

Lighting and marking of agricultural equipment on highways



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M669-11

Lighting and marking of agricultural equipment on highways

CSA Preface

This is the fifth edition of CSA M669, *Lighting and marking of agricultural equipment on highways*, which is an adoption without modification of the identically titled ANSI/ASAE (American National Standards Institute/American Society of Agricultural Engineers) Standard S279.15 SEP2010. It supersedes the previous edition, published in 2004, which was an adoption of ANSI/ASAE Standard S279.12 DEC02.

In conjunction with the adoption of this new edition of ANSI/ASAE S279, CSA is also withdrawing CAN/CSA-M663-92, *Seven-Pin Electrical Connector and Cable for Agricultural Towing Vehicle Equipment*. The technical content of CAN/CSA-M663-92 is now addressed in this new edition of CSA M669.

In this edition, a number of minor technical changes have been made to the performance requirements for retroreflective devices and fluorescent marking and to the criteria for design and placement of the marking material on various types of equipment. It should be noted that this Standard applies to all mobile agricultural equipment, whether self-propelled or towed, moving on public highways and roadways (paved, graveled, or dirt surface).

This Standard was reviewed by the CSA Technical Committee on Agricultural Machinery, under the jurisdiction of the CSA Strategic Steering Committee on Occupational Health and Safety, and has been approved by the Technical Committee.

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ANSI/ASAE S279.15 SEP2010
Lighting and Marking of Agricultural Equipment on Highways



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Lighting and Marking of Agricultural Equipment on Highways

Supersedes ASAE S213, Safety Lighting for Combinations of Farm Tractors and Implements, adopted February 1954. Proposed by the Engineering Committee of the Farm and Industrial Equipment Institute; approved by SAE Power and Machinery Division Technical Committee; adopted by ASAE December 1964; revised December 1965, June 1966, June 1967, December 1969, June 1971, March 1974; approved as an American National Standard November 1976; revised April 1977, March 1982; revision approved by ANSI July 1984; reconfirmed December 1986; revised April 1988; editorially revised July 1989; revision approved by ANSI April 1990; reaffirmed by ASAE December 1992; reaffirmed by ANSI July 1993; reaffirmed by ASAE December 1997; revised April 1998; revision approved by ANSI and revised editorially October 1998; revised February 2001; revision approved by ANSI April 2001; reaffirmed by ASAE December 2001; revised December 2002; revision approved by ANSI February 2003; revised December 2005; revision approved as an American National Standard January 2006; revised July 2008; revision approved by ANSI August 2008; revised September 2010; revision approved by ANSI September 2010.

Keywords: Lighting, Marking, Safety, Vehicle

1 Purpose

This Standard provides specifications for lighting and marking of agricultural equipment whenever such equipment is operating or is traveling on a highway.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including amendments) applies.

ANSI/SAE S276.6 JAN2005, Slow Moving Vehicle Identification Emblem (SMV Emblem)
 ANSI/SAE S390.4 DEC2004, Definitions and Classifications of Agricultural Field Equipment
 ANSI/SAE S584 JAN2005, Agricultural Equipment Serial Identification Symbol (SIS)
 ASABE S608, Headlamps for Agricultural Equipment
 SAE J560, Seven-Conductor Electrical Connector for Truck-Trailer Jumper Cable
 SAE J575, Test Methods and Equipment for Lighting Devices and Components for Use on Vehicles Less Than 2032 mm in Overall Width
 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 J594, Reflex Reflectors
 SAE J884 (R), Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles
 SAE J974, Flashing Warning Lamp for Agricultural Equipment
 SAE J2040, Tail Lamps (Rear Position Lamps) for Use on Vehicles 2032 mm or More in Overall Width
 SAE J1889, L.E.D. Signal and Marking Lighting Devices
 SAE J2041, Reflex Reflectors for Use on Vehicles 2032 mm or More in Width

SAE J2261, Stop Lamps and Front- and Rear-Turn Signal Lamps For Use On Motor Vehicles 2032 mm or more in Overall Width
 ASTM D1014-02, Standard Practice for Conducting Exterior Exposure Tests of Paints and Coatings on Metal Substrates
 ASTM D4956-04, Standard Specification for Retroreflective Sheeting for Traffic Control
 ASTM E-991-98, Standard Practice for Color Measurement of Fluorescent Specimens
 ASTM E-308-01, Standard Practice for Computing the Colors of Objects by Using the CIE System
 FMVSS (Federal Motor Vehicle Safety Standard) PSTC-108 on Test 108, Vehicle Lighting and Marking Standard
 EU Directive 76/758/EEC, 27 July 1976 on the approximation of the laws of the Member States relating to end-outline marker lamps, front position (side) lamps, rear position (side) lamps and stop lamps for motor vehicles and their trailers
 EU Directive 76/757/EEC on the approximation of the laws of the Member States relating to retro-reflectors for motor vehicles and their trailers
 ECE Regulation No. 7, End-outline marker/front-side/rear-side/stop lamps
 ECE Regulation No. 65, Uniform Provisions Concerning the Approval of Special Warning Lamps for Motor Vehicles.
 ISO 16154:2005, Tractors and machinery for agriculture and forestry - Installation of lighting, light signaling and marking devices for travel on public roads
 ISO 11783:2006, Tractors and machinery for agriculture and forestry - Serial control and communication data network, with specific attention to Part 4, General standard for mobile data communications; Part 2, Physical layer; and Part 7, Implement messages application layer.

3 Definitions and material specifications

3.1 Agricultural equipment: Refer to ASAE S390 for definitions of agricultural equipment.

3.2 Highway: A highway is defined as the entire width between the boundary lines of every way publicly maintained, when any part thereof is open to the use of the public for purposes of vehicular travel (Uniform Vehicle Code).

3.3 Retroreflective devices:

3.3.1 Retroreflective material meeting the performance requirements of clause 3.5 or FMVSS 108 DOT C. Retroreflective material size shall be 50 mm (2 in.) wide by 115 mm (4.5 in.) long for machines 2 m (6.7 ft) or less in width, and 50 mm (2 in.) by 230 mm (9 in.) long for machines wider than 2 m (6.7 ft).

3.3.2 Reflex reflectors meeting the performance requirements of SAE J594 or SAE J2041 Type 1.

3.4 Lamp location: Dimensions in this Standard, unless specified otherwise, are based on measurements to the nearest edge of the lens (filament cover).

3.5 Retroreflective material:

3.5.1 Visibility. The material shall be visible at night from all distances between 305 and 30 m (1000 and 100 ft) when directly in front of lawful vehicle low beam headlamps.

3.5.2 Construction. Retroreflective sheeting shall consist of a smooth, flat, transparent exterior film with retroreflective elements embedded or