

SURFACE VEHICLE STANDARD

Submitted for recognition as an American National Standard

SAE J579

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SEALED BEAM HEADLAMP UNITS FOR MOTOR VEHICLES

1. SCOPE:

This standard applies to design evaluation of mechanically aimable sealed beam headlamp units for two-beam systems. For service performance requirements and evaluations, see SAE J32.

2. DEFINITIONS:

- 2.1 **SEALED BEAM UNIT:** An integral and indivisible hermetically sealed optical assembly with the name "Sealed Beam" molded in the lens.
- 2.2 **UPPER BEAM:** A beam intended primarily for distant illumination and for use when not meeting or following other vehicles.
- 2.3 **LOWER BEAM:** A beam intended to illuminate the road ahead of the vehicle when meeting or following another vehicle.
- 2.4 **7 in (178 mm) SEALED BEAM SYSTEM:** A system employing two 7 in (178 mm) Type 2 sealed beam units.
- 2.5 **7 in (178 mm) TYPE 2 SEALED BEAM UNIT:** A 7 in (178 mm) diameter unit providing an upper and a lower beam. Unit to be aimed to the lower beam.
- 2.6 **5-3/4 in (146 mm) SEALED BEAM SYSTEM:** A system employing four 5-3/4 in (146 mm) sealed beam units: two Type 1 and two Type 2.
- 2.7 **5-3/4 in (146 mm) TYPE 1 SEALED BEAM UNIT:** A 5-3/4 in (146 mm) diameter unit having a single filament and used in a four-lamp system to provide the principal portion of the upper beam.

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- 2.8 5-3/4 in (146 mm) TYPE 2 SEALED BEAM UNIT: A 5-3/4 in (146 mm) diameter unit having two filaments and used in a four-lamp system to provide the lower beam and a secondary portion of the upper beam. Unit to be aimed to the lower beam.
- 2.9 4 x 6-1/2 in (100 x 165 mm) SEALED BEAM SYSTEM: A system employing four 4 x 6-1/2 in (100 x 165 mm) sealed beam units: two Type 1A and two Type 2A.
- 2.10 4 x 6-1/2 in (100 x 165 mm) TYPE 1A SEALED BEAM UNITS: A 4 x 6-1/2 in (100 x 165 mm) rectangular unit having a single filament and used in a four-lamp system to provide the principal portion of the upper beam.
- 2.11 4 x 6-1/2 in (100 x 165 mm) TYPE 2A SEALED BEAM UNIT: A 4 x 6-1/2 in (100 x 165 mm) rectangular unit having two filaments and used in a four-lamp system to provide the lower beam and a secondary portion of the upper beam. Unit to be aimed to the lower beam.
- 2.12 MECHANICALLY AIMABLE SEALED BEAM UNIT: A unit having three pads on the face of the lens, forming a mechanical aiming plane used to adjust and inspect the aim of the unit when installed on the vehicle.
- 2.13 AIMING PLANE: A plane through the three aiming pads on the face of the lens.
- 2.14 MECHANICAL AXIS: A line perpendicular to the aiming plane through the geometric center of the lens.
- 2.15 H-V AXIS: A line from the center of the lens to the intersection of the horizontal and vertical lines on the screen.
3. LABORATORY REQUIREMENTS:
- 3.1 Test Voltage: In conducting tests to this standard, the sealed beam unit shall be operated at 6.4 or 12.8 V for 6 and 12 V electrical systems.
- 3.2 The following sections from SAE J575 are a part of this standard:
- 3.2.1 Section B - Samples for Test.
- 3.2.2 Section D - Laboratory Facilities.
- 3.2.3 Section J - Photometry. The angular relation between test points for the upper and lower beams is as shown in Figure 3.
- 3.3 Color Test: The color of the light from a sealed beam unit shall be white, as defined in SAE J578.

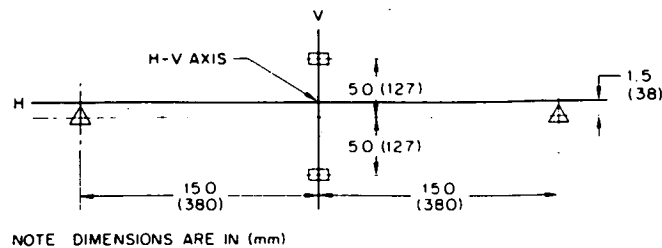


FIGURE 1 - Test Points on Screen at 25 ft (7.6 m)

3.4 Beam Pattern Location:

3.4.1 Beam Location: The aiming plane of the sealed beam unit shall be placed parallel to the aiming screen at 25 ft (7.6 m) with the mechanical axis on the H-V axis.

3.4.1.1 5-3/4 in (146 mm) Type 1 Sealed Beam Unit: The beam shall be photoelectrically aimed so that test points in Figure 1 designated by the squares have equal intensity and those designated by the triangles have equal intensity. (This will center the high intensity area about the H-V axis.)

3.4.1.1.1 The mechanical axis shall not deviate from the H-V axis more than ± 0.3 deg vertically or ± 0.6 deg horizontally.

3.4.1.2 5-3/4 in (146 mm) Type 2 and 7 in (178 mm) Type 2 Sealed Beam Units: The low beam shall be photoelectrically aimed so that the intensity at the test point designated by the triangle in Figure 2 is 20% of the maximum beam intensity at the same time that the intensity at the test point designated by the square is 30% of the maximum intensity.

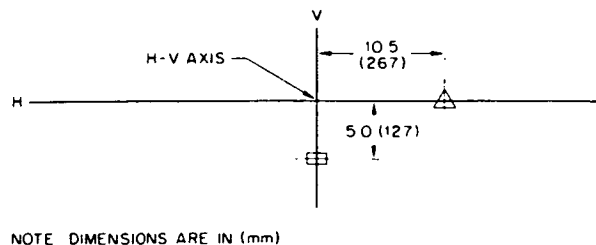


FIGURE 2 - Test Points on Screen at 25 ft (7.6 m)

3.4.1.2.1 The mechanical axis shall not deviate from the H-V axis more than ± 0.3 deg vertically or ± 0.4 deg horizontally.

3.4.1.3 Methods which provide results equivalent to those described in 3.4.1.1 and 3.4.1.2 may also be used for beam pattern location evaluation.