



ANSI/NEMA C78.42-2007

American National Standard for Electric Lamps - High- Pressure Sodium (HPS) Lamps



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Revision of ANSI C78.42-2004

American National Standard

for electric lamps—

High-Pressure Sodium Lamps

American National Standard

Approved: December 19, 2007

Secretariat: ANSLG

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High-Pressure Sodium Lamps

American National Standard

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Foreword (This foreword is not part of American National Standard C78.42-2007)

Suggestions for improvement of this standard should be submitted to the Secretariat C78, American National Standard Lighting Group, 1300 North 17th Street, Suite 1752, Rosslyn, VA 22209.

This standard was processed and approved by the Accredited Standards Committee on Electric Lamps, C78, and its Working Group C78 WG 04. Working Group approval of the standard does not necessarily imply that all working group members voted for that approval.

The following revision has been made to this document for section 2.1 of the 70-watt, S62 lamp and section 2.1 of the 100-watt, S54 lamp:

2.1 Starting voltage requirements (conditions of 6.1 (Part I) apply)

Minimum rms open circuit voltage, lag circuit ballast..... 110 V

Minimum rms open circuit voltage, lead circuit ballast

(Note: This value may be reduced to a minimum of 95Vrms if the peak voltage is increased 2% for every 1% reduction in rms value) 110V

Pulse height.....2500 - 4000 V

Pulse width, min 1 μ s at 2250 V

Amendment / Change	CDV	RV
Revision	CDV 78_(4)_4252	RV 78_(4)_4253

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Organization of this standard

This standard has been arranged in four parts:

Part I covers general requirements and information. It provides normative references and offers brief explanations of the meaning or the application of some of the numerical data given on the individual lamp data sheets in Part IV of this standard. It also provides requirements that are common to all high-pressure sodium (HPS) lamp types.

Part II contains three appendices which provide a) a method for determining trapezoidal diagrams, b) a method for determining dropout voltages, and c) a cross-reference list of the old ANSI C78.1350-series of standards.

Part III contains the maximum outline drawings of each lamp size.

Part IV contains individual lamp data sheets, which provide the specific lamp, ballast, and luminaire requirements of each HPS lamp type.

I. General requirements and information

1. Scope

This standard sets forth the physical and electrical requirements for HPS lamps, to ensure performance and interchangeability. The data given also provide the basis for the electrical requirements for ballasts and ignitors, as well as the lamp-related requirements for luminaires. This standard covers only single-ended HPS lamps. Lamps with internal starting devices are not covered. This standard does include "improved color" HPS lamps (those lamps that have a color rendering index ≥ 60 and that operate on the same ballasts as the conventional lamps that they are intended to replace). However, color is not a standardized parameter. Luminous flux is not a standardized parameter either. This standard covers only 60 Hz operation of HPS lamps, on ballasts designed for HPS lamps.

1.1 Important Patent Disclaimer

It is possible that some of the elements of this document may be the subject of patent rights. When this document was approved for publication, ANSLG did not know of any patent applications, patents pending, or existing patents. ANSLG shall not be held responsible for identifying any or all such patent rights.

2. Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this American National Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this American National Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

ANSI C78.30-1997, *Procedure for use in preparation of lamp space drawings*
ANSI C78.379-2006, *Incandescent and high-intensity-discharge reflector lamps - classification of beam patterns*
ANSI C78.380-2007, *Electric lamps - High-intensity discharge lamps - Method of designation*
ANSI C78.389-2004, *Electric lamps - High-intensity discharge lamps - Methods of measuring characteristics*
ANSI C79.1-2002, *Nomenclature for glass bulbs intended for use with electric lamps*
ANSI_ANSLG C81.61-2007, *Electric lamp bases*
ANSI_ANSLG C81.62-2007, *Lampholders for electric lamps*
ANSI_ANSLG C81.63-2007, *Gauges for electric lamp bases and lampholders*