NEMA Standards Publication

ANSI/NEMA C78.21-2003

American National Standard for Electric Lamps - PAR and R Shapes

National Electrical Manufacturers Association

National Electrical Manufacturers Association
1300 North 17th Street, Suite 900 • Rosslyn. VA 22209
www.NEMA.org

ANSI C78.21-2003

Revision of ANSI C78.21-1995 with all supplements

American National Standard

for electric lamps—

PAR and R Shapes

ANSI C78.21-2003
Revision of ANSI C78.21-1995 with all supplements

American National Standard

Approved October 30, 2003 Secretariat: ANSLG - National Electrical Manufacturers Association

For Electric Lamps—

PAR and R Shapes

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, 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 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 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CAUTION NOTICE: This American National Standard may be revised or withdrawn at any time.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 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.

Printed and distributed by:

Information Handling Services/Global Engineering Documents
15 Inverness Way East, Englewood, CO 80112-5776
Under Contract with National Electrical Manufacturers Association

Printed in the United States of America

Table of Contents

1300 North 17th Street, Suite 1847, Rosslyn VA 22209

Foreword (This Foreword is not part of ANSI C78.21-2003.)

Suggestions for improvement of this standard should be submitted to the Secretariat C78, American National Standard Lighting Group, 1300 North 17th Street, Suite 1847, Rosslyn VA 22209.

This standard was processed and approved by Accredited Standards Committee on Electric Lamps, C78, and its Working Group, C78 WG-1 for Incandescent, Photo, and Stage-Studio Lamps. Committee approval of the standard does not necessarily imply that all committee members voted for that approval.

Information concerning the approval of this standard is based on the documents listed in the table below:

Amendment/Change	CDV	RV
New Edition	78(1)/4113	78(1)/4114
Updates	78(1)/4145	78(1)/4146

David Mullen, Chairman, C78
Bernie Rachel, Technical Coordinator
Randolph N. Roy, Secretariat
Matthew C. Clark, Coordinating Editor

American National Standard

PART I General Information

1 Scope

This standard provides physical and electrical characteristics of the group of incandescent lamps that have PAR and R bulb shapes. Lamps with clear, frosted, and lens end bulbs and with clear and prescription lenses and with various reflector coatings are covered. Lamps covered in this standard may contain either of two basic types of light sources; an incandescent filament or a tungsten halogen inner bulb. Sunlamps and heat lamps of the R type are included. Lamps with discharge arc tubes are not included.

Other groups of incandescent lamps are covered in the following associated standards:

ANSI C78.20-2003, *American National Standard for Incandescent Lamps - A, G, PS and Similar Shapes with E26 Medium Screw Bases*

ANSI C78.22-1995, *American National Standard for Incandescent Lamps - A, G, PS and Similar Shapes with E39 Mogul Screw Bases*

ANSI C78.23-1995, *American National Standard for Incandescent Lamps - Miscellaneous Types*

At the time of issuance of this standard there was no comparable standard published by the International Electrotechnical Commission (IEC).

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 Incandescent Lamp Space Drawings*

ANSI/IEC C78.60360-2002, *Standard Method of Measurement of Lamp Cap Temperature Rise*

ANSI/IEC C78.60432:1-2002, *Incandescent Lamps - Safety Specifications - Tungsten Filament Lamps for Domestic and Similar General Lighting Purposes - Part 1*

ANSI/IEC C78.60432:2-2002, *Incandescent Lamps - Safety Specifications - Tungsten Halogen Lamps for Domestic and Similar General Lighting Purposes - Part 2*

ANSI C78.379-1994, *Method for the Classification of the Beam Patterns of Reflector Lamps*

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

ANSI C81.61-1990 (R1996), *Electrical Lamp Bases*

ANSI C81.63-1991 (R1996), *Gauges for Electrical Bases and Lampholders*