SAE International

SURFACE VEHICLE RECOMMENDED PRACTICE

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Motorcycle Auxiliary Front Lamps

RATIONALE

This document has been updated to the latest format require by TSB requirements. SAE J575 section references have been removed and replaced by this document paragraph references. Paragraph 4.5 has been added to aid photometric aiming of the auxiliary lamp.

1. SCOPE

This engineering design specification provides parameters and general requirements for auxiliary front lamps to be used on motorcycles.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

SAE J567 Light Source Retention System

SAE J575 Test Methods and Equipment for Lighting Devices for Use on Vehicles Less than 2032 mm in Overall Width

SAE J576 Plastic Material or Materials for Use in Optical Parts Such as Lenses and Reflex Reflectors of Motor Vehicle Lighting Devices

SAE J578 Color Specification

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3. DEFINITIONS

3.1 AUXILIARY LAMP

An auxiliary lamp as covered by this specification is a unit, including sealed beam, intended to supplement either the upper or the lower beam from motorcycle headlamps, and is normally mounted at or near the headlamp height on the motorcycle.

3.2 LIGHTING DEVICES

An assembly (divisible or indivisible) which contains a light bulb or other light source and generally an optical system such as a lens or a reflector, or both, and which provides a lighting function. Lighting device samples submitted for test shall be representative of the device as regularly manufactured and marketed, unless otherwise identified. For test purposes, each sample shall be securely mounted on a test fixture in its designed operation position and shall include all accessory equipment necessary to operate the device in its normal manner.

3.3 BULB

An indivisible assembly which contains a source of light and which is normally used in a lamp. Unless otherwise specified, bulbs used in the tests shall be supplied by the test facility and shall be representative of bulbs in regular production. Where bulbs are specified, they shall be submitted with the sample devices and the same or similar bulbs shall be used in the tests. Lighting devices designed for use in 6 V, 12 V, or 24 V systems shall be tested with 12 V bulbs.

3.4 LABORATORY FACILITIES

The test facility shall be equipped to test the sample in accordance with the requirements of this document.

4. REQUIREMENTS

4.1 The following sections of SAE J575 are a part of this document:

4.1.1 Vibration Test
4.1.2 Moisture Test
4.1.3 Dust Exposure Test
4.1.4 Corrosion Test
4.1.5 Photometry Test
4.1.6 Warpage Test on Devices with Plastic Components

4.2 Sealed beam units need to comply only with 4.1.5 of SAE J575.

4.3 Color Test

The color of the light from a motorcycle auxiliary front lamp shall be white (see SAE J578).

4.4 Plastic Materials

Any plastic materials used in exterior optical parts shall comply with the requirements set forth in SAE J576.

4.5 Definition of Beam

For purposes of determining beam aim for photometry, the light beam or pattern shall be sufficiently defined when it can be set by three experienced observers, as specified in 4.6, within a maximum vertical deviation of ±0.2 degree [1 in (25.4 mm)] and within horizontal deviation of ±0.4 degree [2 in (50.8 mm)]. The aim for each observer shall be taken as the average of at least three observations.

4.6 Photometric Tests

These shall be made with the photometer at a distance of at least 60 ft (18.3 m) from the lamp.

At-Focus Tests

The light source shall be located in the designed position as specified by the manufacturer.

The beam from the lamp shall be aimed with the left edge of the high intensity zone at a vertical line straight ahead of the lamp center and with the top edge of the high intensity zone at the level of the lamp center at a distance of 7.6 m from the lens.

The beam from the lamp shall meet the photometric specifications listed in Table 1 when it is aimed as specified.

TABLE 1 - TEST POSITIONS AND LUMINOUS INTENSITY REQUIREMENTS

Position, degrees[1]	Max Intensity (cd)
1U-1L to left and above	400
1/2U-1L to left	500
1/2D-1L to left	1000
1-1/2D-1L to left	3000
2U-1R to right and above	1000
1U-1R to right	3000
H-1R to right	7000
1-1/2D-2R to 4R	10 000 min

1. An aiming tolerance of ±1/4 degree should be allowed on individual points.

4.6.1 Out-of-Focus Tests on Unsealed Units

Similar tests shall be made for each of four out-of-focus filament positions, except that the completed distribution may be omitted. Where conventional bulbs with two pin bayonet bases are used, intensity tests shall be made with the light source 1.5 mm above, below, ahead, and behind the designed position.

The beam from the lamp may be reaimed as specified in 4.6 for each of the out-of-focus positions of light source.

4.6.2 The lamp shall be designed to comply with the photometric requirements shown in Table 1 for the design filament position and the required out-of-focus filament position. An aiming tolerance of ±0.25 degree shall be allowed at each test point.

5. NOTES

The following items apply to the device as used on the motorcycle and are not a part of the laboratory test requirements and procedures.

5.1 For greater visibility, with reasonable limitation of glare to approaching drivers, the beam from the lamp shall be aimed in accordance with 4.6.

5.2 The unit may be wired so that it can be turned on or off with either beam of the regular headlamp.

5.3 As information, attention is called to SAE J567 for requirements and gages to be used in socket design for unsealed units.