American National Standard for Electric Lamps—Standard Method of Measurement of Lamp Cap Temperature Rise

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Foreword

[This foreword is not part of ANSI/NEMA C78.60360-2002 (S2026)]

This standard is continuing to be maintained under Stabilized Maintenance as of January 22, 2026.

Suggestions for improvement of this standard should be submitted to the Secretariat C78, NEMA 1812 North Moore Street, Suite 2200, Rosslyn, VA 22209 or via https://www.nema.org/about/contact.

In Chapter 2 of this standard, the English text and the order of that text is exactly the same as that found in IEC 60360:1998. The reader should note, however, that the page numbers have been changed and French text is not included.

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Table of Contents

Notice and Disclaimer 2
Foreword 4
Chapter 1—United States of America's Deviations to IEC 60360:1998 7
1 Deviations Affecting Clause 3.1 7
Chapter 2—IEC 60360:1998 8
1 General 8
1.1 Scope 8
1.2 Normative Reference 8
2 Definitions 8
3 General Conditions for Measurements 8
3.1 Ageing and Stabilizing 8
3.2 Supply Voltage 8
3.3 Ambient and Reference Temperatures 8
4 Test Requirements 9
4.1 Test Enclosure 9
4.2 Suspension Methods 10
4.2.1 Cap-up 10
4.2.2 Cap-down 10
5 Test Lampholders 10
5.1 General Construction 10
5.2 Test Lampholder Sleeve Material Specification 10
5.2.1 Composition 10
5.2.2 Structure and Properties 10
5.2.3 Thickness 10
5.2.4 Quality and Finish 11
5.3 Spring Material Specification 11
6 Supply Conductors 11
7 Thermocouple 11
7.1 Materials 11
7.2 Junction 11
7.3 Attachment to Lampholder Sleeve 11
7.4 Equipment 11
7.5 Calibration 12
8 Assembly of the Lamp and the Test Lampholder in the Enclosure 12
9 Measurement of Temperature Rise 12

Figures

Figure 1—Typical Test Lampholder Parts (ES Capped Lamp Illustrated) 13
Figure 2—Position of a Typical Test Lampholder and Thermocouple (Spring Not Shown) 13
Figure 3—Approximate Dimensions of Test Lampholder for E14/20 cap 14
Figure 4—Approximate Dimensions of Test Lampholder for E17/20 cap 14
Figure 5—Approximate Dimensions of Test Lampholder for E26/50 × 39, E27/51 × 39, E26, E26d, and E27 15
Figure 6—Approximate Dimensions of Test Lampholder for E39 and E40 Caps 15
Figure 7—Approximate Dimensions of Test Lampholder for E14/23 × 15 Cap 16
Figure 8—Approximate Dimensions of Test Lampholder for E14/25 × 17 Cap 16
Figure 9—Approximate Dimensions of Test Lampholder for Culot B22d/25 × 26 and B22d-3 (90°/135°)/25 × 26 Caps 17
Figure 10—Approximate Dimensions of Test Lampholder for B15d (Unskirted) Cap 17
Figure 11—Approximate Dimensions of Test Lampholder for B15d/27 × 22 Cap 18
Figure 12—Approximate Dimensions of Test Lampholder for B15d/24 × 17 Cap 18
Figure 13—Approximate Dimensions of Test Lampholder for B22d/22 Cap 19
Figure 14—Approximate Dimensions of Test Lampholder for E12/15 Cap 19

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Chapter 1—United States of America's Deviations to IEC 60360:1998

1 Deviations Affecting Clause 3.1

The wording of Clause 3.1, “Ageing and stabilizing”, shall be replaced by the following:

All discharge lamps shall be aged for 100 hours prior to use in the test. The lamps must be stabilized as specified in the applicable method of measurements standard.

For incandescent or tungsten halogen lamps no previous aging of the lamp is required. Sufficient stability of the lamp is achieved during the time necessary to reach the equilibrium temperature in the test enclosure.

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Chapter 2—IEC 60360:1998

1 General

1.1 Scope

This International Standard describes the standard method of measurement of lamp cap temperature rise which is to be used when testing incandescent or discharge lamps for compliance with the limits. Temperature-rise limits for particular lamp types are, for example, listed in IEC 60432.

It covers the method of test and the specifications for test lampholders for lamps fitted with various sizes of Edison screw (ES) and bayonet caps (BC). This method has been used widely for incandescent lamps but its application is not limited to that kind of lamp.

1.2 Normative Reference

The following normative document contains provisions which, through reference in this text, constitutes provisions of this International Standard. At the time of publication, the edition indicated was valid. All normative documents are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition of the normative document indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60432, *Safety specification for incandescent lamps*

2 Definitions

For the purposes of this International Standard, the following definitions apply:

2.1
temperature rise of cap: Surface temperature rise of a standard test lampholder fitted to the lamp cap, when measured under conditions specified in this standard.

2.2
equilibrium temperature (*t*m): Steady-state temperature of a standard test lampholder reached after a sufficient lamp operating time.

NOTE The measuring accuracy should be ±1°C.

3 General Conditions for Measurements

3.1 Ageing and Stabilizing

For these measurements, no previous ageing of the lamp is required. Sufficient stability of the lamp is achieved during the time necessary to reach the equilibrium temperature in the test enclosure.

3.2 Supply Voltage

a) For lamps intended to be connected directly to the supply, measurement shall be made at rated voltage, the supply voltage being maintained constant within ±0.5%.

b) For lamps intended to be connected to the supply through a ballast, measurements shall be made at the rated voltage of the ballast, the supply voltage being maintained constant within ±0.5%. Measurements shall be made using a reference ballast or a production ballast which at the calibration current has an impedance within ±1% of the reference ballast.

If the lamp is marked with a voltage range the test procedure of IEC 60432 shall apply, unless a different procedure is called for in another publication.

3.3 Ambient and Reference Temperatures

The reference temperature for defining cap temperature rise is 25°C. However, it is possible for the measurements to be made at an ambient temperature (t_{amb}) within the range of 15°C to 40°C unless

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