

Section 5. Outdoor Lighting Standards.

5.1. Shielding Standards. All nonexempt **outdoor light fixtures** shall comply with the shielding standards in Table 5.1; outdoor **luminous tube** lighting may be **unshielded** but total output from all **unshielded** lighting is subject to the limits in Section 5.2.

Use Codes:

A = all types of fixtures allowed; **fully shielded** recommended

F = only **fully shielded fixtures** allowed

X = not allowed

Table 5.1 SHIELDING STANDARDS

Land Use and Lamp Output	Shielding		Notes
	distance from fixture to nearest Residential property line ¹		
	< 50'	≥ 50'	
Commercial, Industrial and Multi-Family Residential			
Initial lamp output ≥ 2,000 lumens	F	F	
Initial lamp output < 2,000 lumens	F	A	2,3
Roadways (all outputs)	F	F	
Residential Lighting			
Initial lamp output ≥ 1,000 lumens	F	F	
Initial lamp output < 1,000 lumens	F	A	2,3,4,5

Notes to Table 5.1

1. The distance to the nearest parcel with any kind of residential use including multi-family housing.
2. **Spot** and **flood lamps** must be aimed no higher than 45 degrees above straight down (half-way between straight down and straight to the side) when the lamp is visible from any off-site residential property or public roadway (Figure 4.1).

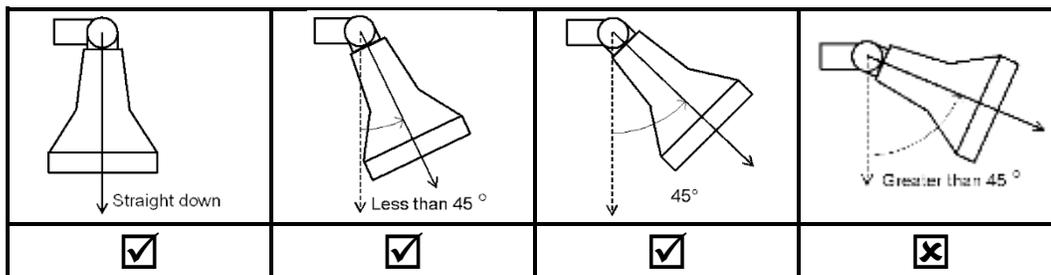


Figure 5.1. Spot light aiming

2. The maximum amount of **unshielded** lighting is limited in Section 5.2.

3. Seasonal decorations using typical **unshielded** low-wattage lamps shall be permitted from November 15 through January 15.
4. Examples of lamp types of 2,000 and 1,000 **lumens** and below (the acceptability of a particular light is determined by initial **lumen** output, not wattage; values listed are approximate; check manufacturer's specifications).

Lamp Type	2000 lumens	1000 lumens
Standard incandescent	100 watt and less	60 watt and less
Tungsten-halogen (quartz)	100 watt and less	60 watt and less
Fluorescent	25 watt and less	15 watt and less
Compact Fluorescent	26 watt and less	13 watt and less
Metal Halide	40 watt and less	N/A
High-pressure sodium	N/A	N/A
Low-pressure sodium	10 watt and less	N/A

5.2. **Total Outdoor Light Output Standards.** **Total outdoor light output** for all outdoor lighting, excepting that used for illumination of public rights-of-way, shall not exceed the limits in Table 5.2.

Table 5.2 MAXIMUM **TOTAL OUTDOOR LIGHT OUTPUT** STANDARDS

Land Use and Fixture Shielding	Lighting Zone			Astronomical Resource Zone		Notes
	LZ 1	LZ 2	LZ 3	critical	buffer	
Commercial, Industrial, Multi-family Residential (lumens per net acre)						
total (fully shielded + unshielded)	50,000	100,000	150,000	12,500	25,000	
non- LPS component	50,000	100,000	150,000	1,250	2,500	1
non-amber component	5,000	10,000	15,000	0	0	2
unshielded component	5,000	5,000	5,000	0	0	
Residential (lumens per residence)						
total (fully shielded + unshielded)	20,000	20,000	20,000	10,000	20,000	3
unshielded component	5,000	5,000	5,000	0	5,000	

Notes to Table 5.2

1. Non-**LPS** includes all lamp types except **low-pressure sodium** and **narrow-spectrum amber LED**.
2. Non-amber includes all lamp types except **low-pressure sodium, high-pressure sodium, narrow-spectrum amber LED, and PC amber LED**.
3. Each residential single-family detached home or duplex is allowed up to 5,500 **lumens** of **unshielded** lighting per residence, or the lighting provided in this Table based on the parcel's acreage, whichever is larger, provided Table 5.1

allows the fixture(s) to be **unshielded**. Spot or flood lamps are to be aimed no higher than 45 degrees above straight down (see Note 1 to Table 5.1).

5.3. Non-Amber Lamp **CCT** Standards. All non-amber lamps (including all lamp types except **low-pressure sodium, high-pressure sodium, narrow-spectrum amber LED** and **PC amber LED**) used on commercial, industrial and multi-family residential developments, except lamps used for **decorative lighting**, must conform to the **CCT** limits listed in Table 5.3.

Table 5.3 MAXIMUM **NON-AMBER LAMP CCT**

Lighting Zone			Astronomical resource zone	
LZ 1	LZ 2	LZ 3	critical	buffer
3000K	3000K	3000K	2700K	2700K

5.4. Roadway Lighting Standards. All light fixtures used to illuminate public rights-of-way shall be **fully shielded** and utilize the lamp types indicated in Table 5.4.

Table 5.4. ROADWAY LIGHTING LAMP TYPES

Lighting Zone			Astronomical resource zone	
LZ 1	LZ 2	LZ 3	critical	buffer
LPS, HPS, narrow-spectrum amber LED, PC amber LED			LPS, narrow-spectrum amber LED	

5.5. “House Side” Shielding Standard. Beyond the shielding requirements of Section 5.1, any privately or publicly owned **outdoor light fixture** with a lamp of initial output over 10,000 **lumens** located within 50 feet of any residential (including multi-family residential) property or public right-of-way shall utilize an internal or external “house-side” shield, with the light fixture and shield oriented to minimize **light trespass** over the adjacent property or right-of-way line (Figure 5.5). The surface of any external shield must have a black or bronze finish on the side facing the lamp to minimize reflection.

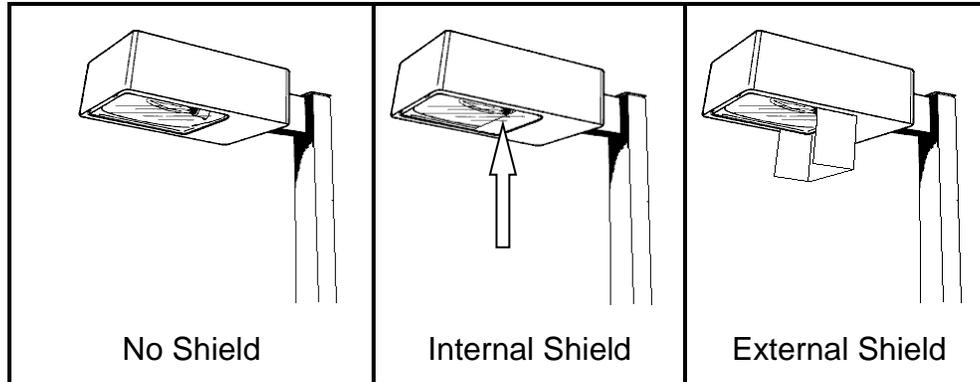


Figure 5.5. House-side shield configurations

5.6. **Effective Shielding Standard.** All light fixtures that are required to be **fully shielded** shall be **installed** and maintained in such a manner that the shielding is effective as described in the definition for **fully shielded** fixtures.

5.7. **Curfews**

- A. **Decorative lighting** shall be extinguished between 10:00pm, or when the business closes (whichever is later), and the time the business re-opens.
- B. **Area lighting** located 75 feet or more from the nearest building, **display area** or storage area, except lighting for public roadways and lighting required to meet egress illumination standards, shall be extinguished between 10:00pm, or within sixty (60) minutes of the business closing (whichever is later), and the time the business re-opens.
- C. All lighting subject to curfews in Section 5.7.A and 5.7.B shall be controlled by automatic time switches.

Section 6. Outdoor Advertising Sign Lighting Standards.¹

6.1. **Externally Illuminated Sign** Lighting Standards. External lighting for signs, including **billboards**, shall conform to the provisions of this Code, including but not limited to the lamp source, shielding and **total outdoor light output** standards of Section 5 (except as provided in Section A below).

- A. Upward-directed sign lighting is prohibited.
- B. Lighting for externally illuminated **billboards** is allowed up to a maximum of 200 initial lamp **lumens** per square foot of illuminated sign face, even

¹ Some jurisdictions include all sign standards, including those related to lighting, in a separate sign code.