



**Illuminating**  
ENGINEERING SOCIETY



**JOINT IDA-IES**

**MODEL  
LIGHTING  
ORDINANCE**

***Lite***

**(DRAFT)**

# Joint IDA-IESNA Model Outdoor Lighting Ordinance (MLO) Lite

Table of Contents		page
I.	Preamble	3
II.	Lighting Zones	3
III.	General Requirements for All Outdoor Lighting	4
IV.	Requirements for Non-Residential Outdoor Lighting	5
V.	Requirements for Residential Outdoor Lighting	5
VI.	Lighting by Special Permit Only	6
VII.	Existing Lighting	6
VIII.	Enforcement and Penalties (Reserved)	7
IX.	Tables	7
X.	Definitions	9
XI.	(Optional) Street Lighting Ordinance	12

## I. Preamble

The purpose of this Ordinance is to provide regulations for outdoor lighting that will:

- a. Permit the use of outdoor lighting that does not exceed the minimum levels specified in IES recommended practices for nighttime safety, utility, security, productivity, enjoyment, and commerce.
- b. Minimize adverse offsite impacts of lighting such as light trespass, and obtrusive light.
- c. Curtail light pollution, reduce skyglow, reduce glare, and improve the nighttime environment in the interest of public safety.
- d. Help protect the natural environment from the adverse effects of artificial night lighting.
- e. Conserve energy and resources to the greatest extent possible.

## II. Lighting Zones

The Lighting Zone shall determine the limitations for lighting as specified in this Ordinance. Lighting Zones as discussed below are intended to be descriptive, but not definitive. The Lighting Zones shall be construed to mean the following:

### **LZ-0: No ambient lighting**

Areas where the natural environment will be seriously and adversely affected by lighting. Impacts include disturbing the biological cycles of flora and fauna and/or detracting from human enjoyment and appreciation of the natural environment. Human activity is subordinate in importance to nature. The vision of human residents and users is adapted to the darkness, and they expect to see little or no lighting. When not needed, lighting should be extinguished.

### **LZ-1: Low ambient lighting**

Areas where lighting might adversely affect flora and fauna or disturb the character of the area. The vision of human residents and users is adapted to low light levels. Lighting may be used for safety and convenience but it is not necessarily uniform or continuous. After curfew, most lighting should be extinguished or reduced as activity levels decline.

### **LZ-2: Moderate ambient lighting**

Areas of human activity where the vision of human residents and users is adapted to moderate light levels. Lighting may typically be used for safety and convenience but it is not necessarily uniform or continuous. After curfew, lighting may be extinguished or reduced as activity levels decline.

### **LZ-3: Moderately high ambient lighting**

Areas of human activity where the vision of human residents and users is adapted to moderately high light levels. Lighting is generally desired for safety, security and/or convenience and it is often uniform

and/or continuous. After curfew, lighting may be extinguished or reduced in most areas as activity levels decline.

### III. General Requirements

#### A. Conformance with All Applicable Codes

All outdoor lighting shall be installed in conformance with the provisions of this Ordinance, applicable Electrical and Energy Codes, and applicable sections of the Building Code.

#### B. Applicability

Except as described below, all outdoor lighting installed after the date of effect of this Ordinance shall comply with its requirements. This includes, but is not limited to, new lighting, replacement lighting, or any other lighting whether attached to structures, poles, the earth, or any other location, including lighting installed by any third party.

**Exemptions from III. (B.)** The following are not regulated by this Ordinance:

1. Lighting within public right-of-way or easement for the principal purpose of illuminating streets or roads. No exemption shall apply to any lighting within the public right of way or easement when the purpose of the luminaire is to illuminate areas outside the public right of way or easement, unless regulated with a street lighting ordinance.

***Note to adopting agency: if using the optional street lighting ordinance (Section XI), this exemption should read as follows:***

*Lighting within the public right-of-way or easement for the principal purpose of illuminating roads and highways. No exemption shall apply to any street lighting and to any lighting within the public right of way or easement when the purpose of the luminaire is to illuminate areas outside of the public right of way or easement.*

2. Lighting solely for signs (lighting for signs is regulated by the Sign Ordinance)
3. Repairs to existing luminaires on a property not exceeding 25% of total installed luminaires. (see Sec. VII(C)(1))
4. Temporary lighting for theatrical, television, performance areas and construction sites lasting no longer than ten (10) calendar days, except as allowed by permit at the discretion of the city/town manager.
5. Underwater lighting in swimming pools and other water features.
6. Temporary exterior lighting intended as holiday/seasonal decorations displayed between November 15 and the following January 15, provided that individual lamps do not exceed 70 lumens and neither cause light trespass nor interfere with the reasonable use and enjoyment of any other property.
7. Lighting that is only used under emergency conditions by emergency response personnel.

**Exceptions to III. (B.)** All lighting shall follow provisions in this Ordinance; however, any special requirements for lighting listed in (a) and (b) below shall supersede other Ordinance requirements.

- a. Lighting specified or identified in a specific use permit as described in Section VI.
- b. Lighting required by federal, state, territorial, commonwealth or provincial laws or regulations.

### **C. Lighting Control Requirements**

#### **1. Automatic Switching Requirements**

Controls shall be provided that automatically extinguish all outdoor lighting when sufficient daylight is available using a control device or system such as a photoelectric switch, astronomic time switch or equivalent functions from a programmable lighting controller, building automation system or lighting energy management system, all with battery or similar backup power or device.

#### **Exceptions to III. (C.) 1.**

Automatic lighting controls are not required for the following:

- a. Lighting under canopies.
- b. Lighting for tunnels, parking garages, garage entrances, and similar conditions.

#### **2. Automatic Lighting Reduction Requirements**

The Authority shall establish curfew time(s) after which total outdoor lighting lumens shall be reduced by at least 30% to match the usage needs of the illuminated space or extinguished if the space is unused or commonly unoccupied.

#### **Exceptions to III. (C.) 2.**

Lighting reductions are not required for any of the following:

- a. Exterior lighting of structures, landscape lighting, lighting for residential properties including multiple residential properties not having common areas.
- b. When the outdoor lighting consists of only one luminaire.
- c. Lighting for steps, stairs, walkways, and building entrances required by the Building Code.
- d. When, in the opinion of the Authority, a specific public safety hazard exists that can only be mitigated through the use of outdoor light.
- e. Motion activated lighting that automatically reduces in intensity by at least 50%, or extinguishes entirely, illumination within fifteen (15) minutes of activation due to inactivity.
- f. Lighting governed by a special use permit in which times of operation are specifically identified.
- g. Businesses that operate and are continuously staffed on a 24-hour basis.

### **D. Spectrum Control**

All lighting shall make use of lamps whose correlated color temperature does not exceed 3,000 Kelvins.

#### **Exceptions to III. (D.)**

The correlated color temperature of lighting may exceed 3,000 Kelvins in situations where the Authority determines that accurate color rendition is crucial to public safety or the activities of law enforcement. In no case shall the correlated color temperature of such critical lighting exceed 5,000 Kelvins.

## IV. Non-Residential Lighting

For all non-residential properties, and for multiple residential properties of seven domiciles or more and having common outdoor areas, all outdoor lighting shall comply with the provisions of this section.

### 1. Total Site Lumen Limit

The total installed initial lumens of all outdoor lighting shall not exceed the total site lumen limit for the Lighting Zone specified in Section IX. The applicable total site lumen limit shall be determined using either the Parking Space Method (Section IX, Table A) or the Hardscape Area Method (Section IX, Table B). Only one method shall be used per permit application, and any existing lighting shall be included in the calculation of total installed initial lumens.

The total installed initial lumens is the sum of the initial lumens for all luminaires installed at a given site.

### 2. Limits to Off Site Impacts

All luminaires shall be rated and installed according to Section IX, Table C.

### 3. Light Shielding for Parking Lot Illumination

All luminaires illuminating a parking lot shall be fully shielded.

## V. Residential Lighting

### A. General Requirements

For residential properties including multiple residential properties not having common areas, all outdoor luminaires shall be fully shielded and shall not exceed the allowed lumen output in Section IX, Table D, Row 2.

#### Exceptions to V.(A.)

1. One partly shielded or unshielded luminaire at the main entry, not exceeding the lumen output in Section IX, Table D, Row 1.
2. Any other partly shielded or unshielded luminaires not exceeding the allowed lumen output in Section IX, Table D, Row 3.
3. Low-voltage landscape lighting aimed away from adjacent properties and not exceeding the allowed lumens in Section IX, Table D, Row 4.
4. Shielded directional flood lighting (1) aimed so that the light-emitting lamp element is not visible from any other property, and (2) not exceeding the allowed lumen output in Section IX, Table D, Row 5.
5. Open-flame gas lamps.
6. Lighting installed with a motion-activated vacancy sensor in which the sensor extinguishes the lights no more than fifteen (15) minutes after the area is vacated.
7. Lighting exempt per Section III (B.).

### B. Requirements for Residential Landscape Lighting

1. Shall comply with Section IX, Table D.
2. Shall not be aimed such that its direct illumination is visible from any other property.

## **VI. Lighting Allowed By Special Use Permit Only**

### **A. High Intensity and Special Purpose Lighting**

The following lighting systems are prohibited from being installed or used except by special use permit:

1. Temporary lighting in which any single luminaire exceeds 20,000 lumens or the total quantity of light exceeds 160,000 lumens.
2. Other very intense lighting, defined as having a light source of a luminous flux exceeding 200,000 initial lumens or a radiant intensity in any direction of more than 2,000,000 candelas.

### **B. Complex and Non-Conforming Uses**

Upon special permit issued at the discretion of the Authority, lighting not in compliance with the technical requirements of this Ordinance but consistent with its intent may be installed for complex sites or uses or special uses including, but not limited to, the following applications:

1. Outdoor sports facilities, including but not limited to unconditioned rinks, open courts, fields, and stadiums. Such lighting must be fully extinguished by 10PM or one hour after the end of play, whichever comes first, and must be fitted with automatic timers to prevent lighting from operating inadvertently after this time.
2. Lighting for industrial sites having special requirements, such as petrochemical manufacturing or storage, shipping piers, etc.
3. Parking structures. Uncovered top decks of parking structures shall be regulated according to Sec. IV. (3.)
4. Urban parks
5. Theme and amusement parks, during normal operating hours and when otherwise occupied.

To obtain such a permit, applicant(s) shall certify by written statement that:

- a. Every reasonable effort has been undertaken to mitigate the effects of light on both the environment and surrounding properties
- b. Employs lighting controls to reduce lighting at a Project Specific Curfew ("Curfew") time to be established in the Permit.

The applicant shall furnish documentation describing the nature and scope of all mitigation efforts undertaken. The Authority shall review each such application and duly grant a permit if the Authority believes that the proposed lighting will not create unwarranted glare, skyglow, or light trespass.

## **VII. Existing Lighting**

Lighting installed prior to the effective date of this Ordinance shall comply with the following.

### **A. Enactment**

This provisions of, and penalties for non-compliance with, this Ordinance shall be considered in full effect as of the effective date of this ordinance. All outdoor lighting installed after the effective date must fully comply with all of its provisions. Non-compliant outdoor lighting installed before the effective date must be brought into compliance with all of its provisions in no more than 7 (seven) years after the effective date.

### **B. New Uses of Structures, or Change of Use**

If any of the following situations applies to a given property, then all outdoor lighting on the property shall be brought into compliance with this Ordinance before the new or changed use commences:

### **Additions or Alterations**

#### **1. Major Additions**

If a major addition occurs on a property, lighting for the entire property shall comply with all requirements of this Ordinance. For purposes of this section, the following are considered to be major additions:

- a) Additions of 25 percent or more in terms of additional dwelling units, gross floor area, seating capacity, or parking spaces, either with a single addition or with cumulative additions after the effective date of this Ordinance.
- b) Single or cumulative additions, modification or replacement of 25 percent or more of installed outdoor lighting luminaires existing as of the effective date of this Ordinance.

#### **2. Minor Modifications, Additions, or New Lighting Fixtures for Non-residential and Multiple Dwellings**

For non-residential and multiple dwellings, all additions, modifications, or replacement of more than 25 percent of outdoor lighting fixtures existing as of the effective date of this Ordinance shall require the submission of a complete inventory and site plan detailing all existing and any proposed new outdoor lighting. The site plan shall include a description of proposed actions to bring all site lighting into full compliance with the provisions of this Ordinance.

#### **3. Resumption of Use after Abandonment**

If a property with non-conforming lighting is deemed abandoned by the Authority for a period of six months or more, then all outdoor lighting shall be brought into compliance with this Ordinance before any further use of the property occurs, inclusive of zoning changes before re-occupation is permitted.

## **VIII. Enforcement And Penalties**

(RESERVED)

## **IX. Tables**

**Table A. Allowed total initial lumens per site for non-residential outdoor lighting, per-parking space method.** May only be applied to properties up to 10 parking spaces (including handicap-accessible spaces).

<b>LZ-0</b>	<b>LZ-1</b>	<b>LZ-2</b>	<b>LZ-3</b>
350 lumens per space	490 lumens per space	630 lumens per space	840 lumens per space

**Table B. Allowed total initial lumens per site for non-residential outdoor lighting, hardscape area method**



May be used for any project. When lighting intersections of site drives and public streets or road, a total of 600 square feet (SF) for each intersection may be added to the actual site hardscape area to provide for intersection lighting.

LZ-0	LZ-1	LZ-2	LZ-3
0.5 lumens per SF of hardscape	1.0 lumens per SF of hardscape	2.0 lumens per SF of hardscape	3.0 lumens per SF of hardscape

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**Table B. Allowed lumens per square foot**

	LZ-0	LZ-1	LZ-2	LZ-3
Base allowance of lumens per SF of hardscape	0.5	1.0	2.0	3.0
<b>Additional allowances for sales and service facilities. No more than two (2) additional allowances per site; use it or lose it.</b>				
<b>Outdoor Sales Lots.</b> This allowance is lumens per square foot of un-covered sales lots used exclusively for the display of vehicles or other merchandise for sale, and may not include drive-ways, parking or other non-sales areas. To use this allowance, luminaires must be within two (2) mounting heights of sales lot area.	0	4 lumens per square foot	8 lumens per square foot	12 lumens per square foot
<b>Outdoor Sales Frontage.</b> This allowance is for linear feet of sales frontage immediately adjacent to the principal viewing location(s) and un-obstructed for its viewing length. A corner sales lot may include two adjacent sides provided that a different principal viewing location exists for each side. In order to use this allowance, luminaires must be located between the principal viewing location and the frontage outdoor sales area.	0	0	800 per linear foot	1,200 per linear foot
<b>Drive Up Windows.</b> In order to use this allowance, luminaires must be within 20 feet horizontal distance of the center of the window.	0	2,000 lumens per drive-up window	4,000 lumens per drive-up window	6,000 lumens per drive-up window
<b>Vehicle Service Station.</b> This allowance is lumens per installed fuel pump.	0	4,000 lumens per pump	8,000 lumens per pump	12,000 lumens per pump

**Table C. Maximum allowable backlight, uplight and glare (BUG) ratings**

May be used for any project. A luminaire may be used if it is rated for the lighting zone of the site or lower in number for all ratings U and G. Luminaires equipped with adjustable mounting devices permitting alteration of luminaire aiming in the field shall not be permitted.

<b>TABLE C-1</b>	LZ-0	LZ-1	LZ-2	LZ-3
Allowed uplight rating	U0	U1	U2	U2
Allowed uplight rating for street or area lighting	U0	U0	U0	U0

<b>TABLE C-2</b>	LZ-0	LZ-1	LZ-2	LZ-3
Allowed glare rating	G0	G1	G2	G2

**Table D. Residential lighting limits**

	LZ-0	LZ-1	LZ-2	LZ-3
<b>Row 1</b> Maximum allowed lumens for unshielded luminaires at one entry only	Not allowed	420	630	630
<b>Row 2</b> Maximum allowed lumens for each fully shielded luminaire	630	1,260	1,260	1,260
<b>Row 3</b> Maximum allowed lumens for each unshielded luminaire excluding main entry	Not allowed	315	315	315
<b>Row 4</b> Maximum allowed lumens for each landscape lighting	Not allowed	Not allowed	1,050	2,100
<b>Row 5</b> Maximum allowed lumens for each shielded directional flood lighting	Not allowed	Not allowed	1,260	2,100

## X. Definitions

<b>Absolute Photometry</b>	Photometric measurements (usually of a solid-state luminaire) that directly measures the footprint of the luminaire. Reference Standard IES LM-79
<b>Architectural Lighting</b>	Lighting designed to reveal architectural beauty, shape and/or form and for which any other function is incidental.
<b>Authority</b>	The adopting municipality, agency or other governing body.
<b>Astronomic Time Switch</b>	An automatic lighting control device that switches outdoor lighting relative to time of solar day with time of year correction without directly sensing ambient light conditions.
<b>Backlight</b>	For an exterior luminaire, lumens emitted in the quarter sphere below horizontal and in the opposite direction of the intended orientation of the luminaire. For luminaires with symmetric distribution, backlight will be the same as front light.
<b>BUG</b>	A luminaire classification system that specifies backlight (B), uplight (U) and glare (G).
<b>Canopy</b>	A covered, unconditioned structure with at least one side open for pedestrian and/or vehicular access. (An unconditioned structure is one that may be open to the elements and has no heat or air conditioning.)
<b>Common Outdoor Areas</b>	One or more of the following: a parking lot; a parking structure or covered vehicular entrance; a common en-

	trance or public space shared by all occupants of the associated domicile(s).
<b>Curfew</b>	A regular period of time defined by the Authority when outdoor lighting is reduced or extinguished. The hours of day in question may be seasonally adjusted, at the Authority's discretion, to account for annual variation in the length of the day.
<b>Emergency conditions</b>	Exigent circumstances in which temporary lighting may be required by emergency personnel, law enforcement, civil defense or other local authorities to assist in natural disaster response/recovery, suspected criminal activity, or threats to life, safety, or public/private property. It may consist of, but is not limited to, (1) lighting fed from a backup power source, (2) lighting for illuminating the path of egress solely during a fire or other emergency situation, and/or (3) lighting for security purposes used solely during an alarm.
<b>Foot-candle (fc)</b>	A unit of illuminance expressing the quantity of light received on a surface of specified area. One footcandle is the illuminance produced by a candle flame on a one square foot surface at a distance of one foot.
<b>Full Shielding/Fully-Shielded Luminaire</b>	A luminaire constructed and installed in such a manner that all light emitted by the luminaire, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected below the horizontal plane through the luminaire's lowest light-emitting part. Such a luminaire emits no light at an angle greater than or equal to ninety (90) degrees defined with respect to the nadir.
<b>Glare</b>	Lighting entering the eye directly from luminaires or indirectly from reflective surfaces that causes visual discomfort or reduced visibility.
<b>Hardscape</b>	Permanent improvements to a site including (but not limited to) parking lots, drives, entrances, curbs, ramps, stairs, steps, medians, walkways and non-vegetated landscaping that is ten (10) feet or less in extent measured away from edges of structures. Hardscape materials may include concrete, asphalt, stone, gravel and similar substances.
<b>Hardscape Area</b>	The area measured in square feet of all hardscape. It is used to calculate the Total Site Lumen Limit. Refer to Hardscape definition.
<b>Hardscape Perimeter</b>	The perimeter measured in linear feet is used to calculate the Total Site Lumen Limit. Refer to Hardscape definition.
<b>IDA</b>	International Dark-Sky Association.
<b>IESNA</b>	Illuminating Engineering Society of North America.

<b><i>Illuminance</i></b>	The quantity of light striking a surface, which varies with distance and angle. Also known as luminous flux density.
<b><i>Initial Lumens</i></b>	The total illuminance of luminaire assuming it is new and not subject to diminution of light output due to age or condition.
<b><i>Lamp</i></b>	A generic term for a source of optical radiation (i.e. "light"), often called a "bulb" or "tube". Examples include incandescent, fluorescent, high-intensity discharge (HID) lamps, and low pressure sodium (LPS) lamps, as well as LED modules and arrays.
<b><i>Landscape Lighting</i></b>	Lighting of trees, shrubs, or other plant material as well as ponds and other landscape features for which any other function is incidental.
<b><i>LED</i></b>	Light-Emitting Diode. This can refer to an entire lamp or an individual element of a lamp.
<b><i>Light Pollution</i></b>	Any adverse effect of artificial light including, but not limited to: glare, light trespass, sky-glow, energy waste, compromised safety and security, and impacts on the nocturnal environment.
<b><i>Light Trespass</i></b>	Any light that falls beyond the legal boundaries of the property it is intended to illuminate.
<b><i>Lighting</i></b>	"Electric," "man-made," or otherwise "artificial" lighting. See "lighting equipment".
<b><i>Lighting Equipment</i></b>	Equipment specifically intended to provide gas or electric illumination, including but not limited to: lamp(s), luminaire(s), ballast(s), poles, posts, lens(s), and related structures, electrical wiring, and other necessary or auxiliary components.
<b><i>Lighting Zone</i></b>	An overlay zoning system establishing legal limits for lighting for particular parcels, areas, or districts in a community.
<b><i>Low-Voltage Landscape Lighting</i></b>	Landscape lighting powered at less than 15 volts (V) and limited to luminaires consisting of a rated initial lumen output of 525 lumens or less.
<b><i>Lumen (lm)</i></b>	A unit of luminous flux used to quantify the amount of light produced by a lamp or emitted from a luminaire that is independent of the distance between the lamp and the viewer. If a light source emits one candela of luminous intensity uniformly across a solid angle of one steradian, the total luminous flux emitted into that angle is one lumen. It is distinct from the Watt, a measure of power consumption.
<b><i>Luminaire</i></b>	The complete lighting unit (fixture), consisting of a lamp, or lamps and ballast(s) (when applicable), together with the parts designed to distribute the light (reflector, lens, diffuser), to position and protect the lamps, and to con-

	nect the lamps to the power supply. The lumen rating of a luminaire assumes the lamp or luminaire is new and has not depreciated in light output; see Initial Lumens.
<b>Lux</b>	The SI unit of illuminance. One lux is defined as one lumen per square meter of illuminated surface and is approximately equal to 0.1 foot-candle.
<b>Mounting Height</b>	The height of the photometric center of a luminaire above grade level.
<b>Nadir</b>	The local direction corresponding to the vector between any point on the surface on the Earth and the center of the Earth, which may be visualized with the use of a plumb bob.
<b>New Lighting</b>	Lighting for areas not previously illuminated; newly installed lighting of any type except for replacement lighting or lighting repairs.
<b>Object</b>	Any permanent structure or thing located above ground on a site that can receive illumination. Examples of objects include statues or artwork, garages or canopies, and outbuildings.
<b>Object Height</b>	The highest point of an object, specifically not inclusive of antennas or similar structures.
<b>Ornamental Lighting</b>	Lighting that does not impact the function and safety of an area but is purely decorative, or used to illuminate architecture and/or landscaping, and installed for aesthetic effect and for which any other function is incidental.
<b>Ornamental Street Lighting</b>	A luminaire intended for illuminating streets that also serves a decorative function. It typically has an historical period appearance or decorative appearance, and has the following design characteristics: <ul style="list-style-type: none"> <li>· designed to mount on a pole using an arm, pendant, or vertical tenon;</li> <li>· opaque or translucent top and/or sides;</li> <li>· an optical aperture that is either open or enclosed with a flat, sag or drop lens;</li> <li>· mounted in a fixed position; and</li> <li>· with its photometric output measured using Type C photometry per IESNA LM-75-01.</li> </ul>
<b>Outdoor Lighting</b>	Lighting equipment installed within the property line and outside the building envelopes, whether attached to poles, building structures, the earth, or any other location; and any associated electrical transmission lines and lighting control equipment.
<b>Partly Shielded Luminaire</b>	A luminaire with opaque top and translucent or perforated sides, designed to emit the majority of its light downward.
<b>Photometric Center</b>	The location in space within a luminaire from which all

	light emitted by the lamp would proceed to issue if the lamp were replaced with a point source emitter.
<b>Photoelectric Switch</b>	A control device employing a photocell or photodiode to detect daylight and automatically switch lights off when sufficient daylight is available.
<b>Property line</b>	The edges of the legally-defined extent of privately owned property.
<b>Relative Photometry</b>	Photometric measurements made of the lamp plus luminaire, and adjusted to allow for light loss due to reflection or absorption within the luminaire. (Reference standard IES LM-63)
<b>Repair(s)</b>	The reconstruction or renewal of any part of an existing luminaire for the purpose of its ongoing operation, other than relamping or replacement of components including capacitor, ballast or photocell. Note that retrofitting a luminaire with new lamp and/or ballast technology is not considered a repair and for the purposes of this Ordinance the luminaire shall be treated as if new. "Repair" does not include normal relamping or replacement of components including capacitor, ballast or photocell.
<b>Replacement Lighting</b>	Lighting installed specifically to replace existing lighting that is inoperable or broken or damaged beyond repair.
<b>Sales area</b>	Uncovered area used for sales of retail goods and materials, including but not limited to automobiles, boats, tractors and other farm equipment, building supplies, and gardening and nursery products.
<b>Seasonal Lighting</b>	Temporary lighting installed and operated in connection with holidays or traditions.
<b>Shielded Directional Luminaire</b>	A luminaire that includes an adjustable mounting device allowing aiming in any direction and contains a shield, louver, or baffle to reduce direct view of the lamp.
<b>Sign</b>	Advertising, directional or other outdoor promotional display of art, words and/or pictures.
<b>Skyglow</b>	The brightening of the nighttime sky that results from scattering and reflection of artificial light by moisture and dust particles in the atmosphere and has the effect of reducing one's ability to view the night sky.
<b>Temporary lighting</b>	Lighting installed and operated for periods not to exceed 60 days, completely removed and not operated again for at least 30 days.
<b>Third Party</b>	A party contracted to provide lighting, such as a utility company.
<b>Time Switch</b>	An automatic lighting control device that switches lights according to time of day.
<b>Total Site Lumen Limit</b>	The maximum luminous flux, in lumens, allowed from all outdoor luminaires on a location of defined boundaries,

	calculated as the sum of the luminous flux of each individual luminaire within said boundaries.
<b>Translucent</b>	Allowing light to pass through, diffusing it so that objects beyond cannot be seen clearly (neither transparent nor clear).
<b>Unshielded Luminaire</b>	A luminaire capable of emitting light in any direction including downwards.
<b>Uplight</b>	For an exterior luminaire, flux radiated in the hemisphere at or above the horizontal plane defined perpendicular to the nadir direction at the photometric center of the luminaire.
<b>Vertical Illuminance</b>	Illuminance measured or calculated in a plane perpendicular to the site boundary or property line.

## XI. (Optional) Street Lighting Ordinance

*(Note to the adopting authority: the intent of this section is that it only applies to streets and not to roadways or highways.)*

### A. Preamble

The purpose of this Ordinance is to control the light pollution of street lighting, including all collectors, local streets, alleys, sidewalks and bikeways, as defined by ANSI/IES RP-8 Standard Practice for Roadway and Street Lighting and in a manner consistent with the Model Lighting Ordinance.

### B. Definitions

1. **Roadway or Highway Lighting:** Lighting provided for freeways, expressways, limited access roadways, and roads on which pedestrians, cyclists, and parked vehicles are generally not present. The primary purpose of roadway or highway lighting is to help the motorists remain on the roadway and assist with the detection of obstacles within and beyond the range of a vehicle's headlights.
2. **Street Lighting:** Lighting provided for major, collector, and local roads where pedestrians and cyclists are generally present. The primary purpose of street lighting is to help the motorist identify obstacles, provide adequate visibility of pedestrians and cyclists, and assist in visual search tasks, both on and adjacent to the roadway.
3. **Ornamental Street Lighting:** is defined as a Luminaires intended for illuminating streets that also serves a decorative function. It has an historical period appearance or decorative appearance, and has the following design characteristics:
  - a. Designed to mount on a pole using an arm, pendant, or vertical tenon;
  - b. Opaque or translucent top and/or sides;
  - c. An optical aperture that is either open or enclosed with a flat, sag or drop lens;
  - d. Mounted in a fixed position; and
  - e. With its photometric output measured using Type C photometry per IESNA LM-75-01.

### C. Scope



All street lighting not governed by regulations of federal, state or other superseding jurisdiction is subject to all provisions of this Ordinance.

EXCEPTION: lighting systems mounted less than 10.5 feet above street level and having less than 1,000 initial lumens each.

#### **D. Master Lighting Plan**

The Authority shall develop a Master Lighting Plan based on the American Association of State Highway and Transportation Officials (AASHTO) Roadway Lighting Design Guide GL-6, October 2005, Chapter 2. Such plan shall include, but not be limited to, the Adoption of Lighting Zones and:

1. The goals of street lighting in the jurisdiction by Lighting Zone
2. An assessment of the safety and security issues in the jurisdiction by Lighting Zone
3. Environmentally judicious use of resources by Lighting Zone
4. Energy use and efficiency by Lighting Zone
5. Curfews to reduce or extinguish lighting when no longer needed by Lighting Zone

#### **E. Warranting**

The Authority shall establish a warranting process to determine whether lighting is required. Such warranting process shall not assume the need for any lighting nor for continuous lighting unless conditions warrant the need. Lighting shall only be approved for installation where warranted.

#### **F. Light Shielding and Spectrum**

All street lighting shall be fully shielded, and its correlated color temperature shall not exceed 3,000 Kelvins.