

AIRCRAFT POSITION LIGHTS
(Commercial Transport Types)

issued 10-15-52
Revised

1. **PURPOSE:** To specify minimum requirements for aircraft position lights to be used in commercial transport service.
2. **SCOPE:** This specification covers five types of aircraft position lights used in commercial transport service.

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)

Type IV - Rear Position Light (red tail light)

Type V - Fuselage Lights (white, top and bottom)

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) | d. Manufacturer's part number |
| b. SAE Specification AS | e. Manufacturer's name and/or trademark |
| c. Minimum lamp c.p. or lamp part number | |

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°C to +55°C. It shall not be adversely affected by exposure to temperatures in the range of -65°C 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°C 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 feet to +40,000 feet standard altitude.
- 3.3.4 Vibration: The unit shall function and shall not be adversely affected when subjected to vibration of 0.060 inch double amplitude at from 600 to 3300 cycles per minute, and with the direction of vibration either parallel or perpendicular to the normal mounting surface.
- 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 hours.

4. DETAIL REQUIREMENTS:

- 4.1 Dihedral Angle Coverage, Forward Position Lights Types I and II and Rear Position Lights Type III and IV: 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 Fig. 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)
Type IV (rear, red)	A (aft)

Fig. 1 Dihedral Angle Coverage, Forward & Rear Position Lights

4.1.1 Definitions of Dihedral Angles:

1. Dihedral Angle L (left): The dihedral angle formed by two intersecting vertical planes, one parallel to the longitudinal axis of the airplane, and the other at 110° to the left of the first, when looking forward along the longitudinal axis.
2. Dihedral Angle R (right): The dihedral angle formed by two intersecting vertical planes, one parallel to the longitudinal axis of the airplane, and the other at 110° to the right of the first, when looking forward along the longitudinal axis.