

## **ARTICLE VIII B OUTDOOR LIGHTING**

### **8B.1 General Provisions.**

a. Title – Article VIII B together with the amendments thereto, shall be known and may be cited as the Hailey Outdoor Lighting Ordinance.

b. Purposes – The general purpose of Article VIII B is to protect and promote the public health, safety and welfare, the quality of life, and the ability to view the night sky, by establishing regulations and a process for review of exterior lighting. This Article establishes standards for exterior lighting in order to accomplish the following:

1. To provide safe roadways for motorists, cyclists and pedestrians;
2. To protect against direct glare and excessive lighting;
3. To ensure that sufficient lighting can be provided where needed to promote safety and security;
4. To prevent light trespass in all areas of the City;
5. To protect and reclaim the ability to view the night sky;
6. To allow for flexibility in the style of lighting fixtures;
7. To provide lighting guidelines;
8. To provide assistance to property owners and occupants in bringing non-conforming lighting into conformance with this Article; and
9. To work with other jurisdictions within Blaine County to meet the purposes of this Article.

### **8B.2 Applicability.**

8B.2.1 New Lighting. All exterior lighting installed after the effective date of this Article shall conform to the standards established by this Article.

8B.2.2 Existing Lighting. All existing exterior lighting installed before the effective date of this Article shall be brought into conformance with this Article, except Section 8B.4.3, within the following time periods:

a. All existing exterior lighting located on a subject property that is part of an application for design review approval, a conditional use permit, subdivision approval, or a building permit is required to be brought into conformance with this Article before issuance of a Certificate of Occupancy, final inspection or final plat recordation, when applicable. For other permits, the applicant shall have a maximum of thirty (30) days from date of permit issuance to bring the lighting into conformance.

b. All other existing exterior lighting on property used for commercial purposes that is not in conformance with this Article shall be brought into conformance with this Article.

c. All existing exterior lighting on property used for residential, institutional, public and semi-public uses, not affected by Section 8B.2.2 (1) above, that does not comply with this Article is required to be brought into conformance with this Article.

d. All existing exterior lighting subject to the Street Lighting Master Plan, referenced by Hailey Ordinance No. 1057 and adopted by Resolution No. 2010-11, shall be brought into conformance with this Article as specified by the Street Lighting Master Plan. (Ord. 1068 §1-8, 2010)

8B.3 Definitions. Unless specifically defined below, words or phrases used in this Article shall be interpreted so as to give them the meaning they have in common usage and to give this Section its' most reasonable application.

Area light. A luminaire equipped with a lamp that produces over one thousand eight hundred (1,800) lumens. Area lights include, but are not limited to, streetlights, parking lot lights and yard lights. (See Table 1, for light output of various lamps).

Average horizontal footcandle. The average level of illuminance for a given situation (with snow cover if that is to be expected in the given situation) measured at ground level with the light meter placed parallel to the ground.

Building Official. The City of Hailey Building Official.

Eighty-five (85) degree cut-off type of luminaires. Luminaires that do not allow light to escape above an eighty-five (85) degree angle measured from a vertical line from the center of the lamp extended to the ground. (see Figure 2)

Exterior lighting. Temporary or permanent lighting that is installed, located or used in such a manner to cause light rays to shine outdoors. Luminaires that are indoors that are intended to light something outside are considered exterior lighting for the purpose of this Article.

Flood light. A lamp that produces up to one thousand eight hundred (1,800) lumens and is designed to flood a well-defined area with light. (See Table 1 for light output of various lamps)

Footcandle (fc). The American unit used to measure the total amount of light cast on a surface (illuminance). One footcandle is equivalent to the illuminance produced by a source of one candle at a distance of one foot. For example, the full moon produces .01 s. s are measured with a light meter. One footcandle is approximately equal to ten (10) lux, the British unit used to measure illuminance.

Full cut-off luminaires. A luminaire designed and installed where no light is emitted at or above a horizontal plane running through the lowest point on the luminaire. (See Figure 1)

Fully shielded. The luminaire incorporates a solid barrier (the shield), which permits no light to escape through the barrier. (See Figure 4)

Glare. Stray, unshielded light striking the eye that may result in (a) nuisance or annoyance glare such as light shining into a window; (b) discomfort glare such as bright light causing squinting of the eyes; (c) disabling glare such as bright light reducing the ability of the eyes to see into shadows or (d) reduction of visual performance.

Holiday lighting. Strings of individual lamps, where the lamps are at least three inches apart and the output per lamp is not greater than fifteen (15) lumens.

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

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

IESNA Recommended Practices. The current publications of the IESNA setting forth illuminance levels.

Induction Lighting. A light source that transmits energy via an electro-magnetic field, without the metal electrical contacts used to conduct electricity from the fixture to the light-emitting gas inside the Lamp, which increases the energy efficiency and life span compared to traditional Lamp types. (Ord. 1068 §1-8, 2010)

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

LED (Light Emitting Diode) Lighting. A semiconductor light source available across the visible, ultraviolet and infrared wavelengths, capable of producing a greater number of Lumens per watt and having a longer life span compared to traditional Lamp types. (Ord. 1068 §1-8, 2010)

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

Light pollution. Any adverse effect of manmade light including, but not limited to, discomfort to the eye or diminished vision due to glare, light trespass, uplighting, the uncomfortable distraction to the eye, or any manmade light that diminishes the ability to view the night sky.

Light trespass. Light falling on the property of another or the public right-of-way when it is not required to do so.

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

Lighting Administrator. A City official designated by the Planning & Zoning Administrator to administer, interpret, and enforce the Hailey Outdoor Lighting Ordinance, and make recommendations thereunder.

Lumen. The unit used to quantify the amount of light energy produced by a lamp at the lamp. Lumen output of most lamps is listed on the packaging. For example, a 60-watt incandescent lamp produces 950 lumens while a 55-watt low-pressure sodium lamp produces 8000 lumens.

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”.

Maintained illuminance. The condition that occurs after 200 hours of lamp use prior to a point where luminaire cleaning is necessary. Measurements are taken at ground level with sensor parallel to the ground for horizontal illuminance and measured at 5 feet above ground with sensor perpendicular to the ground for vertical illuminance.

Non-essential lighting. Lighting that is not necessary for an intended purpose after the purpose has been served. Does not include any lighting used for safety and/or public circulation purposes.

Partially shielded. The luminaire incorporates a translucent barrier, the “partial shield” around the lamp that allows some light to pass through the barrier while concealing the lamp from the viewer. (See Figure 3)

Planning and Zoning Administrator. The City of Hailey Planning and Zoning Administrator.

Skyglow. The overhead glow from light emitted sideways and upwards. Skyglow is caused by the reflection and scattering of light by dust, water vapor and other particles suspended in the atmosphere. Skyglow reduces one’s ability to view the night sky.

Street Lighting Master Lighting Plan. An exterior luminaire plan, established by Hailey Zoning Ordinance No. 1057, for existing luminaires owned and maintained by Idaho Power. (Ord. 1068 §1-8, 2010)

Temporary lighting. Lighting that is intended to be used for a special event for seven days or less.

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

(Ord. 1068 §1-8, 2010)

## 8B.4 Outdoor Lighting Standards.

### 8B.4.1 General Standards.

- a. All exterior lighting shall be designed, located and lamped in order to prevent:
  1. Overlighting;
  2. Energy waste;
  3. Glare;
  4. Light Trespass;
  5. Skyglow.
- b. All non-essential exterior commercial and residential Lighting should be turned off after business hours and/or when not in use. Lights should be on a timer. Security lighting should be sensor activated.
- c. Idaho Power shall not install any luminaires after the effective date of this Article that lights the public right of way without first receiving approval for any such application by the Lighting Administrator.
- d. All Exterior Lighting shall be Full Cut-Off Luminaires with the Light source downcast and fully shielded, unless exceptions are specified in Section 8B.4.2, Type of Luminaires.  
(Ord. 1068 §1-8, 2010)

8B.4.2 Type of Luminaires. All exterior lighting shall use full cut-off luminaires with the light source downcast and fully shielded, with the following exceptions:

a. All Luminaires, excluding LED or Induction Lighting, that have a maximum output of four hundred (400) lumens per fixture, regardless of number of lamps (equal to one forty [40] watt incandescent light), may be left unshielded provided the luminaire has an opaque top or is under an opaque structure. (see Figure 5)

b. All Luminaires, excluding LED or Induction Lighting, that have a maximum output of one thousand (1,000) lumens per fixture, regardless of number of lamps (equal to one sixty [60] watt incandescent light) may be partially shielded provided the lamp is not visible, and the luminaire has an opaque top or is under an opaque structure. (See Figure 3)

c. Floodlights with external 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, and only if the Luminaire does not cause glare or Light to shine on adjacent property or public rights-of-way (see Figure 6). Floodlights should use photocells with timers and should go on at dusk and off by 11:00 p.m.

d. Residential Holiday Lighting from November 1<sup>st</sup> to February 1<sup>st</sup>. Flashing holiday lights on residential properties are discouraged. Holiday lights should be turned off by 11:00 p.m.

e. Commercial Holiday Lighting from November 1<sup>st</sup> to March 15<sup>th</sup>. Flashing holiday lights are prohibited. Holiday lights should be turned off after the close of business.

f. Sensor activated luminaires, provided:

1. It is located in such a manner as to prevent glare and lighting onto properties of others or into a public right-of-way;

2. The luminaire is set to only go on when activated and to go off within five minutes after activation has ceased;

3. The luminaire shall not be triggered by activity off the property.

g. Vehicular lights and all temporary emergency lighting needed by the Fire and Police Departments, or other emergency services.

h. Uplighting for flags provided the flag is of a government and the maximum lumen output is one thousand three hundred (1,300) lumens. Flags should be taken down at sunset to void the need for lighting.

i. Lighting of radio, communication and navigation towers; provided the owner or occupant demonstrates that the Federal Aviation Administration (FAA) regulations can only be met through the use of lighting that does not comply with Article VIII B, and that the provisions of Article VIII A.7.4 (d) are otherwise met.

j. Airport Lighting. Lighting at Friedman Memorial Airport, provided the owner or occupant demonstrates that the Federal Aviation Administration (FAA) regulations can only be met through the use of lighting that does not comply with this Article.

k. Neon Lights. Neon lights permitted pursuant to the sign ordinance, Section 8.2, et seq.

l. Luminaires used for playing fields, provided the Light is used only while the field is in use and Illuminance levels listed in the most current IESNA Recommended Practices are not exceeded. The City of Hailey recognizes that not every playing field will require lighting to the extent listed in the most current IESNA Recommended Practices.  
(Ord. 1068 §1-8, 2010)

8B.4.3 Placement and Height of Luminaires.

a. Parking area Luminaires shall be no taller than seventeen (17) feet from the ground to their tallest point. Parking area lights should be greater in number, lower in height and lower in light level, as opposed to fewer in number, higher in height and higher in Light level.

b. Freestanding Luminaires on private property in residential zones shall be mounted at a height equal to or less than the sum of  $H=(D/3)+3$ , where D is the distance in feet to the nearest property boundary, but shall not be higher than fifteen (15') from ground level to the top of the Luminaire, whichever is less. Example:

<u>Pole Height</u>	<u>Distance to Property Line</u>
15 feet	36 feet ( $36/3 = 12+3=15$ )
12 feet	27 feet ( $27/3 = 9+3=12$ )
9 feet	18 feet ( $18/3 = 6+3=9$ )

c. Streetlights used on arterial roads may exceed twenty-five (25) feet in height, with the recommendation by the City Engineer, and only with a finding that exceeding 25 feet is necessary to protect the safety of the residents of Hailey.

d. Luminaires used for playing fields, shall be exempt from the height restriction the Light is used only while the field is in use. Illuminance levels listed in the most current IESNA Recommended Practices shall not be exceeded. The City of Hailey recognizes that not every playing field will require Lighting to the extent listed by the most current IESNA Recommended Practices.

(Ord. 1068 §1-8, 2010)

#### 8B.4.4 Illuminance and Type of Lamp.

a. LED, Induction, or some other form of energy efficient Lighting should be used whenever possible.

b. Illuminance levels for parking lots, sidewalks, and other walkways affected by side-mounted building lights, and freestanding sidewalk lights (not streetlights) shall not exceed illuminance levels listed in the most current IESNA Recommended Practices. The City of Hailey recognizes that not every such area will require Lighting or Lighting to the extent recommended by the most current IESNA Recommended Practices.

c. Parking lot lighting shall not exceed an overall average illumination of 1.5 footcandles.

d. Streetlights shall be high-pressure sodium, low-pressure sodium or metal halide, or a more energy efficient type. All Street Lights within all zoning districts shall be a maximum of one hundred (100) watts hps, or have a maximum Lumen output of ninety-five hundred (9500), except Lights at traffic signal controlled intersections on state highways shall be a maximum of two hundred fifty (250) watts hps, or a maximum Lumen output of twenty-seven thousand, five hundred (27,500). If a Light type other than high-pressure sodium is used, then the equivalent output shall be the maximum for the other Light type (see Table 1). LED and Induction Lights do not have an equivalent Lumens output compared to traditional Light types found in Table 1; therefore, the number of Footcandles shall not exceed those compared to the initial Lumens of existing compliant streetlights with the same placement height.

e. All existing and/or new exterior lighting shall not cause light trespass and shall protect adjacent properties from glare and excessive lighting.

(Ord. 1068 §1-8, 2010)

8B.4.5 Tables and Information Sheets. The attached figures and information sheets shall be incorporated into Article VIIB as guidelines for the public and the City. The City does not endorse or discriminate against any manufacturer or company that may be shown, portrayed or mentioned by the examples.

(Ord. 1068 §1-8, 2010)

8B.5 Procedure.

a. All applications for design review, conditional use permits, planned unit developments, subdivision approvals, applicable sign permits, or building permits shall include lighting plans showing location, type, height, lumen output, and illuminance levels in order to verify that lighting conforms to the provisions of this Article.

b. The Lighting Administrator shall review any new exterior lighting or any existing exterior lighting on subject property that is part of an application for design review, conditional use permit, planned unit development, subdivision approval, applicable sign permits or building permit, to determine whether the exterior lighting complies with the standards of this Article VIII B.

c. The Lighting Administrator shall convey in writing a recommendation whether the exterior lighting complies with the standards of this Article VIII B to the Building Official, the Hailey Hearing Examiner, the Hailey Planning & Zoning Commission, or the Hailey Mayor and City Council, as the case may be, concurrently with the review or hearing on a building permit, design review, conditional use permit, planned unit development, subdivision application, or applicable sign permit.

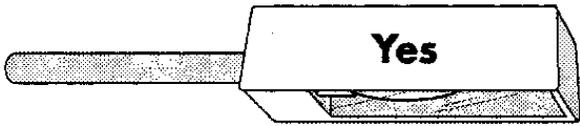
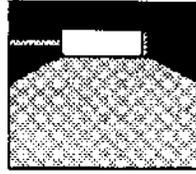
d. For all other exterior lighting which must conform to the requirements of Article VIII B, the Lighting Administrator shall issue a decision whether the exterior lighting complies with the standards of this Article VIII B. All such decisions may be appealed to the Hailey Planning & Zoning Commission within thirty (30) days of the decision.  
(Ord. 1068 §1-8, 2010)

8B.6 Violations and Legal Actions.

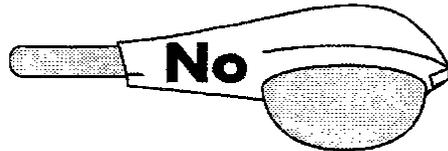
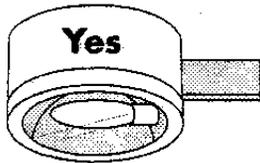
8B.6.1 If the Lighting Administrator finds that any provision of this Article is being violated, the Lighting Administrator shall give notice by hand delivery or by certified mail, return receipt requested, of such violation to the owner and/or to the occupant of such premises, demanding that the violation be abated within thirty (30) days of the date of hand delivery or of the date of mailing of the notice. The Planning Department Staff shall be available to assist in working with the violator to correct said violation. If the violation is not abated within the thirty (30) day period, the Lighting Administrator may institute actions and proceedings, either legal or equitable, to enjoin, restrain or abate any violations of this Article.

Figure 1

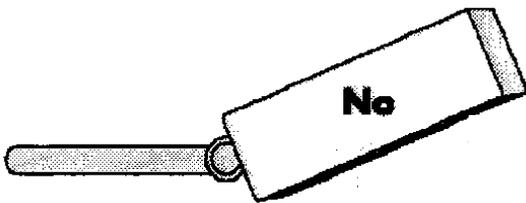
What is a True Full Cutoff Outdoor Lighting Fixture?



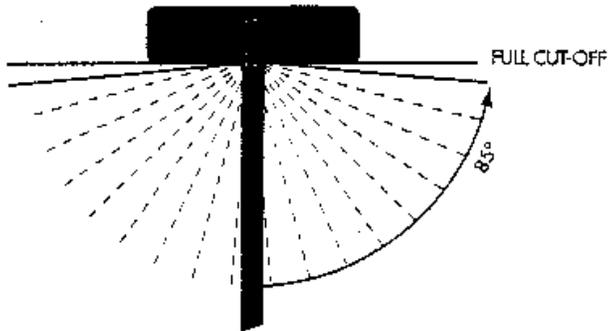
Flat glass lens, eliminates or minimizes direct glare, no upward throw of light. The housing for these fixtures are available in many styles.



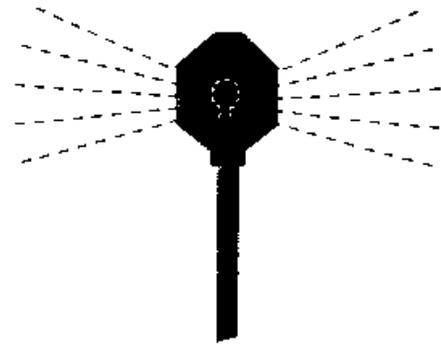
Same fixture as above mounted incorrectly – defeating the horizontal mounting design. The fixture now produces direct glare, and can also produce uplight at steeper mounting angles.



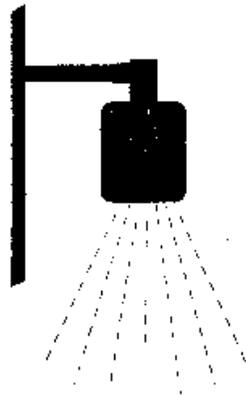
Known as just "Cutoff" Center "drop" or "sag" lens with or without exposed bulb, produces direct glare.



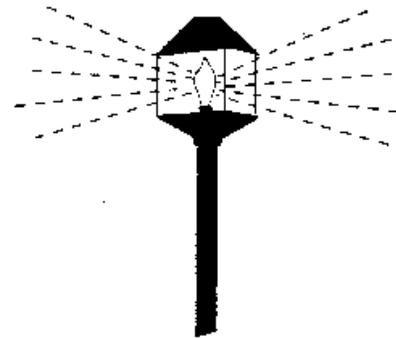
**FIGURE 2**  
85° Full Cut-Off Fixture



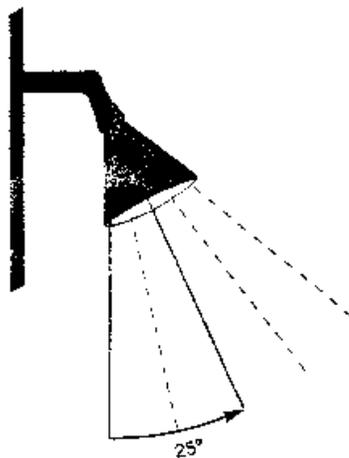
**FIGURE 3**  
Partially Shielded  
(translucent siding - bulb not visible)



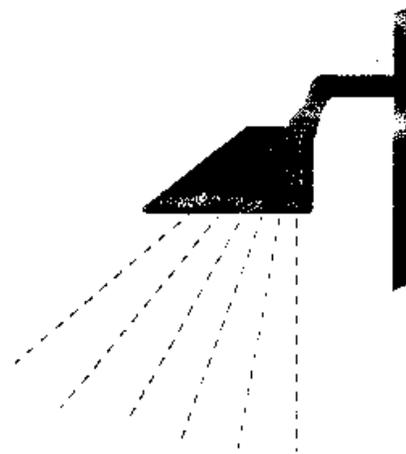
**FIGURE 4**  
Shielded



**FIGURE 5**  
Unshielded with Opaque Top  
(less than 375 lumens)



**FIGURE 6**  
Angle of Flood Light  
with External Shrouding



**FIGURE 7**  
Directional Flood Light

Table 1

INITIAL RATED LIGHT OUTPUT OF VARIOUS LAMPS

(Information from Sylvania #PL-150, General Electric #9200 and Phillips #SG-100 large lamp catalogs)

LAMP TYPE	INITIAL LUMEN OUTPUT	LAMP WATTAGE
INCANDESCENT LAMP (FROSTED) (Syl.)	25	235
INCANDESCENT LAMP (FROSTED) (Syl.)	40	375
INCANDESCENT LAMP (FROSTED) (Syl.)	60	890
INCANDESCENT LAMP (FROSTED) (Syl.)	100	1690
INCANDESCENT LAMP (FROSTED) (Syl.)	150	2850
INCANDESCENT FLOOD OR SPOT (G.E.)	75	765
INCANDESCENT FLOOD OR SPOT (G.E.)	120	1500
INCANDESCENT FLOOD OR SPOT (G.E.)	150	2000
QUARTZ HALOGEN LAMP (FROSTED) (Syl.)	42	665
QUARTZ HALOGEN LAMP (FROSTED) (Syl.)	52	885
QUARTZ HALOGEN LAMP (FROSTED) (Syl.)	72	1300
QUARTZ HALOGEN LAMP (FROSTED) (Syl.)	300	6000
QUARTZ HALOGEN LAMP (FROSTED) (Syl.)	500	10500
QUARTZ HALOGEN LAMP (FROSTED) (Syl.)	1000	21000
QUARTZ HALOGEN MINI FLOOD OR SPOT (G.E.) (12 volt MR-16 type)	20	260
QUARTZ HALOGEN MINI FLOOD OR SPOT (G.E.) (12 volt MR-16 type)	42	630
QUARTZ HALOGEN MINI FLOOD OR SPOT (G.E.) (12 volt MR-16 type)	50	895
QUARTZ HALOGEN MINI FLOOD OR SPOT (G.E.) (12 volt MR-16 type)	75	1300
FLUORESCENT LAMP (Phillips)	7	400
FLUORESCENT LAMP (Phillips)	9	600
FLUORESCENT LAMP (Phillips)	13	900
FLUORESCENT LAMP (Phillips)	22	1200
FLUORESCENT LAMP (Phillips)	28	1600
FLUORESCENT LAMP (G.E. cool white)	40	3150

LAMP TYPE	INITIAL LUMEN OUTPUT	LAMP WATTAGE
LOW PRESSURE SODIUM LAMP (Phillips)	18	1800
LOW PRESSURE SODIUM LAMP (Phillips)	35	4800
LOW PRESSURE SODIUM LAMP (Phillips)	55	8000
LOW PRESSURE SODIUM LAMP (Phillips)	90	13500
LOW PRESSURE SODIUM LAMP (Phillips)	135	22500
LOW PRESSURE SODIUM LAMP (Phillips)	180	33000
HIGH PRESSURE SODIUM LAMP (DIFFUSE) (G.E.)	35	2250
HIGH PRESSURE SODIUM LAMP (DIFFUSE) (G.E.)	50	4000
HIGH PRESSURE SODIUM LAMP (DIFFUSE) (G.E.)	70	6400
HIGH PRESSURE SODIUM LAMP (DIFFUSE) (G.E.)	100	9500
HIGH PRESSURE SODIUM LAMP (DIFFUSE) (G.E.)	150	16000
HIGH PRESSURE SODIUM LAMP (DIFFUSE) (G.E.)	250	27500
HIGH PRESSURE SODIUM LAMP (DIFFUSE) (G.E.)	400	50000
MERCURY VAPOR LAMP (WHITE DELUXE) (Syl.)	100	4500
MERCURY VAPOR LAMP (WHITE DELUXE) (Syl.)	175	8500
MERCURY VAPOR LAMP (WHITE DELUXE) (Syl.)	250	11100
MERCURY VAPOR LAMP (WHITE DELUXE) (Syl.)	400	20100
METAL HALIDE LAMP (Coated) (G.E.)	32	2500
METAL HALIDE LAMP (Coated) (Venture)	50	3400
METAL HALIDE LAMP (Coated) (G.E.)	100	9000
METAL HALIDE LAMP (Coated) (G.E.)	175	15750
METAL HALIDE LAMP (Coated) (G.E.)	250	20500
METAL HALIDE LAMP (Coated) (G.E.)	400	36000

Table 2 lists the maximum lumen levels guidelines at various heights above ground level. The maximum Lumens levels should only be exceeded if there are design constraints or other site specific factors that would jeopardize safety. A detailed explanation for Lumen amounts in excess of the guidelines shall be provided by the owner/occupant or developer.

Table 2

**MOUNTING HEIGHT/LAMP OUTPUT RECOMMENDATIONS**

MOUNTING HEIGHT (FEET)	MAX LUMENS
6	1,000
8	1,600
10	2,000
12	2,400
16	6,000
20	8,000
24	9,000
28	12,000
32	24,000
36	28,000
40 or more	32,000

(Ord. 1068 §1-8, 2010)