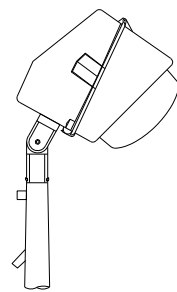
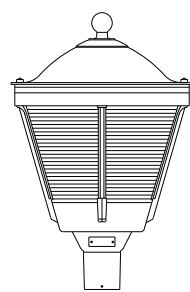


REVISIONS		
REV. NO.	DESCRIPTION	DATE
Various		09/05/2018



**Vector Series**  
Offset Design



**RSL Series**  
Decorative Design

**Typical Post Top Luminaires Specifications For High-Intensity Discharge Luminaires**

**Description:**

Luminaires shall comply with the general specifications for high-intensity discharge luminaires on Standard HLD1-2 (Latest Revision) and the following specifications.

**Post Top Luminaire (General)**

- Ballast:**  
A door mounted ballast is not required.

**Post Top Luminaire (Offset Design):**

- Housing reflector, refractor and door shall conform to the specifications for "Roadway Luminaires (General)" on Standard HLD1-2 (Latest Revision).**

- Mounting:**  
The cast aluminum tenon mounting bracket shall permit external lateral orientation, leveling and vertical aiming.

- Lamp socket:**  
The lamp socket shall be attached to the reflector and assure correct lamp positioning.

**Post Top Luminaire (Decorative Design)**

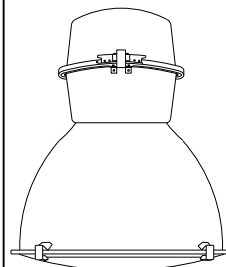
- Housing, refractor and top cover:**  
The housing base shall be diecast aluminum. Refractor holder and top cover may be either diecast aluminum or heavy duty formed aluminum.

Refractor shall conform to the refractor specifications for Roadway Luminaires (General) on Standard HLD1-2 (Latest Revision) or shall be of prismatic acrylic plastic having lasting light transmission properties.

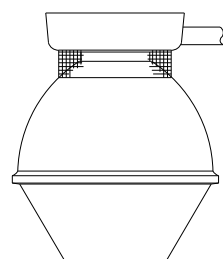
The top cover shall be hinged, latched and equipped with a safety chain attached to the housing.

- Ballast:**  
The ballast shall be designed for single phase, grounded, 120/240 volt operation in a multiple system.

- Finish:**  
The luminaire shall have a baked on acrylic finish of either black, grey or a color to match the pole. See plans for color required.



Enclosed Design



Open Design

**HMST Series**

**Typical High Mast Luminaires Specifications For High-Intensity Discharge Luminaires**

**Description:**

Luminaires shall comply with the general specifications for high-intensity discharge luminaires on Standard HLD1-2 (Latest Revision) and the following specifications.

**High Mast Luminaires:(General)**

- Mounting housing:**  
High mast luminaires shall be for 2" diameter mast arm mounting and shall permit leveling  $\pm 3^\circ$  vertical. A pipe clamp shall prevent the luminaire from twisting on the arm. The housing shall be die cast aluminum.

- Ballast enclosure:**  
The ballast shall be enclosed in a cast aluminum module on the top of the mounting housing and shall be easily detached with out removing the luminaire.

- Cut-off visor:**  
If required, cut-off visors will be installed in the luminaires to shield the emitted light from the luminaire. the cutoff visors may be required to shield a portion or all 360° of the luminaire refractor. Should cut-off visors be required, the department will negotiate with the contractor for the additional materials and labor to do the modifications.

- Installation:**  
Luminaires shall be installed on the high mast lowering device luminaire ring after erection of the pole and the lowering device. Care shall be taken not to damage luminaire assembly or lamps during installation.

- Size:**  
The luminaire shall be designed for 100 M.P.H. wind loading, weighing no more than 75 lbs. and having an effective projected area no greater than 2.2 square feet.

**High Mast Luminaire (Open Design):**

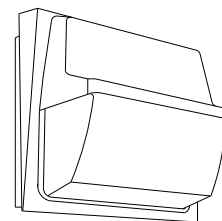
- Optical assembly:**  
The reflector and refractor shall be prisms, pressed, heat resistant, crystal clear, borosilicate glass, annealed, homogenous and free from imperfections and striations. The refractor shall be contained in a spun and cast aluminum housing. The optical assembly shall be open and ventilated and must be easily removed from its mounting.

**High Mast Luminaire (Enclosed Design)**

- Optical assembly:**  
The reflector shall be of spun aluminum, faceted to redirect reflected light away from the lamp arm. tube and finished with the alglas process.

The refractor shall be curved clear tempered glass connected to the refractor assembly with stainless steel clamp band, latch and hinge.

The optical assembly shall be gasketed and all air entering the optical cavity shall be filtered through an activated charcoal filter.



**WL2K Series**

**Typical Underpass Luminaires Specifications For High-Intensity Discharge Luminaires**

**Description:**

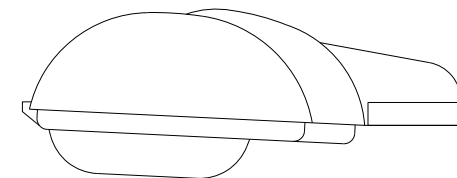
Luminaires shall comply with the general specifications for high-intensity discharge luminaires on Standard HLD1-2 (Latest Revision), and the following specifications.

**Underpass Luminaires:**

- Mounting:**  
The cast aluminum housing shall be designed for back mounting on a flat surface with at least 3 mounting holes.

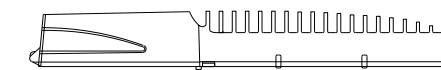
- Housing, reflector, refractor and door:**  
The housing, reflector, refractor and door shall conform to the specifications for "Roadway Luminaires (General)" on Standard HLD1-2 (Latest Revision). The door shall be hinged to the housing and protected with a safety chain.

- Refractor guard:**  
If specified, the luminaire shall be equipped with an externally mounted polycarbonate grid guard to protect the refractor.



**Mongoose Specifications For High-Intensity Discharge Luminaires**

**See Standards HLD1-2 (Latest Revision) For Additional Luminaire Specifications**



**LED Specifications**

**Description:**

Luminaires shall comply with Specification Section 809 for Light Emitting Diode Luminaires (Latest Revision) and the following specification requirements.

**LED Luminaires (General Requirements)**

- Provide LED luminaires listed to UL1598 and suitable for use in wet locations. Ensure that optical compartment meets IEC STD. 60529-IP66. Supply NRTL certification to verify listing. Do not place fuses in pole-mounted luminaires. Provide wall- or underpass-mounted luminaires with internal 10-amp, time delay fuses and fuse holders.
- Housing reflector, refractor and door shall be constructed from 96% copper free diecast aluminum. Provide for luminaire mounting to a 1 1/4 in. pipe arm, capable of adjustments of 0 to 45 degrees from level. Meet ANSI 136.31, 3.0 G vibration requirements. Equip luminaire with a three-prong ANSI 136.10 rotatable and shorting cap. Ensure weight of the luminaire is less than 60 lb, and the effective projected area is less than 2.1 SQ. FT.
- Mounting:** Attach a level indicator to the fixture housing. Ensure that indicator is sensitive to 1 degree changes in position at any point within 5 degrees of the level position. Ensure that indicator is clearly visible from the ground up to a 40-ft. mounting height. Ensure that indication of level corresponds to a level of fixture housing.
- LED drivers.** Provide luminaire with replaceable LED driver that will operate at 120 V, 240 V, or 480 V line voltages as shown in the plans. Provide LED drivers meeting the performance specifications described in Specification Section 809 for Light Emitting Diode Luminaires.
- LED optical assembly:** Provide LED optical assembly with nominal color temperature of 4000K. For verification testing, CCT within the range of 3700K to 4300K is allowable. Provide LED optical assembly with a minimum CRI (Color Rendering Index) of 70. Provide a passive thermal management system. Do not use fans or other mechanical cooling systems.
- Finish:** Paint luminaires light gray with initial gloss of 30-60% (semi-gloss) when installing on galvanized poles. For all other poles, paint luminaires to match the color of the pole as directed. Use a thermoset powder-coat paint system. Provide ASTM testing documentation that meets the painting performance requirements set forth in Specification Section 809 for Light Emitting Diode Luminaires.
- The optical performance of all luminaires shall conform to IES TM-15-07 (revised) standards for maximum zonal lumens for backlight, uplight, and glare (BUG) using IES testing procedures.

**Basis of Payment**

Item No.	Item	Unit
809(A)	Roadway Luminaire	Ea
809(B)	Underpass Luminaire	Ea
809(C)	Post Top Luminaire	Ea
809(E)	High Mast Luminaire	Ea

Approved By *St dr.* Bridge Engineer: \_\_\_\_\_ Date: **9-14-18**

Approved By *CjK* Traffic Engineer: \_\_\_\_\_ Date: **9/28/18**

Traffic Standard



Typical Highway Luminaire Details

2009 Specifications

HLD2-2 01

T-315