



ANSI C78.1431-1997 (S2022)

*American National Standard for Electric Lamps—
Slide Projector Lamps, Condensing, Dichroic,
Two-inch (51 mm), Integral Reflector, Rim Reference
Tungsten Halogen Lamps with GY 5.3 Bases*

Secretariat:

National Electrical Manufacturers Association

Approved: July 18, 2022

American National Standards Institute, Inc.

NOTICE AND DISCLAIMER

The information in this publication was considered technically sound by the consensus of persons engaged in the development and approval of the document at the time it was developed. Consensus does not necessarily mean that there is unanimous agreement among every person participating in the development of this document.

ANSI standards and guideline publications, of which the document contained herein is one, are developed through a voluntary consensus standards development process. This process brings together volunteers and/or seeks out the views of persons who have an interest in the topic covered by this publication. While NEMA administers the process to promote fairness in the development of consensus, it does not write the document and it does not independently test, evaluate, or verify the accuracy or completeness of any information or the soundness of any judgments contained in its standards and guideline publications.

NEMA disclaims liability for any personal injury, property, or other damages of any nature whatsoever, whether special, indirect, consequential, or compensatory, directly or indirectly resulting from the publication, use of, application, or reliance on this document. NEMA disclaims and makes no warranty or warranty, expressed or implied, as to the accuracy or completeness of any information published herein, and disclaims and makes no warranty that the information in this document will fulfill any of your particular purposes or needs. NEMA does not undertake to guarantee the performance of any individual manufacturer or seller's products or services by virtue of this standard or guide.

In publishing and making this document available, NEMA is not undertaking to render professional or other services for or on behalf of any person or entity, nor is NEMA undertaking to perform any duty owed by any person or entity to someone else. Anyone using this document should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstances. Information and other standards on the topic covered by this publication may be available from other sources, which the user may wish to consult for additional views or information not covered by this publication.

NEMA has no power, nor does it undertake to police or enforce compliance with the contents of this document. NEMA does not certify, test, or inspect products, designs, or installations for safety or health purposes. Any certification or other statement of compliance with any health- or safety-related information in this document shall not be attributable to NEMA and is solely the responsibility of the certifier or maker of the statement.

AMERICAN NATIONAL STANDARD

Approval of an American National Standard requires verification by the American National Standards Institute, Inc. (ANSI) that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer. An American National Standard implies a consensus of those substantially concerned with its scope and provisions. Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly, and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made toward their resolution.

The existence of an American National Standard does not in any respect preclude anyone, whether s/he has approved the standard or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards. It is intended as a guide to aid the manufacturer, the consumer, and the general public.

The American National Standards Institute, Inc., does not develop standards and will in no circumstances give an interpretation of any American National Standard. Moreover, no person shall have the right or authority to issue an interpretation of an American National Standard in the name of the American National Standards Institute, Inc. Requests for interpretation should be addressed to the secretariat or sponsor whose name appears on this title page.

CAUTION NOTICE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute, Inc., require that action be taken periodically to reaffirm, revise, or withdraw this standard. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute, Inc.

Published by

**National Electrical Manufacturers Association
1300 North 17th Street, Suite 900
Rosslyn, Virginia 22209**

© 2022 National Electrical Manufacturers Association

All rights, including translation into other languages, reserved under the Universal Copyright Convention, the Berne Convention for the Protection of Literary and Artistic Works, and the International and Pan American copyright conventions.

Nothing in this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without prior written permission of the publisher.

Printed in the United States of America

Foreword (This foreword is not part of ANSIC78.1431-1997 [S2022].)

Suggestions for improvement of this standard should be submitted to the Secretariat C78, National Electrical Manufacturers Association, 1300 North 17th Street, Suite 900, Rosslyn, Virginia 22209.

This standard was processed and approved by the C78 Committee. Committee approval of the standard does not necessarily imply that all committee members voted for that approval.

Note: The user's attention is called to the possibility that compliance with this standard could require use of an invention covered by patent rights.

By publication of this standard, no position is taken with respect to the validity of any such claim(s) or any patent rights in connection therewith. If a patent holder has filed a statement of willingness to grant a license under these rights on reasonable and non-discriminatory terms and conditions to applicants desiring to obtain such a license, then details may be obtained from the Secretary, or the NEMA website.

CONTENTS

1 Scope 1

2 Normative References 1

3 Ratings 1

4 Performance 2

5 Restrictions 2

6 Cautionary Notice 2

7 Physical Characteristics 2

8 Test Procedures 3

Annex A (Normative) 4

Figure

Figure A.1 Typical Component Layout and Dimensions for Lamp Projection System 4

Tables

Table 1 Lamp Ratings 1

Table 2 Representative Values 2

< This page left blank intentionally. >

1 Scope

This standard consolidates the lamps commonly used for slide projectors into a single standard. The lamps contained in this standard are not to be considered as interchangeable. Physically they will all fit the common socket used for these lamps. The photometry of each lamp is dependent upon the system for which it was designed and on the system in which it is used. A sample system and representative photometric values are found in the Annex.

2 Normative References

The following normative documents contain provisions, which through reference in this text constitute provisions of this standards publication. By reference herein, these publications are adopted, in whole or in part as indicated, in this standards publication. 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 C78.1413	<i>American National Standard for Dimensions and Centering Systems for Projection Lamps—51 mm (2 in.) Integral Reflector Kinesthetic Reference Lamps with GX5.3, GY5.3 and GU5.3 Bases</i>
ANSI C78.1450	<i>American National Standard for Projection Lamp, Incandescent—Method for Life Testing</i>
ANSI C81.61	<i>American National Standard for Electrical Lamp Bases—Specifications for Bases (Caps) for Electric Lamps</i>
ISO 11315-1	<i>Photography—Projection in Indoor Rooms—Part 1: Screen Illumination Test for Still Projectors</i>
IEC 60682	<i>Standard Method of Measuring the Pinch Temperature of Quartz-Tungsten-Halogen Lamps</i>

3 Ratings

This standard includes the following lamps: ELH, ENG, ENH.

**Table 1
Lamp Ratings**

ANSI Designation	Watts	Volts	Life (hrs.)	Working Distance (mm)	Correlated Color Temperature (K)
ELH	300	120	35	152.4	3350
ENG	300	120	15	152.4	3450
ENH	250	120	175	152.4	3250