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To: Current Holders of ANSI C78.1402-1975
From: NEMA Communications Department
Date: May 26, 2004
Subject: Reaffirmation of ANSI C78.1402-1975

The NEMA Codes and Standards Committee has reaffirmed ANSI C78.1402-1975, "Dimensions for Projection Lamps-Four-Pin, Prefocus, Base-down Type."

The new designator for this standard is: ANSI C78.1402-1975 (R2003), "Dimensions for Projection Lamps-Four-Pin, Prefocus, Base-down Type."

Please insert the attached revised title page into your standard.

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**ANSI C78.1402-1975 (R2003)**

American National Standard

# Dimensions for Projection Lamps-Four-Pin, Prefocus, Base-down Type

Secretariat:

**National Electrical Manufacturers Association**

Approved as an
**American National Standards Institute, Inc.**

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Reaffirmed 1994

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ANSI C78.1402-1975
Revision and Redesignation of PH22.175-1969

# American National Standard

## dimensions for projection lamps—four-pin, prefocus, base-down type

Approved June 5, 1975

Secretariat: Electrical and Electronics Standards Management Board



### 1. Scope

1.1 This standard specifies the dimensions essential to interchangeability of four-pin, prefocus, base-down lamps of T-10 and T-12 bulb sizes.

1.2 It is not the intent of this standard to prescribe operating characteristics or details of design.

1.3 This standard does not apply to internal condensing reflector-type lamps not requiring external optical systems.

### 2. Dimensions

2.1 Base and pin dimensions shall be as specified in American National Standard Specifications for Four-Pin Prefocus Bases, C81.57-1973 (IEC designations: G17q and GX17q).

2.2 Lamp dimensions shall be as specified in Fig. 1 and its accompanying table.

2.3 The light source shall be centered on the base axis within 0.030 in (0.76 mm) in both front and side views.

### 3. Operating Position

Pin 2 is usually positioned toward the condenser lens.

NOTE: Incandescent projection lamps are usually identified by a three-letter code, as specified in American National Standard Method for the Designation of Photo Lamps, C78.370-1975.

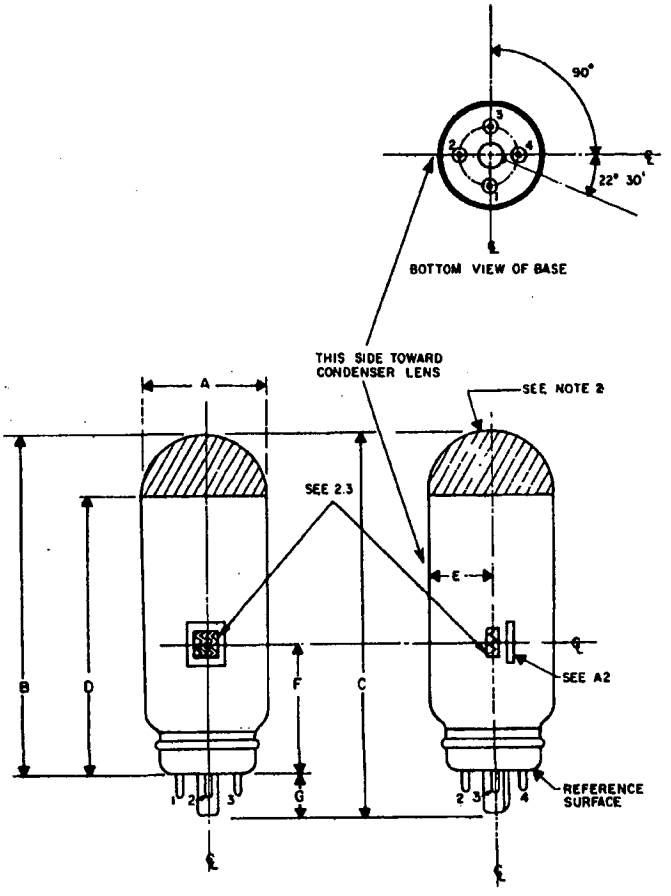


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| Dimensions* | Inches | | Millimeters | |
|---|---|---|---|---|
| | T-10 | T-12 | T-10 | T-12 |
| A | 1.294 max | 1.546 max | 32.87 max | 39.27 max |
| B | 3.475 max | 4.150 max | 88.26 max | 105.41 max |
| C | 4.000 max | 4.625 max | 101.60 max | 117.48 max |
| D | 2.675 min | 3.000 min | 67.94 min | 76.20 min |
| E | 0.715 max | 0.830 max | 18.16 max | 21.08 max |
| F | 1.562 nom | | 39.67 nom | |
| G | 0.535 ref | | 13.59 ref | |

*Angular dimensions are nominal.

NOTE 1: Dimension E defines the maximum excursion of any point on the bulb surfaces from the base axis. Therefore, the lamp chimney, the mirror, and the condensing lenses, and their respective mounts, must be so located as to ensure adequate clearance between these parts and the bulb surface.

NOTE 2: Dimension D applies to those projection lamps having opaque end coatings. There are, however, exceptions, the specifications of which are supplied by the equipment manufacturer.

**Fig. 1**
**Dimensions for Four-Pin, Prefocus, Base-Down-Type Projection Lamp**



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# Appendix

(This Appendix is not a part of American National Standard Dimensions for Projection Lamps – Four-Pin, Prefocus, Base-Down Type, C78.1402-1975, but is included for information purposes only.)

## A1. Operation above 100 Volts

Lamps designed for operation at voltages above 100 volts are usually prefocused with respect to Pins 1 and 3. Electrical contact is usually made through Pins 1 and 4. Pins 2 and 3 are not necessarily electrically isolated from Pins 1 and 4.

## A2. Internal Reflector

Some lamp types, commonly called proximity reflector lamps, incorporate a reflector inside the bulb in close proximity to the filament, thus eliminating the need for an external mirror. Such internal reflectors are slightly larger than the filament area and replace only the external reflector of conventional optical systems.

## A3. Bulb Designations

The terms "T-10" and "T-12" define the general shape and nominal diameter of the bulb. The letter "T" is an abbreviation for tubular; the numbers relate to the nominal diameter in eighths of an inch; for example, T-10 is a tubular bulb 10/8 in (1-1/4 in) in diameter.

## A4. Base Types

There are two types of the four-pin, prefocus base in current use. One has three bosses spaced at approximately 120° intervals; the other has a raised ring around the base shell. Both variations are usually interchangeable.



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