SURFACE VEHICLE RECOMMENDED PRACTICE

J2009™ AUG2016

Issued 1993-02
Revised 2016-08

Superseding J2009 OCT2005

Discharge Forward Lighting System and Subsystems

RATIONALE

Section 2, updated references with revisions, titles and addresses (SAE, ANSI, CFR Title 49 Part 571, ASTM International, IES, UN Regulation 98 and 99, CIE).2.1.3, added Canada Motor Vehicle Safety Standard, CMVSS 108.

3.1, 3.3, 3.4, 3.10, 3.11, revised definitions for clarity.

3.9, updated definition reference.

3.11, 3.12, removed (defined in SAE J387).

Section 4, updated wording for clarity.

Section 5 (general), updated wording, abbreviations, grammar.

Section 5, updated references of testing procedures to SAE J575 which were previously referenced to other documents.

5.1.1, replaced burning positon with nominal operating position.

5.1.3, 5.2.4, 5.4.3, revised to 20 minutes for consistency.

5.4.3, removed [Continuous Low Beam Mode].

5.1.5, 5.5, 5.7, 5.8, minor grammar updates.

5.2.1, 5.8.1, changed term to “nominal” for consistency.

5.4.1, changed normal to nominal.

Table 1, added light sources D5S, D6S, D7S, D8S, D8R, D9S and associated information. Revised format for legibility.

Table 3, modified values to reflect levels for 25 watt systems. 25 watt systems have lower steady state luminous flux values than 35 watt systems. The run-up characteristic is scaled to the total lumen values output – e.g., 3200 lumens/2000 lumens = 1.6. Therefore, the run-up values are scaled to the 1.6 value factor – e.g., 10000/1.6 = 6250.

Table 5, revised punctuation of decimal numbers.

Section 6, updated references of testing requirements to SAE J575 which were previously referenced to other documents.

6.1, removed wording; relocated to proper section (6.6).

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

SAE values your input. To provide feedback on this Technical Report, please visit
http://www.sae.org/technical/standards/J2009_201608

6.6, revised wording for clarity (added words from previous 6.1). Changed incorrect section reference from 7.3 to 5.8.

7.3, removed as no specific guideline was given. This was listed for awareness and general background information.

7.7, this guideline removed as test for ultraviolet energy is covered in section 5.7. Other information was for background information when this technology was first introduced.

7.9, revised to include note about vehicle start/stop systems.

Section 7, renumbered to reflect changes made.

8.1, wording is revised to agree with new template (Marginal Indicia).

1. SCOPE

This SAE Recommended Practice applies to motor vehicle forward illumination systems and subsystems generated by discharge sources. It provides test methods, requirements, and guidelines applicable to the special characteristics of gaseous discharge lighting devices which supplement those required for forward illumination systems using incandescent light sources. The document is applicable to both discharge forward lighting systems, subsystems and components. This document is intended to be a guide to standard practice and is subject to change to reflect additional experience and technical advances.

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 Color Specification

SAE J759 Lighting Identification Code

SAE J1383 Performance Requirements for Motor Vehicle Headlamps

SAE J1647 Plastic Materials and Coatings for Use In or On Optical Parts Such as Lenses and Reflectors of High-Intensity Discharge Forward Lighting Devices Used in Motor Vehicles

SAE J2320 Discharge Signal Lighting System

SAE J2357 Application Guidelines for Electronically Driven and/or Controlled Exterior Automotive Lighting Equipment

2.1.2 ANSI Publications

Copies of these documents are available online at http://webstore.ansi.org/

ANSI C78.376-1969 Spectroradiometrically Determined Assignments

ANSI Z535.4 Product Safety Signs and Labels

ANSI/IESNA RP 16-96 American National Standard Nomenclature and Definitions for Illuminating Engineering (http://www.iesna.org/)

ANSI/IESNA RP 27.1 Photobiological Safety for Lamps and Lamp Systems - General Requirements (http://www.iesna.org/)

ANSI/IESNA RP 27.2 Photobiological Safety for Lamps and Lamp Systems - Measurement Techniques (http://www.iesna.org/)

2.1.3 Federal Publications

Available from the Superintendent of Documents, U. S. Government Printing Office, Mail Stop: SSOP, Washington, DC 20402-9320 http://www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR

CFR Title 49 Part 571 Lamps, Reflective Devices and Associated Equipment (FMVSS 108)

CFR Title 49 Part 564 Replaceable Light Source Information (Part 564)

Available from Transport Canada, Motor Vehicle Safety, P.O. Box 8880, Ottawa Post Terminal, Ottawa, Ontario, K1G.3J2 http://www.tc.gc.ca/eng/acts-regulations/regulations-crc-c1038.htm

Canada Motor Vehicle Safety Standard, CMVSS 108

2.1.4 UN Publications

Available from United Nations Economic Commission for Europe, Palais des Nations, CH–1211, Geneva 10, Switzerland, Tel: +41-0-22-917-12-34, www.unece.org.

UN Regulation 99 Uniform Provisions Concerning the Approval of Gas-Discharge Light Sources for Use in Approved Gas-Discharge Lamp Units of Power-Driven Vehicles

2.1.5 International Electrotechnical Commission (IEC) Publications

Available from Head of Sales, Marketing and Information Services, IEC Central Office, 3, rue de Varembé, P.O. Box 131, CH-1211 Geneva 20, Switzerland, email: info@iec.ch.

IEC Publication 60061 Lamps for Road Vehicles - Performance Requirements

IEC Publication 60810 Lamp Caps and Holders Together with Gauges for the Control of Interchangeability and Safety

2.1.6 IES Publications

Available from Illuminating Engineering Society, 120 Wall Street, Floor 17, New York, NY 10005.

IES Procedure LM-45 Approved Method for Electrical and Photometric Measurements of General Service Incandescent Filament Lamps, IES Lighting Handbook, Reference Volume, III