SURFACE VEHICLE STANDARD

J280™	MAY2021

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Superseding J280 MAR2011

(R) Snowmobile Headlamps

RATIONALE

There is a need to allign with other lamp standards (e.g., SAE J584, SAE J585, SAE J586, CMVSS 108, SAE J1623, SAE J1383, SAE J2442, UNECE R113, etc.). This results in some changes to the definitions, relocation of some texts, conversion of the photometry table to a graphical representation (no technical changes to photometry requirements), and installation requirements amendments.

There is need to clarify the document and to better allign it with SAE J575 test methods for lighting equipment. In this revision, sequentially, the test methods are first defined, and then the performance expectations are defined. The order of the tests now match that of SAE J575. This is in line with the structures of SAE J584, SAE J585, and SAE J586.

1. SCOPE

This SAE Standard provides test methods, performance requirements, installation requirements, and guidelines for snowmobile headlamps.

2. REFERENCES

2.1 Applicable Documents

The following publication forms a part of the specification to the extent specified herein. Unless otherwise indicated the lastest revision 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 J33 Snowmobile Definitions and Nomenclature - General

SAE J387 Terminology - Motor Vehicle Lighting

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

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: **http://www.sae.org**

For more information on this standard, visit
https://www.sae.org/standards/content/J280_202105

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

SAE J578 Chromaticity Requirements for Ground Vehicle Lamps and Lighting Equipment

SAE J2650 Performance Requirements for Light Emitting Diode (LED) Road Illumination Devices

3. DEFINITIONS

SNOWMOBILE HEADLAMP(S): Lighting device(s) providing a low (passing) beam lamp and a high (driving) beam functions designed and intended to provide illumination forward of a snowmobile.

SNOWMOBILE: As defined by SAE J33.

3.1 Motor Vehicle Lighting Terminologies

The terminologies contained in SAE J387 apply to this standard.

4. TESTS

Test voltage application shall be per the test voltage of SAE J575_201808. If multiple headlamps are used to meet this document, the combination of lamps, as mounted on the snowmobile, shall meet the requirements when treated as one lamp. Unless otherwise indicated, all drain holes, breathing devices, or other openings or vents of headlamp units under test shall be in their normal operating condition.

Unless otherwise specified, light sources used in the tests shall be representative of light sources in regular production.

4.1 SAE J575_201808 Test Methods

SAE J575_201808 is a part of this document. The following tests from SAE J575_201808 are applicable with the modifications as indicated.

If LED light sources are present in the lamp, the test methods and procedures of SAE J2650 may additionnally be applied in whole or in part.

4.1.1 Photometry Test

4.1.1.1 For Headlamp Aimed Using the High (Driving) Beam

The high (driving) beam of a multiple beam headlamp shall be aimed photoelectrically so that the center of the zone of highest intensity falls 0.4 degree vertically below the lamp axis and is centered laterally. The center of the zone of highest intensity shall be established by the intersection of a horizontal plane passing through the point of maximum intensity, and the vertical plane established by balancing the photometric values at 6 degrees left and 6 degrees right.

4.1.2 Vibration Test

4.1.3 Warpage Test on Devices with Plastic Components

4.1.4 Water Intrusion (Moisture) Test

4.1.5 Dust Exposure Test

4.1.6 Corrosion Test

4.2 Plastic Materials Used in Optical Parts

SAE J576_201708 is a part of this document except, for the luminance transmittance test.

4.3 Color Test

SAE J578_202004 is a part of this document.

5. PERFORMANCE REQUIREMENTS

5.1 A snowmobile headlamp, when tested in accordance with the test procedure specified in Section 4, shall comply with the following requirements.

If LED light sources are present in the lamp, the test methods and procedures of SAE J2650 may additionally be applied in whole or in part.

5.1.1 Photometry

5.1.1.1 The beams from the unit(s) shall be designed to conform to the intensity specifications in Figures 1 and 2. A tolerance of ±0.25 degree in location may be allowed for any test point.

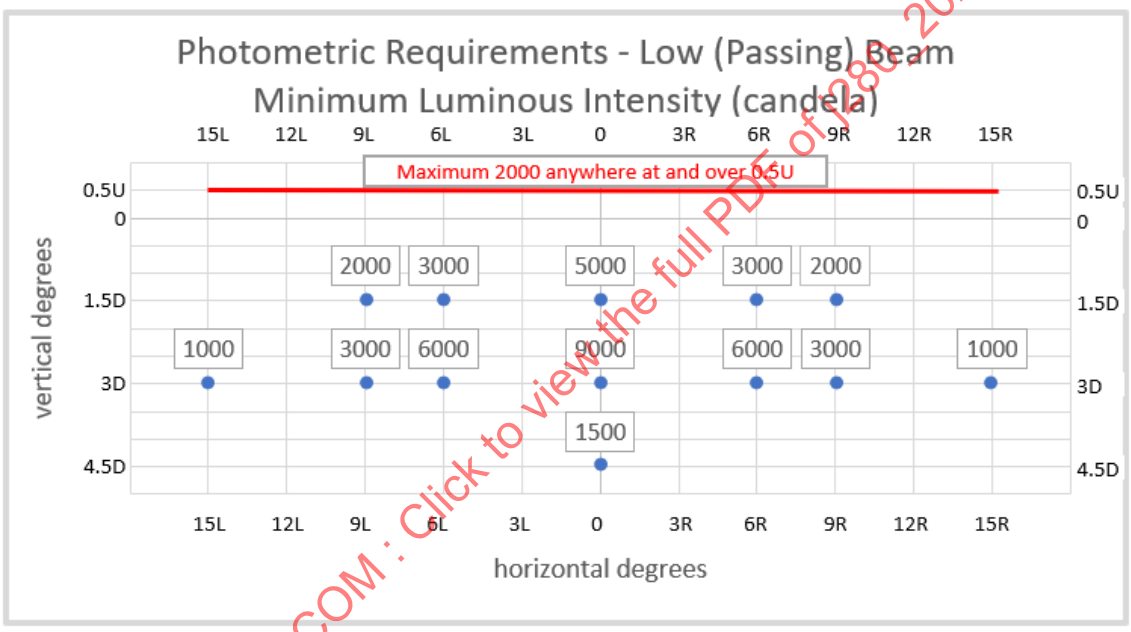

Figure 1 - Low (passing) beam photometric requirement

NOTE 1: Specified candela is the minimum requirement, except when noted.

NOTE 2: Test point nomenclature is explained in SAE J575_201808 4.1.2.4.

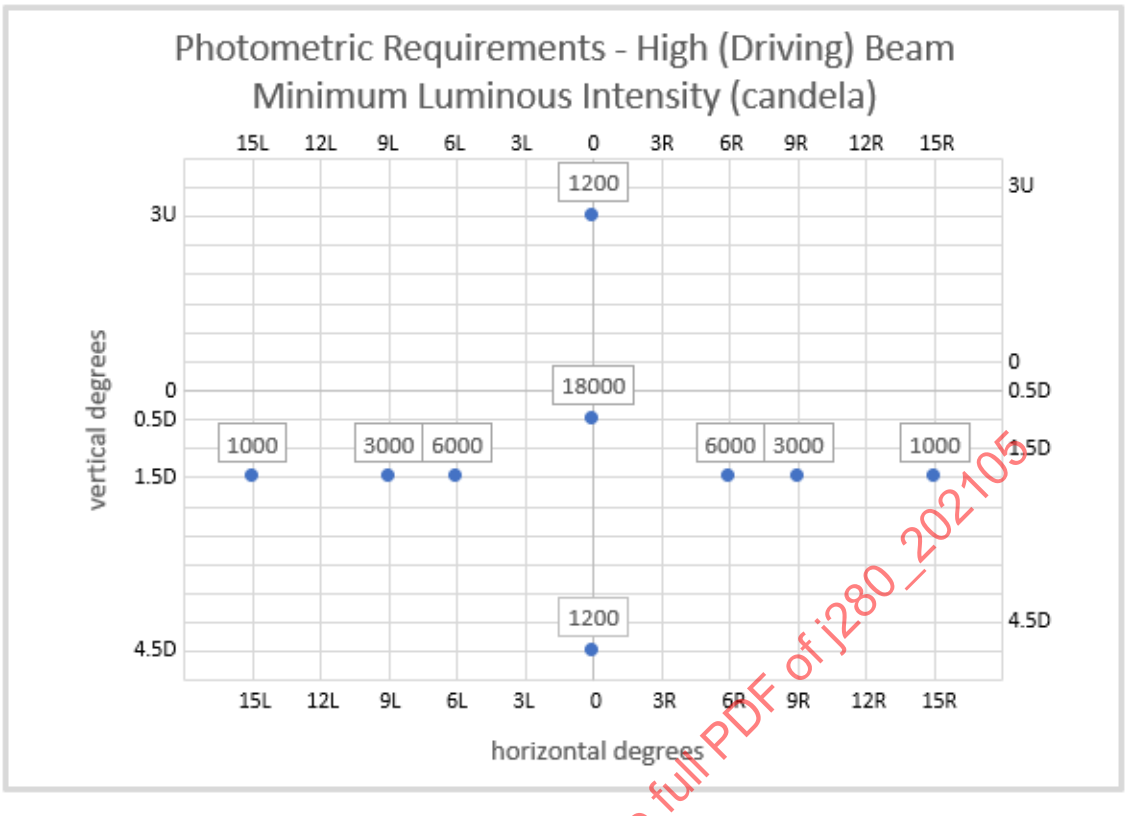

Figure 2 - High (driving) beam photometric requirement

NOTE: Specified candela is the minimum requirement, except when noted.

5.1.2 Vibration

The lamp shall comply with the performance requirements of SAE J575_201808.

5.1.3 Warpage on Devices with Plastic Component(s)

The lamp shall comply with the performance requirements of SAE J575_201808.

5.1.4 Water Intrusion (Moisture)

The lamp shall comply with the performance requirements of SAE J575_201808.

5.1.5 Dust Exposure

The lamp shall comply with the performance requirements of SAE J575_201808.

5.1.6 Corrosion

The lamp shall comply with the performance requirements of SAE J575_201808.

5.2 Plastic Materials Used in Optical Parts

Plastic materials used in optical parts shall comply with the performance requirements of SAE J576_201708.

5.3 Color

The color of the light shall be white and comply with the performance requirements of per SAE J578_202004.