Service Performance Requirements and Test Procedures for Motor Vehicle Lamp Bulbs —SAE J1049 AUG79

SAE Recommended Practice
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THIS IS A PREPRINT WHICH IS SUBJECT TO REVISIONS AND CORRECTIONS. THE FINAL VERSION WILL APPEAR IN THE 1981 EDITION OF THE SAE HANDBOOK.

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LAND SEA AIR SPACE

PREPRINT

SERVICE PERFORMANCE REQUIREMENTS AND ϕTEST PROCEDURES FOR MOTOR VEHICLE LAMP BULBS—SAE J1049 AUG79

SAE Recommended Practice

Report of the Lighting Committee, approved August 1973, completely revised August 1979, editorial change August 1979.

1. Scope—This recommended practice covers service performance tests, test methods, and requirements applicable to lamp bulbs covered by SAE ed. J573g (December, 1976). It is intended to supplement the engineering de- ed. sign requirements provided in SAE J573g (December, 1976) by establishing test procedures and requirements for service evaluation of lamp bulbs.

2. Samples for Test—Test samples shall be new, unused lamp bulbs fabricated from production processes.

3. Requirements—The test samples shall comply with the following requirements:

3.1 Candela—Seasoned bulbs shall be measured at design volts in a properly calibrated photometer in accordance with accepted photometric procedures.

An acceptable seasoning schedule at rated volts is 1% of Rated Average Lab Life as shown in Table 1 or 10 h maximum, whichever is shorter. For lamp bulbs not listed in Table 1, use the manufacturer's published design life for Rated Average Lab Life.

3.2 Physical Dimensions

3.2.1 Table 1 lists candela values and filament relationship dimensions (LCL, AA, base pin rotation) of lamp bulbs.

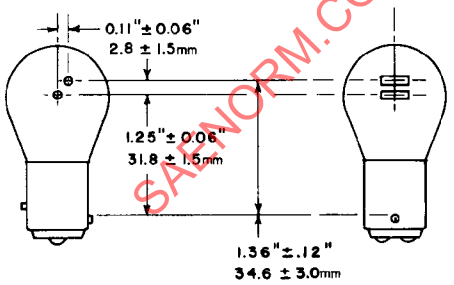
3.2.2 Table 2 lists the base dimensions considered important for metal-based lamps to insure that lamp bulbs will perform satisfactorily in a bulb retaining device (socket) made in accordance with SAE J567c (December, ed. 1970).

3.2.3 Table 4 lists the base dimensions considered important for sub-miniature wedge base (Type W-1) lamps to insure that lamp bulbs will perform satisfactorily in a bulb retaining device (socket) made in accordance with SAE J567c (December, 1970). ed.

3.2.4 Table 3 lists the base dimensions considered important for wedge base (Type W-2) lamps to insure that lamp bulbs will perform satisfactorily in a bulb retaining device (socket) made in accordance with SAE J567c ed. (December, 1970).

TABLE 1—SERVICE PERFORMANCE REQUIREMENTS FOR MOTOR VEHICLE LAMP BULBS

Trade No.	Mean Spherical Candela	cd Tol, ±%	Design Volts	Design Amps	Amp Tol, ±%	Rated Average Lab Life, h	Tolerance Data						Base Pin Rotation with Respect to Filament, deg
							Light Center Length (LCL)		LCL Tolerance		Axial Align Tolerance		
							in	mm	± in	± mm	± in	± mm	
74	0.7	50	14.0	0.1	30	500	0.40	10.2	0.13	3.3	0.13	3.3	–
53	1	30	14.4	0.12	25	1000	0.50	12.7	0.13	3.3	0.13	3.3	Random
57	2	30	14.0	0.24	25	500	0.56	14.2	0.13	3.3	0.13	3.3	Random
1895	2	30	14.0	0.27	20	1500	0.56	14.2	0.13	3.3	0.13	3.3	Random
67	4	20	13.5	0.59	15	2000	0.81	20.6	0.13	3.3	0.13	3.3	Random
97	4	25	13.5	0.69	15	2000	0.81	20.6	0.13	3.3	0.13	3.3	Random
161	1	30	14.0	0.19	20	1500	0.56	14.2	0.13	3.3	0.13	3.3	–
168	3	30	14.0	0.35	20	1500	0.56	14.2	0.13	3.3	0.13	3.3	–
194	2	30	14.0	0.27	20	1500	0.56	14.2	0.09	2.3	0.09	2.3	–
1156	32	15	12.8	2.10	10	600	1.25	31.8	0.06	1.5	0.08	2.0	90 ± 40
1157	32	15	12.8	2.10	10	600	1.25	31.8	0.06	1.5	0.08	2.0	90 ± 40
	3	20	14.0	0.59	15	2000	—[a]	—[a]	—[a]	—[a]	—[a]	—[a]	
1157NA	24	35	12.8	2.10	10	600	1.25	31.8	0.06	1.5	0.08	2.0	90 ± 40
	2.2	35	14.0	0.59	15	2000	—[a]	—[a]	—[a]	—[a]	—[a]	—[a]	



(USE DIMENSIONS OF LOWER FILAMENT FOR 1156 BULB)

FIG. 1—FILAMENT LOCATION

TABLE 2—IMPORTANT BASE DIMENSIONS FOR METAL-BASED LAMP BULBS, MIN[a]

Dimension	Miniature (A-1)		Bayonet (B-1, B-2, C-2)	
	in	mm	in	mm
A[b]	0.357	9.07	0.5925	15.05
B	0.384	9.75	0.616	15.65
F	0.180	4.57	0.249	6.32

ed. [a]See Fig. 5 of SAE J573g (December, 1976).
[b]To be measured with a ring gage. Applies to all parts of base shell except within 1/8 in (3 mm) from the bulb and base junction.

TABLE 3—IMPORTANT BASE DIMENSIONS FOR WEDGE BASE LAMPS[a]

Dimension	Type W-2			
	in		mm	
	min	max	min	max
A[b]	–	0.175	–	4.45
B	0.190	–	4.83	–
C	–	0.250	–	6.35
P	0.075	–	1.90	–

ed. [a]See Fig. 6 of SAE J573g (December, 1976).
[b]To be measured on longest side only, with the wire in intimate contact with the bottom of the glass wedge.

The ϕ symbol is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. If the symbol is next to the report title, it indicates a complete revision of the report.