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| SURFACE VEHICLE STANDARD | J594™ | JUN2018 |
| | Issued | 1971-07 |
| | Revised | 2018-06 |
| Superseding J594 FEB2010 | | |
| Reflex Reflectors | | |

RATIONALE

This document was revised to update various references and fix small typographical errors. In addition, Section 7.1 “Photometric Design Guidelines” was removed as it was not required.

In addition, Figure 2 had a photometry requirement change of the (0,0) entrance angle value for the 1.5 degree observation angle from a value of 6 to a value of 7. Based on previous history, when the original photometric tables were changed to add the minimum millicandela per incident lux requirements to standardize the document with SI units, the value was rounded down rather than rounded up. This made this particular value incorrect compared to the calculation of the other minimum values using a multiplier to convert the units. This change is minor, however should be noted. The calculation for conversion between SI units and English units has now been included as a note. In addition, a tolerance for the projector light source CCT (Correlated Color Temperature) has been added, which had not existed up to this point.

Additionally, Figures 1A and 1B were added to help demonstrate the concepts of the entrance angle versus observation angle of measurement. Figure 1C was added to describe an acceptable method for measuring the reflected color of a test item by use of a calibrated projector light source and a fiber optic arrangement using a spectroradiometer.

1. SCOPE

This SAE Standard provides test procedures, requirements, and guidelines for reflex reflectors.

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 +1 724-776-4970 (outside USA), www.sae.org.

| | |
|----------|---|
| SAE J575 | Test Methods and Equipment for Lighting Devices and Components 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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SAE J759 Lighting Identification Code

2.2 Related Publications

The following publications are provided for information purposes only and are not a required part of this SAE Technical Report.

2.2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-001, Tel: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

| | |
|-----------|---|
| SAE J585 | Tail Lamps (Rear Position Lamps) for Use on Motor Vehicles Less than 2032 mm in Overall Width |
| SAE J586 | Stop Lamps for Use on Motor Vehicles Less than 2032 mm in Overall Width |
| SAE J588 | Turn Signal Lamps for Use on Motor Vehicles Less than 2032 mm in Overall Width |
| SAE J592 | Sidemarkers Lamps for Use on Road Vehicles Less than 2032 mm in Overall Width |
| SAE J2040 | Tail Lamps (Rear Position Lamps) for Use on Vehicles 2032 mm or More in Overall Width |
| SAE J2041 | Reflex Reflectors for Use on Vehicles 2032 mm or More in Overall Width |
| SAE J2042 | Clearance, Sidemarkers, and Identification Lamps for Use on Motor Vehicles 2032 mm or More in Overall Width |
| SAE J2261 | Stop Lamps and Front- and Rear- Turn Signal Lamps for Use on Motor Vehicles 2032 mm or More in Overall Width |
| SAE J2442 | Harmonized Provisions for Installation of Exterior Lamps and Retro-Reflecting Devices on Road Vehicles Except Motorcycles |

2.2.2 Federal Publications

Available from the Superintendent of Documents, U.S. Government Printing Office, Mail Stop: SSOP, Washington, DC 20402-9320 or at www.ecfr.gov.

Federal Motor Vehicle Safety Standard Title 49, CFR 571.108

3. DEFINITIONS

3.1 REFLEX REFLECTORS

Devices that are used on vehicles to give an indication of presence to an approaching driver by reflected light from the headlamps on the approaching vehicle.

3.2 THE OBSERVATION ANGLE

The angle between a line from the observation point to the center of the reflector and a second line from the center of the reflector to the source of illumination.

3.3 THE ENTRANCE ANGLE

The angle between the axis of the reflex reflector and a line from the center of the reflector to the source of illumination.

4. IDENTIFICATION CODE

Reflex reflectors may be identified by the Code "A" in accordance with SAE J759.

5. TESTS

5.1 SAE J575 is a part of this report. The following tests are applicable with the modifications as indicated.

5.1.1 Vibration Test

5.1.2 Moisture

5.1.3 Dust Test

5.1.4 Corrosion Test

5.1.5 Photometry

In addition to the test procedures in SAE J575, the following apply:

5.1.5.1 Test Setup

Photometric measurement shall be made at a test distance of at least 30 m with the reflex reflector setup for testing as shown in Figure 1A. The reflex reflector shall be mounted on a goniometer with the center of the reflex area at the center of rotation and at the same horizontal level as the source of illumination.

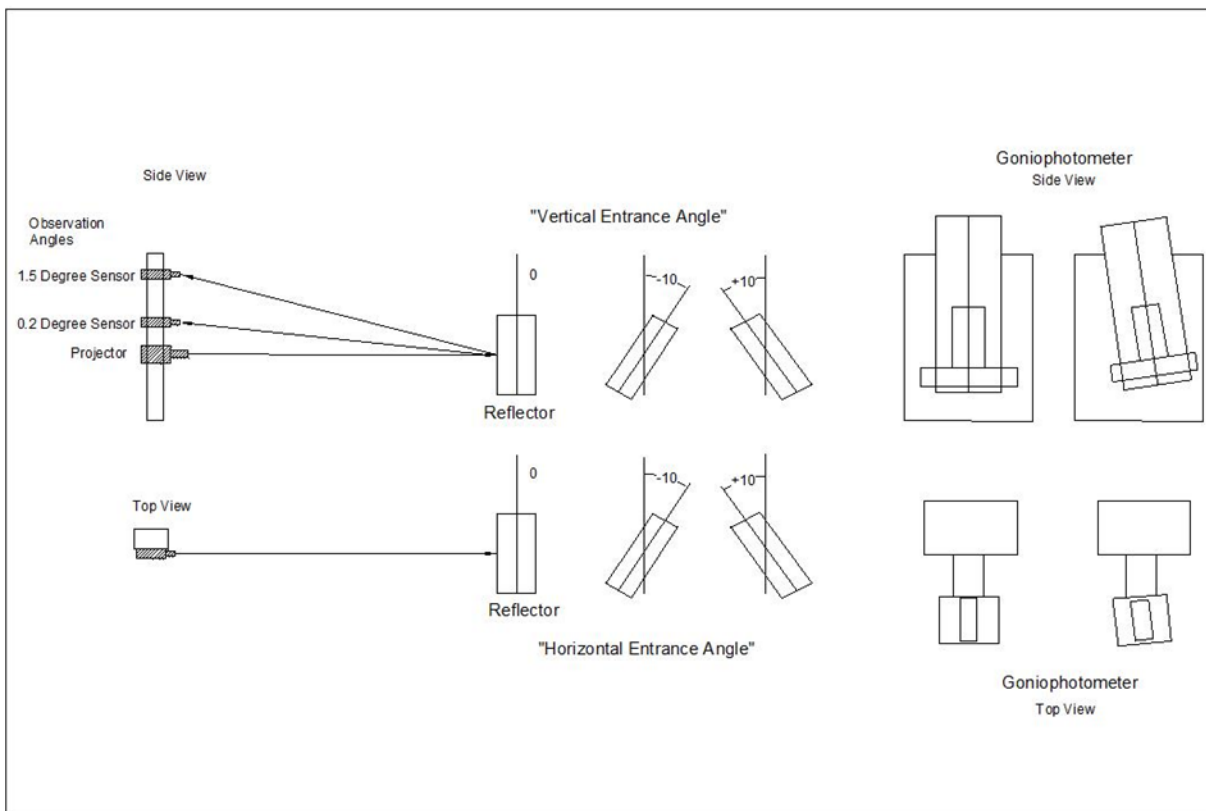


Figure 1A - Setup for testing