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ENGINEERING AND OPERATIONS

NORTHERN AIRPORTS

SPECIFICATION FOR LIGHTING AIRPORT FIXTURE ASSEMBLY

FOR USE IN MEDIUM INTENSITY AIRFIELD

LIGHTING SYSTEMS

**Manitoba
Transportation and
Government Services**



TRANSPORTATION AND GOVERNMENT SERVICES NORTHERN AIRPORTS

SPECIFICATIONS FOR MEDIUM INTENSITY AIRFIELD LIGHTING FIXTURE ASSEMBLY

1. SCOPE

- 1.01 This specification defines the general requirements applicable to medium intensity runway lighting fixture assembly. The intent of this specification is to establish minimum acceptable electrical, mechanical, design and performance requirements, which all runway light fixtures must meet to ensure satisfactory and reliable operation. It is not intended to impose restrictions upon design or materials, which must conform to the FAA or Transport Canada TP 312 Technical standard. All FAA and Transport Canada TP 312 standards, current FAA and Transport Canada TP 312 specifications at time of contract, not specifically mentioned in this specification will apply. Where there is a conflict between this specification and the latest FAA and Transport Canada TP 312 standard, this specification will apply.

2. REQUIREMENTS

- 2.01 The fixture assemblies must conform to FAA and Transport Canada TP 312 Specifications.
- 2.02 The fixture assembly must be comprised of the following components as per drawing #NAP-001 attached:
- One piece optical lens
 - Aluminum lens retaining ring
 - Rubber lens gasket
 - Halogen lamp support
 - Cast aluminum lens base
 - Cast aluminum fixture base
 - Cast aluminum 50mm slip fitter
 - Cable and plug assembly
 - Flag assembly
- 2.03 The optical lens is to be secured in place with a solid lens retaining ring. A gasket must be installed between the lens and the base to ensure a weatherproof seal. The optical carrier is to be locked in place with a 6mm stainless steel hex head bolt and locking nut. The slip fitter part of the fixture must serve as a platform for the lens base and as a suitable means of leveling the base. The slip fitter must be a circular casting with a raised cable entry channel on the back of the fixture. (See Drawing #NAP 001) attached.

- 2.04 The fixture entrance cable is to be supplied with a FAA L 823 Style 1 Plug assembly vulcanized to the cable and wired to the fixture ready for use internally or externally of the frangible coupling.
- 2.05 All non-optical components of the fixture assembly must be coloured Aviation Yellow. The paint must be gloss alkyd enamel.
- 2.06 The fixtures must be suitable for operation while exposed to rain, ice, snow or standing water. The fixture must be able to operate within a temperature range of -55°C to +55°C.
- 2.07 A triangular shaped, retro-reflective, red flag assembly must be supplied with each fixture. The flag must be attached to a 600 mm flexible stem and must be complete with the appropriate mounting hardware. (See Drawing #NAP-001) attached.
- 2.08 The fixture housing must fasten to a 50mm diameter cast aluminum-mounting column supported by a 50mm breakaway coupling.
- 2.09 Fixture height must not be more than 350mm (14 inches).
- 2.10 The edge light is to be suitable for stake mounting. (See Drawing #NAP-001) attached.
- 2.11 The fixture must be supplied with an Osram Xenon gas dosed PK30D halogen lamp. The lamps must be separately packaged and shipped in boxes of twenty (20).
- 2.12 Light fixtures must be approved under FAA Specification L-861 (runway), L-861T (taxiway/apron) and L-861E (threshold).
- 2.13 Each unit must be identified with manufacturer's name, wattage, voltage range, date of manufacture and serial number, if used.
- 2.14 The fixtures must be equipped with CSA product approved label or have a Manitoba Hydro inspection approval.
- 2.15 The Edge optical light lens must be formed of clear glass and be asymmetrical.
- 2.16 The Apron optical light lens must be formed of glass, yellow in colour and symmetrical.
- 2.17 The Taxiway optic light lens must be formed of glass, blue in colour and symmetrical.

- 2.18 Threshold optical light lens must be one piece formation red/green in colour and symmetrical.

3. WARRANTY

- 3.01 All units must be guaranteed against failure for one year from date of acceptance by the Traffic Engineering Branch of the Department of Transportation and Government Services.

4. INSPECTION AND ACCEPTANCE

- 4.01 The vendor must supply one evaluation sample unit of each type being supplied along with all testing and technical documentation.

Fixtures that conform to this specification and are not currently in use by this Department must be submitted to the Traffic Signal Workshop for a one-year evaluation period by the Department. At the end of the evaluation period the supplier will be advised by the Traffic Operations Engineer if the equipment submitted for evaluation is acceptable.

The total cost of supplying this equipment for evaluation must be borne by the supplier. The bidder must complete the attached "Specification Compliance Summary" (attached). Failure to complete the summary will result in disqualification from the bidding.

- 4.02 All shipments of Runway Light Fixtures must be delivered to the Mechanical Equipment Warehouse facility at 1550 Dublin Avenue, Winnipeg, Manitoba. At that time they will be inspected by the Traffic Engineering Branch of the Department of Transportation and Government Services.

Acceptance will be based on the supplied equipment meeting the requirements of this specification.

- 4.03 For additional technical information please contact Mark Seniuk at (204) 945-7335 office, or (204) 799-8682 cellular.