

§ 29.1389

14 CFR Ch. I (1–1–19 Edition)

(c) Dihedral angle *R* (right) is formed by two intersecting vertical planes, the first parallel to the longitudinal axis of the rotorcraft, and the other at 110 degrees to the right of the first, as viewed when looking forward along the longitudinal axis.

(d) Dihedral angle *A* (aft) is formed by two intersecting vertical planes making angles of 70 degrees to the right and to the left, respectively, to a vertical plane passing through the longitudinal axis, as viewed when looking aft along the longitudinal axis.

(e) If the rear position light, when mounted as far aft as practicable in accordance with § 29.1385(c), cannot show unbroken light within dihedral angle *A* (as defined in paragraph (d) of this section), a solid angle or angles of obstructed visibility totaling not more than 0.04 steradians is allowable within that dihedral angle, if such solid angle is within a cone whose apex is at the rear position light and whose elements make an angle of 30° with a vertical line passing through the rear position light.

(49 U.S.C. 1655(c))

[Doc. No. 5084, 29 FR 16150, Dec. 3, 1964, as amended by Amdt. 29-9, 36 FR 21279, Nov. 5, 1971]

§ 29.1389 Position light distribution and intensities.

(a) *General.* The intensities prescribed in this section must be provided by new equipment with light covers and color filters in place. Intensities must be determined with the light source operating at a steady value equal to the average luminous output of the source at the normal operating voltage of the rotorcraft. The light distribution and intensity of each position light must meet the requirements of paragraph (b) of this section.

(b) *Forward and rear position lights.* The light distribution and intensities of forward and rear position lights must be expressed in terms of minimum intensities in the horizontal plane, minimum intensities in any vertical plane, and maximum intensities in overlapping beams, within dihedral angles, *L*, *R*, and *A*, and must meet the following requirements:

(1) *Intensities in the horizontal plane.* Each intensity in the horizontal plane

(the plane containing the longitudinal axis of the rotorcraft and perpendicular to the plane of symmetry of the rotorcraft), must equal or exceed the values in § 29.1391.

(2) *Intensities in any vertical plane.* Each intensity in any vertical plane (the plane perpendicular to the horizontal plane) must equal or exceed the appropriate value in § 29.1393 where *I* is the minimum intensity prescribed in § 29.1391 for the corresponding angles in the horizontal plane.

(3) *Intensities in overlaps between adjacent signals.* No intensity in any overlap between adjacent signals may exceed the values in § 29.1395, except that higher intensities in overlaps may be used with the use of main beam intensities substantially greater than the minima specified in §§ 29.1391 and 29.1393 if the overlap intensities in relation to the main beam intensities do not adversely affect signal clarity.

§ 29.1391 Minimum intensities in the horizontal plane of forward and rear position lights.

Each position light intensity must equal or exceed the applicable values in the following table:

| Dihedral angle (light included) | Angle from right or left of longitudinal axis, measured from dead ahead | Intensity (candles) |
|--|---|---------------------|
| <i>L</i> and <i>R</i> (forward red and green). | 0° to 10° | 40 |
| | 10° to 20° | 30 |
| | 20° to 110° | 5 |
| <i>A</i> (rear white) | 110° to 180° | 20 |

§ 29.1393 Minimum intensities in any vertical plane of forward and rear position lights.

Each position light intensity must equal or exceed the applicable values in the following table:

| Angle above or below the horizontal plane | Intensity, <i>I</i> |
|---|---------------------|
| 0° | 1.00 |
| 0° to 5° | .90 |
| 5° to 10° | .80 |
| 10° to 15° | .70 |
| 15° to 20° | .50 |
| 20° to 30° | .30 |
| 30° to 40° | .10 |
| 40° to 90° | .05 |