

DESCRIPTION

The system consists of the materials for the installation of a hardwired In-Roadway Illuminated Marker System that may be used for enhancement of stop bars at (LOCATION) to alert motorists that they are approaching (an active transit crossing occupied or about to be occupied by a train or bus) (a RED signal to stop).

The contractor's responsibilities would consist of installing the In-Roadway Illuminated Marker System and its controller interface and the construction of facilities to support the System, as outlined in these specifications.

WARRANTY

System components shall have a limited warranty of 5 (FIVE) years.

TECHNICAL SPECIFICATION

High Performance LED In-Roadway Marker Units

LaneLight MLK150 – R - AC.

IMPORTANT:

System shall be LaneLight MLK150 AC INTERSECTION.

If the contractor wishes to submit an alternate system for an approved equal, specifications of the proposed alternate that conform to the following specifications shall be submitted to the Engineer having jurisdiction at least ten (30) working days prior to the bid opening date as determined in the bid solicitation notice. No proposed "equal" product proposed after the ten day advance will be accepted, and it is therefore assumed the successful bidder on this project will install the specified product if no approval has been issued by the Engineer Having Jurisdiction.

1. **Mechanical Characteristics – Upper Housing**

Nominal Dimensions – diameter = 150mm; height = 30.5mm,

Assembly Material – Heat treated, M8x20 DIN912 cast A4 stainless steel or equal.

IN-ROADWAY PROFILE SHALL NOT EXCEED 0.125 INCHES ABOVE PAVEMENT SURFACE.

Lens – prismatic- Borofloat hardened glass, 2 per marker; uni-directional,

NO PLASTIC LENS OR BODY COMPONENTS SHALL BE EXPOSED TO TRAFFIC.

All electrical terminations shall occur within the marker housing with manufacturer provided and approved connectors and sealant; under no circumstances shall any electrical connection be made in the pavement outside the marker housing.

Tested – LED enclosure: Water ingress to IP68.

LED Module attached to the base with two stainless steel security screws set to 32 ft/lb torque; Removal/replacement in approximately five minutes or less.

2. **Mechanical Characteristics – Lower Housing**

Nominal Dimensions – diameter = 7 inches (178.5mm); housing height = 1.375 inches (35mm).

Material – Corrosion-resistant aluminum alloy or equal,
Tested - Minimum of 95,000 lb compressive strength,
Install depth w/wiring sub base – 2.75inches (65mm)

3. Optical Characteristics

Bulbs – 16 (sixteen total, eight per lens) proprietary LaneLight ultra bright design, with consistent light output control

Colormetrics: RED: to comply with MUTCD specifications

Daytime visibility – range: to exceed 3000 feet regardless of ambient light conditions.

4. Electrical Characteristics

Supply Voltage: 8 to 36VAC,

Power consumption /marker: 3.5W to .5 W

Dynamic dimming via overriding signal

Ambient temperature range: -30C to 65C

Lead in conductors shall be fitted with a 2C waterproof modular connector.

Lead in conductors shall be waterproof and be contained within a nylon spiral wrap

5. Installation into Roadway

One 3/8" slot to be cut, 2 1/2" depth; and 7" diameter round holes, 2 3/4" depth round cores cut, centered over the slot where markers are to be placed. To avoid risk of stress fractures being produced by ingress into the road surface, **ONLY ROUND CORE HOLES ARE TO BE MADE IN THE PAVEMENT FOR INSTALLATION OF THE ROAD MARKERS, WITHOUT EXCEPTION.**

Mounting and Bedding; Manufacturer approved resilient-setting Epoxy Resin ITEM-Flex; or approved equal.

Optional Installation Into Roadway

The in-roadway light system may be installed in concrete, following manufacturer's instructions.

6. Signal Interface LaneLight Controller (SILC)

Process Control Unit (PCU) LaneLight Signal Interface designed for connection with intersection signal controller

Supply Voltage 95 to 130VAC (typically 110V AC or 120V AC); other primary voltages available to suit user requirements

Capacity-20 amp output (150 LaneLight MLK150 maximum connected load)

Temperature range: -40 to +160 degrees F

Transient/Inrush current limiting – internal on all outputs,

Overload –internal, auto-reset circuit breakers on outputs,

Power Factor Correction – provided, Power Output limiting – 120%, Short Circuit –

Continuous protection, intermittent cycle permitted,

Dynamic dimming mode control –photo sensor enabled, minimum brightness
Adjust 15%-100%,
Control Inputs: 120V AC from Amber or Red signal outputs of intersection
controller
Flash rate: Selectable "pulsed" flash rate or steady on, either selectable in either
AMBER signal controller output activated or signal controller RED signal output
activated LaneLight phases.
Programming via USB port; either direct or remote with dedicated software
(included)
Remote firmware upgrade capable
Cabinet: foot or rack mountable
Cooling by internal fan
Color: Black

8. In-Road Wiring System

LaneLight control cable –14/2-&G, conductor insulator color code Red, Black
.327" o.d. (nominal), with dry water block system; 19 strand tinned copper
conductors; outer jacket labeled "LANELIGHT Delineation".
Sub-Base Encapsulation – 3M Scotchcast 8882, or manufacturer approved equal.
Waterproof connectors: 3m type 314 or 316IR; **no substitutions.**
**Sealed connectors encapsulated in the light fixture's junction box shall be
used in all installations connecting each LaneLight's wiring harness to in-
road cabling, without exception.**

9. Power Supply

AC (Grid) Powered System from cabinet power supply;

Receptacle or power terminal 10 amp protected circuit.

Solar Powered, Hybrid Solar/Battery/AC, or Battery/AC System

System can be solar or hybrid powered with manufacturer designed and supplied
solar/battery/ac or battery/ac power package.



LaneLight™ MLK150

LED-Illuminated In-Road Marker System UNI DIRECTIONAL

DIMENSIONS	STANDARD SPECIFICATIONS	OPTIONS
<p>150 mm</p> <p>125 mm</p> <p>30.5 mm</p> <p>Housing</p>	<p>Technology Active LED</p> <p>Dimensions -LED module 150mm x 125mm (5.9"x 5")</p> <p>Dimensions - Housing 175mm (7")</p> <p>Protrusion from pavement 3 mm (.12") or Flush Mount option</p> <p>Housing depth (incl.sub base) 65mm (2.56")</p> <p>Daytime visible Yes, to 3000 ft (dimmbale by PWM at night)</p> <p>Snowplowable Yes, with Flush Mount option</p> <p>Housing - LED module Stainless Steel</p> <p>- Housing Aluminum</p> <p>Sealing IP68</p> <p>Load rated 5,000 kg compression</p> <p>Operating temperature -20C to +50C</p> <p>Lens Boron/glass</p> <p>LED face Uni-directional</p> <p>LEDs per unit 16</p> <p>LED color Amber, Red, Green, White, or bi-color</p> <p>Light intensity Over 3,500,000 cd/m2</p> <p>Activation Optional</p> <p>Power Hardwired; Low voltage AC, DC models ; 2.5w (nominal)</p> <p>Controller Microprocessor; (sold separately)</p> <p>Wiring 18 AWG direct burial or drain equipped conduit 2 or 3 wire configurations</p> <p>MUTCD compliant YES</p>	<p>LED Colour : Amber, Red, Green, White, or bi-color</p> <p>Special Voltages</p> <p>Passive Activtion Systems</p> <p>Integration with traffic control devices.</p> <p>Addressable chip for control (chasing, flashing, etc.)</p>

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