

### 1. Scope

This specification applies to aluminum street light mast arms designed to support street light luminaires on round electrical power poles

### 2. Material ID Numbers

This specification applies to the following District Material ID numbers: **692708, 692716, 692724, 692732, 692740, 692758, 692766, 692774 & 692782**

### 3. Reference Standards

Except as modified herein, these mast arms shall meet the applicable requirements of the latest revisions of ANSI C136.13, ASTM B221, B241, B429, B26, B108 and AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals".

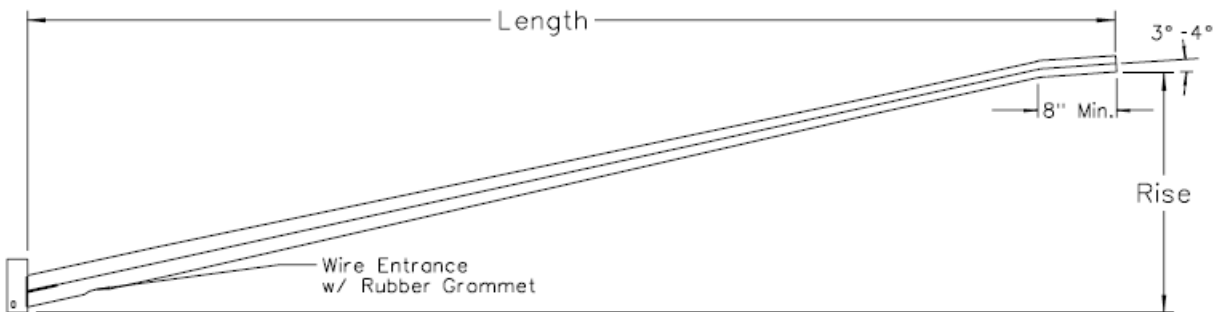


Figure 1

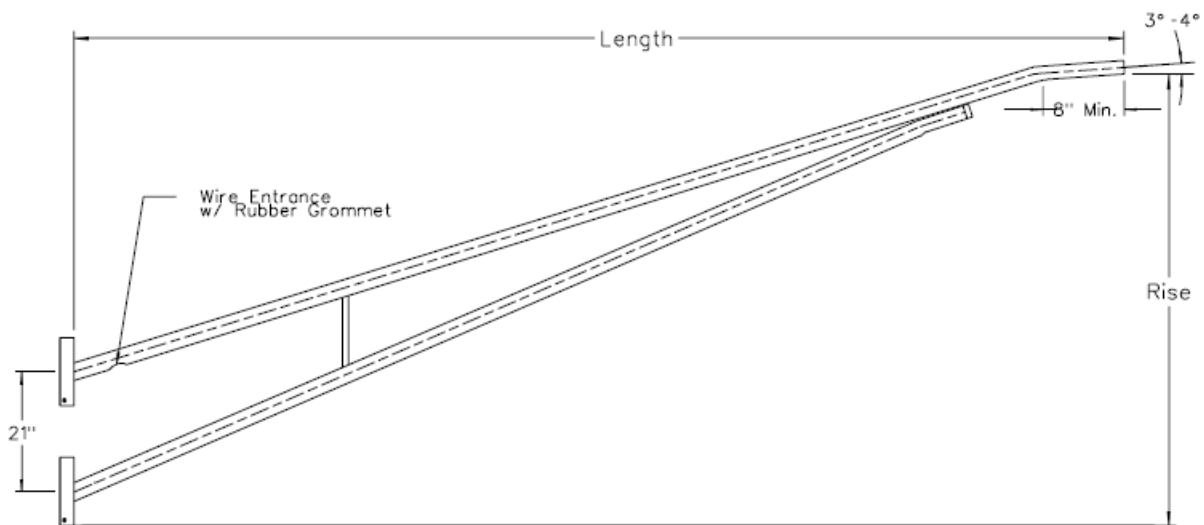


Figure 2

## 4. Construction

Aluminum mast arms 14 feet or less in length shall be of single arm design (see Figure 1). Mast arms longer than 14 feet shall be double arm truss design (see Figure 2). Both arms shall be manufactured from seamless aluminum tubing, continuously tapered from a round to an elliptical cross section. Arms manufactured by cutting and welding round tubing in order to produce an elliptical taper are not acceptable. Both the mast arms and brackets shall be manufactured from 6061 or 6063 alloy aluminum, heat treated after welding to T6. The luminaire attachment end shall terminate in a 2-3/8 inch round tube section a minimum of 8 inches in length with an upsweep of 3 to 4 degrees above horizontal. Pole mounting brackets shall be suitable for mounting on round wood, steel (galvanized or painted) or fiberglass poles and shall be fabricated per Figure 3. Slight deviations in mounting plate dimensions may be acceptable with prior District approval. An aluminum bodied bonding lug with a stainless steel set screw designed to accommodate #8 - #4 AWG copper wire, shall be securely attached to the mounting bracket. Mast arm dimensions are listed below. A tolerance of  $\pm 1$ " in mast arm length and rise will be acceptable.

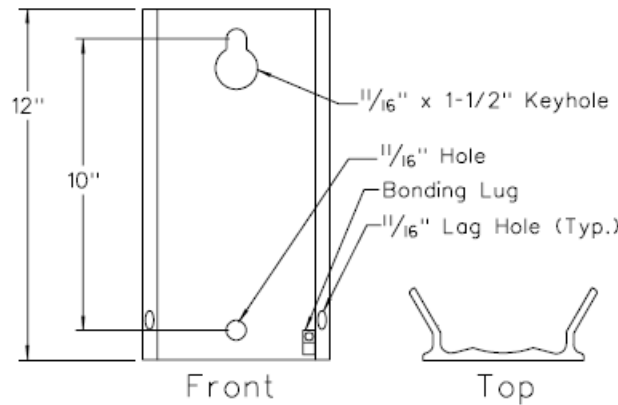


Figure 3

| Material ID | Length (feet) | Rise (inches) |
|-------------|---------------|---------------|
| 692708      | 4             | 24            |
| 692716      | 6             | 24            |
| 692724      | 8             | 32            |
| 692732      | 10            | 32            |
| 692740      | 12            | 42            |
| 692758      | 14            | 42            |
| 692766      | 16            | 52            |
| 692774      | 18            | 61            |
| 692782      | 20            | 66            |

Mast Arm Dimensions

## 5. Loadings

Aluminum mast arm shall be designed to meet Class C loading requirements per ANSI C136.13, latest revision, as follows:

Maximum Luminaire Weight = 50 lb

EPA = 1.5 ft<sup>2</sup>

Equivalent Wind Load = 50 lb

Mast arms shall conform to all other applicable loading requirements of AASHTO and ANSI C136.13.

## 6. Marking

Each mast arm support bracket shall be permanently marked with the manufacturer's name or trademark and date of manufacture. Marking shall be visible after installation. Either adhesive-backed foil label or indent-printing are acceptable.

## 7. Packaging

Aluminum mast arms shall be packaged so as to ensure safe delivery and prevent damage due to normal handling. Mast arms of different lengths may not be packaged together. Mast arms shall not be wrapped. Packaging shall be suitable for lifting with a fork-lift.