

## 400W HPS LUMINAIRE (HIGH MAST)

### I. Quantity

The base bid shall include the indicated number of 400w HPS high mast luminaires to be furnished and installed as hereinafter specified.

### II. Material

- a. Luminaire - The die-cast aluminum housing shall provide a weather tight environment for all components and shall pass the 1984 rain test, UL 1572 and be UL listed to operate in 40 degrees Celsius ambients. The cast aluminum bracket arm clamp shall attach to a 2" nominal pipe by two 3/8" grade 5, zinc plated steel bolts which allow for + 3 degrees adjustment for leveling the luminaire. The lamp grip, porcelain enclosed, pulse rated, socket shall prevent undue lamp vibrations and backout. All components shall be of non-corrosive material or have positive corrosion protection and the complete fixture shall be vibration tested.

Each luminaire shall be furnished with an internally mounted 480 volt copper wound ballast. The ballast shall be a high power factor, three winding type with isolation between the two secondary windings and the primary winding. The ballast must provide a maximum of 14% wattage variation (measured along the left side of the lamp trapezoid) to a normal lamp when input voltage varies within a range of + 10%.

The starting circuit must provide a minimum starting pulse repetition rate of one pulse per half-cycle (symmetrical). The spike position must occur within a maximum of + 20 degrees of the center of the open-circuit voltage waveform. The pulse peak voltage should be a maximum of 3000 volts. Pulses must be provided in the same polarity as the open circuit voltage.

All ballast components shall be mounted to a single die-cast aluminum plate which shall be completely removeable as a unitized assembly for maintenance without removing the luminaire from the bracket arm. All ballast components shall be factory tested and pre-wired to the quick disconnect.

A terminal block shall be provided to simplify wiring and provide positive electrical connections. It shall be pre-wired with a quick disconnect which connects to the pre-wired ballast quick disconnect.

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The optical assembly shall be of the open ventilated design consisting of a pressed or spun borosilicate prismatic glass reflector and refractor. The glass

reflector shall have a smooth, non-porous inner surface which is not subject to permanent deterioration. It shall be encased within a spun on, sealed aluminum cover which is factory assembled to the die-cast aluminum housing. The reflector shall be designed to direct light away from high pressure sodium arc tubes to prevent excessive lamp voltage rise. The lamp shall operate in the vertical, base up position for maximum lamp life and lumen maintenance.

The heat, cold and shock resistant pressed borosilicate prismatic glass refractor shall be readily attached to the reflector by means of a stainless steel clamping band equipped with captive stainless steel nut and screw. The refractor shall be rotatable 360 degrees around the reflector axis to any position.

The luminaire shall provide an ANSI/IES type V distribution.

The luminaire shall be Holophane Catalog Number HMST400HP48S9 or approved equal.

- b. Lamp - The high pressure sodium lamps shall be 400 watt, with a rated life of 24,000 hours equal in quality, design and performance to General Electric Co. LU400.

### III. Installation

The 400W HPS high mast luminaires shall be installed as shown on the drawings and as indicated in the field by the engineer.

### IV. Quotation

The 400W HPS high mast luminaire shall be quoted as a unit price each in the appropriate place of this document.