

ANSI_ANSLG C78.40-2011

American National Standard for Electric Lamps: Specifications for Mercury Lamps



American National Standard

Approved: August 9, 2011

Secretariat: American National Standard Lighting Group

—Electric Lamps:

SPECIFICATIONS FOR MERCURY LAMPS

An American National Standard implies a consensus of those substantially concerned with its scope and provisions. It is intended as a guide to aid the manufacturer, the consumer, and the general public. The existence of an American National Standard does not in any respect preclude anyone, whether he has approved the standard or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards. Users are cautioned to obtain the latest editions.

The American National Standards Institute 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.

CAUTION NOTICE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute 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.

American National Standard

Approval of an American National Standard requires verification by 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 from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standard. It is intended as a guide to aid the manufacturer, the consumer, and the general public.

The American National Standards Institute 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. Requests for interpretations should be addressed to the secretariat or sponsor whose name appears on the title page of this standard.

CAUTION NOTICE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute 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.

™ 2011 by American National Standard Lighting Group
In affiliation with National Electrical Manufacturers Association
All rights reserved.

No part of 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 American National Standard C78.40-2011)

This edition of the American National Standard for Mercury Lamps – Specifications, ANSI_ANSLG C78.40-2011, supersedes the 1992 edition. It contains an individual data sheet and the maximum outline drawings for each size of mercury lamp covered. (See the introductory explanation of the organization of this standard.) Prior to the 1985 revision, all of the standards for mercury lamps were published as a part of a collection known as the American National Standard for Mercury Lamps, ANSI C78 (1969 edition, 1972 supplement and 1985 edition).

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

This standard was processed and approved for submittal to ANSI by the Accredited Standards Committee on Electric Lamps, C78. Committee approval of the standard does not necessarily imply that all committee members voted for its approval.

The changes to this document have been redlined. These changes are as follows:

1. The paragraph that appears below certain sections in the 1992 version has been removed because the parenthetical information applied to various section headers already addresses the reference paragraph, rendering this redundant. The paragraph removed is:

~~“The preceding lamp operating characteristics are based on operation in an ambient temperature of 25°C (77°F), with a 60 Hz sinusoidal power supply and a reference ballast having the characteristics listed in Section 4.”~~

2. Paragraphs and/or information added to sections:

3. Definitions, 5. Lamp specifications, 6. Lamp designations, 8. Base specifications, 9. Maximum outline drawings 10.1. Lamp operating characteristics, 11. Reference ballasts, 12. Ballast design.

3. For 100-Watt, H38 Mercury Lamp, first page: Addition to “Bulb addition” = ED23 1/2, R40 or RD40.

4. For 175-Watt, H39 Mercury, first page, Addition to “1. Lamp designation of: H39 WB-175.

5. For 175-Watt, H39 Mercury, first page, various additions made to “2. Physical characteristics”.

Amendment / Change	CDV	RV
Revision	CDV 78_4302	RV 78_4303

Andrew D. Jackson, Chair, ASC 78
Elliot Wyner (-2008), Matt Clark, Technical Coordinator
Randolph N. Roy, Committee Secretariat
Matt Clark, Senior Editor

CONTENTS

	PAGE
Foreword	3
Organization Of This Standard	7
 PART I GENERAL INFORMATION.....	 8
1. Scope	9
1.1. Important patent disclaimer	9
2. Normative references	9
3. Definitions	10
4. Methods of measurement.....	10
5. Lamp specifications.....	10
6. Lamp designations	10
7. Bulb designations	10
8. Base specifications.....	11
9. Maximum outline drawings	11
10. Electrical characteristics	
10.1 Lamp operating characteristics	11
10.2 Warm-up time.....	11
11. Reference ballasts.....	11
12. Ballast design	12
12.1 Open-circuit voltage	12
12.2 Starting current.....	12
 PART II LAMP DATA SHEETS	 13
40-Watt H45 Mercury Lamp.....	14
50-Watt H46 Mercury Lamp.....	17
75-Watt H43 Mercury Lamp.....	20
100-Watt H38 Mercury Lamp.....	23
100-Watt H44 Mercury Lamp.....	26
175-Watt H39 Mercury Lamp.....	29
250-Watt H37 Mercury Lamp.....	32
400-Watt H33 Mercury Lamp.....	35
700-Watt H35 Mercury Lamp.....	37
1000-Watt H34 Mercury Lamp.....	40
1000-Watt H36 Mercury Lamp.....	42
 PART III MAXIMUM OUTLINE DRAWINGS	 45
Base: Medium Screw (E26) Bulb: BD17, ED17, B17, E17 MOL: 131.....	46
Base: Medium Screw (E26) Bulb: BD17, ED17, B17, E17 MOL: 139.....	47
Base: Medium Screw (E26) Bulb: A23 MOL: 139	48

ANSI_ANSLG C78.40-2011
Revision and redesign of ANSI C78.40-1992 and C78.40a-1998

Base: Medium Screw (E26) Bulb: R40, RD40 MOL: 191.....	49
Base: Admedium, medium (E26) Skirted Screw Bulb: Par38 Reflector Spotlight, Floodlight MOL: 138	50
Base: Admedium, Bulb T10, MOL: 143.....	51
Base: Mogul Screw (E39) Bulb: ED23.5 MOL: 191	52
Base: Mogul Screw (E39) Bulb: BT28, E28, ED28 MOL: 211.....	53
Base: Mogul Screw (E39) Bulb: BT37, ED37, E37 MOL: 292.....	54
Base: Mogul Screw (E39) Bulb: BT46 MOL: 368.....	55
Base: Mogul Screw (E39) Bulb: BT56 MOL: 391.....	56

ORGANIZATION OF THIS STANDARD

This standard has been arranged in three 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 II of this standard. It also provides requirements that are common to all mercury lamp types.

Part II contains an individual data sheet for each size of mercury lamp.

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

PART 1

GENERAL INFORMATION

1. Scope

This standard sets forth the physical and electrical requirements for single-ended metal halide lamps operated on 60 Hz ballasts to ensure interchangeability and safety. The data given also provides the basis for the electrical requirements for ballasts as well as the lamp-related requirements for luminaires. Luminous flux and lamp color are not part of this standard.

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 C78.380-2007, *High Intensity Discharge Lamps -- Method of Designation.*

ANSI C78.389-2004, *HID Lamps --Methods of Measuring Characteristics.*

ANSI C79.1-2002, *Nomenclature for Glass - Bulbs Intended for Use with Electric Lamps.*

ANSI_ANSLG C81.61-2009, *Electric lamp bases*

ANSI_ANSLG C81.62-2009, *Lampholders for electric lamps*

ANSI_ANSLG C81.63-2009, *Gauges for electric lamp bases and lampholders*

ANSI C81.64-2005, *Guidelines and general information for electric lamp bases, lampholders, and gauges*

ANSI C82.5-1990, *Reference ballasts for high-intensity discharge lamps*

ANSI C82.6-2005, *Ballasts for high-intensity discharge lamps - Methods of measurement*

ANSI C82.7-1988, *Mercury Lamp Transformers -- Constant Current (Series) Supply Type.*

ANSI_ANSLG C82.9-2010, *Definitions for high-intensity discharge and low-pressure sodium lamps, ballasts, and transformers*