Sealed Beam Headlamp Units for Motor Vehicles—SAE J579c

SAE Standard
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SEALED BEAM HEADLAMP UNITS FOR MOTOR VEHICLES—SAE J579c

SAE Standard

Report of Lighting Division approved January 1940 and last revised by Lighting Committee December 1974.

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.

2.6 5¾ in. (146 mm) Sealed Beam System—A system employing four 5¾ in. (146 mm) sealed beam units: two Type 1 and two Type 2.

2.7 5¾ in. (146 mm) Type 1 Sealed Beam Unit—A 5¾ 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.

2.8 5¾ in. (146 mm) Type 2 Sealed Beam Unit—A 5¾ 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.

2.9 4 x 6½ in. (100 x 165 mm) Sealed Beam System—A system employing four 4 x 6½ in. (100 x 165 mm) sealed beam units: two Type 1A and two Type 2A.

2.10 4 x 6½ in. (100 x 165 mm) Type 1A Sealed Beam Units—A 4 x 6½ 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 6½ in. (100 x 165 mm) Type 2A Sealed Beam Unit—A 4 x 6½ 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.

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 Fig. 3.

3.3 Color Test—The color of the light from a sealed beam unit shall be white, as defined in SAE J578.

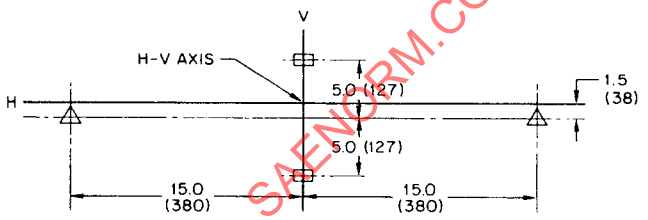
3.4 Beam Pattern Location

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.

TABLE 1—TEST POINT VALUES FOR 7 IN (178 mm) TYPE 2 SEALED BEAM UNITS

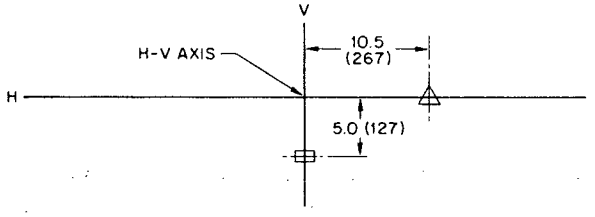
Upper Beam (One 7 in (178 mm) Unit)			Lower Beam (One 7 in (178 mm) Unit)		
Test Points, deg[c]	cd, max[a]	cd, min	Test Points, deg[c]	cd, max	cd, min
2U-V	—	1,000	10U to 90U[b]	125	—
1U-3R and 3L	—	2,000	1U-1-1/2L to L	700	—
H-V	—	20,000	1/2U-1-1/2L to L	1,000	—
			1/2D-1-1/2L to L	2,500	—
			1-1/2U-1R to R	1,400	—
H-3R and 3L	—	10,000			
H-6R and 6L	—	3,250	1/2U-1R to 3R	2,700	—
H-9R and 9L	—	1,500	1/2D-1-1/2R	20,000	8,000
H-12R and 12L	—	750	1D-6L	—	750
			1-1/2D-2R	—	15,000
1-1/2D-V	—	5,000			
1-1/2D-9R and 9L	—	1,500	1-1/2D-9L and 9R	—	750
2-1/2D-V	—	2,500	2D-15L and 15R	—	700
2-1/2D-12R and 12L	—	750	4D-4R	12,500	—
4D-V	5,000	—			

[a] Maximum candela at any test point shall not exceed 75,000.
[b] From the normally exposed surface of the lens.
[c] A tolerance of ±1/4 deg in location may be allowed for at any test point.



NOTE: DIMENSIONS ARE IN (mm)

FIG. 1—TEST POINTS ON SCREEN AT 25 FT (7.6 m)



NOTE: DIMENSIONS ARE IN (mm)

FIG. 2—TEST POINTS ON SCREEN AT 25 FT (7.6 m)

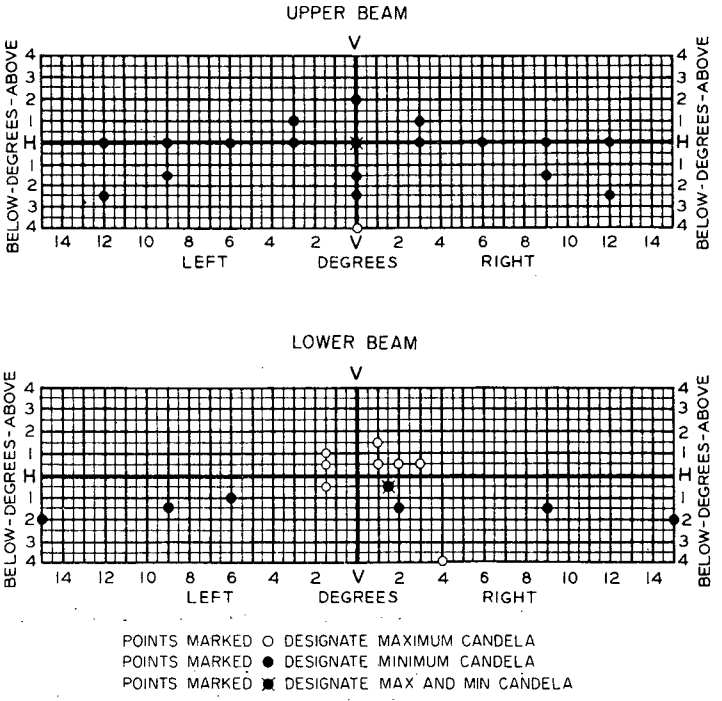


FIG. 3—PHOTOMETRIC DESIGN TEST POINTS