SAE The Engineering Society For Advancing Mobility Land Sea Air and Space®
INTERNATIONAL

A Product of the
Cooperative Engineering Program

SAE J581 JUN89

Auxiliary Driving Lamps

SAE Standard
Revised June 1989

Submitted for Recognition as
an American National Standard

SAE The Engineering Society For Advancing Mobility Land Sea Air and Space®

400 COMMONWEALTH DRIVE, WARRENDALE, PA 15096

HIGHWAY VEHICLE STANDARD

Submitted for recognition as an American National Standard

SAE J581

Issued March 1979
Revised June 1989

Superseding J581 JUN79

AUXILIARY DRIVING LAMPS

1. SCOPE:

This SAE Standard provides test procedures, performance requirements and guidelines for auxiliary driving lamps.

2. DEFINITION:

2.1 Auxiliary Driving Lamp: A lighting device mounted to provide illumination forward of the vehicle and intended to supplement the upper beam of a standard headlamp system. It is not intended for use alone or with the lower beam of a standard headlamp system.

3. LIGHTING IDENTIFICATION CODE:

The auxiliary driving lamps may be identified by the code "Y", in accordance with SAE J759.

4. TESTS:

4.1 SAE J575: The following test procedures in SAE J575 are a part of this report with the modifications indicated:

4.1.1 Vibration Test:

4.1.2 Moisture Test:

4.1.3 Dust Test: (Dust test shall not be required for sealed units.)

4.1.4 Corrosion Test:

4.1.5 Warpage Test: (Devices produced from plastic components.)

4.1.6 A photometric test.

4.1.6.1 The photometric tests for bulb replaceable units shall be made at a distance of at least 18.3 m (60 ft) from the photometer to the lamp.

4.1.6.2 Lamp Aim: A lamp or sealed beam unit, which is designed to be aimed mechanically, shall be centered on the photometric axis with the aiming planes normal to that axis. A lamp or sealed unit, not designed to be aimed mechanically, shall be photoelectrically aimed so that the test points in Fig. 1 designated by the squares have equal intensity and those designated by triangles have equal intensity.

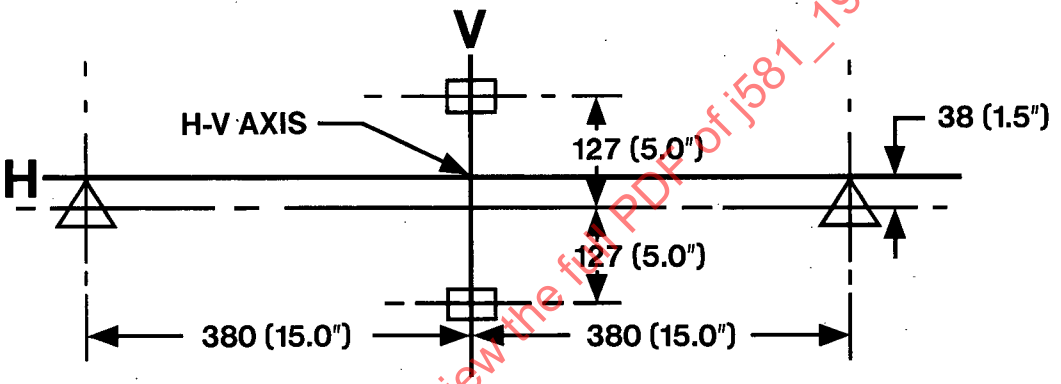

FIGURE 1 - Test Points on a Screen at 7.6 m

4.2 Color Test: SAE J578 is a part of this report.

5. REQUIREMENTS:

5.1 Performance Requirements:

5.1.1 SAE J575: A device when tested in accordance with the test procedures in section 4, shall meet the following requirements in SAE J575, with the modifications indicated:

5.1.1.1 Vibration

5.1.1.2 Moisture

5.1.1.3 Dust

5.1.1.4 Corrosion

5.1.1.5 Warpage test on devices with plastic components.

5.1.1.6 Photometry: The lamp under test shall meet the photometric requirements contained in Table 1.

TABLE 1 - Photometric Requirements

Test Point Deg[a]	Candela, CD
2U - 3R and 3L	1600 min
1U - 3R and 3L	4000 min
H - V	20 000 min and 60 000 max
H - 3R and 3L	8000 min
1D - 6R and 6L	2960 min
2D - 6R and 6L	1600 min
4D - V	6000 max

[a]A tolerance of ±1/4 deg in location may be allowed at any test point

5.2 Color: The color of the emitted light shall be white as defined in SAE J578.

5.3 Plastic Materials: The plastic materials used in optical parts shall meet the requirements in SAE J576.

6. GUIDELINES:

6.1 The photometric design guidelines for auxiliary driving lamps, when tested in accordance with 4.1.6 of this recommended practice, are contained in Table 2.

TABLE 2 - Photometric Design Guidelines

Test Point Deg[a]	Candela, CD
2U - 3R and 3L	2000 min
1U - 3R and 3L	5000 min
H - V	25 000 min and 50 000 max
H - 3R and 3L	10 000 min
1D - 6R and 6L	3700 min
2D - 6R and 6L	2000 min
4D V	5000 max

[a]A tolerance of ±1/4 deg in location may be allowed at any test point.

6.2 These guidelines apply to the device as used on the vehicle and are not a part of the laboratory test procedures and requirements.

6.3 Lamp Aim: The lamp aim adjustments on the vehicle should be with mechanical aimers, if possible. Set the mechanical aim to 0-0, reference SAE J599.

6.4 Other Aiming Procedures: If the vehicle mounting or lamp design precludes mechanical aiming, the lamp shall be aimed photometrically (see 4.1.6.3), or visually aimed. The correct visual aim is with the high intensity zone of the beam symmetric about the H-V axis of the lamp on an aiming screen at 7.6 m (25 ft).

RATIONALE:

This standard was rewritten using the suggested format for Lighting Committee standards or recommended practices (based on section 6.1 of SAE J1159).

Editorial revisions have been made for clarification.

The following sections and items have been removed.

3.1.1 Section 2 - Samples for Tests

3.1.2 Section 2.2 - Bulbs

3.1.3 Section 3 - Laboratory Facilities

The above sections were removed to be consistent with newly revised reports.

3.1.9 Section 4.7 - Out of focus tests on unsealed units replaced by Design Guideline Photometric Numbers (Table 2) and Photometric Requirements (Table 1) for all production (which is 20% less than the numbers in Table 2). Twenty percent was used because out-of-focus tests allow for 80% of the minimum photometric numbers.

3.2 Sealed beam units when tested separately need comply only with section 2, section 3, section 4.6 and section 4.8 of SAE J575g (September 1977) (included in new report).

3.5.3 "This will center the high-intensity zone about the H-V axis" (does not help clarify aim statement).

3.5.4 "And the required out-of-focus filament positions" (no longer in SAE J575).

4.2 And SAE J602 DEC74 (not applicable).

RELATIONSHIP OF SAE STANDARD TO ISO STANDARD:

Not applicable.

APPLICATION:

This SAE Standard provides test procedures, performance requirements, and guidelines for auxiliary driving lamps.

REFERENCE SECTION:

SAE J575 DEC88, Tests for Motor Vehicle Lighting Devices and Components

SAE J576 SEP86, Plastic Materials for Use in Optical Parts Such as Lenses and Reflectors of Motor Vehicle Lighting Devices

SAE J578 MAY88, Color Specification

SAE J599, MAY81, Lighting Inspection Code

SAE J759, DEC87, Lighting Identification Code

COMMITTEE COMPOSITION:

DEVELOPED BY THE SAE ROAD ILLUMINATION DEVICES STANDARDS COMMITTEE:

K. E. Alexander, Philips Lighting, Richmond, KY - Chairman
J. A. Erion, Ford Motor Co., Dearborn, MI - Vice Chairman
Associates Consulting, Graniteville, SC
J. E. Bair, Hopkins Mfg. Corp., Emporia, KS
J. A. Bergin, GTE Products Corp., Hillsboro, NH
J. T. H. Bindels, Philips Lighting B V, Eindhoven, Netherlands
F. Chianese, Chrysler Motors, Detroit, MI
T. Kawamura, Stanley Electric Company, Battle Creek, MI
D. Keifer, Stanley Electric US Co. Inc., London, OH
P. Lawrenz, Farmington Hills, MI
O. G. Lidstrom, Jr., GMC, Pontiac, MI
G. E. Meese, Lyndhurst, OH
H. A. Mirza, North American Lighting, Flora, IL
D. W. Moore, GMC, Anderson, IN
R. A. Nixon, Jr., Wagner Electric Corp., Boyertown, PA
E. Pitkjaan, Philips Lighting Co., Richmond, KY
J. L. Purpura, Chrysler Motors Corp., Detroit, MI
W. J. Ross, J W Speaker Corp., Germantown, WI
R. L. Van Iderstine, NHTSA, Washington DC
B. Waltz, Wagner Electric Corp., Whippany, NJ
J. G. White, Dept of Transport, Ottawa, Ontario, Canada
A. G. Whitney, Corning Glass Works, Corning, NY
F. E. Zalar, General Electric Co., E. Cleveland, OH