

AUSTRALIAN DESIGN RULE NO. 6A - DIRECTION TURN SIGNAL LAMPS

6A.1 Definitions

6A.1.1 Direction Turn Signal Lamps - Lamps located at the front and rear to indicate the intention of performing a turning manoeuvre.

6A.1.2 Test Points - Specific points indicated on the diagram in Clause 6A.4 by percentage luminous intensity values and from which photometric measurements are taken. These points are located by angular displacement from the reference axis with an origin selected at a point on the reference axis between the geometric centre of the light sources and the outer surface of the lens.

6A.2 Requirements6A.2.1 Front Lamps

6A.2.1.1 The luminous intensity measured on the reference axis shall be not less than 175 cd.

6A.2.1.2 The luminous intensity in any direction shall not exceed 700 cd.

6A.2.1.3 The luminous intensity at any test point when expressed as a percentage of 175 cd shall be not less than the values indicated in Clause 6A.4.

6A.2.1.4 The luminous intensity at any test point located more than 5 degrees inboard or more than 5 degrees outboard of the reference axis shall not exceed 400 cd.

6A.2.1.5 The luminous intensity at any point in a horizontal plane through the reference axis from 45 degrees inboard to 80 degrees outboard shall be not less than 0.3 cd.

6A.2.1.6 In addition to the requirements of Clause 6A.2.1 motor vehicles having a length in excess of 7.5 m and truck tractors shall have lamps located forward of the transverse centre line of the vehicle, which give a signal to the rear. When fitted to the vehicle the luminous intensity of the signal at any point in a transverse vertical plane containing the rear end of the vehicle from a point 1.5 m outboard to a point 8 m outboard from the sides of the vehicle shall be not less than 0.3 cd. This requirement may be met using optional turn signal lamps in accordance with the requirements of Clause 6A.2.4.

6A.2.2 Rear Lamps with Single Levels of Intensity

6A.2.2.1 The luminous intensity measured on the reference axis shall be not less than 150 cd.

6A.2.2.2 The luminous intensity in any direction shall not exceed 400 cd.

6A.2.2.3 The luminous intensity at any test point when expressed as a percentage of the minimum figure prescribed for the vehicle in Clause 6A.2.2 shall be not less than the value indicated for the test point in Clause 6A.4.

6A.2.2.4 The luminous intensity at any point in a horizontal plane through the reference axis from 45 degrees inboard to 80 degrees outboard shall be not less than 0.3 cd.

6A.2.3 Rear Lamps with Two Levels of Illumination

6A.2.3.1 The luminous intensity measured on the reference axis shall be not less than 175 cd for the day setting and 40 cd for the night setting.

6A.2.3.2 The luminous intensity in any direction shall not exceed 700 cd for the day setting and 120 cd for the night setting.

6A.2.3.3 The luminous intensity at any test point when expressed as a percentage of 175 cd for day and 40 cd for night shall be not less than the values indicated in clause 6.4

6A.2.3.4 The luminous intensity in the night setting, at any test point located more than 5 degrees inboard, or more than 5 degrees outboard of the reference axis shall not exceed 100 cd.

6A.2.3.5 The luminous intensity at any point in a horizontal plane through the reference axis from 45 degrees inboard to 80 degrees outboard shall be not less than 0.3 cd for the day setting and 0.07 cd for the night setting.

6A.2.4 Optional Side Turn Signal Lamps

6A.2.4.1 Lamps designed to signal intention to turn in addition to the prescribed lamps are permitted provided:

- (a) they are mounted on the side of the vehicle;
- (b) they are operated simultaneously with the prescribed lamps on the same side of the vehicle;
- (c) the luminous intensity in any direction shall not exceed 200 cd except that if the lamp is designed for two levels of illumination the luminous intensity in any direction shall not exceed 700 cd for the day setting and 120 cd for the night setting.

6A.2.4.2 If the distance between the geometric centres of the light sources of a direction turn signal lamp and its complementary optional side turn signal lamp is not more than 380 mm the lamps shall be considered in combination with respect to the maximum luminous intensity requirements of Clauses 6A.2.1.2, 6A.2.1.4, 6A.2.2.2, 6A.2.3.2 and 6A.2.3.4 when luminous intensity measurements are taken of each lamp relative to its own reference axis and with the other lamp not illuminated.

6A.2.4.3 If the distance between the geometric centres of the light sources of a direction turn signal lamp and its complementary optional side turn signal lamp is not more than 380 mm the two lamps may be used in combination to meet the minimum luminous intensity requirements of Clauses 6A.2.1.1, 6A.2.1.3, 6A.2.1.5, 6A.2.2.1, 6A.2.2.3, 6A.2.2.4, 6A.2.3.1, 6A.2.3.3 and 6A.2.3.5 provided that the prescribed value at any test point is met by at least one of the lamps when luminous intensity measurements are taken of each lamp relative to its own reference axis and with the other lamp not illuminated.

6A.2.5 Colour of Emitted Light from Prescribed and Optional Side Turn Signal Lamps

6A.2.5.1 The colour of emitted light measured by using a source of light with a colour temperature of $2856^{\circ}\text{K} \pm 50^{\circ}\text{K}$ shall be within the following limits expressed in trichromatic co-ordinates of the International Commission of Illumination.

Limit towards yellow $y \leq 0.429$

Limit towards red $y \geq 0.398$

Limit towards white $z \leq 0.007$

6A.3 Test Procedure

6A.3.1 All measurements shall be carried out with colourless standard bulbs of the types recommended for the device adjusted to produce the normal luminous flux prescribed for those types of bulbs.

6A.3.2 The photometric intensities measured at the various test points shall be those that would be obtained when the lamp is mounted in the vehicle.

6A.3.3 During photometric measurements stray reflections shall be avoided by appropriate masking.

6A.3.4 The distance of measurement shall be such that the law of the inverse of the square of the distance is applicable.

6A.3.5 The measuring equipment shall be such that the aperture of the receiver shall subtend an angle between 10 minutes and 1 degree at the origin on the reference axis defined in clause 6A.1.2.

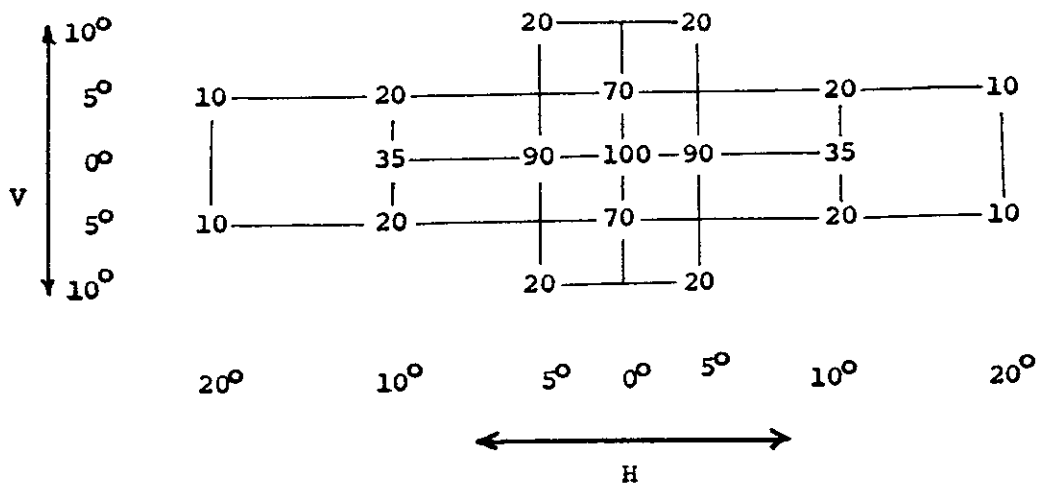
6A.3.6 The intensity requirement of a particular direction of observation shall be deemed to be satisfactory if that requirement is met in a direction deviating not more than one quarter of a degree from the direction of observation.

6A.3.7 Further testing may be required to ensure that for a minimum specification no measurement taken between two test points is below 50 per cent of the lower of the minimum intensities required at the adjoining test points and that for a maximum specification no measurement taken between two test points shall be greater than that calculated from a linear function based on the intensities allowed at the adjoining test points.

6A.4

Standard Light Distribution

6A.4.1 The minimum luminous intensity expressed as percentages of the minimum intensity along the reference axis are as follows for the various test points.



The direction $H = 0^\circ$ and $V = 0^\circ$ corresponds to the reference axis.