SP.6 VEHICULAR LIGHTING

A. Vehicular lighting design should articulate the campus vehicular circulation system of streets and parking lots for user orientation and safety. Distracting glare is to be minimized; the lit surface is important, not the source itself.

B. Streetlights are to be regularly spaced along major streets and offset the road a consistent and safe distance in accordance with State of Connecticut Department of Transportation standards.

C. Parking lot lighting should be at sufficient levels of intensity for safety; the poles should be located in planting islands so they are less visually obtrusive. If this is not feasible, the poles should be set on 3' - 4' high concrete bases to protect them from damage by vehicles and snow removal equipment.

D. Illumination appropriate to the vehicular use should be selected. Driving requires recognition of vertical objects in the field of vision; therefore, vertical illumination is equally important as horizontal illumination. Intersections require higher levels of illumination.

The following rule of thumb for vehicular foot-candle (F.C.) levels is suggested:

	Average F.C. Level		F.C. Ratios	
Use	Horizontal	Vertical	Max. to Avg.	Min. to Avg.
Roadways - Heavy	1.5-2.0	0.75-1.0	4:1	0.3 3:1
Roadways-Light	0.5-1.0	0.25- 0.5	4:1	0.3 3:1
Roadways-Service	0.2-1.0	0.10- 0.5	4:1	0.33:1
Parking	0.5-2.0	0.5- 0.75	4:1	0.33:1

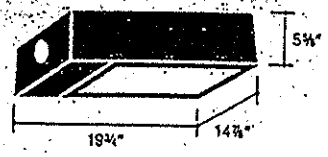
E. The light fixture that is currently used by the university should continue to be used. While many new shoebox styles are on the market, long term availability is an issue. A simple shoebox style will allow long-term consistency across the campus.

1. Metal halide bulbs are preferred. However, consistency of light intensity and color is essential. Therefore, maintaining use of color corrected high pressure sodium is acceptable unless a major relamping effort is feasible.

2. A cut-off luminaire should be used to direct light to the specific area needing illumination.

F. Poles should be black to match other site furnishings. Consideration should be given to utilization-tapered fiberglass, square, tapered poles for their durability and ease of maintenance/replacement.

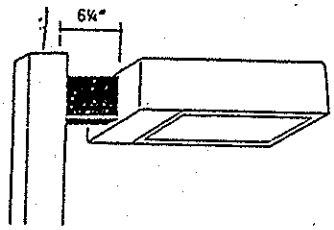
Standard Unit (Mast Arm Mount)

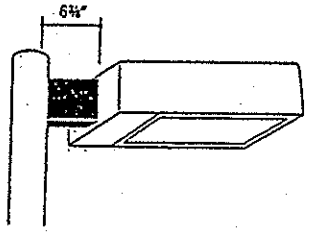


	High Pressure Sodium Lamp(1)					Metal Halide Lamp (1)		
Optical Type	70W	100W	150W(2)	250W	400W	175W	250W	400W(3)
Design 20/30	CS7212	CS7222	CS7232	CS7252	CS7262	CS7142	CS7152	CS7162
Design 22	CS7213	CS7223	CS7233	CS7253	CS7263	CS7143	CS7153	CS7163
Design 40	CS7214	CS7224	CS7234	CS7254	CS7264	CS7144	CS7154	CS7164
Design 50	CS7215	CS7225	CS7235	CS7255	CS7265	CS7145	CS7155	CS7165

Internal Pipe Clamp: Mounting will accommodate 1½"-2⅜" O.D. horizontal tenons.
Bracket arms not included with standard unit.

Direct Arm Mountings

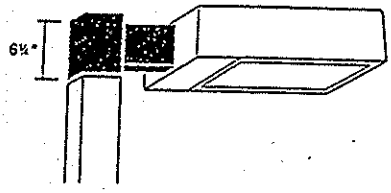


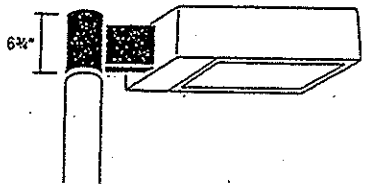


Square	Round
CA40	CA41–3" Dia. Pole
	CA42–3½" - 4" Dia. Pole

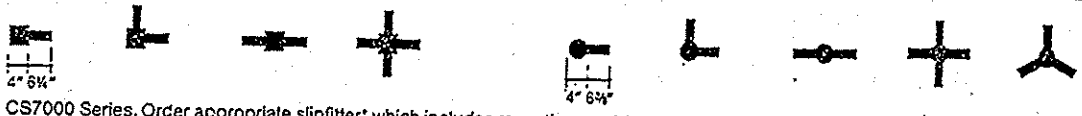
One bracket arm must be ordered for each standard unit used.

Pole Top Mounting





Square				Round				
Single	Double 90°	Double 180°	Quad 90°	Single	Double 90°	Double 180°	Quad 90°	Triple 120°
CA43S	CA44S	CA45S	CA46S	CA43R	CA44R	CA45R	CA46R	CA47R



CS7000 Series. Order appropriate slipfitter* which includes mounting arm(s).
*Slipfitter accommodates 2⅜"-3" O.D. pole top tenons.

STREET AND PARKING LOT LIGHTING

CRITERIA:

a. Lighting design should articulate the campus vehicular circulation system (streets and parking lots) for user orientation and safety.

b. Units with standardized style, color, height, diameter and location should be simple and unobtrusive. Since luminaires and poles are visually prominent during the day, a coordinated system compatible with other site furniture is needed.

c. Concealed light sources for street and parking lot lighting are desired. Distracting glare is to be minimized; the lit surface is important, not the source itself.

d. Light distribution should be controlled to optimize intensity and ensure uniformity of illumination.

e. Illumination appropriate to the vehicular use should be selected. Driving requires recognition of vertical objects in the field of vision; therefore, vertical illumination is equally important as horizontal illumination. Intersections require higher levels of illumination. The following rule of thumb for vehicular footcandle (F.C.) levels is suggested:

	Average F.C. Level		F.C. Ratios	
			Max.	Min.
Use	Horizontal	Vertical	to Avg.	to Avg.
Roadways-Heavy	1.5-2.0	0.75-1.0	4:1	0.33:1
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Roadways-Service	0.2-1.0	0.10-0.5	4:1	0.33:1
Parking	0.5-2.0	0.5-0.75	4:1	0.33:1

f. Maintenance and cost effectiveness considerations include:

- A limited variety of luminaires is desirable to simplify maintenance requirements and stocking of replacement parts and units.
- A quality lighting plan will improve cost effectiveness by optimizing intensity and distribution with the least number of fixtures.
- Consideration should be given to utilizing new fiberglass spun poles due to their light weight, damage resistance and ease of maintenance/ replacement.

RECOMMENDATIONS:

a. The light fixture which is currently used by the university should continue to be used. While many new shoe-box styles are on the market, long term availability is an issue. A simple shoebox style will allow long-term consistency across the campus.

b. Metal halide bulbs are preferred. However, consistency of light intensity and color is essential. Therefore, maintaining use of color corrected high pressure sodium is acceptable unless a major relamping effort is feasible.

c. A cut-off luminaire should be used to direct light to the specific area needing illumination.

d. Poles should be black to match other site furnishings. Consideration should be given to utilization of fiberglass spun poles for their durability and ease of maintenance/replacement.

LOCATION:

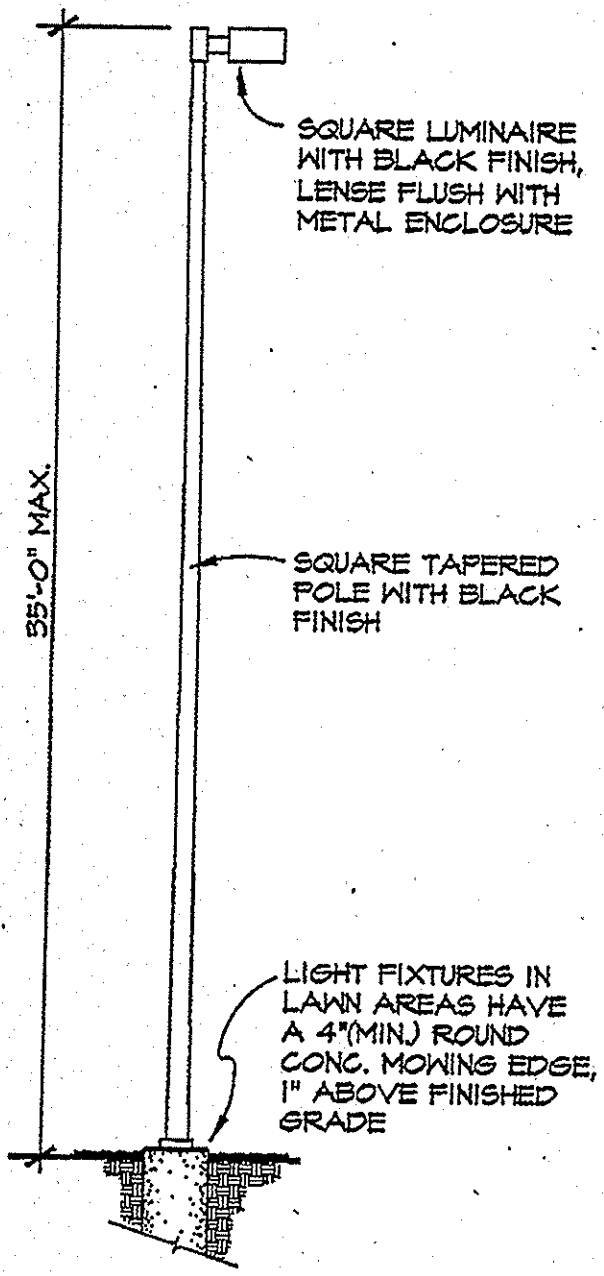
a. Streetlights are to be regularly spaced along major streets and offset from the road a consistent and safe distance in accordance with State of Connecticut Department of Transportation standards.

b. Parking lot lighting should be at sufficient levels of intensity for safety; the poles should be located in planting islands so they are less visually obtrusive. If this is not feasible, the poles should be set on 3' - 4' high concrete bases to protect them from damage by vehicles and snow removal equipment.

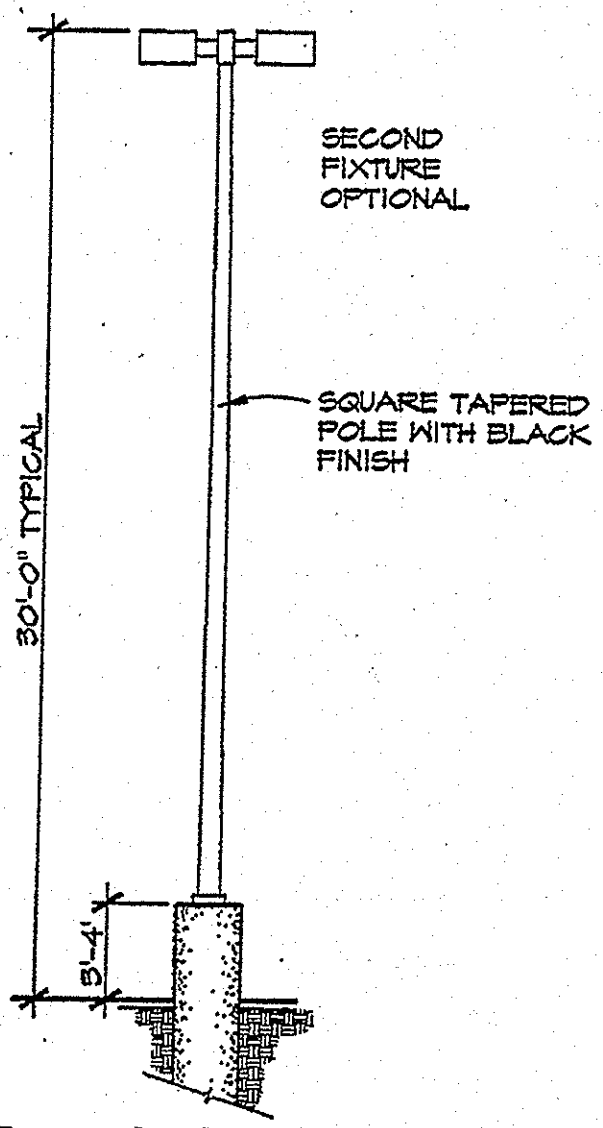
SOURCE:

a. The University's existing standard should be used.

b. Sterner - Executive series



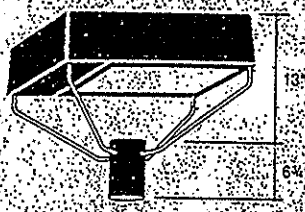
STREET LIGHTING



PARKING LOT LIGHTING

TYPICAL STREET AND PARKING LOT LIGHTING

Spider Mount



	High Pressure Sodium Lamp(1)					Metal Halide Lamp (1)		
Optical Type	70W	100W	150W(2)	250W	400W	175W	250W	400W(3)
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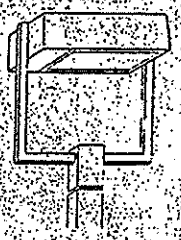
Design 22	CQ7213	CQ7223	CQ7233	CQ7253	CQ7263	CQ7143	CQ7153	CQ7163
Design 40	CQ7214	CQ7224	CQ7234	CQ7254	CQ7264	CQ7144	CQ7154	CQ7164
Design 50	CQ7215	CQ7225	CQ7235	CQ7255	CQ7265	CQ7145	CQ7155	CQ7165

Wall Mount Adapter

CA14	Yoke Mount

*Additional Mountings



Photocontrol
Button type for field installation in pole shaft, pole top fitter, or luminaire housing knockout.
Available for 120 thru 277 volt input. To order add voltage and suffix P to catalog number, e.g. CS7212-120P. NEMA type twist-lock photocontrol receptacle available upon request.

Level Indicators
Add suffix L to catalog number, e.g. CS7212-120PL.

(1) Lamps not included. Use clear lamp for base down to horizontal position, universal position, or horizontal operation only lamps.

(2) High pressure sodium 150 watt lamps. Use lamp arc rating of 55 volts.

(3) Metal Halide 400 watt lamps. Use E28 lamp only. Lamp is not supplied with fixture. To order lamp add suffix LA70X079 (MS400/HOR/ED28) to catalog number, eg. CS7212-LA70X079.

Ballasts
High pressure sodium 70 watt thru 150 watt are ATR (auto-transformer reactor) high power factor. HPS 250 and 400 watt, 175, 250 and 400 watt Metal Halide are CWA (constant wattage auto-transformer) high power factor. Voltages are 120, 208, 240, 277 or 480 single voltage units. (Add voltage suffix to catalog number; e.g. CS7212-120.) Multitap (quad tap 120, 208, 240 or 277 volts) are factory prewired for 277 volts. Add suffix 9 to catalog number, e.g. CS7212-9.

Socket Setting
Design 20 is preset at factory for Type II distribution. Socket assembly is field adjustable for Type III (Design 30) distribution.

Finish
Bronze, thermoset powder coat acrylic enamel. Contact factory for other colors.

Listing
U.L. listed – suitable for wet locations.
CSA certified.

*Additional Mountings
Consult factory for other mounting styles including yoke mount, adjustable knuckle, etc.