NEMA Standards Publication

ANSI C82.2-2002 (R2007, R2016)

American National Standard for Lamp Ballasts—Method of Measurement of Fluorescent Lamp Ballasts

National Electrical Manufacturers Association

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Secretariat:

National Electrical Manufacturers Association

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American National Standards Institute, Inc.

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This standard is
dedicated to the memory
of

J. F. Luchetta

Foreword (This foreword is not part of ANSI C82.2)

Suggestions for improvement of this standard should be submitted to the Secretariat C82, American National Lighting Group of the National Electrical Manufacturers Association, 1300 North 17th Street, Suite 900, Rosslyn, VA 22209. This standard was processed and approved by Accredited Standards Committee on Lamp Ballasts, C82. Committee approval of the standard does not necessarily imply that all committee members voted for that approval.

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Figures

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1 Scope

This standard outlines the procedures to be followed and the precautions to be observed in measuring and testing line frequency fluorescent lamp ballasts as specified in C82.1 with either hot-cathode or cold-cathode fluorescent lamps.

2 Normative References

This standard is intended for use in conjunction with the following American National Standards. When the American National Standards referred to in this document are superseded by a revision approved by the American National Standards Institute, Inc. the revision shall apply.

ANSI/NFPA No. 70-1993	*National Electrical Code*
ANSI C78.1-1991 (R1996) ANSI C78.2-1991 (R1996) ANSI C78.3-1991 (R1996) ANSI C78.4-1992 (R1997)	*American National Standards for Dimensional and Electrical Characteristics of Fluorescent Lamps*
ANSI C78.375-1997	*American National Standard for Fluorescent Lamps—Guide for Electrical Measurements*
ANSI C82.1-1997	*American National Standard for Lamp Ballast—Line Frequency Fluorescent Lamp Ballasts*
ANSI C82.3-1983 (R1998)	*American National Standard Specification for Fluorescent Lamp—Reference Ballasts*
Code of Federal Regulations 10CFR430	*Energy Conservation Program for Consumer Products*
ANSI/UL 935-1992 Underwriters Laboratories Inc.	*Standard for Fluorescent Lamp Ballasts*

3 Pertinent Measurements

The measurements in 3.1 and 3.2 are required to determine the compliance of ballast and ballast-lamp combinations with the specification of ANSI C82.1. Additional limitations as related to specific test conditions are listed in the appropriate lamp data sheets.

3.1 Ballast Output Circuit Measurements

3.1.1 Lamp Starting Conditions

a) RMS open-circuit voltage
b) Peak open-circuit voltage
c) Lamp voltage waveshape-crest factor
d) Maximum-peak (open-circuit) voltage from starting aid to any cathode on each lamp circuit (rapid start ballast)
e) Capacitance of starting capacitor(s) (rapid start ballast)
f) RMS voltage to cathode dummy-load (rapid start ballast)
g) RMS current through dummy-load resistor (instant start ballast and some rapid start ballasts)
h) RMS preheat current (preheat start ballasts)