

Terminology and Abbreviations

10% Spread V/H and 50% Spread V/H – Approximate Beam Spread: For reflector type lamps. The total angle of the directed beam degrees to where the intensity of the beam falls to 50% or 10% the maximum value.

Additional Information: Typical application and/or other important information.

ANSI Code: These are 3-letter codes assigned by the American National Standard Institute. They provide a system of assuring mechanical and electrical interchangeability among similarly coded lamps from various manufacturers.

Base or Cap: The type of base.

Bulb: Bulb shape followed by its size (the maximum diameter of the bulb expressed in eighths of an inch).

Burning Position: For safe effective operation, see chart below.

Case Qty.: Number of product units packed in a case.

CIE Color: An x, y coordinate on a CIE color chart.

Color Rendering Index (CRI or R_a): An indication of the ability of the lamp to render object colors in a normal natural way. The higher the number (0-100), the better the color appearance.

Color Temperature - Kelvins (K): “Warmth” or “Coolness” of the lamp, measured in Kelvins (K). The higher the temperature, the cooler the appearance of the light.

CRI Flag: Indicates that this is a lamp with high color rendering, which helps objects and person illuminated to appear more true to life.

Description: The lamp’s identification code.

Figure Number: Representative outline, not to scale.

Filament Type: Filaments are designated by a letter combination in which C is a coiled wire filament, CC is a coiled wire that is itself wound into a larger coil. Number represent the type of filament-support arrangement.

Footnotes: See Footnote and Caution/Warnings on lamp.

LCL: Distance between the center of the filament and the Light Center Length reference plane in inches or millimeters.

LIF Code: These are assigned by the Lighting Federation of London, UK. They ensure electrical and mechanical interchangeability of similarly coded lamps. LIF codes are divided into groups according to the primary application.

Life – Hours: Life (as defined by FTC Lamp Label Rules) is rated life in hours.

Lumens: Light output (as defined by FTC Lamp Label Rules) is rated average lumens.

MBCP/CBCP: For reflector type lamps. Center Beam Candlepower is the intensity (candelas) at the center or maximum intensity of the beam.

MOL: Maximum Overall Length in inches or millimeters.

MSCP (x4π=lumens): Approximate output expressed as initial mean spherical candlepower (4π=12.57).

Order Code: It is important to use this five-digit code when ordering to ensure that you receive the exact product you require.

Volts: Lamp data is based on operation at rated voltage.

Watts: Energy used. To find actual energy used (kWh) multiply power (watts shown) x hours of use divided by 1000.

Description Terminology

Discharge

CSR Metal Halide are daylight (6000K) color with CRI greater than 90. Many with hot restrike (HR) and dimmable with stable color temperature. Use with electronic or AC magnetic ballast/igniter control gear.

ConstantColor® CMH® have CR greater than 80 with color uniformity between lamps and over lamp life.

CSS Compact Source Specials are for disco and fiber optic application

CSD are compact source lamps with very high color temperature and long life.

CID Compact Iodide Daylight have color temperatures of daylight (5500K) while CSI compact source iodide lamps have a warmer color (4000K) that can be blended with tungsten lamps.

MVR is Multi-Vapor® Metal Halide along with SPL lamps is suitable for sportslighting.

Fluorescent

Fluorescent lamps start with “F” (G for Germicidal), then generally wattage (sometimes MOL), tube diameter in 1/8 inch (T8 is tubular 1 inch diameter). Letters following generally describe finish, color, and application. There is no industry standard nomenclature.

Cinema Fluorescent lamps come in warm (3200K) and daylight (5500K) colors with and without covRguard® (CVG) shatter protection. There are Compact Biax® (BX) lamps available.

Incandescent and Quartz Halogen

In the description code, Q1000 or Q1M signifies a **quartz halogen** lamp of 1000 watts, then bulb shape and size is given in 1/8 inch increments. T3 is tubular 3/8 inch.

Miniature (low voltage) generally has a 2-4 digit numerical ANSI code. For sealed beam lamp starting with an H or Q means the lamp is Halogen. The numeric code has no relationship to performance.

For **Photo and Stage Studio** lamps a 3-letter ANSI code is used which insures interchangeability between manufacturers. It has no relationship to performance.

Incandescent lamps generally have wattage, bulb shape/size (in 1/8 inches) then further descriptors such as frosted or clear (IF or CL) or a pack quantity. Sometimes RS (Rough Service), CVG (covRguard®) or “/” numbers just signify variances.

There is no “standard” system.

Burn Positions

H4: Operate only horizontally within 4 degrees.

H15: Operate horizontally ±15 degrees.

H45: Operate horizontally ±45 degrees.

HBU: Horizontal -15 degrees to base up.

ANYCH: Base any position, but with filament coil axis horizontal.

BD: Base down.

BD30: Within 30° of vertical base-down.

BU30: Within 30° of vertical base-up.

BD45: Within 45° of vertical base-down.

BDBU: Within 60° of vertical base-down or base-up.

BDTH: Base down to horizontal.

BDTHCH: Base down to horizontal with filament coil axis horizontal.

Footnotes and Safety Notices SPECIALTY

- 1 Filament with low noise construction.
 - 3 Red-enhanced dichroic filter.
 - 4 Ceramic base is slightly larger than other lamps in table 2, thus may not fit in some leaf-spring type lampholders.
 - 5 Proximity Reflector.
 - 6 Opaque Ceramic top on bulb. Proximity Reflector.
 - 7 Pinned base to insure correct application.
 - 8 Light Balancing(LB) index: mired shift value limit is ± 5 . Color compensating(CC) filter value limit $\pm 5m$. CC filter density: (+) magenta, (-) green. The LB and CC limits are specified to eliminate the need to add external color adjusting filters in cinemagraphic lighting.
 - 9 Ultraviolet absorbing bulb.
 - 10 Black Top (opaque).
 - 11 Gold Top (opaque).
 - 12 Collector grid. Gold Top (opaque).
 - 13 Dichroic reflector.
 - 14 Enclosed fixture only, per UL Standard 1572. In accordance to Federal Regulations (21CFR 1040.30) the following notice applies: **"R WARNING:** This lamp can cause serious skin burn and eye inflammation if the outer envelope of the lamp is broken or punctured, and the arc tube continues to operate. Do not use where people will remain more than a few minutes unless adequate shielding or other safety precautions are used. Certain types of lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available."
 - 15 Apparent lighted length slightly longer than similar clear lamp.
 - 16 Filament offset $\frac{3}{16}$ " from base axis.
 - 17 Approximate beam spread to $\frac{1}{2}$ center-beam intensity.
 - 18 Available late 2003.
 - 19 Should not be operated for periods of less than three minutes.
 - 20 Lamp is made of heat resistant glass (HRG).
 - 21
 - 22 Because of possible overheating, this lamp is not recommended for use without forced cooling in fixtures having deep-bowl, close-fitting reflectors with lamp axis is crosswise to the reflector axis.
- 23**
- ▲ WARNING**
 - Risk of electrical shock**
 - Turn power off before inspection, installation or removal.
 - Risk of fire**
 - Keep combustible materials away from lamp.
 - Unexpected rupture may cause injury, fire, or property damage**
 - Avoid direct water/liquid contact.
 - Use in enclosed fixtures rated for this product.
- 24 For use with heat-resistant connector supported by bulb rim or metal shell of base.
- 26**
- ▲ WARNING**
 - Risk of fire**
 - Keep combustible materials away from lamp.
 - Use in enclosed fixtures rated for this product.
 - Unexpected rupture may cause injury, fire, or property damage**
 - Avoid direct water/liquid contact.
- 27 Has blackening collector grid on only one side of filament. In burning positions other than base down, lamp should be installed so that grid is above filament.
 - 30 Collector grid.
 - 31 GE lamp is 240 volt; 250 volt is specified for Colortran.
 - 33 Light output is maintained best when burned within 45 degrees of vertically base up.
 - 35 Burn within 25 degrees of vertically base up.
 - 36 Watt-Miser[®], Watt-Miser[®] Plus, F28T8/UMX and Energy Efficient (/EE) lamps are intended for use where ambient temperatures are 60°F (16°C) or higher and where the lamp surface is protected from strong air drafts. Failure to protect the lamp surface may result in reduced life, poor starting or erratic operation, such as flickering or spiraling. All T12 Watt-Miser[®] lamps are intended for use on two-lamp, indoor, lead, high power factor ballasts and are not recommended for use with dimming or reduced current systems. The use of T12 Watt-Miser[®] lamps on single lamp ballasts may shorten lamp life. T12 Rapid Start Watt-Miser[®] lamps are intended for use only with Rapid Start Ballasts. F40 Rapid Start Watt-Miser[®] lamps on high frequency electronic systems may display erratic starting before end of life. T8 Watt-Miser[®] lamps are intended for use only with instant start ballasts. F28T8/UMX lamps are designed for use on UltraMax™ ballasts.
 - 37 Reprographic Peak Emission 417nm. 2000 hours useful life; burning hours longer.
 - 38 F40T17/CW/IS lamps are for use only in fixtures equipped with instant start ballasts.
 - 39 Because Power Groove[®] and Very High Output lamps are most used in commercial applications, the life rating is based on 12 hrs. per start.
 - 40 Bare "Cold Temperature" lamps (as indicated by /CT) and "All Temperature" lamps are designed for use where ambient temperatures drop below 60°F (16°C).
 - 41 Performance data based on engineering estimates.
 - 42 **CAUTION:** Risk Group 1 (Low Risk): UV emitted from this lamp. Skin or eye irritation could result. Minimize exposure.
 - 43 **WARNING:** Risk Group 3 (High Risk): UV emitted from this lamp. Avoid exposure of eyes and skin to unshielded lamp. Skin or eye injury will result.
 - 44 Shoplites are not recommended to be used on F40 full light output ballasts. Life will be reduced by approximately 50%.
 - 45 Lumen rating based on approximate 3% reduction in light output with covRguard[®] sleeving.
 - 46 Do not use covRguard[®] HO lamps in watertight or airtight fixtures.
 - 47 Blocks 100% of UV-B and UV-C. Blocks from 75 to 99% of UV-A, depending on lamp type.
 - 48 Life rating is based on 12 hrs. per start.
 - 49 Lumen rating based on approximate 3% reduction in light output with jacket.
 - 50 Life rating is based on UV maintenance curve and is measured at 80% of initial (100hr) UVC output.
 - 51 Silica coated.
 - 52 Rough Service. 6 filament supports.
 - 53 Jacketed "Cold Temperature" lamps (as indicated by -CT) are designed for use where ambient temperatures do not rise above 32°F (0°C).
 - 54 Ratings at 120 volts.
 - 54 Burn BDTH but avoid horizontal burning with support spine beneath filament to prevent premature arcing.

56

▲ WARNING**Risk of fire**

- Keep away from bed coverings, drapes, and other combustible materials.

57

▲ WARNING**Unexpected rupture may cause injury, fire, or property damage**

- Avoid direct water/liquid contact.

58

▲ WARNING**Risk of fire**

- Use in a high intensity fixture rated for this product.

59

▲ WARNING**Risk of fire**

- Keep combustible materials away from lamp.

60 Lamp base is a brass base (BB).

62 Exposed Unshielded Stage and Studio Lamps**▲ WARNING****Risk of electrical shock**

- Turn power off before inspection, installation or removal.

Risk of fire

- Keep combustible materials away from lamp.
- Use in enclosed fixture rated for this product.

Pressurized lamp—unexpected rupture may cause injury, fire, or property damage

- Use eye protection when handling lamp.
- Do not touch glass with bare hands.
- Use in enclosed fixtures rated for this product.
- Do not use lamp if outer glass is scratched or broken.
- Operate lamp only in specified position.
- Do not exceed 110% of rated voltage.

▲ CAUTION**Risk of burn**

- Allow lamp/fixture to cool before handling.
- Turn power off before installing lamp.

Lamp may shatter and cause injury if broken

- Do not use lamp if outer glass is scratched or broken.
- Dispose of lamp in a closed container.
- Wear safety glasses and gloves when handling lamp.

Lamp emits UV radiation which may cause eye/skin irritation. RG-2.

- Limit unshielded exposure to less than 15 minutes per day.

63 PAR Lamps and Glass Covered Stage and Studio Lamps**▲ WARNING****Risk of electrical shock**

- Turn power off before inspection, installation or removal.

Risk of fire

- Keep combustible materials away from lamp.
- Use in enclosed fixture rated for this product.

A damaged lamp emits UV radiation which may cause

- Eye/skin injury.
- Turn power off if glass is broken. Remove and dispose of lamp.

Pressurized lamp—unexpected rupture may cause injury, fire, or property damage

- Do not exceed 110% of rated voltage.
- Avoid direct water/liquid contact.
- Use in enclosed fixtures rated for this product.
- Do not use lamp if outer glass is scratched or broken.

▲ CAUTION**Risk of burn**

- Allow lamp/fixture to cool before handling.
- Turn power off before installing lamp.

Lamp may shatter and cause injury if broken

- Do not use lamp if outer glass is scratched or broken.
- Dispose of lamp in a closed container.

64

▲ WARNING**Risk of electrical shock**

- Turn power off before inspection, installation or removal

Risk of fire

- Keep combustible material away from lamp.
- Use in enclosed fixtures rated for this product.

Pressurized lamp—unexpected rupture may cause injury, fire, or property damage

- Do not exceed 110% of rated voltage.
- Avoid direct water/liquid contact.
- Use in enclosed fixtures rated for this product.
- Do not use lamp if outer glass is scratched or broken.

▲ CAUTION**Risk of burn**

- Allow lamp/fixture to cool before handling.
- Turn off power before installing lamp.

Lamp may shatter and cause injury if broken

- Do not use lamp if outer glass is scratched or broken.
- Dispose of lamp in enclosed container.

65 Will operate in any burning position, but fixed-socket usage other than base up or continuous burning in any position in ambient temperatures above 150 degrees F (66 degrees C), may result in some loss of protective coating. Reflectors and accessories may raise bulb temperature and cause some loss of protective coating.

68 Not recommended for horizontal burning.

69

▲ WARNING**Unexpected rupture may cause injury, fire, or property damage**

- Do not exceed rated voltage.

70 Observe operating and exposure limitations stated on packaging material, fixture and/or instruction booklet enclosed.

71

▲ WARNING

Risk of fire

- Keep combustible materials away from lamp.
- Use in fixture rated for this product.

A damaged lamp emits UV radiation which may cause eye/skin injury

- Turn power off if glass bulb is broken. Remove and dispose of lamp.

Pressurized lamp—unexpected rupture may cause injury, fire, or property damage

- Use in enclosed fixture rated for this product.
- Do not Use lamp if outer glass is scratched or broken.

▲ CAUTION

Risk of burn

- Allow lamp/fixture to cool before handling.

Lamp may shatter and cause injury if broken

- Do not use lamp if outer glass is scratched or broken.
- Dispose of lamp in a closed container.

72

▲ WARNING

Risk of fire

- Keep combustible materials away from lamp.
- Use in fixture rated for this product.

Unexpected lamp rupture may cause injury, fire, or property damage

- Avoid contact with glass during operation.
- Avoid direct water/liquid contact.

73

▲ WARNING

Lamp may shatter if used in wrong circuit

- Do not use in 110-120 Volt household circuit.

74

▲ WARNING

Risk of fire

- Keep combustible materials away from lamp.
- Use in fixture rated for this product.

Lamp emits UV radiation which may cause eye/skin injury

- Avoid exposure of eyes and skin to unshielded lamp.

Pressurized lamp—unexpected rupture may cause injury, fire, or property damage

- Use eye protection when handling lamp.
- Do not exceed rated voltage.
- Do not touch glass with bare hands.
- Do not use lamp if outer glass is scratched or broken.
- Dispose of lamp in a closed container.
- Do not turn on lamp until fully installed.
- Keep away from children.
- Use protective screen when handling.

▲ CAUTION

Risk of burn

- Allow lamp/fixture to cool before handling.

FOR BEST PERFORMANCE

- Limit seal temperature to 350°C.
- Maintain 250°C minimum bulb wall temperature.
- Remove fingerprints from bulb with grease-free solvent.
- Operate at design voltage.

75

▲ CAUTION

Lamp may shatter and cause injury if broken

- Do not Use excessive force when installing lamp.

76

▲ WARNING

Pressurized lamp—unexpected rupture may cause injury, fire, or property damage

- Use eye protection when handling lamp.
- Do not exceed rated voltage.
- Avoid direct water/liquid contact.
- Use in enclosed fixture rated for this product.
- Do not use lamp if outer glass is scratched or broken.
- Dispose of lamp in a closed container.
- Do not turn on lamp until fully installed.
- Keep away from children.
- Use protective screen when handling.

▲ CAUTION

Risk of burn

- Allow lamp/fixture to cool before handling.

77

▲ WARNING

Pressurized lamp—unexpected rupture may cause injury, fire, or property damage

- Do not use lamp if outer glass is scratched or broken.
- Dispose of lamp in a closed container.

79 Burn base down to horizontal.

80

▲ WARNING

Unexpected rupture may cause injury, fire, or property damage

- Avoid direct water/liquid contact.
- Use in enclosed fixtures rated for this product.

81 Operate base up, within 30 degrees of vertical.

83

▲ WARNING

Unexpected rupture may cause injury, fire, or property damage

- Do not use lamp if outer glass is scratched or broken.
- Avoid direct water/liquid contact.

84

▲ CAUTION

Lamp may shatter and cause injury if broken

- Do not use excessive force when installing lamp.

85 The bulb, although made of heat-resistant glass, may break if moisture falls on it.

86 **Warning** - temperatures sufficient to cause burns may occur. Do not touch bulb during operation. Allow at least 5 minutes for bulb to cool before touching. Keep bulb out of reach of children and pets. To avoid risk of fire, do not use this bulb in enclosed fixtures or with lamp shades. Keep paper or other flammable or heat sensitive materials at least 12 inches away from the bulb. Do not use in paper lined sockets.

89 Indicates total count of 3-lamp packs in shipping units. Multiply by 3 to determine actual quantity of lamps.

90 Should not be used in equipment where the base temperature will exceed 500 degrees F (260 degrees C).

91 Do not allow the bulb to be dragged across or to strike a hard surface since this action may cause minute cracks. Do not place lamp directly over the exposed person unless a protective screen or mesh is between lamp and user.

92 Design life in excess of 5000 hours. Actual life depends on service conditions.

93

▲ WARNING

Risk of fire

- Use in fixture rated for this product.

94 May not give satisfactory performance if any accessory equipment is attached to or touches the glass bulb.

95 Burning position - base up.

97 Useful hours.

98 At 14 volts.

99 At 5 volts.

100 Vertical.

101 Average overall length.

102 Filament supported.

103 This lamp may not be suitable for some uses because of its excessive wattage requirements for the bulb size.

104 This lamp may not be suitable for some uses because of its limited mechanical strength.

105 Life at 7 volts.

106 Designed and rated for operation in supplementary cathode preheat circuits.

107 Connections of major and minor filament to base are reversed from those for automotive lamps with Double Contact Index bases. Burn base down to horizontal.

108 Life at 6.6 volts.

109 Uses lens-end TL3 ¼ bulb. Provides 7,000 to 11,000 foot-candles in a ¼" diameter spot at ⅙" from end of bulb.

110 Not recommended for new OEM applications - suggested for new design are wedge base.

111 These lamps produce a random flashing indication only. The majority should flash between 40-160 flashes per minute at normal room temperature, some will be outside this range. As ambient temperature and/or input voltage changes, the flash rate may vary considerably. At rated voltage and room temperature most lamps will flash within 60 seconds.

112 ANSI specifies .38" LCL and .63" MOL.

113 Life shown is AC voltage only. DC life will be approx. 50% of AC.

114 Light output is approx. end foot candles, not spherical MSCP.

115 Filament segments parallel.

116 Special fixture required for highway use.

117 To be used with variable load flasher in applications where bulb outage indication is not required, or with an appropriate fixed load flasher. Flash rate may be altered if used with incorrect fixed load flasher.

118 Life tests are performed on DC voltage only.

119 To minimize the possible adverse effects on lamp life due to excessive wattage in relationship to bulb size: Burn Base Down to Base 45° Above Horizontal. Regardless of burning position, this excessive wattage will abnormally decrease light output during lamp life.

120 .028" metal pins spaced 44mm (.157") apart. GE's two-pin lamps might not be compatible with all G-4 sockets since many sockets do not provide clearance for the exhaust tip.

121 LCL measured to top of filament.

122 Output is minimum ¼" spot at .100" from bulb top.

123 Subminiature wedge base lamps under 12 volts have copper-clad outer lead wires to decrease contact resistance at the expense of corrosion resistance in severe environments.

124 Life Test Conditions: Cycled 5 minutes on, 5 off.

125 Life Test Conditions: Cycled 20 minutes on, 20 off.

126 Differs from ANSI.

127 Life based on three hours of burning per start. MSCP at 100 Hrs. Designed and rated for operation in supplementary cathode preheat circuits. Use these lamps with auxiliary equipment specially designed to produce proper electrical values according to established specifications. For total load, add auxiliary watts to lamp watts.

128 Life to approximately 50% of initial output. Values shown apply to use on AC unless otherwise shown. Life on DC is approximately 60% of AC values when DC current is equal to R.M.S. (Root Mean Square) AC value. When equal DC and R.M.S. AC voltages and equal resistances are utilized, life will be approximately the same.

129

▲ WARNING

Risk of fire

- Keep combustible materials away from lamp.
- Use in fixture rated for this product.

Pressurized lamp—unexpected rupture may cause injury, fire, or property damage

- Use eye protection when handling lamp.
- Do not exceed rated voltage.
- Do not touch glass with bare hands.
- Do not use lamp if outer glass is scratched or broken.
- Dispose of lamp in a closed container.
- Do not turn on lamp until fully installed.
- Keep away from children.
- Use protective screen when handling.

▲ CAUTION

Risk of burn

- Allow lamp/fixture to cool before handling.

FOR BEST PERFORMANCE

- Limit seal temperature to 350°C.
- Maintain 250°C minimum bulb wall temperature.
- Remove fingerprints from bulb with grease-free solvent.
- Operate at design voltage.

130

▲ WARNING

Risk of electric shock

- Turn power off before inspection, installation or removal.

▲ CAUTION

Lamp may shatter and cause injury if broken

- Wear safety glasses and gloves when handling lamp.
- Do not use excessive force when installing lamp.

131 Light center length and A.A. tolerance: ¼ in.

133 Single contact medium bayonet base without pins, with a lug focusing sleeve as indicated.

134 Burn base down to horizontal.

136 Burning position - plane through lamp axis and base terminals is horizontal.

137 Burning position-horizontal.

144 Operating position horizontal with locating lug up or down and with lamp supported by bulb rim.

146 Burning position-base down only.

147 The plane containing the base axis and the major locking eyelet (the eyelet that is equidistant from the other two eyelets) is at right angles to the plane of the filament or lead wires. Distance from bottom base contact to bottom of the collar is .4.

148 See note 163 for specific warning/cautions/actions applicable to this lamp. Lines: 2a, 2b, 4f, 4g, 7a, 9b, 10c.

149 See note 163 for specific warning/cautions/actions applicable to this lamp. Lines: 1a, 2a, 2j, 4b, 4f, 4g, 4h, 9a, 10c.

150 See note 163 for specific warning/cautions/actions applicable to this lamp. Lines: 1a, 2a, 2j, 4b, 4c, 4f, 4g, 7a, 9b, 10c.

151 See note 163 for specific warning/cautions/actions applicable to this lamp. Lines: 2a, 2j, 8a, 4a, 4c, 4d, 4e, 4f, 4g, 9a, 9d, 10b, 10c.

152 See note 163 for specific warning/cautions/actions applicable to this lamp. Lines: 2a, 2j, 8a, 4a, 4c, 4e, 4f, 4g, 9a, 9d, 10b, 10c.

153 See note 163 for specific warning/cautions/actions applicable to this lamp. Lines: 2a, 2j, 8a, 4a, 4c, 4e, 4f, 4g, 8a, 9a, 9d, 10b, 10c.

154 See note 163 for specific warning/cautions/actions applicable to this lamp. Lines: 2a, 2j, 4b, 4c, 4d, 4f, 4g, 7a, 9b, 10c.

155 See note 163 for specific warning/cautions/actions applicable to this lamp. Lines: 2a, 2j, 4c, 4f, 4g, 7a, 9b, 10c.

156 See note 163 for specific warning/cautions/actions applicable to this lamp. Lines: 1a, 2a, 2j, 2k, 4a, 4c, 4d, 4e, 4f, 4g, 8a, 9a, 9d, 10b, 10c.

157 See note 163 for specific warning/cautions/actions applicable to this lamp. Lines: 2a, 2j, 4b, 4c, 4f, 4g, 7a, 9b, 10c.

158 See note 163 for specific warning/cautions/actions applicable to this lamp. Lines: 2a, 2j, 4c, 4f, 4g, 7a, 9b, 10c.

159 See note 163 for specific warning/cautions/actions applicable to this lamp. Lines: 1a, 2a, 2b, 3a, 4c, 4d, 4e, 4f, 4g, 9a, 9d, 10b, 10c.

160 See note 163 for specific warning/cautions/actions applicable to this lamp. Lines: 1a, 2a, 2b, 3a, 4f, 5a, 5b, 9a, 9d, 10c.

162 See note 163 for specific warning/cautions/actions applicable to this lamp. Lines: 1a, 2a, 2b, 4c, 4d, 4e, 4f, 4g, 8a, 9a, 9d, 10b, 10c.

163

▲ 1 WARNING

Risk of electric shock.

- a. Turn power off before inspection, installation or removal.

▲ 2 WARNING

Risk of fire.

- a. Keep combustible materials away from lamp.
- b. Use in fixture rated for this product.
- j. Use in enclosed fixture rated for this product.
- k. Fire Hazard! Do not use in torchieres or other indoor residential fixtures.

▲ 3 WARNING

Lamp emits IR radiation which may cause injury.

- a. Avoid exposure of eyes and skin to unshielded lamp.

▲ 4 WARNING

Pressurized lamp—unexpected rupture may cause injury, fire, or property damage.

- a. Use eye protection when handling lamp.
- b. Avoid direct water/liquid contact.
- c. Use in enclosed fixture rated for this product.
- d. Operate lamp only in specified position.
- e. Do not touch glass with bare hands.
- f. Do not use lamp if outer glass is scratched or broken.
- g. Do not exceed 110% of rated voltage.
- h. Do not use where directly exposed to water or outdoors without an enclosed fixture.

▲ 7 WARNING

A damaged lamp emits UV radiation which may cause eye/skin injury

- a. Turn power off if glass bulb is broken. Remove and dispose of lamp.

▲ 8 WARNING

Lamp emits UV radiation which may cause eye/skin injury.

- a. Avoid exposure of eyes and skin to unshielded lamp.

▲ 9 CAUTION

Risk of burn

- a. Allow lamp to cool before handling.
- b. Allow lamp/fixture to cool before handling.
- d. Turn power off before installing lamp.

▲ 10 CAUTION

Lamp may shatter and cause injury if broken

- b. Dispose of lamp in a closed container.
- c. Do not use lamp if outer glass is scratched or broken.

▲ 11 CAUTION

Lamp emits UV radiation which may cause eye/skin irritation.

- a. Minimize exposure.

164 Life estimated.

165 It is recommended that a full ring connector be used to connect wiring to lamp.

171

▲ WARNING

Risk of electrical shock

- Turn power off before inspection, installation or removal.

▲ CAUTION

Lamp may shatter and cause injury if broken

- Wear safety glasses and gloves when handling lamp.
- Do not use excessive force when installing lamp.

173

▲ WARNING

Risk of electrical shock

- Turn power off before inspection, installation or removal.

174

▲ WARNING

Risk of electrical shock

- Turn power off before inspection, installation or removal.
- Avoid direct water/liquid contact.

▲ CAUTION

Lamp may shatter and cause injury if broken

- Wear safety glasses and gloves when handling lamp.
- Do not use excessive force when installing lamp.

175

▲ WARNING**Risk of electrical shock**

- Turn power off before inspection, installation or removal.

▲ CAUTION**Lamp emits UV radiation which may cause eye/skin irritation. RG-1.**

- Minimize exposure.

Lamp may shatter and cause injury if broken

- Wear safety glasses and gloves when handling lamp.
- Do not use excessive force when installing lamp.

176

▲ WARNING**Risk of electric shock**

- Turn power off before inspection, installation or removal.

Lamp emits UV radiation which may cause eye/skin irritation. RG-3.

- Avoid exposure of eyes and skin to unshielded lamp.

▲ CAUTION**Lamp may shatter and cause injury if broken**

- Wear safety glasses and gloves when handling lamp.
- Do not use excessive force when installing lamp.

177 UV output and rated life based on preliminary data.

178

▲ WARNING**Risk of fire**

- Keep combustible materials away from lamp.

179

▲ WARNING**Risk of fire**

- Use in fixture rated for this product.

180 See note 163 for specific warning/cautions applicable to this lamp.

Lines: 2a, 2b, 4b.

181

▲ WARNING**Risk of fire**

- Keep combustible materials away from lamp.
- Use in fixture rated for this product.

Lamp emits IR radiation which may cause eye injury

- Do not use on infant, disabled, sleeping, or unconscious person/ animal unable to avoid potential injury.

Unexpected rupture may cause injury, fire, or property damage.

- Avoid direct water/liquid contact.

Risk of burn

- Do not touch operating lamp.

182

▲ WARNING**Risk of electrical shock**

- Turn power off before inspection, installation or removal.

Risk of fire

- Keep combustible materials away from lamp.
- Use in fixture rated for this product.

183

▲ WARNING**Unexpected rupture may cause injury, fire, or property damage**

- Avoid direct water, liquid contact or metal contact.

184 Only available on request.

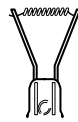
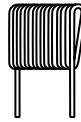
185 See note 163 for specific warning/cautions/actions applicable to this lamp.

Lines: 2a, 2b, 4b, 4c, 4d, 4e, 4f, 9a, 9b, 9d, 10b, 10c.

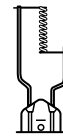
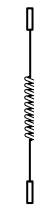
Filament Configurations



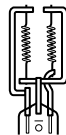
C-2R

C-2V
CC-2VC-6
CC-6C-6
Oval

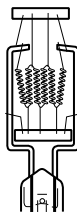
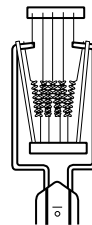
C-7A

C-8
CC-8

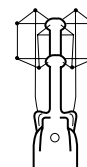
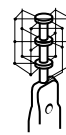
CC-8

2C-8
2CC-8

C-9

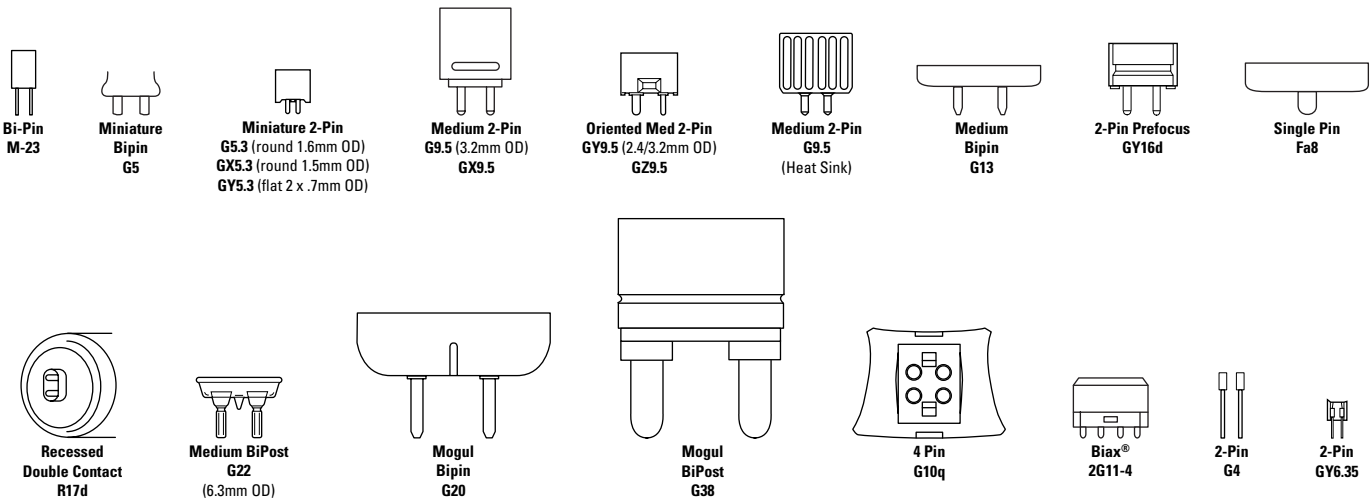
C-13
CC-13

C-13D

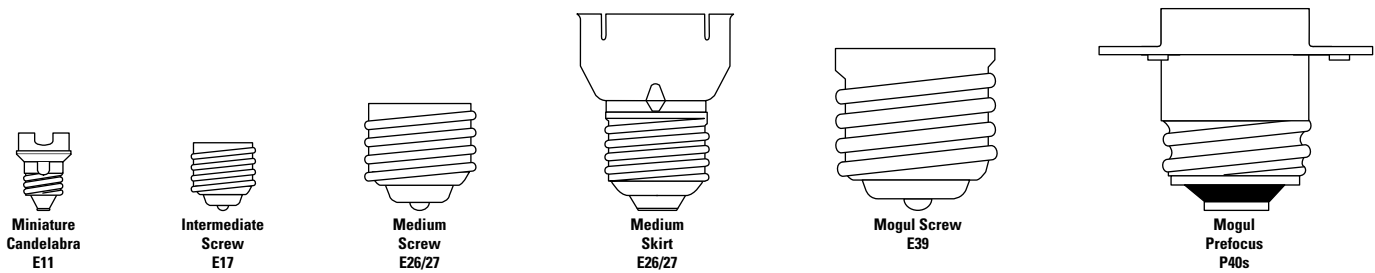
C-17
C-17A

C-22

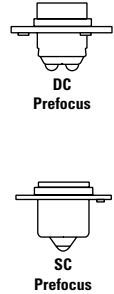
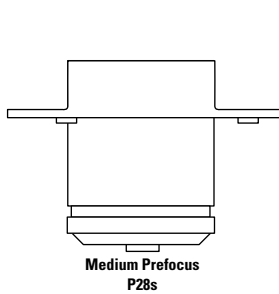
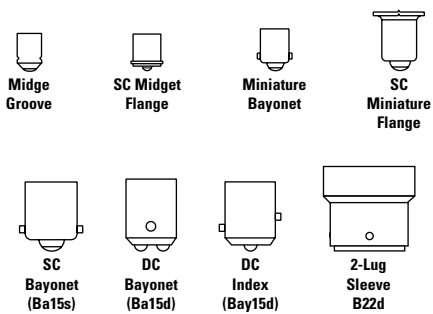
Bases with Pins



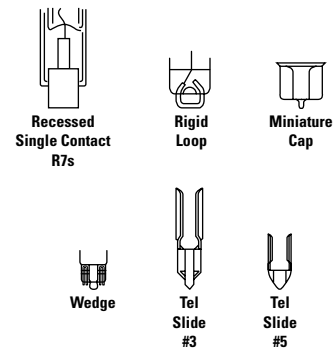
Screw Bases



Bayonet and Flange Bases



Other Bases



Sealed Beam and Reflector Bases

