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**Maintenance Bureau Specification 2010-02**  
**for**  
**Multi-Head LED Lightbar**  
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**This document describes the features and specifications for a “Multi-Head, LED, Lightbar”.  
This specification will cover a wide of sizes.**

1.0 Features:

- 1.01 Unit shall have enough LED modules to provide 360-degree combined coverage from the ends of the lightbar.
- 1.02 The minimum configuration of the units shall consist of amber LED modules on each end providing 180-degree coverage each and a minimum of six (6) centroid LED module slots facing the front and rear of the unit populated with amber LED units. Shall be capable of incorporating additional/different LED or light modules in both the front and back centroid of the unit.
- 1.03 LED modules shall be available in one of two LED display types, regardless of the lens and reflector technology used to achieve the display general appearance of the modules when not illuminated); Dot or Linear.
  - a. **Dot Display:** LEDs in this display type will show individual LED dots for each LED used in the module, giving the appearance of illuminated dots.
  - b. **Linear Display:** LEDs in this display type will appear to represent a vertical or horizontal line of light from each LED used in the module. This shall apply to both vertical and horizontal displays.
- 1.04 The lens color for the LED modules shall be the same as the LEDs being used: Amber for amber LEDs and clear for white LEDs.
- 1.05 The rear-facing centroid LED module slots, if required, shall be capable of being utilized as a traffic advisor.
- 1.06 When including the optional traffic advisor, the controller for the traffic advisor shall be capable of producing, at a minimum, the following four patterns: Left to Right sequential, Right to Left sequential, Split-Out from the center, and Cautionary Flash.
- 1.07 The controller shall produce, at a minimum, twenty pattern cycles per minute for any of the above listed patterns.

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- 1.08 All internal components, such as LED modules and power supplies, shall be modular in design for ease of replacement without removing the lightbar from the roof of the vehicle.
- 1.09 Unit shall meet or exceed SAE J845 requirements for a Class 1 warning beacon.
- 1.10 Each LED module used shall produce at a minimum a 70 quad/quit flash pattern per minute(280/350 total flashes) with other user selectable flash patterns as required.
- 1.11 Unit shall be capable of operating on a voltage of 12 VDC.
- 1.12 Each unit shall be classified as either a “low profile” or “high profile” unit and shall not exceed 12 inches in width and have a minimum length greater than 40 inches.
  - a. **Low Profile:** Refers to lightbars that do not exceed 3½ inches in height, not including the mounting option.
  - b. **High Profile:** Refers to lightbars that are greater-than 3½ inches in height yet less-than 6 inches in height, not including the mounting option.
- 1.13 Unit shall have a heavy gauge, extruded aluminum base or I-beam chassis which resists stress.
- 1.14 Each unit shall be provided with polycarbonate lens, color appropriate to the layout, either amber or clear as required.
- 1.15 Average amp draw per LED module shall not exceed 0.5 amps @ 12 VDC.
- 1.16 Unit shall have a manual or automatic “Hi/Lo” intensity mode.
- 1.17 All units shall come complete with all applicable mounting hardware.
- 1.18 Unit shall include one (1) set of installation and operation instructions, in English.

**2.0 General:**

- 2.01 Upon award of contract ALDOT may require; 1) independent testing at Awardee’s expense to verify specifications have been met or 2) having the Awardee provide a sample unit for review/evaluation that may be returned at the Awardee’s expense and direction. Failure to comply shall be grounds for sacrifice of award. Sacrifice of award may not be limited to single line, but rather, the entire group if applicable to contract format.
- 2.02 All successful bidders shall be either an authorized distributor for the manufacturer or the manufacturer of the product line with sufficient quantities of new units to remedy warranty and purchase requests and offer accessories and service parts to maintain the needs of the vehicle fleet within seventy-two (72) hours after call.

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- 2.03 The model number of the unit shall appear on the bid document line.
- 2.04 Bid shall also include documentation such as unit specifications, cut-sheets, certifications, etc. that show item meets this specification. Failure to provide documentation with bid shall disqualify the bid without notice.
- 2.05 The unit specified shall be warranted by the manufacturer, from the date of receipt or installation, to be free of defects of material or workmanship for a period of one (1) year and the LED components shall be warranted for a period of five (5) years. Written proof of this warranty shall be provided with bid.