American National Standard

for electric lamps —

750-watt, 120-volt self-ballasted mercury lamps

Approved June 11, 1990 Secretariat: National Electrical Manufacturers Association

Bulb: R57 (R181), R60 (R191) Base: Mogul Screw (E39)

1. Lamp Designation

Self-ballasted mercury lamp designations are assigned in accordance with ANSI C78.380.

Designation	Bulb	Base
B78YC-750	R57(R181), clear	Mogul Screw (E39)
B78YD-750	R57(R181), phosphor coated frosted face (VWFL)	Mogul Screw (E39)
B78YE-750	R57(R181), inside reflector, frosted face (VWFL)	Mogul Screw (E39)
B78YF-750	R57(R181), phosphor coated on inside reflector, clear face (VWFL)	Mogul Screw (E39)
B78YG-750	R60(R191), inside reflector, frosted face (WFL)	Mogul Screw (E39)
B78YH-750	R60(R191), inside reflector, clear face (NSP)	Mogul Screw (E39)
B78YJ-750	R60(R191), partially phosphor coated on inside reflector, frosted face (VWFL)	Mogul Screw (E39)
B78YK-750	R60(R191), phosphor coated on inside reflector, frosted face (VWFL)	Mogul Screw (E39)

An American National Standard implies a consensus of those substantially concerned with its scope and provisions. An American National Standard 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 standard. American National Standards are subject to periodic review and 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CAUTION NOTICE: This American National Standard may be revised or withdrawn at any time.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 to reaffirm, revise, or withdraw this standard no later than five years from the date of approval. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA ISO by ANSI American National Standards Institute, 1430 Broadway, New York, N.Y. 10018
No reproduction or networking permitted without license from IHS
Not for Resale

2. Referenced American National Standards

This standard is intended for use with the following American National Standards. When these standards are superseded by a revision approved by the American National Standards Institute, Inc, the revision shall apply.

ANSI C78.379-1983, Electric Lamps—Incandescent and High-Intensity-Discharge Reflector Lamps—Classification of Beam Patterns

ANSI C78.380-1984, Electric Lamps—High-Intensity-Discharge Lamps—Method of Designation

ANSI C79.1-1980 (R1984), Nomenclature for Glass Bulbs Intended for Use with Electric Lamps

ANSI C81.10-1976 (R1982), C81.10a-1979 (R1982), C81.10b-1983, and C81.10d-1986, Specifications for Electric Lamp Bases and Holders—Screw-Shell Types[1]

ANSI C81.61-1990, Electrical Lamp Bases[1]

3. Physical Characteristics

3.1 Bulb Designations
Bulb designations are defined in ANSI C79.1.

3.2 Screw-Shell-Type Bases
Screw-shell-type bases are defined in ANSI C81.61.

3.3 Beam Patterns
Beam patterns are described in ANSI C78.379.

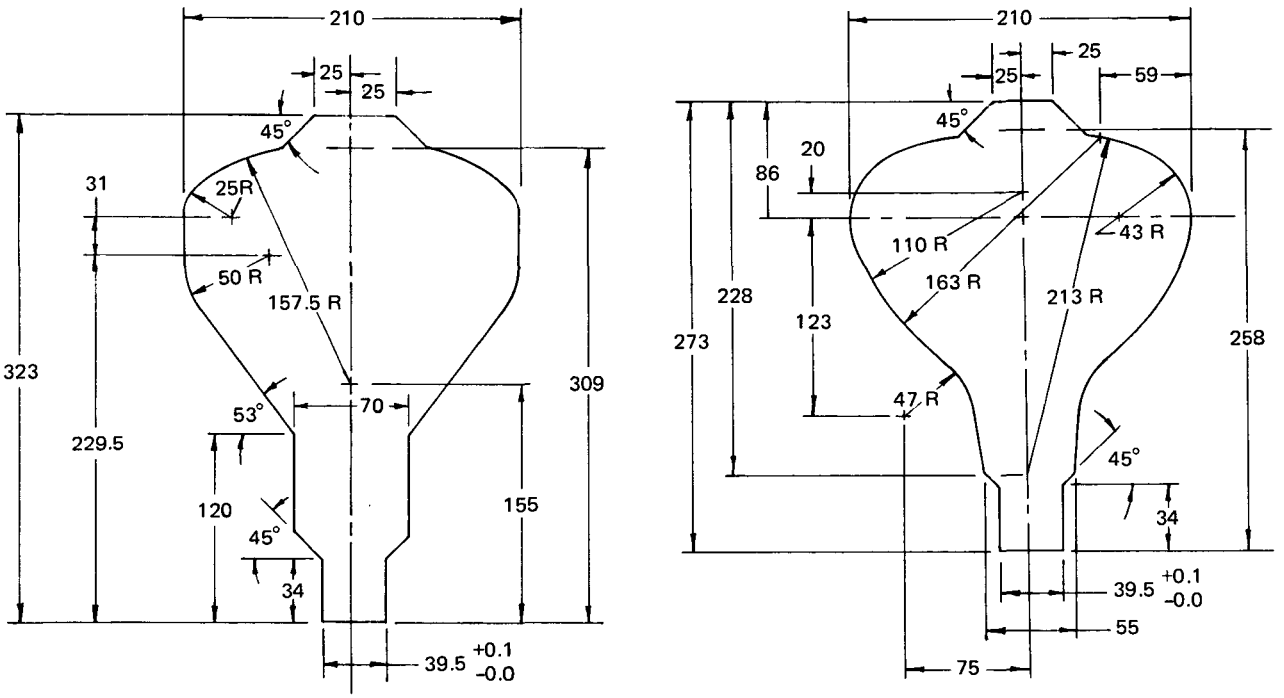
3.4 General Characteristics

With R37 (R181) bulb:	
Nominal diameter	181 mm (7.13 in)
Overall length*	302 mm ± 7 mm (11.89 in)
Maximum overall length	323 mm (12.72 in)
Arc tube light center length	214 mm ± 6 mm (8.43 in)
With R60 (R191) bulb:	
Nominal diameter	191 mm (7.52 in)
Overall length*	255 mm ± 3 mm (10.04 in)
Maximum overall length	273 mm (10.75 in)
Arc tube light center length	155 mm ± 6 mm (6.1 in)
For all bulb sizes listed above	
Arc length	63 mm ± 8 mm (2.48 in)
Maximum electrode tip deviation from base axis (apex at base eyelet)	3 degrees
Incandescent filament location	Surrounding or alongside the arc tube
Burning position limitation	As indicated by the lamp marking
Max. permissible bulb temperature	400°C (752°F)
Max. permissible base temperature	210°C (410°F)

*Overall length does not include the dome on the face of the bulb.

[1]At the time of publication of this standard, the standard sheets dealing with electric lamp bases that appeared in ANSI C81.10-1976 and its supplements were superseded by ANSI C81.61-1990. The remaining standard sheets, dealing with electric lamp holders and gages, are still in effect. These standard sheets will be superseded by two new American National Standards that will be designated as ANSI C81.62 and ANSI C81.63. Contact the secretariat for more recent information.

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale



All dimensions are in millimeters.

(a)

Bulb: R57
Base: Mogul Screw (E39)
MOL: 323 mm
Eccentricity: 3 degrees

(b)

Bulb: R60
Base: Mogul Screw (E39)
MOL: 273 mm
Eccentricity: 3 degrees

Figure 1
Maximum Outline Drawing

4. Maximum Outline Drawings

Figures 1(a) and 1(b) define the maximum outline dimensional limits, including eccentricity of the lamp. The figures do not define the actual bulb configuration. All dimensions are in millimeters.

5. Electrical Characteristics

5.1 Lamp Operating Characteristics (at 100 hours burning)

Nominal line voltage, volts, rms	120
Allowed line voltage range, volts, rms	115-125

	Vertical and Horizontal
Watts, minimum at 115 volts	615
Watts, nominal at 120 volts	750
Watts, maximum at 125 volts	850
Amperes, rms minimum at 115 volts	5.8

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale

Amperes, rms nominal at 120 volts	6.6
Amperes, rms maximum at 125 volts	7.1
Extinction voltage, rms, maximum	100

The above lamp operating characteristics are based on operation in an ambient temperature of 25° C (77° F) and a sinusoidal power supply of 60 Hz.

5.2 Lamp Starting Temperature Limitation
Lamps will start within an ambient temperature range of –18° C (0° F) to 50° C (122° F).

5.3 Lamp Starting Current (at 0 hours)
Lamp starting current shall not exceed 9.7 amperes when measured at the maximum allowable line voltage of 125 volts. Maximum lamp starting current occurs within approximately 30 seconds after lamp is energized.

5.4 Warm-Up Time
When energized at the minimum allowable line voltage of 115 volts and operated in still air at an ambient temperature of 0° C (32° F), the bare lamp shall operate at a power not in excess of 110% of rated wattage after a period of time not exceeding 3 minutes.

Copyright National Electrical Manufacturers Association
Provided by IHS under license with NEMA
No reproduction or networking permitted without license from IHS
Not for Resale