

# 2006 Stage/Studio Lamp Catalog

For your best lighting performance.

Cinema Fluorescent

CSR/GSD Metal Halide

ConstantColor<sup>®</sup> CMH<sup>®</sup>

Quartzline<sup>®</sup> Halogen



**SHOWBIZ**  
for stage, studio, film and television lighting



imagination at work

## IMPORTANT

Additional information is constantly being uncovered through research and testing, which may modify the data. This is particularly true of newer lamps.

For the latest lamp design data and information, contact your General Electric Lamp Representative.

The data in this catalog, as well as any additional information our representative may be able to furnish, are for general information only and do not represent or warrant the suitability of a lamp for particular applications or use in particular equipment, nor are our representatives authorized to make such representations or give such warranties. Applications and conditions of use are varied, and beyond our control. We cannot possibly have the same knowledge the purchaser has with respect to the design of his

equipment and the conditions of its use. It is up to the purchaser to determine the suitability of a lamp for his intended application and to assume the responsibility for that determination.

General Electric desires to supply the best possible products at all times. For this reason, General Electric reserves the right to make changes in its products when it believes such changes will improve its products.

## CAUTION NOTICES

Certain precautions should be observed in the handling and use of GE Stage/Studio Lamps to provide optimum performance and safety. Please comply with the warning and caution notices, footnotes and burning position limitations noted by lamp.

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## INTRODUCTION

This catalog lists and gives essential technical data for all presently available General Electric lamps that are frequently used in lighting for: theatrical performances; television, motion picture and video productions; and professional photography.

Lamp listings are grouped into tables, each containing a closely related “family” of lamps with similar configuration. In many tables, the lamps are interchangeable (subject to limitations noted). This provides a self-contained guide for selecting alternative lamps. The following paragraphs explain the use of the tables.

### Lamp Identification and Ordering Codes

Many GE lamps used in stage/studio applications are “coded.”

**ANSI Codes** are 3-letter codes assigned by the American National Standards Institute. They provide a system for

assuring mechanical and electrical interchangeability among similarly coded lamps of various manufacturers. The letters have no rational meaning other than to identify the lamp dimensional, electrical and photometric characteristics that are on file with ANSI. GE uses the assigned ANSI 3-letter Codes as Order Codes for Photo Lamps. Some GE lamps have a multiple code (examples: BFL/BFK, DYS/DYV/BHC). The first code is the official ANSI code, but the lamp also meets or exceeds the described characteristics for the other code(s), and may be used to replace lamps of either code.

**LIF Codes** are assigned by the Lighting Federation of London, U.K. They ensure electrical and mechanical interchangeability of similarly coded lamps. LIF codes are divided into groups according to the primary application of the lamps. Prefix codes are:

- A** Designed for projectors, some used in raylight reflectors, martin moving mirror effects

**CP** Designed for use with tungsten balanced film stock at 3200K, single-ended lamp for use in Fresnel/ellipsoidal luminaires

**P1** Use with 3200K film stock, open face luminaires and video sun guns

**P2** Use with 3400K film stock

**T** Designed for theaters. Color temperature generally around 3000K.

**Miniature Lamp Codes** consist of numbers, also assigned by ANSI, to identify low voltage lamps from all manufacturers for interchangeability. GE uses these numerical codes as GE Description. In some instances, the GE Miniature Lamp Code includes the prefix H or Q, indicating a lamp with a halogen or quartz filament tube.

## Discharge and Fluorescent Lamps

**GE High Intensity Discharge** lamps have brand name codes. The following describes the optimized characteristics:

**CSR Metal Halide** are daylight (6000K) color with CR greater than 90. Many with hot restrike (HR) and

dimnable with stable color temperature. Use with electronic or AC magnetic ballast/ignitor 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 and along with **SPL** lamps are suitable for sportslighting.

**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.

## INTRODUCTION (continued)

### Voltage

Quartzline® halogen and incandescent lamps can be operated on AC or DC circuits. Fluorescent and metal halide lamps are for AC only, with suitable auxiliary ballasts.

### Ordering Lamps

Order lamps using the codes in the GE Product Ordering Code column. Add the GE Description, plus lamp voltage (essential for lamps available in more than one voltage) to help assure getting the exact lamp required. However, if a lamp is listed with blue text in the catalog it is not stocked in North America, so procurement must be through an international distributor or your GE sales representative.

### Lamp Indexes

There are indexes starting on page 13 with the 3-letter ANSI or LIF code where available. All incandescent and

halogen lamps are indexed by wattage on page 15-19. PAR reflector (by size), fluorescent and metal halide lamps are indexed by table on page 12, along with halogen lamps by base.

### Lamp Tables

Each of the 45 lamp tables contains a “family” of lamps with similar configuration. Tables 1-29 each contain Quartzline® lamps having the same base and (in most cases) the same light source location. Therefore, all the lamps within each table are generally interchangeable. Tables 30-45 are various discharge lamp systems which require ballasts that may preclude interchange.

When selecting an alternative lamp from within a particular table, note any limitations to be considered as stated in the table. Filament forms may vary among lamps in some tables. Use of a different filament form may effect the light

output. Reflector lamps have differences in voltage and lamp bases as well as the usual concern for excess heat when a higher wattage lamp is substituted.

## Footnotes

Throughout the lamp tables, the footnote column contains important information and safety notes. The footnotes and safety notices appear on pages 8-11.

## Lamps Base Designations

Each lamp table includes the name of the base used on the lamps therein, including its letter/number ANSI/IEC designation, where applicable. Lamp bases are pictured on page 20-22.

## Recommended Operating Position

Limitations on lamp operating position are shown either in the table heading or in a column within the table, in which case the following abbreviations are used:

**H4** operate only horizontally within 4 degrees

**H15** operate horizontally  $\pm 15$  degrees

**H45** operate horizontally  $\pm 45$  degrees

**HBU** horizontal -15 degrees to base up

**ANYCH** base any position, but with filament coil axis horizontal

**BD** base down

**BU30** within  $30^\circ$  of vertical base-up

**BD45** within  $45^\circ$  of vertical base-down

**BDTH** base down to horizontal

**BDTHCH** base down to horizontal with filament coil axis horizontal

**Fluorescent** lamps are all “**ANY**” position

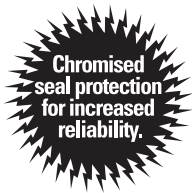
## Low-Noise Construction

Many Quartzline® Stage/Studio lamps, have special “low-noise” construction - to minimize generation of audible noise when operated on AC circuits. Such lamps are identified in the tables with a footnote (1). Lamps, sockets, wiring, etc. tend to generate audible noise when used on dimmers that distort the normal AC sine wave. “Low-noise”

## INTRODUCTION (continued)

lamps, therefore, often prove especially useful on wave-distorting dimmers such as SCR, Thyatron, or “mag-amp” types. No noise is generated on “flat-wave” DC circuits.

### Chromised Seal Protection



Quartzline® Stage/Studio and selected CSR lamps have a special chromised seal protection, which allows lamp seal temperatures up to 500° C (vs. traditional 350° C), which increases life and reliability. Look for this seal on the package coming soon.

### Other GE Publications

All the lamps in this consolidated Stage/Studio Lamp Catalog come from the GE catalogs listed below. They contain data for other lamps that may be of interest for stage/studio applications.

**Specialty Catalog (PC 29119)**  
**Lamp Products Catalog (PC 25265)**

## FOOTNOTES

- (1) Filament with low noise construction
- (3) Beam spread to 50% peak candlepower. Two numbers are horizontal by vertical.
- (4) Ceramic part of lamp base is slightly larger than other lamps in table 2, thus may not fit in some leaf-spring type lampholders
- (5) Beam spread to 10% peak candlepower. Two numbers are horizontal by vertical.



- (6) Candlepower is the intensity (candelas) generally at the center or maximum intensity of the beam
- (7) Pinned base to insure correct application
- (8) Light Balancing (LB) index: mired shift value limit is  $\pm 5$ . 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 cinematographic lighting.
- (9) Cinema32 lamps are 3200K (tungsten), chromaticity  $x=.415$   $y=.377$ , CRI 95, Gold bases
- (10) Cinema55 lamps are 5500K (daylight), chromaticity  $x=.325$   $y=.321$ , CRI 96, Blue bases
- (11) Biax Cinema32 are 3200K, chromaticity  $x=.415$   $y=.380$ , CRI 86
- (12) Filament shield masks direct light
- (13) Biax Cinema56 are 5600K, chromaticity  $x=.330$   $y=.335$ , CRI 86
- (14) Enclosed fixture only, per UL Standard 1572. In accordance to Federal Regulations (21 CFR 1040.30) the following notice applies:  
**WARNING:** This lamp can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation 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 lamp 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) Life dependent on service conditions. For use only in equipment specially designed to maintain bulb and base temperature within safe limits.
- (18) Available late 2003
- (19) Requires non-ANSI ballast. Narrow 6 degree spot with 1,350,000 CBCP.
- (20) Top end of bulb is opaque-coated to absorb upward light
- (21) Blue glass bulb. Color temperature may vary amongst lamps.
- (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 crosswise to the reflector axis.
- (23) 850,000 CBCP with 8 degrees to 50% CBCP
- (24) 820,000 CBCP with 9 degrees to 50% CBCP
- (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.
- (31) GE lamp is 240 volt; 250 volt is specified for Colortran.
- (51) Silica coated
- (52) Rough service. 6 filament supports.
- (55) Burn BDTH, but avoid horizontal burning with support spine beneath filament to prevent premature arcing

## SAFETY NOTES

### 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 Lamp

#### **⚠ 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 High Wattage Incandescent PAR Lamps**

### **⚠ WARNING**

#### **Risk of electrical shock**

- Turn power off before inspection, installation, or removal

#### **Risk of fire**

- Keep combustible materials away from lamp

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

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

### **307 Low Wattage Halogen PAR Lamps**

### **⚠ 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 closed container

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R7s with 3 3/4" MOL	2	23	GX38Q High Volt 2 Filament	17	38	Single-Ended Short Arc	31	59
R7s with 5 5/8" MOL	3	24	E11 Miniature Candelabra Screw	18	39	Single-Ended Hot Restrike	32	59
<b>Halogen, Double-Ended, C-8 coil</b>			E26 Medium Screw	19	40	Double-Ended Hot Restrike	33	60
R7s with 4 11/16" MOL	4	25	E39 Mogul Screw	20	41	Single-Ended Hot Restrike UV Control	34	61
R7s with 6 9/16" MOL	5	26	BA15d Double Contact Bayonet	21	41	<b>Discharge-ConstantColor CMH</b>		
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<b>Halogen, Single-Ended</b>			P28s with CC-8 Coil	23	44	Single-Ended	36	62
G5.3 Miniature 2-pin (5.3mm apart)	7	27	P40s Mogul Prefocus	24	45	Double-Ended	37	63
G9.5 Medium 2-pin (9.5mm apart)	8	27	<b>Halogen and Incandescent Reflector Lamp Systems</b>			PAR56 Reflector	38	64
G9.5/Heat Sink (Metal 2-pin)	9	29	MR16 (2" reflector)	25	46	PAR64 Reflector	39	65
GX9.5 Prefocus Med 2-pin	10	31	PAR36 (4.5" reflector)	26	47	<b>Discharge-CSI, CID, MVR/SPL</b>		
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GZ9.5 Oriented 2-pin (2 OD pins)	12	33	PAR56 (7" reflector)	28	50	Single-Ended	41	66
GY16 2-pin prefocus (16mm apart)	13	34	PAR64 (8" reflector)	29	51	PAR64 Reflector	42	67
G22 Medium Bi-post (22mm apart)	14	34				<b>Fluorescent Cinema Lighting</b>		
G38 Mogul Bi-post	15	35				Standard Cinema	43	72
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ANSI Code	Table No.	ANSI Code	Table No.	ANSI Code	Table No.	ANSI Code	Table No.	ANSI Code	Table No.	ANSI Code	Table No.	ANSI Code	Table No.	ANSI Code	Table No.	ANSI Code	Table No.
BAH	19	CBX	21	DXW	2	EGM	23	EME	4	EXG	29	FEL	8	FKH	14	FVA	10
BBA	19	CDJ	21	DXX	1	EGN	14	EMF	4	EXV	25	FEP	8	FKJ	14	FVB	10
BCA	19	CEB	21	DYH	7	EGR	14	ENH	25	EXX	25	FER	3	FKK	15	FWR	10
BCM	16	CXZ	15	DYR	12	EGT	14	ESL	18	EYH	7	FEV	21	FKM	22	FWS	10
BLC	21	CYV	15	DYS	12	EHC	8	ESM	18	EZK	25	FEX	3	FKN	22	FWT	10
BLX	21	CYX	15	DZA	7	EHD	8	ESN	18	FAD	1	FEY	3	FKR	8	GCS	11
BRH	2	DKX	20	EBV	19	EHF	8	ESP	21	FAY	26	FFM	1	FKW	11	GCT	11
BTL	22	DKZ	20	EBW	19	EHG	8	ESR	21	FBE	26	FFN	29	FLK	8	GCV	11
BTM	22	DPY	15	ECA	19	EHM	4	ESS	21	FBG	7	FFP	29	FMR	11	GCW	11
BTN	22	DRB	22	ECT	19	EHP	1	ETB	21	FBO	26	FFR	29	FRE	11	GFA	29
BTP	22	DRS	22	EFM	25	EHR	1	ETC	21	FBX	1	FFS	29	FRG	11	GFB	29
BTR	22	DSE	20	EFN	25	EHT	18	ETD	21	FBY	2	FFT	5	FRH	11	GFC	29
BVT	24	DSF	20	EFP	25	EHZ	4	ETF	21	FCB	2	FGM	29	FRJ	11	GKV	8
BVV	24	DTA	24	EFR	25	EJD	4	ETG	18	FCL	4	FGN	29	FRK	11	GLA	8
BVW	24	DTY	15	EGC	23	EJG	4	ETH	18	FCM	4	FGT	5	FRL	11	GLC	8
BWA	15	DVS	4	EGE	23	EKB	11	EVR	18	FCW	26	FHM	4	FRM	11	GLD	8
BWF	20	DVY	7	EGF	23	EKD	10	EWE	23	FCX	26	FKB	22	FSK	11	GLE	8
BWM	8	DWE	26	EGG	23	EKM	6	EXC	29	FDB	5	FKD	22	FSL	11		
BWN	8	DWT	3	EGJ	23	ELC	25	EXD	29	FDG	4	FKE	23	FTL	13		
CAX	21	DWZ	1	EGK	23	EMD	4	EXE	29	FDN	4	FKF	22	FTM	13		

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A1/228	2	CP30	17	CP53	24	CP79	13	CP90	10	HX800	8	P2/28	4	T15	23	T28	22
A1/233	12	CP32	17	CP58	17	CP81	11	CP91	14	P2/6	1	P2/29	4	T16	24	T29	10
A1/264	12	CP39	14	CP59	20	CP82	11	CP92	14	P2/7	6	P2/30	4	T17	22		
A1/266	1	CP40	14	CP60	29	CP83	15	CP93	14	P2/10	6	P2/31	4	T18	11		
A1/58	22	CP41	15	CP61	29	CP86	29	CP94	15	P2/11	4	T11	10	T19	10		
CP23	10	CP43	13	CP62	29	CP87	29	CP95	29	P2/12	6	T12	10	T25	11		
CP24	10	CP51	22	CP70	10	CP88	29	CP105	17	P2/13	1	T13	22	T26	11		
CP29	15	CP52	22	CP77	8	CP89	11	HX48	15	P2/27	3	T14	22	T27	11		

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GE Description	Table	GE Description	Table	GE Description	Table	GE Description	Table	GE Description	Table
<b>20 Watts</b>		<b>35 Watts</b>		<b>50 Watts</b>		<b>60 Watts</b>		<b>85 Watts</b>	
CMH20/TC/U/830/G8.5	35	4436	27	4505	26	F40T12/CINEMA32/HO	43	F72T12/CINEMA32/HO	43
CMH20/TC/UVC/U/830/G8.5	35	35PAR36/H/FL30	26	50PAR26/H/SP8	26	F40T12/CINEMA32/HO/CVG	44	F72T12/CINEMA32/HO/CVG	44
CMH20/T/U/830/G12	36	35PAR36/H/SP5	26	50PAR36/H/FL30	26	F40T12/CINEMA55/HO	43	F72T12/CINEMA55/HO	43
<b>25 Watts</b>		35PAR36/H/SP8		50PAR36/H/SP5		F40T12/CINEMA55/HO/CVG		F72T12/CINEMA55/HO/CVG	
25PAR36	23	CMH35/T/UVC/U/830/G12	36	50PAR36NSP	26	<b>70 Watts</b>		<b>100 Watts</b>	
25PAR36/VWFL	26	CMH35/TC/UVC/U/830/G8.5	35	50PAR36VNSP	26	CMH70/T/U/830/G12	36	4509	26
25PAR36NSP	26	F20T12/CINEMA32/HO	43	50PAR36VWFL	26	CMH70/T/U/942/G12	36	4543	28
25PAR36WFL	26	F20T12/CINEMA32/HO/CVG	44	50PAR36WFL	26	CMH70/TC/UVC/U/830/G8.5	35	4545	28
25PAR46	27	F20T12/CINEMA55/HO	43	50PAR36WFL/4	26	CMH70/TC/U/830/G8.5	35	4591	26
<b>30 Watts</b>		F20T12/CINEMA55/HO/CVG		BLX		CMH70/TC/U/942/G8.5		4594	
4405	26	<b>37.5 Watts</b>		CAX		CMH70/T/UVC/U/830/G12		4595	
4435	27	H7616		EFM		CMH70/T/UVC/U/942/G12		4509X	
4515	26	<b>39 Watts</b>		H7604		CMH70/TD/830/Rx7s		37	
4535	27	CMH39/T/U/830/G12		H7635		CMH70/TD/UVC/830/Rx7s		37	
BLC	21	CMH39/TC/U/942/G8.5		<b>55 Watts</b>		CMH70/TD/UVC/942/Rx7s		37	
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H4405	26	CMH39/TC/U/830/G8.5		F55BX/CINEMA56		<b>75 Watts</b>		Q100CL/DC	
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				F55BX/CINPLUS/56		EFN		25	

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Q100CL/MC/2V	18	150PAR46/3MFL	27	CMH150/TD/UVC/830/Rx7s	37	<b>240 Watts</b>		Q250MC	18
Q100DC	21	CMH150/PAR56/830/GX16d/SP	38	CMH150/TD/UVC/942/Rx7s	37	240PAR56/MFL	28	<b>300 Watts</b>	
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<b>110 Watts</b>		CMH150/PAR56/830/GX16d/WFL	38	EZK	25	240PAR56/WFL	28	300PAR56/MFL	28
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F96T12/CINEMA32/HO/CVG	44	CMH150/PAR56/942/GH16d/MFL	38	Q150CL/DC/2V	21	4552	29	300PAR56/WFL	28
F96T12/CINEMA55/HO	43	CMH150/PAR56/942/GH16d/WFL	38	Q150CL/MC	18	4553	27	BAH	19
F96T12/CINEMA55/HO/CVG	44	CMH150/PAR64/830/GX16d/MFL	39	Q150DC	21	BBA (#1)	19	FKW-Q300T8	11
		CMH150/PAR64/830/GX16d/SP	39	Q150MC	18	BCA (#B1)	19	FSK	11
<b>120 Watts</b>		CMH150/PAR64/830/GX16d/WFL	39	<b>200 Watts</b>		CSD250/2/SE	30	FSL	11
120PAR	29	CMH150/PAR64/842/GX16d/MFL	39	200PAR	28	ECA	19	Q300T3	4
120PAR56/MFL	28	CMH150/PAR64/842/GX16d/SP	39	200PAR46/3MFL	27	ELC	25	Q300T3/CL	4
120PAR56/VNSP	28	CMH150/PAR64/842/GX16d/SP	39	200PAR46/3NSP	27	ELC/500	25	Q300T4/CL	1
120PAR56/WFL	28	CMH150/PAR64/842/GX16d/WFL	39	200PAR56/MFL	28	ENH	25	<b>350 Watts</b>	
<b>125 Watts</b>		CMH150/T/U/830/G12	36	99-0211CID/HR	41	EXX	25	FDH/HIR-Q350T2/4CL	4
CSR125/SE/HR	32	CMH150/T/U/942/G12	36	CSR200/DE	33	EYH/FKT	7	Q350T3/CL/HR	4
<b>140 Watts</b>		CMH150/T/UVC/U/830/G12	36	CSR200/SE/HR	32	Q250CL/DC	21		
CSS150/850/GY9.5	41	CMH150/T/UVC/U/942/G12	36	FEV-Q200/4CL/DC	21	Q250CL/MC	18		
		CMH150/TD/830/Rx7s	37						



GE Description	Table	GE Description	Table	GE Description	Table	GE Description	Table	GE Description	Table
<b>375 Watts</b>		<b>500 Watts (continued)</b>		<b>500 Watts (continued)</b>		<b>575 Watts</b>		<b>600 Watts (continued)</b>	
DWZ(30V)	1	500PAR64/NSP	29	GCV	11	99-0415CID	41	GKV	8
HPL375/C	9	500PAR64/WFL	29	GCW	11	CSR575/2/SE	30	GKV-Q575T6/4CL	8
HPL375/LL/C	9	BTL-Q500T6/CL/P	22	Q500CL/DC	21	CSR575/2/T/SE	30	GKV/LL	8
<b>400 Watts</b>		BTM-Q500T6/4CL/2P	22	Q500DC	21	CSR575/DE	33	Q4559	29
400G/FL	19	EBV (#2)	19	Q500PAR50WFL	28	CSR575/SE/HR	32	Q4559X	29
99-0201CSI	41	EBW (#B2)	19	Q500PAR56MFL	28	CSR575/SE/HR/UV-C	34	<b>625 Watts</b>	
CSR400/S/DE	33	ECT	19	Q500PAR56NSP	28	CSS575/855/GY9.5	41	Q625T3/4CLP2/10	6
CSR400/SE/HR	32	EGC-Q500/5CL/P	23	Q500PAR64/MFL	29	FLK-Q575T6	8	<b>650 Watts</b>	
Q400CL/MC	18	EGE-Q500CL/P	23	Q500PAR64/NSP	29	FLK/LL-Q575T6	8	CP23	10
Q400MC	18	EGN-Q500T8	14	Q500PAR64/VNSP	29	GLA-Q575T6/4CL	8	CP51	22
Q400T4/CL	1	EHC-Q500/5CL	8	Q500T3/CL	4	GLC-Q575T6/5CL	8	DVY	7
<b>420 Watts</b>		EHD-Q500CL/TP	8	Q500T3/CL/6	4	HPL575	9	DWE-Q650PAR36/1	26
EKB-Q420/4CL/2PP	11	EVR-Q500CL/MC	18	T17	22	HPL575-X LL	9	DYR	12
FFM	1	FBG/FBD	7	T28	22	HPL575/C	9	EKD-Q650/3CL/2PP	10
<b>425 Watts</b>		FDG-Q500T3/4CL	4	T28	22	HPL575/LL/C	9	FAD-Q650T4/4CL	1
Q425T3/CL	4	FDN-Q500T3/4	4	<b>525 Watts</b>		<b>600 Watts</b>		FAY-Q650PAR36/3D	26
<b>450 Watts</b>		FKF	22	EJG/HIR-Q525T2 1/2/4	4	4559	29	FBE-Q650PAR36/5D	26
4541	28	FRG-Q500T8	11	<b>550 Watts</b>		DYH	7	FBO-Q650PAR36/5	26
<b>500 Watts</b>		FRH	11	HPL550/C	9	DYS/DYV/BHC	12	FBX-Q650T4/4	1
500PAR64/MFL	29	FRJ	11			FCB	2		
						FMR-Q600T5	11		

## INDEX: WATTAGE

GE Description	Table	GE Description	Table	GE Description	Table	GE Description	Table	GE Description	Table
<b>650 Watts (continued)</b>		<b>700 Watts</b>		<b>750 Watts (continued)</b>		<b>1000 Watts (continued)</b>		<b>1000 Watts (continued)</b>	
FCM/HIR	4	CSR700/2/SE	30	HPL750/LL/C	9	CP95	29	EXG/PAR64/WFL	29
FCW-Q650PAR36/6	26	CSR700/SA	31	<b>800 Watts</b>		CYV-Q1000T7/4CL/BP	15	FBY-Q1000T5/4	2
FCX-Q650PAR36/7	26	CSR700/S/DE	33	CSR800/SE/HR	32	DKZ/DSE-Q1000PS52/4	20	FCM-Q1000T3/4CL	4
FKB	22	<b>750 Watts</b>		CSR800/SE/HR/UV-C	34	DRB	22	FEL-Q1000/4CL	8
FKH	14	BTN-Q750T7/CL/2P	22	DXX	1	DRC	22	FEP-Q1MT6/4CL	8
FKM	22	BTP-Q750T7/4CL/2P	22	EME-Q800T3/P2/11	4	DRS	22	FER-Q1000T6/4CL	3
FKR	8	BWM-Q750T7/4CL/TP	8	EMF-Q800T3/P2/11	4	DSE-Q1000	20	FFN-Q1000PAR64/1	29
FRE	11	EGF-Q750/4CL/P	23	HX800	8	DWT-Q1000T6/CL	3	FFP-Q1000PAR64/2	29
FRK-Q650T8	11	EGG-Q750CL/P	23	<b>1000 Watts</b>		DXW-Q1000T5/4CL	2	FFR-Q1000PAR64/5	29
FRL	11	EGR-Q750T7/4CL	14	99-0221CSI	41	EGJ-Q1000/4/CL/P	23	FFS-Q1000PAR64/6	29
FRM	11	EHF-Q750/4CL	8	99-0222CID	41	EGK-Q1000/4/P	23	FFT-Q1000T3/1CL	5
GCS	11	EHG-Q750CL/TP	8	99-1225CID	42	EGM-Q1000CL/P	23	FGM-Q1000PAR64/3D	29
GCT	11	EJG-Q750T3/4CL	4	99-1425CID/HR	42	EGT-Q1000T7/4CL	14	FGN-Q1000PAR64/7D	29
T12	10	EMD-Q750T3/4	4	BRH	2	EJD-Q1000T3/3CL (185V)	4	FHM-Q1000/T3/4	4
T13	22	GLD-Q750T6/4CL	8	BTR-Q1000T7/4CL/2P	22	EKM-Q1MT3/4CLP2/7	6	FKD	22
<b>675 Watts</b>		GLE-Q750T6/4CL	8	BVT-Q1000T7/CL/MP	24	EWE	23	FKE	23
FFT/HIR-Q675T3/4	5	HPL750	9	BVV-Q1000T7/4CL/MP	24	EXC-Q1MPAR64CP60	29	FKJ	14
		HPL750/XLL/C	9	BWN-Q1000T7/4CL/TP	8	EXD-Q1MPAR64CP61	29	FKJ	14
		HPL750/C	9	CP24	10	EXE-Q1MPAR64CP62	29	FKN	22

GE Description	Table	GE Description	Table	GE Description	Table	GE Description	Table	GE Description	Table
<b>1000 Watts (continued)</b>		<b>1200 Watts (continued)</b>		<b>1500 Watts (continued)</b>		<b>2500 Watts</b>		<b>10000 Watts</b>	
FVA	10	CSR1200/S/DE	33	MVR1500/HBU	41	99-0431CID/HR	41	CP83	15
FVB	10	CSR1200/SA	31	MVR1500/U/SPORTS	41	CP32-2500/2500	17	DTY-Q10M/T24/4CL	15
FWP	10	FWS	10	SPL1500/L/H/652	40	CP91	14	<b>12000 Watts</b>	
FWR	10	FWT	10	<b>1650 Watts</b>		CP94	15	CSR12000/DE	33
Q1000PAR64MFL	29	GFA-Q1200PAR64/5	29	MVR1650/HOR	41	CSR2500/DE	33	CSR12000/SE/HR	32
Q1000PAR64NSP	29	GFB-Q1200PAR64/2	29	<b>2000 Watts</b>		CSR2500/SE/HR	32	Q12MT26/4CL	16
Q1000PAR64WFL	29	GFC-Q1200PAR64/1	29	BVW-Q2000T10/4CL/MP	24	CSR2500/SE/HR/UV-C	34	Q12MT26/4CL	16
Q1000T8/CL	10	OC1200	14	BWA-Q2000/4CL/BP	15	<b>3000 Watts</b>		Q12MT26/4CL	16
SPL1000/PAR64/840	42	T29	10	BWF-Q2000/4CL	20	HX48	15	<b>18000 Watts</b>	
SPL1000/PAR64/HR	42	<b>1250 Watts</b>		CP53	24	<b>4000 Watts</b>		CSR18000/DE	33
T11	10	CP105-1250/650	17	CP59	20	CSR4000/DE	33	CSR18000/S/DE	33
T14	22	CP30-1250/1250	17	CP79	13	CSR4000/SE/HR	32	CSR18000/SE/HR	32
T16	24	CP58-1250/2500	17	CP92	14	CSR4000/SE/HR/UV-C	34	<b>20000 Watts</b>	
<b>1200 Watts</b>		Q1250T3/P2/12	6	CSR2000/SA	31	<b>5000 Watts</b>		BCM-Q20MT32/4CL	16
99-1435CID/HR	42	<b>1500 Watts</b>		CYX-Q2000T10/4CL	15	CP29	15	BCM-Q20MT32/4CL	16
CP90	10	CXZ-Q1500T10/4CL	15	FEX-Q2MT8/4CL	3	DPY-Q5000T20/4CL	15	BCM-Q20MT32/4CL	16
CP93	14	DKX/DSF-Q1500PS52/4	20	FEY-Q2000T8/4CL	3	<b>6000 Watts</b>		<b>24000 Watts</b>	
CSR1200/2/SE	30	DSF-Q1500	20	FKK	15	CSR6000/DE	33	Q24MT32/4CL	16
CSR1200/DE	33	DTA-Q1500T8/4CL	24	FTL	13	CSR6000/SE/HR	32	Q24MT32/4CL	16
CSR1200/SE/HR	32	FDB-Q1500T4/4CL	5	FTM	13	CSR6000/SE/HR/UV-C	34		
CSR1200/SE/HR/UV-C	34	FGT-Q1500T4/4	5	MQI12000/T9/40	41				

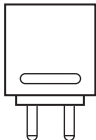
# LAMP BASE DRAWINGS

(dimensions in mm)



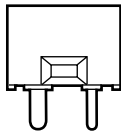
## Miniature 2-Pin

G5.3 (round 1.6mm OD)  
GX5.3 (round 1.5mm OD)  
GY5.3 (flat 2 x .7mm)



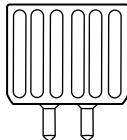
## Medium 2-Pin

G9.5 (round 3.2mm OD)  
GX9.5 (Prefocused)



## Oriented Med 2-Pin

GY9.5 (2.4/3.2mm OD)  
GZ9.5

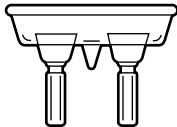


## Medium 2-Pin

G9.5/Heat sink  
(metal base)

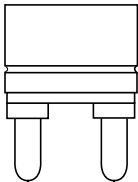


## GY16d



## Medium BiPost

G22 (6.35mm OD)



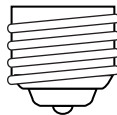
## Mogul BiPost

G38 (11.1mm OD)



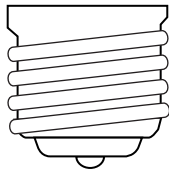
## Miniature Candelabra

E11 (10.7mm screw)



## Medium Screw

E26 (26mm screw)

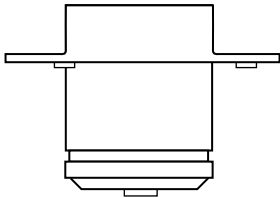


## Mogul Screw

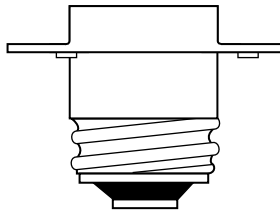
E39 (39.3mm screw)



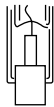
**Double Contact Bayonet**  
BA15d (15mm diameter)



**Medium Prefocus**  
P28s (27.5mm OD)

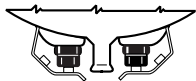


**Mogul Prefocus**  
P40s (39.4mm OD)

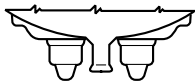


**Recessed Contact**  
R7s (7mm OD)

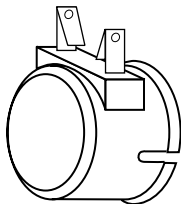
## PAR LAMP BASE DRAWINGS



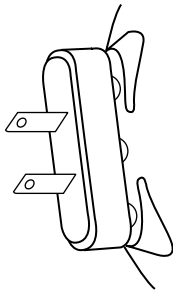
**Screw Terminal**



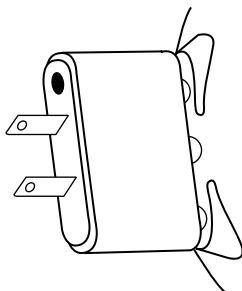
**Ferrule**



**Medium Side Prong  
(MSP)**



**Mogul End Prong  
(MEP or GX16d)**



**Extended MEP  
(EMEP or GX16d)**

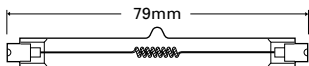


Fig. 1

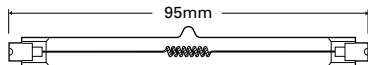


Fig. 2

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	MOL (mm)	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	Lighted Length (mm)	Bulb Finish	Burning Position	Fig. No.
<b>Table 1: Halogen, Double-Ended, Compact Coil (CC-8), R7s Base, 79mm (3<sup>1</sup>/<sub>8</sub>") MOL</b>																	
300	T-4	<b>Q300T4/CL</b>	62	EHP		<b>43705</b>	6	79	120	2900	2000	5650	CC-8	18		Any	1
375	T-4	<b>DWZ(30V)</b>	62	DWZ		<b>29578</b>	24	79	30	3000	1000	7500	CC-8	10		Any	1
400	T-4	<b>Q400T4/CL</b>	62	EHR		<b>43708</b>	12	79	120	2900	2000	7750	CC-8	21		Any	1
420	T-4	<b>FFM</b>	62	FFM		<b>30276</b>	24	79	120	3200	75	11000	CC-8	13		Any	1
650	T-4	<b>FAD-Q650T4/4CL</b>	62	FAD	P2/6	<b>30325</b>	24	79	120	3200	100	16500	CC-8	17	Frosted	Any	1
		<b>FBX-Q650T4/4</b>	15, 62	FBX	P2/6	<b>30343</b>	24	79	120	3200	100	16500	CC-8			Any	1
800	T-4	<b>DXX</b>	62	DXX	P2/13	<b>36952</b>	24	79	230	3200	75	21400	CC-8	24		Any	1
		<b>DXX</b>	62	DXX	P2/13	<b>36953</b>	24	79	240	3200	75	21400	CC-8	24		Any	1
<b>Table 2: Halogen, Double-Ended, Compact Coil (CC-8), R7s Base, 95mm (3<sup>3</sup>/<sub>4</sub>") MOL</b>																	
600	T-4	<b>FCB</b>	4, 62	FCB	A1/228	<b>29598</b>	24	95	120	3250	75	17000	CC-8	17		Any	2
1000	T-5	<b>DXW-Q1000T5/4CL</b>	27, 62	DXW		<b>30157</b>	24	95	120	3200	150	28000	CC-8	22		Any	2

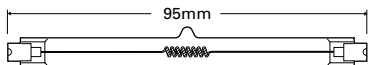


Fig. 2

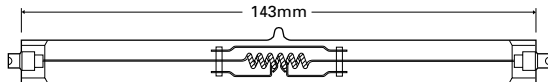


Fig. 3

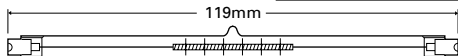


Fig. 4

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	MOL (mm)	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	Lighted Length (mm)	Bulb Finish	Burning Position	Fig. No.
<b>Table 2: Halogen, Double-Ended, Compact Coil (CC-8), R7s Base, 95mm (3<sup>3</sup>/<sub>4</sub>" MOL</b>																	
1000	T-5	<b>FBY-Q1000T5/4</b>	15, 62	FBY		<b>30374</b>	24	95	120	3200	150	26000	CC-8		Frosted	Any	2
		<b>BRH</b>	62	BRH		<b>29604</b>	24	95	120	3350	75	30000	CC-8	19		Any	2
<b>Table 3: Halogen, Double-Ended, Compact Coil (CC-8), R7s Base, 143mm (5<sup>5</sup>/<sub>8</sub>" MOL</b>																	
1000	T-6	<b>DWT-Q1000T6/CL</b>	62	DWT		<b>23800</b>	6	143	120	3000	2000	23400	CC-8	25		Any	3
		<b>FER-Q1000T6/4CL</b>	62	FER		<b>33760</b>	6	143	120	3200	500	27500	CC-8	19		Any	3
2000	T-10	<b>FEX-Q2MT8/4CL</b>	62	FEX	P2/27	<b>35338</b>	12	143	230	3200	300	50000	CC-8	37		H4	3
		<b>FEX-Q2MT8/4CL</b>	62	FEX	P2/27	<b>35339</b>	12	143	240	3200	300	50000	CC-8	37		H4	3
		<b>FEY-Q2000T8/4CL</b>	62	FEY	P2/27	<b>39790</b>	12	143	120	3200	400	57000	CC-8	25		H4	3



Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	MOL (mm)	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	Lighted Length (mm)	Bulb Finish	Burning Position	Fig. No.
<b>Table 4: Halogen, Double-Ended, C-8, R7s Base, 119mm (4<sup>11/16</sup>" ) MOL</b>																	
300	T-3	<b>Q300T3/CL</b>	62	EHM		<b>43703</b>	6	119	120	2950	2000	5950	C-8	59	Frosted	H4	4
		<b>Q300T3</b>	15, 62	EHZ		<b>43704</b>	6	119	120	2950	2000	5900	C-8			H4	4
350	T-2	<b>FDH/HIR-Q350T2/4CL</b>	62			<b>20881</b>	6	119	120	3200	400	13250	C-8	60		H4	4
	T-3	<b>Q350T3/CL/HIR</b>	62			<b>13894</b>	6	119	120	3000	2000	10000	C-8	56		H4	4
425	T-3	<b>Q425T3/CL</b>	62			<b>11178</b>	12	119	120	2950	2000	8900	C-8	56		H4	4
500	T-3	<b>Q500T3/CL</b>	62	DVS		<b>23733</b>	12	119	130	3000	2000	10550	C-8	62	Frosted	H4	4
		<b>Q500T3/CL</b>	62	FCL		<b>23731</b>	12	119	120	3000	2000	11100	C-8	57		H4	4
		<b>Q500T3/CL/6</b>	62			<b>23744</b>	12	119	120	2950	1500	10950	C-8	60		H4	4
		<b>FDH-Q500T3/4CL</b>	62	FDH	P2/30	<b>23735</b>	12	119	120	3200	400	13250	C-8	60		H4	4
		<b>FDN-Q500T3/4</b>	15, 62	FDN	P2/31	<b>23734</b>	12	119	120	3200	400	12800	C-8			H4	4
525	T-2.5	<b>EJG/HIR-Q525T2 1/2/4</b>	62	–	–	<b>20883</b>	6	119	120	3250	400	20600	C-8	62		H4	4
650	T-3	<b>FCM/HIR-Q650T3/4</b>	52, 62	FCM	–	<b>13895</b>	6	119	120	3275	400	25200	C-8	60		H4	4
750	T-3	<b>EJG-Q750T3/4CL</b>	62	EJG	–	<b>23756</b>	12	119	120	3200	400	20600	C-8	62	Frosted	H4	4
		<b>EMD-Q750T3/4</b>	15, 62	EMD	–	<b>23755</b>	12	119	120	3200	400	19500	C-8			H4	4
800	T-3	<b>EME-Q800T3/P2/11</b>	62	EME	P2/11	<b>23760</b>	12	119	240	3200	150	22000	C-8	64	Frosted	H4	4
		<b>EMF-Q800T3/P2/11</b>	62	EMF	P2/11	<b>23761</b>	12	119	240	3200	150	21400	C-8			H4	4

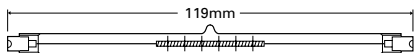


Fig. 4



Fig. 5

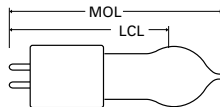


Fig. 7

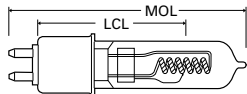


Fig. 8

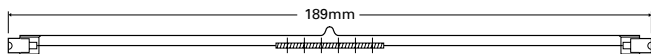


Fig. 6

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	MOL (mm)	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	Lighted Length (mm)	Bulb Finish	Burning Position	Fig. No.
<b>Table 4: Halogen, Double-Ended, C-8, R7s Base, 119mm (4<sup>11/16</sup>" ) MOL (continued)</b>																	
1000	T-3	<b>FCM-Q1000T3/4CL</b>	62	FCM	P2/28	<b>23797</b>	12	119	120	3200	400	28000	C-8	60		H4	4
		<b>FHM-Q1000/T3/4</b>	15, 31, 62	FHM	P2/29	<b>23792</b>	12	119	120	3200	400	27300	C-8		Frosted	H4	4
		<b>EJD-Q1000T3/3CL (185V)</b>	52, 62	EJD	—	<b>23788</b>	12	119	185	3350	100	33600	C-8	68		H4	4

<b>Table 5: Halogen, Double-Ended, C-8, R7s Base, 167mm (6<sup>9/16</sup>" ) MOL</b>																	
675	T-3	<b>FFT/HIR-Q675T3/4</b>	52, 62	—	—	<b>20884</b>	6	167	120	3250	400	26400	C-8	67		H4	5
1000	T-3	<b>FFT-Q1000T3/1CL</b>	62	FFT	—	<b>33280</b>	12	167	120	3200	400	26400	C-8	67		H4	5
1500	T-4	<b>FDB-Q1500T4/4CL</b>	62	FDB	—	<b>23841</b>	12	167	120	3200	400	41250	C-8	62		H4	5
		<b>FGT-Q1500T4/4</b>	15, 62	FGT	—	<b>41229</b>	12	167	120	3200	400	40200	C-8		Frosted	H4	5

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	MOL (mm)	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	Lighted Length (mm)	Bulb Finish	Burning Position	Fig. No.
<b>Table 6: Halogen, Double-Ended, C-8, R7s Base, 189mm (7<sup>7</sup>/<sub>16</sub>" MOL</b>																	
625	T-3	<b>Q625T3/4CLP2/10</b>	62		P2/10	<b>19697</b>	12	189	230	3200	300	16900	C-8	107		H4	6
		<b>Q625T3/4CLP2/10</b>	62		P2/10	<b>19698</b>	12	189	240	3200	300	16900	C-8	107		H4	6
1000	T-3	<b>EKM-Q1MT3/4CLP2/7</b>	62	EKM	P2/7	<b>20249</b>	12	189	230	3200	300	28000	C-8	115		H4	6
		<b>EKM-Q1MT3/4CLP2/7</b>	62	EKM	P2/7	<b>20253</b>	12	189	240	3200	300	28000	C-8	115		H4	6
1250	T-3	<b>Q1250T3/P2/12</b>	62		P2/12	<b>19695</b>	12	189	230	3200	300	35000	C-8	112		H4	6
		<b>Q1250T3/P2/12</b>	62		P2/12	<b>19696</b>	12	189	240	3200	300	35000	C-8	112		H4	6

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
<b>Table 7: Halogen, Single-Ended, G5.3 Miniature 2-Pin (5.3mm apart)</b>																		
30	T-3.5	<b>DZA</b>	62	DZA	—	<b>37346</b>	24	G5.3	10.8	3100	400	530	C-6	27	51	BDTHCH		
250	G-6	<b>EYH/FKT</b>	62	EYH	—	<b>13617</b>	24	G5.3	120	3000	200	6000	CC-6	36	64	BDTHCH		7
500	G-6	<b>FBG/FBD</b>	62	FBG	—	<b>33663</b>	24	G5.3	120	3200	50	13200	CC-6	44	76	ANYCH		7
600	G-7	<b>DYH</b>	62	DYH	—	<b>30364</b>	24	G5.3	120	3200	75	17000	CC-6	36	64	ANYCH		7
650	G-6	<b>DVY</b>	62	DVY	—	<b>30304</b>	24	G5.3	120	3300	25	20000	CC-6	36	64	BDTHCH		7

<b>Table 8: Halogen, Single-Ended, G9.5 Medium 2-Pin (9.5mm apart)</b>																		
500	T-6	<b>EHD-Q500CL/TP</b>	62	EHD		<b>39768</b>	24	G9.5	120	2900	2000	10000	CC-8	60	105	Any		8
		<b>EHC-Q500/5CL</b>	62	EHC		<b>39789</b>	24	G9.5	120	3150	500	12700	CC-8	60	105	Any		8

Lamp stocking color code: EUROPE ONLY, EUROPE and NORTH AMERICA, NORTH AMERICA ONLY

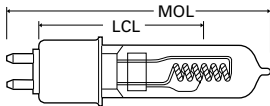


Fig. 8

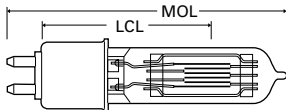


Fig. 9

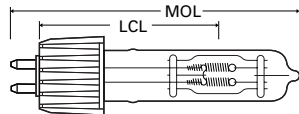


Fig. 10

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
<b>Table 8: Halogen, Single-Ended, G9.5 Medium 2-Pin (9.5mm apart) (continued)</b>																		
575	T-6	<b>FLK-Q575T6</b>	62	FLK		<b>11450</b>	24	G9.5	115	3200	300	16500	CC-8	60	105	Any		8
		<b>FLK/LL-Q575T6</b>	62	—	—	<b>39730</b>	24	G9.5	115	3100	1500	12800	CC-8	60	105	Any		8
		<b>GLA-Q575T6/4CL</b>	62	GLA	—	<b>93428</b>	24	G9.5	115	3050	1500	13000	C-13D	60	105	Any		9
		<b>GLC-Q575T6/5CL</b>	62	GLC	—	<b>93429</b>	24	G9.5	115	3200	300	14500	C-13D	60	105	Any		9
600	T-6	<b>GKV-Q575T6/4CL</b>	62	GKV		<b>39739</b>	24	G9.5	230	3200	250	14000	C-13D	60	105	Any		9
		<b>GKV</b>	62	GKV		<b>39750</b>	24	G9.5	240	3200	250	14000	C-13D	60	105	Any		9
		<b>GKV/LL</b>	62	GKV		<b>39751</b>	24	G9.5	230	3000	1500	11000	C-13D	60	105	Any		9
		<b>GKV/LL</b>	62	GKV		<b>39752</b>	24	G9.5	240	3000	1500	11000	C-13D	60	105	Any		9
650	T-6	<b>FKR</b>	62	FKR		<b>39734</b>	24	G9.5	230	3100	300	15000	C-13D	60	105	Any		9
		<b>FKR</b>	62	FKR		<b>39735</b>	24	G9.5	240	3100	300	15000	C-13D	60	105	Any		9
750	T-6	<b>EHG-Q750CL/TP</b>	62	EHG	—	<b>39770</b>	24	G9.5	120	3000	2000	15000	CC-8	60	105	Any		8
		<b>EHF-Q750/4CL</b>	62	EHF	—	<b>39771</b>	24	G9.5	120	3200	300	20000	CC-8	60	105	Any		8

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
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**Table 8: Halogen, Single-Ended, G9.5 Medium 2-Pin (9.5mm apart) (continued)**

750	T-6	<b>GLD-Q750T6/4CL</b>	62	GLD	—	<b>92771</b>	24	G9.5	115	3200	300	19000	C-13D	60	105	Any		9
		<b>GLE-Q750T6/4CL</b>	62	GLE	—	<b>92773</b>	24	G9.5	115	3050	1500	17400	C-13D	60	105	Any		9
	T-7	<b>BWM-Q750T7/4CL/TP</b>	1, 62	BWM	—	<b>39680</b>	6	G9.5	120	3200	200	21000	C-13D	60	114	BDTH		9
800	T-6	<b>HX800</b>	62		HX800	<b>39753</b>	24	G9.5	230	3200	250	20000	C-13D	60	105	Any		9
		<b>HX800</b>	62		HX800	<b>39754</b>	24	G9.5	240	3200	250	20000	C-13D	60	105	Any		9
1000	T-6	<b>FEL-Q1000/4CL</b>	62,22	FEL	CP77	<b>39769</b>	24	G9.5	120	3200	300	27500	CC-8	60	105	Any		8
		<b>FEP-Q1MT6/4CL</b>	62	FEP	CP77	<b>39738</b>	24	G9.5	230	3200	300	25000	CC-8	60	105	Any		8
		<b>FEP-Q1MT6/4CL</b>	62	FEP	CP77	<b>39736</b>	24	G9.5	240	3200	300	25000	CC-8	60	105	Any		8
	T-7	<b>BWN-Q1000T7/4CL/TP</b>	62,1	BWN	—	<b>39792</b>	24	G9.5	120	3200	250	28500	C-13D	60	114	BDTH		9

**Table 9: Halogen, Single-Ended, G9.5/Heat Sink (Metal 2-Pin)**

375	T-6	<b>HPL375/C</b>	18, 62			<b>17608</b>	12	G9.5/HS	115	3250	300	10540	4-C8	60	106	Any		10
		<b>HPL375/LL</b>	18, 62			<b>18189</b>	12	G9.5/HS	115	3050	1000	8000	4-C8	60	106	Any		10
550	T-6	<b>HPL550/C 77V</b>	18, 62			<b>17607</b>	12	G9.5/ HS	77	3250	300	16170	4-C8	60	106	Any		10

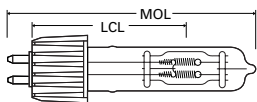


Fig. 10

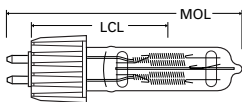


Fig. 11

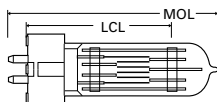


Fig. 12

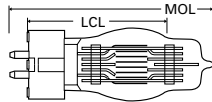


Fig. 13

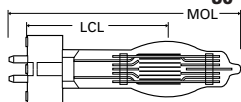


Fig. 14

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila- ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
<b>Table 9: Halogen, Single-Ended, G9.5/Heat Sink (Metal 2-Pin) (continued)</b>																		
575	T-6	HPL575/C 115V	62	—	—	92431	12	G9.5/HS	115	3200	300	16500	4-C8	60	106	Any		10
		HPL575/C 120V	62	—	—	92433	12	G9.5/HS	120	3200	300	16520	4-C8	60	106	Any		10
		HPL575/LL/C 115V	62	—	—	92434	12	G9.5/HS	115	3050	2000	12360	4-C8	60	106	Any		10
		HPL575/LL/C 120V	62	—	—	92435	12	G9.5/HS	120	3050	2000	12360	4-C8	60	106	Any		10
		HPL575	62	—	—	37128	12	G9.5/HS	230	3200	300	14900	6-C8	60	106	Any		11
		HPL575	62	—	—	37131	12	G9.5/HS	240	3200	300	14900	6-C8	60	106	Any		11
		HPL575-X LL	62	—	—	37817	12	G9.5/HS	230	3050	1500	11780	6-C8	60	106	Any		11
		HPL575-X LL	62	—	—	37818	12	G9.5/HS	240	3050	1500	11780	6-C8	60	106	Any		11
750	T-6	HPL750/C 115V	7, 62	—	—	92432	12	G9.5/HS	115	3200	300	22000	4-C8	60	106	Any		10
		HPL750/LL/C	7, 62	—	—	92770	12	G9.5/HS	115	3050	2000	16400	4-C8	60	106	Any		10
		HPL750	7, 62	—	—	37824	12	G9.5/HS	230	3200	300	19750	6-C8	60	106	Any		11
		HPL750	7, 62	—	—	37826	12	G9.5/HS	240	3200	300	19750	6-C8	60	106	Any		11
		HPL750-XLL-C	7, 62	—	—	92768	12	G9.5/HS	230	3050	1500	15600	6-C8	60	106	Any		11
		HPL750-XLL-C	7, 62	—	—	92769	12	G9.5/HS	240	3050	1500	15600	6-C8	60	106	Any		11

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
<b>Table 10: Halogen, Single-Ended, GX9.5 Prefocus Med 2-Pin</b>																		
650	G-6 T-8	<b>EKD-Q650/3CL/2PP</b>	62	EKD	—	<b>34328</b>	24	GX9.5	120	3300	25	20000	CC-6	37	64	BDTHCH		
		<b>T12</b>	62		T12	<b>39661</b>	12	GX9.5	230	3000	750	13500	C-13	55	110	BDTH		12
		<b>T12</b>	62		T12	<b>39663</b>	12	GX9.5	240	3000	750	13500	C-13	55	110	BDTH		12
		<b>CP23</b>	62		CP23	<b>39654</b>	12	GX9.5	230	3200	100	16900	C-13	55	110	BDTH		12
		<b>CP23</b>	62		CP23	<b>39660</b>	12	GX9.5	240	3200	100	16900	C-13	55	110	BDTH		12
1000	G-11	<b>CP24</b>	62		CP24	<b>39651</b>	12	GX9.5	230	3200	200	26000	C-13	55	110	BDTH		13
		<b>CP24</b>	62		CP24	<b>39653</b>	12	GX9.5	240	3200	200	26000	C-13	55	110	BDTH		13
		<b>Q1000T8/CL</b>	62		T11	<b>29331</b>	24	GX9.5	120	3050	750	23500	C-13	55	110	BDTH		13
		<b>T11</b>	62		T11	<b>39656</b>	12	GX9.5	230	3050	750	23000	C-13	55	110	BDTH		13
		<b>T11</b>	62		T11	<b>39659</b>	12	GX9.5	240	3050	750	23000	C-13	55	110	BDTH		13
	T-11	<b>FWP</b>	62	FWP	T19	<b>39657</b>	12	GX9.5	230	3050	750	21000	C-13D	55	110	BDTH		12
		<b>FWR</b>	62	FWR	T19	<b>39658</b>	12	GX9.5	240	3050	750	21000	C-13D	55	110	BDTH		12
		<b>FVA</b>	62	FVA	CP70	<b>39241</b>	12	GX9.5	230	3200	200	25000	C-13D	55	110	BDTH		12
		<b>FVB</b>	62	FVB	CP70	<b>39242</b>	12	GX9.5	240	3200	200	25000	C-13D	55	110	BDTH		12
1200	G-11	<b>T29</b>	62		T29	<b>39647</b>	12	GX9.5	120	3050	400	30500	C-13D	67	125	BDTH		14
		<b>FWS</b>	62	FWS	T29	<b>39723</b>	12	GX9.5	230	3050	400	29000	C-13D	67	125	BDTH		14
		<b>FWT</b>	62	FWT	T29	<b>39667</b>	12	GX9.5	240	3050	400	29000	C-13D	67	125	BDTH		14

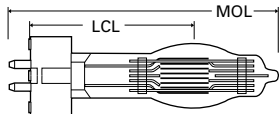


Fig. 14

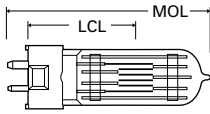


Fig. 15

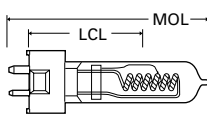


Fig. 16

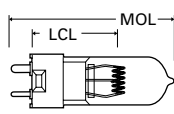


Fig. 17

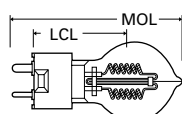


Fig. 18

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
<b>Table 10: Halogen, Single-Ended, GX9.5 Prefocus Med 2-Pin (continued)</b>																		
1200	G-11	<b>CP90</b>	62		CP90	<b>39724</b>	12	GX9.5	230	3200	200	33000	C-13D	67	125	BDTH		14
		<b>CP90</b>	62		CP90	<b>39725</b>	12	GX9.5	240	3200	200	33000	C-13D	67	125	BDTH		14

<b>Table 11: Halogen, Single-Ended, GY9.5 Oriented 2-Pin (2 OD Pins)</b>																		
300	T-8	<b>FKW-Q300T8</b>	62	FKW	CP81	<b>39781</b>	24	GY9.5	120	3200	50	6900	C-13	46	90	BDTH		15
		<b>FSL</b>	62	FSL	CP81	<b>39780</b>	24	GY9.5	230	3200	150	6900	C-13	46	90	BDTH		15
		<b>FSK</b>	62	FSK	CP81	<b>39779</b>	24	GY9.5	240	3200	150	6900	C-13	46	90	BDTH		15
420	G-7	<b>EKB-Q420/4CL/2PP</b>	62	EKB	—	<b>33934</b>	24	GY9.5	120	3200	75	11000	CC-6	37	64	ANYCH		17
500	T-8	<b>FRG-Q500T8</b>	62	FRG	CP82	<b>39623</b>	24	GY9.5	120	3200	150	13000	C-13	46	90	BDTH		15
		<b>FRH</b>	62	FRH	CP82	<b>39624</b>	24	GY9.5	230	3200	150	12500	C-13	46	90	BDTH		15
		<b>FRJ</b>	62	FRJ	CP82	<b>39628</b>	24	GY9.5	240	3200	150	12500	C-13	46	90	BDTH		15
		<b>GCV</b>	62	GCV	T18	<b>39717</b>	24	GY9.5	230	3050	400	11000	C-13	46	90	BDTH		15



Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
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**Table 11: Halogen, Single-Ended, GY9.5 Oriented 2-Pin (2 OD Pins) (continued)**

500	T-8	GCW	62	GCW	T18	39629	24	GY9.5	240	3050	400	11000	C-13	46	90	BDTH		15
		GCV	62	GCV	T25	39455	24	GY9.5	230	3000	360	11000	C-13D	46	90	BDTH		15
		GCW	62	GCW	T25	39262	24	GY9.5	240	3000	360	11000	C-13D	46	90	BDTH		15
600	T-5	FMR-Q600T5	62	FMR	—	30475	24	GY9.5	120	3050	2000	12600	CC-8	51	85	BDTHCH		16
650	T-8	GCT	62	GCT	T27	39456	24	GY9.5	230	3050	400	14500	C-13D	46	90	BDTH		15
		GCS	62	GCS	T27	39457	24	GY9.5	240	3050	400	14500	C-13D	46	90	BDTH		15
		FRE	62	FRE	T26	39630	24	GY9.5	120	3100	500	15500	C-13	46	90	BDTH		15
		GCT	62	GCT	T26	39635	24	GY9.5	230	3100	400	15500	C-13	46	90	BDTH		15
		GCS	62	GCS	T26	39636	24	GY9.5	240	3100	400	15500	C-13	46	90	BDTH		15
		FRK-Q650T8	62	FRK	CP89	39637	24	GY9.5	120	3200	200	16900	C-13	46	90	BDTH		15
		FRL	62	FRL	CP89	39640	24	GY9.5	230	3200	150	16250	C-13	46	90	BDTH		15
		FRM	62	FRM	CP89	39642	24	GY9.5	240	3200	150	16250	C-13	46	90	BDTH		15

**Table 12: Halogen, Single-Ended, GZ9.5 Oriented 2-Pin (2 OD Pins)**

235	T-4	Q235T4/3	62	—	—	11548	12	GZ9.5	33	3125	150	6000	CC-6	39	64	BDTHCH	Frosted	
600	G-7	DYS/DYV/BHC	62	DYS	A1/264	32955	24	GZ9.5	120	3200	75	17000	CC-6	37	64	BDTHCH		17
650	G-7	DYR	62	DYR	A1/233	26896	24	GZ9.5	220	3200	50	16500	2CC-8	37	64	Any		18
		DYR	62	DYR	A1/233	26895	24	GZ9.5	240	3200	50	16500	2CC-8	37	64	Any		18

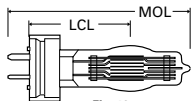


Fig. 19

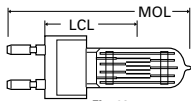


Fig. 20

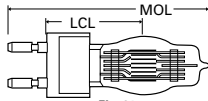


Fig. 21

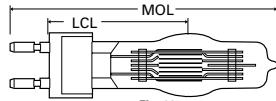


Fig. 22

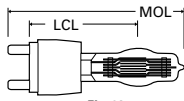


Fig. 23

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
<b>Table 13: Halogen, Single-Ended, GY16 2-Pin Prefocus (16mm Apart)</b>																		
2000	G-13	<b>FTM</b>	62	FTM	CP43	<b>20309</b>	12	GY16	230	3200	400	54000	C-13	70	145	BDTH		19
		<b>FTL</b>	62	FTL	CP43	<b>20310</b>	12	GY16	240	3200	400	54000	C-13	70	145	BDTH		19
		<b>CP79</b>	62		CP79	<b>90360</b>	12	GY16	120	3200	350	54000	C-13D	70	145	BDTH		19
		<b>CP79</b>	62		CP79	<b>30497</b>	12	GY16	230	3200	350	54000	C-13D	70	145	BDTH		19
		<b>CP79</b>	62		CP79	<b>30498</b>	12	GY16	240	3200	350	54000	C-13D	70	145	BDTH		19
<b>Table 14: Halogen, Single-Ended, G22 Medium Bi-post (22mm Apart)</b>																		
500	T-8	<b>EGN-Q500T8</b>	62	EGN	—	<b>30373</b>	12	G22	120	3200	150	13000	C-13	64	140	BDTH		20
650	T-8	<b>FKH</b>	62	FKH	CP39	<b>20320</b>	12	G22	230	3200	100	16900	C-13	64	140	BDTH		20
		<b>FKH</b>	62	FKH	CP39	<b>20321</b>	12	G22	240	3200	100	16900	C-13	64	140	BDTH		20
750	T-7	<b>EGR-Q750T7/4CL</b>	1, 62	EGR	—	<b>39190</b>	12	G22	120	3200	200	21000	C-13D	64	127	BDTH		20

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
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**Table 14: Halogen, Single-Ended, G22 Medium Bi-post (22mm Apart) (continued)**

1000	T-7	<b>EGT-Q1000T7/4CL</b>	1, 62	EGT	—	<b>39191</b>	12	G22	120	3200	250	28500	C-13D	64	127	BDTH		20
	T-8	<b>FKJ</b>	62	FKJ	CP40	<b>39655</b>	12	G22	230	3200	200	26000	C-13	64	140	BDTH		20
		<b>FKJ</b>	62	FKJ	CP40	<b>20286</b>	12	G22	240	3200	200	26000	C-13	64	140	BDTH		20
1200	T-8	<b>OC1200</b>	62			<b>91580</b>	12	G22	80	3300	300	37500	C-13D	64	140	BDTH		20
	G-11	<b>CP93</b>	62		CP93	<b>30384</b>	12	G22	240	3200	200	33000	C-13D	64	140	BDTH		21
2000	G-13	<b>CP92</b>	62		CP92	<b>30391</b>	12	G22	120	3200	400	55000	C-13D	90	175	BDTH		22
		<b>CP92</b>	62		CP92	<b>30394</b>	12	G22	230	3200	400	52000	C-13D	90	175	BDTH		22
		<b>CP92</b>	62		CP92	<b>30397</b>	12	G22	240	3200	400	52000	C-13D	90	175	BDTH		22
2500	G-13	<b>CP91</b>	62		CP91	<b>30415</b>	12	G22	230	3200	400	67500	C-13D	90	175	BDTH		22
		<b>CP91</b>	62		CP91	<b>30423</b>	12	G22	240	3200	400	67500	C-13D	90	175	BDTH		22

**Table 15: Halogen, Single-Ended, G38 Mogul Bi-post**

1000	T-7	<b>CYV-Q1000T7/ 4CL/BP</b>	1, 62	CYV	—	<b>42697</b>	6	G38	120	3200	200	28500	C-13D	127	203	BDTH		23
1500	T-10	<b>CXZ-Q1500T10/4CL</b>	1, 62	CXZ	—	<b>37564</b>	6	G38	120	3200	400	44500	C-13	127	216	BDTH		23

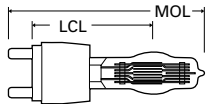


Fig. 23

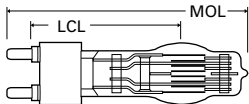


Fig. 24

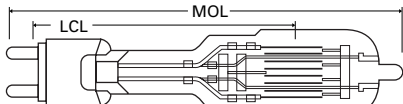


Fig. 25

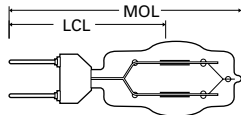


Fig. 28

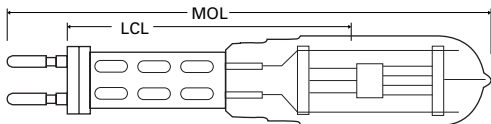


Fig. 26

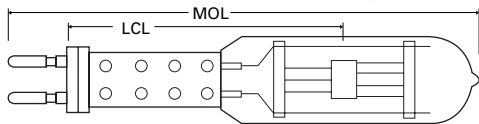


Fig. 27

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila- ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
2000	T-10	CYX-Q2000T10/4CL	1, 62	CYX	—	36636	6	G38	120	3200	350	59000	C-13	127	216	BDTH		23
	G-10	FKK	62	FKK	CP41	31844	12	G38	230	3200	400	54000	C-13	127	216	BDTH		23
		FKK	62	FKK	CP41	31849	12	G38	240	3200	400	54000	C-13	127	216	BDTH		23
	T-8	BWA-Q2000/4CL/BP	1, 55, 62	BWA	—	39587	6	G38	120	3200	500	54000	CC-8	127	210	BDTH		23
2500	G-13	CP94	62		CP94	30499	12	G38	230	3200	400	67500	C-13D	127	210	BDTH		23
		CP94	62		CP94	30500	12	G38	240	3200	400	67500	C-13D	127	210	BDTH		23

Table 15: Halogen, Single-Ended, G38 Mogul Bi-post (continued)

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
<b>Table 15: Halogen, Single-Ended, G38 Mogul Bi-post (continued)</b>																		
3000	G-15	<b>HX48</b>	62		HX48	<b>30503</b>	12	G38	230	3200	400	82000	C-13	127	210	BD45		23
		<b>HX48</b>	62		HX48	<b>30504</b>	12	G38	240	3200	400	82000	C-13	127	210	BD45		23
5000	T-20	<b>DPY-Q5000T20/4CL</b>	1, 62	DPY	CP29	<b>41736</b>	6	G38	120	3200	500	143000	C-13	165	279	BD45		24
	G-20	<b>CP29</b>	62		CP29	<b>30505</b>	12	G38	230	3200	500	135000	C-13	165	279	BDTH		24
		<b>CP29</b>	62		CP29	<b>30506</b>	12	G38	240	3200	500	135000	C-13	165	279	BDTH		24
10000	T-24	<b>DTY-Q10M/T24/4CL</b>	1, 62	DTY	—	<b>24886</b>	4	G38	120	3200	300	290000	C-13	254	400	BD45		25
	T-27	<b>CP83</b>	62		CP83	<b>12036</b>	1	G38	230	3200	500	280000	C-13	254	405	BDTH		25
		<b>CP83</b>	62		CP83	<b>12037</b>	1	G38	240	3200	500	280000	C-13	254	405	BDTH		25

<b>Table 16: Halogen, Single-Ended, GX38 Mogul Bi-post (38mm Apart)</b>																		
12000	T-26	<b>Q12MT26/4CL</b>	62	—	—	<b>48770</b>	1	GX38	120	3400	150	420000	C-13	254	410	BD45		26
		<b>Q12MT26/4CL</b>	62	—	—	<b>48771</b>	1	GX38	230	3400	130	420000	C-13	254	410	BD45		26
		<b>Q12MT26/4CL</b>	62	—	—	<b>48779</b>	1	GX38	240	3400	130	420000	C-13	254	410	BD45		26
20000	T-32	<b>BCM-Q20MT32/4CL</b>	62	BCM	—	<b>48772</b>	1	GX38	208	3200	400	580000	C-13	354	560	BD45		27
		<b>BCM-Q20MT32/4CL</b>	62	BCM	—	<b>48773</b>	1	GX38	230	3200	400	580000	C-13	354	560	BD45		27
		<b>BCM-Q20MT32/4CL</b>	62	BCM	—	<b>48774</b>	1	GX38	240	3200	400	580000	C-13	354	560	BD45		27
24000	T-32	<b>Q24MT32/4CL</b>	62	—	—	<b>48776</b>	1	GX38	230	3400	150	800000	C-13	354	560	BD45		27
		<b>Q24MT32/4CL</b>	62	—	—	<b>48777</b>	1	GX38	240	3400	150	800000	C-13	354	560	BD45		27

Lamp stocking color code: EUROPE ONLY, EUROPE and NORTH AMERICA, NORTH AMERICA ONLY

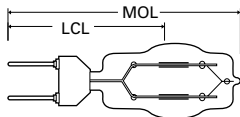


Fig. 28

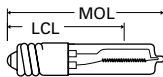


Fig. 29

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
<b>Table 17: Halogen, Single-Ended, GX38Q, High Volt, 2 Filament</b>																		
1250	G-18	CP105-1250/650	62		CP105	34056	12	GX38q	230	3050	250	27M 13M	2C-13	143	220	BD45		28
		CP105-1250/650	62		CP105	34024	12	GX38q	240	3050	250	27M 13M	2C-13	143	220	BD45		28
		CP30-1250/1250	62		CP30	30513	12	GX38q	230	3200	300	27M 56M	2C-13	143	220	BD45		28
		CP30-1250/1250	62		CP30	30514	12	GX38q	240	3200	300	27M 56M	2C-13	143	220	BD45		28
	G-22	CP58-1250/2500	62		CP58	30515	12	GX38q	230	3200	300	27M 91M	2C-13	143	220	BD45		28
		CP58-1250/2500	62		CP58	30517	12	GX38q	240	3200	300	27M 91M	2C-13	143	220	BD45		28

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
<b>Table 17: Halogen, Single-Ended, GX38Q, High Volt, 2 Filament (continued)</b>																		
2500	G-22	<b>CP32-2500/2500</b>	62		CP32	<b>30518</b>	12	GX38q	230	3200	300	59M 127M	2C-13	143	220	BD45		28
		<b>CP32-2500/2500</b>	62		CP32	<b>30519</b>	12	GX38q	240	3200	300	59M 127M	2C-13	143	220	BD45		28
<b>Table 18: Halogen, Single-Ended, E11 Miniature Candelabra Screw</b>																		
100	T-4	<b>Q100CL/MC/2V</b>	62	ESN	—	<b>44385</b>	6	E11	120	2950	750	1800	CC-2V	35	71	Any		29
		<b>Q100CL/MC</b>	62	—	—	<b>15507</b>	6	E11	120	2950	2000	1600	CC-8	35	71	Any		29
		<b>Q100MC</b>	62	—	—	<b>16452</b>	6	E11	120	2950	2000	1550	CC-8	35	71	Any	Frosted	29
150	T-4	<b>Q150CL/MC</b>	62	ETG	—	<b>43694</b>	6	E11	120	2950	2000	2800	CC-8	35	76	Any		29
		<b>Q150MC</b>	62	ETH	—	<b>44654</b>	6	E11	120	2950	2000	2700	CC-8	35	76	Any	Frosted	29
250	T-4	<b>Q250CL/MC</b>	62	—	—	<b>43700</b>	6	E11	130	2950	2000	5000	CC-8	41	80	Any		29
		<b>Q250CL/MC</b>	62	EHT	—	<b>43699</b>	6	E11	120	2950	2000	5000	CC-8	41	80	Any		29
		<b>Q250MC</b>	62	—	—	<b>43696</b>	6	E11	130	2950	2000	4850	CC-8	41	80	Any	Frosted	29
		<b>Q250MC</b>	62	ESM	—	<b>43695</b>	6	E11	120	2950	2000	4850	CC-8	41	80	Any	Frosted	29
400	T-4	<b>Q400CL/MC</b>	62	—	—	<b>43707</b>	6	E11	120	2950	2000	8250	CC-8	51	92	Any		29
		<b>Q400MC</b>	62	—	—	<b>43706</b>	6	E11	120	2950	2000	7850	CC-8	51	92	Any	Frosted	29

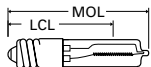


Fig. 29

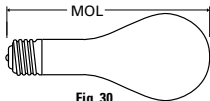


Fig. 30

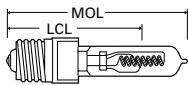


Fig. 31



Fig. 32



Fig. 33

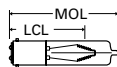


Fig. 34

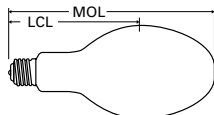


Fig. 77

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
<b>Table 18: Halogen, Single-Ended, E11 Miniature Candelabra Screw (continued)</b>																		
500	T-4	<b>EVR-Q500CL/MC</b>	16, 62	EVR	—	<b>47950</b>	6	E11	120	2950	2000	10450	CC-8	51	92	Any		29
<b>Table 19: Incandescent, Single-Ended, E26 Medium Screw</b>																		
250	A-21	<b>BBA (#1)</b>	21	BBA	—	<b>40563</b>	24	E26	120	3400	3	8000	C-9		125	Any	Frosted	30
		<b>BCA (#B1)</b>		BCA	—	<b>40564</b>	24	E26	120	4800	3	5000	C-9		125	Any	Frosted	30
	A-23	<b>ECA</b>		ECA	—	<b>40565</b>	24	E26	120	3200	20	6500	C-9		152	Any	Frosted	30
300	A-21	<b>BAH</b>		BAH	—	<b>40886</b>	24	E26	115	3200	20	9000	C-9		125	Any	Frosted	30
400	G-30	<b>400G/FL</b>		—	—	<b>21363</b>	60	E26	120		800	6800	C-5		130	BDTH	Frosted	30
500	PS-25	<b>EBV (#2)</b>	21	EBV	—	<b>40566</b>	24	E26	120	3400	6	17000	C-9	133	176	Any	Frosted	30
		<b>EBW (#B2)</b>		EBW	—	<b>40567</b>	24	E26	120	4800	6	10500	C-9	133	176	Any	Frosted	30
		<b>ECT</b>		ECT	—	<b>40568</b>	24	E26	120	3200	60	13650	C-9	133	176	Any	Frosted	30



Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
<b>Table 20: Halogen, Single-Ended, E39 Mogul Screw</b>																		
1000	PS-52	<b>DKZ/DSE-Q1000 PS52/4</b>	1, 51, 62	DKZ	—	<b>39582</b>	12	E39	120	3200	750	28000	CC-8	241	330	Any	Frosted	30
	T10	<b>DSE-Q1000</b>	1, 62	DSE		<b>19926</b>	10	E39	120	3200	750	28000	CC-8	241	330	Any	Frosted	31
1500	PS-52	<b>DKX/DSF-Q1500 PS52/4</b>	1, 51, 62	DKX	—	<b>40357</b>	12	E39	120	3200	1000	41000	C-8	241	330	Any	Frosted	30
	T10	<b>DSF-Q1500</b>	1, 62	DSF		<b>19927</b>	10	E39	120	3200	1000	41000	C-8	241	330	Any	Frosted	31
2000	T-8	<b>BWF-Q2000/4CL</b>	62	BWF	—	<b>37086</b>	6	E39	120	3200	500	54000	CC-8	133	191	Any		31
	T-10	<b>CP59</b>	62		CP59	<b>29424</b>	12	E39	230	3200	300	50000	CC-8	133	191	Any		31
		<b>CP59</b>	62		CP59	<b>29426</b>	12	E39	240	3200	300	50000	CC-8	133	191	Any		31

<b>Table 21: Halogen/Incandescent, Single-Ended, BA15d Double Contact Bayonet</b>																		
30	S-11	<b>BLC</b>		BLC	—	<b>29140</b>	120	BA15d	120	2775	50	400	CC-2V	35	60	Any		32
50	S-11	<b>BLX</b>		BLX	—	<b>29156</b>	120	BA15d	120	2850	50	780	CC-2V	44	60	BDTH		32
	T-8	<b>CAX</b>		CAX	—	<b>29171</b>	24	BA15d	120	2875	50	775	CC-2V	35	79	BD30		33
75	T-8	<b>CBX/CBS</b>	20	CBX	—	<b>29208</b>	24	BA15d	120	2925	50	1200	CC-13	35	79	BD30		33
100	T-8	<b>CDJ</b>		CDJ	—	<b>29266</b>	24	BA15d	120	2975	50	2000	CC-2V	35	79	BD30		33
		<b>CEB</b>		CEB	—	<b>29244</b>	24	BA15d	120	2975	50	1850	CC-13	35	79	BD30		33
	T-4	<b>Q100CL/DC/2V</b>	62	ESR	—	<b>44386</b>	6	BA15d	120	2950	750	1800	CC-2V	35	62	Any		34

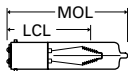


Fig. 34

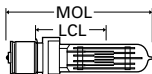


Fig. 35

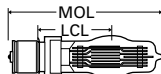


Fig. 36

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
<b>Table 21: Halogen/Incandescent, Single-Ended, BA15d Double Contact Bayonet (continued)</b>																		
100	T-4	<b>Q100CL/DC</b>	62	—	—	<b>15508</b>	6	BA15d	120	2950	2000	1600	CC-8	35	62	Any		34
		<b>Q100DC</b>	62	—	—	<b>16451</b>	6	BA15d	120	2950	2000	1550	CC-8	35	62	Any	Frosted	34
150	T-4	<b>Q150CL/DC/2V</b>	62	ESP	—	<b>44384</b>	6	BA15d	120	2950	1000	2800	CC-2V	35	62	Any		34
		<b>Q150CL/DC</b>	62	ETC	—	<b>43693</b>	6	BA15d	120	2950	2000	2800	CC-8	35	62	Any		34
		<b>Q150DC</b>	62	ETF	—	<b>44653</b>	6	BA15d	120	2950	2000	2700	CC-8	35	62	Any	Frosted	34
200	T-4	<b>FEV-Q200/4CL/DC</b>	62	FEV	—	<b>14119</b>	6	BA15d	120	3200	50	5500	CC-2V	35	62	Any		34
250	T-4	<b>Q250CL/DC</b>	62	ESS	—	<b>43697</b>	6	BA15d	120	2950	2000	5000	CC-8	41	76	Any		34
		<b>Q250CL/DC</b>	62	—	—	<b>43698</b>	6	BA15d	130	2950	2000	5000	CC-8	41	76	Any		34
		<b>Q250DC</b>	62	ETB	—	<b>43701</b>	6	BA15d	120	2950	2000	4850	CC-8	41	76	Any	Frosted	34
		<b>Q250DC</b>	62	—	—	<b>43702</b>	6	BA15d	130	2950	2000	4850	CC-8	41	76	Any	Frosted	34
500	T-4	<b>Q500CL/DC</b>	62	—	—	<b>43710</b>	6	BA15d	120	2950	2000	10450	CC-8	54	87	Any		34
		<b>Q500DC</b>	62	—	—	<b>43709</b>	6	BA15d	120	2950	2000	10100	CC-8	54	87	Any	Frosted	34

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
<b>Table 22: Halogen/Incandescent, Single-Ended, P28s Medium Prefocus</b>																		
500	T-6	<b>BTL-Q500T6/CL/P</b>	62	BTL	T17	<b>11966</b>	12	P28s	120	3000	500	11000	C-13	55	133	BDTH		35
		<b>BTM-Q500T6/4CL/2P</b>	62	BTM	—	<b>16465</b>	12	P28s	120	3200	150	13000	C-13	55	130	BDTH		35
		<b>FKF</b>	62	FKF	T17	<b>30535</b>	12	P28s	230	2950	750	9500	C-13	55	130	BDTH		35
		<b>T17</b>	62		T17	<b>30536</b>	12	P28s	240	2950	750	9500	C-13	55	130	BDTH		35
		<b>T28</b>	62		T28	<b>39731</b>	12	P28s	230	3000	300	11000	C-13	55	130	BDTH		35
		<b>T28</b>	62		T28	<b>39733</b>	12	P28s	240	3000	300	11000	C-13	55	130	BDTH		35
650	T-8	<b>FKB</b>	62	FKB	T13	<b>30541</b>	12	P28s	230	3000	750	13500	C-13	55	130	BDTH		35
		<b>T13</b>	62		T13	<b>30542</b>	12	P28s	240	3000	750	13500	C-13	55	130	BDTH		35
		<b>FKM</b>	62	FKM	CP51	<b>20323</b>	12	P28s	230	3200	200	16900	C-13	55	130	BDTH		35
		<b>CP51</b>	62		CP51	<b>20324</b>	12	P28s	240	3200	200	16900	C-13	55	130	BDTH		35
750	T-7	<b>BTN-Q750T7/CL/2P</b>	1, 62	BTN	—	<b>11953</b>	12	P28s	120	3050	500	17600	C-13D	55	121	BD30		35
		<b>BTP-Q750T7/4CL/2P</b>	1, 62	BTP	—	<b>11954</b>	12	P28s	120	3200	200	21000	C-13D	55	121	BD30		35
1000	T-7	<b>BTR-Q1000T7/4CL/2P</b>	1, 62	BTR	—	<b>11955</b>	12	P28s	120	3200	250	28500	C-13D	55	121	BD30		35
		G-11	<b>FKD</b>	62	FKD	T14	<b>20385</b>	12	P28s	230	3050	750	23000	C-13D	55	130	BDTH	
			<b>T14</b>	62		T14	<b>20388</b>	12	P28s	240	3050	750	23000	C-13D	55	130	BDTH	

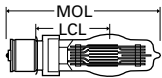


Fig. 36

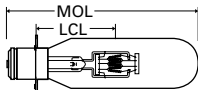


Fig. 37

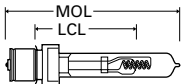


Fig. 38

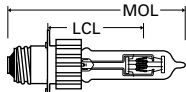


Fig. 39

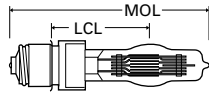


Fig. 40

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
1000	G-11 T-20	<b>FKN</b>	62	FKN	CP52	<b>30546</b>	12	P28s	240	3200	200	26000	C-13D	55	121	BDTH		36
		<b>DRC</b>		DRB	—	<b>29979</b>	24	P28s	120	3250	50	30000	C-13	55	146	BD30		37
		<b>DRS</b>		DRS	A1/58	<b>29947</b>	24	P28s	120	3325	25	28500	C-13D	55	146	BD30		37
		<b>DRB</b>		DRB	—	<b>29968</b>	24	P28s	120	3350	25	32000	C-13	55	146	BD30		37

Table 22: Halogen/Incandescent, Single-Ended, P28s Medium Prefocus (continued)

Table 23: Halogen, Single-Ended, P28s with CC-8 Coil																		
500	T-4	<b>EGE-Q500CL/P</b>	62	EGE	—	<b>39135</b>	12	P28s	120	2950	2000	10450	CC-8	89	152	Any		38
		<b>EGC-Q500/5CL/P</b>	62	EGC	—	<b>39134</b>	12	P28s	120	3150	500	12700	CC-8	89	152	Any		38
750	T-6	<b>EGG-Q750CL/P</b>	62	EGG	—	<b>39137</b>	12	P28s	120	3000	2000	15750	CC-8	89	152	Any		38
		<b>EGF-Q750/4CL/P</b>	62	EGF	—	<b>39136</b>	12	P28s	120	3200	300	20400	CC-8	89	152	Any		38
1000	T-6	<b>EGJ-Q1000/4/CL/P</b>	62	EGJ	—	<b>38853</b>	12	P28s	120	3200	300	27500	CC-8	89	152	Any		38
		<b>EGK-Q1000/4/P</b>	62	EGK	—	<b>38852</b>	12	P28s	120	3200	300	26500	CC-8	89	152	Any	Frosted	38
		<b>EGM-Q1000CL/P</b>	62	EGM	—	<b>39138</b>	12	P28s	120	3000	2000	21500	CC-8	89	152	Any		38

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Product Order Code	Std. Pack Qty.	Base Type	Design Volts	Design Color Temp (K)	Rated Life (hrs)	Initial Design Lumens	Fila-ment Type	LCL (mm)	MOL (mm)	Burning Position	Bulb Finish	Fig. No.
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**Table 23: Halogen, Single-Ended, P28s with CC-8 Coil (continued)**

1000	T-6	EWE	62	EWE	—	30534	12	P28s	240	3200	250	26500	CC-8	89	152	BDTH		38
	G-11	FKE	62	FKE	T15	30532	12	P28s	240	3050	750	23000	C-13	89	160	BDTH		36

**Table 24: Halogen, Single-Ended, P40 Mogul Prefocus**

1000	T-7	BVT-Q1000T7/ CL/MP	1, 62	BVT	—	12554	6	P40s	120	3050	500	24500	C-13D	100	184	BDTH		39
		BVV-Q1000T7/ 4CL/MP	1, 62	BVV	—	12553	6	P40s	120	3200	200	28500	C-13D	100	184	BDTH		39
	G-11	T16	62		T16	30521	12	P40s	240	3050	750	23000	C-13	87	180	BDTH		40
1500	T-8	DTA-Q1500T8/4CL	62	DTA	—	30522	6	P40s	120	3200	300	41000	C-13D	87	200	BDTH		39
2000	T-10	BVW-Q2000T10/ 4CL/MP	62	BVW	CP53	12555	6	P40s	120	3200	350	59000	C-13	100	215	BDTH		39
	G-13	CP53	62		CP53	20311	12	P40s	230	3200	400	54000	C-13	87	200	BDTH		40
		CP53	62		CP53	20312	12	P40s	240	3200	400	54000	C-13	87	200	BDTH		40

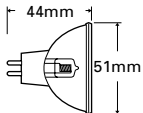


Fig. 41

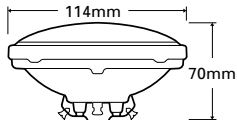


Fig. 42

Watts	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Volts	Product Order Code	Std. Pack Qty.	Base	Design Color Temp (K)	Rated Life (hrs)	Beam Descr.	Beam Spread <sup>5</sup> (degrees)	Beam Angle <sup>3</sup> (degrees)	Approx. CP <sup>6</sup>	Burning Position	Fig. No.
<b>Table 25: MR16 (2" Reflector)</b>																
50	<b>EFM BULK 50PK</b>	63	EFM		8	<b>21276</b>	50	GX5.3	3300	50					Any	41
75	<b>EFN</b>	63	EFN		12	<b>21277</b>	50	GX5.3	3350	50					Any	41
100	<b>EFP BULK 50PK</b>	63	EFP		12	<b>21278</b>	50	GX5.3	3350	50					Any	41
	<b>EXV</b>	63	EXV		12	<b>12003</b>	20	GX5.3	3350	50				3100	Any	41
150	<b>EFR</b>	63	EFR		15	<b>21279</b>	50	GX5.3	3350	50					Any	41
	<b>EZK</b>	63	EZK	—	120	<b>15477</b>	20	GY5.3	3200	200				3600	Any	41
250	<b>ENH</b>	63	ENH	—	120	<b>38686</b>	20	GY5.3	3250	175				11700	BDTH	41
	<b>EXX</b>	63	EXX	—	120	<b>11750</b>	20	GY5.3	3300	25				6750	Any	41
	<b>ELC</b>	63	ELC		24	<b>37462</b>	20	G5.3	3400	50					Any	41
	<b>ELC/500</b>	18, 63	ELC		24	<b>15377</b>	20	G5.3	3350	500					Any	41

Watts	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Volts	Product Order Code	Std. Pack Qty.	Base	Design Color Temp (K)	Rated Life (hrs)	Beam Descr.	Beam Spread <sup>5</sup> (degrees)	Beam Angle <sup>3</sup> (degrees)	Approx. CP <sup>6</sup>	Burning Position	Fig. No.
<b>Table 26: PAR36 (4.5" Reflector)</b>																
25	<b>25PAR36</b>	12			5.5	<b>14553</b>	12	Scr. Term.	3000	1000	VNSP		5	19700	Any	42
	<b>25PAR36NSP</b>	12	—	—	12	<b>14554</b>	12	Scr. Term.		2000	NSP		9	2600	Any	42
	<b>25PAR36WFL</b>	12	—	—	12	<b>14555</b>	12	Scr. Term.		2000	WFL	49 X 41	37 X 26	360	Any	42
	<b>25PAR36/VWFL</b>	12	—	—	12	<b>14556</b>	12	Scr. Term.		2000	VWFL		55	160	Any	42
30	<b>H4515</b>	12, 307	—	—	6.4	<b>15133</b>	12	Scr. Term.		100	VNSP	5.5 X 4		67000	Any	42
	<b>4515</b>	12	—	—	6.4	<b>24673</b>	12	Scr. Term.		100	VNSP	5 X 5		55000	Any	42
	<b>4405</b>	12	—	—	12.8	<b>24425</b>	12	Scr. Term.		100	VNSP	6 X 5		50000	Any	42
	<b>H4405</b>	12, 307	—	—	12.8	<b>15129</b>	12	Scr. Term.		100	VNSP	7 X 4		66000	Any	42
35	<b>35PAR36/H/SP5</b>	307	—	—	12	<b>19873</b>	12	Scr. Term.	3050	4000	VNSP		5	25000	Any	42
	<b>35PAR36/H/FL30</b>	307	—	—	12	<b>19877</b>	12	Scr. Term.	3050	4000	WFL		30	900	Any	42
	<b>35PAR36/H/SP8</b>	307	—	—	12	<b>19876</b>	12	Scr. Term.	3050	4000	NSP		8	20000	Any	42
37.5	<b>H7616</b>	307	—	—	12.8	<b>42838</b>	12	Scr. Term.		300	VNSP	7 X 4		70000	Any	42
50	<b>50PAR36/H/SP8</b>	307	—	—	12	<b>19879</b>	12	Scr. Term.	3050	4000	NSP		8	30000	Any	42
	<b>50PAR36/H/SP5</b>	307	—	—	12	<b>19878</b>	12	Scr. Term.	3050	4000	VNSP		5	35000	Any	42
	<b>50PAR36/H/FL30</b>	307	—	—	12	<b>19880</b>	12	Scr. Term.	3050	4000	WFL		30	1300	Any	42
	<b>50PAR36VNSP</b>	12	—	—	12	<b>12892</b>	12	Scr. Term.		2000	VNSP		6	19000	Any	42
	<b>50PAR36NSP</b>	12	—	—	12	<b>16540</b>	12	Scr. Term.		2000	NSP		10	11000	Any	42

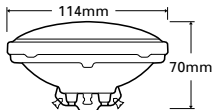


Fig. 42

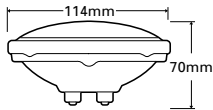


Fig. 43

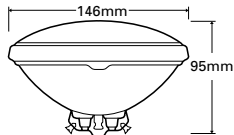


Fig. 44

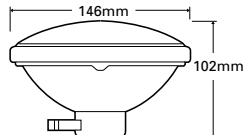


Fig. 45

Watts	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Volts	Product Order Code	Std. Pack Qty.	Base	Design Color Temp (K)	Rated Life (hrs)	Beam Descr.	Beam Spread <sup>5</sup> (degrees)	Beam Angle <sup>3</sup> (degrees)	Approx. CP <sup>6</sup>	Burning Position	Fig. No.
<b>Table 26: PAR36 (4.5" Reflector) (continued)</b>																
50	<b>50PAR36WFL</b>	12	—	—	12	<b>16541</b>	12	Scr. Term.		2000	WFL	48 X 41	36 X 28	900	Any	42
	<b>50PAR36WFL/4</b>	12	—	—	12	<b>11468</b>	12	Scr. Term.		4000	WFL	48 X 41	36 X 28	720	Any	42
	<b>50PAR36VWFL</b>		—	—	12	<b>16542</b>	12	Scr. Term.		2000	VWFL		55	600	Any	42
	<b>H7604</b>	307	—	—	12.8	<b>43576</b>	12	Scr. Term.		100	VNSP	7 X 5		100000	Any	42
	<b>4505</b>		—	—	28	<b>24640</b>	12	Scr. Term.		400	VNSP	11 X 5		45000	Any	42
100	<b>4509</b>		—	—	13	<b>24650</b>	12	Scr. Term.		25	VNSP	12 X 6		110000	Any	42
	<b>4509X</b>	12	—	—	13	<b>41503</b>	12	Scr. Term.		25	VNSP	12 X 6		110000	Any	42
	<b>4595</b>		—	—	28	<b>24892</b>	12	Scr. Term.		300	VNSP	14 X 6		60000	Any	42
	<b>4591</b>		—	—	28	<b>24882</b>	12	Scr. Term.		25	VNSP	12 X 6		90000	Any	42
	<b>4594</b>		—	—	28	<b>24891</b>	12	Scr. Term.		300	VNSP	13 X 7		70000	Any	42
650	<b>DWE-Q650PAR36/1</b>	63	DWE	—	120	<b>41667</b>	12	Scr. Term.	3200	100	MFL		40 X 30	24000	H15	42
	<b>FAY-Q650PAR36/3D</b>	63	FAY	—	120	<b>41668</b>	12	Ferrule	5000	30	SP		25 X 15	36000	H15	43



Watts	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Volts	Product Order Code	Std. Pack Qty.	Base	Design Color Temp (K)	Rated Life (hrs)	Beam Descr.	Beam Spread <sup>5</sup> (degrees)	Beam Angle <sup>3</sup> (degrees)	Approx. CP <sup>6</sup>	Burning Position	Fig. No.
<b>Table 26: PAR36 (4.5" Reflector) (continued)</b>																
650	<b>FBE-Q650PAR36/5D</b>	63	FBE	—	120	<b>41669</b>	12	Scr. Term.	5000	30	SP		25 X 15	36000	H15	42
	<b>FBO-Q650PAR36/5</b>	63	FBO	—	120	<b>41671</b>	12	Scr. Term.	3400	30	SP		25 X 15	67000	H15	42
	<b>FCW-Q650PAR36/6</b>	63	FCW	—	120	<b>41672</b>	12	Ferrule	3200	100	FL		60 X 55	9000	H15	43
	<b>FCX-Q650PAR36/7</b>	63	FCX	—	120	<b>41673</b>	12	Ferrule	3200	100	MFL		40 X 30	24000	H15	43
<b>Table 27: PAR46 (5.75" Reflector)</b>																
25	<b>25PAR46</b>	12	—	—	5.5	<b>14562</b>	12	Scr. Term.		1000	VNSP	5.5 X 4.5		55000	Any	44
30	<b>4535</b>	12	—	—	6.4	<b>24735</b>	12	Scr. Term.		100	VNSP	5.5 X 4		95000	Any	44
	<b>4435</b>	12	—	—	12.8	<b>24577</b>	12	Scr. Term.		100	VNSP	5 X 5		75000	Any	44
35	<b>4436</b>		—	—	12.8	<b>24582</b>	12	Scr. Term.		300	VNSP	10 X 4		60000	Any	44
50	<b>H7635</b>	307	—	—	12.8	<b>43591</b>	12	Scr. Term.		100	VNSP	6.5 X 4		160000	Any	44
150	<b>150PAR46/1</b>	64	—	—	32	<b>19512</b>	12	Scr. Term.		800	VNSP	9 X 9		100000	Any	44
	<b>150PAR46/3MFL</b>	64	—	—	125	<b>41968</b>	12	MSP	2750	2000	MFL	39 X 25	26 X 13	8000	Any	45
200	<b>200PAR46/3NSP</b>	64	—	—	120	<b>20115</b>	12	MSP	2750	2000	NSP	23 X 19	12 X 8	31000	Any	45
	<b>200PAR46/3NSP</b>	64	—	—	130	<b>20117</b>	12	MSP	2750	2000	NSP	23 X 19	12 X 8	31000	Any	45
	<b>200PAR46/3MFL</b>	64	—	—	120	<b>20138</b>	12	MSP	2750	2000	MFL	40 X 24	27 X 13	11500	Any	45
	<b>200PAR46/3MFL</b>	64	—	—	130	<b>20140</b>	12	MSP	2750	2000	MFL	40 X 24	12 X 13	11500	Any	45
250	<b>4553</b>		—	—	28	<b>24799</b>	12	Scr. Term.		25	VNSP	11 X 12		300000	Any	44

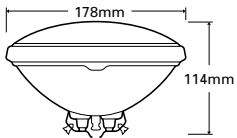


Fig. 46

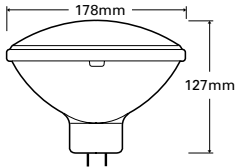


Fig. 47

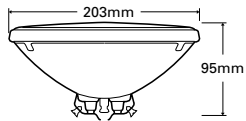


Fig. 48

Watts	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Volts	Product Order Code	Std. Pack Qty.	Base	Design Color Temp (K)	Rated Life (hrs)	Beam Descr.	Beam Spread <sup>5</sup> (degrees)	Beam Angle <sup>3</sup> (degrees)	Approx. CP <sup>6</sup>	Burning Position	Fig. No.
<b>Table 28: PAR56 (7" Reflector)</b>																
100	4545		—	—	12	24768	12	Scr. Term.		100	VNSP	9 X 5		225000	Any	46
	4543		—	—	12.5	24764	12	Scr. Term.		50	VNSP	9 X 5		225000	Any	46
120	120PAR56/VNSP	64	—	—	12	19023	12	Scr. Term.		2000	VNSP	15 X 10	8 X 6	60000	Any	46
	120PAR56/MFL	64	—	—	12	19024	12	Scr. Term.		2000	MFL	29 X 15	18 X 9	19000	Any	46
	120PAR56/WFL	64	—	—	12	19025	12	Scr. Term.		2000	WFL	50 X 25	35 X 18	5625	Any	46
200	200PAR		—	—	30	20122	12	Scr. Term.		350	VNSP	9 X 9		230000	Any	46
	200PAR56/MFL	64	—	—	120	49889	12	MEP	2750	2000	MFL	34 X 22	22 X 13	15000	Any	47
240	240PAR56/VNSP		—	—	12	20575	12	Scr. Term.		2000	VNSP	17 X 10	9 X 6	140000	Any	46
	240PAR56/MFL		—	—	12	20576	12	Scr. Term.		2000	MFL	28 X 15	19 X 8	46000	Any	46
	240PAR56/WFL		—	—	12	20577	12	Scr. Term.		2000	WFL	50 x 27	35 x 18	13000	Any	46

Watts	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Volts	Product Order Code	Std. Pack Qty.	Base	Design Color Temp (K)	Rated Life (hrs)	Beam Descr.	Beam Spread <sup>5</sup> (degrees)	Beam Angle <sup>3</sup> (degrees)	Approx. CP <sup>6</sup>	Burning Position	Fig. No.
<b>Table 28: PAR56 (7" Reflector) (continued)</b>																
300	<b>300PAR56/NSP</b>	64	—	—	120	<b>20803</b>	12	MEP	2750	2000	NSP	20 X 14	10 X 8	68000	Any	47
	<b>300PAR56/MFL</b>	64	—	—	120	<b>20836</b>	12	MEP	2750	2000	MFL	34 X 19	23 X 11	24000	Any	47
	<b>300PAR56/WFL</b>	64	—	—	120	<b>20849</b>	12	MEP	2750	2000	WFL	57 X 27	37 X 18	11000	Any	47
	<b>300PAR/WFL</b>	64	—	—	130	<b>20851</b>	12	MEP	2750	2000	WFL	57 X 27	37 X 18	11000	Any	47
	<b>300PAR/NSP</b>	64	—	—	230	<b>20853</b>	12	MEP		2000	NSP			40000	Any	47
	<b>300PAR/MFL</b>	64			230	<b>20852</b>	12	MEP		2000	MFL			30000	Any	47
	<b>300PAR/WFL</b>	64			230	<b>20854</b>	12	MEP		2000	WFL			10000	Any	47
	<b>300PAR/MFL</b>	64			240	<b>18677</b>	12	MEP		2000	MFL			30000	Any	47
	<b>300PAR/NSP</b>	64			240	<b>18676</b>	12	MEP		2000	NSP			40000	Any	47
	<b>300PAR/WFL</b>	64			240	<b>18678</b>	12	MEP		2000	WFL			10000	Any	47
450	<b>4541</b>		—	—	28	<b>24756</b>	12	Scr. Term.		25	NSP	15 X 11		470000	Any	46
500	<b>Q500PAR56NSP</b>	63	—	—	120	<b>43494</b>	6	MEP	2950	4000	NSP	32 X 15	13 X 8	96000	Any	47
	<b>Q500PAR56MFL</b>	63	—	—	120	<b>43495</b>	6	MEP	2950	4000	MFL	42 X 20	26 X 10	43000	Any	47
	<b>Q500PAR50WFL</b>	63	—	—	120	<b>43496</b>	6	MEP	2950	4000	WFL	66 X 34	44 X 20	19000	Any	47
<b>Table 29: PAR64 (8" Reflector)</b>																
120	<b>120PAR</b>	12	—	—	6	<b>39395</b>	12	Scr. Term.		3000	VNSP	9 X 5		180000	Any	48
250	<b>4552</b>		—	—	28	<b>40576</b>	12	Scr. Term.		25	VNSP	8 X 7		50000	Any	48

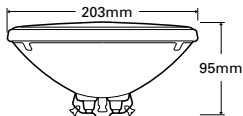


Fig. 48

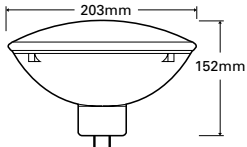


Fig. 49

Watts	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Volts	Product Order Code	Std. Pack Qty.	Base	Design Color Temp (K)	Rated Life (hrs)	Beam Descr.	Beam Spread <sup>5</sup> (degrees)	Beam Angle <sup>3</sup> (degrees)	Approx. CP <sup>6</sup>	Burning Position	Fig. No.
<b>Table 29: PAR64 (8" Reflector) (continued)</b>																
600	<b>4559</b>		—	—	28	<b>40578</b>	12	Scr. Term.		25	VNSP	11 X 12		600000	Any	48
	<b>Q4559</b>	63	—	—	28	<b>40579</b>	12	Scr. Term.		100	VNSP	12 X 8		600000	Any	48
	<b>Q4559X</b>	63	—	—	28	<b>42552</b>	12	Scr. Term.		100	VNSP	11 X 7.5		765000	Any	48
500	<b>500PAR64/NSP</b>	64	—	—	120	<b>39406</b>	12	EMEP	2800	2000	NSP	19 X 14	12 X 7	110000	Any	49
	<b>500PAR64/MFL</b>	64	—	—	120	<b>39409</b>	12	EMEP	2800	2000	MFL	35 X 19	23 X 11	37000	Any	49
	<b>500PAR64/WFL</b>	64	—	—	120	<b>39412</b>	12	EMEP	2800	2000	WFL	55 X 32	42 X 20	13000	Any	49
	<b>500/PAR64/MFL</b>	64	—	—	230	<b>39411</b>	12	EMEP	2700	2000	WFL	32 X 19	21 X 10		Any	49
	<b>500/PAR64/WFL</b>	64	—	—	230	<b>39414</b>	12	EMEP	2700	2000	WFL	55 X 32	42 X 20		Any	49
	<b>Q500PAR64/VNSP</b>	63		CP86	230	<b>25492</b>	6	EMEP	3200	300	VNSP	16 X 13	10 X 7	240000	Any	49
	<b>Q500PAR64/VNSP</b>	63		CP86	240	<b>25493</b>	6	EMEP	3200	300	VNSP	16 X 13	10 X 7	240000	Any	49
	<b>Q500PAR64/NSP</b>	63		CP87	230	<b>25504</b>	6	EMEP	3200	300	NSP	19 X 16	11 X 9	140000	Any	49

Watts	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Volts	Product Order Code	Std. Pack Qty.	Base	Design Color Temp (K)	Rated Life (hrs)	Beam Descr.	Beam Spread <sup>5</sup> (degrees)	Beam Angle <sup>3</sup> (degrees)	Approx. CP <sup>6</sup>	Burning Position	Fig. No.
<b>Table 29: PAR64 (8" Reflector) (continued)</b>																
500	<b>Q500PAR64/NSP</b>	63		CP87	240	<b>25507</b>	6	EMEP	3200	300	NSP	19 X 16	11 X 9	140000	Any	49
	<b>Q500PAR64/MFL</b>	63		CP88	230	<b>25513</b>	6	EMEP	3200	300	MFL	32 X 19	21 X 10	65000	Any	49
	<b>Q500PAR64/MFL</b>	63		CP88	240	<b>25520</b>	6	EMEP	3200	300	MFL	32 X 19	21 X 10	65000	Any	49
1000	<b>Q1000PAR64NSP</b>	63	—	—	120	<b>43497</b>	6	EMEP	3000	4000	NSP	31 X 14	15 X 8	200000	Any	49
	<b>Q1000PAR64MFL</b>	63	—	—	120	<b>43498</b>	6	EMEP	3000	4000	MFL	45 X 22	28 X 12	80000	Any	49
	<b>Q1000PAR64WFL</b>	63	—	—	120	<b>43499</b>	6	EMEP	3000	4000	WFL	72 X 45	48 X 24	33000	Any	49
	<b>FFN-Q1000PAR64/1</b>	63	FFN		120	<b>13233</b>	6	EMEP	3200	800	VNSP	24 X 10	12 X 6	400000	Any	49
	<b>FFP-Q1000PAR64/2</b>	63	FFP		120	<b>13229</b>	6	EMEP	3200	800	NSP	26 X 14	14 X 7	330000	Any	49
	<b>FFR-Q1000PAR64/5</b>	63	FFR		120	<b>13228</b>	6	EMEP	3200	800	MFL	44 X 21	28 X 12	125000	Any	49
	<b>FFS-Q1000PAR64/6</b>	63	FFS		120	<b>13227</b>	6	EMEP	3200	800	WFL	71 X 45	48 X 24	40000	Any	49
	<b>FGM-Q1000PAR64/3D</b>	63	FGM		120	<b>13226</b>	6	EMEP	5200	200	NSP	24 X 12	13 X 6	200000	Any	49
	<b>FGN-Q1000PAR64/7D</b>	63	FGN		120	<b>13225</b>	6	EMEP	5200	200	MFL	43 X 20	27 X 11	70000	Any	49
	<b>EXC-Q1MPAR64CP60</b>	63	EXC	CP60	230	<b>93409</b>	6	EMEP	3200	300	VNSP	20 X 17	12 X 9	352000	Any	49
	<b>EXC-Q1MPAR64CP60</b>	63	EXC	CP60	240	<b>10925</b>	6	EMEP	3200	300	VNSP	20 X 17	12 X 9	352000	Any	49
	<b>EXD-Q1MPAR64CP61</b>	63	EXD	CP61	230	<b>10928</b>	6	EMEP	3200	300	NSP	22 X 20	14 X 10	297000	Any	49
	<b>EXD-Q1MPAR64CP61</b>	63	EXD	CP61	240	<b>10929</b>	6	EMEP	3200	300	NSP	22 X 20	14 X 10	297000	Any	49
	<b>EXE-Q1MPAR64CP62</b>	63	EXE	CP62	230	<b>10930</b>	6	EMEP	3200	300	MFL	38 X 20	24 X 11	138000	Any	49

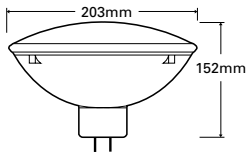
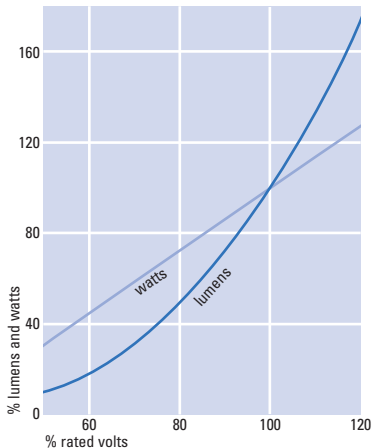


Fig. 49

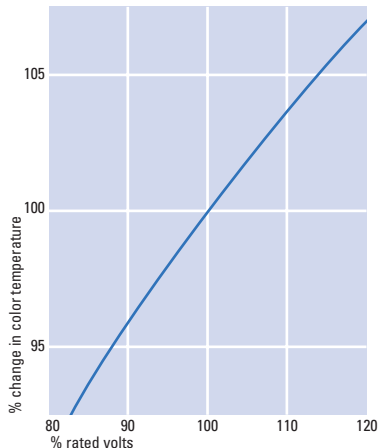
Watts	GE Description	Footnotes/ Safety Notices	ANSI Code	LIF Code	Volts	Product Order Code	Std. Pack Qty.	Base	Design Color Temp (K)	Rated Life (hrs)	Beam Descr.	Beam Spread <sup>5</sup> (degrees)	Beam Angle <sup>3</sup> (degrees)	Approx. CP <sup>6</sup>	Burning Position	Fig. No.
<b>Table 29: PAR64 (8" Reflector) (continued)</b>																
1000	<b>EXE-Q1MPAR64CP62</b>	63	EXE	CP62	240	<b>10931</b>	6	EMEP	3200	300	MFL	38 X 20	24 X 11	138000	Any	49
	<b>EXG/PAR64/WFL</b>	63	EXG		230	<b>35482</b>	6	EMEP	3200	300	WFL	73 X 36	57 X 21	38000	Any	49
	<b>EXG/PAR64/WFL</b>	63	EXG		240	<b>35483</b>	6	EMEP	3200	300	WFL	73 X 36	57 X 21	38000	Any	49
	<b>CP95</b>	63		CP95	230	<b>30277</b>	6	EMEP	3200	300		125 X 95	70 X 70	15000	Any	49
	<b>CP95</b>	63		CP95	240	<b>30278</b>	6	EMEP	3200	300		125 X 95	70 X 70	15000	Any	49
1200	<b>GFC-Q1200PAR64/1</b>	63	GFC	—	120	<b>34808</b>	6	EMEP	3200	400	VNSP	14 x 16	8 x 10	540000	Any	49
	<b>GFB-Q1200PAR64/2</b>	63	GFB	—	120	<b>34810</b>	6	EMEP	3200	400	NSP	16 X 18	8 X 10	450000	Any	49
	<b>GFA-Q1200PAR64/5</b>	63	GFA	—	120	<b>34812</b>	6	EMEP	3200	400	MFL	22 X 36	13 X 24	160000	Any	49

# QUARTZLINE® HALOGEN LAMP PERFORMANCE

## Variation of Light Output and Wattage with Applied Voltage for a Typical Studio Lamp

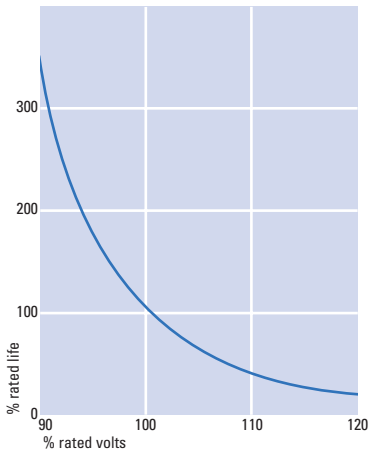


## Color Temperature Variation with Voltage for a Typical Studio Lamp



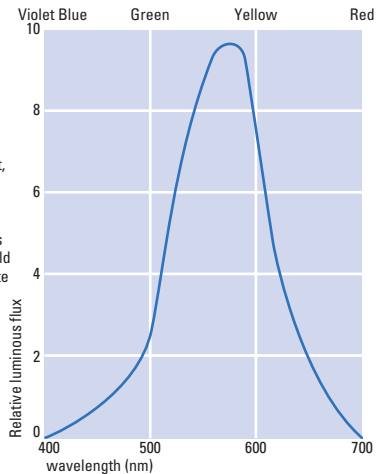
## QUARTZLINE® HALOGEN LAMP PERFORMANCE (CONTINUED)

### Typical Life Variation Against Operation



### Spectral Distribution of Luminous Flux (Lumens) for Typical Theater and Studio

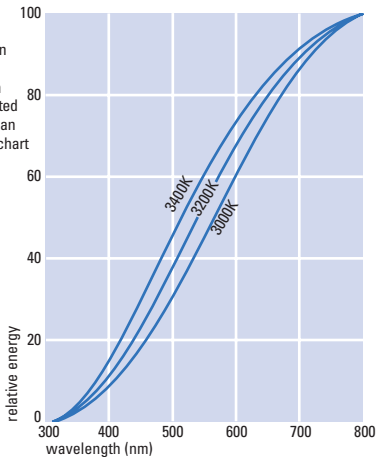
Calculations of lamp life achievement taken from this graph should be considered strictly theoretical as the life factor is considerably influenced by frequency of switching, environment, vibration, handling, cleaning, etc. This graph is based on the average achievement of numerous lamp tests, and thus should be used as an approximate guide to performance.





## Total Spectral Energy Distribution of Typical Studio Lamp

Spectral energy distribution can be shown in absolute terms whereas radiation in terms of visible light is related to the response of the human eye. (Spectral distribution chart on previous page).



## Operating Temperature of Tungsten Halogen Studio Lamps

### Studio Lamps

The following maximum and minimum temperatures are suggested for optimum life. Operation outside these figures will not necessarily cause immediate failure but will affect life adversely to an increasing extent.

#### Seal: 500°C Maximum

Above this figure the sealing foil oxidises at a rate increasing with temperature and is frequently the cause of short life due to seal failure.

#### Bulb: 250° – 800°C

Outside this range the halogen cycle becomes less efficient and blackening may occur. Temperatures above 1200°C will cause the bulb to soften.

#### Pins: 350°C Maximum

Above this figure the plating on the pins may lose adhesion and the contact will deteriorate. Such

## QUARTZLINE® HALOGEN LAMP PERFORMANCE (CONTINUED)

deterioration may form local hot spots which rapidly worsen and may result in arcing and irreparable damage to both lamp and holder. Should signs of this be evident on removal of a failed lamp, it is important

that a good contact is restored by replacing the lampholder before the next lamp is fitted. Otherwise the new lamp will rapidly fail in a similar manner.

### Turn On Time of Studio Lamps

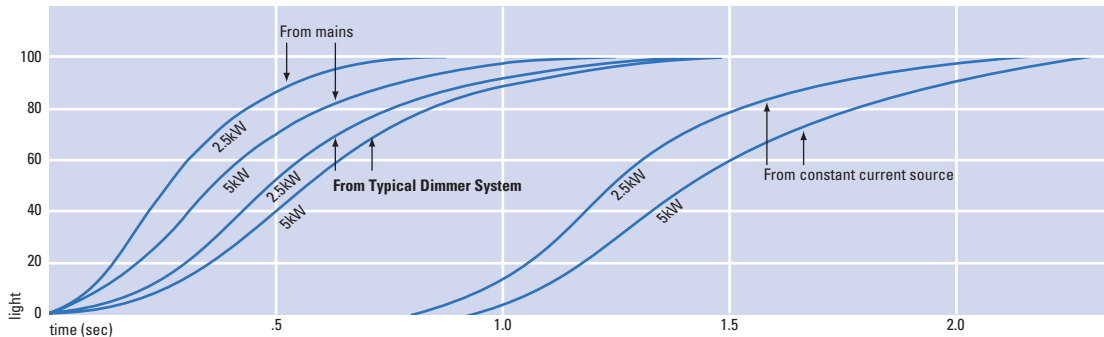




Fig. 50

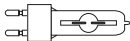


Fig. 51



Fig. 75



Fig. 76

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	Product Code	Std. Pack Qty.	Base	Volts	Initial Design Lumens	Design Color Temp (K)	Color CRI Index	CIE Color x y	Arc Length (mm)	Rated Life (hrs)	LCL (mm)	MOL (mm)	Burn Position	Fig. No.
<b>Table 30: Discharge-CSR/CSD (Daylight) Metal Halide, Single-Ended Cold Start</b>																	
250	T7	<b>CSD250/2/SE</b>	14, 63	<b>27817</b>	10	GY9.5	90	18000	8500	65+	.289 .305	5	2000			Any	50
575	T9	<b>CSR575/2/T/SE</b>	14, 63	<b>49492</b>	10	GX9.5	97	49000	7200	80+	.302 .320	7	1000	65	125	Any	50
		<b>CSR575/2/SE</b>	14, 63	<b>15378</b>	10	GX9.5	97	49000	7200	80+	.302 .320	7	1000	65	125	Any	50
700	T9	<b>CSR700/2/SE</b>	14, 63	<b>49491</b>	10	G22	70	55000	7200	80+	.302 .320	8	1000	75	155	Any	51
1200	T12	<b>CSR1200/2/SE</b>	14, 63	<b>49490</b>	6	G22/30X53	100	110000	7200	85+	.302 .320	10	800	85	175	Any	51
<b>Table 31: Discharge-CSR (Daylight) Metal Halide, Single-Ended Short Arc</b>																	
700	G7	<b>CSR700/SA</b>	14, 63	<b>15380</b>	6	GY9.5	70	58000	5600	75+	.330 .342	4	500	39	85	Any	75
1200	G9	<b>CSR1200/SA</b>	14, 18, 63	<b>21849</b>	6	GY22	100	100000	5800	80+	.326 .330	7	750	59	135	Any	76
1800	G9	<b>CSR2000/SA</b>	14, 18, 63	<b>21801</b>	4	GY22	100	155000	6000	80+	.320 .330	7	750	59	135	Any	76
<b>Table 32: Discharge-CSR (Daylight) Metal Halide, Single-Ended Hot Restrike</b>																	
125	T5	<b>CSR125/SE/HR</b>	14, 63	<b>48461</b>	10	GZX9.5	80	9400	5600	90+	.323 .328	4	200	39	75	Any	50
200	T6	<b>CSR200/SE/HR</b>	14, 63	<b>48462</b>	10	GZY9.5	70	15000	5600	90+	.323 .328	5	200	39	80	Any	50
400	T6	<b>CSR400/SE/HR</b>	14, 18, 63	<b>21853</b>	10	GZZ9.5	70	32000	6000	90+	.323 .328	6	750	60	110	Any	50



Fig. 51



Fig. 52



Fig. 53



Fig. 54



Fig. 55



Fig. 56



Fig. 57



Fig. 58



Fig. 59

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	Product Code	Std. Pack Qty.	Base	Volts	Initial Design Lumens	Design Color Temp (K)	Color CRI Index	CIE Color x y	Arc Length (mm)	Rated Life (hrs)	LCL (mm)	MOL (mm)	Burn Position	Fig. No.
<b>Table 32: Discharge-CSR (Daylight) Metal Halide, Single-Ended Hot Restrike (continued)</b>																	
575	T9.5	CSR575/SE/HR	14, 63	48463	10	G22	95	48000	6000	90+	.323 .328	7	750	70	145	Any	51
1200	T13	CSR1200/SE/HR	14, 63	48464	6	G38	100	110000	6000	90+	.323 .328	11	750	107	200	Any	52
2500	T19.5	CSR2500/SE/HR	14, 63	48465	6	G38	100	220000	6000	90+	.323 .328	14	500	127	240	Any	53
4000	T24	CSR4000/SE/HR	14, 63	48466	6	G38	200	380000	6000	90+	.323 .328	20	500	142	260	Any	53
6000	T26.5	CSR6000/SE/HR	14, 63	48467	6	G38	130	540000	6000	90+	.323 .328	24	300	210	360	Any	54
12000	T32	CSR12000/SE/HR	14, 63	48468	4	G38	160	1100000	6000	90+	.323 .328	28	250	255	450	Any	54
18000	T32	CSR18000/SE/HR	14, 63	22496	1	G51	225	1650000	6000	90+	.323 .328	35	250	260	460	Any	51

<b>Table 33: Discharge-CSR (Daylight) Metal Halide, Double-Ended Hot Restrike</b>																	
200	T4.5	CSR200/DE	14, 63	48450	10	X515	80	16000	6000	90+	.323 .325	8	300		75	H15	55
400	T6.5	CSR400/S/DE	14, 63	22478	10	SFc 10-4 SI/M4	49	26000	7500	80+	.323 .325	3	750		135	Any	56
575	T6.5	CSR575/DE	14, 63	48451	10	SFc 10-4 SI/M4	95	49000	6000	90+	.323 .325	7	750		145	Any	56

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	Product Code	Std. Pack Qty.	Base	Volts	Initial Design Lumens	Design Color Temp (K)	Color CRI Index	CIE Color x y	Arc Length (mm)	Rated Life (hrs)	LCL (mm)	MOL (mm)	Burn Position	Fig. No.
<b>Table 33: Discharge-CSR (Daylight) Metal Halide, Double-Ended Hot Restrike (continued)</b>																	
700	T6.5	CSR700/S/DE	14, 63	22493	10	SFc 10-4 SI/M4	70	59000	6000	85+	.323 .325	4	750		135	Any	56
1200	T6.5	CSR1200/S/DE	14, 63	22494	10	SFc 10-4 SI/M4	100	110000	6000	90+	.323 .325	7	500		145	H15	56
	T8.5	CSR1200/DE	14, 63	48453	6	SFc 15.5-6 SI/M6	100	110000	6000	90+	.323 .325	10	750		220	Any	56
2500	T9.5	CSR2500/DE	14, 63	48454	6	Sfa21-12	115	240000	6000	90+	.323 .325	14	500		355	Any	59
4000	T12	CSR4000/DE	14, 63	48455	6	Sfa21-12	200	410000	6000	90+	.323 .325	34	500		405	H15	59
6000	T16	CSR6000/DE	14, 63	48456	6	25x51 Cyl 165mm	125	570000	6000	90+	.323 .325	24	300		450	H15	57
12000	T22.5	CSR12000/DE	14, 63	48457	4	30x70 Cyl 165mm	160	1100000	6000	90+	.323 .325	32	300		470	H15	57
18000	T28	CSR18000/DE	14, 63	45459	4	30x70 Cyl 165mm	225	1650000	6000	90+	.323 .325	45	300		500	H15	58
		CSR18000/S/DE	14, 63	48460	4	30x70 Cyl 165mm	225	1650000	6000	90+	.323 .325	45	300		470	H15	58
<b>Table 34*: CSR (Daylight) Metal Halide, Single-Ended Hot Restrike UV-Control</b>																	
575	T9.5	CSR575/SE/HR/UV-C	14, 63	40460	10	G22	95	48000	5800	90+	.323 .328	7	750	70	145	Any	51
800	T9.5	CSR800/SE/HR/UV-C	14, 63	22495	10	G22	95	64000	5800	90+	.325 .327	7	1000	70	145	Any	51
1200	T13	CSR1200/SE/HR/UV-C	14, 63	27764	6	G38	100	110000	5800	90+	.323 .328	11	750	107	200	Any	52
2500	T19.5	CSR2500/SE/HR/UV-C	14, 63	40482	6	G38	100	220000	5800	90+	.323 .328	14	500	127	240	Any	53
4000	T24	CSR4000/SE/HR/UV-C	14, 63	27765	6	G38	200	380000	5800	90+	.323 .328	20	500	142	260	Any	53
6000	T26.5	CSR6000/SE/HR/UV-C	14, 63	40492	6	G38	130	540000	5800	90+	.323 .328	24	300	210	360	Any	54

\* See Spectral Distribution Chart - Page 68

Lamp stocking color code: EUROPE ONLY, EUROPE and NORTH AMERICA, NORTH AMERICA ONLY



Fig. 60

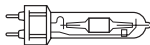


Fig. 61

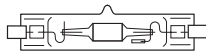


Fig. 62

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	Product Code	Std. Pack Qty.	Base	Ballast Type ANSI	Initial Design Lumens	Design Color Temp (K)	Color CRI Index	Arc Length (mm)	Rated Life (hrs)	LCL (mm)	MOL (mm)	Burn Position	Fig. No.
<b>Table 35: Discharge-ConstantColor® CMH® Ceramic Metal Halide, Single-Ended Miniature</b>																
20	T4.5	<b>CMH20/TC/U/830/G8.5</b>	14, 63	<b>92696</b>	12	G8.5	M156	1700	3000	81		7500V/ 9000H	51	86	Any	60
		<b>CMH20/TC/UVC/U/830/G8.5</b>	14, 63	<b>92079</b>	12	G8.5		1700	3000	81		7500V/ 9000H	51	86	Any	60
35	T4.5	<b>CMH35/TC/UVC/U/830/G8.5</b>	14, 63	<b>38697</b>	12	G8.5		3400	3000	82		10000	51	86	Any	60
39	T4.5	<b>CMH39/TC/U/830/G8.5</b>	14, 63	<b>90352</b>	12	G8.5	M130	3400	3000	82		10000	51	86	Any	60
		<b>CMH39/TC/U/942/G8.5</b>	14, 63	<b>29698</b>	12	G8.5	M130	3150	4200	88		12000	51	86	Any	60
70	T4.5	<b>CMH70/TC/U/830/G8.5</b>	14, 63	<b>92585</b>	12	G8.5	M98, 139	6200	3000	83		9000	51	86	Any	60
		<b>CMH70/TC/UVC/U/830/G8.5</b>	14, 63	<b>38700</b>	12	G8.5		6200	3000	83		9000	51	86	Any	60
		<b>CMH70/TC/U/942/G8.5</b>	14, 63	<b>29701</b>	12	G8.5	M98, 139	6000	4200	90		15000	51	86	Any	60
<b>Table 36: Discharge-ConstantColor® CMH® Ceramic Metal Halide, Single-Ended G12</b>																
20	T6	<b>CMH20/T/U/830/G12</b>	14, 63	<b>29703</b>	12	G8.5	M156	1700	3000	81		7500V/ 9000H	55	90	Any	61
35	T6	<b>CMH35/T/UVC/U/830/G12</b>	14, 63	<b>38696</b>	12	G12		3400	3000	82		10000	55	90	Any	61
39	T6	<b>CMH39/T/U/830/G12</b>	14, 63	<b>20153</b>	12	G12	M130	3400	3000	82		10000	55	90	Any	61

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	Product Code	Std. Pack Qty.	Base	Ballast Type ANSI	Initial Design Lumens	Design Color Temp (K)	Color CRI Index	Arc Length (mm)	Rated Life (hrs)	LCL (mm)	MOL (mm)	Burn Position	Fig. No.
<b>Table 36: Discharge-ConstantColor® CMH® Ceramic Metal Halide, Single-Ended G12 (continued)</b>																
39	T6	<b>CMH39/T/U/942/G12</b>	14, 63	<b>29696</b>	12	G12	M130	3150	4200	88		12000	55	90	Any	61
70	T6	<b>CMH70/T/U/830/G12</b>	14, 63	<b>20016</b>	12	G12	M85, 98, 139	6200	3000	83		15000	55	90	Any	61
		<b>CMH70/T/U/942/G12</b>	14, 63	<b>20023</b>	12	G12	M85, 98, 139	6000	4200	93		15000	55	90	Any	61
		<b>CMH70/T/UVC/U/830/G12</b>	14, 63	<b>36844</b>	12	G12		6200	3000	83		15000	55	90	Any	61
		<b>CMH70/T/UVC/U/942/G12</b>	14, 63	<b>38694</b>	12	G12		6000	4200	93		15000	55	90	Any	61
150	T6	<b>CMH150/T/U/830/G12</b>	14, 63	<b>20017</b>	12	G12	M81, 102, 142	14000	3000	82		12000	55	100	Any	61
		<b>CMH150/T/U/942/G12</b>	14, 63	<b>20018</b>	12	G12	M81, 102, 142	13000	4200	94		12000	55	100	Any	61
		<b>CMH150/T/UVC/U/830/G12</b>	14, 63	<b>36863</b>	12	G12		14000	3000	82		12000	55	100	Any	61
		<b>CMH150/T/UVC/U/942/G12</b>	14, 63	<b>38694</b>	12	G12		13000	4200	94		12000	55	100	Any	61
<b>Table 37: Discharge-ConstantColor® CMH® Ceramic Metal Halide, Double-Ended</b>																
70	T6	<b>CMH70/TD/830/Rx7s</b>	14, 63	<b>92587</b>	12	Rx7s	M85, 98, 139	7000	3000	81		15000	57	114	H45	62
		<b>CMH70/TD/942/Rx7s</b>	14, 63	<b>92588</b>	12	Rx7s	M85, 98, 139	6200	4200	88		15000	57	114	H45	62
		<b>CMH70/TD/UVC/830/Rx7s</b>	14, 63	<b>36910</b>	12	Rx7s		7000	3000	81		15000	57	114	H45	62
		<b>CMH70/TD/UVC/942/Rx7s</b>	14, 63	<b>38698</b>	12	Rx7s		6200	4200	88		15000	57	114	H45	62
150	T7	<b>CMH150/TD/830/Rx7s</b>	14, 63	<b>92589</b>	12	Rx7s	M81, 102, 142	14000	3000	80		15000	67	136	H45	62
		<b>CMH150/TD/942/Rx7s</b>	14, 63	<b>92590</b>	12	Rx7s	M81, 102, 142	12500	4200	93		15000	67	136	H45	62

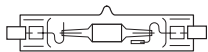


Fig. 62

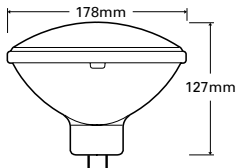


Fig. 47

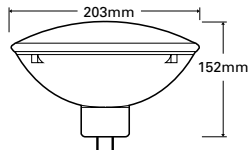


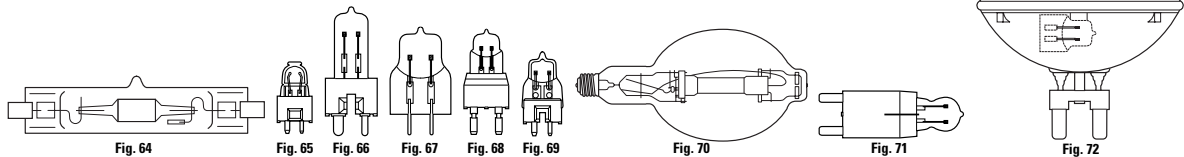
Fig. 49

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	Product Code	Std. Pack Qty.	Base	Ballast Type ANSI	Initial Design Lumens	Design Color Temp (K)	Color CRI Index	Arc Length (mm)	Rated Life (hrs)	LCL (mm)	MOL (mm)	Burn Position	Fig. No.
<b>Table 37: Discharge-ConstantColor® CMH® Ceramic Metal Halide, Double-Ended (continued)</b>																
150	T7	CMH150/TD/UVC/830/Rx7s	14, 63	36912	12	Rx7s		14500	3000	80		15000	67	136	H45	62
		CMH150/TD/UVC/942/Rx7s	14, 63	38692	12	Rx7s		12500	4200	93		15000	67	136	H45	62

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	Product Code	Std. Pack Qty.	Base	Ballast Type ANSI	Approx. CP <sup>6</sup>	Design Color Temp (K)	Color CRI Index	Beam Descr.	Design Life (hrs)	Beam Spread <sup>5</sup> (degrees)	Beam Angle <sup>3</sup> (degrees)	Burn Position	Fig. No.
<b>Table 38: Discharge-ConstantColor® CMH® Ceramic Metal Halide, PAR56 Reflector</b>																
150	PAR56	CMH150/PAR56/830/Gx16d/SP	14, 18, 63	22993	6	Gx16d	M81,102,142	80000	3000	80+	SP	5000	68 X 63	14 X 19	Any	47
		CMH150/PAR56/830/Gx16d/MFL	14, 18, 63	22994	6	Gx16d	M81,102,142	60000	3000	80+	MFL	5000	74 X 65	19 X 22	Any	47
		CMH150/PAR56/830/Gx16d/WFL	14, 18, 63	22996	6	Gx16d	M81,102,142	50000	3000	80+	WFL	5000	81 X 67	29 X 23	Any	47
		CMH150/PAR56/942/Gx16d/SP	14, 18, 63	22997	6	Gx16d	M81,102,142	80000	4200	90+	SP	5000	68 X 63	14 X 19	Any	47
		CMH150/PAR56/942/Gx16d/MFL	14, 18, 63	22700	6	Gx16d	M81,102,142	60000	4200	90+	MFL	5000	74 X 65	19 X 22	Any	47
		CMH150/PAR56/942/Gx16d/WFL	14, 18, 63	22702	6	Gx16d	M81,102,142	50000	4200	90+	WFL	5000	81 X 67	29 X 23	Any	47



Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	Product Code	Std. Pack Qty.	Base	Ballast Type ANSI	Approx. CP <sup>5</sup>	Design Color Temp (K)	Color CRI Index	Beam Descr.	Rated Life (hrs)	Beam Spread <sup>5</sup> (degrees)	Beam Angle <sup>3</sup> (degrees)	Burn Position	Fig. No.
<b>Table 39: Discharge-ConstantColor<sup>®</sup> CMH<sup>®</sup> Ceramic Metal Halide, PAR64 Reflector</b>																
150	PAR64	CMH150/PAR64/830/Gx16d/SP	14, 18, 63	16958	6	Gx16d	M81,102,142	154000	3000	80+	SP	8000	18 X 18	9 X 9	Any	49
		CMH150/PAR64/830/Gx16d/MFL	14, 18, 63	16959	6	Gx16d	M81,102,142	47000	3000	80+	MFL	8000	34 X 26	22 X 14	Any	49
		CMH150/PAR64/830/Gx16d/WFL	14, 18, 63	16960	6	Gx16d	M81,102,142	16000	3000	80+	WFL	8000	62 X 36	46 X 23	Any	49
		CMH150/PAR64/942/Gx16d/SP	14, 18, 63	16961	6	Gx16d	M81,102,142	154000	4200	90+	SP	8000	18 X 18	9 X 9	Any	49
		CMH150/PAR64/942/Gx16d/MFL	14, 18, 63	16962	6	Gx16d	M81,102,142	47000	4200	90+	MFL	8000	34 X 26	22 X 14	Any	49
		CMH150/PAR64/942/Gx16d/WFL	14, 18, 63	16963	6	Gx16d	M81,102,142	16000	4200	90+	WFL	8000	62 X 36	46 X 23	Any	49

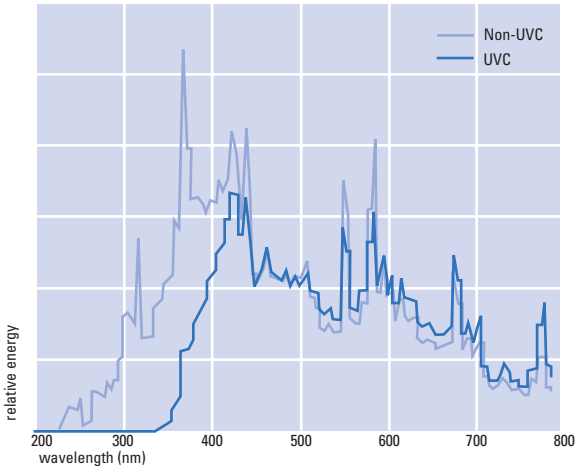


Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	Product Code	Std. Pack Qty.	Base	Volts or ANSI ballast	Initial Design Lumens	Design Color Temp (K)	Color CRI Index	Arc Length (mm)	Rated Life (hrs)	LCL (mm)	MOL (mm)	Burn Position	Fig. No.
<b>Table 40: Discharge-CSI, CID, MVR/SPL, Double-Ended</b>																
1500	T-7	SPL1500/H/652	14, 63	16920	1	Rx7s	Special	120000	5200	80		6000	127	257	H4	64
<b>Table 41: Discharge-CSI, CID, MVR/SPL, Single-Ended</b>																
140	T-7	CSS150/850/GY9.5	14, 63	34813	10	GY9.5	85	10000	5000	80	6	1000	30	48	BDTH	65
200	T-5	99-0211CID	14, 63	30560	1	Special	70	14000	5500	85	5.5	150	36	57	BDTH	66
400	T-6	99-0201CSI	14, 63	30555	1	Special	100	32000	4000	80	9	500	25	55	BDTH	67
575	T-7	99-0415CID	14, 63	30563	1	G22	95	40250	5500	85	9	500	52	94	BDTH	68
		CSS575/855/GY9.5	14, 63	34822	10	GY9.5	95	40250	5500	85	9	500	52	94	BDTH	69
1000	T-10	99-0221CSI	14, 63	30558	1	G22	77	90000	4000	80	14	500	64	115	BDTH	68
		99-0222CID	14, 63	30561	1	G22	77	70000	5500	85	15	500	64	115	BDTH	68

Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	Product Code	Std. Pack Qty.	Base	Volts or ANSI ballast	Initial Design Lumens	Design Color Temp (K)	Color CRI Index	Arc Length (mm)	Rated Life (hrs)	LCL (mm)	MOL (mm)	Burn Position	Fig. No.
<b>Table 41: Discharge-CSI, CID, MVR/SPL, Single-Ended (continued)</b>																
1500	BT56	<b>MVR1500/U/SPORTS</b>	14, 63	<b>47326</b>	6	E39	M48	178000	4000	65		3000	241	390	Any	70
		<b>MVR1500/HBU</b>	14, 63	<b>37405</b>	6	E39	M48	165000	3900	65		3000	241	390	HBU	70
1650	BT56	<b>MVR1650/HOR</b>	14, 63	<b>25532</b>	6	E39p	M112	177000	3200	65		3000	241	390	H15	70
2000	T-9	<b>MQI/2000/T9/40</b>	14, 63	<b>12275</b>	10	Special	M134	200000	4000	65		4000	109	254	H15	
2500	G-13	<b>99-0431CID/HR</b>	14, 63	<b>30567</b>	1	G38	100	200000	5500	85	18	350	127	175	BDTH	71

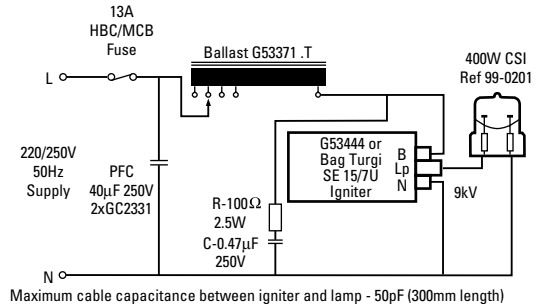
Watts	Bulb OD	GE Description	Footnotes/ Safety Notices	Product Code	Std. Pack Qty.	Base	Volts or ANSI ballast	Approx CP <sup>6</sup>	Design Color Temp (K)	Color CRI Index	Arc Length (mm)	Rated Life (hrs)	Beam Spread <sup>5</sup> (degree)	MOL (mm)	Burn Position	Fig. No.
<b>Table 42: Discharge-CSI, CID, MVR/SPL, PAR64 Reflector</b>																
1000	PAR64	<b>SPL1000/PAR64/840</b>	14, 19, 63	<b>29333</b>	1	G38	77	1350000	4000	80		3500		175	Any	72
		<b>SPL1000/PAR64/HR</b>	14, 19, 63	<b>29336</b>	1	G38	77	1350000	4000	80		3500		175	Any	72
		<b>99-1225CID</b>	14, 23, 63	<b>30360</b>	1	G38	77	850000	5500	85	15	1500	20	175	Any	72
		<b>99-1425CID/HR</b>	14, 23, 63	<b>30371</b>	1	G38	77	850000	5500	85	15	1000	20	175	Any	72
1200	PAR64	<b>99-1435CID/HR</b>	14, 24, 63	<b>30372</b>	1	G38	100	820000	5500	85	18	1000	18	175	Any	72

## UV-Control Discharge Spectral Distribution

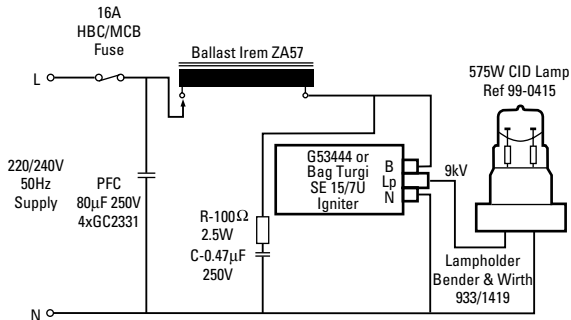


## DISCHARGE LAMP WIRING DIAGRAMS

### 400 Watt CSI Lamp Circuit Diagram

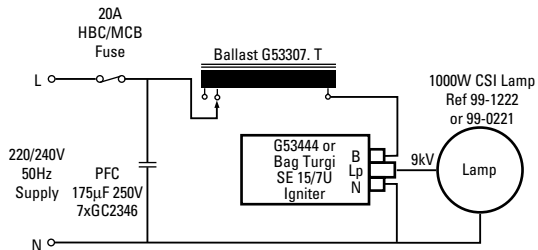


## 575 Watt CID Lamp Circuit Diagram



Maximum cable capacitance between igniter and lamp - 50pF (300mm length)

## 1000 Watt CSI Lamp Circuit Diagram



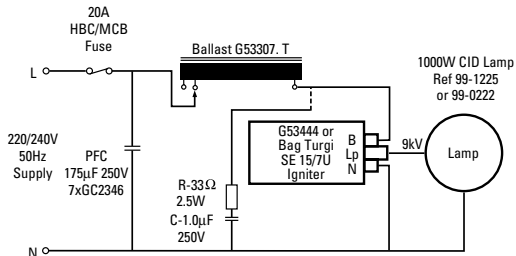
Lampholder for 99-1222 - Bender & Wirth 938/223 and for 99-0221 - Bender & Wirth 933/1419

Maximum cable capacitance between igniter and lamp - 50pF (300mm length)

Replace G53445 (or Bag Turgi SE600/D) igniter sparkgap element when replacing a failed lamp

# DISCHARGE LAMP WIRING DIAGRAMS (CONTINUED)

## 1000 Watt CID Lamp Circuit Diagram



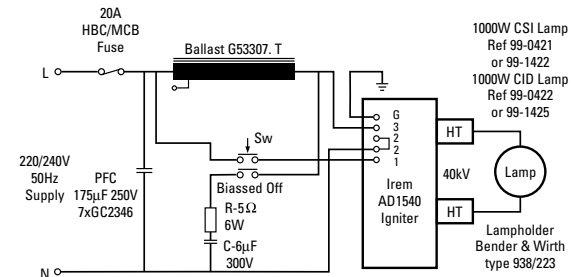
1000W CID Lamp  
Ref 99-1225  
or 99-0222

9kV

Lamp

Lampholder for 99-1222 - Bender & Wirth 938/223 and for 99-0222- Bender & Wirth 933/1419  
R/C components necessary ONLY when used on a 220V rate supply  
Maximum cable capacitance between igniter and lamp - 50pF (300mm length)  
Replace G53445 (or Bag Turgi SE600/D) igniter sparkgap element when replacing a failed lamp

## 1000 Watt CSI/CID Hot-Restart Lamp Circuit



1000W CSI Lamp  
Ref 99-0421  
or 99-1422  
1000W CID Lamp  
Ref 99-0422  
or 99-1425

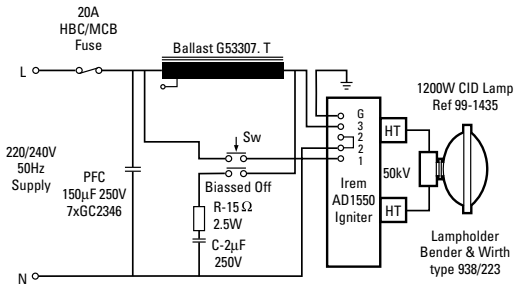
40kV

Lamp

Lampholder  
Bender & Wirth  
type 938/223

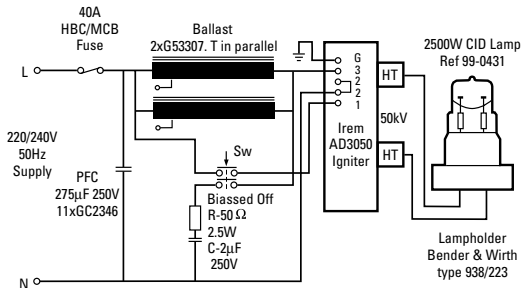
Sw - Normally open contacts - Manual switch or 2 second ON timer  
Maximum cable capacitance between igniter and lamp - 30pF (200mm length)

## 1200 Watt CID Hot-Restart Lamp Circuit Diagram



Sw - Normally open contacts - Manual switch or 2 second ON timer  
 Maximum cable capacitance between igniter and lamp - 30pF (200mm length)

## 2500 Watt CID Hot-Restart Lamp Circuit Diagram



Sw - Normally open contacts - Manual switch or 2 second ON timer  
 Maximum cable capacitance between igniter and lamp - 30pF (200mm length)



Fig. 73

Watts	Bulb OD	GE Description	Footnote/ Safety Notices	Product Code	Std. Pack Qty.	Base	Initial Lumens	Mean Lumens	Rated Life (hrs)	MOL (mm)	Fig. No.
<b>Table 43: Fluorescent Cinema Lighting, Standard Cinema</b>											
35	T12	<b>F20T12/CINEMA32/HO</b>	8, 9	<b>15712</b>	24	G-13 Med BiPin	1130	800	7500	610	73
		<b>F20T12/CINEMA55/HO</b>	8, 10	<b>15713</b>	24	G-13 Med BiPin	1100	770	7500	610	73
60	T12	<b>F40T12/CINEMA32/HO</b>	8, 9	<b>15716</b>	30	G-13 Med BiPin	2900	2030	15000	1219	73
		<b>F40T12/CINEMA55/HO</b>	8, 10	<b>15717</b>	30	G-13 Med BiPin	2820	1974	15000	1219	73
85	T12	<b>F72T12/CINEMA32/HO</b>	8, 9	<b>15718</b>	15	G-13 Med BiPin	4150	2905	15000	1829	73
		<b>F72T12/CINEMA55/HO</b>	8, 10	<b>15719</b>	15	G-13 Med BiPin	4050	2835	15000	1829	73
110	T12	<b>F96T12/CINEMA32/HO</b>	8, 9	<b>15720</b>	15	G-13 Med BiPin	5800	4060	15000	2438	73
		<b>F96T12/CINEMA55/HO</b>	8, 10	<b>15721</b>	15	G-13 Med BiPin	5650	3955	15000	2438	73





Fig. 73

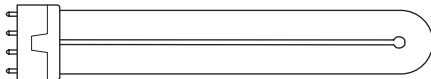


Fig. 74

Watts	Bulb OD	GE Description	Footnote/ Safety Notices	Product Code	Std. Pack Qty.	Base	Initial Lumens	Mean Lumens	Rated Life (hrs)	MOL (mm)	Fig. No.
<b>Table 44: Fluorescent Cinema Lighting, CovRguard® Cinema</b>											
35	T12	F20T12/CINEMA32/HO/CVG	8, 9	15775	24	G-13 Med BiPin	1130	800	7500	610	73
		F20T12/CINEMA55/HO/CVG	8, 10	15776	24	G-13 Med BiPin	1100	770	7500	610	73
60	T12	F40T12/CINEMA32/HO/CVG	8, 9	15782	30	G-13 Med BiPin	2900	2030	15000	1219	73
		F40T12/CINEMA55/HO/CVG	8, 10	15783	30	G-13 Med BiPin	2820	1974	15000	1219	73
85	T12	F72T12/CINEMA32/HO/CVG	8, 9	15785	15	G-13 Med BiPin	4150	2905	15000	1829	73
		F72T12/CINEMA55/HO/CVG	8, 10	15786	15	G-13 Med BiPin	4050	2835	15000	1829	73
110	T12	F96T12/CINEMA32/HO/CVG	8, 9	15794	15	G-13 Med BiPin	5800	4060	15000	2438	73
		F96T12/CINEMA55/HO/CVG	8, 10	15798	15	G-13 Med BiPin	5650	3955	15000	2438	73

<b>Table 45: Fluorescent Cinema Lighting, BiAx®</b>											
55	T5	F55BX/CINEMA32	11	15811	10	2G11-4 PIN	4100	3485	8000	536	74
		F55BX/CINEMA56	13	15814	10	2G11-4 PIN	4100	3485	8000	536	74
		F55BX/CINPLUS/32	18	22084	10	2G11-4 PIN	2400	2040	8000	536	74
		F55BX/CINPLUS/55	18	22085	10	2G11-4 PIN	2400	2040	8000	536	74

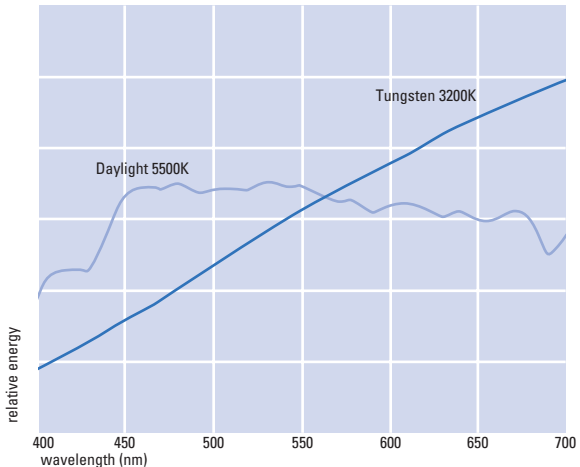
## GE CINEMA FLUORESCENT LAMPS

### GE Cinema Lamps Provide Predictable Color for Standard Film Processing

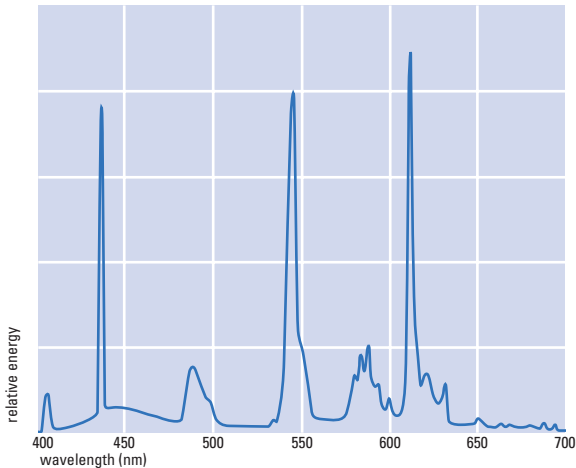
In the entertainment industry the use of color film has always been based on incandescent or Tungsten lighting. These standards were established before fluorescent lighting was invented in 1939. With the introduction of fluorescent lighting it was soon discovered that cool white fluorescent and triphosphor lamps did not work well with film. Extensive filtering was required resulting in loss of light and added cost and labor.

Now Cinema lamps require phosphore blends which better match Daylighting and Tungsten Spectral Power Distribution (SPD) in order to provide predictable color for standard film processing — without the need for expensive filtering on the set.

### SPD for Tungsten 3200K and Daylight 5500K



## SP41 Spectral Power Distribution



## Standard SP41 Spectral Power Distribution

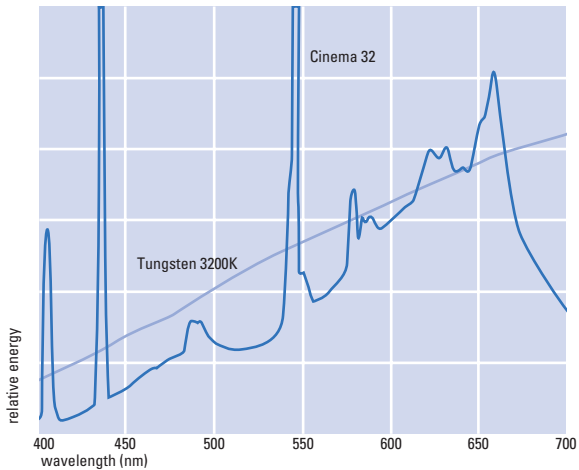
Typical modern triphosphor fluorescent lamp spectra optimized for eye response, especially green for lumens.

## Matching Phosphor Blends to Film Light Reference Sources

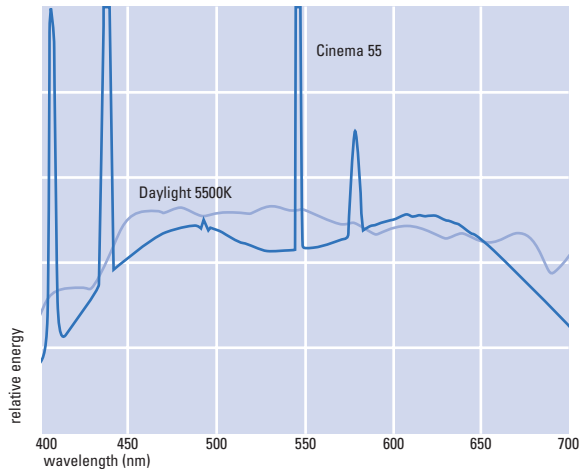
GE Cinema design uses full spectrum phosphor blends for Cinematography lamps. Color is matched for Tungsten 3200K and Daylight 5500K spectra. Final matching is done using Minolta IIIf meter as a gage for determining filtering needs which become the effective color specification limits.

# GE CINEMA FLUORESCENT LAMPS (CONTINUED)

## Cinema 32 vs Tungsten 3200K



## Cinema 55 vs. 5500K Daylight



## A Full Range of Operating Currents and Dimming Conditions Can Be Used Without Requiring Added Filtration

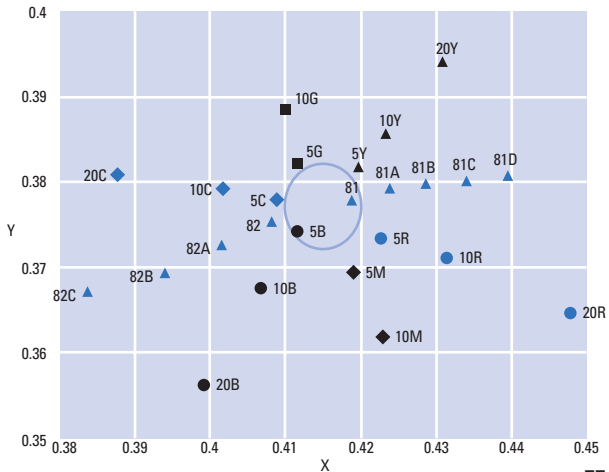
GE Cinema lamps are designed to minimize the need to add filters for color correction.

### X, Y Chromaticity Plots for Daylight 5500K (Chart 2) and Tungsten 3200K (Chart 1) Light Sources

Kodak Wratten filter values, and corresponding color shift are also indicated. Color specification limits are best represented by circles rather than MacAdam Ellipses for the Cinema lamp products due to the differences between eye and film color sensitivity.

## Chart 1: Tungsten 3200K Color Shift with Wratten Filters

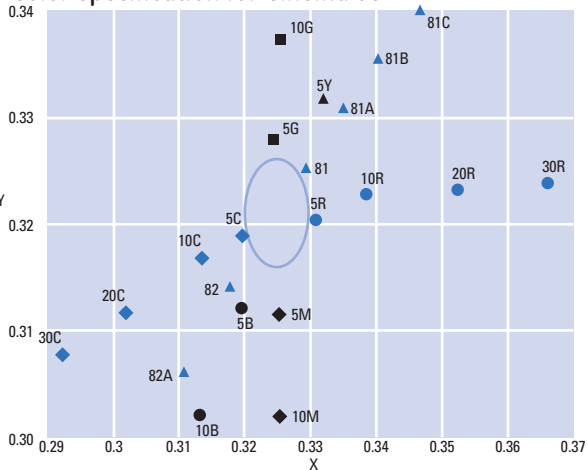
### Color Specification for Cinema 32



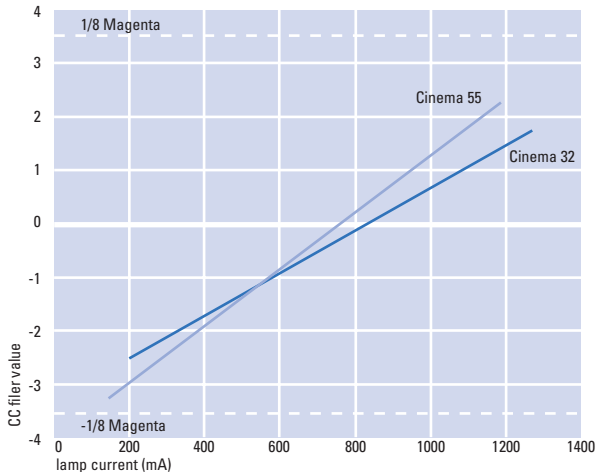
## GE CINEMA FLUORESCENT LAMPS (CONTINUED)

### Chart 2: Daylight Color Shift with Wratten Filters

#### Color Specification for Cinema 55



### Chart 3: Color vs. Lamp Current for F40T12 Cinema Lamps



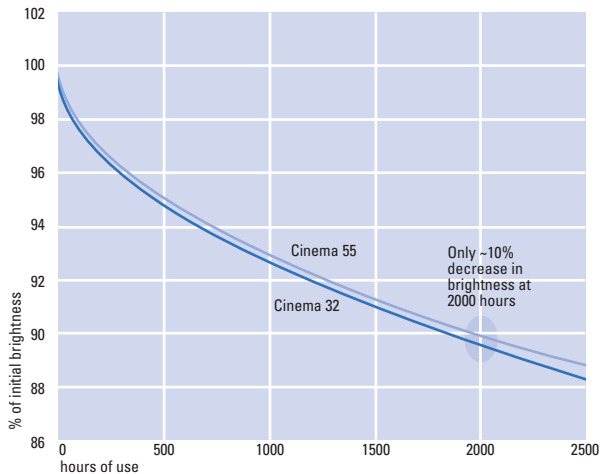
## Color vs. Lamp Current for F40T12 Cinema Lamps (Chart 3)

- Cinema lamp color shift with lamp operating current.
- All readings made using Minolta IIIf color meter.
- Lamp stabilized for 20 minutes at each current level before measuring color.

## Lamp Brightness Decreases with Lamp Age (Chart 4)

- Cinema lamps maintain 90% of initial brightness up to 2000 hours of use.
- Color drift during this time period is minimal for both colors.
- Cinema lamps exhibit good brightness stability and minimal color change with use.

## Chart 4: Lamp Brightness Decreases with Lamp Age



## GE CINEMA FLUORESCENT LAMPS (CONTINUED)

### Usage Guidelines

#### Warm Up Time

Allow at least ½ hour stabilization time before checking color of GE Cinema lamps. This applies to new and used lamps. Color will drift (mostly the mired shift, or LB value) during the warm up period.

#### Breakage During Set-up and Transport

Specify covRguard® safety coated lamps when lamps will be moved and transported during use. The covRguard® design minimizes breakage and contains the lamp components if breakage occurs – minimizing set clean-up issues.

#### Ballast Compatibility

Assure that the correct type of ballast is used with Cinema lamps. High current ballast such as provided with Kino Flo fixtures require HO lamp types. If brightness control through dimming is desired, be sure to specify ballasts designed for dimmability.

#### Fixture Compatibility

GE recommends the F40/HO and F20/HO versions to be used in high current cinematography fixtures such as those manufactured by Kino Flo. The standard F40 and F20 Cinema lamps are recommended for ANSI approved general lighting fixtures.



# FILTERS

## Selected Manufacturers of Filters for Color Correction of Light Sources

Selected filter products (see websites for additional information:  
[www.rosco.com](http://www.rosco.com), [www.leefilters.com](http://www.leefilters.com), [www.gamonline.com](http://www.gamonline.com)

## Kelvin Temperature Compensation

AMBER TO REDUCE KELVIN

Rosco					Lee					Gam
Balance	Product No.	Mired Shift	Tran (%)		Balance	Product No.	Mired Shift	Tran (%)	Product No.	
To 3200K	3401	+131	58	To	3200K	204 (CTO)	+159	55.4	1543	
2900K	3407( CTO)	+167	47		3600K	285 (3/4CTO)	+124	61.3	1546	
3200K	3411 (3/4CTO)	+131	58		3800K	205 (1/2CTO)	+109	70.8	1549	
3800K	3408 (1/2CTO)	+81	73		4600K	206 (1/4CTO)	+64	79.1	1552	
4500K	3409 (1/4CTO)	+42	81		5550K	223 (1/8CTO)	+26	85.2	1555	
4900K	3410 (1/8CTO)	+20	92							
2000K	3420 (2X CTO)	+320	23						1540	

## FILTERS (CONTINUED)

### Kelvin Temperature Compensation (continued)

STRAW TO REDUCE KELVIN

Rosco					Lee					Gam
Balance 5500K	Product No.	Mired Shift	Tran (%)		Balance 6500K	Product No.	Mired Shift	Tran (%)		Product No.
To 2900K	3441 (full CTS)	+131	47		To 3200K	441 (full CTS)	+160	57.3		
3800K	3408 (1/2 CTS)	+81	73		4300K	442 (1/2 CTS)	+81	71.2		
4500K	3409 (1/4 CTS)	+42	81		5100K	443 (1/4 CTS)	+42	79.8		
4900K	3410 (1/8 CTS)	+20	92		5700K	444 (1/8 CTS)	+20	83.1		

Filters will reduce the color temperature of any source. Both 5500K and 6500K are used for reference.

**BLUE TO INCREASE KELVIN**

**Rosco**

**Lee**

**Gam**

Balance 3200K	Product No.	Mired Shift	Tran (%)	Balance 3200K	Product No.	Mired Shift	Tran (%)	Product No.
To 5500K	3202 (full CTB)	-131	36	To 5700K	201 (full CTB)	-137	34	1523
4700K	3203 (3/4 CTB)	-100	41	5000K	281 (3/4 CTB)	-112	45.5	1526
4100K	3204 (1/2 CTB)	-68	52	4300K	202 (1/2 CTB)	-78	54.9	1529
3800K	3206 (1/3 CTB)	-49	64					
3500K	3208 (1/4 CTB)	-30	74	3600K	203 (1/4 CTB)	-35	69.2	1532
3300K	3216 (1/8 CTB)	-12	81	3400K	218 (1/8 CTB)	-18	81.3	1535
10000K	3220 (2X CTB)	-260	10	app 26000K	200 (2X CTB)	-274	16.2	1520

**Color Compensation (CC)**

**INCREASE GREEN/REDUCE MAGENTA**

**Rosco**

**Lee**

**Gam**

	Product No.	CC Value	Tran %	Product No.	CC Value	Tran %	Product No.
Plus Green	3304	30G	76	244	30G	74.2	1585
1/2 Plus Green	3315	15G	90	245	15G	81.7	1587
1/4 Plus Green	3316	7.5G	92	246	7.5G	84.6	1588
1/8 Plus Green	3317	3.5G	93	278		87.7	1589

## FILTERS (CONTINUED)

### Color Compensation (CC) (continued)

REDUCE GREEN/INCREASE MAGENTA

Rosco				Lee			Gam
	Product No.	CC Value	Tran %	Product No.	CC Value	Tran %	Product No.
Minus Green	3308	30M	55	247	30M	57.8	1580
1/2 Minus Green	3313	15M	71	248	15M	72	1582
1/4 Minus Green	3314	7.5M	81	249	7.5M	82.4	1583
1/8 Minus Green	3318	3.5M	88	279		86.5	1584

FILTER TUNGSTEN TO MATCH FLUORESCENT (BY INDUSTRY NAME)\*

Industry Name	Approx. K	Rosco	Lee
Cool White/Daylight	5700	60C (#4360)	241 (with FL-B or FL-D)
White	4300		242 (with FL-B or FL-D)
Warm White	3600	30C+15C (#4330+4315)	243 (with FL-B or FL-D)

**FILTER FLUORESCENT/DISCHARGE TO TUNGSTEN OR DAYLIGHT FILM\***

**Rosco**

**Lee**

Source	To Tungsten	To Daylight	To Tungsten
Cool White	60R (4660)	30M (4730)	
Warm White	30R+15R (4360+4615)	30B (4230)	
Multi-Vapor	60R+15Y (4660+4515)	15R+15M (4615+4715)	
HMI		3107	236
CID			237
CSI			238
White Flame Arc	3106		232

\* Discharge lamps are diverse in performance, so the above is a very limited list of examples. Contact the filter manufacturer for additional information and recommendations.

## TEMPERATURE RATING OF CONDUCTOR

Allowable Ampacities of Insulated Conductors Rated 0 – 2000 Volts, 60°C – 90°C (140°F – 194°F),  
Not More Than Three Current-Carrying Conductors in Raceway, Cable, or Earth (Directly Buried),  
Based on Ambient Temperature of 30° C (86°F).

### Copper

**60°C (140°F) Types:** TW, UF

**75°C (167°F) Types:** RHW, THHW, THW, THWN, USE, XHHW, ZW

**90°C (194°F) Types:** FEP, FEPB, MI, RHH, RHW-2, SA, SIS, TBS, THHN, THHW, THW-2, THWN-2, USE-2, XHH, XHHW, XHHW-2, ZW-2

Size	Size	Size	Size
AWG or 60°C	AWG or 60°C	AWG or 60°C	AWG or 60°C
75°C	75°C	75°C	75°C
90°C	90°C	90°C	90°C
kcmil (140°F)	kcmil (140°F)	kcmil (140°F)	kcmil (140°F)
18	—	—	14
16	—	—	18
14	20	20	25
12	25	25	30
10	30	35	40
8	40	50	55
6	55	65	75
4	70	85	95
3	85	100	110
2	95	115	130
1	110	130	150

Size	Size	Size	Size
AWG or 60°C	AWG or 60°C	AWG or 60°C	AWG or 60°C
75°C	75°C	75°C	75°C
90°C	90°C	90°C	90°C
kcmil (140°F)	kcmil (140°F)	kcmil (140°F)	kcmil (140°F)
1/0	125	150	170
2/0	145	175	195
3/0	165	200	225
4/0	195	230	260
250	215	255	290
300	240	285	320
350	260	310	350
400	280	335	380
500	320	380	430
600	355	420	475
700	385	460	520

Size	Size	Size	Size
AWG or 60°C	AWG or 60°C	AWG or 60°C	AWG or 60°C
75°C	75°C	75°C	75°C
90°C	90°C	90°C	90°C
kcmil (140°F)	kcmil (140°F)	kcmil (140°F)	kcmil (140°F)
750	400	475	535
800	410	490	555
900	435	520	585
1000	455	545	615
1250	495	590	665
1500	520	625	705
1750	545	650	735
2000	560	665	750

### Aluminum or Copper-Clad Aluminum

**60°C (140°F) Types:** TW, UF

**75°C (167°F) Types:** RHW, THHW, THW, THWN, USE, XHHW

**90°C (194°F) Types:** RHH, RHW-2, SA, SIS, TBS, THHN, THHW, THW-2, THWN-2, USE-2, XHH, XHHW, XHHW-2, ZW-2

Size	Size	Size	Size
AWG or 60°C	AWG or 60°C	AWG or 60°C	AWG or 60°C
75°C	75°C	75°C	75°C
90°C	90°C	90°C	90°C
kcmil (140°F)	kcmil (140°F)	kcmil (140°F)	kcmil (140°F)
12	20	20	25
10	25	30	35
8	30	40	45
6	40	50	60
4	55	65	75
3	65	75	85
2	75	90	100
1	85	100	115
1/0	100	120	135
2/0	115	135	150

Size	Size	Size	Size
AWG or 60°C	AWG or 60°C	AWG or 60°C	AWG or 60°C
75°C	75°C	75°C	75°C
90°C	90°C	90°C	90°C
kcmil (140°F)	kcmil (140°F)	kcmil (140°F)	kcmil (140°F)
3/0	130	155	175
4/0	150	180	205
250	170	205	230
300	190	230	255
350	210	250	280
400	225	270	305
500	260	310	350
600	285	340	385
700	310	375	420
750	320	385	435

Size	Size	Size	Size
AWG or 60°C	AWG or 60°C	AWG or 60°C	AWG or 60°C
75°C	75°C	75°C	75°C
90°C	90°C	90°C	90°C
kcmil (140°F)	kcmil (140°F)	kcmil (140°F)	kcmil (140°F)
800	330	395	450
900	355	425	480
1000	375	445	500
1250	405	485	545
1500	435	520	585
1750	455	545	615
2000	470	560	630

# Allowable Ampacities of Single-Insulated Conductors Rated 0 – 2000 Volts in Free Air, Based on Ambient Air Temperature of 30°C (86°F)

## Copper

**60°C (140°F) Types:** TW, UF

**75°C (167°F) Types:** RHW, THHW, THW, THWN, USE, XHHW, ZW

**90°C (194°F) Types:** FEP, FEPB, MI, RHH, RHW-2, SA, SIS, TBS, THHN, THHW, THW-2, THWN-2, USE-2, XHH, XHHW, XHHW-2, ZW-2

Size	60°C	75°C	90°C
AWG or kcmil	(140°F)	(167°F)	(194°F)
18	—	—	18
16	—	—	24
14	25	30	35
12	30	35	40
10	40	50	55
8	60	70	80
6	80	95	105
4	105	125	140
3	120	145	165
2	140	170	190
1	165	195	220

Size	60°C	75°C	90°C
AWG or kcmil	(140°F)	(167°F)	(194°F)
1/0	195	230	260
2/0	225	265	300
3/0	260	310	350
4/0	300	360	405
250	340	405	455
300	375	445	505
350	420	505	570
400	455	545	615
500	515	620	700

Size	60°C	75°C	90°C
AWG or kcmil	(140°F)	(167°F)	(194°F)
600	575	690	780
700	630	755	855
750	655	785	885
800	680	815	920
900	730	870	985
1000	780	935	1055
1250	890	1065	1200
1500	980	1175	1325
1750	1070	1280	1445
2000	1155	1385	1560

## Aluminum or Copper-Clad Aluminum

**60°C (140°F) Types:** TW, UF

**75°C (167°F) Types:** RHW, THHW, THW, THWN, USE, XHHW

**90°C (194°F) Types:** RHH, RHW-2, SA, SIS, TBS, THHN, THHW, THW-2, THWN-2, USE-2, XHH, XHHW, XHHW-2, ZW-2

Size	60°C	75°C	90°C
AWG or kcmil	(140°F)	(167°F)	(194°F)
12	25	30	35
10	35	40	40
8	45	55	60
6	60	75	80
4	80	100	110
3	95	115	130
2	110	135	150
1	130	155	175

Size	60°C	75°C	90°C
AWG or kcmil	(140°F)	(167°F)	(194°F)
1/0	150	180	205
2/0	175	210	235
3/0	200	240	275
4/0	235	280	315
250	265	315	355
300	290	350	395
350	330	395	445
400	355	425	480
500	405	485	545

Size	60°C	75°C	90°C
AWG or kcmil	(140°F)	(167°F)	(194°F)
600	455	540	615
700	500	595	675
750	515	620	700
800	535	645	725
900	580	700	785
1000	625	750	845
1250	710	855	960
1500	795	950	1075
1750	875	1050	1185
2000	960	1150	1335

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