Index 17505 External Lighting for Signs (Rev. 11/16)

Design Criteria

AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals (LRFDLTS-1); ***Structures Manual*** Volume 3, FDOT Modifications to LRFDLTS-1.

Design Assumptions and Limitations

Use external lighting for overhead signs only when required. For guidance see ***PPM*** Volume 1, Chapter 7.

Design wind speed is 170 MPH, and is applied in one direction at a time while mounted at 32 feet or less above the surrounding terrain. Luminaire is LED with maximum weight of 38 lbs and an EPA (estimated pressure area) of 2.35 sf. Assembly with luminaire is mounted to two steel pipes attached directly to the vertical I beams that support the overhead sign. Mounting of the horizontal pipes close to a horizontal Z bar (wind bar) is to limit prying action. Turning mechanism is for maintenance of the sign and luminaire. Design for the assembly including luminaire with the shear pin removed and rotated 90 degrees, was checked for a maximum 80 mph wind load.

Horizontal distance measured from the front of sign panel to the center of the luminaire is a maximum of 6 ft. The centerline of the light is 1 ft below bottom of the sign panel. Maximum distance from the bottom connection (horizontal pipe) is 6 ft above the bottom of the sign.

Plan Content Requirements

Include a completed Guide Sign Worksheet, with luminaire spacing and arm length, and height of sign. See ***PPM***, Volume 1, Chapter 7 and Volume 2, Chapter 23.

Payment

Include cost of the steel pipe assembly including the luminaire, mounting plates, screws and U-bolts in the cost of the overhead sign panel.

Item number	Item description	Unit Measure
700-3-ABB	Sign Panel	EA