Sample Specifications for Engineers and Planners

This document is available as a Word document for use in plans and specifications. Sign CAD drawings are also available. To request, call 800-258-1997.

ALD *(Alternative Lighting Device)* L-858 SIGN – SAMPLE SPECIFICATION

LUMACURVE LED L-858 SIGN – SAMPLE SPECIFICATION

DESCRIPTION

858-1.1 This item shall consist of furnishing and installing the L-858 guidance signs in accordance with these specifications and the details shown on the plans. This item shall also include all wire and cable connections, the furnishing and installing of all necessary conduits and fittings and all necessary mounting structures. It shall also include the testing of the installation and all incidentals necessary to place the signs in operation as completed units to the satisfaction of the Engineer.

EQUIPMENT AND MATERIALS

858-2.1 GENERAL.
858-2.1 The signs shall use a LED (light emitting diode) technology and shall be ETL certified and conform to the requirements of FAA Advisory Circular 150/5345-44 (latest version) "Specification for Runway and Taxiway Signs. The LED L-858 signs shall be Lumacurve, manufactured by Standard Signs Inc. (www.lumacurve.com), or approved equal.

[include section 858-2.1a if desire is to match existing Lumacurve signs on field]

{858-2.1a Match Existing Signage
Airport signs shall be LUMACURVE as manufactured by Standard Signs Inc to match existing airfield signage. The airport/owner desires to maintain standardized airfield lighting equipment in order to reduce costs by minimizing replacement parts inventory and maintenance training. All required changes in existing signs must be accomplished by retrofit with OEM LUMACURVE add-on modules and replacement face panels. If other than LUMACURVE signs are supplied, the installing contractor must bid all retrofit situations as new signs and replace all existing signs so that airport signage will remain consistent.}

CONSTRUCTION

858-3.1 MODULARITY.
To provide maximum flexibility to the airport, signs shall have a modular construction. Modules shall be of a standard length and combined to make 1, 2, 3 and 4 module signs. Signs must allow for future legend changes of various lengths by simply adding additional modules or removing existing modules. Sign shortening of multiple modules signs shall be accomplished without the use of additional sign frame components. Sign lengthening shall be accomplished by using all existing sign frame components in addition to the required add-on modules.

Sign tops shall be secured with a maximum of two turn fasteners per module and be removable without tools for easy maintenance. Sign faces shall be curved to provide uniform, balanced lighting. Sign faces must not exceed 42" in length to ensure easy removal and replacement by one individual.

PERFORMANCE

858-3.2 LIGHTING SYSTEM.
Signs shall use an energy efficient, long life LED type lamp or engineer approved equal. Lamps shall be 4W with an estimated life of 25,000 hours. To facilitate quick lamp changes without the use of tools, lamps shall utilize a screw base socket. All sign configurations shall have a power factor of .92 or higher as measured on the primary of the L-830 or L-831 isolation transformer. Sign systems must operate on both medium intensity (4.8A – 6.6A) and high intensity (2.8A – 6.6A) circuits without internal modification to give the airport maximum flexibility in sign usage and minimize parts to be stocked. To maximize maintenance personnel safety, there shall be no more than 170Vdc at any point inside the sign. In addition, the power supply circuit shall output a regulated DC current of 0.29 amps maximum. The VA loading requirements shall not exceed those listed in the table below:

	1 Module	2 Module	3 Module	4 Module
Size 1	45	55	65	70
Size 2	50	65	75	80
Size 3	50	65	75	80
Size 4	65			
Size 5	50			

858-3.3 REPLACEMENT PARTS POLICY
In order to maximize safe operations on the airfield, reduce risk of runway incursions & minimize inventory requirements, sign manufacturer shall provide the owner an emergency replacement signs and parts service for the life of the signs. Orders for replacement parts & complete signs shall ship within 24 hours of order receipt. Manufacturer shall provide a history of providing such a service for a minimum of 5 years. The cost for this policy shall be considered incidental to each pay item for the signs.

[include section 858-3.4 if it is required to modify existing Lumacurve signs on field]

858-3.4 SIGN MODIFICATION AND PANEL REPLACEMENT.
The existing airfield signs are LUMACURVE manufactured by Standard Signs, Inc of Cleveland, OH. Only OEM replacement panels and parts shall be allowed for use in the modification or upgrades to existing signage. Per the equipments' FAA/ETL Certificate of Conformance: "The certification is not valid for a product modified with non-OEM replacement parts or non-production components". The original manufacturer shall continue to be held accountable for their signs and maintain the liability

associated with the products performance. This shall provide to the owner the following assurances: uncompromised FAA certification of the product, the continuation of all applicable manufacturer warranties, and continued product support from the manufacturer.

858-3.5 SPARES.
In case of knock-downs or maintenance vehicle damage, new installations shall include 15 percent spare lamps/light sources for every sign supplied and 2 spare power supplies for every 10 signs supplied (minimum qty of 1). This will further protect the airport from premature component failure that occurs after the manufacturer's warranty expiration but prior to reaching the projected light sources full rated life.

CONSTRUCTION METHOD

858-4.1 PLACING THE LED L-858 SIGNS.
The contractor shall furnish and install each L-858 sign as specified in the proposal and shown in the plans. The LED L-858 shall be mounted on concrete pads at the location shown on the plans.

858-4.2 TESTS.
The sign system shall be fully tested by continuous operation for not less than 72 hours as a completed system prior to acceptance.

METHOD OF MEASUREMENT

858-5.1 MEASUREMENT.
The quantity of lights to be paid for under this item shall be for the quantity of LED L-858 signs (with tethers) as shown on the plans and one Instruction Manual (per lot) installed and accepted as completed units, in place, ready for operation.

BASIS FOR PAYMENT

858-6.1 PAYMENT.
Payment will be made at the contract unit price for the completed total quantity of LED L-858 signs installed, in place by the contractor, and accepted by the Engineer. This price shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to complete this item.

Payment will be made under:

Item L-858-5.1 LED L-858 Sign, in Place-per each

RECOMMENDATION
To accurately assess the true lifecycle costs and minimize the risk associated with a newer lighting technology of a given airfield signage lighting system, it is advised that there be a separate bid item for spare parts to include:

Lamps, light sources or LED light engines, complete (as required to light the signs provided)
Power supplies, complete (as required to power the light source/s of the signs provided)

The pricing should be held for a given number of years, determined by the airport and should typically match the manufacturers published rated useful life of the light source utilized in the sign/s provided. The quantity of the bid items should reflect an appropriate number that will hedge the owners risk against premature failure of long life technologies that have yet to be proven.