ENTERTAINMENT LIGHTING • STAGE • STUDIO • DISCO • PHOTOGRAPHIC

U.S.A

GE Lighting

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Introduction

For many years GE Lighting has been a leading supplier to the various sectors which make up the entertainment lighting industry.

GE Lighting have an ongoing strategy of product innovation and improvement to meet the demands and applications of O.E.M.s and end users.

This updated catalogue shows those lamps, from the extensive range of entertainment lighting products, which are currently in popular use.

Certain other USA manufactured lamp types may be available to special order. Please contact your local GE Lighting Sales Office for details.

Notes

A	Hemispherical shield in front of filament masking all direct light
B	Operate at or near horizontal
C	Protect from moisture. Safety screening techniques recommended
D	Replace broken lamp immediately. Inner bulb pressurised and could shatter unexpectedly
E	Use safety screen external to lamp
F	Operate BDTH
G	Operate BD ±30°
H	100V rating available to order
J	120V rating available to order
K	Specially designed for searchlight applications
L	Twin filament lamp. Lumen figures relate to single and twin filament options
M	Tungsten Halogen minimum bulb wall temp 250°C
N	3 or 4 amp HBC fuse necessary
P	5 or 6 amp HBC fuse necessary
Q	6 or 7 amp HBC fuse necessary
R	10 amp HBC fuse necessary
S	Due to internal integral reflector nominal lumens not shown
T	Obscured top
V	Due to integral dichroic reflector nominal lumens not shown
W	Axial coiled coil single ended lamps will generally give better reliability against premature arcing if orientations in which the main support spine is under the filament are avoided

Contents

Symbols

English	Français	Italiano	Español	Deutsch
ANSI	ANSI	Codice ANSI	ANSI	ANSI-Code
Beam 10%	Faisceau 10%	Apertura del fascio al 10% del picco massimo	Haz 10%	Austrahlwinkel 10%
Beam 50%	Faisceau 50%	Apertura del fascio al 50% del picco massimo	Haz 50%	Austrahlwinkel 50%
Bulb/Lamp	Ampoule	Forma /lampada	Lámpara/bulbo	Lampe
Cap	Culot	Attacco	Casquillo	Sockel
CCT Kelvin	Température de Couleur °Kelvin	Temperatura di colore correlata	CCT Kelvin	CCT
Chromaticity	Chromaticité	Coordinate cromatiche	Cromaticidad	Farbart
Colour	Couleur	Colore	Color	Farbe
Colour Temperature	Température de Couleur	Temperatura colore	Temperatura de color	Farbtëmperatur
Capacitor	Capaciteur	Condensatore	Capacitador	Kondensator
CRI rd	IRC	Índice di resa cromatica	Indice de resolución cromática	CRI rd
Description	Description	Descrizione	Descripción	Beschreibung
Diameter	Diamètre	Diametro	Diámetro	Durchmesser

English	Français	Italiano	Español	Deutsch
Finish	Finition	Finitura	Acabado	Finish
Gap (mm)	Distance (mm)	Distanza fra gli elettrodi (mm)	Distancia (mm)	Lichtbogenlänge
HxW	HxW	Apertura in Gradi (orizzontale x verticale)	HxW	HxW
Length 1	Longueur 1	Lunghezza 1	Longitud 1	Länge l
Length 2	Longueur 2	Lunghezza 2	Longitud 2	Länge 2
LIF	LIF	Codice LIF	LIF	LIF - Code
Notes	Notes	Note	Notas	Bemerkung
Order Code	Code de Commande	Codice ordinazione	Código de pedido	Auftragscode
Product Code	Code Produit	Codice prodotto	Código de producto	Produktcode
Pulse	Fréquence	Impulso di accensione	Frecuencia	Impuls
Rated Life	Durée de Vie Moyenne	Durata nominale	Vida media	Lebensdauer
Volts	Volt	Volt	Voltios	Spannung in Volt
Watts	Watt	Watt	Vatios	Nennleistung in Watt

English	Français	Italiano	Español	Deutsch
ARO Burning Position	Position de Fonctionnement ARO	Posizione di Fonctionnement ARO	Posición de funcionamiento ARO	ARO-Brennlage
Burn Position	Position de Fonctionnement	Posizione di funzionamento	Posición de funcionamiento	Brennlage
Figure Number	Numéro de schéma	Figura n.	Figura número	Fig. nummer
Filament Form	Forme du Filament	Forma filamento	Forma del filamento	Wendelausführung
Initial Lumens	Lumens initiaux	Lumen iniziali	Lúmenes iniciales	Anfangslichtstrom in Lumen
Primary Application	Application Principale	Applicazione principale	Aplicación básica	Erstanwendung
Pack Quantity	Quantité par Emballage	Imballo pezzi	Unidad de embalaje	Verpackungseinheit
Peak Intensity	Pic d'Intensité	Intensita' di picco	Intensidad máxima	Lichstärke in cd
Run up Current	Courant d'Amorçage	Corrente di avviamento	Corriente de arranque	Einschaltstrom
Starting Time	Temps d'Amorçage	Tempo di accensione	Tiempo de encendido	Startzeit

English	Français	Italiano	Español	Deutsch
AMP	Courant (amp)	Corrente	Intensidad (A)	Strom (A)
Angle 1/2	Ouverture 50% de l'intensité max	Apertura al 50% dell'intensità massima	Angulo mitad de pico (grados)	Halbwerts-winkel
Angle 1/10	Ouverture 10% de l'intensité max	Apertura al 10% dell'intensità massima	Angulo décima parte de pico (grados)	Zehntwerts-winkel
Ballast Choke	Ballast	Ballast	Balasto magnético	Drosselspule
Lumens 100hrs	Lumens 100Hres	Lumen 100 ore	Lúmenes 100	Anfangslicht-strom (lm)
Maintenance	Maintenance	Manutenzione	Mantenimiento	Nutzlebens-dauer
Run up time	Temps de mise en régime	Tempo di andata a regime	Tiempo de arranque	Anlaufzeit
Ignitor	Amorceur	Accenditore	Ignitor	Anzünden
Restrike time	Temps de Réamorçage	Tempo di riaccensione	Tiempo de reencendido	Wiederzündzeit
Working Distance /Focal Distance	Distance de Montage	Distanza Focale /Distancia focal	Distancia de trabajo /Distance Focale	Betriebsabstand

PAR Lamps

PAR 36	6 - 8
PAR 46	9 -10
PAR 56	11 - 12
PAR 64	13 - 17

PAR lamps provide a robust and flexible design solution for a wide range of theatre, studio and nightclub applications.

Twister, Wilhelmshafen, Germany By Fischer Art of Light & Sound GmbH, Bremen

PAR 36

Lampes Par

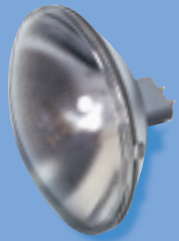
Les lampes PAR sont une ressource flexible et robuste pour une large gamme d'applications dans les théâtres, les discothèques et les studios.

PAR 56

Lampade PAR

Le lampade PAR forniscono la possibilità di progettare soluzioni efficaci e flessibili per applicazioni in teatro, studio e locali notturni.

PAR 64



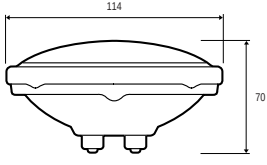
Lámparas PAR

Las lamparas PAR son una solución robusta y a la vez flexible cuando se realizan diseños de iluminación en todo tipo de teatros, escenarios, discotecas.

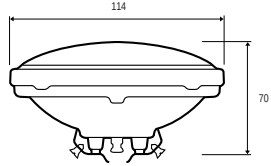
PAR Lampen

Par Lampen bieten eine robuste und flexible Designlösung für eine umfangreiche Anwendung anTheater-, Studio- und Nachtclub-Anwendungen.

PAR Lamps



PAR 36 Ferrule cap



PAR 36 Screw Terminal cap

PAR 36 Ferrule cap

W	V	OC	Cd	°K	10%	50%	H		C	
650	120	**FCW**	-	3200	–	60x55	100	12	BC	**41672**
650	120	**FCX**	24000	3200	–	40x30	100	12	BC	**41673**

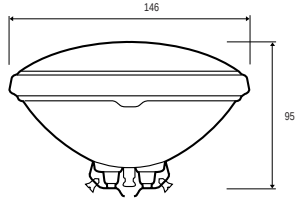
PAR 36 Screw Terminal cap

W	V	OC	Cd	°K	10%	50%				
0.5 Amp	4.7	**4546**	6300	–	3x3	–	1000	12	–	**24780**
12.5 Amp	4.75	**4547**	20000	–	3x3	–	100	12	–	**24788**
25	5.5	**25PAR36**	30000	3000	5.5x4.5	–	1000	12	A	**14553**
25	12	**25PAR36/NSP**	4500	–	19x17	10x8	2000	12	A	**14554**
25	12	**25PAR36/WFL**	500	–	49x41	37x26	2000	12	A	**14555**
25	12	**25PAR36/VWFL**	250	–	82x80	40x33	2000	12	A	**14556**
30	12.8	**4405**	50000	–	6x5	–	100	12	AD	**24425**
30	6.2	**4511**	2300	–	TRAPEZOID	–	300	12	–	**24663**
30	6.4	**H4515**	67000	–	5.5x4	–	100	12	AD	**15133**
30	6.4	**4515**	55000	–	5x5	–	100	12	A	**24673**
30	6.4	**H7604**	100000	–	7x5	–	100	12	–	**43576**
30	6.4	**4516**	45000	–	9x4	–	300	12	–	**24678**
37.5	12.8	**H7616**	70000	–	7x4	–	300	12	A	**42838**
50	12	**50PAR36/VNSP**	25000	–	11x9	–	2000	12	A	**12892**
50	12	**50PAR36/NSP**	9200	–	20x17	11x9	2000	12	A	**16540**
50	12	**50PAR36/WFL**	1300	–	48x41	36x28	2000	12	A	**16541**
50	12	**50PAR36/WFL/H**	–	3050	–	–	4000	12	–	**19880**
50	12	**50PAR36/VWFL**	600	–	80x80	40x37	2000	12	A	**16542**
50	28	**4502**	10000	–	40x7	–	400	12	–	**24627**
50	28	**4505**	45000	–	11x5	–	400	12	–	**24640**
100	13	**4509**	110000	–	12x6	–	25	12	–	**24650**
100	13	**4509X**	110000	–	12x6	–	25	12	–	**41503**
100	13	**4537**	200000	–	11x6	–	25	12	–	**24742**
100	13	**4595**	60000	–	14x16	–	300	12	–	**24892**
100	28	**4591**	90000	–	12x6	–	25	12	–	**24882**

PAR Lamps continued

PAR 36 Screw Terminal cap continued

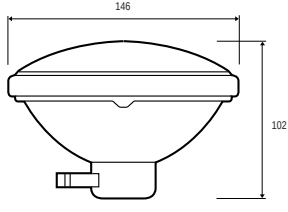
W	V	OC	Cd	°K	10%	50%				
50	28	**4593**	1500	–	80x30	–	400	12	–	**24887**
100	28	**4594**	70000	–	13x7	–	300	12	BC	**24891**
150	28	**4626**	25000	–	40x9	–	300	12	–	**24964**
150	28	**4627**	3000	–	80x30	–	300	12	–	**24966**
250	28	**4587**	4000	–	40x13	–	25	12	–	**24867**
250	28	**4596**	150000	3000	11x12	–	25	12	–	**24898**
650	120	**DWE**	24000	3200	–	40x30	100	12	BC	**41667**
650	120	**FBE**	35000	5000	–	25x15	35	12	BC	**41669**
650	120	**FBO**	75000	3400	–	25x15	30	12	BC	**41671**



PAR 46 Screw Terminal cap

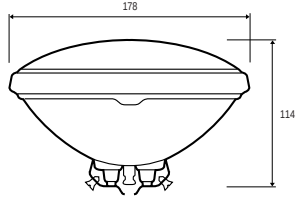
W	V	OC	Cd	°K	10%	50%	H			C
30	6.4	**4535**	95000	–	5.5x4	–	100	12	A	**24735**
30	12.8	**4435**	75000	–	5x5	–	300	12	A	**24577**
40	12.5	**4531**	30000	–	20x5	–	400	12	–	**24726**
50	12.8	**H7635**	160000	–	6.5x4	–	100	12	D	**43591**
100	13	**4537-2**	200000	–	11x16	–	25	12	–	**40822**
150	28	**4570**	32000	–	50x9	–	300	12	–	**24828**
150	28	**4571**	7000	–	80x25	–	300	12	–	**24830**
150	28	**4572**	4500	–	55x55	–	300	12	–	**24833**
250	28	**4551**	75000	–	50x10	–	25	12	–	**24795**
250	28	**4553**	300000	–	11x12	–	25	12	E	**24799**
450	28	**4580**	400000	–	13x14	–	10	12	–	**24859**
450	28	**4581**	400000	–	13x14	–	10	12	–	**24862**
450	16.5	**4635**	325000	–	14x15	–	25	12	–	**33284**
450	28	**Q4554**	65000	–	50x11	–	25	12	–	**37706**
450	28	**Q4597**	16000	–	60x35	–	1000	12	–	**37372**
450	28	**Q4681**	310000	–	15x9	–	50	12	–	**36271**

PAR Lamps continued



PAR 46 Medium Side Prong cap

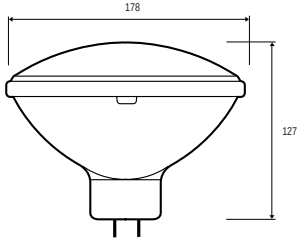
W	V	OC	Cd	°K	10%	50%	H		C	
150	125	**150PAR46/3MFL**	8000	2750	39x25	26x13	2000	12	E	**41968**
200	120	**200PAR46/3MFL**	11500	2750	40x24	27x13	2000	12	E	**20138**



PAR 56 Screw Terminal cap

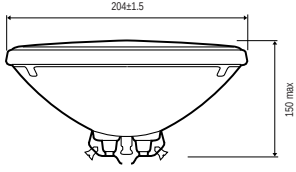
W	V	OC	Cd	°K	10%	50%	H			C
100	12	**4545**	225000	–	9x5	–	100	12	A	**24768**
120	12	**120PAR56/VNSP**	60000	–	15x10	8x6	2000	12	–	**19023**
120	12	**120PAR56/MFL**	19000	–	29x15	18x9	2000	12	–	**19024**
120	12	**120PAR56/WFL**	5625	–	50x25	35x18	2000	12	–	**19025**
200	30	**200PAR**	270000	–	9x9	–	500	12	–	**20122**
240	12	**240PAR56/VNSP**	140000	–	7x10	9x6	2000	12	C	**20575**
240	12	**240PAR56/MFL**	46000	–	28x15	18x9	2000	12	C	**20576**
240	12	**240PAR56/WFL**	13000	–	50x27	35x18	2000	12	C	**20577**
300	12	**300PAR56/WFL**	–	–	–	–	1000	12	–	**23427**

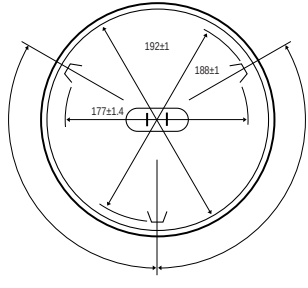
PAR Lamps continued



PAR 56 GX16d cap

W	V	OC	Cd	°K	10%	50%	H			C
300	120	**300PAR56/NSP**	68000	2750	20x14	10x8	2000	12	C	**20803**
300	120	**300PAR56/MFL**	24000	2750	34x19	23x11	2000	12	C	**20836**
300	120	**300PAR56/WFL**	11000	2750	57x27	37x18	2000	12	C	**20849**
300	230	**300PAR56/NSP**	70000	–	–	–	2000	12	C	**20853**
300	230	**300PAR56/MFL**	30000	–	–	–	2000	12	C	**20852**
300	230	**300PAR56/WFL**	10000	–	–	–	2000	12	C	**20854**
300	240	**300PAR56/NSP**	70000	–	–	–	2000	12	C	**18676**
300	240	**300PAR56/MFL**	30000	–	–	–	2000	12	C	**18677**
300	240	**300PAR56/WFL**	10000	–	–	–	2000	12	C	**18678**
500	120	**Q500PAR56/NSP**	96000	2950	32x15	13x8	4000	6	CD	**43494**
500	120	**Q500PAR56/MFL**	43000	2950	42x20	26x10	4000	6	CD	**43495**
500	120	**Q500PAR56/WFL**	19000	2950	66x34	44x20	4000	6	CD	**43496**

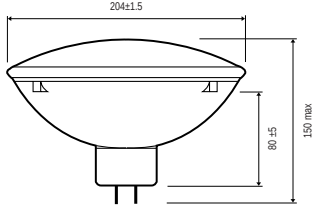


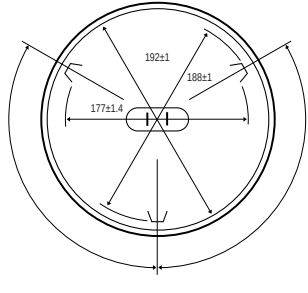


PAR 64 Screw Terminal cap

W	V	OC	Cd	°K	10%	50%	H			
250	28	**4552**	500000	–	8x7	–	25	12	–	**40576**
600	28	**4559**	600000	–	11x12	–	25	12	C	**40578**
600	28	**Q4559**	600000	–	12x8	–	100	12	CD	**40579**
600	28	**Q4559X**	765000	–	11x7.5	–	100	12	CD	**42552**

PAR Lamps continued

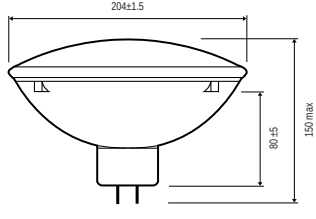


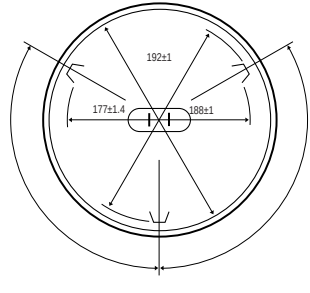


PAR 64 GX16d base (EMEP)

W	V	LIF	OC	Cd	°K	10%	50%	H			
500	230	**CP86**	**Q500PAR64/VNSP**	240000	3200	16x13	10x7	300	6	CD	**30280**
500	240	**CP86**	**Q500PAR64/VNSP**	240000	3200	16x13	10x7	300	6	CD	**30282**
500	230	**CP87**	**Q500PAR64/NSP**	140000	3200	19x16	11x9	300	6	CD	**30283**
500	240	**CP87**	**Q500PAR64/NSP**	140000	3200	19x16	11x9	300	6	CD	**30286**
500	230	**CP88**	**Q500PAR64/MFL**	65000	3200	32x19	21x10	300	6	CD	**30287**
500	240	**CP88**	**Q500PAR64/MFL**	65000	3200	32x19	21x10	300	6	CD	**30288**
500	230	–	**500/PAR64/MFL**	–	2800	32x19	21x10	2000	12	CD	**39411**
500	230	–	**500/PAR64/WFL**	–	2800	–	–	2000	12	CD	**39414**
800	230	–	**800PAR "POWERSAVER"**	310000	3150	17X17	9X9	250	6	CD	**35118**
800	230	–	**800PAR "POWERSAVER"**	95000	3150	35X22	26X13	250	6	CD	**35117**
800	230	–	**800PAR "POWERSAVER"**	35000	3150	55X34	45X22	250	6	CD	**35130**
800	240	–	**800PAR "POWERSAVER"**	310000	3150	17X17	9X9	250	6	CD	**35111**
800	240	–	**800PAR "POWERSAVER"**	95000	3150	35X22	26X13	250	6	CD	**35116**
800	240	–	**800PAR "POWERSAVER"**	35000	3150	55X34	45X22	250	6	CD	**35110**
1000	230	**CP60**	**EXC**	400000	3200	20x17	12x6	300	6	CD	**19909**
1000	240	**CP60**	**EXC**	400000	3200	20x17	12x6	300	6	CD	**19910**
1000	230	**CP61**	**EXD**	260000	3200	23x20	13x10	300	6	CD	**19911**
1000	240	**CP61**	**EXD**	260000	3200	23x20	13x10	300	6	CD	**19912**
1000	230	**CP62**	**EXE**	110000	3200	39x24	25x14	300	6	CD	**19913**
1000	240	**CP62**	**EXE**	110000	3200	39x24	25x14	300	6	CD	**19914**
1000	230	**CP95**	–	15000	3200	125x95	70x70	300	6	CD	**30277**
1000	240	**CP95**	–	15000	3200	125x95	70x70	300	6	CD	**30278**
1000	230	–	**EXG/PAR64/WFL**	38000	3200	73x36	57x21	300	6	CD	**35482**
1000	240	–	**EXG/PAR64/WFL**	38000	3200	73x36	57x21	300	6	CD	**35483**

PAR Lamps continued





PAR 64 GX16d cap (EMEP)

W	V	OC	Cd	°K	10%	50%	H		C	
500	120	**500PAR64/NSP**	110000	2800	19x14	12x7	2000	12	CD	**39406**
500	120	**500PAR64/MFL**	37000	2800	35x19	23x11	2000	12	CD	**39409**
1000	120	**FFN**	400000	3200	24x10	12x6	800	6	CD	**13233**
1000	120	**FFP**	330000	3200	26x14	14x7	800	6	CD	**13229**
1000	120	**FFR**	125000	3200	44x11	28x12	800	6	CD	**13228**
1000	120	**FFS**	40000	3200	71x45	48x24	800	6	CD	**13227**
1000	120	**FGN**	70000	5200	43x20	27x11	200	6	CD	**13225**
1000	120	**Q1000PAR64/NSP**	200000	3000	31x14	15x8	4000	6	CD	**43497**
1000	120	**Q1000PAR64/MFL**	80000	3000	45x22	28x12	4000	6	CD	**43498**
1000	120	**Q1000PAR64/VNSP**	33000	3000	72x45	48x24	4000	6	CD	**43499**

Single Ended Halogen Lamps

An extensive range of lamps designed to optimal performance in today's precision range of stage, studio and architectural luminaires.

Millenium Dome, London

HPL

Lampes Halogenes Mono Culot

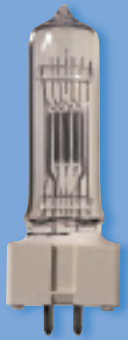
Une large gamme de lampes conçues pour optimiser les performances des luminaires destinés à l'éclairage architectural et studio.

GKV

Lampade Alogene ad Attacco Singolo

Una vasta gamma di lampade concepite per ottimizzare le prestazioni di sofisticati apparecchi di illuminazione per palcoscenico, studio e impiego architetturale.

T19



Lámparas Halogenas Bipin

Un amplio rango de lámparas diseñadas para un óptimo rendimiento dentro de los aparatos de iluminación de precisión utilizados actualmente en la iluminación espectacular.

Einseitig-gesockelte Halogenlampen

Eine umfassende Auswahl an Lampen wurde entworfen, um eine optimale Leistung in der heutigen Präzisionsauswahl an Bühnen-, Studio- und architektonischer Beleuchtung zu bieten.

Single Ended Halogen

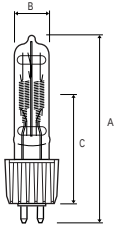


Fig. 1

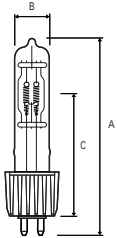


Fig.2

High Performance Lamps

W	V	OC	LM	°K		HxW	A	B	C				FIG N°
575	230	**HPL 575**	14900	3200	SCH	10 x 9.5	106	18	60.3	300	12	**37128**	1
575	240	**HPL 575**	14900	3200	SCH	10 x 9.5	106	18	60.3	300	12	**37131**	1
575	120	**HPL 575**	16520	3250	SCS	9.5 x 6.8	106	18	60.3	300	12	**37626**	2
575	115	**HPL 575**	16520	3250	SCS	9.5 x 6.8	106	18	60.3	300	12	**37129**	2
575	230	**HPL 575-X LL**	11780	3050	SCH	12 x 9.5	106	18	60.3	1500	12	**37817**	1
575	240	**HPL 575-X LL**	11780	3050	SCH	12 x 9.5	106	18	60.3	1500	12	**37818**	1
575	120	**HPL 575-X LL**	12360	3050	SCS	10.5 x 6.9	106	18	60.3	2000	12	**37816**	2
575	115	**HPL 575-X LL**	12360	3050	SCS	10.5 x 6.9	106	18	60.3	2000	12	**37815**	2
750	230	**HPL 750**	19750	3200	SCH	11.5 x 9.5	106	18	60.3	300	12	**37824**	1
750	240	**HPL 750**	19750	3200	SCH	11.5 x 9.5	106	18	60.3	300	12	**37826**	1
750	115	**HPL 750**	22000	3250	SCS	11.5 x 7.2	106	18	60.3	300	12	**37823**	2

The HPL 750w version has a pinned base to ensure correct application

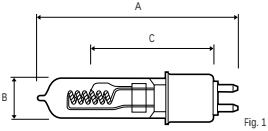


Fig. 1

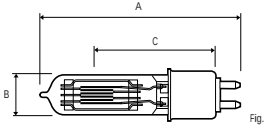


Fig. 2

G9.5 base

W	V	OC	ANSI	LM	°K		HxW	A	B	C	H			C	FIG.N°
500	120	–	**EHD**	10000	2900	CC-8	18x5	101	20	60.5	2000	24	W	**39768**	1
575	115	**HX600**	**FLK**	16500	3200	CC-8	12.7x6	101	18	60.5	300	24	W	**11450**	1
575	115	–	**FLK/LL**	12800	3100	CC-8	13.7x6	101	18	60.5	1500	50	W	**39730**	1
600	230	**HX600**	**GKV**	14000	3200	C13-D	13.5x7.5	101	18	60.5	250	24	–	**39739**	2
600	240	**HX600**	**GKV**	14000	3200	C13-D	13.5x7.5	101	18	60.5	250	24	–	**39750**	2
600	230	–	**GKV/LL**	11000	3000	C13-D	16x8	101	18	60.5	1500	24	–	**39751**	2
600	240	–	**GKV/LL**	11000	3000	C13-D	16x8	101	18	60.5	1500	24	–	**39752**	2
650	230	–	**FKR**	15000	3100	CC-8	24x5	101	20	60.5	300	12	W	**39734**	1
650	240	–	**FKR**	15000	3100	CC-8	24x5	101	20	60.5	300	12	W	**39735**	1
750	120	–	**EHF**	20000	3200	CC-8	19x7	101	20	60.5	300	24	W	**39771**	1
750	120	–	**EHG**	15000	3000	CC-8	19x7	101	20	60.5	2000	24	W	**39770**	1
800	230	**HX800**	–	20000	3200	C13-D	15.8x8.4	101	18	60.5	250	24	–	**39753**	2
800	240	**HX800**	–	20000	3200	C13-D	15.8x8.4	101	18	60.5	250	24	–	**39754**	2
1000	120	**CP77**	**FEL**	27500	3200	CC-8	19x7	101	20	60.5	300	6	W	**35607**	1
1000	230	**CP77**	**FEP**	25000	3200	CC-8	24x7	101	20	60.5	300	24	W	**39738**	1
1000	240	**CP77**	**FEP**	25000	3200	CC-8	24x7	101	20	60.5	300	24	W	**39736**	1

GKV/LL IS EQUIVALENT TO GLB

Single Ended Halogen Continued

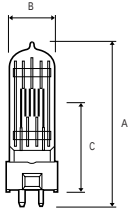


Fig. 1

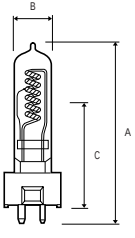


Fig. 2

GY9.5 base - Grid-form Filament

W	V	LIF	OC	LM	°K	‡	HxW	A	B	C	H			FIG N°
300	120	**CP81**	**FKW**	6900	3200	S	15x10	90	25	46	50	24	–	**39781**	1
300	220/230	**CP81**	**FSL**	6900	3200	S	11x10	90	25	46	150	24	–	**39780**	1
300	240/250	**CP81**	**FSK**	6900	3200	S	11x10	90	25	46	150	24	–	**39779**	1
500	120	**CP82**	**FRG**	13000	3200	MP	12.5x11.5	90	25	46	150	24	–	**39623**	1
500	230	**CP82**	**FRH**	12500	3200	MP	13x13	90	25	46	150	24	–	**39624**	1
500	240	**CP82**	**FRJ**	12500	3200	MP	13x13	90	25	46	150	24	–	**39628**	1

GY9.5 base - Grid-form filament

W	V	LIF	OC	LM	°K		HxW	A	B	C					FIG Nº
500	230	**T18**	**GCV**	11000	3050	MP	13.5x13	90	25	46	400	24	–	**39717**	1
500	240	**T18**	**GCW**	11000	3050	MP	13.5x13	90	25	46	400	24	–	**39629**	1
500	230	**T25**	**GCV**	11000	3000	BP	11X11	90	23	46.5	360	24	–	**39455**	1
500	240	**T25**	**GCW**	11000	3000	BP	11X11	90	23	46.5	360	24	–	**39262**	1
650	230	**T27**	**GCT**	14500	3050	BP	13X11	90	23	46.5	400	24	–	**39456**	1
650	240	**T27**	**GCS**	14500	3050	BP	13X11	90	23	46.5	400	24	–	**39457**	1
650	120	**T26**	**FRE**	15000	3050	MP	13.5x13.5	90	25	46	400	24	–	**39630**	1
650	230	**T26**	**GCT**	15000	3050	MP	13.5x15.5	90	25	46	400	24	–	**39635**	1
650	240	**T26**	**GCS**	15000	3050	MP	13.5x15.5	90	25	46	400	24	–	**39636**	1
650	120	**CP89**	**FRK**	16900	3200	MP	12.5x11.5	90	25	46	200	24	–	**39637**	1
650	230	**CP89**	**FRL**	16250	3200	MP	13x13	90	25	46	150	24	–	**39640**	1
650	240	**CP89**	**FRM**	16250	3200	MP	13x13	90	25	46	150	24	–	**39642**	1

S = Staggered Filament Burning position VBD ±90 **T25 + T27 Available May 2000**

GY9.5 base - Coiled Coil Filament

600	120		**FMR**	12600	3050	CC-8	16x6	85	16	51	2000	24	W	**30475**	2

Single Ended Halogen Continued

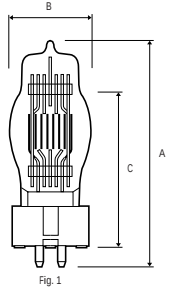


Fig. 1

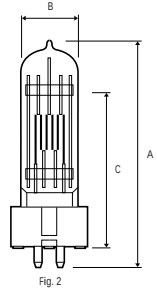


Fig. 2

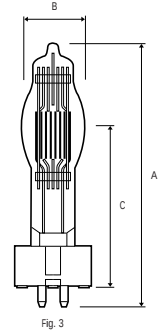


Fig. 3

GX9.5 base

W	V	LIF	OC	LM	°K		HxW	A	B	C				FIG.N°
650	230	**T12**	–	13500	3000	MP	15.5x14.5	110	25	55	750	12	–	**39661**	2
650	240	**T12**	–	13500	3000	MP	15.5x14.5	110	25	55	750	12	–	**39663**	2
650	230	**CP23**	–	16900	3200	MP	12x14.5	110	25	55	100	12	–	**39654**	2
650	240	**CP23**	–	16900	3200	MP	12x14.5	110	25	55	100	12	–	**39660**	2
1000	230	**CP24**	–	26000	3200	MP	18.5x17.5	110	35	55	200	12	–	**39651**	1
1000	240	**CP24**	–	26000	3200	MP	18.5x17.5	110	35	55	200	12	–	**39653**	1
1000	115/120	**T11**	**Q1000T8/CL**	23500	3050	MP	16x14	110	35	55	750	24	–	**29331**	1
1000	230	**T11**	–	23000	3050	MP	17.5x17.5	110	35	55	750	12	–	**39656**	1
1000	240	**T11**	–	23000	3050	MP	17.5x17.5	110	35	55	750	12	–	**39659**	1
1000	230	**T19**	**FWP**	21000	3050	BP	15x12	110	35	55	750	12	HJ	**39657**	2
1000	240	**T19**	**FWR**	21000	3050	BP	15x12	110	35	55	750	12	HJ	**39658**	2
1000	230	**CP70**	**FVA**	25000	3200	BP	15x12	110	35	55	200	12	HJ	**39241**	2
1000	240	**CP70**	**FVB**	25000	3200	BP	15x12	110	35	55	200	12	HJ	**39242**	2
1200	120	**T29**	–	30500	3050	BP	15x13	125	35	67	400	12	–	**39647**	3
1200	230	**T29**	**FWS**	29000	3050	BP	16x13	125	35	67	400	12	–	**39723**	3
1200	240	**T29**	**FWT**	29000	3050	BP	16x13	125	35	67	400	12	–	**39667**	3
1200	230	**CP90**	–	33000	3200	BP	16x12	125	35	67	200	12	J	**39724**	3
1200	240	**CP90**	–	33000	3200	BP	16x12	125	35	67	200	12	–	**39725**	3

* Burning position VBD ±90

Single Ended Halogen Continued

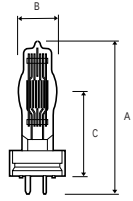


Fig. 1

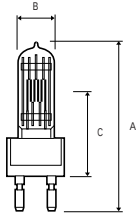


Fig. 2

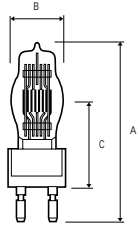


Fig. 3

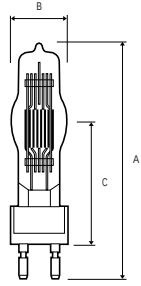


Fig. 4

GY16 base

W	V	LIF	OC	LM	°K		HxW	A	B	C				FIG N°
2000	230	**CP43**	**FTM**	54000	3200	MP	22x22.5	145	40	70	400	12	–	**20309**	1
2000	240	**CP43**	**FTL**	54000	3200	MP	22x22.5	145	40	70	400	12	–	**20310**	1
2000	120	**CP79**	–	56000	3200	BP	17.5x16	145	40	70	400	12	–	**13053864**	1
2000	230	**CP79**	–	54000	3200	BP	18.5x17	145	40	70	350	12	H	**30497**	1
2000	240	**CP79**	–	54000	3200	BP	18.5x17	145	40	70	350	12	–	**30498**	1

Burning position VBD ±90

G22 base

W	V	LIF	ANSI	LM	°K		HxW	A	B	C					FIG N°
500	120	–	**EGN**	13000	3200	MP	12x11.5	140	21	63.5	150	12	–	**30373**	2
650	230	**CP39**	**FKH**	16900	3200	MP	12x14.5	140	25	63.5	100	12	–	**20320**	2
650	240	**CP39**	**FKH**	16900	3200	MP	12x14.5	140	25	63.5	100	12	–	**20321**	2
1000	120	**CP39**	**EGT**	28500	3200	MP	14.5x14	140	22	63.5	250	12	–	**39191**	3
1000	230	**CP40**	**FKJ**	26000	3200	MP	18.5x17.5	140	26	63.5	250	12	–	**39655**	3
1000	240	**CP40**	**FKJ**	26000	3200	MP	18.5x17.5	140	26	63.5	250	12	–	**20286**	3
1200	240	**CP93**	–	33000	3200	BP	16x12	140	35	63.5	200	12	–	**30384**	3
2000	120	**CP92**	–	55000	3200	BP	18x17	175	40	90	400	12	–	**30391**	4
2000	230	**CP92**	–	52000	3200	BP	18.5x17	175	40	90	400	12	–	**30394**	4
2000	240	**CP92**	–	52000	3200	BP	18.5x17	175	40	90	400	12	–	**30397**	4
2500	230	**CP91**	–	67500	3200	BP	24x18	175	40	90	400	12	–	**30415**	4
2500	240	**CP91**	–	67500	3200	BP	24x18	175	40	90	400	12	–	**30423**	4

Burning position VBD ±90

Single Ended Halogen Continued

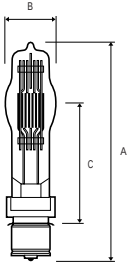


Fig. 1

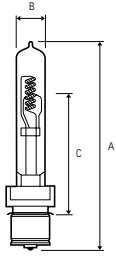


Fig. 2

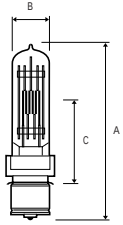


Fig. 3

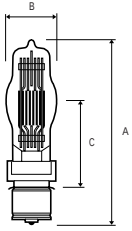


Fig. 4

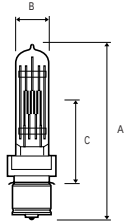


Fig. 5

P28s base (medium prefocus)

W	V	LIF	ANSI	LM	°K		HxW	A	B	C	H			C	FIG N°
500	120	–	**EGE**	10450	2950	CC-8	18x5	152	13	88.9	2000	12	–	**39135**	2
500	120	–	**BTM**	13000	3200	MP	12x11.5	130	21	55.5	150	12	–	**16465**	5
500	230	**T17**	**FKF**	9500	2950	MP	13.5x14.5	130	21	55.5	750	12	–	**30535**	5
500	240	**T17**	–	9500	2950	MP	13.5x14.5	130	21	55.5	750	12	–	**30536**	5
500	230	**T28**	–	11000	3000	MP	15x12	130	12	55.5	300	12	–	**39731**	5

Burning position VBU ±90

P28s base (medium prefocus)

W	V	LIF	ANSI	LM	°K		HxW	A	B	C					FIG.N°
500	240	**T28**	–	11000	3000	MP	15x12	130	21	55.5	300	12	–	**39733**	5
650	230	**T13**	**FKB**	13500	3000	MP	15.5x14.5	130	25	55.5	750	12	–	**30541**	3
650	240	**T13**	–	13500	3000	MP	15.5x14.5	130	25	55.5	750	12	–	**30542**	3
650	230	**CP51**	**FKM**	16900	3200	MP	12x14.5	130	25	55.5	200	12	–	**20323**	3
650	240	**CP51**	–	16900	3200	MP	12x14.5	130	25	55.5	200	12	–	**20324**	3
1000	120	–	**EGJ**	27500	3200	CC-8	19x7	152	20	88.9	500	12	W	**38853**	2
1000	230	–	**EWE**	26500	3200	CC-8	24x6	152	20	88.9	250	12	W	**30533**	2
1000	230	**T14**	**FKD**	23000	3050	MP	17.5x17.5	130	35	55.5	750	12	–	**20385**	4
1000	240	–	**EWE**	26500	3200	CC-8	24x6	152	20	88.9	250	12	W	**30534**	2
1000	240	**T14**	–	23000	3050	MP	17.5x17.5	130	35	55.5	750	12	–	**20388**	4
1000	240	**T15**	**FKE**	23000	3050	MP	17.5x17.5	160	35	88.9	750	12	–	**30532**	1
1000	240	**CP52**	**FKN**	26000	3200	MP	18.5x17.5	130	35	55.5	200	12	–	**30546**	4

Burning position VBD ±90

Single Ended Halogen Continued

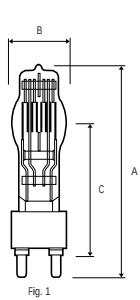


Fig. 1

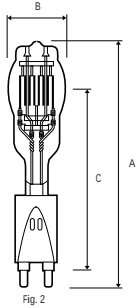


Fig. 2

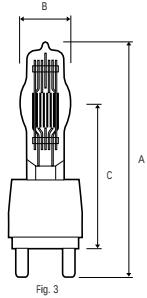


Fig. 3

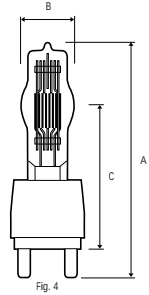


Fig. 4

G38 base (mogul prefocus)

W	V	LIF	ANSI	LM	°K		HxW	A	B	C				FIG N°
1000	230	**HX270**	–	25000	3200	BP	15x12	216	35	127	200	12	–	**35234**	3
1000	240	**HX270**	–	25000	3200	BP	15x12	216	35	127	200	12	–	**35233**	3
2000	120	**HX270**	**CYX**	59000	3200	MP	21.5x20.5	216	32	127	400	6	–	**36636**	3
2000	230	**CP41**	**FKK**	54000	3200	MP	22x22.5	216	32	127	400	12	–	**31844**	3
2000	240	**CP41**	**FKK**	54000	3200	MP	22x22.5	216	32	127	400	12	–	**31849**	3
2500	230	**CP94**	–	67500	3200	BP	24x18	210	40	127	400	12	–	**30499**	3
2500	240	**CP94**	–	67500	3200	BP	24x18	210	40	127	400	12	–	**30500**	3
3000	230	**HX48**	–	82000	3200	MP	24x26	210	47	127	400	12	K	**30503**	4
3000	240	**HX48**	–	82000	3200	MP	24x26	210	47	127	400	12	K	**30504**	4
5000	120	**CP29**	**DPY**	143000	3200	MP	31x36	280	65	165	500	6	–	**41736**	1
5000	230	**CP29**	–	135000	3200	MP	36x33	280	65	165	500	12	–	**30505**	1
5000	240	**CP29**	–	135000	3200	MP	36x33	280	65	165	500	12	–	**30506**	1
10000	230	**CP83**	–	290000	3200	MP	41x52	380	86	254	500	4	–	**30507**	2
10000	240	**CP83**	–	290000	3200	MP	41x52	380	86	254	500	4	–	**30508**	2

Burning position VBD ±90 except HX48 VBD ±45

Single Ended Halogen Continued

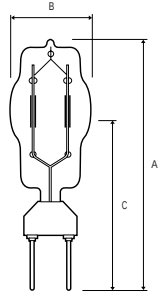


Fig. 1

GX38q base - Twin filament

W	V	LIF	LM	°K		HxW	A	B	C	H			C	FIG N°
1250/650	230	**CP105**	27000/13000	3050	TF	24x18.5	220	55	143	250	12	L	**34056**	1
1250/650	240	**CP105**	27000/13000	3050	TF	24x18.5	220	55	143	250	12	L	**34024**	1
1250/1250	230	**CP30**	27000/56000	3200	TF	24x18.5(x2)	220	55	143	300	12	L	**30513**	1
1250/1250	240	**CP30**	27000/56000	3200	TP	24x18.5(x2)	220	55	143	300	12	L	**30514**	1
1250/2250	230	**CP58**	27000/59000/91000	3200	TF	27.5x25/24x22	220	70	143	300	12	L	**30515**	1
1250/2500	240	**CP58**	27000/59000/91000	3200	TF	27.5x25/24x22	220	70	143	300	12	L	**30517**	1
2500/2500	230	**CP32**	59000/127000	3200	TF	27.5x25(x2)	220	70	143	300	12	L	**30518**	1
2500/2500	240	**CP32**	59000/127000	3200	TF	27.5x25(x2)	220	70	143	300	12	L	**30519**	1

Burning position VBD ±45

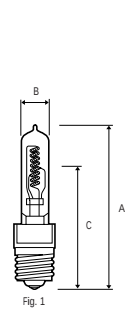


Fig. 1

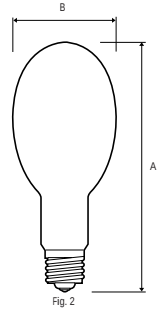


Fig. 2

E40 base - Clear, Coil Filament

W	V	LIF	ANSI	LM	°K		HxW	A	B	C					FIG.N°
2000	220/230	**CP59**	–	50000	3200	CC-8	40x7	190	30	133	300	12	W	**29424**	1
2000	240	**CP59**	–	50000	3200	CC-8	40x7	190	30	133	300	12	W	**29426**	1

E40 base - Frosted, Coil Filament

1000	120	–	**DKZ/DSE**	28000	3200	CC-8	–	330	165	–	750	10	–	**34377**	2
1500	120	–	**DKX/DSF**	41000	3200	CC-8	–	330	165	–	1000	12	–	**40357**	2
2000	120	–	**BWG**	56000	3200	CC-8	40x8	–	30	4	19000	6	W	**30491**	1

DKX/DSF Burning position – any

Single Ended Halogen Continued

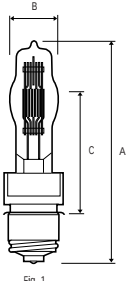


Fig. 1

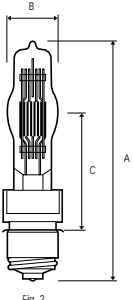


Fig. 2

P40s base (mogul prefocus)

W	V	LIF	ANSI	LM	°K		HxW	A	B	C				FIG N°
1000	230	**T16**	–	23000	3050	MP	17.5x17.5	180	35	87	750	12	–	**30520**	1
1000	240	**T16**	–	23000	3050	MP	17.5x17.5	180	35	87	750	12	–	**30521**	1
1500	120	**T16**	**DTA**	41000	3200	MP	19x17	200	40	87	300	6	–	**30522**	2
2000	230	**CP53**	–	54000	3200	MP	22x22.5	200	40	87	400	6	–	**20311**	2
2000	240	**CP53**	–	54000	3200	MP	22x22.5	200	40	87	400	6	–	**20312**	2

Burning position VBD ±90

Notes

Linear Halogen Lamps

Double-Ended Quartzline®	
Length 79.4 mm	38
Length 95.3 mm	39
Length 119.1 mm	40
Length 142.9 mm	41
Length 189.1 mm	42

This precision range of quartzline lamps are widely used in television broadcast studios around the world.

CNBC Europe's Studio.
CNBC, the 24-hour global business television news channel

DXX P2/13

Lampes Halogenes Lineaires

Cette gamme spécifique de lampes quartz est très largement utilisée par les studios de télévision à travers le Monde.

Lampade Alogene Lineari

Questa gamma di lampade alogene è usata negli studi di produzione televisiva di tutto il mondo.

Lámparas Halógenas Lineales

Este rango de lámparas de cuarzo de alta precisión es ampliamente utilizado en los estudios de televisión de todo el mundo.

Stabförmige Halogenlampen

Die Genauigkeit der Quarzlampen sind weltweit in den Fernsehstudios verbreitet.

Linear Halogen

Double-Ended Quartzline® Lamps with R7s Caps

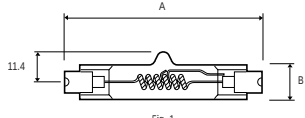


Fig. 1

Length 79.4mm

W	V	LIF	OC	LM	°K		C	A	B					FIG N°
650	120	**P2/6**	**FAD**	16500	3200	CC-8	15.9	79.4	13.5	100	24	C	**30325**	1
800	230	**P2/13**	**DXX**	21400	3200	CC-8	25.4	79.4	13.5	90	24	C	**36952**	1
800	240	**P2/13**	**DXX**	21400	3200	CC-8	25.4	79.4	13.5	90	24	C	**36953**	1

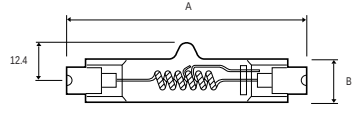


Fig. 2

Length 95.3mm

W	V	OC	LM	°K		C	A	B	H			C	FIG N°
1000	120	**DXW**	28000	3200	CC-8	22.2	95.3	16	150	24	–	**30157**	2
1000	120	**FBY**	26000	3200	CC-8	22.2	95.3	16	150	24	Frost	**30374**	2

Linear Halogen Continued

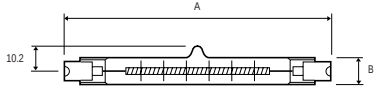


Fig. 1

Length 119.1mm - Burn Horizontal ±4°

W	V	LIF	OC	LM	°K		C	A	B	H			C	FIG N°	
300	120	–	**EHM**	5950	2950	C-8	58.7	119.1	11	2000	6	–	**43703**	1	
500	120	–	**FCL**	11100	3000	C-8	57.2	119.1	11	2000	12	–	**23731**	1	
750	120	–	**EJG**	20600	3200	C-8	61.9	119.1	11	400	12	–	**23756**	1	
800	230	**P2/11**	**EME**	22000	3200	C-8	71.4	119.1	11	150	12	–	**23760**	1	
800	240	**P2/11**	**EMF**	22000	3200	C-8	71.4	119.1	11	150	12	–	**23761**	1	
1000	120	**P2/28**	**FCM**	25200	3275	C-8	60.3	119.1	11	400	12	–	**23797**	1	

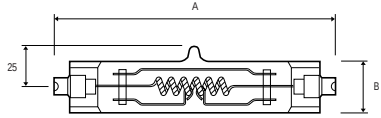


Fig. 2

Length 142.9mm - Burn Horizontal ±4° – RX7s Caps

W	V	LIF	OC	LM	°K		C	A	B	H			G	FIG N°
2000	230	**P2/27**	**FEX**	50000	3200	CC-8	37	142.9	30	300	12	–	**35338**	2
2000	240	**P2/27**	**FEX**	50000	3200	CC-8	37	142.9	30	300	12	–	**35339**	2
2000	120	**P2/27**	**FEY**	57000	3200	CC-8	37	142.9	30	400	6	–	**33761**	2

Linear Halogen Continued

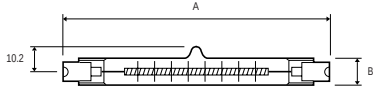


Fig. 1

Length 189.1mm - Burn Horizontal ±4°

W	V	LIF	OC	LM	°K		C	A	B					FIG N°
625	230	**P2/10**	–	16900	3200	C-8	120	189.1	12	300	12	–	**19697**	1
625	240	**P2/10**	–	16900	3200	C-8	120	189.1	12	300	12	–	**19698**	1
1000	230	**P2/7**	**EKM**	28000	3200	C-8	120	189.1	12	300	12	–	**20249**	1
1000	240	**P2/7**	**EKM**	28000	3200	C-8	120	189.1	12	300	12	–	**20253**	1
1250	230	**P2/12**	–	35000	3200	C-8	120	189.1	12	300	12	–	**19695**	1
1250	240	**P2/12**	–	35000	3200	C-8	120	189.1	12	300	12	–	**19696**	1

Notes

Specialist Projector Lamps

A full range of specialist projection lamps designed to deliver excellent optical performance and reliability.

Overhead Projector, ACCO UK

Projector

Lampes Photo-Projection

Une gamme complète de lampes projection spécialement conçues afin de délivrer une excellente performance optique et d'une grande fiabilité.

Single Ended Capsules

Lampade da Proiezione

Una gamma completa di lampade da proiezione di grande affidabilità progettate per fornire eccellenti prestazioni ottiche

Lámparas de Proyección

Un rango completo de lámparas especiales para proyección, diseñadas para proporcionar un excelente rendimiento óptico y una gran fiabilidad.

Specialist Projector

Projektionslampen

Eine komplette Auswahl an speziellen Projektionslampen, entworfen um eine ausgezeichneten optischen Performance und Verlässlichkeit zu bieten.

Specialist Projector

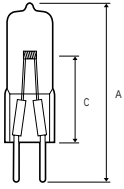


Fig. 1

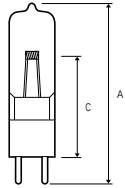


Fig. 2

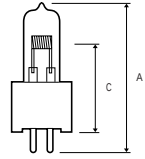


Fig. 3

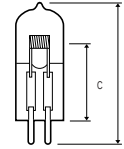


Fig. 4

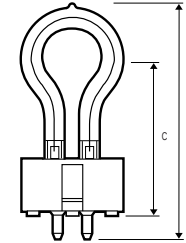


Fig. 5

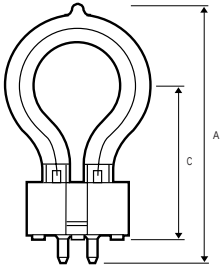


Fig. 6

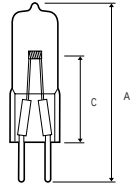


Fig. 7

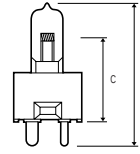


Fig. 8

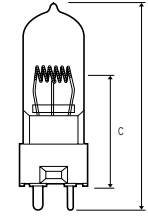


Fig. 9

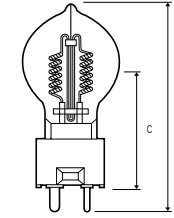


Fig. 10

Single-ended Quartzline® - Projector Lamps

W	V	ANSI	LIF	LM	BP		HxW	°K	A	C	H					FIG N°
30	6.6	**EXL**	–	375	–	C-8	3.3x1.3	2900	44.5	25	1000	GZ9.5	24	M	**11478**	–
30	10.8	**DZA**	–	800	BDTH	C-6	3.8x1.3	3100	51	27	400	G5.3	24	M	**37346**	4
50	12	**BRL**	**A1/220**	1400	BDTH	C-6	3.3x1.6	3400	44	30	50	G6.35	100	M	**18234**	1
100	12	**FCR**	**A1/215**	2800	BDTH	C-6 Oval	5.1x3.8	3300	44	30	50	GY6.35	100	M	**14876**	1
100	12	**FDT**	**A1/261**	2900	BDTH	C-6 Oval	5.8x3.8	3300	54	27	50	GZ9.5	24	M	**35321**	8
120	6.6	**EVV**	–	3150	–	C-6 Oval	6.4x3	3200	64	39	500	GZ9.5	24	M	**10099**	–
150	6.6	**EWR**	–	4100	–	C-6 Oval	6.4x.4.1	3200	64	39	500	GZ9.5	24	M	**11427**	–
150	15	**BRJ/EVB**	**A1/234**	5000	BDTH	C-6	4.8x3.0	3400	44	30	50	G6.35	100	M	**18235**	1
150	24	**DZE/FDS**	**A1/262**	4500	BDTH	C-6 Oval	6.4x3.8	3250	68	33	100	GZ9.5	24	M	**37695**	8
150	24	**FCS**	**A1/216**	4500	BDTH	C-6 Oval	6.4x3.8	3300	51	30	50	G6.35	100	M	**13598**	1
175	24	**EML**	–	5000	BDTH	C-6	5.3x4.8	3200	54	27	125	G5.3	24	M	**42612**	3
250	24	**EHJ**	**A1/223**	8000	BDTH	C-6 Oval	7.6x3.8	3400	57	33	50	G6.35	100	M	**14874**	1
275	24	**FNT**	–	10000	BDTH	C-6 Oval	3.5x7.1	3400	57	33	50	G6.35	100	M	**18241**	1
300	24	**FLW**	–	10200	BDTH	C-6 Oval	8.6x5.8	3500	55	33	50	GY6.35*	20	M	**19886**	2
400	36	**EVD**	**A1/239**	16000	BDTH	C-6 Oval	9.4x4.7	3200	60	36	50	GY6.35	25	M	**18238**	1
400	36	–	**A1/270**	14500	BDTH	CC	9x4.6	–	57	36	150	GY6.35	100	M	**30888**	7
500	230	–	**HX501**	11500	BDTH	–	–	3050	60	46	300	GX9.5	24	M	**35484**	5
600	120	**DYS**	**A1/264**	17000	BDTH	CC-6	12.7x6.4	3200	64	37	75	GZ9.5	24	CM	**32955**	9
600	120	**FFJ**	–	17000	–	CC-8	–	3250	–	–	85	R7S	24	–	**29592**	–
650	230	**DYR**	**A1/233**	16500	Any	2CC-8	11.4x11.4	3200	64	37	50	GZ9.5	24	CMN	**33248**	10
650	240	**DYR**	**A1/233**	16500	Any	2CC-8	11.4x11.4	3200	64	37	50	GZ9.5	24	CM	**33250**	10
800	120	–	**HX185**	19000	BDTH	–	–	3050	100	53	300	GX9.5	24	M	**32714**	6
800	230	–	**HX185**	19000	BDTH	–	–	3050	100	53	300	GX9.5	24	M	**30949**	6
800	240	–	**HX185**	19000	BDTH	–	–	3050	100	53	300	GX9.5	24	M	**35232**	6
1000	120	**BRH**	–	30000	–	CC-8	–	3350	–	–	60	R7S	24	–	**29604**	–

* Ceramic

Specialist Projector continued

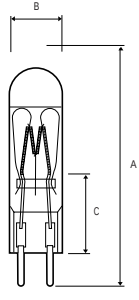


Fig. 1

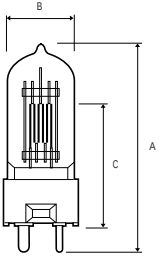


Fig. 2

A1 Class Projector Bulbs

W	V	LIF	LM	BP		A	B	C	H					FIG N°
150	220/230	**A1/248**	3000	BDTH	MP	62	16.3	40	50	G6.35	50	MT	**30584**	1
150	240	**A1/248**	3000	BDTH	MP	62	16.3	40	50	G6.35	50	MT	**30585**	1
300	220/230	**A1/249**	7200	BDTH	MP	62	16.3	40	50	G6.35	50	MNT	**30587**	1
300	240	**A1/249**	7200	BDTH	MP	62	16.3	40	50	G6.35	50	MNT	**30588**	1
500	220/230	**A1/244**	13000	BDTH	MP	75	28.5	36.5	75	GY9.5	24	MN	**39643**	2
500	240	**A1/244**	13000	BDTH	MP	75	28.5	36.5	75	GY9.5	24	MN	**39644**	2
650	240	**A1/247**	17750	BDTH	MP	75	28.5	36.5	75	GY9.5	24	MP	**39650**	2
800	220/230	**A1/245**	21500	BDTH	MP	87	28.5	44.5	75	GY9.5	24	MP	**39648**	2
800	240	**A1/245**	21500	BDTH	MP	87	28.5	44.5	75	GY9.5	24	MP	**39649**	2

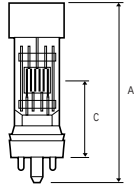


Fig. 3

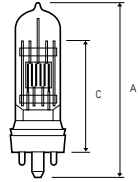


Fig. 4

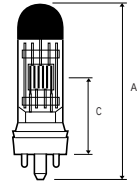


Fig. 5

G17q cap

W	V	ANSI	LIF	LM	BP		°K	A	C	H				FIG N°
500	240	–	**A1/241**	–	BDTH	BP	3200	83	40	50	24	MNSTQ	**39727**	5
500	120	**CBA**	–	–	BDTH	BP	3200	92	44	50	24	MNT	**36117**	3
500	220	**EPS**	**A1/268**	–	BDTH	MP	3250	94	40	50	24	MNS	**39728**	4
500	240	**EPS**	**A1/268**	–	BDTH	MP	3250	94	40	50	24	MNS	**39729**	4

Specialist Projector continued

Single-ended Tungsten Halogen Lamps

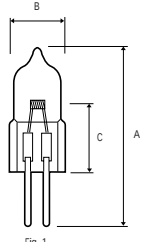


Fig. 1

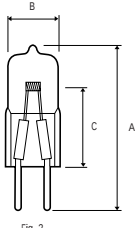


Fig. 2

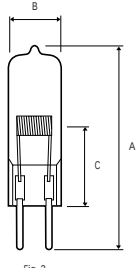


Fig. 3

Low Voltage single-ended capsule

W	V	LIF	A	B	C	LM	°K						FIG N°
10	6	**M29/ESA**	30	10	19.5	200	3200	G4	Trans	100	20	**34720**	1
20	6	**M30/ESB**	30	10	19.5	440	3200	G4	Trans	100	20	**34718**	1
50	12	**M32**	44	12	30	850	3000	G6.35	Trans	3000	20	**34702**	2
100	12	**M28/EVA**	44	12	30	2350	3000	G6.35	Trans	2000	20	**34676**	3
250	24	**M33**	55	13.5	33	8400	3000	G6.35	Trans	300	100	**34768**	3

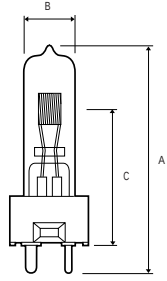


Fig. 4

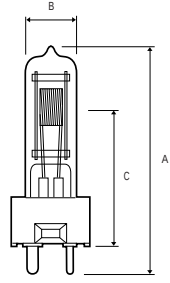


Fig. 5

Mains Voltage single-ended capsule

W	V	LIF	A	B	C	LM	°K						FIG.N°
300	120	**M38**	80	28.5	45.5	5500	2900	GY9.5	CC	2000	24	**39786**	4
300	220/230	**M38**	80	28.5	45.5	5000	2900	GY9.5	CC	2000	24	**39785**	4
300	240/250	**M38**	80	28.5	45.5	5000	2900	GY9.5	CC	2000	24	**39784**	4
500	220/230	**M40**	85	30	45.5	8500	2900	GY9.5	SC	2000	24	**39621**	5
500	240/250	**M40**	85	30	45.5	8500	2900	GY9.5	SC	2000	24	**39622**	5

Specialist Projector continued

Double-ended lamps with R7s caps

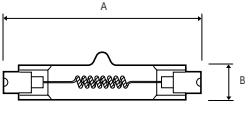


Fig. 1

Linear Projector Lamps

W	V	ANSI	LIF	A			A	B	°K				FIG N°	
200	20	**DDN**	–	Microfilm	–	CC-8	60.1	13.5	3150	24	M	**34570**	1	
375	30	**DWZ**	**A1/226**	Overhead projector	1000	CC-8	80.9	10	3000	24	M	**29578**	1	
420	120	**FAL**	**A1/227**	Overhead projector	75	CC-8	66.5	13.5	3200	24	M	**29581**	1	

Multi-Mirror® Quartzline® Projection lamps

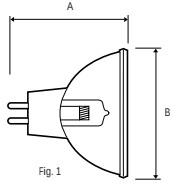


Fig. 1

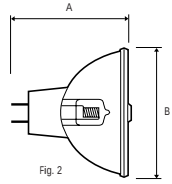


Fig. 2

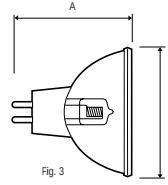


Fig. 3

MR-16 Faceted Dichroic Reflector

W	V	ANSI	LIF	A	H	–		A	B	°K				C	FIG N°
30	10.8	**EKZ**	–	16mm projection	200	40	C-6	44.45	50.67	3100	GX5.3	20	MV	**36902**	1
50	13.8	**DJT**	–	Microfilm	1000	155	CC-6	44.45	50.67	3150	GX5.3	20	MV	**44854**	1
50	8	**EFM**	**A1/229**	8mm projection	50	32	C-6	44.45	50.67	3300	GZ6.35	20	MV	**41251**	2
75	12	**EFN**	**A1/230**	8mm projection	50	32	CC-6	44.45	50.67	3350	GZ6.35	20	MV	**41252**	2
80	19	**DDM**	–	Slide projection	50	155	CC-6	44.45	50.67	3350	GX5.3	20	MV	**43206**	1
80	21	**DDS**	–	Microfilm	1000	165	CC-6	44.45	50.67	3125	GX5.3	20	MV	**43988**	1

Specialist Projector continued

MR-16 Faceted Dichroic Reflector continued

W	V	ANSI	LIF	A						°K					FIG N°
85	13.8	**DED**	–	Microfilm	1000	165	CC-6	44.45	50.67	3150	GX5.3	20	MV	**43950**	1
100	12	**EFP**	**A1/231**	8mm projection	50	32	CC-6	44.45	50.67	3350	GZ6.35	20	MV	**41253**	2
150	15	**EFR**	**A1/232**	8mm projection	50	32	CC-6	44.45	50.67	3350	GZ6.35	20	MV	**41254**	2
150	20	**DDL**	–	Microfilm	500	200	CC-6	44.45	50.67	3150	GX5.3	20	MV	**43537**	1
150	21	**ELD/EJN**	–	Microfilm	40	165	CC-6	44.45	50.67	3350	GX5.3	20	MV	**38306**	1
150	21	**EJM**	–	8mm projection	40	40	CC-6	44.45	50.67	3350	GX5.3	10	MV	**29151**	1
150	21	**EKE**	–	8mm projection	200	45	CC-6	44.45	50.67	3250	GX5.3	20	MV	**35200**	1
200	24	**EKX**	–	Microfilm	25	145	CC-6	44.45	50.67	3400	GX5.3	20	MV	**36899**	1
200	24	**EJL**	**A1/252**	16mm, Colour printer	50	32	CC-6	44.45	50.67	3400	GX5.3	20	MV	**29150**	1
250	24	**ELC**	**A1/259**	16mm, Colour printer	50	30	CC-6	44.45	50.67	3400	GX5.3	20	MV	**37462**	1
250	120	**ENH**	–	Slide projection	175	155	CC-8	44.45	50.67	3250	GY5.3	20	MV	**38686**	3
300	120	**ELH**	–	Slide projection	35	155	CC-8	44.45	50.67	3350	GY5.3	10	MV	**38476**	1
300	120	**ENG**	–	Slide projection	15	155	CC-8	44.45	50.67	3450	GY5.3	10	MV	**38685**	3

MR-16 Dichroic Reflector

W	V	ANSI	LIF	A											FIG Nº
80	19	**EJY**	–	Fibre optics	25	40	CC-6	44.45	50.67	3400	GX5.3	20	MV	**32886**	1
80	30	**ELB**	–	8mm projection	18	32	CC-6	44.45	50.67	3400	GX5.3	20	MV	**37412**	1
150	21	**EJA**	–	Fibre optics	40	28	CC-6	44.45	50.67	3350	GX5.3	20	MV	**32882**	1
150	21	**EJV**	–	8mm, printer	40	45	CC-6	44.45	50.67	3350	GX5.3	20	MV	**32831**	1

MR-16 Dichroic Reflector

W	V	ANSI	LIF	A			BP									FIG Nº
150	21	**DNF**	A1/266	8mm projection	25	70	Horiz	CC-6	45	50	3400	GX7.9	24		**39742**	1

Specialist Projector continued

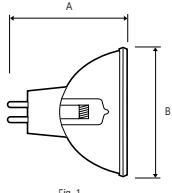


Fig. 1

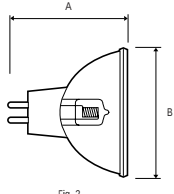


Fig. 2

MR-16 Faceted Dichroic Reflector

W	V	ANSI	A	H			A	B	°K				C	FIG N°
25	13.8	**FHX**	Microfilm	250	110	CC-6	44.45	50.67	3200	GX5.3	20	MV	**47914**	1
42	10.8	**EPT**	Fibre optics	8000	40	C-6	44.45	50.67	2900	GX5.3	20	MV	**41729**	1
50	12	**ENL**	Fibre optics*	4000	40	C-6	44.45	50.67	3050	GX5.3	20	MV	**25475**	1
50	13.8	**EPZ**	Microfilm	1000	110	CC-6	44.45	50.67	3150	GX5.3	20	MV	**43948**	1
50	13.8	**FML**	Microfilm	1000	215	CC-6	44.45	50.67	3150	GX5.3	20	MV	**14887**	1
80	19	**ENW/ENC**	8mm projection	200	45	CC-6	44.45	50.67	3200	GX5.3	10	MV	**40248**	1
90	14.5	**EPV**	Microfilm	500	155	CC-6	44.45	50.67	3150	GX5.3	20	MV	**41882**	1
90	14.5	**EPX**	Microfilm	500	165	CC-6	44.45	50.67	3150	GX5.3	20	MV	**42614**	1
150	120	**ESD**	Enlarger, projection	12	45	CC-8	44.45	50.67	3350	GY5.3	20	MV	**43756**	2
150	120	**EZK**	Camera light	200	–	CC-8	44.45	50.67	3200	GY5.3	20	MV	**15477**	2
200	24	**EWF**	Overhead projection	50	300	CC-8	44.45	50.67	3300	GX5.3	20	MV	**11132**	2
200	82	**EYA**	Enlarger	50	–	CC-8	44.45	50.67	3300	GY5.3	20	MV	**13152**	2
250	82	**EVW**	Overhead projection	50	300	CC-8	44.45	50.67	3300	GY5.3	20	MV	**11110**	2
250	120	**EXX**	Camera light	25	–	CC-8	44.45	50.67	3300	GY5.3	20	MV	**11750**	2
340	36	**ERV**	Overhead projection	75	300	CC-8	44.45	50.67	3300	GX5.3	20	MV	**41874**	2
360	100	**EPW**	Overhead projection	75	300	CC-6	44.45	50.67	3250	GY5.3	20	MV	**41702**	2
360	82	**ENX**	Overhead projection	75	300	CC-8	44.45	50.67	3300	GY5.3	20	MV	**41705**	2
410	82	**FXL**	Overhead projection	50	300	CC-8	44.45	50.67	3300	GY5.3	20	MV	**21613**	2

* Display lighting

Specialist Projector continued

Multi-Mirror® Quartzline® Projection lamps

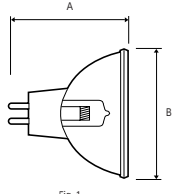


Fig. 1

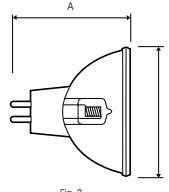


Fig. 2

MR-11 Faceted Dichroic Reflector

W	V	ANSI	A	H			A	B	°K				C	FIG N°
28	12	**FLS**	Microfilm	1000	216	CC-6	40	35.3	3000	GZ4	10	MV	**30894**	1
28	13.8	**FLT**	Microfilm	500	76 or 175	CC-6	40	35.3	3050	GZ4	10	MV	**31964**	1

MR-13 Faceted Dichroic Reflector

W	V	ANSI	A	H			A	B	°K					FIG N°
250	82	**EXY**	Slide projection	200	150	CC-8	44.4	42.4	3200	GX5.3	10	MV	**12097**	2
225	68	**EZF/EZJ**	Colour printer	500	–	CC-8	44.4	42.4		GX5.3	10	MV	**15832**	2
300	82	**EXR**	Slide projection	35	150	CC-8	44.4	42.4	3350	GX5.3	10	MV	**12092**	2
300	82	**EXW**	Slide projection	15	150	CC-8	44.4	42.4	3450	GX5.3	10	MV	**12095**	2
300	82	**FHS**	Slide projection	70	150	CC-8	44.4	42.4	3300	GX5.3	10	MV	**47614**	2

Specialist Projector continued

G7.9 Vented Cap Reflector Quartzline®

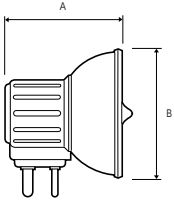


Fig. 1

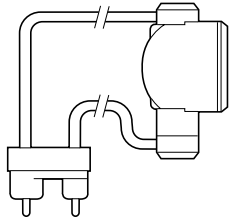


Fig. 2

MR-14 Dichroic Reflector

W	V	ANSI	LIF	A	H		BP		A	B	°K			FIG N°	
50	16	**ELS/ELR**	–	Microfilm	650	120	BDTH	CC-6	36	44.4	3100	GX7.9	24	**41885**	1
250	24	**EMM/EKS**	**A1/258**	16mm projection	50	67	BDTH	CC-6	42.2	44.4	3400	GX7.9	24	**40017**	1

High Intensity Arc

W	V	ANSI	D					°K			FIG Nº
300	35	**EZG**	Gemini 300 (EZG)	Quartz Arc Tube in 50mm dichroic reflector	Special 2-pin polarized plug	37	75	6000	4	**11134**	2
300	37.5	**EZM**	Marc-300/16 (EZM)	Quartz Arc Tube in 76mm dichroic reflector	Special 2-pin polarized plug	52	25	5500	4	**29469**	2
350	45	**EZT**	Marc-350/16T (EZT)	Quartz Arc Tube in 76mm dichroic reflector	Special 2-pin polarized plug	52	50	5000	4	**39936**	2

Gemini and Marc lamps should be operated with the plane of the reflector vertical.
These lamps should not be operated for periods of less than three minutes since short operating cycles reduce life and degrade performance.

Discharge Lamps

ConstantColor™ CMH lamps represent the latest advance in discharge lighting technology for use in a wide range of stage and studio applications.

CMH 150w

Lampes à Decharge

Les lampes CMH ConstantColor représentent la dernière avancée technologique des lampes à décharge, pour de nombreuses applications dans les domaines de l'éclairage des studios et plateaux de tournage.

CMH PAR

Lampade a Scarica

Le lampade CMH Constantcolor rappresentano l'ultima evoluzione nella tecnologia delle lampade a scarica e possono essere utilizzate per una vasta gamma di applicazioni stage & studio.

CSI

Lámparas de Descarga

Las lámparas ConstantColor CMH son el último avance en la tecnología de iluminación de descarga de alta intensidad y pueden ser utilizadas en una amplia variedad de aplicaciones de estudio y teatro.

Hochdruckentladungslampen

ConstantColor CMH Lampen vertreten den neuesten Fortschritt in der Hochdruckentladungstechnologie für die Nutzung einer großen Auswahl an Bühnen- und Studio-Anwendung.

Discharge lamps


Fig. 1

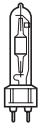


Fig 2


Fig 3

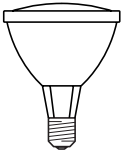


Fig 4

Ceramic Metal Halide (CMH)

W	CCT	CRI			F	BP		LM	D		FIG N°
35	3000	80+	–	G8.5	CLEAR	UNIVERSAL	9000	3400	CMH35/TC/UVC/U/830/G8.5	**38697**	1
70	3000	80+	–	G8.5	CLEAR	UNIVERSAL	9000	6400	CMH70/TC/UVC/U/830/G8.5	**38700**	1

Single Ended

35	3000	80+	T6	G12	CLEAR	UNIVERSAL	9000	3400	CMH35/T/UVC/U/830/G12	**38696**	2
70	3000	80+	T6	G12	CLEAR	UNIVERSAL	12000	6400	CMH70/T/UVC/U/830/G12	**36844**	2
70	4200	90+	T6	G12	CLEAR	UNIVERSAL	12000	6000	CMH70/T/UVC/U/942/G12	**38701**	2
150	3000	80+	T6	G12	CLEAR	UNIVERSAL	12000	14000	CMH150/T/UVC/U/830/G12	**36863**	2
150	4200	90+	T6	G12	CLEAR	UNIVERSAL	12000	13000	CMH150/T/UVC/U/942/G12	**38694**	2

PAR

W	CCT	CRI			F	BP		LM	D		FIG Nº
35	3000	80+	E27	–	CLEAR	UNIVERSAL	9000	3000C	MH35/PAR20/UVC/830/E27/SP	**41883**	3
35	3000	80+	E27	–	CLEAR	UNIVERSAL	9000	3000C	MH35/PAR20/UVC/830/E27/FL	**41884**	3
35	3000	80+	E27	–	CLEAR	UNIVERSAL	9000	3000C	MH35/PAR30/UVC/830/E27/SP	**41886**	3
35	3000	80+	E27	–	CLEAR	UNIVERSAL	9000	3000C	MH35/PAR30/UVC/830/E27/FL	**41887**	3
35	3000	80+	E27	–	CLEAR	UNIVERSAL	9000	4700C	MH35/PAR30/UVC/830/E27/SP	**41621**	3
35	3000	80+	E27	–	CLEAR	UNIVERSAL	9000	4700C	MH35/PAR30/UVC/830/E27/FL	**41620**	3

Double Ended

W	CCT	CRI			F	BP		LM	D		FIG Nº
70	3000	80+	T6	Rx7s	CLEAR	HORIZONTAL ± 45	15000	7000	CMH70/TD/UVC/830/Rx7s	**36910**	4
70	4200	90+	T6	Rx7s	CLEAR	HORIZONTAL ± 45	15000	6200	CMH70/TD/UVC/942/Rx7s	**38698**	4
150	3000	80+	T7	Rx7s-24	CLEAR	HORIZONTAL ± 45	15000	14500	CMH150/TD/UVC/830/Rx7s-24	**36912**	4
150	4200	90+	T7	Rx7s-24	CLEAR	HORIZONTAL ± 45	15000	12500	CMH150/TD/UVC/942/Rx7s-24	**38692**	4

Discharge lamps continued

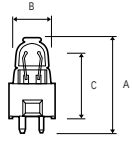


Fig. 1

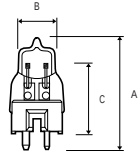


Fig. 2

CSS

W	V	OC	LM	°K	A	B	C			
140	85	CSS150/850/GY9.5	10000	5000	48	22	30	1000	10	GY9.5
575	95	CSS575/855/GY9.5	40250	5500	94	22	52	500	10	GY9.5

XY										
X0.346	Y0.358	80	BDH	6	1.87	120	3	3.5 - 5	**34813**	1
X0.322	Y0.341	85	BDH	9	7	60	5	9	**34822**	2

CSI/CID Lamps
(Compact Source Iodide/Compact Iodide Daylight)

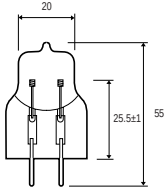


Fig. 3

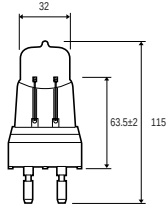


Fig. 4

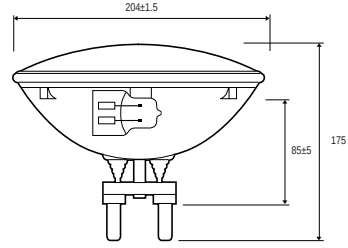


Fig. 5

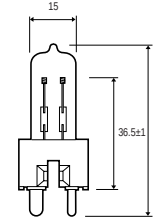


Fig. 6

Special bipin base (2 pin 9mm)

W	V	OC	LM 100	%H	H	°K	XY		BP	mm	
400	100	99-0201	32000 CSI	85% at 500 hrs	500	4000±400	X0.385 y0.395	80	VBD±90	9±1	±0.5 spacing 0.76 dia

amp	RC	S	R	I			C	FIG N°
5	30	9 Peak	5	G53444 or Bag Turgi SE15/7U	G53371.T	7xGC2331 40µF 250V	**30555**	3

Discharge lamps continued

G22 base (medium bipost)

W	V	OC	LM 100	%	H	°K	XY		BP	mm	
1000	77	99-0221 CSI	90000	85% at 500 hrs	500	4000±400 y0.395	X0.385	80	VBD±90	14±1	– –

amp	RC	S	R					FIG N°
15	60	9 Peak	5	G53444 or Bag Turgi SE15/7U	G53307.T	7xGC2346 175µF 250V	**30558**	4

G38 base (mogul bipost)

W	V	OC	LM 100				°K	XY		BP	
1000	77	99-1222 CSI	1350000	6	18	3500	3800±500 y0.395	X0.393	80	HOR±90	15±1.5
1000	77	99-1422 CSI	1350000	6	18	3500	3800±500 y0.395	X0.393	80	HOR±90	15±1.5

amp	RC	S	R	I				FIG N°
15	60	12 Peak	10	G53444 or Bag Turgi SE15/7U	G53307.T	7xGC2346 175µF 250V	**29333**	5
15	60	25*	Instant (hot restrike)	G53352.T or IREM AD1540	G53307.T	7xGC2346 175µF 250V	**29336**	5

*Measured between sphere gap of 7.5mm in air

Circuit diagrams for these lamps can be found on pages 74-76 this includes other essential components

Discharge lamps continued

Special Bipin base

W	V	OC	LM 100	%		°K	XY		BP	mm
200	70	99-0211 CID	14000	90% at 150 hrs	150	5500±400	X0.332 y0.341	85	VBD±90	5.5±1.5

amp	RC	S	R	I				FIG N°
3.3	60	12 Peak	Instant (hot restrike)	IREM AD312R	G53398.T	GC2382 35µF 250V	**30560**	6

Circuit diagrams for these lamps can be found on pages 74–76 this includes other essential components

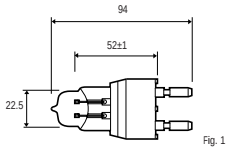


Fig. 1

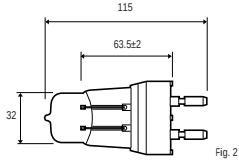


Fig. 2

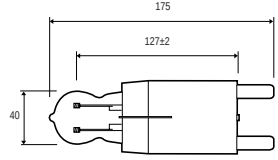


Fig. 3

G22 base (medium bipost)

W	V	OC	LM 100	%	H	°K	XY		BP	mm
575	95	99-0415 CID	40250	90% at 500 hrs	500	5500±400	X0.322 y0.341	85	VBD±90	9±1
1000	77	99-0222 CID	70000	90% at 500 hrs	500	5500±400	X0.332 y0.341	85	VBD±90	15±1.5

amp	RC	S	R	I				FIG.N°
7	60	9 Peak	5	G53444 or Bag Turgi SE15/7U	IREM ZA57	4xGC2331 80µF 250V	**30563**	1
15	60	9 Peak	5	G53444 or Bag Turgi SE15/7U	G53307.T	7xGC2346 175µF 250V	**30561**	2

Discharge lamps continued

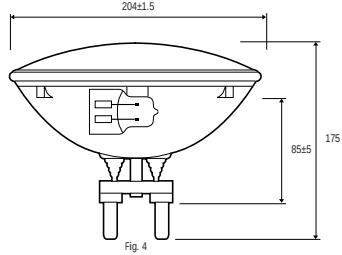


Fig. 4

G38 base (mogul bipost)

W	V	OC	LM 100	% (H)	(H)	°K	XY		BP	mm
2500	100	99-0431 CID	200000	90% at 350 hrs	350	5500±400	X0.332 y0.341	85	VBD±90	18±1

amp	RC	S	R	I				FIG N°
28	60	50*	Instant (hot restrike)	IREM AD30/50	2x G53307.T	11xGC2346 275µF 250V	**30567**	3

* Measured between sphere gap of 17mm in air

G38 base (mogul bipost)

W	V	OC	LM 100			H	°K	XY		BP	mmK
1000	77	99-1225 CID	850000	8	20	1500	5500±400	X0.333 y0.341	85	HOR±90	15±1.5
1000	77	99-1425 CID	850000	8	20	1000	5500±400	X0.333 y0.341	85	HOR±90	15±1.5
1200	100	99-1435 CID	820000	9	18	1000	5500±400	y0.332 y0.341	85	HOR±90	18±1

amp	RC	S	R	I				FIG N°
15	60	12 Peak	10	G53444 or Bag Turgi SE15/7U	G53307.T	7xGC2346 175µF 250V	**30360**	4
15	60	25*	Instant (hot restrike)	G53352.T or IREM AD1540	G53307.T	7xGC2346 175µF 250V	**30371**	4
14	80	50**	Instant (hot restrike)	IREM AD1550	G53307.T	6xGC2346 150µF 250V	**30372**	4

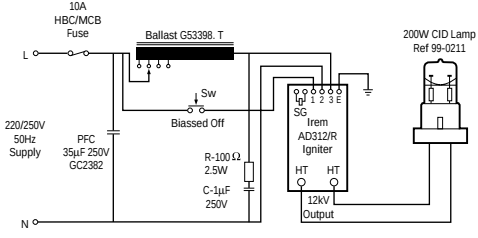
* Measured between sphere gap of 7.5mm in air

** Measured between sphere gap of 17mm in air

Circuit diagrams for these lamps can be found on pages 74–76 this includes other essential components

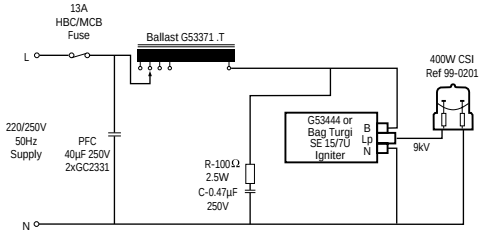
Discharge lamps continued

200 Watt CID Hot-Restart Lamp Circuit Diagram



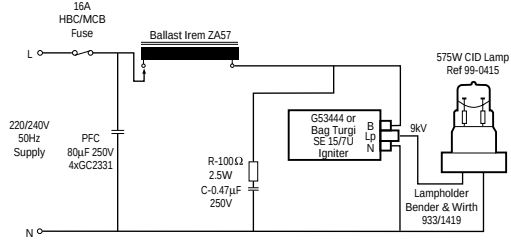
Sw - Normally open contacts - Manual switch or 2 second ON timer
Maximum cable capacitance between igniter and lamp - 30pF (200mm length)

400 Watt CSI Lamp Circuit Diagram



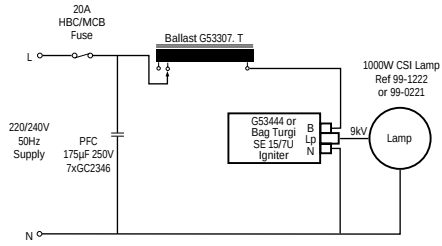
Maximum cable capacitance between igniter and lamp - 50pF (300mm length)

575 Watt CID Lamp Circuit Diagram



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

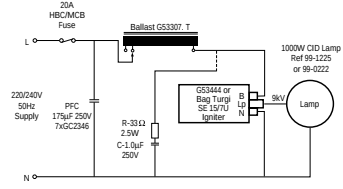
1000 Watt CSI Lamp Circuit Diagram



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

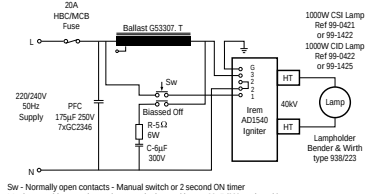
Discharge lamps continued

1000 Watt CID Lamp Circuit Diagram



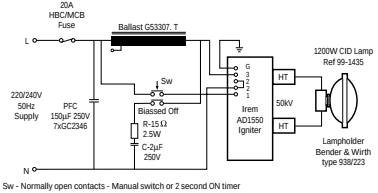
Lampholder for 99-1222 - Bender & Wirth 938/223 and for 99-0222- Bender & Wirth 933/1419
R/C components necessary ONLY when used on a 220V rate supply
Maximum cable capacitance between igniter and lamp - 50pF (300mm length)
Replace G53445 (or Bag Turgi SE600/D) igniter sparkgap element when replacing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

1000 Watt CSI/CID Hot-Restart Lamp Circuit Diagram



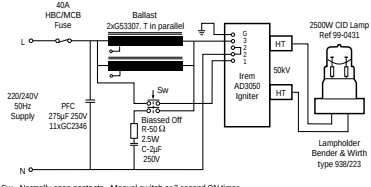
Sw - Normally open contacts - Manual switch or 2 second ON timer
Maximum cable capacitance between igniter and lamp - 30pF (200mm length)

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)

Discharge lamps continued

Blacklight Blue (produce long wave ultra-violet light)

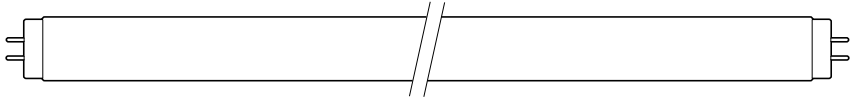


Fig. 1

T12

W	A		D	H			FIG N°
20	600	**F20T12/BLB**	Blacklight Blue	9000	6	**34747**	1
40	1200	**F40BLB**	Blacklight Blue	20000	6	**25618**	1

Technical information

Explanation of lamp codes

Lamps listed in this catalogue are those designed for use as follows:

A1 Prefix - L.I.F. (Lighting Industries Federation) reference indicates lamps which were primarily designed for use with slide, film and overhead projectors.

ANSI Codes - These 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 from various manufacturers.

CP Prefix - Lamps designed for use in conjunction with film balanced for 3200K. These are single ended types intended for use in Fresnel/ellipsoidal luminaires etc.

P2 Prefix - Again for use with 3200K film stock for open faced luminaires and video sun guns.

P1 Prefix - For use with 3400K film stock.

T Prefix - Lamps intended for theatre luminaire applications. These are of lower colour temperature (2900 - 3050K) and longer life than the often similar CP types above.

C.S.I. - Discharge lamps with a colour temperature of around 4000K for outside broadcast and follow spot use.

C.I.D. - Discharge lamps with a colour temperature of 5500-6000K for location filming and applications such as disco lighting where a very bright compact source is required.

Special and Experimental Lamps

In addition to these standard ranges, a number of similar types are available to special order and in most cases, a minimum order quantity will apply. These include non-standard voltage ranges of some types e.g. 100V, 100/115V, 120V and also a number of types which have the GE “HX” or “THE” prefix.

Lamp Bases

The listings use the IEC International designations for lamp bases. Where appropriate, alternative local descriptions are appended.

Incandescent tungsten halogen lamps

Filament Format

The listings use the following codings for filament shape:

S.C. - Axial Single Coil - equivalent to ANSI C8

C.C. - Axial Coiled Coil - equivalent to ANSI CC8

M.P. - Monoplane Grid - equivalent to ANSI C13

B.P. - Biplane Grid - equivalent to ANSI C13D

T.F. - Twin Monoplane Grid - equivalent to ANSI 2C13

S.C.H - Single Coil Hexagonal - equivalent to ANSI 6-C8

S.C.S - Single Coil Square - equivalent to ANSI 4-C8

CP Range of Lamps for Fresnel and Spotlight Fittings

As the result of extensive and sustained development work, much of it original, GE are able to offer a comprehensive range of lamps of quartz construction, operating on the tungsten halogen principle for all Television Studio, 'motion picture', and Theatre lighting purposes.
GE has been strongly supported by the television and film industries in its decision to discontinue glass lamps for studio lighting purposes. This is because the industry has appreciated the financial advantages of quartz halogen lamps, their reliability and virtually constant colour temperature.
The increase in the use of the lamps we now manufacture is due to the GE policy of exploiting the important advantages of compact size offered by quartz halogen construction.
As a result GE are able to supply quartz halogen lamps for use in Fresnel and spotlight fittings from 300 watts to 10,000 watts. These lamps employ a wide range of commonly accepted bases. This gives fittings manufacturers a comprehensive range of compact lamps and permits the construction of smaller, lighter and more efficient luminaires.

Rated Average Life

Average life ratings of Projection Lamps are based on closely controlled laboratory tests of lamps, at their rated voltage, over a long period of production time. Rated Average Life is not necessarily the same as service life; mechanical shock and vibration, voltage fluctuation, temperature and other environmental factors may result in shorter service life. As with any average value, some individual lamps may operate longer, and some may operate shorter, than their Rated Average Life. (Supply voltage variation can significantly affect lamp life; see comments under Lamp Life Ratings, page 8).

'T' Class Lamps for Theatre Spotlight Fittings

With this group of lamps GE are continuing their policy of developing quartz halogen lamps.These lamps operate at a lower colour temperature than the CP range. An average life of a remarkable 750 hours is achieved for most of the GE range. Similar cost savings to those offered by quartz halogen CP lamps are now presented by the quartz halogen 'T' range.

Typical Working Distance

For Multi-Mirror® and other reflector lamps and MARC™ lamps, the Working Distance shown is the distance from the front surface of the reflector rim to the film plane, in the optical system for which the lamp was first designed. In most cases, it provides a uniform plane of light for the intended aperture.

Light Centre Length (LCL)

This dimension defines the location of the filament in relation to the lamp base. It is measured from the geometric centre of the filament to a specified point on, or plane through, the base. Light Centre Length is subject to manufacturing tolerances.

Maximum Overall Length (MOL)

This dimension includes the lamp bulb and all rigid parts of the base. Since the listed lengths include maximum tolerances, actual lamps are generally slightly shorter.

Approximate Initial Lumens

The value shown is based on spherical photometry, at rated voltage, of lamps that have been seasoned for approximately 15% (or a minimum of 2 hours) or more of their rated average life.

Approximate Colour Temperature

The radiation within the visible spectrum from tungsten filament lamps is similar in spectral distribution to that from a “blackbody” at specific colour temperatures. The Colour Temperatures shown are approximate initial values in Kelvin (K) for lamps operated at rated voltage.
As the spectral distribution of MARC lamps does not conform to that of a “blackbody”, the values shown are ‘correlated’ colour temperatures expressed in Kelvin.

Important Notice

This catalogue contains accumulated data to January 2000. Additional information is constantly being uncovered through research and testing, which may modify the data given herein. This is particularly true of newer lamps. For the latest lamp design data and information, contact your General Electric Lamp Representative.

The data and suggested applications contained in this catalogue, as well as any additional information our representative may be able to furnish, are for general information only and are not intended and should not be taken as representations or warranties as to the suitability of a lamp for any particular attention or use in any particular equipment, nor are our representatives authorised to make any such representations or give any such warranties. Applications and conditions of use are many and varied, and beyond our control. We cannot possibly have the same degree of knowledge that the purchaser has with respect to the design of their equipment and the conditions of its use. Therefore, it is up to the purchaser to make their own determination as to the suitability of a lamp for his intended application or use 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.

Operating Notes

Caution notices are included with all lamps. Users are urged to read and comply with these.

Operating precautions

All lamps in this catalogue must be operated with a series fuse in the circuit, as directed in the Technical Digest.

Lamps of quartz construction use a gas filling at a pressure higher than atmospheric and as the lamp can in rare instances shatter in use, suitable shielding techniques should be employed where appropriate. Also protect the lamp from mishandling, scratches and abrasions, and do not operate at above correct rated voltage.

Operating position

For good performance lamps must be used within specified limitations on operating position. The following abbreviations are used in the lamp tables to indicate these limits:

BD - Base Down. Operate only vertical, base down.

BU - Base Up. Operate only vertical, base up.

BDTH - Base Down To Horizontal. Do not operate with base above horizontal.

Horiz. - Horizontal. Operate only in horizontal position.

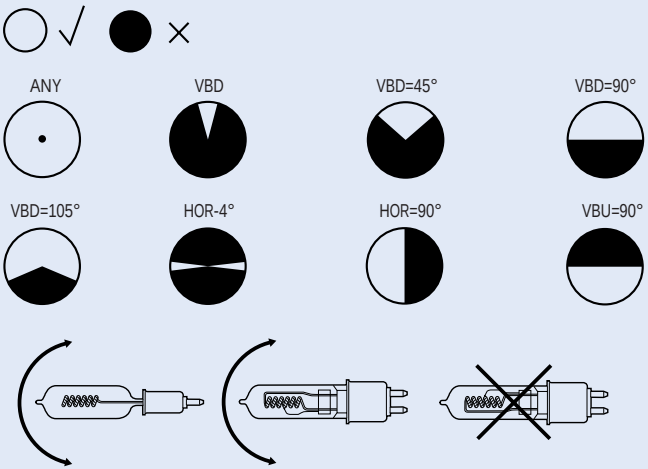


Fig. 1

Axial coiled coil single ended lamps will generally give better reliability against premature arcing if orientations in which the main support spine is under the filament are avoided.

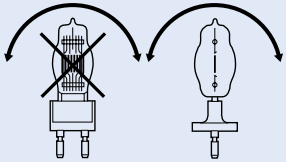


Fig. 2

The lamp must not be rotated in the filament plane (or electrode plane).

Health and safety guide

Special Precautions for Quartz Halogen and Discharge Lamps

1 To avoid any possibility of electrical shock, disconnect the equipment from the power supply before removing and/or replacing the lamp or fuse.
2 Articles fabricated from quartz or glass are inherently fragile and there is a remote possibility of a lamp shattering violently if subjected to mechanical/thermal shock or abrasion. Inserting the lamp into the holder, by holding the bulb, could cause mechanical breakage of the envelope and/or seal. For your safety install by holding the lamp cap and use eye protection where appropriate.
3 Oils/grease or handling of the quartz envelopes may contaminate the surface on operation and reduce performance. If the quartz is handled, clean before operation with a lint free cloth moistened with alcohol or Methylated Spirit.
4 Avoid improper operation of the lamp, e.g. at over voltage, in equipment (or at burning angles) not designed for the lamp type or rating. Operate in series with a quick acting, high breaking capacity fuse of suitable rating. Non-observation of these points may damage the lamp or equipment.
5 In operation,
a) lamps develop a high internal pressure and could shatter.
b) lamps develop a high surface temperature.
c) direct exposure may cause ultra-violet irritation to skin and eyes.
The use of glass or other UV filters is advised if the lamp is used in close proximity or for a prolonged period. When reflectors are used to concentrate the light the safe exposure period will be reduced. Appropriate screening for people and surroundings must be provided. Avoid operation in proximity to combustibles. Allow to cool before attempting replacement.
6 Life expired lamps should be broken in a suitable robust container, or wrapping, to retain flying fragments. There is a toxic content in the fill gas and larger quantities should only be broken in a well ventilated area.

Additional Special Precautions for the Operation of Metal Halide Discharge Lamps

7 Check that replacement lamp is correct type for the application, that rating, cap and control gear are correct.

8 Lamps having outer bulbs must not be operated if the outer glass is broken.

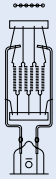
9 Instructions given with metal halide lamps must be carefully followed in all respects. Protection against the explosion of lamp must be maintained, do not remove any covering or shields until the lamp is located in an approved enclosed housing.

10 Certain lamps generate ozone in use and should be operated only in well ventilated locations.

11 Metal halide lamps with quartz envelopes without glass outer bulbs may emit short wave ultra violet radiation which is harmful to eyes and skin. Operators must be shielded from direct or indirect short wave ultra violet radiation.

Filament designation

The configuration of the filaments in all tungsten filament lamps is identified by a prefix letter or letters, followed by a number. The letter indicates whether the wire is a single coil (C) or coiled coil (CC); the number indicates the form or arrangement of the coil on its support structure. Note that the illustrations are not to scale.



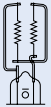
Planar (MP) C13
Monoplane

Biplanar (BP) C13d
Biplane

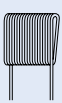
C2V

C7A

C9



2C8 2CC8



C6 Oval

CC6 (Reflector)

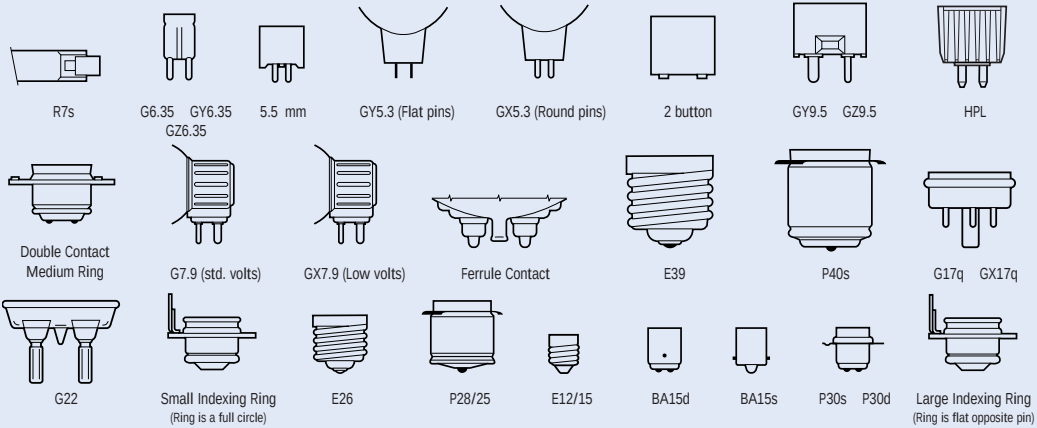
CC8 (Reflector)

C6 CC6

C8 CC8

Lamp caps

Typical caps used on the Photographic lamps listed in this catalogue are shown below along with their IEC codes and normal names or common abbreviations. The IEC codes are used in the majority of table entries. Note that the illustrations are not to scale.



Lamp Comparison and Construction

Lamps for Ellipsoidal Spotlights

A problem is encountered with some ellipsoidal spotlight luminaires due to the fact that a portion of the reflected beam of light is directed onto the cap of the lamp designed for Fresnel fittings. This leads to overheating of the cap and seal which may result in premature lamp failure.

GE have therefore designed lamps intended for use in ellipsoidal spotlights where the size of the cap has been reduced and the neck length correspondingly increased, thus removing the critical seal area from the reflected radiation and ensuring that optimum lamp life is obtained.

Linear and 'U' Lamps - for Studio Lighting 3200K

Whilst a comprehensive selection of lamps for spotlight fittings is important to the lighting director, of almost equal importance is a range suitable for the many different fittings now on the market which use tungsten halogen lamps of tubular construction. GE believe their range gives a wide choice and is unmatched in performance and reliability.

Hard glass Halogen compared with Quartz Halogen

The tungsten halogen principle is now so well known and documented elsewhere that it is considered unnecessary to describe it here. However should you require details of this principle then please contact GE Lighting Ltd or your nearest Subsidiary Company. It is important to distinguish between hard glass lamps that merely have a halogen compound added to the filling gas and lamps such as those enumerated, which are of quartz construction. The former are from the point of view of life and performance identical to conventional glass lamps of the same rating, the halogen only serving to prolong the usefulness of the lamp by preventing internal blackening due to evaporated tungsten. However, once a lamp is constructed from quartz with its higher melting point, instead of glass, the designer can make use of the much greater strength of the small envelope. It is then possible to increase the filling pressure which by reducing tungsten evaporation from the filament prolongs the life of the lamp to at least twice that of a glass lamp of equivalent efficacy.

Biplane or Monoplane?

The filament format of a lamp will have an effect on the beam performance of a luminaire.

In Fresnel optics a biplane filament will, due to its smaller area, produce a narrower spot of slightly increased peak intensity, compared to an equivalent monoplane filament. However, in intermediate and flood positions better light collection is obtained from a monoplane source, as the additional light collected by the rear mirror is largely obscured with a biplane source. A wider angle beam for a given intensity is thus provided by a monoplane filament.

Ellipsoidal optics are designed around a specific filament area. Larger areas will allow some of the light to fall outside the gate and be lost. A smaller filament area will concentrate the light on the centre of the gate producing a hot spot. The choice between a monoplane and a smaller equivalent biplane is, therefore, dependent on luminaire design and customer preference.

GE pursue a policy of allowing the customers to make this choice by offering both monoplane and biplane versions of relevant lamp types.

Arc Prevention in Tungsten Halogen Studio Lamp Applications

Almost all production personnel in the film and television industry have at some time encountered sudden failure of incandescent studio lamps. When this occurs at a crucial moment and forces a re-shoot the cost can be considerable.

The significant features of these failures were that they almost always occurred during the first 20 hours of use and the incidence of failure increased with operating temperatures. Failure invariably resulted from an arc across the filament plugs which destroyed the tails of the filament.

Tungsten halogen lamps are gas filled. The introduction of hydrogen is predicted to react with the halogen to 'slow down' the tungsten halogen cycle. In addition it is known that hydrogen will slowly diffuse through the hot quartz bulb so that the hydrogen concentration would gradually diminish.

The rate of loss of hydrogen during lamp operation is less than previously predicted and based upon spectraradiometer measurements and calculations, maximum protection is only required during the initial 50 hours of life. Hence the use of hydrogen additions is the most advantageous method of ensuring reliable operation of lamps during early life, particularly in demanding operating conditions.

GE Lighting offer lamps with proprietary hydrogen addition*.This offers adequate arcing protection without significantly interfering with the halogen cycle.

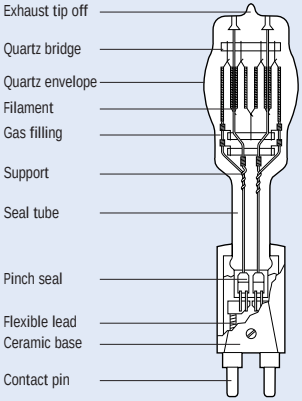
*owned by GE under US PAT #4743802

Lamp performance as a function of operating voltage

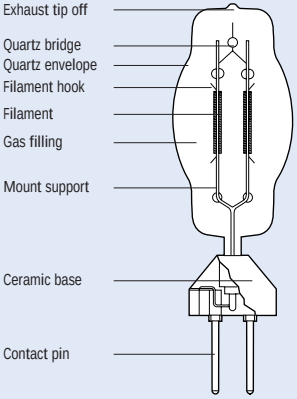
Tungsten halogen lamp performance (light output, power consumption, life, colour, temperature) is a strong function of operating voltage. The rated performances claimed in this catalogue have been achieved at nominal rated volts. Operating the lamps at other than the rated voltage will significantly affect performance, as shown graphically on pages 100 and 101. All lamps are designed for use with proprietary dimming equipment as required.

Lamp comparison and construction

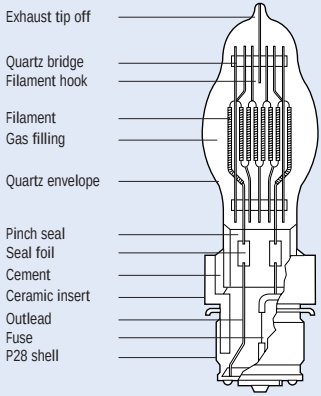
A typical high wattage studio lamp



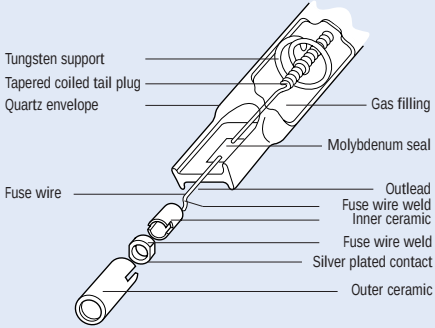
A typical 4 pin twin filament studio lamp



A typical low wattage theatre class tungsten halogen lamp

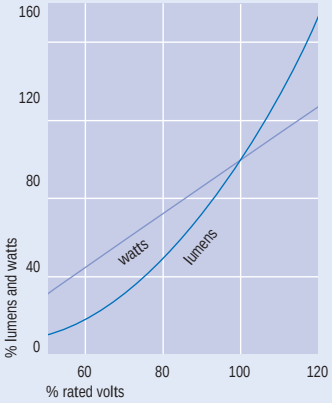


End section of a typical quartz linear tungsten halogen lamp

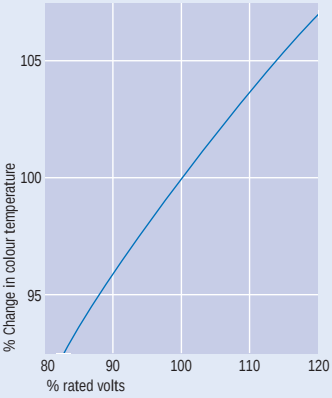


Lamp comparison and construction

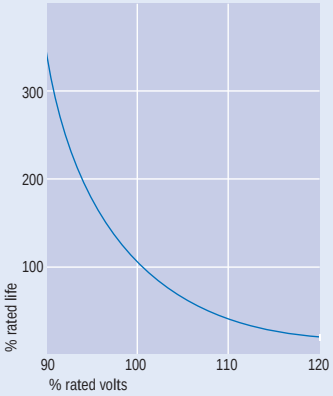
Variation of light output and wattage with applied voltage for a typical studio lamp



Colour temperature variation with voltage for typical studio lamp

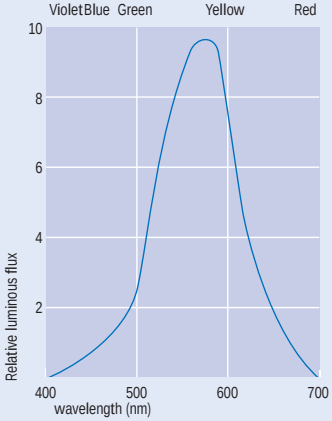


Typical life variation against operation voltage

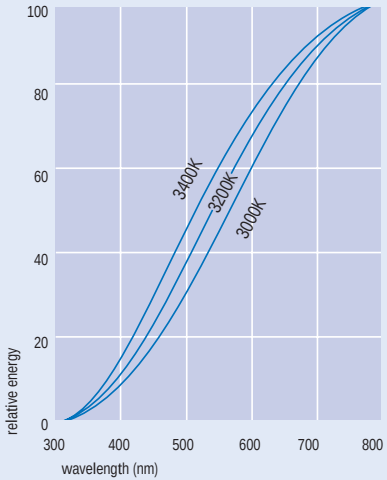


Spectral distribution of luminous flux (lumens) for typical theatre and studio lamp

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 only 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

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 - 450°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.

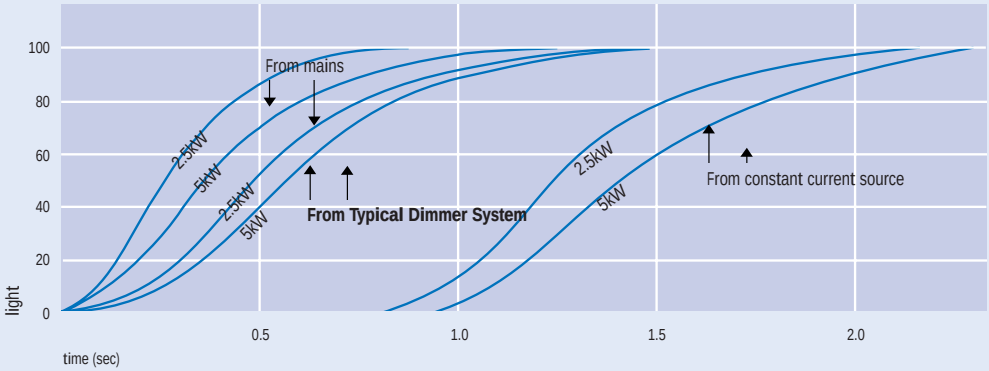
Bulb - 250° - 800°C

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 deterioration may form local hot spots which rapidly worsen and may result in arcing and irrepairable 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



Surge Current

The cold resistance of a halogen studio lamp is approx. 1/17 of its value in normal operation. On switch on, theoretically a surge current of 17√2 x the normal current would flow and depending on the thermal mass of the filament* this will fall to the lamp normal current in approx. 1 sec. In practice this maximum theoretical current does not appear due to (a) switch on does not always occur at the peak of the AC voltage, (b) the supply has some impedance which is comparable with the cold resistance of high wattage lamps, i.e. maximum possible surge current where V is the applied voltage and Z is the sum of the lamp cold resistance and the supply impedance.

Typically supply impedance is the order of 0.3 ohm and lamp life is based on testing with such a supply. In the rare cases where the line impedance is lower than this figure, an adverse effect on life may be encountered particularly with high wattage types, due to the then extremely high surge current on switching.

lamp	type	cold resistance (ohms)	max. surge current (amps) line impedance = 0 ohms	0.1 ohms	0.3 ohms	0.5 ohms	normal operating current
240V	10kW	0.34	1000	774	530	405	41.5
240V	5kW	0.7	486	424	340	283	20.8
115V	5kW	0.15	1085	650	360	250	43.5
240V	2kW	1.7	200	189	170	154	8.35
117V	2kW	0.41	404	324	233	182	17.1
240V	1kW	3.4	100	97	92	87	4.15

Fusing of Tungsten Halogen Studio and Theatre Lamps

A lamp normally fails at end of life by fusing of the filament. Often an arc then forms and as there is little resistance to limit the current this rises to a very high value which if maintained can result in a serious overload on the envelope and seals. This might result in the lamp shattering. A quick acting high breaking capacity fuse must be connected in the supply line in all applications. Suitable types are given in BS88 (IEC 269), IEC 127 or IEC 241.

lamp power (watts)	fuse (rated current) (amps) 100-115V	115-130V	220-250V
500	6	6	4
650	10	6	4
1000	16 (15 UK)	10	6
1500	20	16 (15 UK)	10
2000	25 (30 UK)	25 (20 UK)	10
2500	35 (30 UK)	25 (30 UK)	16 (15 UK)
5000	63 (60 UK)	50	25 (30 UK)
10000	125	100	50

Discharge lamps

Even with all the advances which have been made in tungsten halogen technology in recent years there are still occasions, particularly whilst working on location, when handling the number of fittings required to give an acceptable illumination level can be a logistical headache.

One GE metal halide discharge lamp can provide more light than three tungsten halogen lamps of the same rating. That means one third the power consumption and one third the number of fittings to transport and aim. The potential for major cost savings is clear.

GE Lighting has led the way in adapting discharge lamps for use in the performing arts. The company was the first and for many years the only manufacturer to offer metal halide lamps in the compact, single ended capsule format. The minimal dimensions of these lamps can be incorporated into fittings which are much smaller than corresponding luminaires using double ended lamps of the same power. With a near point light source excellent optical control is possible.

Compact iodide lamps are also available in a sealed beam format. With the light source carefully positioned in the reflector, optimum optical performance is guaranteed.

The nitrogen filling gas in the outer bulb prevents oxygen attacking the seal of the inner capsule and so increases the life of the lamp dramatically.

All CID discharge studio and stage lamps are dimmable to 50% of peak lumens and the great majority are available in hot re-strike versions for applications where frequent changes in lighting levels are required. All lamps will re-strike within ten minutes of switch off.

Compact Iodide Daylight (CID) Discharge Lamps

With a colour temperature of 5500K these lamps provide an excellent simulation of daylight. For location filming, colour matching with natural light presents no problem.

In the studio, interior scenes can be given a realistic appearance. As relatively small numbers of lamps are required the amount of heat generated is substantially less than under tungsten halogen lamps giving the same illumination. For all personnel the working environment is much more comfortable. Of course, the running costs are correspondingly lower too.

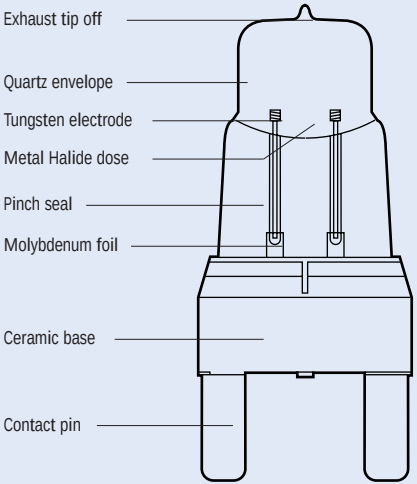
In the theatre CID discharge lamps are particularly useful in follow spotlights. The very high light output from a point source creates a very intense, sharp beam.

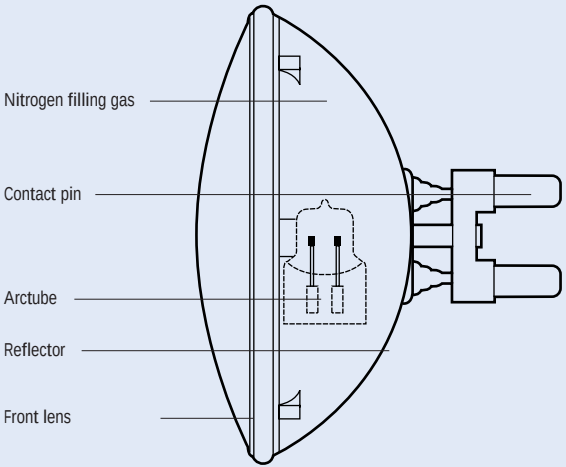
Compact Source Iodide (CSI) Discharge Lamps

CSI lamps offer all the advantages of the CID range, but operate at the warmer colour temperature of 4000K. This allows the lamps to be readily blended with tungsten halogen lighting.

Compact Source Special (CSS) Discharge Lamps

These lamps are specially developed for disco and fibre optics applications. Life may be extended if fan or forced cooling is used.


Exhaust tip off
Quartz envelope
Tungsten electrode
Metal Halide dose
Pinch seal
Molybdenum foil
Ceramic base
Contact pin


Nitrogen filling gas
Contact pin
Arctube
Reflector
Front lens

Operating Temperature of Discharge Studio Lamps

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

Cap/bulb interface capsule lamps - 450° 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

capsule lamps 700° - 1000°C
sealed beam lamps 150° - 400°C

Above 1000°C, quartz may devitrify, which will cause the arc tube to leak, loss of dose will cause the arc tube to operate below the minimum temperature, the metal halides will not vaporise as required, and lamp performance will be impaired.

Pins - 350°C maximum

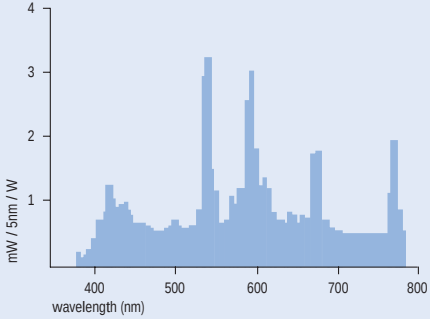
Above this figure the plating on the pins may lose adhesion and the contact will deteriorate. Such deterioration may form local hot spots which rapidly worsen and may result in arcing and irreparable damage to both lamp and holder. Should signs of this be evident on removal of a failed lamp, it is important 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.

N.B. For sealed beam lamps - to ensure that the above conditions are met, it is important that the lamp does not operate above 400°C even in an enclosed fitting.

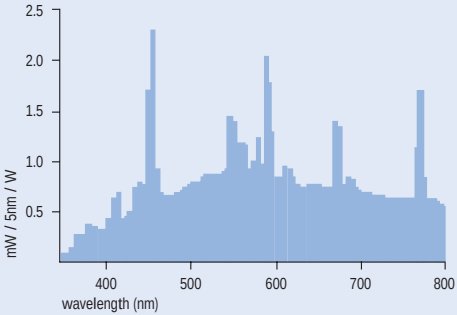
Fusing of Discharge Studio and Theatre Lamps

A quick acting high breaking capacity fuse must be connected in the supply line in all applications. Suitable types are given in BS88 (IEC 269), IEC 127 or IEC 241. See pages 40 & 41 for suitable fuse ratings.

Spectral distribution of luminous flux (lumens) for CSI discharge lamps



Spectral distribution of luminous flux (lumens) for CID discharge lamps



Index

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
300PAR56/NSP	12				•			
300PAR56/MFL	12				•			
300PAR56/WFL	12				•			
500PAR64/NSP	17				•			
500PAR64/MFL	17				•			
Q500PAR56/NSP	12					•		
Q500PAR56/MFL	12					•		
Q500PAR56/WFL	12					•		
Q500PAR64/VNSP	15					•		
Q500PAR64/NSP	15					•		
Q500PAR64/MFL	15					•		
500PAR64/WFL	15					•		
500PAR64/MFL	15					•		
800PAR/POWERSAVER	15			•	•	•		
Q1000PAR64/NSP	17						•	
Q1000PAR64/MFL	17						•	
Q1000PAR64/VNSP	17						•	
DWE	8					•		
EXC	15					•		

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
EXD	15						•	
EXE	15						•	
EXG	15						•	
FBE	8					•	•	
FBO	8			•			•	
FCX	6					•	•	
FFN	17			•	•	•	•	
FFP	17			•	•	•	•	
FFR	17			•	•	•	•	
FFS	17			•	•	•	•	
FGN	17			•			•	
4405	7					•		
4435	9					•		
4502	7					•		
4505	7					•		
4509	7					•		
4509X	7					•		
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4515	7					•		

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
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4516	7				•			
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4535	9				•			
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4546	7				•			
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4551	9				•			
4552	13				•			
Q4554	9				•			
4559	13				•			
Q4559	13				•			
Q4559X	13				•			
4570	9				•			
4571	9				•			
4572	9				•			
4580	9				•			

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
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4587	8					•		
4591	7					•		
4593	8					•		
4594	8					•		
4595	7					•		
4596	8					•		
4626	8					•		
4627	8					•		
4635	9					•		
Q4597	9					•		
Q4681	9					•		
H7604	7					•		
H7616	7					•		
H7635	9					•		

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
Theatre lamps by LIF code								
T11	25			•				
T12	25			•				
T13	29			•				
T14	29			•				
T15	29			•				
T16	34			•				
T17	28			•				
T18	23			•				
T19	25			•				
T25	23			•				
T26	23			•				
T27	23			•				
T28	29			•				
T29	25			•				
TV Film & Studio lamps by LIF code								
CP23	25						•	
CP24	25						•	

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
CP29	31						•	
CP30	32						•	
CP32	32						•	
CP39	27			•			•	
CP40	27			•			•	
CP41	31			•			•	
CP43	26						•	
CP51	29						•	
CP52	29						•	
CP53	34						•	
CP58	32						•	
CP59	33						•	
CP60	15			•	•		•	
CP61	15			•	•		•	
CP62	15			•	•		•	
CP70	25						•	
CP77	21			•				
CP79	26						•	
CP81	22		•				•	

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
CP82	22		•				•	
CP83	31						•	
CP86	15			•	•		•	
CP87	15			•	•		•	
CP88	15			•	•		•	
CP89	23						•	
CP90	25						•	
CP91	27						•	
CP92	27						•	
CP93	27						•	
CP94	31						•	
CP95	15			•	•		•	
CP105	32						•	
HX48	31						•	
HX270	31						•	
HX800	21			•				

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
High Performance Lamps								
HPL575	20			•				
HPL575-XLL	20			•				
HPL750	20			•				
Theatre TV Film & Studio lamps by ANSI code								
BTM	28					•	•	
BWG	33					•		
CYX	31			•		•		
DKX/DSF	33					•		
DKZ/DSE	33					•		
DPY	31					•		
DTA	34			•				
DWE	8		•		•			
EGE	28			•				
EGJ	29			•				
EGN	27					•		
EGT	27					•		
EHD	21					•		

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
EHF	21						•	
EHG	21			•				
EWE	29						•	
FBE	8		•				•	
FBO	8			•			•	
FCX	6			•		•	•	
FEL	21			•	•		•	
FEP	21			•	•		•	
FFN	17			•	•	•	•	
FFP	17			•	•	•	•	
FFR	17			•	•	•	•	
FFS	17			•	•	•	•	
FGN	17				•		•	
FKB	29				•			
FKD	29				•			
FKE	29				•			
FKF	28				•			
FKH	27						•	
FKJ	27						•	

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
FKK	31						•	
FKM	29						•	
FKN	29						•	
FKR	21			•				
FKW	22						•	
FLK	21			•				
FLK/LL	21			•				
FMR	23			•				
FRE	23			•				
FRG	22						•	
FRH	22						•	
FRJ	22						•	
FRK	23						•	
FRL	23						•	
FRM	23						•	
FSK	22						•	
FSL	22						•	
FTL	26			•			•	
FTM	26			•			•	

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
FVA	25						•	
FVB	25						•	
FWP	25			•				
FWR	25			•				
FWS	25			•				
FWT	25			•				
GCS	23			•				
GCT	23			•				
GCV	23			•				
GCW	23			•				
GKV	21			•				
GKV/LL	21			•				
Linear TV & Studio lamps by LIF code								
P2/6	38		•				•	
P2/7	42		•				•	
P2/10	42		•				•	
P2/11	40		•				•	
P2/12	42		•				•	

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
P2/13	38			•			•	
P2/27	41			•			•	
P2/28	40			•			•	
Linear TV Film & Studio lamps by ANSI code								
DXW	39						•	
DXX	38						•	
EHM	40						•	
EKM	42						•	
EJG	40						•	
EME	40						•	
EMF	40						•	
FAD	38						•	
FBY	39						•	
FCL	40						•	
FCM	40						•	
FEX	41						•	
FEY	41						•	

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
CMH								
SINGLE ENDED MINIS	64					•		
SINGLE ENDED	64					•		
PAR	65					•		
DOUBLE ENDED	65					•		
Discharge lamps								
CSI								
99-0201	67						•	
99-0221	68						•	
99-1222	69						•	
99-1422	69						•	
CID								
99-0211	70						•	
99-0222	71						•	
99-0415	71					•	•	
99-0431	72						•	
99-1225	73						•	

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
99-1425	73							•
99-1435	73							•
CSS								
150/850	66					•		
575/855	66					•		
Blacklight blue								
F20 T12/BLB	77					•		
F40 BLB	77					•		
Specialist Projector lamps by LIF code								
A1/215	47	•	•			•		
A1/216	47	•	•	•		•		
A1/220	47	•						
A1/223	47	•	•	•				
A1/226	52	•						
A1/227	52	•						
A1/229	53	•						

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
A1/230	53	•						
A1/231	54	•						
A1/232	54	•						
A1/233	47	•						•
A1/234	47	•	•					
A1/239	47	•				•		
A1/241	49	•						
A1/244	48	•		•		•	•	
A1/245	48	•						
A1/247	48	•						
A1/248	48	•				•		
A1/249	48	•		•				
A1/252	53	•		•				
A1/258	60	•						
A1/259	54	•		•		•		
A1/261	47		•					
A1/262	47		•					
A1/264	47	•						
A1/266	55	•						

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
A1/268	49	•						
A1/270	47	•				•		
HX501	47					•		
HX185	47					•		
Specialist Projector lamps by ANSI code								
BRH	47	•						
BRJ/EVB	47	•						
BRL	47	•						
CBA	49			•				
DDL	54		•					
DDM	53		•					
DDN	52			•				
DDS	53		•					
DED	54	•	•					
DJT	53		•					
DNF	55			•				
DWZ	52	•						
DYR	47	•						

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
DYS	47	•						
DZA	47	•						
DZE/FDS	47	•						
EFM	53			•				
EFN	53	•		•				
EFP	54	•		•				
EFR	54	•		•				
EHJ	47	•						
EJA	55			•				
EJL	54			•				
EJM	54			•				
EJV	55			•				
EJY	55			•				
EKE	54			•				
EKX	54		•					
EKZ	53		•					
ELB	55			•				
ELC	54	•		•	•			
ELD/EJN	54			•				

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
ELH	54			•	•			
ELS/ELR	60		•	•				
EML	47	•						
EMM/EKS	60	•		•				
ENG	54	•		•				
ENH	54			•	•			
ENL	57			•				
ENW/ENC	57	•		•				
ENX	57	•	•					
EPS	49	•						
EPT	57			•				
EPV	57		•					
EPW	57		•					
EPX	57		•					
EPZ	57		•					
ERV	57		•					
ESA	50			•				
ESB	50			•				
ESD	57	•						

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
EVA	50	•						
EVD	47	•				•		
EVV	47			•				
EVW	57			•				
EWF	57		•					
EWR	47			•				
EXL	47			•				
EXR	59	•	•	•				
EXW	59	•	•	•				
EXX	57	•		•				
EXY	59	•	•	•				
EYA	57			•				
EZF/EZJ	59			•				
EZG	61			•				
EZK	57			•				
EZM	61			•				
EZT	61			•				
FAL	52	•						
FCR	47	•						

Lamp type	page	Audio visual	Micrographic	Photographic	Theatre / Stage	Disco	TV / Film / Studio	Outside Broadcast
FCS	47	•						
FDT	47	•	•					
FFJ	47			•				
FHS	59	•	•	•				
FHX	59			•				
FLS	58		•					
FLT	58		•					
FLW	47						•	
FML	57	•						
FNT	47		•					
FXL	57	•						
M28	50	•		•				
M29	50	•		•				
M30	50	•		•				
M32	50	•		•				
M33	50	•		•				
M38	51				•			
M40	51				•			

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