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SAE J587 AUG85

License Plate Lamps (Rear Registration Plate Lamps)

SAE Standard
Revised August 1985

Submitted for Recognition as
an American National Standard

RATIONALE:

License plate lamps (rear registration plate lamps) - SAE J587 - as per recommended Format with "Standardized Phrases" for Use in S&MDSC Technical Reports.

No technical changes made to this Standard.

REFERENCE SECTION:

SAE J575, Tests for Motor Vehicle Lighting Devices and Components

SAE J578, Color Specification for Electric Signal Lighting Devices

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

SAE J567, Lamp Bulb Retention System

SAE J759, Lighting Identification Code

APPLICATION:

Provides test procedures, requirements and guidelines for vehicular license plate lamps.

COMMITTEE COMPOSITION:

DEVELOPED BY THE SAE LIGHTING COMMITTEE:

J. E. Bair, Hopkins Mfg. Corp., Emporia, KS
D. W. Moore, GMC, Anderson, IN
J. E. Bennett, Truck-Lite Co., Inc., Falconer, NY
V. D. Bhise, Ford Motor Co., Dearborn, MI
G. G. Bonvallet, ETL Testing Laboratories, Cortland, NY
A. J. Burgess, Lucas Industries Inc., Troy, MI
A. L. Burgett, Alexandria, VA
L. Carbary, Chrysler Corp., Detroit, MI
A. Cardarelli, American Assn. of Motor Vehicle Adm., Washington, DC
S. A. Darby, Sate-lite Manufacturing Co., Niles, IL
T. Dawson, Weldon Inc., Columbus, OH
C. J. Devonshire, Chrysler Corp., Detroit, MI
J. A. Erion, Ford Motor Co., Dearborn, MI
C. E. Granfors, Albuquerque, NM
W. M. Heath, Calif. Hwy. Patrol, Sacramento, CA
E. G. Hitzemeyer, Volkswagenwerk AG, Germany, Federal Republic
M. Iwase, Koito Manufacturing Co., Ltd., Shizuoka-ken, Japan
S. F. Kimball III, GTE Products Corp., Salem, MA
G. A. Knapp, DeWitt, NY
P. H. Lawrenz, Franklin, MI
A. T. Lewry, Ford Motor Co., Dearborn, MI

COMMITTEE COMPOSITION (Cont'd.):

DEVELOPED BY THE SAE LIGHTING COMMITTEE:

R. J. Love, General Elec. Co., East Cleveland, OH
M. J. McKale, General Motors Corporation, Warren, MI
W. A. McKinney, GMC, Anderson, IN
G. E. Meese, Lyndhurst, OH
H. Miyazawa, Stanley Elec. Co., Ltd., Tokyo, Japan
B. C. Muccioli, Ford Motor Co., Dearborn, MI
C. J. Newman, Grote Mfg. Co., Madison, IN
R. A. Nixon, Jr., McGraw-Edison Co., Boyertown, PA
R. C. Oliver, General Elec. Co., East Cleveland, OH
P. Olson, University of Michigan, Ann Arbor, MI
R. W. Oyler, Anderson, IN
J. L. Purpura, Amer. Motors Corp., Detroit, MI
W. F. Sand, K-D Lamp Co., Cincinnati, OH
P. G. Scully, Peterson Manufacturing Co., Grandview, MO
Z. S. Subotich, Canadian Standards Association, Ontario, Canada
B. Summers, Defense General Supply Center, Richmond, VA
F. Takata, Ichikoh Industries Ltd., Washington, DC
K. Uding, Amerace Corp., Niles, IL
D. W. Vescio, Sr., R. E. Dietz Co., Syracuse, NY
R. L. Vile, North American Philips Lighting, Bloomfield, NJ
K. Watanabe, Stanley Electric Co. Ltd., Tokyo, Japan
P. E. Westlake, General Elec. Co., East Cleveland, OH
J. G. White, Govt. of Canada, Ontario, Canada
J. D. White, Pflugerville, TX
G. P. Wright, GMC, Anderson, IN
R. G. Yorks, McGraw Edison Co., Whippany, NJ
H. J. T. Young, Motor Vehicle Department, British Columbia, Canada

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400 COMMONWEALTH DRIVE, WARRENDALE, PA 15096

HIGHWAY VEHICLE STANDARD

Submitted for recognition as an American National Standard

SAE J587

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Ø LICENSE PLATE LAMPS (REAR REGISTRATION PLATE LAMPS)

1. SCOPE: This SAE Technical Report provides test procedures, requirements and guidelines for vehicular license plate lamps.

2. DEFINITIONS: A license plate lamp is a device that illuminates the license plate on the rear of a vehicle.

3. LIGHTING IDENTIFICATION CODE: License plate lamps may be identified by the code "L" in accordance with SAE J759, Lighting Identification Code.

4. TESTS:

4.1 SAE J575 - Tests for Motor Vehicle Lighting Devices and Components is a part of this report. The following tests are applicable with the modifications as indicated.

4.1.1 Vibration Test

4.1.2 Moisture Test

4.1.3 Dust Test

4.1.4 Corrosion Test

4.1.5 Photometry: Covered in 4.1.

4.1.5.1 All illumination measurements shall be made on a rectangular test plate of clean, white blotting paper mounted on the license plate holder in the position ordinarily taken by the license plate. The face of the test plate shall be 1.5 mm (1/16 in) from the face of the license plate holder.

4.1.5.2 For lamps used on vehicles other than motorcycles and motor driven cycles, the test stations shall be located on the face of the test plate as shown in Fig. 1. For lamps used on motorcycles and motor driven cycles, the test stations shall be located on the face of the test plate as shown in Fig. 2.

4.1.6 Warpage Test on Devices with Plastic Components

4.2 Color Test: SAE J578 - Color Specification for Electric Signal Lighting Devices is a part of this report.

5. REQUIREMENTS:

5.1 Performance Requirements: A device when tested in accordance with the test procedures specified in Section 4 shall meet the following requirements.

5.1.1 Vibration: SAE J575.

5.1.2 Moisture: SAE J575.

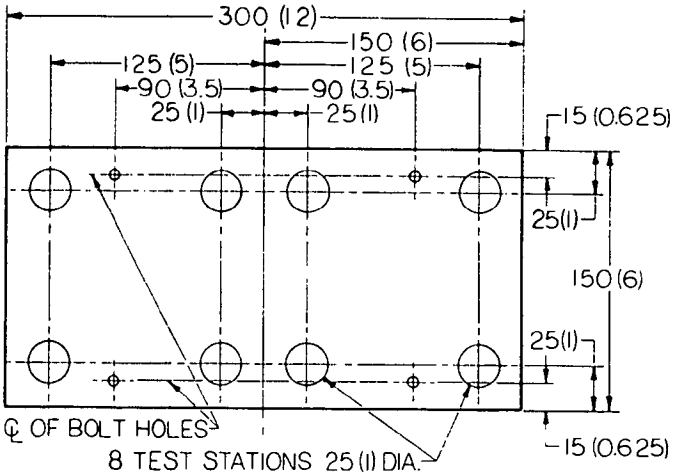
5.1.3 Dust: SAE J575.

5.1.4 Corrosion: SAE J575.

5.1.5 Photometry: In addition to SAE J575, the following shall apply:

5.1.5.1 The illumination of each of the stations on the test plate shall be at least 81 x (0.75 ft-c). The ratio of maximum to minimum illumination shall not exceed 20/1 for the 150 x 300 mm (6 x 12 in) plate and shall not exceed 15/1 for the 100 x 175 mm (4 x 7 in) plate. The average of the two highest and the two lowest illumination values recorded at the eight test stations in the test plate of Fig. 1 shall be taken as maximum and minimum, respectively. The highest illumination value, and the average of the two lowest illumination values recorded at the six test stations in the test plate of Fig. 2, shall be taken as maximum and minimum, respectively.

5.1.5.2 If a tail or a stop lamp is combined with a license plate lamp, the combination shall also meet the requirements for these devices.



NOTE: DIMENSIONS ARE IN MM (INCHES)

FIG. 1—TEST PLATE FOR VEHICLES OTHER THAN MOTORCYCLES AND MOTOR DRIVEN CYCLES

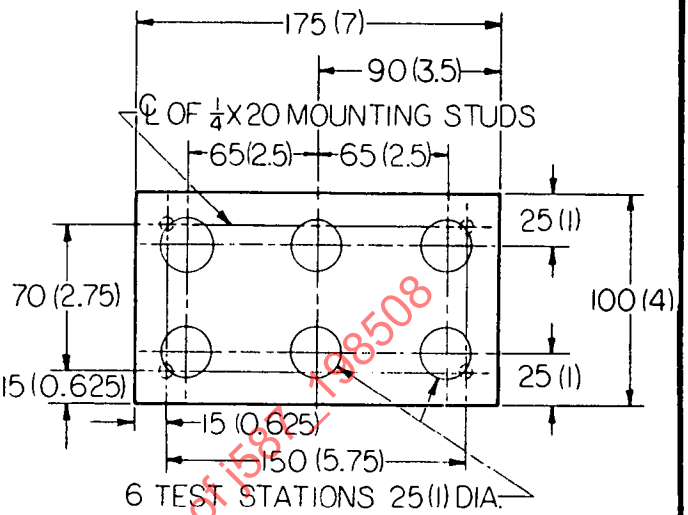


FIG. 2—TEST PLATE FOR MOTORCYCLES AND MOTOR DRIVEN CYCLES

5.1.6 Warpage: SAE J575.

5.1.7 Color: The color of light from the license plate lamps shall be white as specified in SAE J578.

5.2 Materials Requirements: Plastic materials used in the optical parts shall meet the requirements of SAE J576, Plastic Materials for Use in Optical Parts Such as Lenses and Reflectors of Motor Vehicle Lighting Devices.

5.3 Design Requirements:

5.3.1 License plate lamp(s) for vehicles other than motorcycles and motor driven cycles shall be of such size and design as to provide illumination on all parts of a 150 x 300 mm (6 x 12 in) test plate. License plate lamp(s) for motorcycles and motor driven cycles shall be of such size and design as to provide illumination of all parts of a 100 x 175 mm (4 x 7 in) test plate. The light rays shall reach all portions of an imaginary plate of the same size at least 25 mm (1 in) ahead of the actual test plate measured perpendicular to the plane of the plate.

5.3.2 The design shall be such that, when the lamp is mounted on a vehicle as intended, the angle between the plane of the license plate and the plane on which the vehicle stands will not exceed 90 ± 15 deg.

5.3.3 When a single lamp is used to illuminate the plate, the lamp and license plate holder shall bear such relation to each other that at no point on the plate will the incident light make an angle of less than 8 deg to the plane of the plate, this angle being measured from the edge of the light emitting surface of the device farthest from the surface of the plate (see Fig. 3).

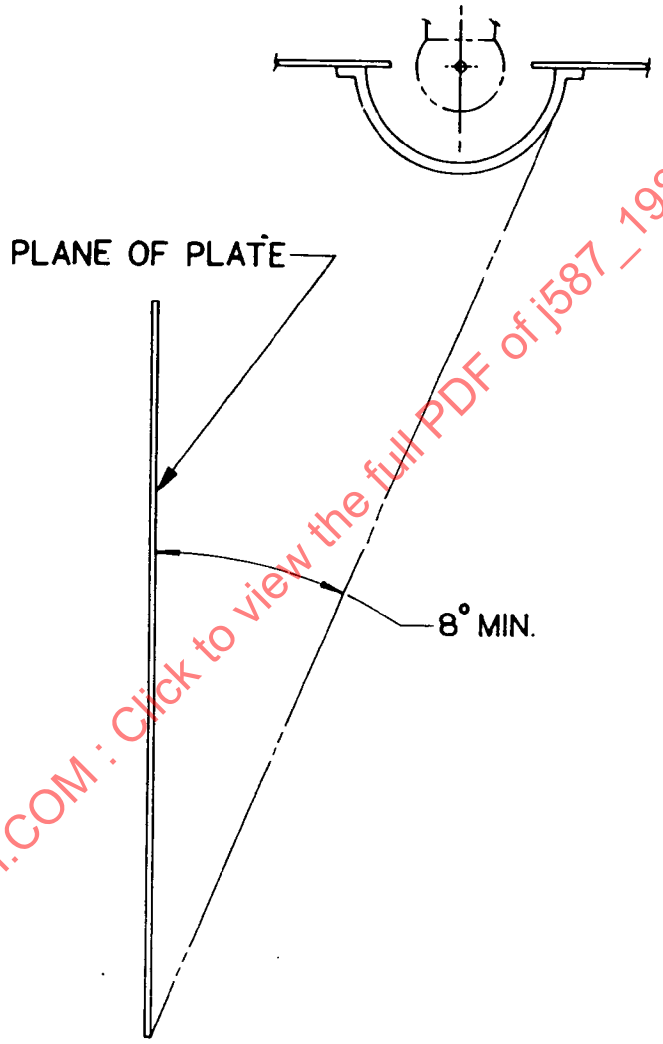


FIG. 3—MEASUREMENT OF INCIDENT LIGHT ANGLE

5.3.4 When two or more lamps are used to illuminate the plate, the minimum 8 deg incident light angle shall apply only to that portion of the plate which the particular lamp is designed to illuminate. The incident light angle shall be measured in the same way as provided in paragraph 5.3.3.

5.4 Installation Requirements: The license lamp shall meet the requirements as installed on the vehicle.