

FORM TEN

LOW PRESSURE SODIUM



GARDCO
LIGHTING

WHY LPS?

Dark Skies

“Have you looked up at night lately? The universe is going away, gone already for many. The universe is an important part of the environment, to astronomy and to the general public.

For most people on earth, the dark skies our ancestors had have disappeared. The problem is urban sky glow, due mostly to too much bad lighting.”

— *International Dark-Sky Association*

Low pressure sodium is a monochromatic light source that can be easily filtered by astronomers, allowing them to better view the heavens. It is for this reason that many local governments adjacent to observatories have legislated the use of low pressure sodium in their communities.

Another surprisingly common application for LPS is along coastlines inhabited by sea turtles. Full spectrum lighting attracts these endangered animals. They often leave the safety of their ocean homes and are destroyed while moving inland. However, they do not respond in this way to monochromatic LPS sources.

High Efficacy

Low pressure sodium is the single most energy-efficient, commercially available light source in the world. It is typically over 30% more efficient than high pressure sodium, over 60% more efficient than metal halide, over twice as efficient as fluorescent and more than 9 times as efficient as incandescent. The savings in the life-cycle costs of outdoor lighting systems utilizing LPS lamps can be significant. Actual savings will, of course, be dependent upon required light levels, luminaire performance and site characteristics. Contact your Gardco Lighting Representative for specific savings calculations.

Lumen Maintenance

Most high-intensity discharge sources lose anywhere between 20-40% of initial light output over their life. By comparison, LPS maintains its initial lumen output for essentially the entire life of the lamp. This makes the initial efficacy comparisons described above even more dramatic. Furthermore, this feature greatly simplifies design. With LPS it is not necessary to design for “mean lumens” and worry that half the time the site may be over-lit and half the time the site will be under-lit.

WHY GARDCO FORM TEN LPS?

The Gardco Form Ten optical system continues to set the standard for enhancing nighttime visibility by providing high light levels, uniform illumination and remarkable control of luminaire brightness. The features shown illustrate why the Gardco Form Ten LPS is still the highest performing and most trouble-free outdoor low pressure sodium luminaire.

Performance



Positioning the lamp above the flat glass lens ensures that there can be no significant light observed above 90°. This design strictly controls disability glare, light trespass and sky pollution.



Because of the large arc tube, LPS is traditionally a very difficult source to control. However, the highly specular Alzak® aluminum reflectors in the Form Ten luminaires precisely redirect arc images at high angles below cutoff. This design provides for higher light levels, uniform illumination and wider pole spacings.

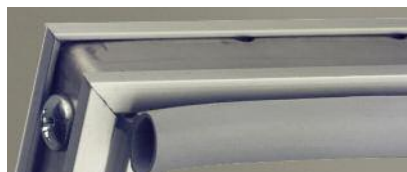


The Gardco Form Ten LPS luminaires are offered with a rectangular “Area” (A) distribution or a forward throw “Perimeter” (P) distribution. These products utilize 55w, 90w, 135w and 180w lamps. This combination of lamps and optical systems can accommodate varying site geometry and light level requirements.

Construction



Use of heavy gauge aluminum extrusions in housing construction provides resistance to deforming, which can often take place during shipment and installation. Unlike cast products, the extruded housing is available with Architectural Class 1 anodized finish. This truly permanent finish option will never fade or peel.



Memory-retentive silicone gaskets completely reseal after every luminaire service. Unlike conventional felt-type gaskets, silicone is impervious to normal corrosive elements.



The lens material for the Form Ten LPS luminaires is a specially formulated acrylic. This material provides considerably greater impact-resistance than glass, yet will not discolor like polycarbonate.

ORDERING

Example	PREFIX	CONFIGURATION	DISTRIBUTION	WATTAGE	VOLTAGE	FINISH	OPTIONS
	LA14	1	A	180LPS	277	BRA	PCR
	LA14 ⁷	End Arm Mount, Pole	A Area Type V	55LPS	120	BRA	F
	LSA14 ⁵	Side Arm Mount, Pole	P Perimeter Type IV	90LPS	208	BLA	LF
	LP14 ^{2,5,7}	End Direct Mount, Pole		135LPS	240	NA	PCR
	LSP14 ⁵	Side Direct Mount, Pole		180LPS	277	BRP	PC
	LJ14 ^{1,2,3}	Post Top Mount			480	BLP	POLY
	LW14 ^{1,6}	Side Wall Mount				NP	PTF2
						WP	PTF3
							PTF4
							MF

Notes:

1. Single configuration only.
2. LP Style luminaires should be mounted to CA5, CA6 or SSA poles only.
3. LJ Style luminaires furnished with Gardco Poles will be supplied with a square fitter for cruciform, SSA and SSS poles. A round fitter will be supplied for round poles.
4. LJ Style luminaires furnished for poles by others will be supplied with a 5" O.D. fitter for a 4" x 6" tenon or a 3.5" O.D. fitter for a 2 3/8" x 4" tenon.
5. LP, LSP and LSA luminaires may not be ordered in 2-way @ 90°, 3-way or 4-way configurations.
6. LW luminaires are available with Type P-Perimeter optics only.
7. LA and LP with Type P, Perimeter optics permit 180° optical system rotation to provide light in the desired direction.

FINISH

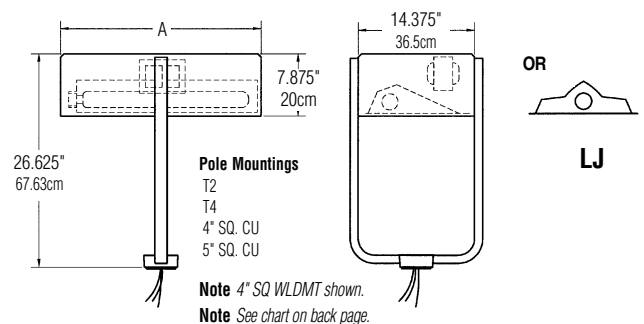
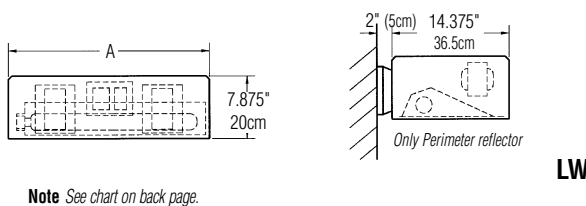
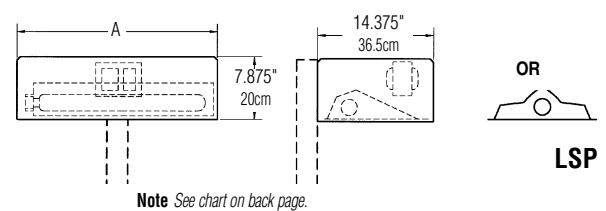
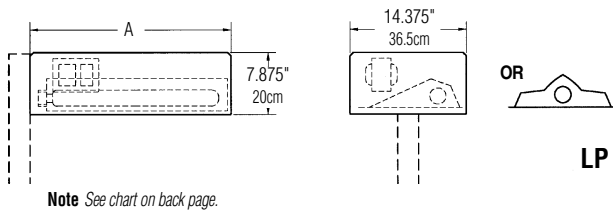
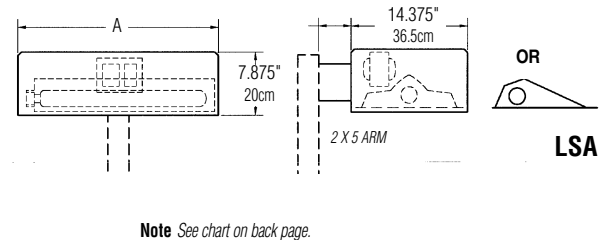
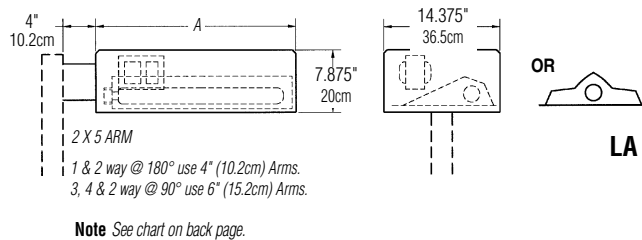
- BRP** Bronze Paint
- BLP** Black Paint
- WP** White Paint
- NP** Natural Aluminum Paint
- BLA** Black Anodized
- BRA** Bronze Anodized
- NA** Natural Aluminum Anodized
- OC** Optional Color Paint
Specify RAL designation.
Ex: OC-RAL7024
- SC** Special Color Paint
Must supply color chip.

OPTIONS

- F** Fusing In Head.
- LF** In-Line / In-Pole Fusing
- PC** Photocontrol and Receptacle
N/A with 480V.
- PCR** Photocontrol Receptacle only
- POLY** Polycarbonate Lens
In lieu of acrylic.
- PTF2** Pole Top Fitter –
2 3/8" - 3" Dia. Tenon
- PTF3** Pole Top Fitter –
3" - 3 1/2" Dia. Tenon
- PTF4** Pole Top Fitter –
3 1/2" - 4" Dia. Tenon
- MF** Mast Arm Fitter
Required for straight square poles.

Prior to ordering, consult submittal data sheet on www.sitelighting.com for full specifications and the most current information.

DIMENSIONS



SPECIFICATIONS

General Description

Each Gardco Form Ten LPS unit is a rectilinear luminaire that meets all criteria of the Illuminating Engineering Society's cutoff classification.

Housing

Housings side sections are composed of precisely mitered and welded aluminum extrusions. Tops are press-formed and internally welded to the housing sides. Pressure-injected silicone provides a continuous weather-tight seal at all miters and points of material transition.

Door/Lens Assembly

The door frame is constructed of mitered and welded anodized aluminum sections. The optically clear, non-yellowing, impact-resistant acrylic lens is secured in the doorframe. Corrosion-resistant, hollow-core, memory-retentive silicone gaskets seal both the lens to the door frame and the door frame to the housing.

Reflector Assembly

The Form Ten reflector systems are constructed of homogeneous sheet aluminum that is electrochemically brightened, anodized and

sealed. The highly specular reflector segments are precisely positioned to produce either an area distribution pattern (A) that conforms to an IES Type V or a perimeter distribution pattern that conforms to an IES Type IV. Luminaires have lamp stabilizers positioned to secure LPS lamps irrespective of lamp length that may vary by manufacturer.

Electrical

All luminaires utilize magnetic ballasts that are high power factor and designed for reliable lamp starting to -20°F/-29°C. The electrical components are mounted on a unitized tray and pre-wired with quick electrical disconnects.

Finish

Housings are finished with an Architectural Class 1 anodizing or TGIC polyester powdercoat.

Labels

All luminaires bear UL or CUL (where applicable) Wet Location labels.

LUMINAIRE EPA'S

WATTAGE	Dimension A	LP14		LA14		LJ14	LSA14, LSP14
		1 Way	2 Way	1 Way	2 Way	1 Way	1 & 2 Way
180	48"(121.9cm)	2.90 ft ²	5.80 ft ²	2.97 ft ²	5.94 ft ²	3.03 ft ²	2.90 ft ²
		.27 m ²	.54 m ²	.28 m ²	.6 m ²	.3 m ²	.3 m ²
135	34.375"(87.3cm)	2.08 ft ²	4.16 ft ²	2.15 ft ²	4.30 ft ²	2.21 ft ²	2.08 ft ²
		.19 m ²	.4 m ²	.2 m ²	.4 m ²	.2 m ²	.2 m ²
90	24.625"(62.5cm)	1.49 ft ²	2.98 ft ²	1.56 ft ²	3.12 ft ²	1.62 ft ²	1.49 ft ²
		.14 m ²	.28 m ²	.14 m ²	.3 m ²	.2 m ²	.13 m ²
55	24.625"(62.5cm)	1.49 ft ²	2.98 ft ²	1.56 ft ²	3.12 ft ²	1.62 ft ²	1.49 ft ²
		.14 m ²	.28 m ²	.14 m ²	.3 m ²	.2 m ²	.13 m ²

Gullwing



Floodlight



100 Line Sconces



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