rear position light and whose elements make an angle of $30^{\circ}$ with a vertical line passing through the rear position light.
[Doc. No. 5066, 29 FR 18291, Dec. 24, 1964, as amended by Amdt. 25-30, 36 FR 21278, Nov. 5, 1971]

## § 25.1389 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 airplane. 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 airplane and perpendicular to the plane of symmetry of the airplane) must equal or exceed the values in § 25.1391.
(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 $\S 25.1393$, where $I$ is the minimum intensity prescribed in $\S 25.1391$ 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 given in $\S 25.1395$, except that higher intensities in overlaps may be used with main beam intensities substantially greater than the minima specified in $\S \S 25.1391$ and 25.1393 if the overlap intensities in relation to the main beam intensities do not adversely affect signal clarity. When the peak intensity of the forward position lights is
more than 100 candles, the maximum overlap intensities between them may exceed the values given in $\S 25.1395$ if the overlap intensity in Area $A$ is not more than 10 percent of peak position light intensity and the overlap intensity in Area B is not greater than 2.5 percent of peak position light intensity.
$\S 25.1391$ 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:

| Dinedral angle (light in- <br> cluded) | Angle from right <br> or left of longitu- <br> dinal axis, meas- <br> ured from dead <br> ahead | Intensity <br> (candles) |
| :--- | :--- | ---: |
| $L$ and $R$ (forward red and | $0^{\circ}$ to $10^{\circ} \ldots \ldots . . . . .$. | 40 |
| green). | $10^{\circ}$ to $20^{\circ} \ldots \ldots . . .$. | 30 |
| A (rear white) $\ldots \ldots . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ~$ | $110^{\circ}$ to $110^{\circ} \ldots \ldots .$. | 5 |

§ 25.1393 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 |
| :---: | :---: |
| $0^{\circ}$ | 1.00 |
| $0^{\circ}$ to $5^{\circ}$ | 0.90 |
| $5^{\circ}$ to $10^{\circ}$ | 0.80 |
| $10^{\circ}$ to $15^{\circ}$ | 0.70 |
| $15^{\circ}$ to $20^{\circ}$ | 0.50 |
| $20^{\circ}$ to $30^{\circ}$..................................................... | 0.30 |
| $30^{\circ}$ to $40^{\circ}$ | 0.10 |
| $40^{\circ}$ to $90^{\circ}$................................................... | 0.05 |

§ 25.1395 Maximum intensities in overlapping beams of forward and rear position lights.
No position light intensity may exceed the applicable values in the following table, except as provided in § 25.1389(b)(3).

| Overlaps | Maximum intensity |  |
| :---: | :---: | :---: |
|  | Area A (candles) | Area B (candles) |
| Green in dihedral angle $L$............ | 10 |  |
| Red in dihedral angle $R$.............. | 10 |  |
| Green in dihedral angle A ............ | 5 |  |
| Red in dihedral angle $A$............... | 5 |  |
| Rear white in dihedral angle L ...... | 5 |  |
| Rear white in dihedral angle $R$..... | 5 |  |

Where-

