§ 25.1365 Electrical appliances, motors, and transformers.

(a) Domestic appliances must be designed and installed so that in the event of failures of the electrical supply or control system, the requirements of §25.1309(b), (c), and (d) will be satisfied. Domestic appliances are items such as cooktops, ovens, coffee makers, water heaters, refrigerators, and toilet flush systems that are placed on the airplane to provide service amenities to passengers.

(b) Galley and cooking appliances must be installed in a way that minimizes risk of overheating or fire.

(c) Domestic appliances, particularly those in galley areas, must be installed or protected so as to prevent damage or contamination of other equipment or systems from fluids or vapors which may be present during normal operation or as a result of spillage, if such damage or contamination could create a hazardous condition.

(d) Unless compliance with §25.1309(b) is provided by the circuit protective device required by §25.1357(a), electric motors and transformers, including those installed in domestic systems, must have a suitable thermal protection device to prevent overheating under normal operation and failure conditions, if overheating could create a smoke or fire hazard.

[Amdt. 25–123, 72 FR 63406, Nov. 8, 2007]

§ 25.1381 Instrument lights.

(a) The instrument lights must—

(1) Provide sufficient illumination to make each instrument, switch and other device necessary for safe operation easily readable unless sufficient illumination is available from another source; and

(2) Be installed so that—

(i) Their direct rays are shielded from the pilot’s eyes; and

(ii) No objectionable reflections are visible to the pilot.

(b) Unless undimmed instrument lights are satisfactory under each expected flight condition, there must be a means to control the intensity of illumination.


§ 25.1383 Landing lights.

(a) Each landing light must be approved, and must be installed so that—

(1) No objectionable glare is visible to the pilot;

(2) The pilot is not adversely affected by halation; and

(3) It provides enough light for night landing.

(b) Except when one switch is used for the lights of a multiple light installation at one location, there must be a separate switch for each light.

(c) There must be a means to indicate to the pilots when the landing lights are extended.

§ 25.1385 Position light system installation.

(a) General. Each part of each position light system must meet the applicable requirements of this section and each system as a whole must meet the requirements of §§25.1387 through 25.1397.

(b) Forward position lights. Forward position lights must consist of a red and a green light spaced laterally as far apart as practicable and installed forward on the airplane so that, with the airplane in the normal flying position, the red light is on the left side and the green light is on the right side. Each light must be approved.

(c) Rear position light. The rear position light must be a white light mounted as far aft as practicable on the tail or on each wing tip, and must be approved.

(d) Light covers and color filters. Each light cover or color filter must be at least flame resistant and may not change color or shape or lose any appreciable light transmission during normal use.


§ 25.1387 Position light system dihedral angles.

(a) Except as provided in paragraph (e) of this section, each forward and
§ 25.1389 Rear 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 §25.1393, where I is the minimum intensity prescribed in §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 §25.1395, except that higher intensities in overlaps may be used with main beam intensities substantially greater than the minima specified in §§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 §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.

§ 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:

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