

CONTRACT CHANGE ORDER NO. 141 SUPPL. NO. ---
ROAD 04-SF-80-13.2, 13.9 SHEET 3 OF SHEETS
FEDERAL NO.(S) _____ CONTRACT NO.: 04-0120F4

Add the following section to the end of Special Provisions Section 10-3.14 "Lighting," as follows:

SIGN LIGHTING FIXTURES – LIGHT EMITTING DIODE (LED)

Each fixture shall consist of housing with door, a reflector, refractor or a lens, a power coupler, surge protection module, LED driver, transfer switch and a fuse block. Fixtures shall have a minimum average rating of 100,000 hours. Fixtures shall be for wattage of 80 W, 120-277, 347-480 VAC auto sensing driver. The power factor of the fixtures shall be greater than 90 percent and the total harmonic distortion (THD) shall be less than 20 percent. Inrush current shall comply with NEMA 410-2004 Table B-2 and line Fluctuations and Ramp input Voltage per UL 991-2004.

The luminaire shall conform to Electromagnetic Compatibility tests for Electrostatic Discharge (ESD) per IEC 61000-4-2 (2001), Level 4.

Fixtures shall be Underwriter Laboratories (UL) approved for wet locations and be EMI compliant per FCC Title 47 CFR Part 15, Class A listed.

Modular chip on board LED design shall focus on providing long life and substantially reducing energy and maintenance costs with L70 of greater than 100,000 hours life resulting in high lumen application efficacy for sign lighting applications.

Luminaire shall be designed and tested to comply with ANSI C136:31-2001 for 100,000 cycles at 3-G acceleration for normal applications.

The fixture shall be rated for operation between -40 degree Celsius and +40 degree Celsius.

Optical assembly shall comply with dust and moisture rating of IP-66. Electrical assembly shall comply with IP-65 per IEC 60529, and component shall have long life with protection from the environment.

The luminaire shall be finished with polyester paint to after a pretreatment process to ensure maximum durability. The finish shall pass the 1000 hours salt fog test per ASTM B117 and D1654 standard.

The mass of the fixture shall not exceed 17 kg. Fixture shall be provided with manufacturer's name, trademark, model number, serial number and date of production permanently marked on the outside and inside of the housing.

MATERIALS

Mounting Assembly

The mounting assembly shall be compatible with state furnished mounting plate and be made of either cast aluminum, hot-dip galvanized steel plate, or steel plate that has been galvanized and finished with polymeric coating system or the same finish that is used for the housing.

Housing

Housing shall be rugged cast low copper 356 aluminum alloys. The removable door shall be designed to hold the refractor, lens and COB (chip on board). Housing doors shall be designed to be opened without the use of tools that contain surge protector, terminal block, driver and quick connect. Housing and door shall have a powder coat or polyester paint finish of a white.

Optical

Multi-die LED chip on board technology shall be comprised of an array of individual LEDs on one board with fewer solder points and optical control for dense light sources. The reflector shall have 90+ percent reflectivity with overlapping and repeatable distribution from each module. The luminaire shall be with LED color temperature 5000K with minimum color rendering index (CRI) of 65.


REGISTERED ELECTRICAL ENGINEER

10-7-2013
APPROVAL DATE

