



SURFACE VEHICLE STANDARD

J1623™**MAR2021**Issued 1994-12
Revised 2021-03

Superseding J1623 FEB2015

(R) Off-Highway Vehicle Headlamps

RATIONALE

Changed from an SAE Recommended Practice to a SAE Standard. This document is widely accepted and followed in the industry, and is a requirement for ATVs through the Consumer Product Safety Improvement Act (2008).

Reorganized document to current SAE Standard format. Placed lamp performance test and requirements in Sections 5 and 6, and vehicle-level test and requirements in Section 7.

Updated gross vehicle weight values in 3.1.

Added reference to SAE J2650 for lamps with LED light sources in 5.1.1.5.

Replaced vibration test section to refer to SAE J575 in 5.1.2.

Photometric test point tables converted to graphical figures in Figures 1A, 1B, 2A, and 2B.

1. SCOPE

This SAE Standard provides test procedures and performance requirements for off-highway vehicle headlamps.

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 for Use on Vehicles Less than 2032 mm in Overall Width
SAE J578	Chromaticity Requirements for Ground Vehicle Lamps and Lighting Equipment
SAE J759	Lighting Identification Code
SAE J2357	Application Guidelines for Electronically Driven and/or Controlled Exterior Automotive Lighting Equipment
SAE J2650	Performance Requirements for Light Emitting Diode (LED) Road Illumination Devices

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Documents

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3. DEFINITIONS

3.1 OFF-HIGHWAY VEHICLE (OHV)

An off-highway vehicle is any motorized vehicle less than 2032 mm in overall width, with a gross vehicle weight rating of 2500 kg or less, designed to travel on four or more off-road tires/wheels, with handlebars or a steering wheel for steering control, and which is intended by the manufacturer to be used exclusively off-highway. Width and weight shall be exclusive of accessories and optional equipment.

3.2 OFF-HIGHWAY VEHICLE (OHV) HEADLAMP

An off-highway vehicle headlamp is one or more lamps used as the major lighting device to provide general illumination ahead of an off-highway vehicle.

4. LIGHTING IDENTIFICATION CODE, MARKINGS, AND NOTICES

4.1 Off-highway vehicle lamps meeting the requirements of Photometry Class 1 of this document may be identified by the code "OHV-1" in accordance with SAE J759. Off-highway vehicle lamps meeting the requirements of Photometry Class 2 of this document may be identified by the code "OHV-2" in accordance with SAE J759.

5. TESTS

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

5.1.1 Photometry

5.1.1.1 The upper beam of a multiple beam headlamp shall be aimed photo electrically so that the center of the zone of highest intensity falls 0.5 degree vertically below the lamp axis and centered laterally. A headlamp unit having only a single beam shall be aimed with the top of the cutoff of the beam at horizontal and centered by balancing the points 6 degrees left and 6 degrees right.

5.1.1.2 If multiple headlamps are used to meet this document:

5.1.1.2.1 The combination of lamps, as mounted on the OHV, shall meet the requirements when treated as one lamp, or

5.1.1.2.2 Each independent lamp shall meet the requirements individually. However, for the test points at 0.5U in Figures 1B and 2B, the sum of the values of all lamps must be below two times the maximum requirement.

5.1.1.3 The headlamp shall not be obstructed by any part of the OHV throughout the photometric test angles unless the lamp is designed to comply with all photometric requirements with these obstructions considered.

5.1.1.4 If LED light sources are used in the lamp, the adjustments to test points due to temperature procedure of SAE J2650 shall be used.

5.1.2 Vibration Test

5.1.3 Warpage Test on Devices with Plastic Components

5.1.4 Water Intrusion (Moisture) Test

5.1.5 Dust Exposure Test

5.1.6 Corrosion Test

5.2 Color Test

SAE J578 is a part of this document.

6. REQUIREMENTS

6.1 An OHV headlamp, when tested according to the test procedures specified in 5.1, shall meet the following performance requirements of SAE J575 unless otherwise noted.

6.1.1 Photometry

6.1.1.1 A dual beam OHV headlamp shall meet the applicable luminous intensity requirements of Class 1 (in Figures 1A and 1B) or Class 2 (in Figures 2A and 2B).

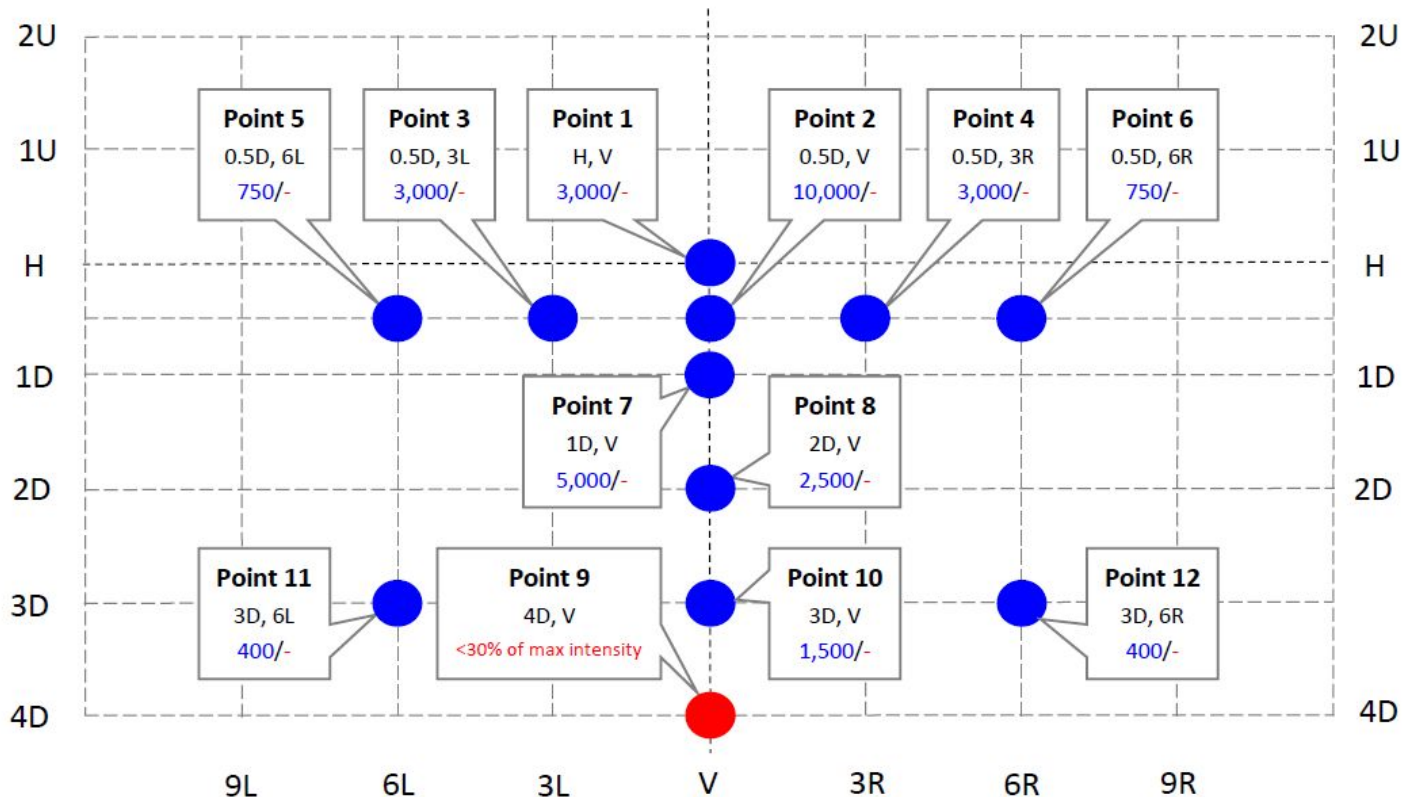
6.1.1.2 A single beam headlamp shall meet the candela requirements of Class 1 (Figure 1B) or Class 2 (Figure 2B).

6.1.1.3 Figures 2A and 2B (Class 2) provide alternative photometric values that can be used, but are not required.

6.1.1.4 Test point positions and axis are explained in SAE J575 photometry.

6.1.1.5 A tolerance of 0.25 degree in location may be allowed for any test point.

6.1.1.6 If LED light sources are used in the lamp, the photometric effects due to temperature requirement of SAE J2650 shall be met.



1. Maximum 75,000 cd anywhere in beam pattern.
2. A tolerance of ± 0.25 degrees in location is allowed at any test point except as noted.

Figure 1A - High beam photometric requirement - Class 1
Luminous intensity (candela)