



AEROSPACE STANDARD

AS271™**REV. B**

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Superseding AS271A

Aircraft Position Lights

RATIONALE

The technical report covers technology, products, or processes which are mature and not likely to change in the foreseeable future. For updated information on this topic, refer to the latest issue of AS8037.

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1. PURPOSE - To specify minimum requirements for aircraft position lights.
2. SCOPE - This specification covers three types of aircraft position lights.

Type I - Forward Position Light (red wing tip light)

Type II - Forward Position Light (green wing tip light)

Type III - Rear Position Light (white tail light)

3. GENERAL REQUIREMENTS

3.1 Materials and Workmanship

- 3.1.1 Materials - Materials shall be of a quality which experience and/or tests have demonstrated to be suitable and dependable for the purpose intended.
- 3.1.2 Choice of Materials - Choice and treatment of materials shall be such as to eliminate or minimize corrosion, fire hazard, and fungus growth.
- 3.1.3 Workmanship - Workmanship shall be consistent with high-grade aircraft electrical equipment practice.

3.2 Identification

- 3.2.1 Nameplate - The following information shall be legibly and permanently marked on the unit or attached thereto:

- a. Name of unit (Position Light, Type)
- b. SAE Specification AS 271A
- c. Minimum lamp c.p. or lamp part number
- d. Manufacturer's part number
- e. Manufacturer's name and/or trademark
- f. Weight
- g. Date of manufacture

- 3.3 Environmental Conditions - The complete unit shall operate under the following environmental conditions and shall meet the following performance requirements.

- 3.3.1 Temperature - When mounted in accordance with the manufacturer's recommendations, the unit shall function over the range of ambient temperature from -50 to +55 C. It shall not be adversely affected by exposure to temperatures in the range of -65 to +70 C.

- 3.3.2 Humidity - The unit shall function and shall not be adversely affected by exposure to a relative humidity in the range of 5 to 90% throughout a temperature range of -35 to +55 C.
- 3.3.3 Altitude - The unit shall function and shall not be adversely affected when subjected to a pressure and temperature equivalent to -1000 to +50,000 ft standard altitude.
- 3.3.4 Vibration - The design of the light assembly should be such that it will give satisfactory operation when installed on the aircraft for which it is intended.
- 3.3.4.1 The light assembly, including lamp, shall function and shall not be adversely affected when subjected to vibration of 0.060 in. double amplitude from 10 to 55 cps, and with the direction of vibration either parallel or perpendicular to the normal mounting surface.
- 3.3.4.2 The light assembly with lamp installed shall meet the requirements of Procedure XII of Military Specification MIL-E-5272C; however, under this condition, a failure of the lamp filament is not considered to be a failure of the light assembly.
- 3.3.5 Dust - The unit shall function and shall not be adversely affected when subjected to severe sand and dust conditions.
- 3.3.6 Salt Spray - The unit shall function and shall not be adversely affected when subjected to a salt spray for a period of 100 hr.

4. DETAIL REQUIREMENTS

- 4.1 Dihedral Angle Coverage, Forward Position Lights, Types I and II, and Rear Position Lights, Type III - When mounted on aircraft in accordance with the manufacturer's instructions, the forward and rear position lights shall show unbroken light within the dihedral angles specified in Figure 1, and defined in 4.1.1.

Position Light Type	Dihedral Angle
Type I (forward, red)	L (left)
Type II (forward, green)	R (right)
Type III (rear, white)	A (aft)

Figure 1 Dihedral Angle Coverage, Forward and Rear Position Lights