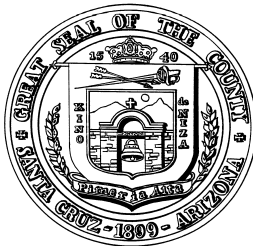


## BUILDING DEPARTMENT



SANTA CRUZ COUNTY  
ROBERT BANZHOF  
DIRECTOR

### OUTDOOR LIGHTING REGULATIONS

**Because of the wording of Table 2800-1 there has been confusion and inaccuracies on many submitted Exterior Lighting Schedules. Section 2802, N 4. states that the net acre percentage does not apply for residential zoning lumen caps. Therefore, when using Option 3 from the table the maximum lumens for lots one acre or larger is 20,000. The maximum lumens for lots less than one acre is 10,000. You do not get the percentage increase for larger lots for shielded or unshielded lights.**

Most plans submitted for permitting will require an Exterior Lighting Schedule. A sample Exterior Lighting Schedule is in this package for your use. If exterior lighting is planned then wall mounted lights must be shown on the electrical plans and pole mounted lights on the site plans. The lighting on the plans shall correspond to the plan key designation on the schedule. Show the following on the Exterior Lighting Schedule. Show the lamp type, IN = incandescent (including quartz-halogen), LPS = low pressure sodium, HPS = high pressure sodium, MH = metal halide, FL = fluorescent. Indicate maximum wattage for each lamp on the schedule. Included in the package is Table 2800-2 which may be used to determine the initial lumens for different lamp type. Show the number of each type of light and indicate if FS = fully shielded or U = unshielded. Table 3 is included in the package. It shows the allowable number of lumens allowed on different projects. Show the total exterior lumens proposed for the site. Circle the option that you are using from Table 3 and indicate the square footage of the property.

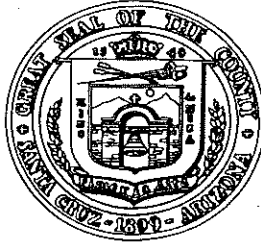
When submitting plans for additions, plans shall show all existing exterior lighting and shown on Exterior Lighting Schedule. The existing lighting lumens shall be added to the proposed lighting lumens to determine if the total site lumens are allowable.

If you have further questions I may be reached at 520-375-7882

Thank you,

ROBERT BANZHOF  
BUILDING OFFICIAL

BUILDING DEPARTMENT



SANTA CRUZ COUNTY  
Robert Banzhof  
Director

PERMIT # \_\_\_\_\_  
PARCEL # \_\_\_\_\_

EXTERIOR LIGHTING SCHEDULE

Plan* Key	Lamp Type	Wattage	Lumens Per unit	No. of Units	Shielding (FS or U)	Total Lumens
A						
B						
C						
D						
E						

IN = INCANDESCENT  
LPS = LOW PRESSURE SODIUM  
HPS = HIGH PRESSURE SODIUM  
MH = METAL HALIDE  
FL = FLUORESCENT  
FS = FULLY SHIELD  
U=UNSHIELDED

TOTAL (U) UNSHIELDED LUMENS \_\_\_\_\_

TOTAL (FS) FULLY SHIELDED LUMENS \_\_\_\_\_

TOTAL EXTERIOR LUMENS FOR SITE \_\_\_\_\_

Which option are you using from table 2800-1? Circle 1, 2, or 3

Acreage or square footage of property \_\_\_\_\_

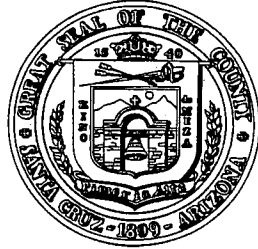
ALLOWABLE (U) UNSHIELDED LUMENS  
(From Table 2800-1) \_\_\_\_\_

ALLOWABLE (FS) FULLY SHIELDED LUMENS  
(From Table 2800-1) \_\_\_\_\_

TOTAL ALLOWABLE LUMENS (From Table 2800-1) \_\_\_\_\_

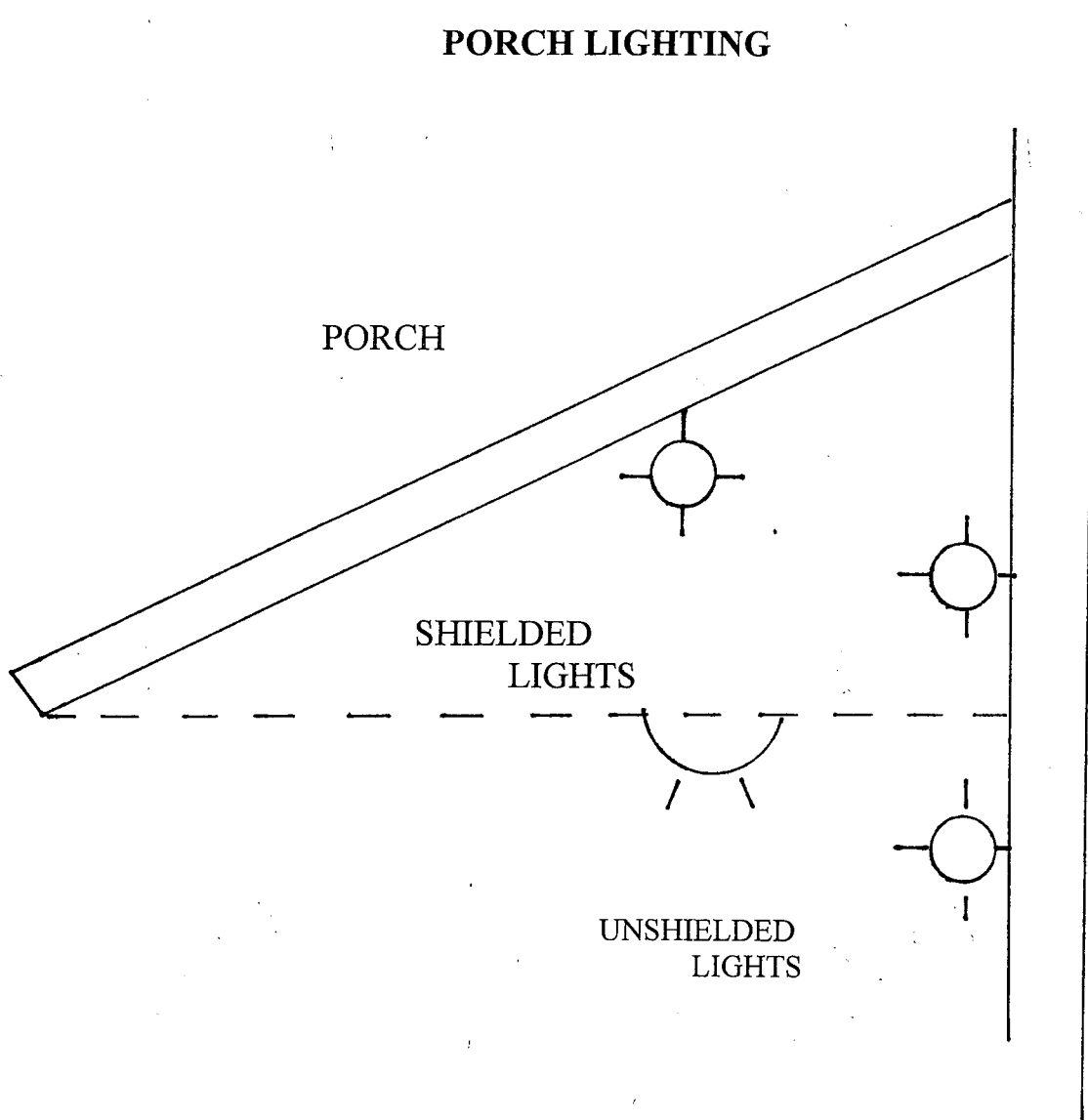
\*plan key must correspond to labeling on plans

**BUILDING DEPARTMENT**



SANTA CRUZ COUNTY  
ROBERT BANZHOF  
DIRECTOR

**PORCH LIGHTING**



ROBERT BANZHOF  
BUILDING OFFICIAL

TABLE 2800-1

Table 2800-1: Maximum Total Outdoor Light Output Requirements Per Acre – Lumen Caps

Option 1- Commercial and Industrial _ (1)(2)(5) (Mostly Low Pressure Sodium LPS)	
Total (FS LPS, plus FS non LPS, unshielded)	75,000
Limit on non-LPS FS	3,000
Limit on unshielded components, LPS or Non-LPS lighting	3,000
Option 2- Commercial and Industrial – (1)(2)(5)	
Total Lumens (FS, plus unshielded)	60,000
Limit on unshielded components	3,000
Option 3- All Residential zoning (3)(4)	
Total (FS plus unshielded) Lots one acre or larger	20,000
Limit on unshielded component	3,000
Total (FS plus unshielded) Lots less than one acre	10,000
Limit on unshielded component	3,000

Notes to Table 2800-1

1. Use either option 1 or 2 for the entire property.
2. This applies to all land-use zoning classifications for multiple family triplexes and larger, commercial, and industrial sites.
3. This applies to all residential land-use zoning, including all densities and types of housing, such as single family detached and duplexes.
4. If LPS is used for residential lighting, then the total lumens in the table can be increased by 50 percent of FS plus unshielded lighting. For example, for lots one acre or larger, the total lumens could be 30000 of FS LPS including 3000 if non-LPS (which could include 3000 of non-FS). The grand total shall not exceed 30000 lumens.
5. Lumens per Net Acre; Unshielded lumen caps shall not increase regardless of acreage

TABLE 2800-2 Standards values based on manufacturer's data to be used unless applicant submits other verified lumen values		
Type	Lamp Wattage	Initial Lumens
Incandescent	25 W	150
	40 W	460
	60 W	890
	75 W	1210
	100 W	1750
	150 W	2880
	300 W	6360
	1000 W	23800
Compact Florescent	5 W	250
	7 W	400
	13 W	900
	18 W	1200
	26 W	1800
	32 W	2900
	4700	
Tungsten-Halogen	250 W	10700
	500 W	19000
	1000 W	36000
	1500 W	14000
Metal Halide	250 W	20000
	400 W	40000
	1000 W	115000
	175 W	1740
PAR (Parabolic Aluminized Floods & Spots)	150 W	3300
HPS (High Pressure Sodium)	50 W	5800
	70 W	9500
	100 W	16000
	150 W	22000
	200 W	30000
	250 W	37000
	310 W	50000
	400 W	140000
LPS (Low Pressure Sodium)	18 W	1800
	35 W	4800
	55 W	8000
	90 W	13500
	135 W	22500
	180 W	33000
Fluorescent (Standard Cool White, 1.5-inch tubes)	21 W	1190
	30 W	2050
	36 W	2450
	39 W	3000
	50 W	3700
	52 W	3900
	55 W	4600
	70 W	5400
	75 W	6300

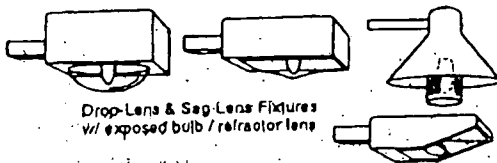
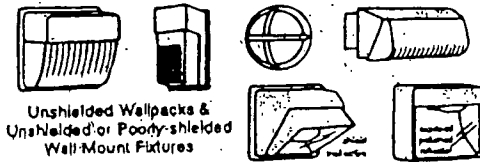
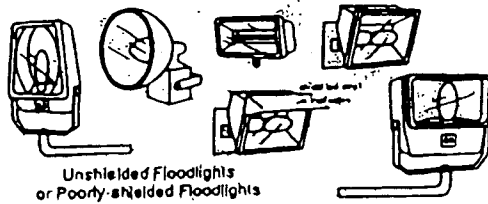
Appendix A

Examples of fixtures that are NOT Fully Shielded  
(Note: Some of these fixtures may be acceptable provided they don't exceed 1,000 lumens.)

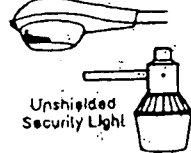
Examples of fixtures that are Fully Shielded  
(Note: to be fully shielded these fixtures must be closed on top and mounted such that the bottom opening is horizontal)

**Examples of Acceptable / Unacceptable Lighting Fixtures**

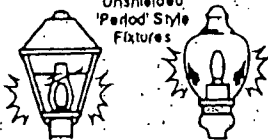
**Unacceptable / Discouraged**  
Fixtures that produce glare and light trespass



Unshielded Sirelight



Unshielded 'Period' Style Fixtures



Unshielded PAR Floodlights

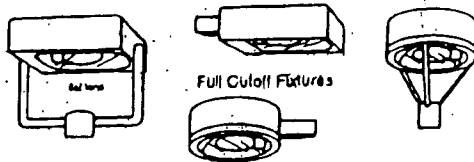


Drop-Lens Canopy Fixtures

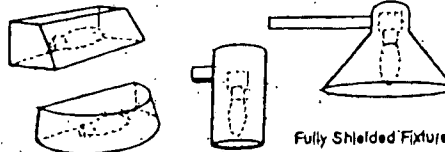


**Acceptable**

Fixtures that shield the light source to minimize glare and light trespass and to facilitate better vision at night



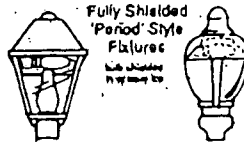
Fully Shielded Wallpack & Wall Mount Fixtures



Full Cutoff Streetlight



Fully Shielded 'Period' Style Fixtures



Fully Shielded Security Light



Shielded / Properly-aimed PAR Floodlights



Flush Mounted Canopy Fixtures



061002

**END AMENDMENT**