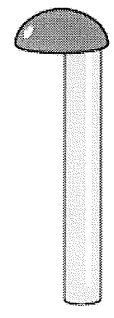
Fully Shielded Fixtures



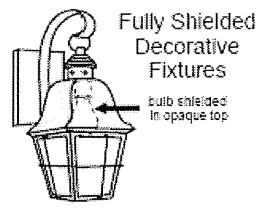
Full Cutoff Streetlight



Fully Shielded Barn Light

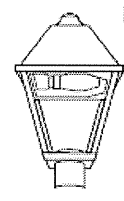


Fully Shielded Walkway Bollards



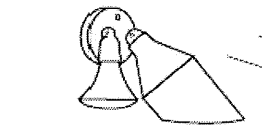
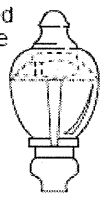
Fully Shielded Decorative Fixtures

bulb shielded in opaque top

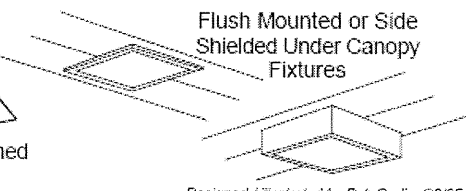


Fully Shielded 'Period' Style Fixtures

bulb shielded in opaque top



Shielded / Properly-aimed PAR Floodlights



Flush Mounted or Side Shielded Under Canopy Fixtures

Designed / illustrated by Bob Crelin ©2005

EXHIBIT “B”

Dundee Development Code Amendment
Section 2.112: Exterior Lighting Standards

FINDINGS

Note: Amendments are required to be consistent with all applicable local and state laws including the Dundee Comprehensive Plan and Statewide Planning Goals.

APPLICABLE LAWS

Oregon’s Statewide Planning Goals & Guidelines

GOAL 5: NATURAL RESOURCES, SCENIC AND HISTORIC AREAS, AND OPEN SPACES

OAR 660-015-0000(5)

- *Local governments shall adopt programs that will protect natural resources and conserve scenic, historic, and open space resources for present and future generations. These resources promote a healthy environment and natural landscape that contributes to Oregon’s livability.*
- *The efficient consumption of energy should be considered when utilizing natural resources.*

FINDINGS

Amending the Development Code to include regulations for exterior lighting will:

1. Help to minimize light pollution and improve to some degree the view of the night sky, which contributes to Dundee’s livability.
2. Help to increase the efficiency of exterior lighting and decrease energy consumption.