



IWASAKI LAMP CATALOGUE



EYE





See page 11

EYE Cera Arc Natural Red

Excellent rendition & resolution of red colours.
R9: ≥90 is one of the highest red colour rendering ratings of red in ceramic metal halide lamp. Ideal for more than just red - this lamp renders other colours including greens, blues and whites with greater accuracy.

- R9: ≥90 (70W T G12 base)
- Ra: 92 (70W T G12 base)
- CCT= 3600K

Featured **Products**

See page 12

EYE Cera Arc 2800K

The 2800K features warm, incandescent colour with ceramic metal halide efficacy and higher than Ra 90 colour rendering.
This lamp is perfect for retail and commercial settings. It produces relaxed and exclusive lighting space.

- Ra: up to 95
- CCT= 2800K

See page 39

EYE Sunlux Ace

High pressure sodium lamps with built-in FEC ignitor for use with ballast for mercury lamps.

- Direct replacement for mercury lamps; operates on standard mercury ballast.
- Up to 120 lm/W, high efficacy.
- Reliable long life by superior technology and quality.
- Built-in FEC ignitor controls pulse voltage, width and phase.
- The controlled pulse reduces arc tube darkening and lumen depreciation increasing lamp life.
- FEC protects ballast and wiring when lamp ceases to operate as the ignition pulse will be stopped automatically.

See page 63

MR16 10,000 hours life

10,000 hours, super long life MR16 halogen lamp.

- Provides a life nearly equal to some HID products.
- Precise optical design
- Long lasting dichroic coating.
- Suitable for retail stores, lounges, offices, landscape lighting, display cases.
- UV-cut type and high colour temperature type are also available with 10,000 hours lamp life.

Contents

Creator of Light

Since the development of the first Japanese incandescent reflector lamp, we have pioneered the creation of numerous other light sources and light applied products and technologies. We take great pride in our present range of light source products sold world wide such as high output HID (High Intensity Discharge) lamps with world class quality, dazzling miniature halogen lamps, premium HID SDX/Color Arc display lamps and the various light sources that contain our patented FEC internal starter, a world first in lamp technology. FEC eliminates the potential for ballast and wiring damage at the end of lamp life by controlling the starting pulse and current through the lamp.

Global network

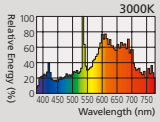
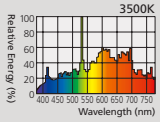
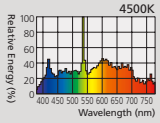
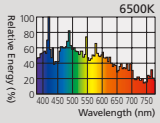
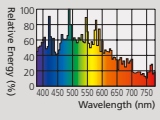
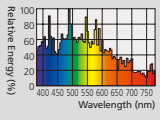
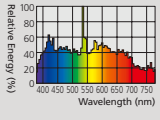
Iwasaki products are acknowledged as world class and feature in many prestigious installations across all continents including Asia, Europe, North America, and Australasia.

To compliment our success and show commitment to local economies we established a network of subsidiaries and agencies, plus production facilities. This gives our research and development a global perspective leading us into a future which considers the needs of all markets from application of products to care for the environment.

HID lamp selection guide

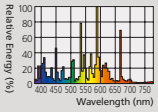
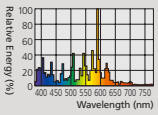
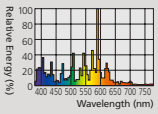
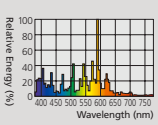
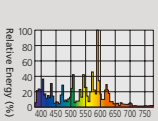
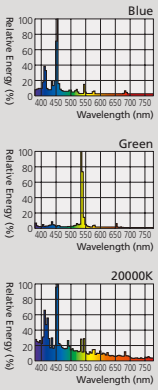
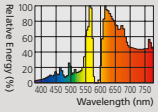
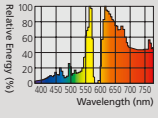
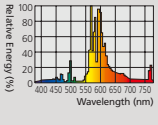
Product		Type or Finish	Specifications			Watts (W)	Features	Recommended Ballast	Spectral Distribution	Page
			CCT(K)	Colour Rendering (Ra)	Efficacy (ℓm/W)					
Ceramic Metal Halide	**EYE Cera Arc Natural Red**	Clear	3600	90-92	73-90	70 150	Ceramic metal halide lamp with a high red colour rendering. This lamp renders other colours with greater accuracy. UV reduction coating on outer bulb.	Electronic ballast approved by Iwasaki Electric. Some lamps can be operated on standard ballast for high pressure sodium lamps or metal halide.	Natural Red	11
		Frosted	3600	92	70-73					
	EYE Cera Arc 2800K	Clear	2800	92-95	90	70 150	Superior colour rendering, 2800K warm incandescent colour with ceramic metal halide efficacy. UV reduction coating on outer bulb.		2800K	12
		Frosted	2800	95	86				3000K	
	EYE Cera Arc 5500K	Clear	5500	95	83	150	Coolest colour temperature ceramic metal halide lamp. UV reduction coating on outer bulb.			13
		Frosted	5500	95	80				3200K	
	EYE Cera Arc TC, T, TD	Clear	3000	83-90	84-105	35 70 150	Most of the EYE Cera Arc models including warm 3000K range colour temperature types have Ra ≥90, the highest level of colour rendering index. UV reduction coating on outer bulb.			14
			3200	87-90					3500K	
			3500	90						
			4200	90-94						
			4300	90-94						
	EYE Cera Arc TP, T, BT, screw base	Clear	3200	83-90	80-100	35 70 150 250 400	Screw base, high colour rendering ceramic metal halide lamp. TP; Tubular "Protected" bulb with E27 type can be used without glass cover. UV reduction coating on outer bulb. 250W & 400W have a stunning 85% lumen maintenance.		4300K	15
			3500	90-95						
			4100	90-93						
			4300	92-95					5500K	
		Frosted	3200	83-90	77-96					
			3500	90-95						
			4100	90-93						
			4300	92-95						
	EYE Cera Arc PAR20, PAR36	—	3000	90	—	35 70 150	Various wattages and colour temperature types are available in PAR range. Find details of other available PAR36 colours on the 2800K and Natural Red pages.		4100K	16
			3200	90-93						
			3500	90-95						
			4300	90-95						
	EYE Cera Arc 360W	Clear	4100	80	112-117	360	Direct replacement for standard metal halide lamps. High efficacy and highly maintained lumens support energy saving.	Mercury ballast with ignitor.	4100K	17
		Frosted								
	EYE Cera Arc Ace 360W	Clear	4100	80	112-117	360	Direct replacement for mercury lamps. High efficacy and highly maintained lumens support energy saving.	Mercury ballast without ignitor.	4100K	18
		Frosted								

HID lamp selection guide

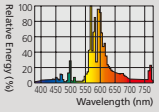
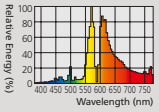
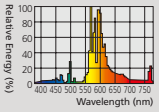
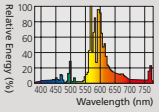
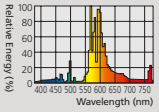
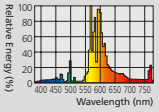
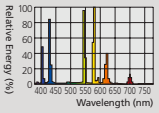
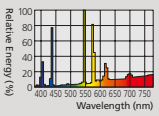
	Product		Type or Finish	Specifications			Watts (W)	Features	Recommended Ballast	Spectral Distribution	Page
				CCT(K)	Colour Rendering (Ra)	Efficacy (ℓm/W)					
High Colour Rendering Metal Halide	**EYE Color Arc TC, T, TD**		Clear	3000*	96	64-73	70 150	Most types have excellent colour rendering, Ra 96 with excellent R9 (red colour rendering). Perfect for applications that require natural, well-balanced high colour rendering light. UV reduction coating on outer bulb prevents lit objects from fading and maintains high output with polycarbonate lenses.	Electronic ballast approved by Iwasaki Electric. EYE Color Arc can be also operated on standard ballast for high pressure sodium lamps or metal halide. For safe operation and best performance, contact Iwasaki or any local ballast manufacturer ignitor manufacturer.		19
				3500*	96						
				4500	96						
				6500	92-96						
	EYE Color Arc TP, T screw base		Clear	3000*	96	64-76	70 150 250	Most types have excellent colour rendering, Ra 96 with excellent R9 (red colour rendering). Perfect for applications that require natural, well-balanced high colour rendering light. UV reduction coating on outer bulb. TP; Tubular "Protected" can be used without glass cover. Ideal for downlights and pendant luminaires, which do not need glass cover, thus is low cost and high in performance.			20
				3500*	96						
				4500	96						
				6500	92-96						
			Frosted	3000*	96	61-70	70 150				
				3500*	96						
				4500	96						
				6500	92-96						
	EYE Color Arc PAR36		—	3500*	96	—	70 150	PAR36 bulb with E27 screw base. Most types have excellent colour rendering, Ra 96 with excellent R9 (red colour rendering). UV reduction coating on outer bulb prevents lit objects from fading.			21
				4500	96						
				6500	92-96						
	EYE Color Arc PAR38		—	3500*	96	—	70 150	PAR38 bulb with dichroic reflector. Most types have excellent colour rendering, Ra 96 with excellent R9 (red colour rendering). UV reduction coating on outer bulb prevents lit objects from fading.			22
				4500	96						
				6500	92-96						
	EYE Clean Arc		Clear	6500	90	72-80	250 400	With its excellent colour rendering properties, this metal halide lamp features a light colour close to natural daylight.	Ballast for mercury lamp with ignitor.		23
			Coated	6500	90	54-61					
	EYE Clean Ace		Clear	6500	90	58-80	250 400	With its excellent colour rendering properties, this metal halide lamp features a light colour close to natural daylight.	Ballast for mercury lamp without ignitor.		24
			Coated	6500	90	54-61					
	EYE Quartz Arc		Short Arc	5500	92	95-100	2000	High wattage, high colour rendering metal halide lamps.	Dedicated ballast and ignitor.		25
			Long Arc	5500	92	80-86	1000 1500				
			Long Arc	5500	85	100	2000				

* Not available in EU and countries regulated by RoHS directive.

HID lamp selection guide

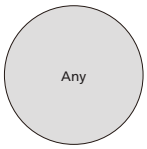
	Product		Type or Finish	Specifications			Watts (W)	Features	Recommended Ballast	Spectral Distribution	Page
				CCT(K)	Colour Rendering (Ra)	Efficacy (ℓm/W)					
Metal Halide	EYE Multi Super Ace		Clear	4500	70	80-110	125 250 400 1000	High efficacy flicker-less* metal halide lamp with built-in FEC ignitor (*LSH type)	Ballast for mercury lamp without ignitor.		26
			Coated	4200	70-75	75-105					
	EYE Multi-Hi-Ace		Clear	4200	65	70-100	100 125 250 300 400 700 1000	High efficacy metal halide lamp with built-in ignitor	Ballast for mercury lamp without ignitor.		27
			Coated	3800	70	65-95					
	EYE Multi White Ace		Clear	4200	65	74-95	250 400	Direct replacement of high pressure sodium lamps that transform yellow Ra 20-25 light into 4200K white Ra 65 light.	Ballast for high pressure sodium lamp with ignitor.		28
	EYE Multi-Metal For use with CWA ballast		Clear	4200	65	84-120	250 400 1000	Metal halide lamp for use with CWA (Constant Wattage Autotransformer) ballast for metal halide lamp without ignitor.	CWA ballast for metal halide without ignitor.		29
			Coated	3800	70	80-118					
	EYE Multi-Metal		Clear	4200	65	64-115	125 250 400 1000 1500 2000	Metal halide lamp for use with ballast for mercury lamp with ignitor.	Ballast for mercury lamp with ignitor.		30 31
			Coated	3800	70	80-112					
	EYE Color Arc colour Blue Green AQUA		Clear	—	—	—	150	Specialty colour metal halide lamps. Pink PAR36 is perfect for use in food display lighting. Various Aqua series are available for many aquatic applications.	Electronic ballast approved by Iwasaki Electric. Some lamps can be operated on standard ballast for high pressure sodium lamps or metal halide.		32
High Pressure Sodium	EYE SDX		Clear	2500	82-85	50-60	50 70 100 150 250 400	High colour rendering, warm incandescent colour, high pressure sodium lamp for use with dedicated ballast.	Dedicated ballast and ignitor.		37
			Frosted	2500	82-85	48-49					
	EYE Specialux		Clear	2500	85	52-60	150 250 400	E40 base high colour rendering warm incandescent colour high pressure sodium lamp.	Ballast for high pressure sodium lamp with ignitor.		38
			Frosted	2500	85	48-57					
	EYE Sunlux Ace		Clear	2100	25	68-146	50 75 110 220 360 660 940	High pressure sodium lamps with built-in FEC ignitor for use with ballast for mercury lamp.	Ballast for mercury lamp without ignitor.		39
			Frosted	2100	25	68-140					

HID lamp selection guide

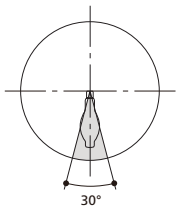
	Product		Type or Finish	Specifications			Watts (W)	Features	Recommended Ballast	Spectral Distribution	Page
				CCT(K)	Colour Rendering (Ra)	Efficacy (ℓm/W)					
High Pressure Sodium	EYE Sunlux Ace R bulb		—	2100	25	—	75 110 220 360	R bulb high pressure sodium lamps with built-in ignitor for use with ballast for mercury lamp.	Ballast for mercury lamp without ignitor.		40
	EYE Sunlux Ace improved colour rendering		Clear	2150	60	90-110	220 360 660	Improved colour rendering high pressure sodium lamps with built-in ignitor for use with ballast for mercury lamp.	Ballast for mercury lamp without ignitor.		40
			Frosted	2150	60	86-104					
	EYE Ignitron		Clear	2100	25	80-133	50 70 100 150 250 400 1000	High pressure sodium lamp with built-in FEC ignitor for use with ballast for high pressure sodium without ignitor, long reliable lamp life.	Ballast for high pressure sodium lamp without ignitor.		41
			Frosted	2100	25	76-125					
	EYE Ignitron Super		Clear	2100	25	106-140	150 250 400	High efficacy high pressure sodium lamp with built-in FEC ignitor for use with ballast for high pressure sodium without ignitor, long reliable lamp life.	Ballast for high pressure sodium lamp without ignitor.		42
			Frosted	2100	25	103-132					
	EYE Sunlux Super		Clear	2100	25	80-140	50 70 100 150 250 400	High efficacy high pressure sodium lamp, long reliable lamp life.	Ballast for high pressure sodium lamp with ignitor.		43
			Frosted	2100	25	95-135					
	EYE Sunlux	 	Clear	2100	25	80-140	50 70 100 150 250 400 700 1000	High pressure sodium lamp, long reliable lamp life.	Ballast for high pressure sodium lamp with ignitor.		44 45
			Frosted	2100	25	68-133					
Mercury, Self-ballasted Mercury	Mercury	 	Clear	5700	14	32-60	40 50 80 100 125 175 250 300 400 700 1000	Mercury lamp, long reliable lamp life. Various wattages, bulb types are available.	Ballast for mercury lamp without ignitor.		49 50 51
			Coated	4100	40	37-62					
	Self-ballasted mercury	 	Clear	5200	28	10-31	100 160 250 275 300 450 500 750 1000 1250	Direct replacement for incandescent lamp as it operates on mains voltage without additional gears.	No ballast is required.		52 53
			Coated	3900	58	11-33					

HID lamp base types and burning positions

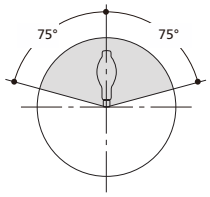
BURNING POSITION



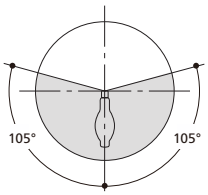
Any
Any Position



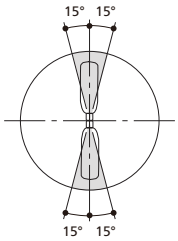
BU ± 15°
Base Up



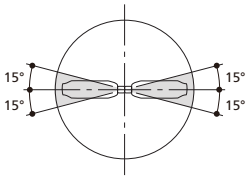
BD ± 75°
Base Down



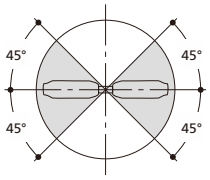
BUH ± 105°
Base Up to Horizontal



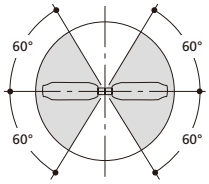
BUD ± 15°
Base Up and Base Down



BH ± 15°
Horizontal

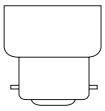


BH ± 45°
Horizontal

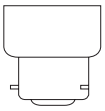


BH ± 60°
Horizontal

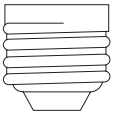
BASE TYPES (Not actual size)



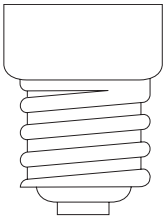
Bayonet Cap
2-pin



Bayonet Cap
3-pin

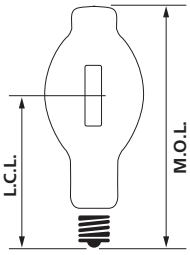


Edison Screw
(E27)



Goliath Edison Screw
(E40)

EXPLANATIONS



M.O.L. : Maximum Overall Length
L.C.L. : Light Center Length (top of base fins)

METAL HALIDE LAMPS

EYE Cera Arc Natural Red

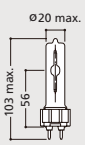


Fig.1

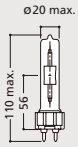


Fig.2

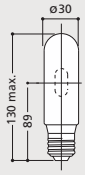


Fig.3

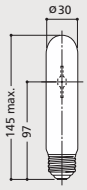


Fig.4

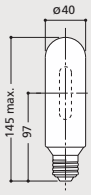


Fig.5

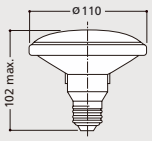


Fig.6

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Bulb Finish	Std. Pkg. Qty.	Colour Temp. (K)	Lamp		Initial Lumens (ℓm)	Ra	R9	Rated Av. Life (hrs)	Burning Position	Fig. No.	Ref.*
							Voltage (V)	Current (A)							
EYE Cera Arc Natural Red T - G12															
CMT70/NR/G12	70	T20	G12	Clear	24	3600	85	0.82	6300	92	90	12000	Any	1	ECG
CMT150/NR/G12	150	T20	G12	Clear	24	3600	90	1.67	12000	90	90	9000	Any	2	ECG
EYE Cera Arc Natural Red TP - Tubular Protected E27 screw base															
CMT70/NR	70	T30	E27	Clear	12	3600	90	0.95	5100	92	70	9000	Any	3	
CMT70F/NR	70	T30	E27	Frosted	12	3600	90	0.95	4900	92	70	9000	Any	3	
CMT150/NR/T30	150	T30	E27	Clear	12	3600	90	1.67	11500	92	90	12000	Any	4	ECG
CMT150F/NR/T30	150	T30	E27	Frosted	12	3600	90	1.67	11000	92	90	12000	Any	4	ECG
CMT150/NR	150	T40	E27	Clear	12	3600	95	1.90	11500	92	90	9000	Any	5	
CMT150F/NR	150	T40	E27	Frosted	12	3600	95	1.90	11000	92	90	9000	Any	5	

Type	Watts (W)	Base	Std. Pkg. Qty.	Colour Temp. (K)	Lamp		Beam Angle (°)	Max.Light Intensity (cd)	Ra	R9	Rated Av. Life (hrs)	Burning Position	Fig. No.	Ref.*
					Voltage (V)	Current (A)								
EYE Cera Arc Natural Red PAR36 - E27 screw base														
CM70P36S/NR	70	E27	10	3600	90	0.95	27	9000	92	70	9000	Any	6	
CM70P36F/NR	70	E27	10	3600	90	0.95	70 X 75	2000	92	70	9000	Any	6	
CM150P36S/NR	150	E27	10	3600	95	1.90	32	14500	92	90	9000	Any	6	
CM150P36F/NR	150	E27	10	3600	95	1.90	70	5000	92	90	9000	Any	6	

* Lamps marked ECG in the Ref. column must be used with electronic ballasts manufactured by or approved by Iwasaki Electric to ensure correct operation.

Ceramic metal halide lamp with a high red colour rendering.
The colour of many items including meat, fish, vegetables and fruit, can be affected by the accuracy of the rendering of the colour red. EYE Cera Arc "Natural Red" brings out the true beauty and richness of red and other colours.

Features
- Excellent rendition and resolution of red colours.
- R9: ≥90 is one of the highest colour rendering ratings of red in any metal halide or ceramic metal halide lamp.
- Ideal for more than just red - this lamp renders other colours including greens, blues and whites with greater accuracy.
- UV reduction coating on outer bulb prevents lit objects from fading and maintains high output with polycarbonate lenses.

Notes:
Warning / Caution notices: page 35
Operating Instruction: page 35

EYE Cera Arc 2800K

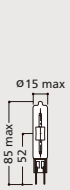


Fig.1

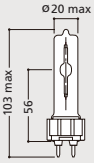


Fig.2

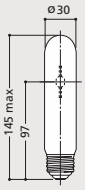


Fig.3

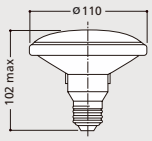


Fig.4

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Bulb Finish	Std. Pkg. Qty.	Colour Temp. (K)	Lamp		Initial Lumens (ℓm)	Ra	Rated Av. Life (hrs)	Burning Position	Fig. No.	Ref.*
							Voltage (V)	Current (A)						
EYE Cera Arc 2800K TC - G8.5 base														
CMT70/LW928/G8.5	70	T15	G8.5	Clear	24	2800	85	0.82	6300	92	12000	Any	1	ECG
EYE Cera Arc 2800K T - G12 base														
CMT70/LW928/G12	70	T20	G12	Clear	24	2800	85	0.82	6300	92	12000	Any	2	ECG
EYE Cera Arc 2800K TP - Tubular Protected E27 screw base														
CMT150/LW928	150	T30	E27	Clear	12	2800	90	1.67	13500	95	9000	Any	3	ECG
CMT150F/LW928	150	T30	E27	Frosted	12	2800	90	1.67	13000	95	9000	Any	3	ECG

Type	Watts (W)	Base	Std. Pkg. Qty.	Colour Temp. (K)	Lamp		Beam Angle (°)	Max.Light Intensity (cd)	Ra	Rated Av. Life (hrs)	Burning Position	Fig. No.	Ref.*
					Voltage (V)	Current (A)							
EYE Cera Arc 2800K PAR36 - E27 screw base													
CM70P36S/LW928	70	E27	10	2800	85	0.82	30	7500	92	12000	Any	4	ECG
CM70P36F/LW928	70	E27	10	2800	85	0.82	70	2300	92	12000	Any	4	ECG
CM150P36S/LW928	150	E27	10	2800	90	1.67	32	16000	95	9000	Any	4	ECG
CM150P36F/LW928	150	E27	10	2800	90	1.67	70	5500	95	9000	Any	4	ECG

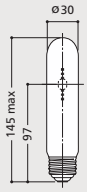
* Lamps marked ECG in the Ref. column must be used with electronic ballasts manufactured by or approved by Iwasaki Electric to ensure correct operation.

Superior colour rendering, 2800K warm incandescent colour with ceramic metal halide efficacy.

Features
- Ra: 95 - the highest colour rendering in warm colour HID lamps.
- 1.7 times higher lumen output than high CRI white sodium lamp. (Comparison of EYE SDX; 2500K Ra 85 white sodium lamp)
- 3 to 5 times more efficient and up to 5 times longer life than halogen or incandescent lamps.
- R9: up to 60, high red colour rendering.
- UV reduction coating on outer bulb prevents lit objects from fading and maintains high output with polycarbonate lenses.

Notes:
Warning / Caution notices: page 35
Operating Instruction: page 35

EYE Cera Arc 5500K



PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Bulb Finish	Std. Pkg. Qty.	Colour Temp. (K)	Lamp		Initial Lumens (ℓm)	Ra	Rated Av. Life (hrs)	Burning Position	Ref.*
							Voltage (V)	Current (A)					
EYE Cera Arc 5500K TP - Tubular Protected E27 screw base													
CMT150/N	150	T30	E27	Clear	12	5500	90	1.67	12500	95	9000	Any	ECG
CMT150F/N	150	T30	E27	Frosted	12	5500	90	1.67	12000	95	9000	Any	ECG

* Lamps marked ECG in the Ref. column must be used with electronic ballasts manufactured by or approved by Iwasaki Electric to ensure correct operation.

Coolest colour temperature ceramic metal halide lamp from Iwasaki Electric Company accurately reproduces the true colour of objects, making it an excellent choice for many different applications.

Features
- Ra: 95, high colour rendering.
- Provides approx. 13% higher lumens than other high colour temperature CRI metal halide lamps.
- R9: ≥70, high red colour rendering.
- UV reduction coating on outer bulb prevents lit objects from fading and maintains high output with polycarbonate lenses.

Notes:
Warning / Caution notices: page 35
Operating Instruction: page 35

EYE Cera Arc TC, T, TD

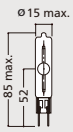


Fig.1

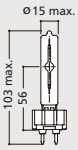


Fig.2

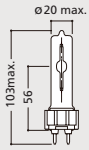


Fig.3

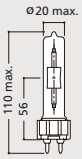


Fig.4

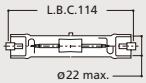


Fig.5

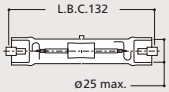


Fig.6

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Bulb Finish	Std. Pkg. Qty.	Colour Temp. (K)	Lamp		Initial Lumens (ℓm)	Ra	Rated Av. Life (hrs)	Burning Position	Fig. No.	Ref.*
							Voltage (V)	Current (A)						
EYE Cera Arc TC - G8.5 base														
CMT35/LW/G8.5	39	T15	G8.5	Clear	24	3000	85	0.46	3300	83	9000	Any	1	ECG
CMT35/W/G8.5	39	T15	G8.5	Clear	24	4200	85	0.46	3300	90	6000	Any	1	ECG
CMT70/LW/SH/G8.5	70	T15	G8.5	Clear	24	3000	85	0.82	7200	90	12000	Any	1	ECG
CMT70/WW/SH/G8.5	70	T15	G8.5	Clear	24	3500	85	0.82	7400	90	12000	Any	1	ECG
CMT70/W/SH/G8.5	70	T15	G8.5	Clear	24	4200	85	0.82	7400	94	12000	Any	1	ECG
EYE Cera Arc T - G12 base														
CMT35/LW/G12	39	T15	G12	Clear	24	3000	85	0.46	3300	83	9000	Any	2	ECG
CMT35/W/G12	39	T15	G12	Clear	24	4200	85	0.46	3300	90	6000	Any	2	ECG
CMT70/LW/SH/G12	70	T20	G12	Clear	24	3000	85	0.82	7200	90	12000	Any	3	ECG
CMT70/WW/SH/G12	70	T20	G12	Clear	24	3500	85	0.82	7400	90	12000	Any	3	ECG
CMT70/W/SH/G12	70	T20	G12	Clear	24	4200	85	0.82	7400	94	12000	Any	3	ECG
CMT150/DW/G12	150	T20	G12	Clear	24	3200	90	1.67	15000	87	12000	Any	4	
CMT150/WW/G12	150	T20	G12	Clear	24	3500	90	1.67	14500	93	12000	Any	4	
CMT150/W/G12	150	T20	G12	Clear	24	4200	90	1.67	14500	93	12000	Any	4	
EYE Cera Arc TD - Double ended														
CMTD70/DW	70	T22	RX7s	Clear	24	3200	90	0.95	6500	90	9000	BH ± 45°	5	
CMTD70/WW	70	T22	RX7s	Clear	24	3500	90	0.95	6000	90	9000	BH ± 45°	5	
CMTD70/W	70	T22	RX7s	Clear	24	4300	90	0.95	6000	90	9000	BH ± 45°	5	
CMTD150/DW	150	T25	RX7s	Clear	24	3200	95	1.90	13500	90	12000	BH ± 45°	6	
CMTD150/WW	150	T25	RX7s	Clear	24	3500	95	1.90	13500	94	12000	BH ± 45°	6	
CMTD150/W	150	T25	RX7s	Clear	24	4300	95	1.90	13500	94	12000	BH ± 45°	6	

* Lamps marked ECG in the Ref. column must be used with electronic ballasts manufactured by or approved by Iwasaki Electric to ensure correct operation.

High colour rendering ceramic metal halide lamp. The colour rendering index (Ra) is a measure of how accurately an artificial light source can render colour.

Features
- Most of the EYE Cera Arc models including warm 3000K range colour temperature types have Ra ≥90, the highest level of colour rendering index.
- UV reduction coating on outer bulb prevents lit objects from fading and maintains high output with polycarbonate lenses.

Notes:
Warning / Caution notices: page 35
Operating Instruction: page 35

EYE Cera Arc TP, T, BT, screw base

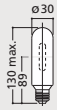


Fig.1

Fig.2

Fig.3

Fig.4

Fig.5

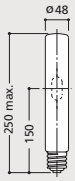


Fig.6

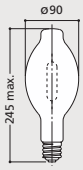


Fig.7

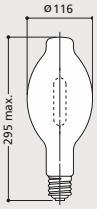


Fig.8

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Bulb Finish	Std. Pkg. Qty.	Colour Temp. (K)	Lamp		Initial Lumens (ℓm)	Ra	Rated Av. Life (hrs)	Burning Position	Fig. No.	Ref.*
							Voltage (V)	Current (A)						
EYE Cera Arc TP - Tubular Protected E27 screw base														
CMT35/DW	39	T30	E27	Clear	12	3200	80	0.48	3150	83	9000	Any	1	ECG
CMT35F/DW	39	T30	E27	Frosted	12	3200	80	0.48	3000	83	9000	Any	1	ECG
CMT70/DW	70	T30	E27	Clear	12	3200	90	0.95	6000	90	9000	Any	1	
CMT70F/DW	70	T30	E27	Frosted	12	3200	90	0.95	5800	90	9000	Any	1	
CMT70/WW	70	T30	E27	Clear	12	3500	90	0.95	6000	90	9000	Any	1	
CMT70F/WW	70	T30	E27	Frosted	12	3500	90	0.95	5800	90	9000	Any	1	
CMT70/W	70	T30	E27	Clear	12	4300	90	0.95	6000	90	9000	Any	1	
CMT70F/W	70	T30	E27	Frosted	12	4300	90	0.95	5800	90	9000	Any	1	
CMT150/DW	150	T40	E27	Clear	12	3200	95	1.90	13500	90	9000	Any	2	
CMT150F/DW	150	T40	E27	Frosted	12	3200	95	1.90	13000	90	9000	Any	2	
CMT150/WW	150	T40	E27	Clear	12	3500	95	1.90	13500	95	9000	Any	2	
CMT150F/WW	150	T40	E27	Frosted	12	3500	95	1.90	13000	95	9000	Any	2	
CMT150/W	150	T40	E27	Clear	12	4300	95	1.90	13500	95	9000	Any	2	
CMT150F/W	150	T40	E27	Frosted	12	4300	95	1.90	13000	95	9000	Any	2	
EYE Cera Arc High Efficacy and Dimmable TP - Tubular Protected E27 screw base														
CMT150/DW/SH	150	T30	E27	Clear	12	3200	90	1.67	15000	90	15000	Any	3	ECG
CMT150F/DW/SH	150	T30	E27	Frosted	12	3200	90	1.67	14400	90	15000	Any	3	ECG
CMT150/WW/SH	150	T30	E27	Clear	12	3500	90	1.67	15000	92	15000	Any	3	ECG
CMT150F/WW/SH	150	T30	E27	Frosted	12	3500	90	1.67	14400	92	15000	Any	3	ECG
CMT150/W/SH	150	T30	E27	Clear	12	4300	90	1.67	15000	92	15000	Any	3	ECG
CMT150F/W/SH	150	T30	E27	Frosted	12	4300	90	1.67	14400	92	15000	Any	3	ECG
EYE CERA ARC T - Tubular E40 operates on ballast for 150W high pressure sodium														
CMT150/LW/HOR/E40	150	T48	E40	Clear	12	3000	100	1.80	16000	83	12000	BH±15°	4	
CMT150/W/HOR/E40	150	T48	E40	Clear	12	4100	100	1.80	15500	92	12000	BH±15°	4	
EYE Cera Arc TP - Tubular Protected E40 screw base operates on Iwasaki electronic ballast														
CMT250/W/BUD/2	250	T48	E40	Clear	12	4100	100	3.00	23800	90	12000	BU/BD ± 60°	5	ECG
CMT400/W/BUD	400	T48	E40	Clear	12	4100	100	4.70	38000	90	12000	BU/BD ± 60°	6	ECG
EYE Cera Arc BT- BT Protected E40 screw base operates on Iwasaki electronic ballast														
CM250FCE-W/BUD/2	250	BT90	E40	Coated	12	4100	100	3.00	22500	90	12000	BU/BD ± 60°	7	ECG
CM400FCE-W/BUD	400	BT116	E40	Coated	12	4100	100	4.70	36000	90	12000	BU/BD ± 60°	8	ECG

* Lamps marked ECG in the Ref. column must be used with electronic ballasts manufactured by or approved by Iwasaki Electric to ensure correct operation.

Screw base, high colour rendering ceramic metal halide lamp.
TP; Tubular "Protected" bulb with E27 type fits a wide variety of applications such as façade lighting, wall wash lighting, and display lighting. The protected lamps can be used without glass cover.

Features
- Ideal for downlights and pendant luminaires, which do not require glass cover, thus is low cost and high in performance.
- Clear and frosted bulbs are available.
- UV reduction coating on outer bulb prevents lit objects from fading and maintains high output with polycarbonate lenses.
- 250W & 400W have a stunning 85% lumen maintenance and make it possible to reduce up to 50% energy consumption, supporting CO2 reduction.

Notes:
Warning / Caution notices: page 35, Operating Instruction: page 35

EYE Cera Arc PAR20, PAR36

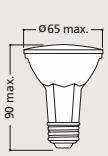


Fig.1

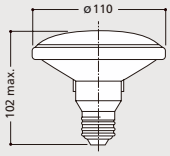


Fig.2

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Base	Std. Pkg. Qty.	Colour Temp.(K) or Colour	Lamp		Beam Angle (°)	Max.Light Intensity (cd)	Ra	Rated Av. Life (hrs)	Burning Position	Fig. No.	Ref.*
					Voltage (V)	Current (A)							
EYE Cera Arc PAR20 - E27 screw base													
CM35P20S/LW	39	E27	12	3000	85	0.46	10	23000	90	9000	Any	1	ECG
CM35P20F/LW	39	E27	12	3000	85	0.46	23	7500	90	9000	Any	1	ECG
EYE Cera Arc PAR36 - E27 screw base													
CM70P36S/DW	70	E27	10	3200	90	0.95	27	10000	90	9000	Any	2	
CM70P36F/DW	70	E27	10	3200	90	0.95	70 x 75	2200	90	9000	Any	2	
CM70P36S/WW	70	E27	10	3500	90	0.95	27	10000	90	9000	Any	2	
CM70P36F/WW	70	E27	10	3500	90	0.95	70 x 75	2200	90	9000	Any	2	
CM70P36S/W	70	E27	10	4300	90	0.95	27	10000	90	9000	Any	2	
CM70P36F/W	70	E27	10	4300	90	0.95	70 x 75	2200	90	9000	Any	2	
CM70P36S/P	70	E27	10	PINK	85	0.82	27	1800	—	9000	Any	2	
CM70P36F/P	70	E27	10	PINK	85	0.82	50	5200	—	9000	Any	2	
CM150P36S/DW	150	E27	10	3200	95	1.90	32	16000	93	9000	Any	2	
CM150P36F/DW	150	E27	10	3200	95	1.90	70	5500	93	9000	Any	2	
CM150P36S/WW	150	E27	10	3500	95	1.90	32	16000	95	9000	Any	2	
CM150P36F/WW	150	E27	10	3500	95	1.90	70	5500	95	9000	Any	2	
CM150P36S/W	150	E27	10	4300	95	1.90	32	16000	95	9000	Any	2	
CM150P36F/W	150	E27	10	4300	95	1.90	70	5500	95	9000	Any	2	
CM150P36S/P	150	E27	10	PINK	95	1.90	35	9000	—	9000	Any	2	
CM150P36F/P	150	E27	10	PINK	95	1.90	70	3800	—	9000	Any	2	

* Lamps marked ECG in the Ref. column must be used with electronic ballasts manufactured by or approved by Iwasaki Electric to ensure correct operation.

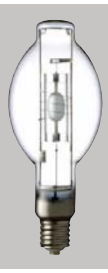
PAR type bulb with E27 screw base ceramic metal halide lamp.
Various wattages and colour temperature types are available in PAR range.

Features
- Wide and spot beam types available.
- "Pink" type uses dichroic mirror instead of aluminium coated mirror to produce translucent pinkish colour ideal for food lighting and display lighting applications. Please find details of other available PAR36 colours on the 2800K and Natural Red pages.
- UV reduction coating on outer bulb prevents lit objects from fading and maintains high output with polycarbonate lenses.

Notes:
Warning / Caution notices: page 35
Operating Instruction: page 35

EYE Cera Arc 360W

(For use with Mercury ballast with ignitor.)



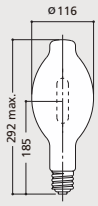


Fig.1

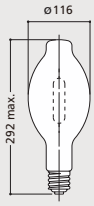


Fig.2

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Bulb Finish	Std. Pkg. Qty.	Colour Temp. (K)	Lamp		Initial Lumens (ℓm)	Ra	Rated Av. Life (hrs)	Burning Position	Fig. No.
							Voltage (V)	Current (A)					
EYE Cera Arc BT Protected E40 base operates on 400W mercury/metal halide ballast with ignitor													
CM360/W/SH/BUD	375	BT116	E40	Clear	12	4100	135	3.25	44000	80	15000	BUD ± 15°	1
CM360F/W/SH/BUD	375	BT116	E40	Coated	12	4100	135	3.25	42000	80	15000	BUD ± 15°	2

Ceramic metal halide for use with reactor type ballast 400W for mercury with ignitor. Direct replacement for standard metal halide lamps.

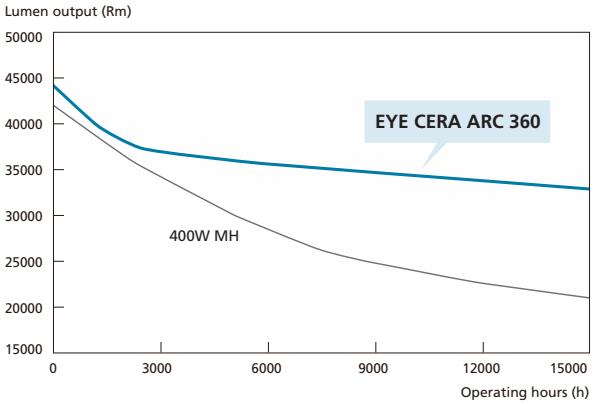
Features

- Saves approximately 5 to 10% system wattage consumption per socket.
- High efficacy and highly maintained lumens support energy saving by reducing the number of fixtures required to achieve design lumens.
- Ra 80, high colour rendering makes installations more productive and attractive with reduced color shift and imperceptible lamp to lamp colour variation.
- Shrouded, "protected" design makes it possible to use in fixtures without glass front providing a low cost, high performance fixture.
- UV reduction coating on outer bulb prevents lit objects from fading and maintains high output with polycarbonate lenses.

Notes:
Warning / Caution notices: page 35
Operating Instruction: page 35

Stay bright with high lumen maintenance

Keeps brighter longer with 75% maintained lumens at the end of lamp life.



EYE Cera Arc Ace 360W

(For use with Mercury ballast without ignitor.)

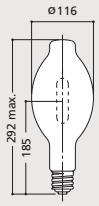


Fig.1

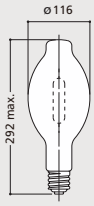
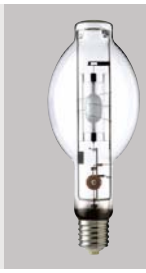


Fig.2



PHYSICAL DATA AND CHARACTERISTICS

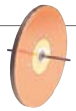
Type	Watts (W)	Bulb	Base	Bulb Finish	Std. Pkg. Qty.	Colour Temp. (K)	Lamp		Initial Lumens (ℓm)	Ra	Rated Av. Life (hrs)	Burning Position	Fig. No.
							Voltage (V)	Current (A)					
EYE Cera Arc Ace BT Protected E40 base operates on 400W mercury ballast without ignitor													
CM360LS/W/SH/BUD	375	BT116	E40	Clear	12	4100	135	3.25	44000	80	15000	BUD ± 15°	1
CM360FLS/W/SH/BUD	375	BT116	E40	Coated	12	4100	135	3.25	42000	80	15000	BUD ± 15°	2

Ceramic metal halide for use with reactor type ballast for 400W mercury without ignitor. Direct replacement for standard high pressure mercury lamps.

Features

- Saves approximately 5 to 10% system wattage consumption per socket.
- High efficacy and highly maintained lumens support energy saving by reducing the number of fixtures required to achieve design lumens.
- Ra 80, high colour rendering makes installations more productive and attractive with reduced color shift and imperceptible lamp to lamp colour variation.
- Shrouded, "protected" design makes it possible to use in fixtures without glass front providing a low cost, high performance fixture.
- UV protection coating on outer bulb prevents lit objects from fading and maintains high output with polycarbonate lenses.

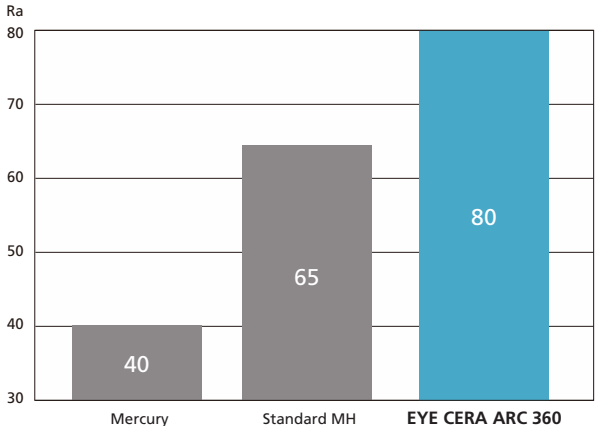
Notes:
Warning / Caution notices: page 35
Operating Instruction: page 35



FEC

- World's first switching capacitor that can resist the high temperature present in the lamp's outer jacket.

Good colour rendering



EYE Color Arc TC, T, TD

Fig.1

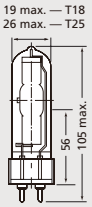


Fig.2

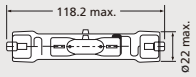


Fig.3

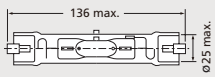


Fig.4

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Bulb Finish	Std. Pkg. Qty.	Colour Temp. (K)	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (lm)	Ra	Rated Av. Life (hrs)	Burning Position	Fig. No.
									Voltage (V)	Current (A)					
EYE Color Arc TC - G8.5 base															
MT70/SDW/G8.5*	70	T18	G8.5	Clear	24	3500	85.0	52.0	90	1.00	4500	96	6000	Any	1
MT70/SW/G8.5	70	T18	G8.5	Clear	24	4500	85.0	52.0	90	1.00	5000	96	6000	Any	1
MT70/D/G8.5	70	T18	G8.5	Clear	24	6500	85.0	52.0	90	1.00	5000	92	6000	Any	1
EYE Color Arc T - G12 base															
MT70/SDW/G12*	70	T18	G12	Clear	24	3500	105.0	56.0	90	1.00	4500	96	6000	Any	2
MT70/SW/G12	70	T18	G12	Clear	24	4500	105.0	56.0	90	1.00	5000	96	6000	Any	2
MT70/D/G12	70	T18	G12	Clear	24	6500	105.0	56.0	90	1.00	5000	92	6000	Any	2
MT150/SLW/G12*	150	T25	G12	Clear	24	3000	105.0	56.0	95	1.90	9500	96	6000	Any	2
MT150/SDW/G12*	150	T25	G12	Clear	24	3500	105.0	56.0	95	1.90	10000	96	6000	Any	2
MT150/SW/G12	150	T25	G12	Clear	24	4500	105.0	56.0	95	1.90	11000	96	6000	Any	2
MT150/D/G12	150	T25	G12	Clear	24	6500	105.0	56.0	95	1.90	11000	96	6000	Any	2
EYE Color Arc TD - Double ended															
MTD70/SDW*	70	T20	Rx7s	Clear	24	3500	118.2	58.8	90	1.00	4500	96	6000	BH±45°	3
MTD70/SW	70	T20	Rx7s	Clear	24	4500	118.2	58.8	90	1.00	5000	96	6000	BH±45°	3
MTD70/D	70	T20	Rx7s	Clear	24	6500	118.2	58.8	90	1.00	5000	92	6000	BH±45°	3
MTD150/SDW*	150	T22.5	Rx7s	Clear	24	3500	136.0	68.0	95	1.90	10000	96	12000	BH±45°	4
MTD150/SW	150	T22.5	Rx7s	Clear	24	4500	136.0	68.0	95	1.90	11000	96	12000	BH±45°	4
MTD150/D	150	T22.5	Rx7s	Clear	24	6500	136.0	68.0	95	1.90	11000	96	12000	BH±45°	4

The exceptional colour rendering of EYE Color Arc lamps enhances the splendor and value of any setting.

Features
- 3000K*, 3500K*, 4500K and 6500K types are available.
- Most types have excellent colour rendering, Ra 96 with excellent R9 (red colour rendering).
- Perfect for applications that require natural, well-balanced high colour rendering light.
- UV reduction coating on outer bulb prevents lit objects from fading and maintains high output with polycarbonate lenses.

Notes:
Warning / Caution notices: page 35
Operating Instruction: page 35

* Not available in EU and countries regulated by RoHS directive.

EYE Color Arc TP, T screw base

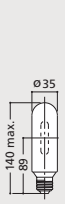


Fig.1

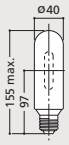


Fig.2

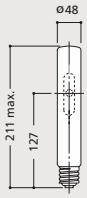


Fig.3

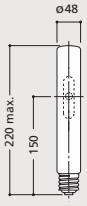


Fig.4

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Bulb Finish	Std. Pkg. Qty.	Colour Temp. (K)	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (lm)	Ra	Rated Av. Life (hrs)	Burning Position	Fig. No.
									Voltage (V)	Current (A)					
EYE Color Arc TP - E27 screw base															
MT70/SDW*	70	T35	E27	Clear	12	3500	140	89	90	1.00	4500	96	9000	Any	1
MT70F/SDW*	70	T35	E27	Frosted	12	3500	140	—	90	1.00	4300	96	9000	Any	1
MT70/SW	70	T35	E27	Clear	12	4500	140	89	90	1.00	5000	96	9000	Any	1
MT70F/SW	70	T35	E27	Frosted	12	4500	140	—	90	1.00	4800	96	9000	Any	1
MT70/D	70	T35	E27	Clear	12	6500	140	89	90	1.00	5000	92	9000	Any	1
MT70F/D	70	T35	E27	Frosted	12	6500	140	—	90	1.00	4800	92	9000	Any	1
MT100/SDW*	100	T35	E27	Clear	12	3500	140	89	95	1.30	6500	96	9000	Any	1
MT100F/SDW*	100	T35	E27	Frosted	12	3500	140	—	95	1.30	6000	96	9000	Any	1
MT100/SW	100	T35	E27	Clear	12	4500	140	89	95	1.30	7000	96	9000	Any	1
MT100F/SW	100	T35	E27	Frosted	12	4500	140	—	95	1.30	6500	96	9000	Any	1
MT100/D	100	T35	E27	Clear	12	6500	140	89	95	1.30	7000	96	9000	Any	1
MT100F/D	100	T35	E27	Frosted	12	6500	140	—	95	1.30	6500	96	9000	Any	1
MT150/SLW*	150	T40	E27	Clear	12	3000	155	97	95	1.90	9500	96	6000	Any	2
MT150F/SLW*	150	T40	E27	Frosted	12	3000	155	—	95	1.90	9000	96	6000	Any	2
MT150/SDW*	150	T40	E27	Clear	12	3500	155	97	95	1.90	10000	96	12000	Any	2
MT150F/SDW*	150	T40	E27	Frosted	12	3500	155	—	95	1.90	9600	96	12000	Any	2
MT150/SW	150	T40	E27	Clear	12	4500	155	97	95	1.90	11000	96	12000	Any	2
MT150F/SW	150	T40	E27	Frosted	12	4500	155	—	95	1.90	10500	96	12000	Any	2
MT150/D	150	T40	E27	Clear	12	6500	155	97	95	1.90	11000	96	12000	Any	2
MT150F/D	150	T40	E27	Frosted	12	6500	155	—	95	1.90	10500	96	12000	Any	2
EYE Color Arc T - E40 screw base															
MT150/SW/E40	150	T48	E40	Clear	12	4500	211	127	95	1.90	11000	96	12000	Any	3
MT250/SW	250	T48	E40	Clear	12	4500	220	150	100	3.00	19000	96	6000	Any	4

The exceptional colour rendering of EYE Color Arc lamps enhances the splendor and value of any setting.

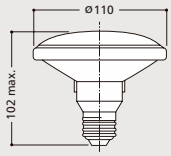
Features

- TP; Tubular "Protected" bulb with E27 type fits a wide variety of applications such as façade lighting, wall wash lighting, and display lighting.
- The protected lamps can be used without glass cover.
- Ideal for downlights and pendant luminaires, which do not need glass cover, thus is low cost and high in performance.
- Clear and frosted bulbs are available.
- Most types have excellent colour rendering, Ra 96 with excellent R9 (red colour rendering).
- 250W is a Tubular clear bulb E40 base design that operates on high pressure sodium ballast with ignitor.
- UV reduction coating on outer bulb prevents lit objects from fading and maintains high output with polycarbonate lenses.

Notes:
Warning / Caution notices: page 35
Operating Instruction: page 35

* Not available in EU and countries regulated by RoHS directive.

EYE Color Arc PAR36



PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Base	Std. Pkg. Qty.	Colour Temp.(K) or Colour	Initial Lumens (lm)	Beam lumens (lm)	Max.Light Intensity (cd)	Beam Angle (°)	Ra	Rated Av. Life (hrs)	M.O.L. (mm)	Burning Position
EYE Color Arc PAR36 - E27 screw base												
M70P36S/SDW*	70	E27	10	3500	3000	720	7020	26	96	6000	102	Any
M70P36F/SDW*	70	E27	10	3500	2700	1000	1600	65	96	6000	102	Any
M70P36S/SW	70	E27	10	4500	3300	800	7800	26	96	6000	102	Any
M70P36F/SW	70	E27	10	4500	3000	1100	2000	65	96	6000	102	Any
M70P36S/D	70	E27	10	6500	3300	800	7800	26	92	6000	102	Any
M70P36F/D	70	E27	10	6500	3000	1100	2000	65	92	6000	102	Any
M150P36S/SDW*	150	E27	10	3500	8100	1800	11700	23 x 29	96	6000	102	Any
M150P36F/SDW*	150	E27	10	3500	7650	2700	4320	62 x 67	96	6000	102	Any
M150P36S/SW	150	E27	10	4500	9000	2000	13000	23 x 29	96	6000	102	Any
M150P36F/SW	150	E27	10	4500	8500	3000	4800	62 x 67	96	6000	102	Any
M150P36S/D	150	E27	10	6500	9000	2000	13000	23 x 29	96	6000	102	Any
M150P36F/D	150	E27	10	6500	8500	3000	4800	62 x 67	96	6000	102	Any

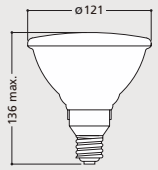
PAR36 bulb with E27 screw base.
The exceptional colour rendering of EYE Color Arc lamps enhance the splendor and the value of any setting.

Features
- 3500K*, 4500K and 6500K types are available. Perfect for applications that require natural, well-balanced high colour rendering light.
- Most types have excellent colour rendering, Ra 96 with excellent R9 (red colour rendering).
- UV reduction coating on outer bulb prevents lit objects from fading.
- Wide and spot beam types available.
- "Pink" and "Blue" type use dichroic mirror instead of aluminium coated mirror to produce translucent pinkish or bluish colour light for food lighting and display lighting applications.

Notes:
Warning / Caution notices: page 35
Operating Instruction: page 35

* Not available in EU and countries regulated by RoHS directive.

EYE Color Arc PAR38



PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Base	Std. Pkg. Qty.	Colour Temp.(K) or Colour	Initial Lumens (lm)	Beam lumens (lm)	Max.Light Intensity (cd)	Beam Angle (°)	Ra	Rated Av. Life (hrs)	M.O.L. (mm)	Burning Position
EYE Color Arc PAR38 - E27 screw base												
M70P38F/SDW*	70	E27	10	3500	2610	1350	4050	45	96	6000	135	Any
M70P38F/SW	70	E27	10	4500	2900	1500	4500	45	96	6000	135	Any
M70P38F/D	70	E27	10	6500	2900	1500	4500	45	92	6000	135	Any
M150P38F/SDW*	150	E27	10	3500	5400	2700	4500	60	96	6000	135	Any
M150P38F/SW	150	E27	10	4500	6000	3000	5000	60	96	6000	135	Any
M150P38F/D	150	E27	10	6500	6000	3000	5000	60	96	6000	135	Any

PAR38 size bulb with dichroic reflector and E27 screw base. The exceptional colour rendering of EYE Color Arc lamps enhances the splendor and value of any setting.

Features
- 3500K, 4500K and 6500K types are available.
- Most types have excellent colour rendering, Ra 96 with excellent R9 (red colour rendering).
- Perfect for applications that require natural, well-balanced high colour rendering light.
- UV reduction coating on outer bulb prevents lit objects from fading.

Notes:
Warning / Caution notices: page 35
Operating Instruction: page 35

* Not available in EU and countries regulated by RoHS directive.

EYE Clean Arc

(For use with Mercury ballast with ignitor.)

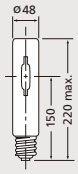


Fig.1

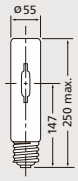


Fig.2

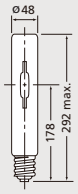


Fig.3

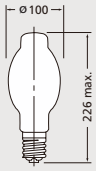


Fig.4

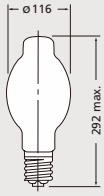


Fig.5

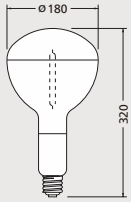


Fig.6

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Ra	Rated Av. Life (hrs)	Burning Position	Fig. No.
							Voltage (V)	Current (A)					
Tublar													
MT250D	250	T48	E40	12	220	150	130	2.10	18000	90	10000	Any	1
MT400D/BUD	400	T48	E40	12	292	178	135	3.30	32000	90	12000	BUD ± 15°	2
MT400D/HOR	400	T55	E40	12	250	147	135	3.30	29000	90	12000	BH ± 15°	3
BT Coated													
MF250D	250	BT100	E40	12	250	—	130	2.13	14500V 13500H	90	10000	Any	4
MF400D	400	BT116	E40	12	292	—	135	3.25	24500V 23000H	90	12000	Any	5

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Beam Angle (°)	Ra	Rated Av. Life (hrs)	Burning Position	Fig. No.
						Voltage (V)	Current (A)						
R bulb													
MRF400D	400	R180	E40	6	320	135	3.25	15000	130	90	6000	Any	6

Notes: • For use in enclosed fixtures only.
• Values in lamp voltage and lamp current stated in the above table may vary depending on supply voltage.

With its excellent colour rendering properties, this metal halide lamp features a light colour close to natural daylight.

Features
- High colour temperature 6500K.
- High colour rendering Ra 90.
- The light is suitable for various retail applications, and signboards, as well as critical commercial and industrial colour applications including aquatic applications.
- Operates on standard high pressure mercury ballast with ignitor.

Notes:
Warning / Caution notices: page 35

EYE Clean Ace

(For use with Mercury ballast without ignitor.)

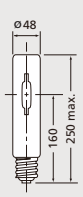


Fig.1

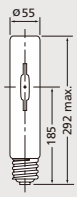


Fig.2

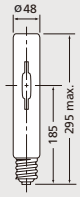


Fig.3

Fig.4

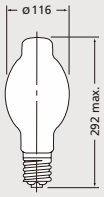


Fig.5

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Ra	Rated Av. Life (hrs)	Burning Position	Fig. No.
							Voltage (V)	Current (A)					
Tubular													
MT250DL	250	T48	E40	12	250	160	130	2.13	18200V 14800H	90	10000V	Any	1
MT400DL/BH	400	T55	E40	12	292	185	135	3.25	29000	90	12000	BH±15°	2
MT400DL/BUD	400	T48	E40	12	295	185	135	3.25	32000	90	12000	BUD±15°	3
BT Coated													
MF250DL	250	BT100	E40	12	250	—	130	2.13	14500V 13500H	90	10000	Any	4
MF400DL	400	BT116	E40	12	292	—	135	3.25	24500V 23000H	90	12000	Any	5
BT Clear													
M250DL	250	BT100	E40	12	250	160	130	2.13	15500V 14500H	90	10000	Any	4
M400DL	400	BT116	E40	12	292	185	135	3.25	26500V 25000H	90	12000	Any	5

Notes: • For use in enclosed fixtures only.
• Values in lamp voltage and lamp current stated in the above table may vary depending on supply voltage.

With its excellent colour rendering properties, this metal halide lamp features a light colour close to natural daylight.

Features
- High colour temperature 6500K.
- High colour rendering Ra 90.
- The light is suitable for various retail applications, and signboards, as well as critical commercial and industrial colour applications including aquatic applications.
- Operates on standard high pressure mercury ballast without ignitor.

Notes:
Warning / Caution notices: page 35

EYE Quartz Arc

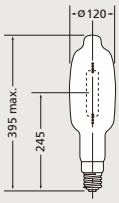


Fig.1

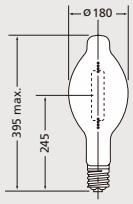


Fig.2

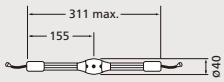


Fig.3

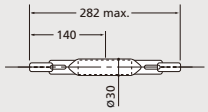


Fig.4

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Std. Pkg Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Initial lumens (ℓm)	Ra	Rated Av. Life (hrs)	Burning position	Fig. No.
						Voltage (V)	Current (A)					
E40 base												
MT1000B-D/BH	1000	T120	6	395	245	255	4.2	80000	92	6000	BH ± 60°	1
M1000B-D/BH	1000	BT180	6	395	245	255	4.2	80000	92	6000	BH ± 60°	2
MT1500A-D/BH 240V	1500	T120	6	395	245	120	14.0	125000	92	6000	BH + 15° - 75°	1
MT1500B-D/BH	1500	T120	6	395	245	265	6.3	130000*	92	6000	BH ± 60°	1
M1500B-D/BH	1500	BT180	6	395	245	265	6.3	130000*	92	6000	BH ± 60°	2
Double ended												
MSD2000BED-I 415V	2000	—	12	311	155	205	11.3	200000	92	3000	BH ± 15°	3
MLD2000BED-I	2000	—	12	282	140	230	9.2	200000	85	3000	BH ± 15°	4

* Max. value

High wattage, high colour rendering metal halide lamps. Accurately render brilliant colours of uniforms, costumes, landscapes and architecture to create an exhilarating and exciting atmosphere in sporting and entertainment complexes. 5500K colour temperature.

Notes:
Warning / Caution notices: page 35
Operating Instruction: page 35

EYE Multi Super Ace

(For use with Mercury ballast without ignitor.)

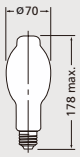


Fig.1

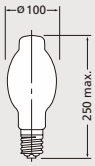


Fig.2

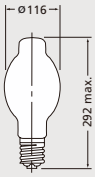


Fig.3

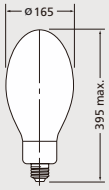


Fig.4

PHYSICAL DATA AND CHARACTERISTICS

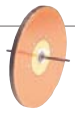
Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Initial Lumens (ℓm)	Rated Av. Life (hrs)	Burning position	Fig. No.
							Voltage (V)	Current (A)				
Coated												
MF125LSH/BU	125	BT70	E27	24	178	—	125	1.15	9400	9000	BU ± 15°	1
MF250LSH/U	250	BT100	E40	12	250	—	130	2.13	20000	15000	Any	2
MF400LSH/U	400	BT116	E40	12	292	—	135	3.25	38000	15000	Any	3
MF1000LS/U	1000	E165	E40	6	395	—	145	7.50	87000	9000	Any	5
Coated with shatterproof coating												
MF100LSH/BUP	100	BT70	E27	24	178	—	115	1.00	7500	9000	BU ± 15°	1
MF125LSH/BUP	125	BT70	E27	24	178	—	125	1.15	9400	9000	BU ± 15°	1
MF250LSH/BUP	250	BT100	E40	12	250	—	130	2.13	22000	15000	BU ± 15°	2
MF400LSH/BUP	400	BT116	E40	12	292	—	135	3.25	42000	15000	BU ± 15°	3
Clear												
M125LSH/BU	125	BT70	E27	24	178	115	125	1.15	10000	9000	BU ± 15°	1
M250LSH/U	250	BT100	E40	12	250	160	130	2.13	21500	15000	Any	2
M400LSH/U	400	BT116	E40	12	292	185	135	3.25	40000	15000	Any	3
Clear with shatterproof coating												
M100LSH/BUP	100	BT70	E27	24	178	115	115	1.00	8000	9000	BU ± 15°	1
M125LSH/BUP	125	BT70	E27	24	178	115	125	1.15	10000	9000	BU ± 15°	1
M250LSH/BUP	250	BT100	E40	12	250	160	130	2.13	23800	15000	BU ± 15°	2
M400LSH/BUP	400	BT116	E40	12	292	185	135	3.25	44000	15000	BU ± 15°	3

High efficacy flicker-less* metal halide lamp with built-in FEC ignitor for use with ballast for mercury lamp without ignitor. The five-band* multi-wavelength white light produces good colour rendering.
* LSH type.

Features

- Long lamp life
- Built-in FEC ignitor controls pulse voltage, width and phase. The controlled pulse reduces arc tube darkening and lumen depreciation increasing lamp life.
- Up to 110 lm/w high efficacy, 1.8 times greater than mercury lamps.
- Good colour rendering crisp white colour
  Coated: Ra 75, CCT=4200K (1000W: Ra 70, 3800K)
  Clear: Ra 70, CCT=4500K
- FEC protects ballast and wiring when lamp ceases to operate as the ignition pulse will be reduced to a harmless level.
- Shatterproof coated types available

Notes:
Warning / Caution notices: page 35



FEC

- World's first switching capacitor that can resist the high temperature present in the lamp's outer jacket.

EYE Multi Super Ace and mercury lamp ballast combination.

(Max. wiring distance from the ballast)

Type	Mercury lamp ballast (Reactor)	Allowable external capacitance*
MF125LSH/U	125W	1500pF
MF250LSH/U	250W	2500pF
MF400LSH/U	400W	5000pF
MF700LS/U	700W	5000pF
MF1000LS/U	1000W	5000pF

* 100pF stray capacitance may be equivalent to about 1 meter length of twin cable.

EYE Multi-Hi-Ace

(For use with Mercury ballast without ignitor.)

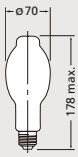


Fig.1

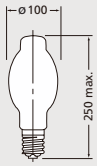


Fig.2

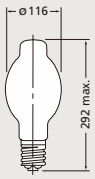


Fig.3

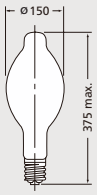


Fig.4

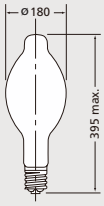


Fig.5

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Rated Av. Life (hrs)	Burning position	Fig. No.
							Voltage (V)	Current (A)				
Coated												
MF100LE/BU	100	BT70	E27	24	178	—	115	1.00	6500	9000	BU ± 15°	1
MF100LE/BD	100	BT70	E27	24	178	—	115	1.00	6500	9000	BD ± 15°	1
MF125LE/BUH	125	BT70	E27	24	178	—	125	1.15	8500	9000	BUH ± 105°	1
MF125LE/BD	125	BT70	E27	24	178	—	125	1.15	8500	9000	BD ± 75°	1
MF250LE/BUH	250	BT100	E40	12	250	—	130	2.13	20000	15000	BUH ± 105°	2
MF250LE/BD	250	BT100	E40	12	250	—	130	2.13	20000	15000	BD ± 75°	2
MF300LE/BUH	300	BT116	E40	12	292	—	130	2.50	25500	15000	BUH ± 105°	3
MF300LE/BD	300	BT116	E40	12	292	—	130	2.50	25500	15000	BD ± 75°	3
MF400LE/BUH	400	BT116	E40	12	292	—	135	3.25	38000	15000	BUH ± 105°	3
MF400LE/BD	400	BT116	E40	12	292	—	135	3.25	38000	15000	BD ± 75°	3
MF700LE/BUH	700	BT150	E40	6	375	—	140	5.40	58000	9000	BUH ± 105°	4
MF700LE/BD	700	BT150	E40	6	375	—	140	5.40	58000	9000	BD ± 75°	4
MF1000LE/BUH	1000	BT180	E40	6	395	—	145	7.50	87000	9000	BUH ± 105°	5
MF1000LE/BD	1000	BT180	E40	6	395	—	145	7.50	87000	9000	BD ± 75°	5
Clear												
M100LE/BU	100	BT70	E27	24	178	115	115	1.00	7000	9000	BU ± 15°	1
M100LE/BD	100	BT70	E27	24	178	115	115	1.00	7000	9000	BD ± 15°	1
M125LE/BUH	125	BT70	E27	24	178	115	125	1.15	9000	9000	BUH ± 105°	1
M125LE/BD	125	BT70	E27	24	178	115	125	1.15	9000	9000	BD ± 75°	1
M250LE/BUH	250	BT100	E40	12	250	160	130	2.13	21500	15000	BUH ± 105°	2
M250LE/BD	250	BT100	E40	12	250	160	130	2.13	21500	15000	BD ± 75°	2
M300LE/BUH	300	BT116	E40	12	292	185	130	2.50	27000	15000	BUH ± 105°	3
M300LE/BD	300	BT116	E40	12	292	185	130	2.50	27000	15000	BD ± 75°	3
M400LE/BUH	400	BT116	E40	12	292	185	135	3.25	40000	15000	BUH ± 105°	3
M400LE/BD	400	BT116	E40	12	292	185	135	3.25	40000	15000	BD ± 75°	3
M700LE/BUH	700	BT150	E40	6	375	240	140	5.40	60000	9000	BUH ± 105°	4
M700LE/BD	700	BT150	E40	6	375	240	140	5.40	60000	9000	BD ± 75°	4
M1000LE/BUH	1000	BT180	E40	6	395	245	145	7.50	90000	9000	BUH ± 105°	5
M1000LE/BD	1000	BT180	E40	6	395	245	145	7.50	90000	9000	BD ± 75°	5

Notes: • For use in enclosed fixtures only.

High efficacy metal halide lamp with built-in ignitor for use with ballast for mercury lamp without ignitor.

Features
- High efficacy, up to 100 lm/w, 1.6 times greater than mercury lamps.
- Wide range of wattages are available.
- Coated: Ra 70, CCT=3800K
- Clear: Ra 65, CCT=4200K

Notes:
Warning / Caution notices: page 35

EYE Multi White Ace

(For use with HPS ballast with ignitor.)

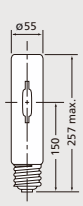


Fig.1

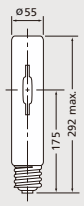


Fig.2

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Initial Lumens (ℓm)	Rated Av. Life (hrs)	Burning position	Fig. No.
						Voltage (V)	Current (A)				
Tubular											
MT250SX/BH/LU	270	T55	12	257	150	100	3.0	20000	10000	BH ± 15°	1
MT400SX/BH/LU	420	T55	12	292	175	100	4.6	40000	10000	BH ± 15°	2

Notes: • For use in enclosed fixtures only.

Metal halide lamp for use with ballast and ignitor for high pressure sodium lamp.

Features
- Direct replacement of high pressure sodium lamps that transform yellow Ra 20-25 light into 4200K white Ra 65 light.
- High efficacyUp to 85 lm/W high efficacy.
- UV reduction on outer bulb prevents lit objects from fading. Maintains high output with polycarbonate lenses.

Notes:
Warning / Caution notices: page 35

EYE Multi-Metal

(For use with CWA ballast.)

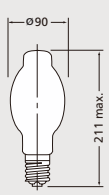


Fig.1

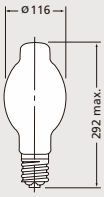


Fig.2

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Rated Av. Life (hrs)	Burning position	Fig. No.
						Voltage (V)	Current (A)				
Coated											
MF250X/U	250	BT90	12	211	—	130	2.13	20000	15000	Any	1
MF400X/U	400	BT116	12	292	—	135	3.25	36000	15000	Any	2
MF1000BX/U	1000	BT180	6	395	—	263	4.10	110000	9000	Any	—
MF400X/BUP	400	BT116	12	292	—	135	3.25	36000	15000	BU ± 15°	2
Clear											
M250X/U	250	BT90	12	211	131	130	2.13	21000	15000	Any	1
M400X/U	400	BT116	12	292	185	135	3.25	38000	15000	Any	2
M1000BX/U	1000	BT180	6	395	245	263	4.10	115000	9000	Any	—
M400X/BUP	400	BT116	12	292	185	135	3.25	38000	15000	BU ± 15°	2
HIGH LUMEN TYPE											
Coated											
MF400SX/BU	400	BT116	12	292	—	135	3.25	40000	20000	BU ± 15°	2
MF1000BSX/BU	1000	BT180	6	395	—	263	4.10	118000	9000	BU ± 15°	—
Clear											
M400SX/BU	400	BT116	12	292	185	135	3.25	42000	20000	BU ± 15°	2
M1000BSX/BU	1000	BT180	6	395	245	263	4.10	120000	9000	BU ± 15°	—

Notes: • For use in enclosed fixtures only.

Metal halide lamp for use with CWA (Constant Wattage Autotransformer) ballast for metal halide lamp without ignitor.

Features

- Up to 120 lm/W, high efficacy.
- Long lamp life
- Various wattages and types are available.
- Shatterproof coated types are available. The coating on outer bulb prevents glass from shattering when broken.
- Coated: Ra 70, CCT=3800K
- Clear: Ra 65, CCT=4200K

Notes:
Warning / Caution notices: page 35

EYE Multi-Metal

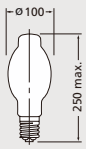


Fig.1

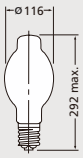


Fig.2

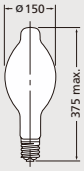


Fig.3

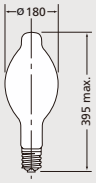


Fig.4

Fig.5

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Burning position	Rated Av. Life (hrs)	Fig. No.
							Voltage (V)	Current (A)				
BT Coated												
MF250/BUH	250	BT100	E40	12	250	—	130	2.13	20000	BUH ± 105°	15000	1
MF250/BD	250	BT100	E40	12	250	—	130	2.13	20000	BD ± 75°	15000	1
MF400/BUH	400	BT116	E40	12	292	—	135	3.25	38000	BUH ± 105°	15000	2
MF400/BD	400	BT116	E40	12	292	—	135	3.25	38000	BD ± 75°	15000	2
MF700/BUH	700	BT150	E40	6	375	—	140	5.40	58000	BUH ± 105°	9000	3
MF700/BD	700	BT150	E40	6	375	—	140	5.40	58000	BD ± 75°	9000	3
MF1000A/BUH	1000	BT180	E40	6	395	—	145	7.50	87000	BUH ± 105°	9000	4
MF1000A/BD	1000	BT180	E40	6	395	—	145	7.50	87000	BD ± 75°	9000	4
MF1000B/BUH	1000	BT180	E40	6	395	—	250	4.50	112000	BUH ± 105°	9000	4
MF1000B/BD	1000	BT180	E40	6	395	—	250	4.50	112000	BD ± 75°	9000	4
MF1500B/BUH	1500	BT180	E40	6	395	—	250	6.40	140000	BUH ± 105°	3000	4
MF1500B/BD	1500	BT180	E40	6	395	—	250	6.40	140000	BD ± 75°	3000	4
MF2000B/BUH	2000	BT200	E40	1	495	—	230	9.20	180000	BUH ± 105°	9000	5
MF2000B/BD	2000	BT200	E40	1	495	—	230	9.20	180000	BD ± 75°	9000	5
BT Clear												
M250/BUH	250	BT100	E40	12	250	160	130	2.13	21500	BUH ± 105°	15000	1
M250/BD	250	BT100	E40	12	250	160	130	2.13	21500	BD ± 75°	15000	1
M400/BUH	400	BT116	E40	12	292	185	135	3.25	40000	BUH ± 105°	15000	2
M400/BD	400	BT116	E40	12	292	185	135	3.25	40000	BD ± 75°	15000	2
M700/BUH	700	BT150	E40	6	375	240	140	5.40	60000	BUH ± 105°	9000	3
M700/BD	700	BT150	E40	6	375	240	140	5.40	60000	BD ± 75°	9000	3
M1000A/BUH	1000	BT180	E40	6	395	245	145	7.50	90000	BUH ± 105°	9000	4
M1000A/BD	1000	BT180	E40	6	395	245	145	7.50	90000	BD ± 75°	9000	4
M1000B/BUH	1000	BT180	E40	6	395	245	250	4.50	115000	BUH ± 105°	9000	4
M1000B/BD	1000	BT180	E40	6	395	245	250	4.50	115000	BD ± 75°	9000	4
M1500B/BUH	1500	BT180	E40	6	395	245	250	6.40	145000	BUH ± 105°	3000	4
M1500B/BD	1500	BT180	E40	6	395	245	250	6.40	145000	BD ± 75°	3000	4
M2000B/BUH	2000	BT200	E40	1	495	310	230	9.20	185000	BUH ± 105°	9000	5
M2000B/BD	2000	BT200	E40	1	495	310	230	9.20	185000	BD ± 75°	9000	5

Notes: • For use in enclosed fixtures only.

Metal halide lamp for use with ballast for mercury lamp with ignitor.

Features
- Up to 115 lm/W, high efficacy.
- Long lamp life
- Various wattages and types are available.
- Coated: Ra 70, CCT=3800K
- Clear: Ra 65, CCT=4200K

Notes:
Warning / Caution notices: page 35

EYE Multi-Metal T bulb

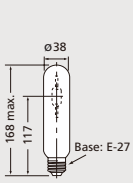


Fig.1

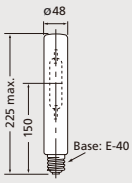


Fig.2

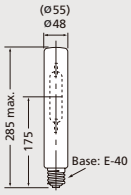


Fig.3

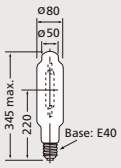


Fig.4

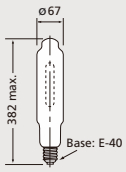


Fig.5

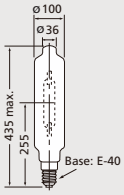


Fig.6

PHYSICAL DATA AND CHARACTERISTICS (Clear Type)

Type	Watts (W)	Bulb	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Req. starting Voltage (V)	Approx. Initial Lumens (ℓm)	Rated Av. Life (hrs)	Burning position	Fig. No.
						Voltage (V)	Current (A)					
MT125/BUH	125	T38	24	168	117	125	1.15	1000	8000	9000	BUH ± 105°	1
MT250/BH	250	T48	12	225	150	130	2.13	1000	18000	10000	BH ± 60°	2
MT400/BH	400	T48	12	285	175	135	3.25	1000	32000	10000	BH ± 60°	3
MT400SX/HOR	400	T55	12	285	175	135	3.25	1000	39000	15000	BH ± 15°	(3)
MT1000A-BH-L	1000	T80	12	345	220	145	7.50	1200	85000	6000	BH ± 60°	4
MT1000A-BH/67	1000	T67	12	382	240	145	7.50	1200	85000	6000	BH ± 60°	5
MT1000B-BH-N	1000	T80	12	345	220	230	4.70	4000	115000	9000	BH ± 60°	4
MT2000B-BH-N	2000	T100	12	435	255	230	9.20	4000	200000	9000	BH ± 60°	6
MT2000B-BH-L	2000	T100	12	435	255	230	9.20	360	220000	9000	BH ± 60°	6
MT3500B-BH-N	3500	T100	12	435	255	230	16.00	4000	350000	1500	BH ± 60°	6

Notes: • For use in enclosed fixtures only.

Tubular metal halide lamp for use with ballast for mercury lamp with or without ignitor.

Features
- Up to 115 lm/W, high efficacy.
- Long lamp life
- Various wattages and types are available.
- Ra 65, CCT=4200K

Notes:
Warning / Caution notices: page 35
Operating Instruction: page 35

EYE Color Arc colour

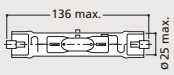


Fig.1

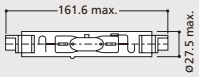


Fig.2

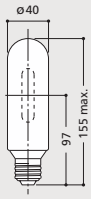


Fig.3

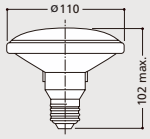
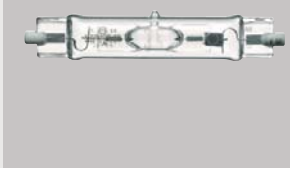


Fig.4



PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Bulb Finish	Std. Pkg. Qty.	Colour Temp. (K)	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (lm)	Rated Av. Life (hrs)	Burning Position	Fig. No.
									Voltage (V)	Current (A)				
TD - Double Ended														
MTD150/V	150	T24	Rx7s	Clear	24	Blue	136.0	68.0	95	1.90	4000*	6000	BH±45°	1
MTD150/G	150	T24	Rx7s	Clear	24	Green	136.0	68.0	95	1.90	12000*	6000	BH±45°	1
MTD150/AQUA	150	T24	Rx7s	Clear	24	50000*	136.0	68.0	95	1.90	6000*	6000	BH±45°	1
MTD150/AQUA2	150	T24	Rx7s	Clear	24	20000*	136.0	68.0	95	1.90	8000*	6000	BH±45°	1
MTD150/AQUA/10K	150	T24	Rx7s	Clear	24	10000*	136.0	68.0	95	1.90	9500*	6000	BH±45°	1
MTD250/AQUA/14K	150	T25	Fc2/18	Clear	24	14000*	161.6	69.5	100	3.00	15000*	6000	BH±45°	2
TP - E27 screw base														
MT150/V	150	T40	E27	Clear	12	Blue	136.0	68.0	95	1.90	4000*	6000	Any	3
MT150/G	150	T40	E27	Clear	12	Green	136.0	68.0	95	1.90	12000*	6000	Any	3
MT150/AQUA	150	T40	E27	Clear	12	50000*	136.0	68.0	95	1.90	6000*	6000	Any	3
MT150/AQUA2	150	T40	E27	Clear	12	20000*	136.0	68.0	95	1.90	8000*	6000	Any	3

Type	Watts (W)	Base	Std. Pkg. Qty.	Colour Temp.(K) or Colour	Initial Lumens (lm)	Beam lumens (lm)	Max.Light Intensity (cd)	Beam Angle (°)	Ra	Rated Av. Life (hrs)	M.O.L. (mm)	Burning Position	Fig. No.
PAR36 - E27 screw base													
M70P36S/B	70	E27	10	Blue	4100	300	3000	25	85*	6000	102	Any	4
M70P36F/B	70	E27	10	Blue	4000	750	800	77	85*	6000	102	Any	4
M70P36S/P**	70	E27	10	Pink	3400	400	4800	25	85*	6000	102	Any	4
M70P36F/P**	70	E27	10	Pink	3000	650	840	70	85*	6000	102	Any	4
M150P36S/B	150	E27	10	Blue	9500	1100	7000	28 x 34	85*	6000	102	Any	4
M150P36F/B	150	E27	10	Blue	9400	2700	2800	72 x 77	85*	6000	102	Any	4
M150P36S/P**	150	E27	10	Pink	8200	1400	9000	28 x 34	85*	6000	102	Any	4
M150P36F/P**	150	E27	10	Pink	7800	2400	3100	67 x 72	85*	6000	102	Any	4
M150P36F/AQUA2/AL	150	E27	10	20000*	7600	3400	4100	70	—	6000	102	Any	4

* Reference value only.
** Not available in EU and countries regulated by RoHS directive.

Specialty colour metal halide lamp. Tubular, Double-ended and PAR36 are available.

Features
- Various Aqua series are available for many aquatic applications.
- Pink PAR36: PAR36 bulb with Pink dichroic coating on reflector ensures display goods appear bright and vivid. The coating transfers less heat to the lit object. Perfect for use in food display lighting.
- Blue PAR36 lamp for various display lighting.
- Blue and/or Green Tubular lamps for landscape and façade lighting.

Notes:
Warning / Caution notices: page 35
Operating Instruction: page 35

EYE Cera Arc PAR20 & PAR36

Beam diameter and illuminance

p11 EYE Cera Arc Natural Red PAR36 - E27 screw base

CM70P36S/NR
Beam angle: 27°

ø(m)	H(m)	E(lx)
0.48	1	9000
0.96	2	2250
1.44	3	1000
1.92	4	560
2.40	5	360

CM70P36F/NR
Beam angle: 70° x 75°

ø(m)	H(m)	E(lx)
1.40 x 1.54	1	2000
2.80 x 3.07	2	500
4.20 x 4.60	3	220
5.60 x 6.14	4	120
7.00 x 7.67	5	80

CM150P36S/NR
Beam angle: 32°

ø(m)	H(m)	E(lx)
0.57	1	14500
1.15	2	3620
1.72	3	1600
2.30	4	900
2.87	5	580

CM150P36F/NR
Beam angle: 70°

ø(m)	H(m)	E(lx)
1.40	1	5000
2.80	2	1250
4.20	3	550
5.60	4	310
7.00	5	200

p12 EYE Cera Arc 2800K PAR36 - E27 screw base

CM70P36S/LW928
Beam angle: 30°

ø(m)	H(m)	E(lx)
0.54	1	7500
1.07	2	1870
1.61	3	830
2.14	4	470
2.68	5	300

CM70P36F/LW928
Beam angle: 70°

ø(m)	H(m)	E(lx)
1.40	1	2300
2.80	2	570
4.20	3	260
5.60	4	140
7.00	5	90

CM150P36S/LW928
Beam angle: 32°

ø(m)	H(m)	E(lx)
0.57	1	16000
1.15	2	4000
1.72	3	1770
2.30	4	1000
2.87	5	640

CM150P36F/LW928
Beam angle: 70°

ø(m)	H(m)	E(lx)
1.40	1	5500
2.80	2	1370
4.20	3	610
5.60	4	340
7.00	5	220

p16 EYE Cera Arc PAR20

CM35P20S/LW
Beam angle: 10°

ø(m)	H(m)	E(lx)
0.18	1	23000
0.36	2	5750
0.54	3	2550
0.72	4	1430
0.90	5	920

CM35P20F/LW
Beam angle: 23°

ø(m)	H(m)	E(lx)
0.35	1	7500
0.70	2	1870
1.05	3	830
1.40	4	460
1.75	5	300

p16 EYE Cera Arc PAR36 - E27 screw base

CM70P36S/DW
Beam angle: 27°

ø(m)	H(m)	E(lx)
0.48	1	10000
0.96	2	2500
1.44	3	1110
1.92	4	620
2.40	5	400

CM70P36F/DW
Beam angle: 70° x 75°

ø(m)	H(m)	E(lx)
1.40 x 1.54	1	2200
2.80 x 3.07	2	550
4.20 x 4.60	3	240
5.60 x 6.14	4	140
7.00 x 7.67	5	90

CM70P36S/WW
Beam angle: 27°

ø(m)	H(m)	E(lx)
0.48	1	10000
0.96	2	2500
1.44	3	1110
1.92	4	620
2.40	5	400

CM70P36F/WW
Beam angle: 70° x 75°

ø(m)	H(m)	E(lx)
1.40 x 1.54	1	2200
2.80 x 3.07	2	550
4.20 x 4.60	3	240
5.60 x 6.14	4	140
7.00 x 7.67	5	90

CM70P36S/W
Beam angle: 27°

ø(m)	H(m)	E(lx)
0.48	1	10000
0.96	2	2500
1.44	3	1110
1.92	4	620
2.40	5	400

CM70P36F/W
Beam angle: 70° x 75°

ø(m)	H(m)	E(lx)
1.40 x 1.54	1	2200
2.80 x 3.07	2	550
4.20 x 4.60	3	240
5.60 x 6.14	4	140
7.00 x 7.67	5	90

CM70P36S/P
Beam angle: 27°

ø(m)	H(m)	E(lx)
0.48	1	5200
0.96	2	1300
1.44	3	580
1.92	4	320
2.40	5	210

CM70P36F/P
Beam angle: 50°

ø(m)	H(m)	E(lx)
0.93	1	1800
1.86	2	450
2.80	3	200
3.73	4	110
4.66	5	70

CM150P36S/DW
Beam angle: 32°

ø(m)	H(m)	E(lx)
0.57	1	16000
1.15	2	4000
1.72	3	1780
2.30	4	1000
2.87	5	640

CM150P36F/DW
Beam angle: 70°

ø(m)	H(m)	E(lx)
1.40	1	5500
2.80	2	1370
4.20	3	610
5.60	4	340
7.00	5	220

CM150P36S/WW
Beam angle: 32°

ø(m)	H(m)	E(lx)
0.57	1	16000
1.15	2	4000
1.72	3	1780
2.30	4	1000
2.87	5	640

CM150P36F/WW
Beam angle: 70°

ø(m)	H(m)	E(lx)
1.40	1	5500
2.80	2	1370
4.20	3	610
5.60	4	340
7.00	5	220

CM150P36S/W
Beam angle: 32°

ø(m)	H(m)	E(lx)
0.57	1	16000
1.15	2	4000
1.72	3	1780
2.30	4	1000
2.87	5	640

CM150P36F/W
Beam angle: 70°

ø(m)	H(m)	E(lx)
1.40	1	5500
2.80	2	1370
4.20	3	610
5.60	4	340
7.00	5	220

CM150P36S/P
Beam angle: 35°

ø(m)	H(m)	E(lx)
0.63	1	9000
1.15	2	1260
1.89	3	1000
2.52	4	560
3.15	5	360

CM150P36F/P
Beam angle: 70°

ø(m)	H(m)	E(lx)
1.40	1	3600
2.80	2	900
4.20	3	400
5.60	4	220
7.00	5	140

EYE Color Arc PAR36 & PAR38

Beam diameter and illuminance

p21 EYE Color Arc aluminum reflector type PAR 36 / E27 base

M70P36S/SDW
Beam angle: 26°

ø(m)	H(m)	E(lx)
0.46	1	7020
0.92	2	1750
1.39	3	780
1.85	4	440
2.31	5	280

M70P36F/SDW
Beam angle: 65°

ø(m)	H(m)	E(lx)
1.27	1	1600
2.55	2	400
3.82	3	180
5.10	4	100
6.37	5	60

M70P36S/SW
M70P36S/D
Beam angle: 32°

ø(m)	H(m)	E(lx)
0.46	1	7800
0.92	2	1950
1.39	3	870
1.85	4	490
2.31	5	310

M70P36F/SW
M70P36F/D
Beam angle: 65°

ø(m)	H(m)	E(lx)
1.27	1	2000
2.55	2	500
3.82	3	220
5.10	4	130
6.37	5	80

M150P36S/SDW
Beam angle: 23° x 29°

ø(m)	H(m)	E(lx)
0.41 x 0.52	1	11700
0.81 x 1.03	2	2930
1.22 x 1.55	3	1330
1.63 x 2.07	4	730
2.04 x 2.59	5	470

M150P36F/SDW
Beam angle: 62° x 67°

ø(m)	H(m)	E(lx)
1.20 x 1.32	1	4320
2.40 x 2.65	2	1080
3.61 x 3.97	3	480
4.81 x 5.30	4	270
6.01 x 6.62	5	170

M150P36S/SW
M150P36S/D
Beam angle: 23° x 29°

ø(m)	H(m)	E(lx)
0.41 x 0.52	1	13000
0.81 x 1.03	2	3250
1.22 x 1.55	3	1440
1.63 x 2.07	4	810
2.04 x 2.59	5	520

M150P36F/SW
M150P36F/D
Beam angle: 62° x 67°

ø(m)	H(m)	E(lx)
1.20 x 1.32	1	4800
2.40 x 2.65	2	1200
3.61 x 3.97	3	530
4.81 x 5.30	4	300
6.01 x 6.62	5	190

p22 EYE Color Arc Dichroic reflector type PAR 38 / E27 base

M70P38F/SDW
Beam angle: 45°

ø(m)	H(m)	E(lx)
0.83	1	4050
1.70	2	1010
2.50	3	450
3.30	4	250
4.15	5	160

M70P38F/SW
M70P38F/D
Beam angle: 45°

ø(m)	H(m)	E(lx)
0.83	1	4500
1.70	2	1120
2.50	3	500
3.30	4	280
4.15	5	180

M150P38F/SDW
Beam angle: 60°

ø(m)	H(m)	E(lx)
1.20	1	4500
2.30	2	1120
3.40	3	500
4.50	4	280
5.60	5	180

M150P38F/SW
M150P38F/D
Beam angle: 60°

ø(m)	H(m)	E(lx)
1.20	1	5000
2.30	2	1250
3.40	3	550
4.50	4	310
5.60	5	200

p32 EYE Color Arc Dichroic reflector type PAR 36 / E27 base

M70P36S/B
Beam angle: 25°

ø(m)	H(m)	E(lx)
0.44	1	3000
0.90	2	750
1.30	3	330
1.80	4	190
2.20	5	120

M70P36F/B
Beam angle: 77°

ø(m)	H(m)	E(lx)
1.60	1	800
3.20	2	200
4.80	3	90
6.36	4	50
7.95	5	30

M150P36S/B
Beam angle: 28° x 34°

ø(m)	H(m)	E(lx)
0.50 x 0.61	1	7000
1.00 x 1.22	2	1750
1.50 x 1.83	3	780
1.99 x 2.45	4	440
2.49 x 3.06	5	280

M150P36F/B
Beam angle: 72° x 77°

ø(m)	H(m)	E(lx)
1.45 x 1.59	1	2800
2.91 x 3.18	2	700
4.36 x 4.77	3	310
5.81 x 6.36	4	180
7.27 x 7.95	5	110

M70P36S/P
Beam angle: 25°

ø(m)	H(m)	E(lx)
0.44	1	4800
0.90	2	1200
1.30	3	530
1.80	4	300
2.20	5	190

M70P36F/P
Beam angle: 70°

ø(m)	H(m)	E(lx)
1.44	1	800
2.80	2	200
4.20	3	90
5.60	4	50
7.00	5	30

M150P36S/P
Beam angle: 28° x 34°

ø(m)	H(m)	E(lx)
0.50 x 0.61	1	9000
1.00 x 1.22	2	2250
1.50 x 1.83	3	1000
1.99 x 2.45	4	560
2.49 x 3.06	5	360

M150P36F/P
Beam angle: 67° x 72°

ø(m)	H(m)	E(lx)
1.32 x 1.45	1	3100
2.65 x 2.91	2	780
3.97 x 4.36	3	340
5.30 x 5.81	4	190
6.62 x 7.27	5	120

M150P36F/AQUA2/AL
Beam angle: 70°

ø(m)	H(m)	E(lx)
1.40	1	4100
2.80	2	1020
4.20	3	460
5.60	4	260
7.00	5	160

WARNING & OPERATING INSTRUCTION

For Users of EYE Metal Halide Lamps

In General

1. This is an electric discharge lamp for use only on proper circuits and with proper auxiliary equipment, compatible with electrical specifications established by the local authorities and the lamp manufacturer. Failure to comply with this may result in poor lamp performance and possible personal injury or property damage for which IWASAKI ELECTRIC COMPANY shall not be held responsible.
2. Do not touch hot lamps and keep away from any flammable goods during operation or immediately after the power is turned OFF.
3. Do not scratch bulb or subject lamp to undue pressure.This could result in lamp breakage.
4. This lamp can cause serious skin burn and eye inflammation from short-wave ultraviolet radiation if the outer envelope of the lamp is broken or punctured.

   Do not use in areas where people will remain for more than a few minutes unless adequate shielding or other safety precautions are used. Lamps that will automatically turn off when the outer envelope is broken or punctured are commercially available.
5. When installing and replacing a lamp, power must be OFF to avoid possible electric shock hazards.
6. When the lamp has failed, replacement should be made as soon as possible after power is turned OFF.
7. When replacing a lamp, check the durability of the ballast, the wiring and the luminaire. If they have deteriorated, replace them with new ones immediately.
8. The lamp must have external protection against direct contact with water to minimize the possibility of glass bulb breakage.
9. The lamp should be firmly, but not forcibly, screwed into the socket.
10. Check the operating position of the lamps marked on the outer envelope. Lamps should be utilized in the correct operating position.
11. The lamp lumens will vary somewhat according to the operating position.
12. The lamp must have a suitable ballast. If it is connected directly without a ballast, the lamp will instantly fail.
13. For total supply load figures, add auxiliary watts to lamp watts.
14. Variation of line volts should be kept to within ±6% of the rated voltage of the ballast.
15. Do not use this lamp in a fixture designed for less than the rated lamp wattage.
16. These lamps normally exhibit some colour variation from lamp to lamp and a gradual change in colour throughout life.

    Operating conditions such as mounting and/or voltage variation can also effect the colour of these lamps.
17. When operating this lamp, the base temperature should not exceed 210°C (410°F) for E40 base and 190°C (374°F) for E27 base, the outer envelope should not exceed 400°C (752°F).
18. Do not use this lamp in a location subject to vibration or shock,unless an adequate vibration-proof fixture is used.
19. Do not use this lamp in a corrosive atmosphere, unless an adequate corrosion resistant-fixture is used.
20. The recommended ambient temperature limit for this lamp is -5°C (23°F)minimum ;40°C (104°F) maximum.
21. This is a discharge lamp and requires a certain amount of time to restart and achieve full brightness after a power interruption.
22. Where lamps are to be operated continuously, they should be switched OFF and checked once a week for any abnormalities in order to prevent ballast damage or suitable protective measures should be taken to ensure that safety is maintain under this condition.
23. Replace the lamps at or before the end of rated life.

Operating Instruction

For EYE Cera Arc

1. Use of EYE electronic ballast is recommended to ensure correct operation for 35W, 70W, 150W, 250W and 400W lamps.
2. Contact IWASAKI ELECTRIC COMPANY for correct ballast and ignitor.
3. EYE Cera Arc double ended lamps should be operated on IEC 61167 ballast and ignitor.
4. EYE Cera Arc 360W should be operated on reactor type ballast for 400W mercury lamp with ignitor.
5. EYE Cera Arc Ace 360W should be operated on reactor type ballast for 400W mercury lamp without ignitor.

For EYE Color Arc

1. Use of EYE electronic ballast is recommended to ensure correct operation.
2. Contact IWASAKI ELECTRIC COMPANY or local ballast/ignitor manufacturer for correct ballast and ignitor.
3. EYE Color Arc Renaissance, double-ended lamps should be operated on IEC 61167 ballast and ignitor.

For EYE Quartz Arc, EYE Clean Arc, EYE Multi-Metal, EYE Multi-Metal Tubular

When using this lamp the fixture must be enclosed. Enclosures must be made of suitable materials. Enclosures containing EYE Multi Metal lamps must be capable of withstanding the discharge of hot quartz arc tube particles. IWASAKI ELECTRIC COMPANY has identified only tempered glass as a suitable lens or diffuser material. End users should contact the fixture manufacturer to determine if a suitable enclosure is available.

This lamp should be operated on appropriate ballast and ignitor for metal halide lamps.

MLD2000BED-I should be operated on 380V or 400V or 415V, 10.3A type metal halide 2000W reactor ballast and ignitor.

MSD2000BED-I should be operated on 415V, 10.3A type metal halide 2000W reactor ballast and ignitor.

MT1500B-D/BH, M1500B-D/BH should be operated on ANSI M48 ballast (CW, CWA) with specific capacitor.

MT1500A-D/BH should be operated on specific ballast and ignitor.

MT1000B-D/BH,M1000B-D/BH should be operated on ANSI M47 ballast (CW, CWA) with specific capacitor.

EYE Multi-Metal Tubular 125W, 250W and 400W should be operated on ballast for mercury lamp and ignitor for metal halide.

EYE Multi-Metal Tubular lamps with suffix "N" : Use with ballast and ignitor for metal halide.

MT1000A-BH-L should be operated on ballast for 1000W mercury and ignitor.

MT2000B-BH-L: Use of external ignitor is recommended when ambient temperature is below

-10°C. Otherwise, use with 8.8A reactor type ballast for 2000W metal halide without ignitor.

For EYE Multi Super Ace, EYE Multi-Hi-Ace, EYE Clean Ace

1. This lamp should be operated with the reactor or auto transformer type mercury ballasts. Never operate with the constant type ballasts (CW or CWA).
2. When using this lamp the fixture must be enclosed. Enclosures must be made of suitable materials. Enclosures containing these lamps must be capable of withstanding the discharge of hot quartz arc tube particles. IWASAKI ELECTRIC COMPANY has identified only tempered glass as a suitable lens or diffuser material. End users should contact the fixture manufacturer to determine if a suitable enclosure is available.
3. The wire length between the ballast and lamp should not be more than 50m. (Maximum 25m for less than 125W).
4. The applied voltage at the lamp terminals should not exceed 265V as this may impair or damage the internal ignitor of the lamp. (Except for EYE Multi Super Ace)
5. For EYE Multi Super Ace, the recommended ambient temperature limit for the lamp is -20°C (-4°F) minimum; 40°C (104°F) maximum.

HIGH PRESSURE SODIUM LAMPS

EYE SDX

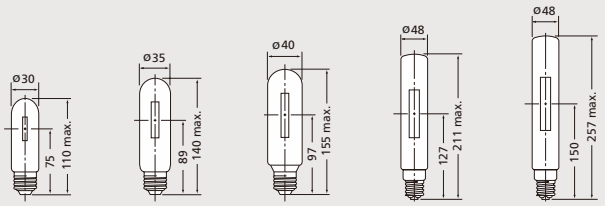


Fig.1 Fig.2 Fig.3 Fig.4 Fig.5

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Ra	Rated Av. Life (hrs)	Fig. No.
							Voltage (V)	Current (A)				
Tubular E27 base												
NHT50SDX/E27	50	T30	E27	24	110	75	45	—	2500	82	6000	1
NHT70SDX/E27	70	T35	E27	12	140	89	85	—	3500	83	6000	2
NHT100SDX/E27	100	T35	E27	12	140	89	80	—	5000	83	6000	2
NHT150SDX/E27	150	T40	E27	12	155	97	100	—	7800	85	9000	3
Tubular Frosted E27 base												
NHT50FSDX/E27	50	T30	E27	24	110	—	45	—	2400	82	6000	1
NHT70FSDX/E27	70	T35	E27	12	140	—	85	—	3350	83	6000	2
NHT100FSDX/E27	100	T35	E27	12	140	—	80	—	4800	83	6000	2
NHT150FSDX/E27	150	T40	E27	12	155	—	100	—	7300	85	9000	3
Tubular E40 base												
NHT150SDX/E40	150	T48	E40	12	211	127	100	1.90	7800	85	9000	4
NHT250SDX/E40	250	T48	E40	12	211	127	100	3.10	13500	85	9000	4
NHT400SDX/E40	400	T48	E40	12	257	150	100	4.70	24000	85	9000	5

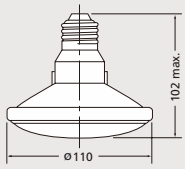
Notes: • Lamp performance will vary depending on the characteristic curve of each type of ballast.
• Initial lumens are the value after 100hours operation.

High colour rendering, warm incandescent colour, high pressure sodium lamp for use with dedicated ballast.

Features
- 2500K, warm incandescent colour suits many applications including display and landscape lighting.
- Ra 82 to 85, outstanding colour rendition, especially excellent red rendition fits many retail applications. Perfect for displaying red or gold coloured merchandize.
- High efficacy results in low energy consumption.
- 3 to 9 times longer lamp life compared to halogen / incandescent lamps.
- Rated for use in open fixtures.

Notes:
Warning / Caution notices: page 46, Operating Instruction: page 46

EYE SDX PAR



PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Std. Pkg. Qty.	Initial lumens (ℓm)	Beam lumens (ℓm)	Beam angle(°)	Max. light intensity (cd)	Ra	Rated Av. Life (hrs)	M.O.L. (mm)
NH100P36SSDX	100	10	5000	1200	27 X 40	7500	83	6000	102
NH100P36FSDX	100	10	4800	1600	60 X 65	2700	83	6000	102
NH150P36SSDX	150	10	7000	3200	28 X 48	8500	85	6000	102
NH150P36FSDX	150	10	6000	2600	62 X 75	3300	85	6000	102

PAR36 high colour rendering, warm incandescent colour, high pressure sodium lamp for use with dedicated ballast.

Features
- Unique PAR36 dicroic reflector with E27 design.
- 2500K, warm incandescent colour suits many applications including display and landscape lighting.
- Rated for use in open fixtures.

Notes:
Warning / Caution notices: page 46, Operating Instruction: page 46

EYE Specialux

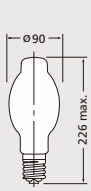


Fig.1

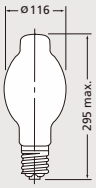


Fig.2

Fig.3

Fig.4

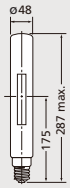


Fig.5

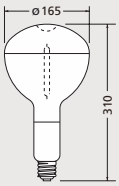


Fig.6

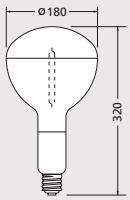


Fig.7

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Rated Av. Life (hrs)	Fig. No.
							Voltage (V)	Current (A)			
BT Diffuse											
NH150FDX/PN	150	BT90	E40	12	226	—	100	1.80	7300	9000	1
NH250FDX/PN	250	BT90	E40	12	226	—	100	3.00	12800	9000	1
NH400FDX/PN	400	BT116	E40	12	295	—	105	4.45	23000	9000	2
Tubular											
NHT150DX/PN	150	T48	E40	12	211	132	100	1.80	7800	9000	3
NHT250DX/PN	250	T48	E40	12	257	150	100	3.00	13500	9000	4
NHT400DX/PN	400	T48	E40	12	287	175	100	4.60	24000	9000	5

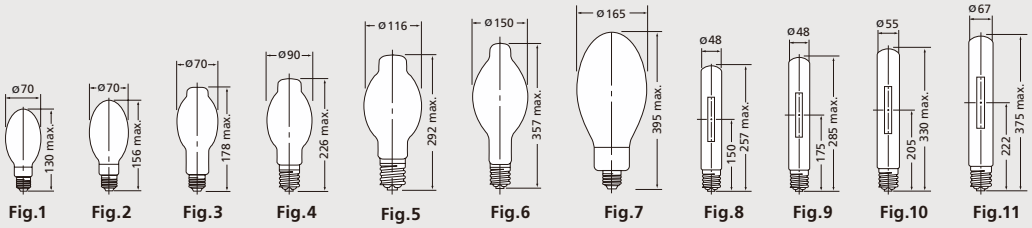
Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	Lamp		Beam Lumens (ℓm)		Max.Light Intensity (cd)	Rated Av. Life (hrs)	Fig. No.
						Voltage (V)	Current (A)					
R bulb												
NHR150DX/PN	150	R165	E40	6	310	100	1.80	0-65° 0-90°	4800 5900	1400	9000	6
NHR250DX/PN	250	R165	E40	6	310	100	3.00	0-65° 0-90°	8000 9500	2200	9000	6
NHR400DX/PN	400	R180	E40	6	320	105	4.45	0-65° 0-90°	15500 18000	4200	9000	7

E40 base high colour rendering warm incandescent colour high pressure sodium lamp for use with ballast and ignitor for high pressure sodium lamp.

Features
- 2500K, warm incandescent colour suits many applications including urbanscapes, landscapes and high bay lighting.
- Ra 85, outstanding colour rendition, especially excellent red rendition.
- High efficacy results in low energy consumption.
- 9 times longer lamp life compared to halogen / incandescent lamps.

Notes:
Warning / Caution notices: page 46
Operating Instruction: page 46

EYE Sunlux Ace



PHYSICAL DATA AND CHARACTERISTICS

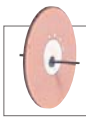
Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Rated Av. Life (hrs)	Fig. No.
							Voltage (V)	Current (A)			
E & BT Diffuse											
NH50FLX	50	E55	E27	30	130	—	95	0.61	3400	16000	1
NH75FLX/70S	75	E70	E27	24	156	—	115	0.80	6200	20000	2
NH75FLX/70H	75	E70	E27	24	156	—	115	0.80	6200	20000	2
NH110FLX	115	BT70	E27	24	178	—	125	1.15	11000	24000	3
NH220FLX	235	BT90	E40	12	226	—	130	2.13	25500	24000	4
NH360FLX	375	BT116	E40	12	292	—	135	3.25	46000	24000	5
NH660FLX	660	BT150	E40	6	357	—	140	5.40	90000	24000	6
NH940FLX*	940	E165	E40	6	395	—	145	7.50	131000	24000	7
E & BT Clear											
NH75LX/70S	75	E70	E27	24	156	98	115	0.80	6500	20000	2
NH75LX/70H	75	E70	E27	24	156	98	115	0.80	6500	20000	2
NH110LX	115	BT70	E27	24	178	115	125	1.15	11600	24000	3
NH220LX	235	BT90	E40	12	226	146	130	2.13	28000	24000	4
NH360LX	375	BT116	E40	12	292	185	135	3.25	50000	24000	5
NH660LX	660	BT150	E40	6	357	230	140	5.40	95000	24000	6
NH940LX*	940	E165	E40	6	395	245	145	7.50	138000	24000	7
Tubular											
NHT220LX	235	T48	E40	12	257	150	130	2.13	28000	24000	8
NHT360LX	375	T48	E40	12	285	175	135	3.25	50000	24000	9
NHT660LX	660	T55	E40	12	330	205	140	5.40	95000	24000	10
NHT940LX*	940	T67	E40	12	375	222	145	7.50	138000	24000	11

Notes: • Initial lumens is the value after 100 hrs of operation.
• Burning position: Any
• NH75LX/70S indicates soft glass and NH75LX/70H hard glass.
* Please contact local distributor for FEC Type of 940W Sunlux Ace lamp.

High pressure sodium lamps with built-in FEC ignitor for use with ballast for mercury lamps.

Features
- Direct replacement for mercury lamps; operates on standard mercury ballast.
- Up to 120 lm/W, high efficacy.
- Reliable long life by superior technology and quality.
- Built-in FEC ignitor controls pulse voltage, width and phase. The controlled pulse reduces arc tube darkening and lumen depreciation increasing lamp life.
- FEC protects ballast and wiring when lamp ceases to operate as the ignition pulse will be stopped automatically.
- Ra 25, CCT=2100K

Notes:
Warning / Caution notices: page 46, Operating Instruction: page 46



FEC
- World's first switching capacitor that can resist the high temperature present in the lamp's outer jacket.

EYE Sunlux Ace and mercury lamp ballast combination

(Max. wiring distance from the ballast)

Type	Mercury Lamp Ballast (Reactor or Auto-transformer)	Allowable External Capacitance*
NH50FLX	50W	100pF
NH75FLX	80W	100pF**
NH110FLX	125W	1500pF
NH220FLX	250W	2500pF
NH360FLX	400W	2500pF
NH660FLX	700W	5000pF
NH940FLX	1000W	5000pF
NHT220LX	250W	2500pF
NHT360LX	400W	2500pF
NHT660LX	700W	5000pF
NHT940LX	1000W	5000pF

* 100pF stray capacitance may be equivalent to about 1 meter length of twin cable.
** 1500pF type is also available.

EYE Sunlux Ace R bulb

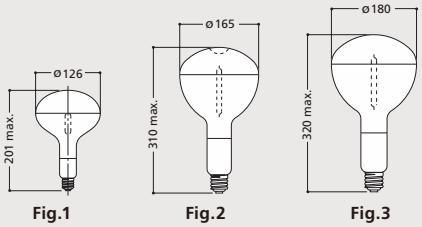


Fig.1 Fig.2 Fig.3

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	Lamp		Beam Lumens (ℓm)		Max.Light Intensity (cd)	Rated Av. Life (hrs)	Fig. No.
						Voltage (V)	Current (A)					
NHR75LX	75	R126	E27 or B22d-3	6	201	115	0.80	0-67.5° 0-90°	3700 4400	1120	16000	1
NHR110LX	115	R126	E27 or B22d-3	6	201	125	1.15	0-67.5° 0-90°	6200 7400	1900	24000	1
NHR220LX	235	R165	E40	6	310	130	2.13	0-67.5° 0-90°	14000 20000	4500	24000	2
NHR360LX	375	R180	E40	6	320	135	3.25	0-67.5° 0-90°	25500 34000	7300	24000	3

Notes: • Initial lumens are the value after 100 hrs of operation. • Burning position: Any

Notes:
Warning / Caution notices: page 46, Operating Instruction: page 46

EYE Sunlux Ace improved colour rendering

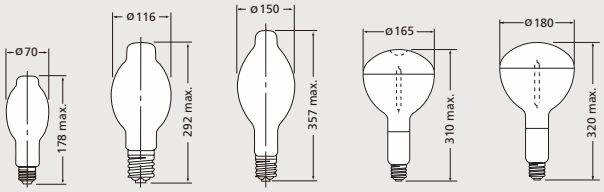


Fig.1 Fig.2 Fig.3 Fig.4 Fig.5

PHYSICAL DATA AND CHARACTERISTICS

BT Bulb Series

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Rated Av. Life (hrs)	Fig. No.
							Voltage (V)	Current (A)			
Diffuse Type											
NH220FDLX	220	BT90	E40	12	226	—	130	2.13	19000	24000	1
NH360FDLX	360	BT116	E40	12	292	—	135	3.25	36000	24000	2
NH660FDLX	660	BT150	E40	6	375	—	140	5.40	69000	24000	3
Clear Type											
NH220DLX	220	BT90	E40	12	226	146	130	2.13	20000	24000	1
NH360DLX	360	BT116	E40	12	292	185	135	3.25	38000	24000	2
NH660DLX	660	BT150	E40	6	375	240	140	5.40	73000	24000	3

R Bulb Series

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	Lamp		Beam Lumens (lm)		Max. Light Intensity (cd)	Rated Av. Life (hrs)	Fig. No.
						Voltage (V)	Current (A)					
NHR220DLX	220	R165	E40	6	310	130	2.13	0-65° 0-90°	12000 14500	3200	24000	4
NHR360DLX	360	R180	E40	6	320	135	3.25	0-65° 0-90°	22000 27000	5900	24000	5

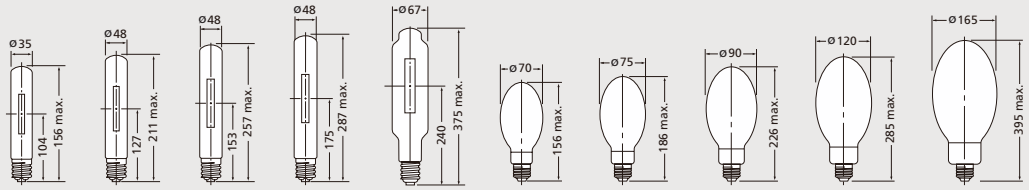
Notes: • Initial lumens are the values after 100 hours of operation. • Burning position: Any

Improved colour rendering, high pressure sodium lamps with built-in FEC ignitor for use with ballast for mercury lamps.

Features
- High efficiency with improved colour rendition (Ra=60)
- Direct replacement for mercury lamps; operates on standard mercury ballast.
- Provides warm light colour (CCT=2150 K)

Notes:
Warning / Caution notices: page 46, Operating Instruction: page 46

EYE Ignitron



PHYSICAL DATA AND CHARACTERISTICS

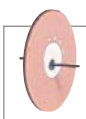
Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Rated Av. Life (hrs)	Fig. No.
							Voltage (V)	Current (A)			
Tubular											
NHT50/I	50	T35	E27	24	156	104	85	0.76	4000	16000	1
NHT70/I	70	T35	E27	24	156	104	90	0.98	6000	16000	1
NHT100/I	100	T48	E40	12	211	127	100	1.20	10000	24000	2
NHT150/I	150	T48	E40	12	211	127	100	1.80	14500	24000	2
NHT250/I	250	T48	E40	12	257	153	100	3.00	27500	24000	3
NHT400/I	400	T48	E40	12	287	175	100	4.60	50000	24000	4
NHT1000/I	1000	T67	E40	12	375	240	100	10.60	133000	24000	5
E bulb Diffuse											
NH50F/I	50	E70	E27	24	156	—	85	0.76	3800	16000	6
NH70F/I	70	E70	E27	24	156	—	90	0.98	5800	16000	6
NH100F/I	100	E75	E40	12	186	—	100	1.20	9500	24000	7
NH150F/I	150	E90	E40	12	226	—	100	1.80	14000	24000	8
NH250F/I	250	E90	E40	12	226	—	100	3.00	25800	24000	8
NH400F/I	400	E120	E40	12	285	—	105	4.45	47800	24000	9
NH1000F/I	1000	E165	E40	6	395	—	110	10.30	125000	24000	10

Notes: • Initial lumens are the value after 100 hours operation.
• Burning position: Any

High pressure sodium lamp with built-in FEC ignitor for use with ballast for high pressure sodium without ignitor, long reliable lamp life.

Features
- EYE Ignitron built-in FEC eliminates additional maintenance trips to the fixture and the high maintenance cost associated with ignitor in fixture.
- FEC protects ballast and wiring when lamp ceases to operate as the ignition pulse will be stopped automatically.
- Built-in FEC ignitor controls pulse voltage, width and phase. The controlled pulse reduces arc tube darkening and lumen depreciation increasing lamp life.
- Wide range of wattages are available.
- Ra 17-25, CCT=2100K

Notes:
Warning / Caution notices: page 46
Operating Instruction: page 46



FEC
- World's first switching capacitor that can resist the high temperature presents in the lamp's outer bulb
- Pulse-cut feature stops ignitor pulsing at lamp life end

EYE Ignitron Super

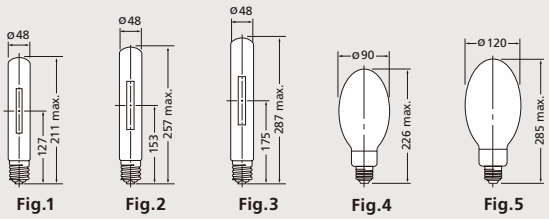


Fig.1 Fig.2 Fig.3 Fig.4 Fig.5

PHYSICAL DATA AND CHARACTERISTICS

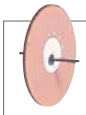
Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Rated Av. Life (hrs)	Fig. No.
							Voltage (V)	Current (A)			
Tubular											
NHT150/I-S	150	T48	E40	12	211	127	100	1.80	16000	24000	1
NHT250/I-S	250	T48	E40	12	257	153	100	3.00	33000	24000	2
NHT400/I-S	400	T48	E40	12	287	175	100	4.60	56000	24000	3
E bulb Diffuse											
NH150F/I-S	150	E90	E40	12	226	—	100	1.80	15500	24000	4
NH250F/I-S	250	E90	E40	12	226	—	100	3.00	30000	24000	4
NH400F/I-S	400	E120	E40	12	285	—	105	4.45	53000	24000	5

Notes: • Initial lumens are the value after 100hours operation.
• Burning position: Any

High efficacy high pressure sodium with built-in FEC ignitor for use with ballast for high pressure sodium without ignitor, long reliable lamp life.

Features
- High efficacy, high light output.
- EYE Ignitron built-in FEC eliminates additional maintenance trips to the fixture and the high maintenance cost associated with ignitor in fixture.
- FEC protects ballast and wiring when lamp ceases to operate as the ignition pulse will be stopped automatically.
- Built-in FEC ignitor controls pulse voltage, width and phase. The controlled pulse reduces arc tube darkening and lumen depreciation increasing lamp life.
- Ra 25, CCT=2100K

Notes:
Warning / Caution notices: page 46
Operating Instruction: page 46



FEC
- World's first switching capacitor that can resist the high temperature presents in the lamp's outer bulb
- Pulse-cut feature stops ignitor pulsing at lamp life end

EYE Sunlux Super

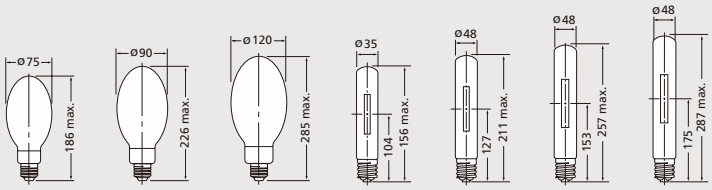


Fig.1 Fig.2 Fig.3 Fig.4 Fig.5 Fig.6 Fig.7

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Rated Av. Life (hrs)	Fig. No.
						Voltage (V)	Current (A)			
E bulb Diffuse										
NH100FS	100	E75	E40	186	—	100	1.20	9500	24000	1
NH150FS	150	E90	E40	226	—	100	1.80	15500	24000	2
NH250FS	250	E90	E40	226	—	100	3.00	30000	24000	2
NH400FS	400	E120	E40	285	—	105	4.45	53000	24000	3
Tubular										
NHT50S	50	T35	E27	156	104	85	0.76	4000	16000	4
NHT70S	70	T35	E27	156	104	90	0.98	6500	16000	4
NHT100S	100	T48	E40	211	127	100	1.20	10000	24000	5
NHT150S	150	T48	E40	211	127	100	1.80	16000	24000	5
NHT250S	250	T48	E40	257	153	100	3.00	33000	24000	6
NHT400S	400	T48	E40	287	175	100	4.60	56000	24000	7

High efficacy high pressure sodium lamp, long reliable lamp life.

Features
- High efficacy, high light output, energy efficient HPS lamps.
- Long reliable lamp life by superior quality and technology.
- Ra 17-25, CCT=2100K

Notes:
Warning / Caution notices: page 46

EYE Sunlux E, BT, E70 bulb

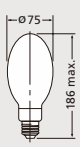


Fig.1

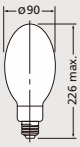


Fig.2

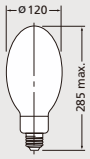


Fig.3

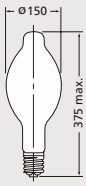


Fig.4

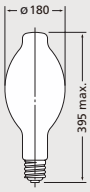


Fig.5

Fig.6

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Rated Av. Life (hrs)	Fig. No.
							Voltage (V)	Current (A)			
E & BT Diffuse											
NH100F	100	E75	E40	12	186	—	100	1.20	9500	24000	1
NH150F	150	E90	E40	12	226	—	100	1.80	14000	24000	2
NH250F	250	E90	E40	12	226	—	100	3.00	25800	24000	2
NH400F	400	E120	E40	12	285	—	105	4.45	47800	24000	3
NH700F	700	BT150	E40	6	375	—	105	7.50	84000	24000	4
NH1000F	1000	BT180	E40	6	395	—	110	10.30	125000	24000	5
E & BT Clear											
NH100	100	E75	E40	12	186	127	100	1.20	10000	24000	1
NH150	150	E90	E40	12	226	146	100	1.80	14500	24000	2
NH250	250	E90	E40	12	226	146	100	3.00	27500	24000	2
NH400	400	E120	E40	12	285	185	105	4.45	50000	24000	3
NH700	700	BT150	E40	6	375	240	105	7.50	88000	24000	4
NH1000	1000	BT180	E40	6	395	245	110	10.30	133000	24000	5
E70 bulb Diffuse											
NH50F/HV/70S	50	E70	E27	24	153	—	85	0.76	3800	16000	6
NH50F/N/HV/70S*	50	E70	E27	24	153	—	85	0.76	3800	16000	6
NH70F/HV/70S	70	E70	E27	24	153	—	90	0.98	5800	16000	6
NH70F/N/HV/70S*	70	E70	E27	24	153	—	90	0.98	5800	16000	6
E70 bulb Clear											
NH50/HV/70S	50	E70	E27	24	153	98	85	0.76	4000	16000	6
NH50/N/HV/70S	50	E70	E27	24	153	98	85	0.76	4000	16000	6
NH70/HV/70S	70	E70	E27	24	153	98	90	0.98	6000	16000	6
NH70/N/HV/70S	70	E70	E27	24	153	98	90	0.98	6000	16000	6

Notes: • Meaning of symbols
HV: High voltage
S: Soft bulb
H: Hard bulb
N: No external ignitor is required
F: Diffuse bulb
• Initial lumens are values after 100 hours of operation
• Burning position: Any
* Please refer to page 41 of this catalogue. (NH50F/I & NH70F/I. EYE Ignitron lamps.)

High pressure sodium lamp, long reliable lamp life.

Features
• Long reliable lamp life by superior quality and technology.
• Ra 17-25, CCT=2100K

Notes:
Warning / Caution notices: page 46

EYE Sunlux T bulb

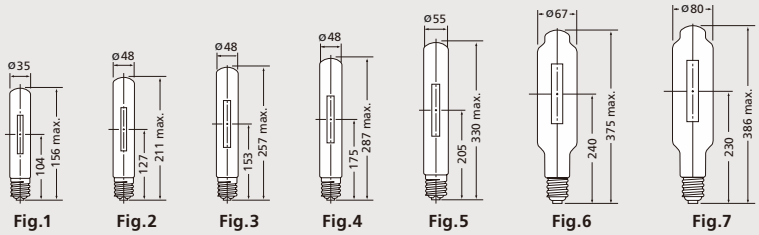


Fig.1 Fig.2 Fig.3 Fig.4 Fig.5 Fig.6 Fig.7

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Rated Av. Life (hrs)	Fig. No.
							Voltage (V)	Current (A)			
NHT50	50	T35	E27	24	156	104	85	0.76	4000	16000	1
NHT70	70	T35	E27	24	156	104	90	0.98	6000	16000	1
NHT100	100	T48	E40	12	211	127	100	1.20	10000	24000	2
NHT150	150	T48	E40	12	211	127	100	1.80	14500	24000	2
NHT250	250	T48	E40	12	257	153	100	3.00	27500	24000	3
NHT400	400	T48	E40	12	287	175	100	4.60	50000	24000	4
NHT700	700	T55	E40	12	330	205	105	7.50	88000	24000	5
NHT1000	1000	T67	E40	12	375	240	100	10.60	133000	24000	6
NHT1000B	1000	T80	E40	12	386	230	250	4.70	140000	24000	7

Notes: • Initial lumens are values after 100 hours of operation • Burning position: Any

Tubular bulb high pressure sodium lamp, long reliable lamp life.

Features
- Long reliable lamp life by superior quality and technology.
- Ra 17-25, CCT=2100K

Notes:
Warning / Caution notices: page 46

EYE Sunlux R bulb

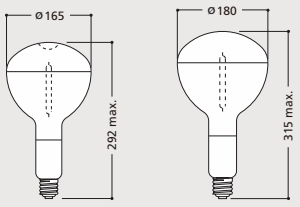


Fig.1 Fig.2

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	Lamp		Beam Lumens (ℓm)		Max. Light Intensity (cd)	Rated Av. Life (hrs)	Fig. No.
						Voltage (V)	Current (A)					
NHR150	150	R165	E40	6	310	100	1.80	0-65°	8500	2200	24000	1
								0-90°	9700			
NHR250	250	R165	E40	6	310	100	3.00	0-65°	17400	5500	24000	1
								0-90°	19800			
NHR400	400	R180	E40	6	315	105	4.45	0-65°	29800	8600	24000	2
								0-90°	33600			

Notes: • Initial lumens are values after 100 hours of operation • Burning position: Any

Reflector bulb high pressure sodium lamp, long reliable lamp life.

Features
- Long reliable lamp life by superior quality and technology.
- Ra 25, CCT=2100K

Notes:
Warning / Caution notices: page 46

WARNING & OPERATING INSTRUCTION

For users of EYE high pressure sodium lamps

In General

Apply for
EYE Sunlux Ace
EYE Improved Colour Rendering Sunlux Ace
EYE Sunlux Super
EYE Sunlux
EYE Ignitron Super
EYE Ignitron
EYE SDX
EYE SDX PAR
EYE Specialux

1. The lamp must have a suitable ballast. If it is connected directly to a power supply without a ballast, the lamp will instantly fail. This is an electric discharge lamp for use only with proper auxiliary equipment, compatible with electrical specifications (e.g. rated lamp watts, supply volts and frequency, etc.) established by local authorities and the lamp manufacturer. Failure to comply with this may result in poor lamp performance and possible personal injury or property damage for which IWASAKI ELECTRIC COMPANY shall not be held responsible.
2. Do not touch hot lamps and keep away from any flammable goods during operation or immediately after the power is turned OFF.
3. Do not scratch bulb or subject lamp to undue pressure.This could result in lamp breakage.
4. When installing and replacing a lamp, power must be turned OFF to avoid possible electric shock hazards.
5. When the lamp has failed, replacement should be made as soon as possible after power is turned OFF.
6. When replacing a lamp, check the durability of the ballast, the wiring and the luminaire. If they have deteriorated, replace them with new ones immediately.
7. The lamp must have external protection against direct contact with water to minimize the possibility of glass bulb breakage with the exception of reflector type ones, unless otherwise noted.
8. This lamp is suitable for operation in any position.
9. For total supply load figures, add auxiliary watts to lamp watts..
10. When operating this lamp, the base temperature should not exceed 210°C (410°F) for E40 base and 190°C (374°F) for E27 base, the outer envelope should not exceed 400°C (752°F).
    Do not use this lamp in a fixture designed for less than the rated lamp wattage.
11. Do not use this lamp in a location subject to vibration or shock, unless an adequate vibration-proof fixture is used.
12. Do not use this lamp in a corrosive atmosphere, unless an adequate corrosion resistant fixture is used.
13. The recommended ambient temperature range for this lamp is -60°C (76°F) minimum; 50°C (122°F) maximum.
    The recommended ambient temperature range for EYE SDX and EYE SDX PAR lamp is -10°C (14°F) minimum; 40°C (104°F) maximum.
14. This is a discharge lamp and requires a certain time to restart and achieve full brightness after a power interruption.
15. Where lamps are to be operated continuously, they should be switched OFF and checked once a week for any abnormalities in order to prevent ballast damage or suitable protective measures should be taken to ensure that safety is maintained under this condition.
16. At the end of lamp life a number of lamps will exhibit a rectifying effect and the higher current will flow in the circuit.
    In order to prevent the circuit damage, suitable protective measures should be taken to ensure that safety is maintained.
17. Do not turn OFF within 1 minute after lamp starting inorder to avoid re-start problem.

Operating Instruction

For EYE SDX

1. EYE SDX lamps should be operated on dedicated ballasts and ignitor. Contact Iwasaki Electric Company for further information.

For EYE Specialux

1. EYE Specialux lamps should be operated on standard high pressure sodium ballasts and ignitor and may be also used on the same ballast and ignitor as the EYE SDX lamp.

For EYE Sunlux Ace and EYE Sunlux Ace Improved Colour Rendering

1. EYE Sunlux Ace lamps should be operated on reactor type or auto-transformer type ballasts for mercury lamps (IEC Pub. 60188 M. V. L. Ballast) which have an open circuit voltage below 265V.
2. The supply voltage should be kept to within ±6% of the rated supply voltage of the ballast.
3. The maximum wiring distances between the ballast and the lamp should be limited to;

   • 50W and 75W: 1 m
   • 110W: 15 m
   • 220W and 360W: 25 m
   • 660W and 940W: 50 m

   because of reduction of pulse voltage.
   See the "Allowable External Capacitance" table on the product page for more details.
4. Replace the lamp after the expiration of the rated life. Some lamps may continue to operate after their rated average life, however the lamps that are used after the rated average life do not perform properly on specification.

For EYE Ignitron and EYE Ignitron Super

1. EYE Ignitron and EYE Ignitron Super should be operated on ballast for standard high pressure sodium (IEC Pub. 60662) without ignitor.

EYE SDX PAR

Beam diameter and illuminance

p37 EYE SDX PAR

100W

Beam angle: 27° x 40°

ø(m)	H(m)	E(lx)
0.48 x 0.70	1	7500
0.96 x 1.50	2	1870
1.44 x 2.20	3	830
1.92 x 2.80	4	460
2.40 x 3.30	5	300

Beam angle: 60° x 65°

ø(m)	H(m)	E(lx)
1.20 x 1.30	1	2700
2.30 x 2.50	2	670
3.50 x 3.80	3	300
4.80 x 5.20	4	160
6.20 x 6.70	5	100

150W

Beam angle: 28° x 48°

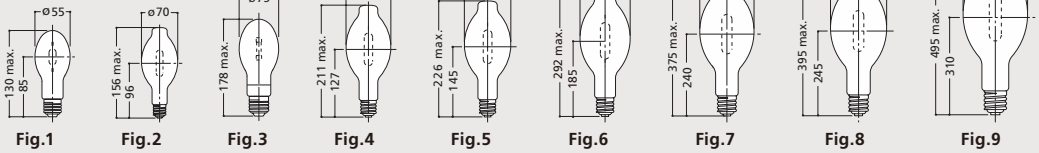
ø(m)	H(m)	E(lx)
0.50 x 0.90	1	8500
1.00 x 1.80	2	2120
1.50 x 2.70	3	940
2.00 x 3.60	4	530
2.50 x 4.50	5	340

Beam angle: 62° x 75°

ø(m)	H(m)	E(lx)
1.20 x 1.50	1	3300
2.40 x 3.10	2	820
3.60 x 4.60	3	360
4.80 x 6.00	4	200
6.00 x 7.30	5	130

MERCURY LAMP

Mercury E, BT bulb



PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Rated Av. Life (hrs)	Fig. No.
							Voltage (V)	Current (A)			
Coated											
HF40PD	40	E55	E27	30	130	—	90	0.53	1500	8000	1
HF50PD	50	E55	E27	30	130	—	95	0.61	1900	8000	1
HF50PD/H	50	E55	E27	30	130	—	95	0.61	1900	8000	1
HF80PD	80	E70	E27	24	156	—	115	0.80	3600	16000	2
HF80PD/H	80	E70	E27	24	156	—	115	0.80	3600	16000	2
HF100PD	100	E75	E27	24	178	—	115	1.00	4500	24000	3
HF125PD	125	E75	E27	24	178	—	125	1.15	6250	24000	3
HF125PD/H	125	E75	E27	24	178	—	125	1.15	6250	24000	3
HF175PD	175	BT90	E40	12	211	—	130	1.50	8900	24000	4
HF250PD	250	BT90	E40	12	226	—	130	2.13	13700	24000	5
HF300PD	300	BT116	E40	12	292	—	130	2.50	17000	24000	6
HF400PD	400	BT116	E40	12	292	—	135	3.25	24000	24000	6
HF700PD	700	BT150	E40	6	375	—	140	5.40	44000	24000	7
HF1000PD	1000	BT180	E40	6	395	—	145	7.50	64000	16000	8
HF1000BPD	1000	BT180	E40	6	395	—	265	4.00	64000	24000	8
HF2000BPD	2000	BT200	E40	1	495	—	270	8.00	125000	10000	9
Clear											
H40	40	E55	E27	30	130	85	90	0.53	1300	8000	1
H50	50	E55	E27	30	130	85	95	0.61	1650	8000	1
H50/H	50	E55	E27	30	130	85	95	0.61	1650	8000	1
H80	80	E70	E27	24	156	96	115	0.80	3000	16000	2
H80/H	80	E70	E27	24	156	96	115	0.80	3000	16000	2
H100	100	E75	E27	24	178	115	115	1.00	4000	24000	3
H125	125	E75	E27	24	178	115	125	1.15	5400	24000	3
H125/H	125	E75	E27	24	178	115	125	1.15	5400	24000	3
H175	175	BT90	E40	12	211	127	130	1.50	7800	24000	4
H250	250	BT90	E40	12	226	145	130	2.13	12000	24000	5
H300	300	BT116	E40	12	292	185	130	2.50	15000	24000	6
H400	400	BT116	E40	12	292	185	135	3.25	21000	24000	6
H700	700	BT150	E40	6	375	240	140	5.40	39500	24000	7
H1000	1000	BT180	E40	6	395	245	145	7.50	58000	16000	8
H1000B	1000	BT180	E40	6	395	245	265	4.00	58000	24000	8
H2000B	2000	BT200	E40	1	495	310	270	8.00	120000	10000	9

Elliptical bulb from 250W to 1000W is available upon request.

Mercury lamp, long reliable lamp life.

Features
- Long reliable lamp life by superior quality and technology.
- Coated: Ra 40, CCT=4100K
- Clear: Ra 25, CCT=5700K

Notes:
Warning / Caution notices: page 54

Mercury R bulb

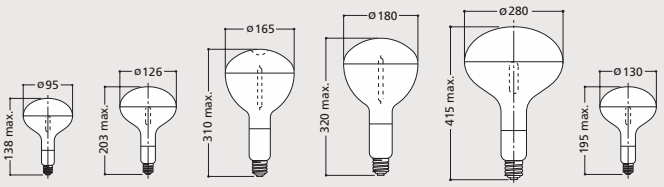


Fig.1 Fig.2 Fig.3 Fig.4 Fig.5 Fig.6

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb*	Base	Std. Pkg. Qty.	M.O.L. (mm)	Lamp		Beam Lumens (ℓm)		Max. Light Intensity (cd)	Rated Av. Life (hrs)	Fig. No.
						Voltage (V)	Current (A)					
Coated												
HRF80PD	80	R95	E27	12	138	115	0.80	0-65° 0-90°	2000 2500	680	16000	1
HRF100PD	100	R126	E27	6	203	115	1.00	0-65° 0-90°	2800 3300	800	24000	2
HRF125PD	125	R126	E27	6	203	125	1.15	0-65° 0-90°	3700 4300	1200	24000	2
HRF250PD	250	R165	E40	6	310	130	2.13	0-65° 0-90°	7800 8800	2500	24000	3
HRF300PD	300	R165	E40	6	310	130	2.50	0-65° 0-90°	10000 11200	2900	24000	3
HRF400PD	400	R180	E40	6	320	135	3.25	0-65° 0-90°	14000 15500	4000	24000	4
HRF700PD	700	R280	E40	1	415	140	5.40	0-65° 0-90°	27000 31000	8500	24000	5
HRF1000PD	1000	R280	E40	1	415	145	7.50	0-65° 0-90°	38000 46000	11000	16000	5
Clear (NARROW BEAM)												
HR100-N	100	R130	E27	6	195	115	1.00	0-15° 0-90°	1100 2500	25000	24000	6
HR250-N	250	R180	E40	6	320	130	2.13	0-15° 0-90°	3000 9000	58000	24000	4
HR300-N	300	R180	E40	6	320	130	2.50	0-15° 0-90°	3500 10000	71000	24000	4
HR400-N	400	R180	E40	6	320	135	3.25	0-15° 0-90°	5300 13500	90000	24000	4
HR700-N	700	R280	E40	1	415	140	5.40	0-15° 0-90°	9000 25000	155000	24000	5
HR1000-N	1000	R280	E40	1	415	145	7.50	0-15° 0-90°	13000 36600	200000	16000	5

* Bulb material: Hard glass

Mercury lamp, long reliable lamp life.

Notes: Warning / Caution notices: page 54

Features
- Long reliable lamp life by superior quality and technology.
- Coated: Ra 40, CCT=4100K
- Clear: Ra 25, CCT=5700K

Mercury lamp T bulb

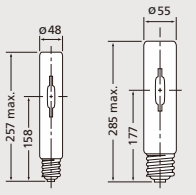


Fig.1 Fig.2

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Rated Av. Life (hrs)	Fig. No.
							Voltage (V)	Current (A)			
Clear Type											
HT250	250	T48	E40	12	257	158	130	2.13	11500	16000	1
HT400	400	T48	E40	12	285	177	135	3.25	21000	16000	2

Mercury lamp, long reliable lamp life.

Notes: Warning / Caution notices: page 54

Features
- Long reliable lamp life by superior quality and technology.
- Ra 25, CCT=5700K

Mercury for cold atmosphere use

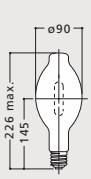


Fig.1

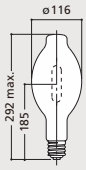


Fig.2

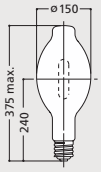


Fig.3

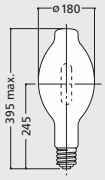


Fig.4

PHYSICAL DATA AND CHARACTERISTICS

Type*	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Lamp		Approx. Initial Lumens (ℓm)	Rated Av. Life (hrs)	Fig. No.
							Voltage (V)	Current (A)			
Phosphor Coated Type											
KHF250PD	250	BT90	E40	12	226	—	130	2.13	12800	24000	1
KHF400PD	400	BT116	E40	12	292	—	135	3.25	22000	24000	2
KHF700PD	700	BT150	E40	6	375	—	140	5.40	41000	24000	3
KHF1000PD	1000	BT180	E40	6	395	—	145	7.50	59500	16000	4

* KHF-PD:Power Deluxe Mercury Lamps for cold atmosphere use

Mercury lamp for cold atmosphere use, long reliable lamp life.

Features
- Can be used in temperatures down to - 30°C.
- Long reliable lamp life by superior quality and technology.
- Ra 40, CCT=4100K

Notes:
Warning / Caution notices: page 54

Self-ballasted mercury E & BT bulb

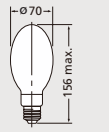


Fig.1

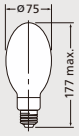


Fig.2

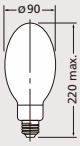


Fig.3

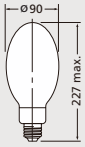


Fig.4

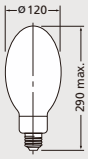


Fig.5

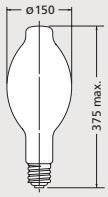


Fig.6

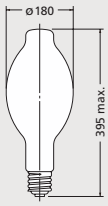


Fig.7

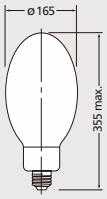


Fig.8

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Current		Approx. Initial Lumens (ℓm)	Rated AV. Life (hrs)	Fig. No.
							Starting (A)	Running (A)			
100W-HSB/E21 White	100	E21	E27 or B22d-2	24	156	—	0.54	0.45	1100	6000 (1)	1
100WSB/E21 White	100	E21	E27 or B22d-2	24	156	—	0.54	0.45	1100	6000 (1)	1
100WSB/E21 White*	100	E21	E27	24	156	—	0.98	0.89	1100	6000 (1)	1
160W-HSB/E24 White	160	E24	E27 or B22d-2	24	177	—	0.88	0.73	2600	8000 (1)	2
160WSB/E24 Clear	160	E24	E27 or B22d-2	24	177	118	0.88	0.73	2700	8000 (1)	2
160WSB/E24 White	160	E24	E27 or B22d-2	24	177	—	0.88	0.73	3000	8000 (1)	2
160WSB/E24 White*	160	E24	E27	24	177	—	1.70	1.42	2550	8000 (1)	2
250WSB/E28 Clear	250	E28	E27 (B22d-2,E40)	20	220 (227)	140	1.43	1.10	5300	12000 (1)	3
250WSB/E28 White	250	E28	E27 (B22d-2,E40)	20	220 (227)	—	1.43	1.10	5700	12000 (1)	3
300WSB/E28 Clear	300	E28	E40	12	227	150	2.00	1.60	6000	12000 (1)	4
300WSB/E28 White	300	E28	E40	12	227	—	2.00	1.60	6000	12000 (1)	4
500WSB/E37 Clear	500	E37	E40	12	290	195	3.00	2.20	13000	16000 (1)	5
500WSB/E37 White	500	E37	E40	12	290	—	3.00	2.20	14000	16000 (1)	5
750WSB/BT46 Clear	750	BT46	E40	6	375	239	4.95	3.30	20000	16000 (1)	6
750WSB/BT46 White	750	BT46	E40	6	375	—	4.95	3.30	22000	16000 (1)	6
1000WSB/BT56 Clear	1000	BT56	E40	6	395	245	7.70	4.80	29000	16000 (1)	7
1000WSB/BT56 White	1000	BT56	E40	6	395	—	7.70	4.80	31000	16000 (1)	7
1000WSB/E52 Clear	1000	E52	E40	6	355	215	7.70	4.80	29000	16000 (1)	8
1000WSB/E52 White	1000	E52	E40	6	355	—	7.70	4.80	31000	16000 (1)	8
1250WSB/BT56 Clear	1250	BT56	E40	6	395	245	9.80	6.10	39000	16000 (1)	7

Notes: • Burning position: Any
• Current and lumens data will change depending on the rated voltage of the lamps.
• Burning condition
(1) Indoor use
• Deluxe White Phosphor is coated for White and Ref. Fluo. type lamps.
• 220/230V is the rated voltage for the above lamps except for "*" marked lamps.
"*" marked lamps: The rated voltage is 100 - 120V.

LIGHT RESTRICTIONS
• Indoor/Outdoor Uncovered Lighting
Can be used indoors or out. However an Iwasaki holder must be used for outdoor applications. The use of other holders may cause damage.
• Indoor/Outdoor Lighting
Can be used indoors or out. However a waterproof or resistant fixture should be used for outdoor applications.

There are various rated voltage type lamps.
Please contact Iwasaki Electric Co.,Ltd.

Elliptical and BT bulb self-ballasted mercury lamp.

Features
- Direct replacement for incandescent lamp as it operates on mains voltage without additional gears.
- Higher efficacy and longer lamp life compared to incandescent lamps.
- Mixed light provides more natural and improved light colour
- Wide variety of models are available in wattages and bulb types.
- Coated: Ra 58, CCT=3900K
- Clear: Ra 28, CCT=5200K

Notes:
Warning / Caution notices: page 54

Self-ballasted mercury R bulb

Fig.1

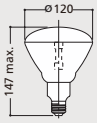


Fig.2

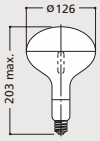


Fig.3

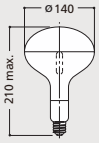


Fig.4

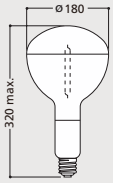


Fig.5

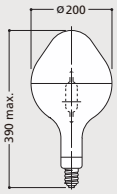


Fig.6

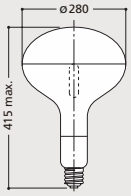


Fig.7

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	L.C.L. (mm)	Current		Approx. Beam Lumenst	Rated AV. Life (hrs)	Fig. No.
							Starting (A)	Running (A)			
160W-HSB/R38 Ref.Fluo.	160	R38	E27	12	160	—	0.88	0.73	1680	10000 (3)	1
160WSB/PAR38 Ref.Fluo.	160	PAR38	E27	12	147	—	0.88	0.73	1680	10000 (3)	2
160WSB/R40 Flood	160	R40	E27	12	203	—	0.88	0.73	1680	10000 (3)	3
250WSB/R40 Flood	250	R40	E27 (E40)	12	203 (210)	—	1.43	1.10	3900	12000 (2)	3
250WSB/R40 Ref.Fluo.	250	R40	E27 (E40)	12	203 (210)	—	1.43	1.10	3900	12000 (2)	3
275WSB/R40 Flood	275	R40	E27 (E40)	12	203 (210)	—	1.60	1.28	4000	12000 (2)	3
275WSB/R40 Ref.Fluo.	275	R40	E27 (E40)	12	203 (210)	—	1.60	1.28	4000	12000 (2)	3
275WSB/R44 Flood	275	R44	E27 (E40)	12	210 (213)	—	1.60	1.28	4000	12000 (2)	4
275WSB/R44 Ref.Fluo.	275	R44	E27 (E40)	12	210 (213)	—	1.60	1.28	4000	12000 (2)	4
300WSB/R40 Flood	300	R40	E27 (E40)	12	203 (210)	—	2.00	1.60	4200	12000 (1)	3
300WSB/R40 Ref.Fluo.	300	R40	E27 (E40)	12	203 (210)	—	2.00	1.60	4200	12000 (1)	3
300WSB/R44 Flood	300	R44	E27 (E40)	12	210 (213)	—	2.00	1.60	4200	12000 (2)	4
300WSB/R44 Ref.Fluo	300	R44	E27 (E40)	12	210 (213)	—	2.00	1.60	4200	12000 (2)	4
450WSB/R57 Flood	450	R57	E40	6	320	—	2.80	2.10	8700	16000 (3)	5
450WSB/R57 Ref.Fluo.	450	R57	E40	6	320	—	2.80	2.10	8700	16000 (3)	5
500WSB/R57 Flood	500	R57	E40	6	320	—	3.00	2.20	9100	16000 (3)	5
500WSB/R57 Ref.Fluo.	500	R57	E40	6	320	—	3.00	2.20	9100	16000 (3)	5
750WSB/R57 Flood	750	R57	E40	6	320	—	4.95	3.30	14000	16000 (2)	5
750WSB/R57 Ref.Fluo.	750	R57	E40	6	320	—	4.95	3.30	14000	16000 (2)	5
750WSB/R60 Ref.Fluo.	750	R60	E40	4	390	—	4.95	3.30	14000	16000 (3)	6
1000WSB/R88 Flood	1000	R88	E40	1	415	—	7.70	4.80	20000	16000 (3)	7
1000WSB/R88 Ref.Fluo.	1000	R88	E40	1	415	—	7.70	4.80	20000	16000 (3)	7
1250WSB/R88 Flood	1250	R88	E40	1	415	—	9.80	6.10	26000	16000 (2)	7
1250WSB/R88 Ref.Fluo.	1250	R88	E40	1	415	—	9.80	6.10	26000	16000 (2)	7

Notes: • Burning positions: Universal
• Current and lumens data will change depending on the rated voltage of the lamps.
• Burning condition
(1) Indoor use
(2) For indoor or outdoor use:If outdoors, base-down operation lamp should be protected by a fully enclosed fixture which is adequately ventilated. Base up operation lamp can be used in open face fixture 40° below horizontal.
(3) Indoor and outdoor use with a suitable lamp holder.
• Deluxe White Phosphor is coated for White and Ref. Fluo. type lamps.
• 220/230V is the rated voltage for the above lamps except for "*" marked lamps.
"*" marked lamps: The rated voltage is 100 - 120V.

LIGHT RESTRICTIONS
• Indoor/Outdoor Uncovered Lighting
Can be used indoors or out. However an Iwasaki holder must be used for outdoor applications. The use of other holders may cause damage.
• Indoor/Outdoor Lighting
Can be used indoors or out. However a waterproof or resistant fixture should be used for outdoor applications.

There are various rated voltage type lamps.
Please contact Iwasaki Electric Co.,Ltd.

Reflector bulb self-ballasted mercury lamp.

Features
- Direct replacement for incandescent lamp as it operates on mains voltage without additional gears.
- Higher efficacy and longer lamp life compared to incandescent lamps.
- Mixed light provides more natural and improved light colour
- Wide variety of models are available in wattages and bulb types.
- Coated: Ra 58, CCT=3900K
- Clear: Ra 28, CCT=5200K

Notes:
Warning / Caution notices: page 54

WARNING & OPERATING INSTRUCTION

For user of high pressure mercury lamps and self-ballasted mercury lamps

In General

1. The high pressure mercury lamp must have a suitable ballast. If it is connected directly to a power supply without a ballast, the lamp will instantly fail. This is an electric discharge lamp for use only with proper auxiliary equipment, compatible with electrical specifications (e.g. rated lamp watts, supply volts and frequency, etc.) established by local authorities and the lamp manufacturer. Failure to comply with this may result in poor lamp performance and possible personal injury or property damage for which IWASAKI ELECTRIC COMPANY shall not be held responsible.
2. Do not touch hot lamps with fingers or skin, and keep away any flammable goods during the operation or immediately after the power is turned OFF.
3. Do not scratch bulb or subject lamp to undue pressure which could result in lamp breakage.
4. This lamp can cause serious skin burn and eye inflammation from short-wave ultraviolet radiation if the outer envelope of the lamp is broken or punctured.
   Do not use where people will remain more than a few minutes unless adequate shielding or other safety precautions are used.
   Lamps that will automatically extinguish when the outer envelope is broken or punctured are commercially available.
5. When installing and replacing a lamp, power must be turnd OFF to avoid possible electric shock hazards.The lamp should be firmly but not forcibly screwed into the socket.
6. When the lamp has failed, replacement should be made as soon as possible after power is turned OFF.
7. When replacing a lamp, check the durability of the ballast, the wiring and the luminaire. If they have deteriorated, replace with new ones immediately.
8. The lamp must have external protection against direct contact with water to minimize the possibility of glass bulb breakage, unless otherwise noted, with the exception of reflector type ones.
9. The high pressure mercury lamp is suitable for operation in any position.
10. For total supply load figures add auxiliary watts to lamp watts.
11. Variation of line volts should be kept to within the permissible range of voltage variation of the ballasts.For the EYE Self-Ballasted Mercury lamps, variation of AC line volts should be kept to within ±5% of the rated voltage of the lamps.
    There is a chance the Self-Ballasted lamp will extinguish when the line voltage drops suddenly to less than 95% of the rated voltage.
12. When operating the hard glass bulb lamp, the base temperature should not exceed 210°C (410°F), and the outer envelope should not exceed 400°C (752°F). When operating the soft glass bulb lamp, the base temperature should not exceed 190°C (374°F), and the outer envelope should not exceed 250°C (482°F).
13. Do not use this lamp in a location subject to vibration or shock, unless an adequate vibration-proof fixture is used.
14. Do not use this lamp in corrosive atmosphere, unless an adequate corrosion resistant fixture is used.
15. The recommended ambient temperature limit for this lamp is -5°C (23°F) minimum; 50°C (122°F) maximum.
16. This is a discharge lamp and requires a certain time to restart and achieve full brightness, after a power interruption.

Cross reference

Metal Halide Lamps

EYE	PHILIPS	OSRAM	GE	SYLVANIA	VENTURE
M250/BUH				HIS-HX250W/CL*	HIE250W/HBU/EURO/4K
M250/BD					
MF250/BUH	HPI PLUS 250W/BU*			HIS-HX250W/CO*	HIE250W/C/HBU/EURO/4K
MF250/BD					
M400/BUH				HIS-HX400W/CL*	
M400/BD					
MF400/BUH	HPI PLUS 400W/BU*			HIS-HX400W/CO*	HIE400W/C/HBU/EURO/4K
MF400/BD					
M700/BUH					
M700/BD					
MF700/BUH					
MF700/BD					
M1000A/BUH					
M1000A/BD					
MF1000A/BUH					
MF1000A/BD					
M1000B/BUH					
M1000B/BD					
MF1000B/BUH					
MF1000B/BD					
M1500B/BUH			MVR1500/HBU		
M1500B/BD					
MF1500B/BUH					
MF1500B/BD					
M2000B/BUH					
M2000B/BD					
MF2000B/BUH					
MF2000B/BD					
MT125/BUH					
MT250/BH	HPI-T PLUS 250	HQI-T 250W/N/51	ARC250/T/H	HIS-THX 250	HIT250/HOR/EURO/4K
MT400/BH	HPI-T PLUS 400	HQI-T 400W/N/SI	KRC400/T/H/960/440	HIS-THX 400	HIT400/HOR/EURO/4K
MT250DL					
MT400DL/BUD					
MT1000A-BH/67	HPI-T PRO 1000	HQI-T 1000W/D	SPL1000/T/H/960/E40	HIS-T 1000	
MT1000B-BH-N					
MT2000B-BH-N		HQI-T 2000W/N/E	SPL2000/T/H	HIS-T 2000/380V	
MT2000B-BH-L	HPI-T PRO 2000/380V	HQI-T 2000W/N	SPL2000/I/T/H	HIS-T 2000/380V/I	
MT3500B-BH-N					

*Base up position only.
1) Please note that due to continuing research and development, some products may vary slightly from descriptions given.
2) No responsibility for error or omissions.
3) Although our lamps and those of other companies may be similar, they are not necessarily interchangeable.

Cross reference

Metal Halide Lamps

EYE	PHILIPS	OSRAM	GE	SYLVANIA	VENTURE
M100LE/BU					
M100LE/BD					
MF100LE/BU					
MF100LE/BD					
M125LE/BUH					
M125LE/BD					
MF125LE/BUH					
MF125LE/BD					
M250LE/BUH					
M250LE/BD					
MF250LE/BUH					
MF250LE/BD					
M400LE/BUH			MVR400/I/U		
M400LE/BD					
MF400LE/BUH	HPI PLUS 400W BUS		MVR400/C/I/U		
MF400LE/BD					
M700LE/BUH					
M700LE/BD					
MF700LE/BUH					
MF700LE/BD					
M1000LE/BUH					
M1000LE/BD					
MF1000LE/BUH			MVR950/I/VBU		
MF1000LE/BD					
M125LSH/BUH					
MF125LSH/BUH					
M250LSH/U					
MF250LSH/U					
M400LSH/U			MVR400/I/U		
MF400LSH/U	HPI PLUS 400W BUS		MVR400/C/I/U		
MT400LSH/BH					
M1000LS/BUH					
MF1000LS/BUH			MVR950/I/VBU		
M175X/U		MI175/U/E40	MVR 175/U	M175 /U	MH175/U
MF175X/U		MI175/C/U/E40	MVR 175/C/U	M175 C/U	MH175/C/U
M250X/U		MI250/U/E40	MVR 250/U	M250 /U	MH250/U, HIE250
MF250X/U		MI250/C/U/E40	MVR 250/C/U	M250 C/U	MH250/C/U, HIE250C
M400X/U		MI400/U/E40	MVR 400/U	M400 /U	MH400/U, HIE400
MF400X/U	HPI 400W BU	MI400/C/U/E40	MVR 400/C/U	M400 C/U	MH400/C/U, HIE400C
M1000BX/U		MI1000/U/E40	MVR 1000/U	M1000 /U	MH1000/U
MF1000BX/U		MI1000/C/U/E40	MVR 1000/C/U	M1000 C/U	MH1000/C/U
M400SX/BU			MPR400/VBU/40	MS400 BU**, MS400/PS/BU**	MS400/BU/ED28**
MF400SX/BU			MVR400/C/VBU/40	MS400/C/BU**, MS400/PS/C/BU**	MS400/BU/ED28**
M1000B SX/BU			MVB1000/C/VBU/40	MS1000/C/BU	MS1000/C/BU
MF1000B SX/BU			MVR1000/VBU/40	MS1000/BU	MS1000/BU

**Denotes electrical compatibility is assured but slight variation in lamp colour and lumen output.
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Cross reference

High Pressure Sodium Lamps

EYE	PHILIPS	OSRAM	GE	SYLVANIA	VENTURE
NH100					
NH150					
NH250					
NH400					
NH700					
NH1000					
NH100F	SON Pro 100W		LU100/100/MO/D/40	SHP 100W	
NH150F	SON Pro 150W	NAV-E150	LU150/100/D/40	SHP 150W	
NH250F	SON Pro 250W	NAV-E250	LU250/D/40	SHP 250W	
NH400F	SON Pro 400W	NAV-E400	LU400/D/40	SHP 400W	
NH700F					
NH1000F	SON Pro 1000W	NAV-E1000	LU1000/110/D/40		
NHR150					
NHR250					
NHR400					
NHT70	SON-T Pro 70W	NAV-T 70	LU70/90/T12/27	SHP-T 70W	
NHT100	SON-T Pro 100W		LU100/100/MO/T/40		
NHT150	SON-T Pro 150W	NAV-T 150	LU150/100/40	SHP-T 150W	
NHT250	SON-T Pro 250W	NAV-T 250	LU250/T/40	SHP-T 250W	
NHT400	SON-T Pro 400W	NAV-T 400	LU400/T/40	SHP-T 400W	
NHT700					
NHT1000	SON-T Pro 1000W	NAV-T1000	LU1000/110/T/40 4pk	SHP-T 1000W	
NHT1000B					
NH50/N/HV/70S (H)	SON Pro 50W/I Clear		LU50/85/I/27		
NH50F/N/HV/70S (H)	SON Pro 50W/I Coated	NAV-E 50/I	LU50/85/D/I/27	SHP 50W/CO-I	
NH50/HV/70S (H)					
NH50F/HV/70S (H)	SON Pro 50W/E Coated	NAV-E 50/E	LU50/85/D/27	SHP 50W/CO-E	
NH70/N/HV/70S (H)	SON Pro 70W/I Clear			SHP 70W/CL-I	
NH70F/N/HV/70S (H)	SON Pro 70W/I Coated	NAV-E 50/I	LU70/90/I/27	SHP 70W/CO-I	
NH70/HV/70S (H)			LU70/90/D/I/27		
NH70F/HV/70S (H)	SON Pro 70W-E Coated	NAV-E 70/E	LU70/85/D/27	SHP 70W/CO-E	

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Cross reference

High Pressure Sodium Lamps

EYE	PHILIPS	OSRAM	GE	SYLVANIA	VENTURE
NH100FS	MASTER SON PIA Plus 100W	NAV-E 100 SUPER	LU100/100/HO/D/40	SHP-S 100W	
NH150FS	MASTER SON PIA Plus 150W	NAV-E 150 SUPER	LU150/100/HO/D/40	SHP-S 150W	
NH250FS	MASTER SON PIA Plus 250W	NAV-E 250 SUPER	LU250/HO/D/40	SHP-S 250W	
NH400FS	MASTER SON PIA Plus 400W	NAV-E 400 SUPER	LU400/HO/D/40	SHP-S 400W	
NHT50S	MASTER SON-T PIA Plus 50W	NAV-T 50 SUPER	LU50/85/HO/T/27	SHP-TS 50W/CL-E	
NHT70S	MASTER SON-T PIA Plus 70W	NAV-T 70 SUPER	LU70/90/HO/T/27	SHP-TS 70W/CL-E	
NHT100S	MASTER SON-T PIA Plus 100W	NAV-T 100 SUPER	LU100/100/HO/T/40	SHP-TS 100W	
NHT150S	MASTER SON-T PIA Plus 150W	NAV-T 150 SUPER	LU150/150/HO/T/40	SHP-TS 150W	
NHT250S	MASTER SON-T PIA Plus 250W	NAV-T 250 SUPER	LU250/HO/T/40	SHP-TS 250W	
NHT400S	MASTER SON-T PIA Plus 400W	NAV-T 400 SUPER	LU400/HO/T/40	SHP-TS 400W	
NH50F/I	SON Pro 50W/I Coated	NAV-E 50/I	LU50/85/D/I/27	SHP 50W/CO-I	
NH70F/I	SON Pro 70W/I Coated	NAV-E 70/I	LU70/90/D/I/27	SHP 70W/CO-I	
NH100F/I					
NH150F/I		NAV-E 150W/I			
NH250F/I		NAV-E 250W/I			
NH400F/I		NAV-E 400W/I			
NH1000F/I					
NHT50/I					
NHT70/I					
NHT100/I					
NHT150/I		NAV-T 150W/I			
NHT250/I		NAV-T 250W/I			
NHT400/I		NAV-T 400W/I			
NHT1000/I					
NH75/LX/70S(H)					
NH110LX					
NH150LX					
NH220LX					
NH270LX					
NH360LX					
NH660LX					
NH940LX					
NH75F/LX/70S(H)					
NH110FLX	SON H Pro 110W	NAV-E 110	LUH110/D/27-SHx	SHX 110W E27	
NH150FLX					
NH220FLX	SON H Pro 220W	NAV-E 210	LUH215/D/EZ/40	SHX 210W E40	
NH270FLX					
NH360FLX	SON H Pro 350W	NAV-E 350		SHX 350W E40	
NH660FLX					
NH940FLX					

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Cross reference

Mercury Lamps

EYE	PHILIPS	OSRAM	GE	SYLVANIA	VENTURE
H40 soft					
H50 soft			H50/27		
H80 soft			H80/27		
H100 soft					
H125 soft			H125/27		
H175					
H200					
H250			H250/40		
H300					
H400			H400/40		
H700					
H1000					
H1000B					
H2000B					
HF40PD soft					
HF50PD soft	HPL-N 50W	HQL 50W	H50NDX/27	HSL-BW 50W	
HF80PD soft	HPL-N 80W	HQL 80W	H80NDX/27	HSL-BW 80W	
HF100PD soft					
HF125PD soft	HPL-N 125W	HQL 125W	H125NDX/27	HSL-BW 125W	
HF175PD					
HF200PD					
HF250PD	HPL-N 250W	HQL 250W	H250NDX/40	HSL-BW 250W	
HF300PD					
HF400PD	HPL-N 400W	HQL 400W	H400NDX/40	HSL-BW 400W	
HF700PD	HPL-N 700W	HQL 700W		HSL-BW 700W	
HF1000PD	HPL-N 1000W	HQL 1000W		HSL-BW 1000W	
HF1000B-PD					
HF2000B-PD					

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TUNGSTEN HALOGEN LAMPS

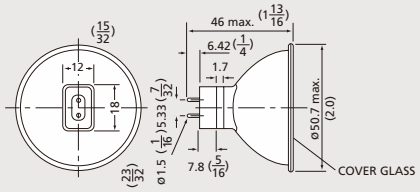
Halogen lamp selection guide

	Product	Type	Rated Voltage (V)	Watts (W)	Reflector Diameter (mm)	Features	Application		Page
MR16	**MR16 10,000 hours life**		12	20 35 50	50	10,000 hours life MR16 low voltage halogen lamp with cover glass.	Retail stores Lounges Offices	Landscape Display cases	63
	MR16 with cover glass		12	20 35 42 50 65 75	50	Precise optical design. Long lasting dichroic coating. Reliable Long life.	Display case Retail stores Landscape	Museums Office Restaurants	64
	MR16 UV-cut with Cover Glass		12	20 35 50 65	50	MR16 low voltage halogen lamp with cover glass with UV reduction coating.	Retail stores Museums Display cases		65
	MR16 white light 4200K & 3400K		12	20 35 50	50	MR16 low voltage halogen lamp with cover glass with higher colour temperature.	Jewellery Display cases Retail stores	Museums Landscape Beauty salons	66
	MR16 neodymium with cover glass		12	20 35 50 65	50	MR16 low voltage Neodymium halogen lamp with cover glass. Displayed goods appear bright and vivid.	Beauty salons Display cases Restaurants Supermarkets	Retail stores Showrooms Lounges	67
	MR16 aluminium coated with cover glass		12	20 35 50	50	MR16 low voltage aluminium coated halogen lamp with cover glass.	Retail stores Landscape Offices	Homes Lounge	67
	MR16 24V with cover glass		24	35 50	50	MR16 24V halogen lamp with cover glass.	24V operation lighting systems Aircraft	Automotive Boat cabins	68
	MR16 24V, 28V anti - vibration with cover glass		24 28	50 55	50	Rough service MR16 24V or 28V halogen lamp with cover glass.	24V or 28V operation lighting systems	Aircraft Automotive Boat cabins	68
	MR16 super soft with cover glass		12	20 35 50	50	MR16 low voltage halogen lamp with frosted cover glass.	Displays Museums Retail stores	Restaurants Homes Lounges Offices	69
	MR16 colour halogen with cover glass		12	50	50	MR16 low voltage colour halogen lamp with cover glass.	Displays Retail stores Restaurants	Homes Lounges	69
	MR16 without cover glass		12	20 35 42 50	50	MR16 low voltage halogen lamp without cover glass.	Retail stores Lounges Offices	Landscape Display cases Homes	70

Halogen lamp selection guide

	Product	Type	Rated Voltage (V)	Watts (W)	Reflector Diameter (mm)	Features	Application		Page
MR8	**MR8 with cover glass**		12	20 35	25	25mm diameter reflector halogen lamp with cover glass. GU4 base.	Display case Retail stores Landscape	Museums Office Restaurants	70
MR11	**MR11 with cover glass**		12	12 20 35	35	MR11 low voltage halogen lamp with cover glass.	Retail stores Lounges Offices	Landscape Display cases Homes	71
	MR11 without cover glass		12	12 20 35	35	MR11 low voltage halogen lamp without cover glass.	Retail stores Lounges Offices	Landscape Display cases Homes	71
	MR11 24V with cover glass		12	20 35	35	MR11 24V halogen lamp with cover glass.	24V operation lighting systems	Aircraft Automotive Boat cabins	72
Single ended mains voltage	**Single ended E10, E11 and E14 base**		28 100 110 120 220 230 240 250	75 100 150 250 500	—	Single ended halogen lamp with E10, E11 and E14 bases.	Display case Lounges Retail stores Furniture	Museums Restaurants Marine / boat applications	73
	Single ended BA15d, E27 base		28 100 110 120 220 230 240 250	75 100 150 250 500	—	Single ended halogen lamp with BA15d and E27 bases.	Display case Lounges Retail stores Furniture	Museums Restaurants Marine / boat applications	74
	Double envelope		120 130 220 230 240 250	75 100 150 250 500 1000	—	Double envelope single ended halogen lamp with E27 and E40 bases.	Retail stores Lounges Furniture	Museums Restaurants Marine / boat applications	75
Single ended low voltage	**Single ended JC G4, G6.35, GY6.35**		6 12 24	10 20 30 35 50 55 75 100 150 250 300	—	Single ended halogen lamp with G4, G6.35, GY6.35 bases.	Display case Lounges Retail stores Furniture	Museums Restaurants	76
Double ended	**Double ended**		220 230 240 250	100 150 200 250 300 750 1000 2000	—	Double ended halogen lamp.	Floodlighting Other halogen applications		77

MR16 10,000 hours life



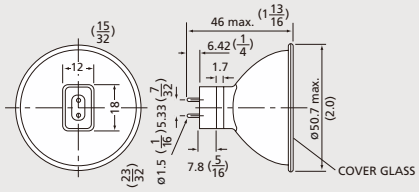
PHYSICAL DATA AND CHARACTERISTICS

Type	Ref. ANSI	Volts (V)	Watts (W)	Base	Std. Pkg. Qty.	Axis Cd (cd)	Colour Temp. (K)	Beam Angle (°)	Rated Av. Life (hrs)
MR16 10,000 hrs with cover glass									
JR8251	ESX	12	20	GU5.3	12	4000	2950	9	10000
JR8252	BBF	12	20	GU5.3	12	880	2950	23	10000
JR8253	BAB	12	20	GU5.3	12	500	2950	38	10000
JR8351	FRB	12	35	GU5.3	12	7400	3050	12	10000
JR8352	FRA	12	35	GU5.3	12	2200	3050	22	10000
JR8353	FMW	12	35	GU5.3	12	1100	3050	36	10000
JR8551	EXT	12	50	GU5.3	12	9500	3050	12	10000
JR8552	EXZ	12	50	GU5.3	12	3100	3050	25	10000
JR8553	EXN	12	50	GU5.3	12	1650	3050	38	10000
MR16 10,000 hrs UV-cut with cover glass									
JR8231	ESX	12	20	GU5.3	12	4000	2950	9	10000
JR8232	BBF	12	20	GU5.3	12	880	2950	23	10000
JR8233	BAB	12	20	GU5.3	12	500	2950	38	10000
JR8331	FRB	12	35	GU5.3	12	7400	3050	12	10000
JR8332	FRA	12	35	GU5.3	12	2200	3050	22	10000
JR8333	FMW	12	35	GU5.3	12	1100	3050	36	10000
JR8531	EXT	12	50	GU5.3	12	9500	3050	12	10000
JR8532	EXZ	12	50	GU5.3	12	3100	3050	25	10000
JR8533	EXN	12	50	GU5.3	12	1650	3050	38	10000
MR16 high colour temp. UV-cut with cover glass									
JR8371	FRB	12	35	GU5.3	12	4200	3450	12	10000
JR8372	FRA	12	35	GU5.3	12	1400	3450	23	10000
JR8373	FMW	12	35	GU5.3	12	880	3450	36	10000
JR8571	EXT	12	50	GU5.3	12	5300	3450	12	10000
JR8572	EXZ	12	50	GU5.3	12	2250	3450	25	10000
JR8574	EXN	12	50	GU5.3	12	1300	3450	36	10000

10,000 hours life MR16 low voltage halogen lamp with cover glass.

FEATURES
- Provides a life nearly equal to some HID products.
- Precise optical design
- Long lasting dichroic coating.
- Suitable for retail stores, lounges, offices, landscape lighting, display cases.

MR16 with cover glass



PHYSICAL DATA AND CHARACTERISTICS

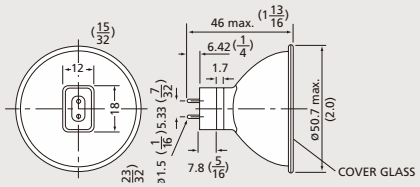
Type	Ref. ANSI	Volts (V)	Watts (W)	Base	Std. Pkg. Qty.	Axis Cd (cd)	Colour Temp. (K)	Beam Angle (°)	Rated Av. Life (hrs)
JR1251	ESX	12	20	GU5.3	12	4000	2950	9	4000
JR1252	BBF	12	20	GU5.3	12	880	2950	23	4000
JR1253	BAB	12	20	GU5.3	12	500	2950	38	4000
JR1351	FRB	12	35	GU5.3	12	7600	3050	12	5000
JR1352	FRA	12	35	GU5.3	12	2300	3050	23	5000
JR1353	FMW	12	35	GU5.3	12	1100	3050	38	5000
JR1451	EYR	12	42	GU5.3	12	7500	3050	12	5000
JR1452	EYS	12	42	GU5.3	12	2600	3050	25	5000
JR1453	EYP	12	42	GU5.3	12	1100	3050	38	5000
JR1551	EXT	12	50	GU5.3	12	9800	3050	13	5000
JR1552	EXZ	12	50	GU5.3	12	3200	3050	26	5000
JR1553	ENL	12	50	GU5.3	12	2250	3050	32	5000
JR1554	EXN	12	50	GU5.3	12	1600	3050	38	5000
JR1566	FNV	12	50	GU5.3	12	700	3050	55	5000
JR2651	FPA	12	65	GU5.3	12	12000	3050	13	5000
JR2652	FPC	12	65	GU5.3	12	4100	3050	26	5000
JR2653	FPB	12	65	GU5.3	12	2100	3050	38	5000
JR2751	EYF	12	75	GU5.3	12	12700	3050	13	5000
JR2752	EYJ	12	75	GU5.3	12	4400	3050	26	5000
JR2753	EYC	12	75	GU5.3	12	2200	3050	44	5000

* DC bayonet base is also available.

MR16 low voltage halogen lamp with cover glass.

FEATURES
- Precise optical design.
- Long lasting dichroic coating.
- Reliable long life.
- Suitable for retail stores, lounges, offices, landscape lighting, display cases, homes.

MR16 UV-cut with cover glass

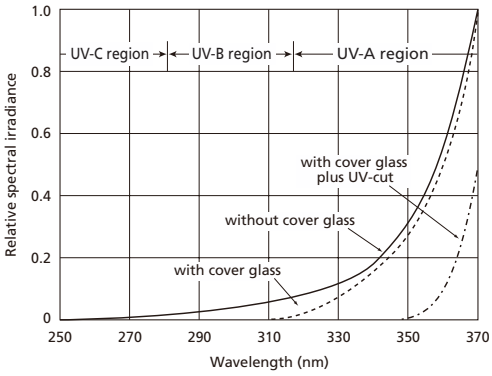


PHYSICAL DATA AND CHARACTERISTICS

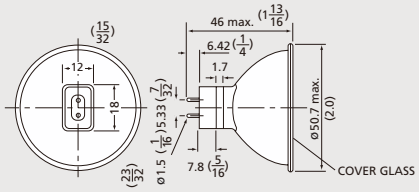
Type	Ref. ANSI	Volts (V)	Watts (W)	Base	Std. Pkg. Qty.	Axis Cd (cd)	Beam Angle (°)	Rated Av. Life (hrs)
JR5251	ESX	12	20	GU5.3	12	4000	12	4000
JR5253	BAB	12	20	GU5.3	12	500	38	4000
JR5351	FRB	12	35	GU5.3	12	7600	12	5000
JR5352	FRA	12	35	GU5.3	12	2300	23	5000
JR5353	FMW	12	35	GU5.3	12	1100	38	5000
JR5551	EXT	12	50	GU5.3	12	9800	13	5000
JR5552	EXZ	12	50	GU5.3	12	3200	26	5000
JR5553	ENL	12	50	GU5.3	12	2250	32	5000
JR5554	EXN	12	50	GU5.3	12	1600	38	5000
JR5566	FNV	12	50	GU5.3	12	700	55	5000
JR6651	FPA	12	65	GU5.3	12	12000	13	5000
JR6652	FPC	12	65	GU5.3	12	4100	26	5000
JR6653	FPB	12	65	GU5.3	12	2100	38	5000

MR16 low voltage halogen lamp with cover glass with UV reduction coating.

FEATURES
- UV reduction coating on cover glass
- Precise optical design.
- Long lasting dichroic coating.
- Reliable long life.
- Suitable for retail stores, lounges, museums, offices, landscape lighting, display cases.



MR16 white light 4200K & 3400K



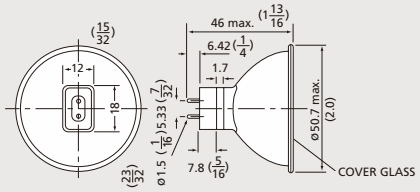
PHYSICAL DATA AND CHARACTERISTICS

Type	Ref. ANSI	Volts (V)	Watts (W)	Base	Colour Temp. (K)	Std. Pkg. Qty.	Axis Cd (cd)	Beam Angle (°)	Rated Av. Life (hrs)
MR16 4200K with cover glass									
JR1256	BAB	12	20	GU5.3	4200	12	220	38	4000
JR1356	FMW	12	35	GU5.3	4200	12	500	38	5000
JR1580	EXN	12	50	GU5.3	4200	12	840	38	5000
JR1581	FNV	12	50	GU5.3	4200	12	300	56	5000
MR16 3350K, 3450K with cover glass									
JR1251D	ESX	12	20	GU5.3	3350	12	2200	10	4000
JR1253D	BAB	12	20	GU5.3	3350	12	400	36	4000
JR1351D	FRB	12	35	GU5.3	3450	12	4200	12	5000
JR1353D	FMW	12	35	GU5.3	3450	12	880	36	5000
JR1551D	EXT	12	50	GU5.3	3450	12	5300	12	5000
JR1552D	EXZ	12	50	GU5.3	3450	12	2250	26	5000
JR1554D	EXN	12	50	GU5.3	3450	12	1300	36	5000
MR16 3450K 10,000 hrs long life with cover glass									
JR8371	FRB	12	35	GU5.3	3450	12	4200	12	10000
JR8372	FRA	12	35	GU5.3	3450	12	1400	23	10000
JR8373	FMW	12	35	GU5.3	3450	12	880	36	10000
JR8571	EXT	12	50	GU5.3	3450	12	5300	12	10000
JR8572	EXZ	12	50	GU5.3	3450	12	2250	25	10000
JR8574	EXN	12	50	GU5.3	3450	12	1300	36	10000

MR16 low voltage halogen lamp with cover glass with higher colour temperature.

FEATURES
- White light – colour temperature 4200K and 3350 to 3450K
- Precise optical design.
- Long lasting dichroic coating.
- Reliable long life.
- Suitable for Jewellery, display cases, retail stores, museums, landscape lighting, beauty salons.

MR16 neodymium with cover glass



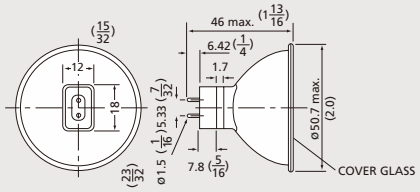
PHYSICAL DATA AND CHARACTERISTICS

Type	Beam Type	Volts (V)	Watts (W)	Base	Std. Pkg. Qty.	Axis Cd (cd)	Beam Angle (°)	Rated Av. Life (hrs)
JR1254	Medium	12	20	GU5.3	12	750	20	4000
JR1255	Wide	12	20	GU5.3	12	600	25	4000
JR1354	Medium	12	35	GU5.3	12	1700	21	5000
JR1355	Wide	12	35	GU5.3	12	1100	32	5000
JR1568	Medium	12	50	GU5.3	12	2700	21	5000
JR1569	Wide	12	50	GU5.3	12	1800	32	5000
JR2654	Medium	12	65	GU5.3	12	3500	20	5000
JR2655	Wide	12	65	GU5.3	12	2500	29	5000

MR16 low voltage neodymium halogen lamp with cover glass.

FEATURES
- Displayed goods appear bright and vivid.
- Precise optical design.
- Long lasting dichroic coating.
- Reliable long life.
- Suitable for beauty salons, display cases, restaurants, supermarkets, retail stores, showrooms lounges.

MR16 aluminium coated with cover glass



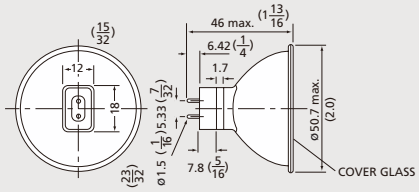
PHYSICAL DATA AND CHARACTERISTICS

Type	Ref. ANSI	Volts (V)	Watts (W)	Base	Axis Cd (cd)	Colour Temp. (K)	Beam Angle (°)	Rated Av. Life (hrs)
JR3253	—	12	20	GU5.3	500	2950	34	5000
JR3351	—	12	35	GU5.3	6200	2950	12	5000
JR3353	FMW	12	35	GU5.3	1000	2950	34	5000
JR3551	EXT	12	50	GU5.3	8000	2950	12	5000
JR3552	EXZ	12	50	GU5.3	2500	2950	26	5000
JR3554	EXN	12	50	GU5.3	1600	2950	38	5000
JR3566	FNV	12	50	GU5.3	600	2950	56	5000

MR16 low voltage aluminium coated halogen lamp with cover glass.

FEATURES
- Reduces temperature to fixture through the back of the lamp.
- Precise optical design.
- Long lasting aluminium coating.
- Reliable long life.
- Suitable for retail stores, landscape lighting, office, home, lounge

MR16 24V with cover glass



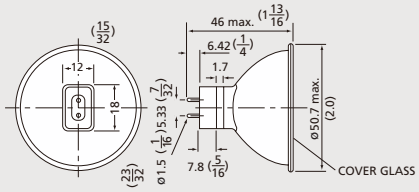
PHYSICAL DATA AND CHARACTERISTICS

Type	Ref. ANSI	Volts (V)	Watts (W)	Base	Std. Pkg. Qty.	Axis Cd (cd)	Beam Angle (°)	Rated Av. Life (hrs)
JR7351	FRB	24	35	GU5.3	12	5900	11	4000
JR7352	FRA	24	35	GU5.3	12	1700	23	4000
JR7353	FMW	24	35	GU5.3	12	870	40	4000
JR7551	EXT	24	50	GU5.3	12	8600	13	4000
JR7552	EXZ	24	50	GU5.3	12	2600	26	4000
JR7553	EXN	24	50	GU5.3	12	1500	40	4000

MR16 24V halogen lamp with cover glass.

FEATURES
- 24V operation.
- Precise optical design.
- Long lasting dicroic coating.
- Suitable for 24V operation lighting systems, aircraft, automotive, boat cabins.

MR16 24V, 28V anti-vibration with cover glass



PHYSICAL DATA AND CHARACTERISTICS

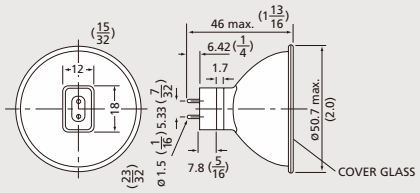
Type	Ref. ANSI	Volts (V)	Watts (W)	Base	Std. Pkg. Qty.	Axis Cd (cd)	Beam Angle (°)	Colour Temp.	Rated Av. Life (hrs)
JR7583	—	24	50	GU5.3	12	850	36	3000	4000 *
JR7586	—	28	55	GU5.3	12	1700	36	3000	4000 *

* The rated average life is for general lighting applications. The life may vary, depending on vibration and shock condition.

Rough service MR16 24V or 28V halogen lamp with cover glass.

FEATURES
- 24V or 28V operation.
- Precise optical design.
- Long lasting dicroic coating.
- Suitable for 24V or 28V operation lighting systems, aircraft, automotive, boat cabins.

MR16 super soft with cover glass



PHYSICAL DATA AND CHARACTERISTICS

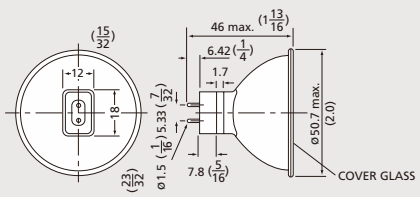
Type	Ref. ANSI	Volts (V)	Watts (W)	Base	Colour Temp.	Std. Pkg. Qty.	Axis Cd (cd)	Rated Av. Life (hrs)
JR1253F	BAB	12	20	GU5.3	2950K	12	290	4000
JR1353F	FMW	12	35	GU5.3	3000K	12	600	5000
JR1554F	EXN	12	50	GU5.3	3050K	12	950	5000
JR1566F	FNV	12	50	GU5.3	3050K	12	540	5000

Notes: • MR8 Super Soft is also available.

MR16 low voltage halogen lamp with frosted cover glass.

FEATURES
- Soft diffused light that eliminates glare
- Long lasting dichroic coating.
- Reliable long life.
- Suitable for displays, museums, retail stores, restaurants, homes, lounges, offices.

MR16 colour halogen with cover glass



PHYSICAL DATA AND CHARACTERISTICS

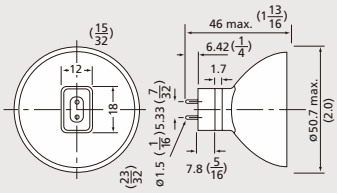
Type	Colour	Beam Type	Volts (V)	Watts (W)	Base	Std. Pkg. Qty.	Axis Cd (cd)	Beam Angle (°)	Rated Av. Life (hrs)
JR1558	Red	Narrow	12	50	GU5.3	12	2100	13	5000
JR1559	Red	Wide	12	50	GU5.3	12	500	32	5000
JR1560	Yellow	Narrow	12	50	GU5.3	12	7500	13	5000
JR1561	Yellow	Wide	12	50	GU5.3	12	1800	32	5000
JR1562	Green	Narrow	12	50	GU5.3	12	3900	13	5000
JR1563	Green	Wide	12	50	GU5.3	12	900	32	5000
JR1564	Blue	Narrow	12	50	GU5.3	12	500	13	5000
JR1565	Blue	Wide	12	50	GU5.3	12	150	32	5000

Notes: • MR8 Super Soft is also available. • Contact Iwasaki Electric for further information and availability.

MR16 low voltage colour halogen lamp with cover glass.

FEATURES
- Suitable for displays, retail stores, restaurants, homes, lounges.

MR16 without cover glass



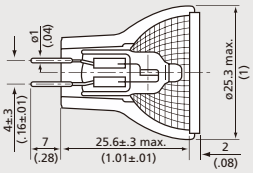
PHYSICAL DATA AND CHARACTERISTICS

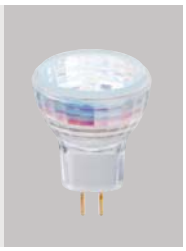
Type	Ref. ANSI	Volts (V)	Watts (W)	Base	Std. Pkg. Qty.	Axis Cd (cd)	Colour Temp. (K)	Beam Angle (°)	Rated Av. Life (hrs)
JR1201	ESX	12	20	GU5.3	12	4300	2950	12	4000
JR1202	BBF	12	20	GU5.3	12	950	2950	23	4000
JR1203	BAB	12	20	GU5.3	12	525	2950	40	4000
JR1301	FRB	12	35	GU5.3	12	8000	3050	12	5000
JR1302	FRA	12	35	GU5.3	12	2500	3050	23	5000
JR1303	FMW	12	35	GU5.3	12	1200	3050	40	5000
JR1401	EYR	12	42	GU5.3	12	8200	3050	12	5000
JR1402	EYS	12	42	GU5.3	12	2850	3050	25	5000
JR1403	EYP	12	42	GU5.3	12	1200	3050	40	5000
JR1501	EXT	12	50	GU5.3	12	10500	3050	13	5000
JR1502	EXZ	12	50	GU5.3	12	3400	3050	26	5000
JR1503	ENL	12	50	GU5.3	12	2450	3050	32	5000
JR1504	EXN	12	50	GU5.3	12	1750	3050	40	5000
JR1505	EPZ	13.8	50	GU5.3	12	12500	3150	12	1000
JR1516	FNV	12	50	GU5.3	12	750	3050	60	5000

MR16 low voltage halogen lamp without cover glass.

FEATURES
- Precise optical design.
- Long lasting dichroic coating.
- Reliable long life.
- Suitable for retail stores, lounges, offices, landscape lighting, display cases, homes.

MR8 with cover glass





GENERAL LIGHTING

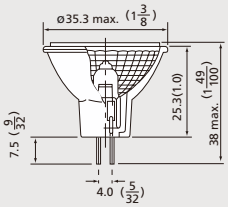
Type	Rated voltage (V)	Watts (W)	Base	Std. Pkg. Qty.	Axis Cd (cd)	Beam Angle (°)	Colour Temp. (K)	Rated Av. Life (hrs)
JM8231	12	20	GU4	50	1400	10 / Narrow	2950	2000
JM8232	12	20	GU4	50	700	21 / Medium	2950	2000
JM8232F *	12	20	GU4	50	200	40 / Wide	2950	2000
JM8331	12	35	GU4	50	2000	12 / Narrow	3050	2000
JM8332	12	35	GU4	50	1300	24 / Medium	3050	2000
JM8332F *	12	35	GU4	50	340	44 / Wide	3050	2000

* Frosted Cover Glass

25 mm compact reflector low voltage halogen lamp with cover glass.

FEATURES
- Precise optical design.
- Long lasting dichroic coating.
- Suitable for display case, retail, museums, restaurants, lounges, offices.

MR11 with cover glass



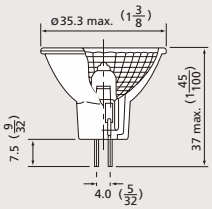
PHYSICAL DATA AND CHARACTERISTICS

Type	Ref. ANSI	Volts (V)	Watts (W)	Base	Std. Pkg. Qty.	Axis Cd (cd)	Colour Temp. (K)	Beam Angle (°)	Rated Av. Life (hrs)
JM1161	FTA	12	12	GZ4	50	1500	2800	10	2000
JM1162	—	12	12	GZ4	50	840	2800	20	2000
JM1163	—	12	12	GZ4	50	480	2800	34	2000
JM1261	FTB	12	20	GZ4	50	3750	2950	10	2000
JM1262	FTC	12	20	GZ4	50	1360	2950	20	2000
JM1263	FTD	12	20	GZ4	50	900	2950	34	2000
JM1361	FTE	12	35	GZ4	50	4200	3050	10	3000
JM1362	FTF	12	35	GZ4	50	2350	3050	20	3000
JM1363	FTH	12	35	GZ4	50	1300	3050	34	3000

MR11 low voltage halogen lamp with cover glass.

FEATURES
- Precise optical design.
- Long lasting dichroic coating.
- Reliable long life.
- Suitable for retail stores, lounges, offices, landscape lighting, display cases, homes.

MR11 without cover glass



PHYSICAL DATA AND CHARACTERISTICS

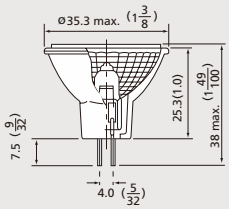
Type	Ref. ANSI	Volts (V)	Watts (W)	Base	Std. Pkg. Qty.	Axis Cd (cd)	Colour Temp. (K)	Beam Angle (°)	Rated Av. Life (hrs)
JM1111	FTA	12	12	GZ4	50	1500	2900	8	2000
JM1112	—	12	12	GZ4	50	500	2900	19	2000
JM1113	—	12	12	GZ4	50	350	2900	25	2000
JM1211	FTB	12	20	GZ4	50	4200	2950	8	2000
JM1212	FTC	12	20	GZ4	50	1450	2950	19	2000
JM1213	FTD	12	20	GZ4	50	700	2950	28	2000
JM1311	FTE	12	35	GZ4	50	6000	3050	10	3000
JM1312	FTF	12	35	GZ4	50	2500	3050	20	3000
JM1313	FTH	12	35	GZ4	50	1350	3050	29	3000

* DC bayonet base is also available.

MR11 low voltage halogen lamp without cover glass.

FEATURES
- Precise optical design.
- Long lasting dichroic coating.
- Reliable long life.
- Suitable for retail stores, lounges, offices, landscape lighting, display cases, homes.

MR11 24V with cover glass



PHYSICAL DATA AND CHARACTERISTICS

Type	Ref. ANSI	Volts (V)	Watts (W)	Base	Std. Pkg. Qty.	Axis Cd (cd)	Beam Angle (°)	Rated Av. Life (hrs)
JM7261	FTB	24	20	GZ4	50	3000	10	2000
JM7262	FTC	24	20	GZ4	50	1100	22	2000
JM7263	FTD	24	20	GZ4	50	580	34	2000
JM7361	FTE	24	35	GZ4	50	4100	10	2000
JM7362	FTF	24	35	GZ4	50	1900	23	2000
JM7363	FTH	24	35	GZ4	50	1100	35	2000

MR11 24V halogen lamp with cover glass.

FEATURES
- 24V operation.
- Precise optical design.
- Long lasting dicroic coating.
- Suitable for 24V operation lighting systems, aircraft, automotive, boat cabins.

Single ended E10, E11 and E14 base

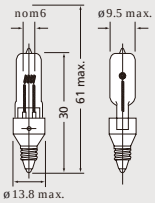


Fig.1

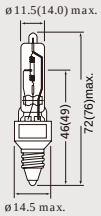


Fig.2

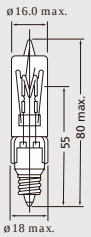


Fig.3

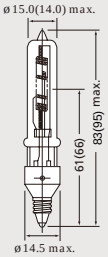


Fig.4

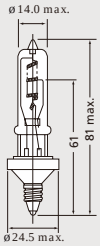


Fig.5

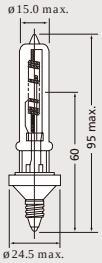
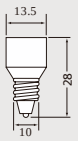
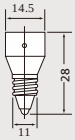


Fig.6

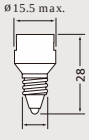
BASE TYPE



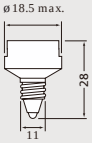
E10 (M1)



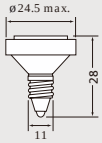
E11-14 (M2)



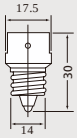
E11-15 (M3)



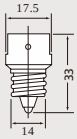
E11-18 (M4)



E11-24 (M5)



E14-17 (M6)



E14-17A (M7)

PHYSICAL DATA AND CHARACTERISTICS

Type	Volts (V)	Watts (W)	Approx. Initial Lumens (ℓm)	Colour Temp. (K)	Rated Av. Life (hrs)	Dimensions (mm)			Base	Filament	Fig. No.
						M.D.	M.O.L.	L.C.L.			
JD28V75W/M1	28	75	1350	2950	2000	9.5	61	29.5	E10	CC-6	1
JD75W/M2 (M3-M7)	100,110,120	75	1200	2850	1500	11.5	72	49	E11 or E14	CC-8	2
JD100W/M2 (M3-M7)	100,120	100	1600	2850	1500	11.5	72	49	E11 or E14	CC-8	2
JD100W/M2 (M5-M7)	220/230	100	1400	2850	1500	16.0	80	55	E11 or E14	CC-13	3
	240/250	100	1400	2850	1500	16.0	80	55	E11 or E14	CC-13	3
JD150W/M2 (M3-M7)	110,120	150	2400	2850	2000	14.0	76	49	E11 or E14	CC-8	2
JD150W/M2 (M5-M7)	220/230	150	2250	2900	1500	16.0	80	55	E11 or E14	CC-13	3
	240/250	150	2250	2900	1500	16.0	80	55	E11 or E14	CC-13	3
JD250W/M2 (M5-M7)	110,120	250	4500	2900	2000	14.0	83	61	E11 or E14	CC-8	4 (5)
JD250W/M2 (M5-M7)	220/230	250	4500	2900	2000	15.0	83	61	E11 or E14	CC-8	4
	240/250	250	4500	2900	2000	15.0	83	61	E11 or E14	CC-8	4
JD500W/M2 (M5-M7)	110,120	500	9500	2950	2000	14.0	95	66	E11 or E14	CC-8	4
JD500W/M2 (M5-M7)	220/230	500	9500	2950	2000	16.0	95	66	E11 or E14	CC-8	4 (6)
	240/250	500	9500	2950	2000	16.0	95	66	E11 or E14	CC-8	4 (6)

Notes: • Burning position: Any

Single ended halogen lamp with E10, E11 and E14 bases.

FEATURES

- Crisp, white light
- Reliable long life.
- Suitable for display case, lounges, retail stores, furniture, museums, restaurants, marine / boat applications.

Single ended BA15d, E27 base

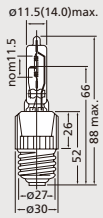


Fig.1

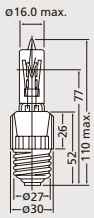


Fig.2

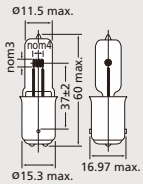


Fig.3

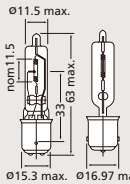


Fig.4

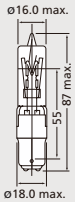


Fig.5

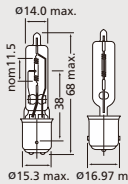


Fig.6

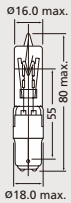


Fig.7

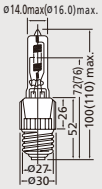


Fig.8

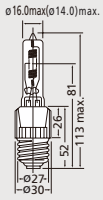


Fig.9

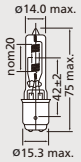


Fig.10

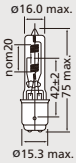


Fig.11

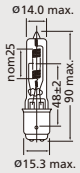


Fig.12

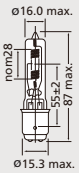
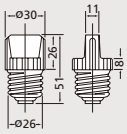
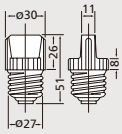


Fig.13

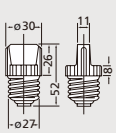
BASE TYPE



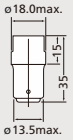
E26/25 (E1)



E27/25 (E2)



E27/30 (E2) (E26/30 (E1)



BA15d for 200V range 100W & 150W

PHYSICAL DATA AND CHARACTERISTICS

Type	Volts (V)	Watts (W)	Approx. Initial Lumens (ℓm)	Colour Temp. (K)	Rated Av. Life (hrs)	Dimensions (mm)			Base	Filament	Fig. No.
						M.D.	M.O.L.	L.C.L.			
JD28V75W/BD	28	75	1350	2950	2000	11.5	60	37	BA15d	CC-8	3
JD100W/E2 (E1)	100,120	100	1600	2850	2000	11.5	88	66	E27-30	CC-8	1
JD100W/BD	100,120	100	1600	2850	2000	11.5	63	33	BA15d	CC-8	4
JD100W/E2 (E1)	220,230	100	1400	2850	1500	16.0	110	77	E27-30	CC-13	2
	240,250	100	1400	2850	1500	16.0	110	77	E27-30	CC-13	2
JD100W/BD	220,230	100	1400	2850	1500	16.0	87	55	BA15d	CC-13	5
	240,250	100	1400	2850	1500	16.0	87	55	BA15d	CC-13	5
JD150W/E2 (E1)	110,120	150	2400	2900	2000	14.0	88	66	E27-30	CC-8	1
JD150W/BD	110,120	150	2400	2900	2000	14.0	68	38	BA15d	CC-8	6
JD150W/E2 (E1)	220,230	150	2250	2900	1500	16.0	110	77	E27-30	CC-13	2
	240,250	150	2250	2900	1500	16.0	110	77	E27-30	CC-13	2
JD150W/BD	220,230	150	2250	2900	1500	16.0	80	55	BA15d	CC-13	7
	240,250	150	2250	2900	1500	16.0	80	55	BA15d	CC-13	7
JD250W/E2 (E1)	110,120	250	4500	2950	2000	14.0	100	72	E27-30	CC-8	8
JD250W/BD	110,120	250	4500	2950	2000	14.0	75	42	BA15d	CC-8	10
JD250W/E2 (E1)	220,230	250	4500	2950	2000	16.0	110	76	E27-30	CC-8	(8)
	240,250	250	4500	2950	2000	16.0	110	76	E27-30	CC-8	(8)
JD250W/BD	220,230	250	4500	2950	2000	16.0	75	42	BA15d	CC-8	11
	240,250	250	4500	2950	2000	16.0	75	42	BA15d	CC-8	11
JD500W/E2 (E1)	110,120	500	9500	2950	2000	14.0	113	81	E27-30	CC-8	(9)
JD500W/BD	110,120	500	9500	2950	2000	14.0	90	48	BA15d	CC-8	12
JD500W/E2 (E1)	220,230	500	9500	2950	2000	16.0	113	81	E27-30	CC-8	9
	240,250	500	9500	2950	2000	16.0	113	81	E27-30	CC-8	9
JD500W/BD	220,230	500	9500	2950	2000	16.0	87	55	BA15d	CC-8	13
	240,250	500	9500	2950	2000	16.0	87	55	BA15d	CC-8	13

Notes: • Burning position: Any

Single ended halogen lamp with BA15d and E27 bases.

Double envelope

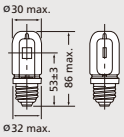


Fig.1

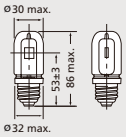


Fig.2

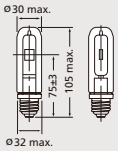


Fig.3


Integrated Fuse

Fig.4

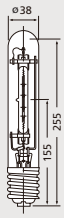


Fig.5

PHYSICAL DATA AND CHARACTERISTICS

Type	Reference or Substitute Lamp	Volts (V)	Watts (W)	Approx. Initial Lumens (ℓm)	Colour Temp. (K)	Rated Av. Life (hrs)	Dimensions (mm)			Base	Filament	Fig. No.
							M.D.	M.O.L.	L.C.L.			
E27 base												
JT75W	JT1043	120	75	1150	2850	1500	30	86	53	E26	CC-8	1
JT75W	JT2020	220/230	75	1000	2800	1000	30	86	55	E27	CC-13	2
	JT2021	240/250	75	1000	2800	1000	30	86	55	E27	CC-13	2
JT100W	JT1047	120	100	1600	2900	1500	30	86	53	E26	CC-8	1
JT100W	JT2023	220/230	100	1400	2850	1500	30	86	55	E27	CC-13	2
	JT2024	240/250	100	1400	2850	1500	30	86	55	E27	CC-13	2
JT150WL	JT2097	220/230	150	2500	2900	1500	30	105	75	E27	CC-13	3
	JT2098	240/250	150	2500	2900	1500	30	105	75	E27	CC-13	3
JT250WL	JT2100	220/230	250	4200	2900	1500	30	105	75	E27	CC-13	3
	JT2101	240/250	250	4200	2900	1500	30	105	75	E27	CC-13	3
E40 base												
JT500W	—	125/130	500	12000	3000	2000	39	215	130	E40	C-8	4
JT500W	—	230/240	500	10000	3000	2000	39	215	130	E40	CC-8	4
	—	240/250	500	10000	3000	2000	39	215	130	E40	CC-8	4
JT1000W	—	230/240	1000	24000	3000	2000	38	255	155	E40	C-8	5
	—	240/250	1000	24000	3000	2000	38	255	155	E40	C-8	5

Notes: • Burning position: Horizontal ±15°
• Enclosed fixtures only

Double envelope single ended halogen lamp with E27 and E40 bases.

FEATURES
- Crisp, white light
- Reliable long life.
- Suitable for display case, lounges, retail stores, furniture, restaurants, marine / boat applications.

Single ended JC G4, G6.35, GY6.35

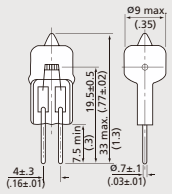


Fig.1

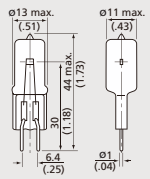


Fig.2

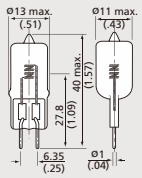


Fig.3

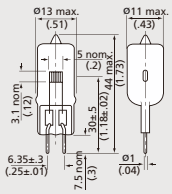


Fig.4

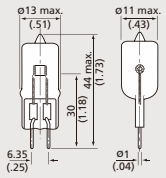


Fig.5

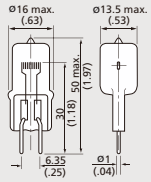


Fig.6

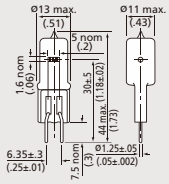
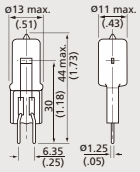


Fig.7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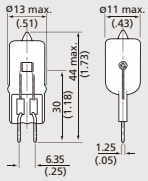
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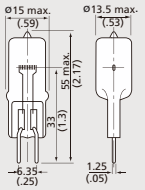


Fig.10

PHYSICAL DATA AND CHARACTERISTICS

Type	Volts (V)	Watts (W)	Std. Pkg. Qty	Approx. Initial Lumens (ℓm)	Colour Temp. (K)	Rated Av. Life (hrs)	Dimensions (mm)			Base	Filament	Fig. No.
							M.D.	M.O.L.	L.C.L.			
Miniature 2 pin base - G4												
JC6V10W20H/G4	6	10	40	140	2850	2000	9.0	33	19.5	G4	C-6	1
JC6V20W20H/G4	6	20	40	300	2850	2000	9.0	33	19.5	G4	C-6	1
JC12V20W20H/G4	12	20	40	330	2850	2000	9.0	33	19.5	G4	C-6	1
2 pin base - G6.35												
JC12V20W20H/G1	12	20	20	280	2850	2000	11.0	44	30	G6.35	C-6	2
JC12V30W20H/G1	12	30	20	470	2900	2000	11.0	44	30	G6.35	C-6	2
JC12V35W20H/G1	12	35	20	560	2900	2000	11.0	44	30	G6.35	C-6	2
JC12V50W20H/G1	12	50	20	950	3000	2000	11.0	44	30	G6.35	C-6	2
JCD24V55W10H/G1	24	55	20	990	3000	1000	11.0	40	27.8	G6.35	CC-8	3
JC12V75W20H/G1	12	75	20	1420	3000	2000	11.0	44	30	G6.35	C-Bar-6	4
JC12V100W20H/G1	12	100	20	2100	3000	2000	11.0	44	30	G6.35	C-Bar-6	4
JCD24V100W20H/G1	24	100	20	1800	2900	2000	11.0	44	30	G6.35	CC-6	5
JC24V150W10H/G1	24	150	20	3450	3100	1000	13.5	50	30	G6.35	C-Bar-6	6
JC24V150W20H/G1	24	150	20	3000	3000	2000	13.5	50	30	G6.35	C-Bar-6	6
JC24V200W20H/G1	24	200	20	4400	3000	2000	13.5	50	30	G6.35	C-Bar-6	6
2 pin base - GY6.35												
JC12V35W20H/G2	12	35	20	560	2900	2000	11.0	44	30	GY6.35	C-6	7
JC12V50W20H/G2	12	50	20	950	3000	2000	11.0	44	30	GY6.35	C-6	7
JC12V75W20H/G2	12	75	20	1420	3000	2000	11.0	44	30	GY6.35	C-Bar-6	8
JCD24V75W20H/G2	24	75	20	1350	2900	2000	11.0	44	30	GY6.35	CC-6	9
JC12V100W20H/G2	12	100	20	2100	3000	2000	11.0	44	30	GY6.35	C-Bar-6	8
JCD24V100W20H/G2	24	100	20	1800	2900	2000	11.0	44	30	GY6.35	CC-6	9
JC24V250W20H/G2	24	250	20	5750	3000	2000	13.5	55	33	GY6.35	C-Bar-6	10
JC24V300WG2	24	300	20	9900	3400	50	13.5	55	33	GY6.35	C-Bar-6	10

Notes: • Burning Position: Any

Double ended

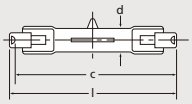


Fig.1

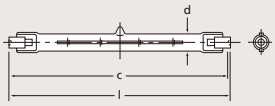


Fig.2

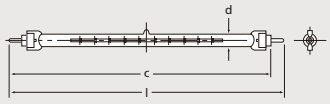


Fig.3

PHYSICAL DATA AND CHARACTERISTICS

Type	Volts (V)	Watts (W)	Approx. Initial Lumens (ℓm)	Colour Temp. (K)	Rated Av. Life (hrs)	Dimensions (mm)			Base	Filament	Fig. No. & Remarks
						M.D. d	C.to B.E. c	M.O.L. l			
J100W-S	220/230	100	1350	2750	2000	9.0	78.3	80.3	R7s	CC-8	1
	240/250	100	1350	2750	2000	9.0	78.3	80.3	R7s	CC-8	1
J150W-S	220/230	150	2100	2800	2000	9.0	78.3	80.3	R7s	CC-8	1
	240/250	150	2100	2800	2000	9.0	78.3	80.3	R7s	CC-8	1
J200W-S	220/230	200	3000	2800	2000	9.0	78.3	80.3	R7s	CC-8	1
	240/250	200	3000	2800	2000	9.0	78.3	80.3	R7s	CC-8	1
J250W-S	220/230	250	4000	2850	2000	9.0	78.3	80.3	R7s	CC-8	1
	240/250	250	4000	2850	2000	9.0	78.3	80.3	R7s	CC-8	1
J150W	220/230	150	2100	2800	2000	9.0	117.6	118.6	R7s	C-8	2
	240/250	150	2100	2800	2000	9.0	117.6	118.6	R7s	C-8	2
J200W	220/230	200	3200	2800	2000	9.0	117.6	118.6	R7s	C-8	2
	240/250	200	3200	2800	2000	9.0	117.6	118.6	R7s	C-8	2
J250W	220/230	250	4000	2800	2000	9.0	117.6	118.6	R7s	C-8	2
	240/250	250	4000	2800	2000	9.0	117.6	118.6	R7s	C-8	2
J300W	220/230	300	5000	2850	2000	9.0	117.6	118.6	R7s	C-8	2
	240/250	300	5000	2850	2000	9.0	117.6	118.6	R7s	C-8	2
J500W	220/230	500	9500	2900	2000	9.0	117.6	118.6	R7s	C-8	2
	240/250	500	9500	2900	2000	9.0	117.6	118.6	R7s	C-8	2
J500W-L	220/230	500	8750	2900	2000	11.0	189.1	190.1	R7s	C-8	2
	240/250	500	8750	2900	2000	11.0	189.1	190.1	R7s	C-8	2
J750W	220/230	750	15000	3000	2000	11.0	189.1	190.1	R7s	C-8	2
	240/250	750	15000	3000	2000	11.0	189.1	190.1	R7s	C-8	2
J1000W	220/230	1000	21000	3000	2000	11.0	189.1	190.1	R7s	C-8	2
	240/250	1000	21000	3000	2000	11.0	189.1	190.1	R7s	C-8	2
J1000W-L	220/230	1000	21000	3000	2000	11.0	254.1	255.1	R7s	C-8	2
	240/250	1000	21000	3000	2000	11.0	254.1	255.1	R7s	C-8	2
J1500W	220/230	1500	33000	3000	2000	11.0	254.1	255.1	R7s	C-8	2
	240/250	1500	33000	3000	2000	11.0	254.1	255.1	R7s	C-8	2
J2000W	220/230	2000	44000	3000	2000	11.0	332.1	333.1	R7s	C-8	2
	240/250	2000	44000	3000	2000	11.0	332.1	333.1	R7s	C-8	2
J2000W/Fa4	220/230	2000	44000	3000	2000	11.0	—	334.4	Fa4	C-8	3
	240/250	2000	44000	3000	2000	11.0	—	334.4	Fa4	C-8	3

Notes: • Burning position: Horizontal ±5°

WARNING & OPERATING INSTRUCTION

EYE Dichro-cool tungsten halogen lamps and EYE single ended tungsten halogen lamps are pressurized and may shatter.

CAUTION

1. Do not operate lamps in excess of rated voltages as this will increase lamp pressure and the risk of shattering.
   JDR type lamps operate at 120 volts. Do not operate above 120V.The bulb may shatter if used in circuits of 200 - 240 volts or higher.
   JR type lamps operate at low-voltage such as 12volts and/or 13.8 volts. The bulb may shatter if used in circuits of 110 - 120 volts or higher.
2. Protect lamp against abrasions and scratches and against liquids when lamp is operating.
3. Hold the reflector when installing or removing. Do not hold the bulb in any case when treating.
4. Use only in lighting fixture designed for the proper operation of these lamps and with approved safety standard on electrical and thermal points, and also that offer protection in case of bulb shattering.
   Provide protective glass lens or net with lighting fixture to protect people and surroundings.
5. Use only in sockets and housing designed to withstand the lamp's high operating temperatures.
6. Do not operate in close proximity to persons, combustile materials, or substances that are flammable of adversely affected by heat or drying.
   Do not touch or look at lamp during operation to avoid risk of burning or other injury.
7. Do not cause any shock to lamp or lighting fixture when lamp is operating because such mechanical shock can cause shattering and failure of lamp.
8. This lamp is suitable for operation in any position except for specified lamps.
9. Tungsten halogen lamps get very hot when lamp is operating. Care should be taken to allow lamp to cool before removing.
10. Dispose of lamp with care.
11. The reflector has an unprotected dichroic coating (JDR and JR type) of aluminized (JS type) surface.
    Corrosive, dusty or most environments may cause the reflector to deteriorate causing a reduction of light output and decolorization of light.
    Periodically check the dichroic coating or aluminized
12. surface for deterioration and replace if any occurs.For satisfactory performance
13. 1) Avoid touching dichroic coating or Aluminized surface of reflector as it may cause deterioration.
    2) Limit seal and outer pins temperature of bulb to 350°C (622°F)
    3) Limit temperature increase of bulb to 50°C (122°F) between temperature with fixture and without fixture.
    Excessive temperature rise can cause failure of lamp or blackening.
    4) Limit the reflector temperature to 300°C (572°F).
    Excessive temperature rise can cause decolorization or damage of the coated film. Maintain a minimum bulb wall temperature of 250°C (482°F) and a maximum bulb wall temperature of 900°C (1652°F) for operation of the halogen cycle.
    5) If necessary to touch lamp during installation, clean the bulb and the reflector with alchol and clean, soft cloth and dry before operation.

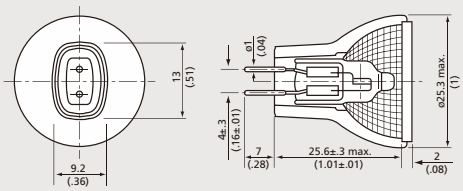
DIMING

Dimming at above 60% of the rated volts can be done.
Dimming at below 60% of the rated volts can cause blackening.

LIFE

A slight change in voltage may cause deterioration in lamp life. Rated lamp lives represent average lives under controlled operation conditions.

Projection/Optical
MR8-25mm reflector GZ4 base

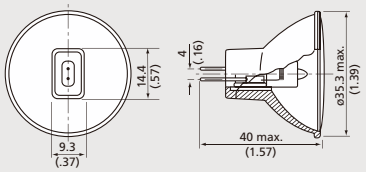


PHYSICAL DATA AND CHARACTERISTICS

Type	Volts (V)	Watts (W)	Std. Pkg. Qty	Colour Temp. (K)	Beam Angle (°)	Rated Av. Life (hrs)	Center Beam Intensity (CD)	Working Distance mm (in)	Filament
MR8 dichroic reflector JCR - GZ4 base without cover glass									
JCR6V10W20H/2GZ	6	10	50	2900	—	2000	—	14.5 (.6)	C-8
JCR12V20W20H/2GZ	12	20	50	2950	—	2000	—	14.5 (.6)	C-8
JCR12V30W20H/2GZ	12	30	50	3000	—	2000	—	14.5 (.6)	C-8
JCR12V35W20H/2GZ	12	35	50	3000	—	2000	—	14.5 (.6)	C-8

Notes: • Burning Position: Any

Projection/Optical
MR11-35mm reflector GZ4 base



PHYSICAL DATA AND CHARACTERISTICS

Type	ANSI Ref.	Volts (V)	Watts (W)	Colour Temp. (K)	Std. Pkg. Qty	Rated Av. Life (hrs)	Working Distance mm (in)	Base	Filament
MR11 dichroic reflector JCR-GZ4 base without cover glass									
JCR12V35W2H/GZ4	—	12	35	3100	50	200	37.9 (1.5)	GZ4	C-8

Notes: • Burning Position: Any

Projection/Optical

MR16-50mm reflector GZ6.35, GX5.3, GU5.3 base

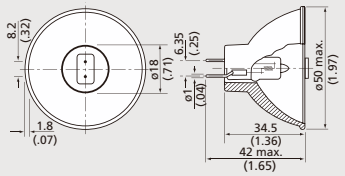


Fig.1

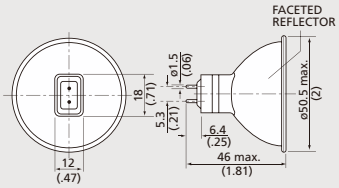


Fig.2

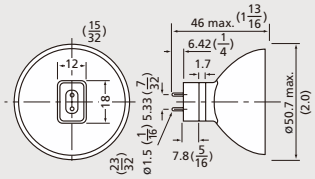


Fig.3

PHYSICAL DATA AND CHARACTERISTICS

Type	ANSI Ref.	Volts (V)	Watts (W)	Colour Temp. (K)	Std. Pkg. Qty	Rated Av. Life (hrs)	Working Distance mm (in)	Base	Filament	Fig. No.
MR16 dichroic reflector JCR - GZ6.35, GX5.3, GU5.3 bases without cover glass										
JCR12V20W20H/G1	—	12	20	2950	50	2000	32 (1.3)	GZ6.35	C-6	1
JCR12V30W20H/G1	—	12	30	3000	50	2000	32 (1.3)	GZ6.35	C-6	1
JCR6V50W20H/G1	—	6	50	3000	50	2000	50 (2.0)	GZ6.35	C-8	1
JCR12V50W20H/G1	—	12	50	3000	50	2000	32 (1.3)	GZ6.35	C-8	1
JCR12V50W20H/G1UV	—	12	50	3000	50	2000	32 (1.3)	GZ6.35	C-8	1
JCR9.5V55W15H/G1	—	9.5	55	3000	50	1500	—	GZ6.35	C-8	1
JCR12V75W/G1	EFN	12	75	3400	50	50	32 (1.3)	GZ6.35	C-8	1
JCR12V75W15H/G1	—	12	75	3000	50	1500	32 (1.3)	GZ6.35	C-8	1
JCR12V100W/G1	EFP	12	100	3400	50	50	32 (1.3)	GZ6.35	C-8	1
JCR12V100W10H/G1	—	12	100	3100	50	1000	32 (1.3)	GZ6.35	C-8	1
JCR15V150W/G1	EFR	15	150	3400	50	50	32 (1.3)	GZ6.35	C-8	1
JCR15V150W5H/G1	—	15	150	3200	50	500	32 (1.3)	GZ6.35	C-8	1
JCR24V150W10H/G2/H50	—	24	150	3200	50	1000	—	GX5.3	CC-6	2
JCR24V200W10H/G2/H50	—	24	200	3200	50	1000	—	GX5.3	CC-6	2
JR1505	EPZ	13.8	50	3150	12	1000	—	GU5.3	C-6	3

Notes: • Burning Position: Any

Projection/Optical
Single ended high output G6.35, GY6.35 base

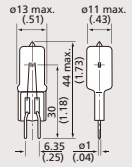


Fig.1

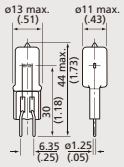


Fig.2

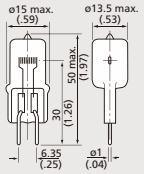


Fig.3

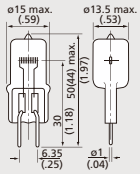


Fig.4

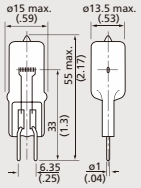


Fig.5

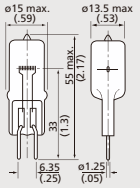


Fig.6

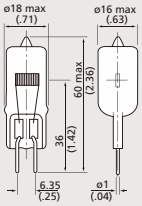


Fig.7

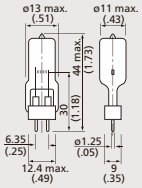


Fig.8

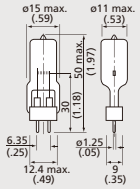
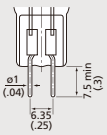
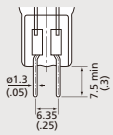


Fig.9

BASE TYPE



G6.35 (G1)



GY6.35 (G2)

PHYSICAL DATA AND CHARACTERISTICS

Type	ANSI Ref.	Volts (V)	Watts (W)	Approx. Initial Lumens (ℓm)	Colour Temp. (K)	Std. Pkg. Qty	Rated Av. Life (hrs)	Dimensions mm (in)			Filament	Fig. No.
								M.D.	M.O.L.	L.C.L.		
Glass 2 pin base - G6.35												
JC12V50W/G1	BRL	12	50	1400	3400	20	50	11.0 (.4)	44 (1.7)	30 (1.2)	C-Bar-6	1
JC24V150W/G1	—	24	150	4650	3400	20	50	13.5 (.5)	50 (2.0)	30 (1.3)	C-Bar-6	3
JC24V150W1H/G1	FDV	24	150	4300	3250	20	100	13.5 (.5)	50 (2.0)	30 (1.2)	C-Bar-6	4
FCS24V150W	FCS	24	150	4650	3400	20	50	13.5 (.5)	44 (2.0)	30 (1.2)	C-Bar-6	(4)
FDW24V150W	FDW	24	150	4650	3400	20	50	13.5 (.5)	50 (2.0)	30 (1.2)	C-Bar-6	9
JC24V250W/G1	EHJ	24	250	7700	3400	20	50	13.5 (.5)	55 (2.2)	33 (1.3)	C-Bar-6	5
JC36V400W/G1	—	36	400	14000	3400	20	50	16.0 (.6)	60 (2.4)	36 (1.4)	C-Bar-6	7
Glass 2 pin base - GY6.35												
JC12V100W/G2	FCR	12	100	2900	3350	20	50	11.0 (.4)	44 (1.7)	30 (1.2)	C-Bar-6	2
FDX12V100W	FDX	12	100	2900	3350	20	50	11.0 (.4)	44 (1.7)	30 (1.2)	C-Bar-6	8
JC24V300W/G2	—	24	300	9900	3400	20	50	13.5 (.5)	55 (2.2)	33 (1.3)	C-Bar-6	6

Notes: • Burning Position: Universal

Projection/Optical
Single ended G6.35, GY6.35 base

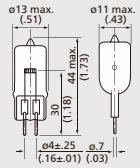


Fig.1

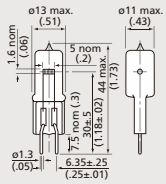


Fig.2

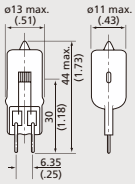


Fig.3

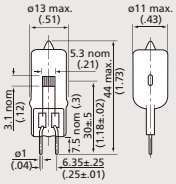


Fig.4

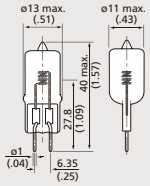


Fig.5

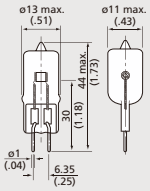


Fig.6

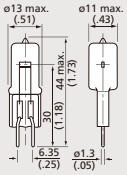


Fig.7

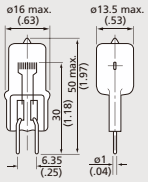


Fig.8

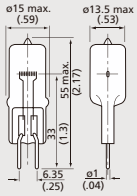


Fig.9

PHYSICAL DATA AND CHARACTERISTICS

Type	ANSI Ref.	Volts (V)	Watts (W)	Approx. Initial Lumens (ℓm)	Colour Temp. (K)	Std. Pkg. Qty	Rated Av. Life (hrs)	Dimensions mm (in)			Filament	Fig. No.
								M.D.	M.O.L.	L.C.L.		
Glass 2 pin base - G6.35												
JC12V20W20H/G1	—	12	20	280	2850	20	2000	11.0 (.4)	44 (1.8)	30 (1.2)	C-6	1
JC12V35W20H/G1	—	12	35	560	2900	20	2000	11.0 (.4)	44 (1.8)	30 (1.2)	C-6	1
JC12V50W20H/G1	—	12	50	950	3000	20	2000	11.0 (.4)	44 (1.8)	30 (1.2)	C-6	1
JCD24V55W10H/G1	—	24	55	990	3000	20	1000	11.0 (.4)	44 (1.8)	27.8 (1.1)	CC-8	5
JCD24V75W20H/G1	—	24	75	1420	3000	20	2000	11.0 (.4)	44 (1.8)	30 (1.2)	CC-6	6
JC12V100W20H/G1	—	12	100	2100	3000	20	2000	11.0 (.4)	44 (1.8)	30 (1.2)	C-Bar-6	4
JCD24V100W20H/G1	—	24	100	1800	3000	20	2000	11.0 (.4)	44 (1.8)	30 (1.2)	CC-6	6
JC24V150W10H/G1	—	24	150	3450	3100	20	1000	13.5 (.6)	50 (2.0)	30 (1.2)	C-Bar-6	8
JC24V150W20H/G1	—	24	150	3000	3000	20	2000	13.5 (.6)	50 (2.0)	30 (1.2)	C-Bar-6	8
JC24V200W20H/G1	—	24	200	4400	3000	20	2000	13.5 (.6)	50 (2.0)	30 (1.2)	C-Bar-6	8
JC24V250W3H/G1	M33	24	250	6750	3300	20	300	13.5 (.6)	55 (2.2)	33 (1.3)	C-Bar-6	9
Glass 2 pin base - GY6.35												
JC12V20W20H/G2	—	12	20	280	2850	20	2000	11.0 (.4)	44 (1.8)	30 (1.2)	C-6	2
JC12V35W20H/G2	—	12	35	560	2900	20	2000	11.0 (.4)	44 (1.8)	30 (1.2)	C-6	2
JC12V50W20H/G2	M32	12	50	950	3000	20	2000	11.0 (.4)	44 (1.8)	30 (1.2)	C-Bar-6	3
JCD24V75W20H/G2	—	24	75	1350	2900	20	1000	11.0 (.4)	44 (1.8)	30 (1.2)	CC-6	6
JC12V100W10H/G2	—	12	100	2450	3100	20	1000	11.0 (.4)	44 (1.8)	30 (1.2)	C-Bar-6	7
JC12V100W20H/G2	M28	12	100	2100	3000	20	2000	11.0 (.4)	44 (1.8)	30 (1.2)	C-Bar-6	7
JC24V250W20H/G2	M36	24	250	5750	3000	20	2000	13.5 (.6)	55 (2.2)	33 (1.3)	C-Bar-6	9

Notes: • Burning Position: Universal

Projection/Optical
Single ended line voltage G6.35, G6.35-1.5 base

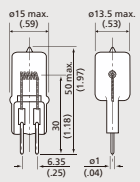


Fig.1

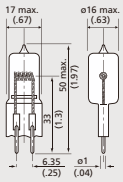


Fig.2

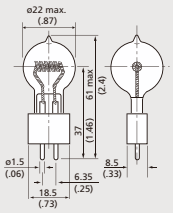


Fig.3

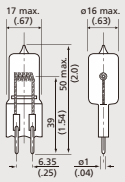
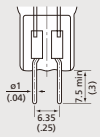
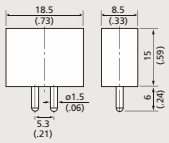


Fig.4

BASE TYPE



G6.35 (G1)



G6.35 (A2)

PHYSICAL DATA AND CHARACTERISTICS

Type	ANSI Ref.	Volts (V)	Watts (W)	Approx. Initial Lumens (ℓm)	Colour Temp. (K)	Std. Pkg. Qty	Rated Av. Life (hrs)	Dimensions mm (in)			Filament	Fig. No.
								M.D.	M.O.L.	L.C.L.		
Line voltage glass 2 pin base - G6.35												
JCD150WL/G1	—	120	150	3300	3100	20	300	13.5 (.5)	50 (2.0)	30 (1.2)	CC-6	1
JCD150W-S/G1	—	120	150	4050	3250	20	50	13.5 (.5)	50 (2.0)	30 (1.2)	CC-6	1
JCD200WL/G1	—	120	200	4400	3100	20	300	15.5 (.6)	50 (2.0)	39 (1.5)	CC-6	4
JCD250WL/G1	—	120	250	5750	3100	20	300	15.5 (.6)	50 (2.0)	33 (1.3)	CC-6	2
JCD250W-S/G1	—	120	250	7000	3300	20	50	16.0 (.6)	50 (2.0)	33 (1.3)	CC-6	2
JCD300WL/G1	DRA	120	300	6900	3100	20	300	15.0 (.6)	50 (2.0)	33 (1.3)	CC-6	2
JCD300W-S/G1	—	120	300	8400	3250	20	50	16.0 (.6)	50 (2.0)	33 (1.3)	CC-6	2
Line voltage glass 2 pin base - G6.35-1.5												
JCD500WC/A2	—	120	500	14000	3200	20	75	22.0 (.9)	61 (2.4)	37 (1.5)	CC-6	3

Notes: • Burning Position: Universal

Projection/Optical
Single ended GY9.5

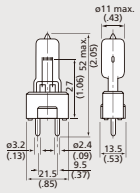


Fig.1

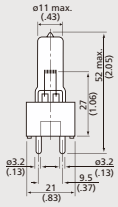


Fig.2

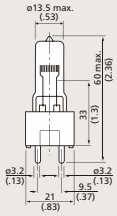


Fig.3

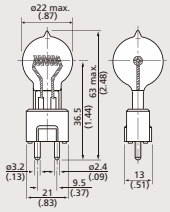


Fig.4

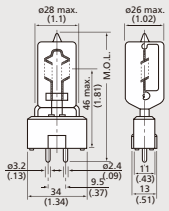
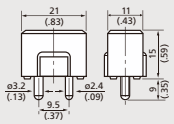
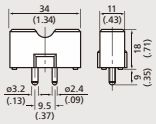


Fig.5

BASE TYPE



GY9.5 (B)



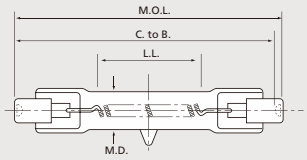
GY9.5 (C3)

PHYSICAL DATA AND CHARACTERISTICS

Type	ANSI Ref.	Volts (V)	Watts (W)	Approx. Initial Lumens (ℓm)	Colour Temp. (K)	Std. Pkg. Qty	Rated Av. Life (hrs)	Dimensions mm (in)			Filament	Fig. No.
								M.D.	M.O.L.	L.C.L.		
Medium prefocus 2 pin base - GY9.5												
JC12V100W10H/B	DZZ	12	100	2300	3100	20	1000	11.0 (.4)	52 (2.1)	27 (1.1)	C-Bar-6	1
FDT12V100W	FDT	12	100	2700	3300	20	50	11.0 (.4)	52 (2.1)	27 (1.1)	C-Bar-6	2
FDS24V150W	FDS	24	150	4600	3400	20	50	13.5 (.5)	60 (2.4)	33 (1.3)	C-Bar-6	3
DZE24V150W	DZE	24	150	4300	3250	20	100	13.5 (.5)	60 (2.4)	33 (1.3)	C-Bar-6	3
JCD650WS/B	EKD	120	650	17500	3200	20	75	22.0 (.9)	63 (2.5)	36.5 (1.4)	CC-6	4
JCD650WC/B	—	120	650	18200	3200	20	50	22.0 (.9)	66 (2.6)	36.5 (1.4)	CC-6	4
JCD1000WC/C3	—	120	1000	26000	3200	20	75	26.0 (1)	75 (3.0)	46 (1.8)	2CC-8	5
JCD1000WC/C3	—	220/230	1000	26000	3100	20	75	26.0 (1)	80 (3.1)	46 (1.8)	2CC-8	5
JCD1000WC/C3	—	240/250	1000	26000	3100	20	75	26.0 (1)	80 (3.1)	46 (1.8)	2CC-8	5

Notes: • Burning Position: Universal

Stage/Studio
Double ended R7s base, CC-8 filament



PHYSICAL DATA AND CHARACTERISTICS

Type	ANSI Ref.	Volts (V)	Watts (W)	Approx. Initial Lumens (ℓm)	Colour Temp. (K)	Std. Pkg. Qty	Rated Av. Life (hrs)	Dimensions mm (in)			
								M.D.	M.O.L.	L.L	C. to B.
R7s base, CC-8 filament, clear bulb											
JPD250W	DXM	30	250	8400	3400	10	12	14.0 (.6)	59.6 (2.3)	8.0 (.3)	56.6 (2.2)
JPD375W	DWZ	30	375	7000	2900	10	1000	14.0 (.6)	79.3 (3.1)	10.0 (.4)	76.3 (3.0)
JPD400WC	FDA	120	400	10400	3200	10	250	14.0 (.6)	79.3 (3.1)	25.0 (1.0)	76.3 (3.0)
JPD400W20H	EHR	120	400	6400	2900	10	2000	14.0 (.6)	79.3 (3.1)	20.0 (.8)	76.3 (3.0)
JPD420WC	FAL	120	420	11000	3200	10	75	14.0 (.6)	66.6 (2.6)	14.0 (.8)	63.6 (2.5)
JPD600WC	FFJ	120	600	16500	3200	10	75	14.0 (.6)	66.7 (2.6)	19.0 (.8)	63.6 (2.5)
JPD600WC	FCB	120	600	16500	3200	10	75	14.0 (.6)	95.3 (3.8)	19.0 (.8)	92.3 (3.6)
JPD600WC	FEB, A1/228	220/230	600	15000	3200	10	75	15.2 (.6)	93.6 (3.7)	17.8 (.7)	92.3 (3.6)
JPD600WC	FEA, A1/228	240	600	15000	3200	10	100	14.0 (.6)	95.1 (3.7)	27.0 (1.1)	92.3 (3.6)
JPD650WC	FAD	120	650	16250	3200	10	100	14.0 (.6)	79.3 (3.1)	25.0 (1.0)	76.3 (3.0)
JPD650WC	—	220/230	650	16250	3200	10	100	14.0 (.6)	79.3 (3.1)	26.0 (1.0)	76.3 (3.0)
JPD650WC	—	240/250	650	16250	3200	10	100	14.0 (.6)	79.3 (3.1)	26.0 (1.0)	76.3 (3.0)
JPD650WC	—	240	650	16250	3200	10	100	14.0 (.6)	79.3 (3.1)	26.0 (1.0)	76.3 (3.0)
JPD650WS	—	220/230	650	19500	3400	10	25	14.0 (.6)	79.3 (3.1)	26.0 (1.0)	76.3 (3.0)
JPD650WS	—	240	650	19500	3400	10	25	14.0 (.6)	79.3 (3.1)	26.0 (1.0)	76.3 (3.0)
JPD650WS	DWY, P1/9	115/120	650	19500	3400	10	25	14.0 (.6)	79.3 (3.1)	26.0 (1.0)	76.3 (3.0)
JPD800WC	DXX	220/230	800	20000	3200	10	75	14.0 (.6)	79.3 (3.1)	29.0 (1.1)	76.3 (3.0)
JPD800WC	DXX	240	800	20000	3200	10	75	14.0 (.6)	79.3 (3.1)	29.0 (1.1)	76.3 (3.0)
JPD1000WS	DXB	120	1000	31000	3400	10	35	16.0 (.6)	95.0 (3.7)	25.0 (1.0)	92.1 (3.6)
JPD1000WC	DXW	120	1000	28000	3200	10	150	16.0 (.6)	95.0 (3.7)	25.0 (1.0)	92.1 (3.6)
JPD1000WC	DYN	120	1000	24500	3100	10	150	15.2 (.6)	111.1 (4.4)	27.9 (1.1)	108.1 (4.3)
JPD1000WC	DYA	120	1000	28000	3200	10	200	16.0 (.6)	111.1 (4.4)	27.9 (1.1)	108.1 (4.3)
JPD1000WC	DWT	120	1000	23400	3000	10	2000	17.8 (.7)	142.9 (5.6)	20.3 (.8)	138.5 (5.5)
JPD1000WC	FER	120	1000	27500	3200	10	500	17.8 (.7)	142.9 (5.6)	20.3 (.8)	138.5 (5.5)
JPD2000WC	FEY	120	2000	57000	3200	10	50	25.0 (1)	142.9 (5.6)	25.0 (1.0)	138.5 (5.5)
JPD2000WC	FEX	220/230	2000	50000	3200	10	200	26.0 (1)	142.9 (5.6)	40.0 (1.6)	139.7 (5.5)
JPD2000WC	FEX	240/250	2000	50000	3200	10	200	26.0 (1)	142.9 (5.6)	40.0 (1.6)	139.7 (5.5)

Notes: • Burning Position: Universal

Aircraft/Airfield
Single ended G6.35, BA15d, MR16, GZ4

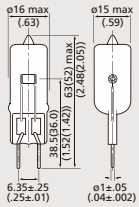


Fig.1

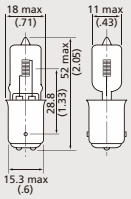


Fig.2

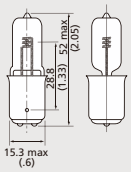


Fig.3

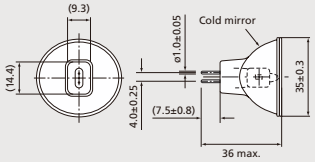


Fig.4

PHYSICAL DATA AND CHARACTERISTICS

Type	ANSI Ref.	Volts (V)	Watts (W)	Approx. Initial Lumens (ℓm)	Colour Temp. (K)	Std. Pkg. Qty	Rated Av. Life (hrs)	Dimensions mm (in)			Filament	Fig. No.
								M.D.	M.O.L.	L.C.L.		
Aircraft use halogen lamps glass 2 pin base - G6.35												
JCD24V150W10H/G1	—	24	150	2700	3000	20	1000	15 (.59)	63 (2.48)	38.5 (1.5)	CC-6	1
JCD26V150W10H/G1	—	26	150	2700	3000	20	1000	15 (.59)	52 (2.05)	36.0 (1.42)	CC-8	(1)
Aircraft use halogen lamps double contact bayonet base - BA15d												
JC12V125W10H/BD	—	12	125	2400	3000	20	1000	11 (.44)	52 (2.05)	28.8 (1.1)	C-8	2
JCD24V150W5H/BD	—	24	150	3630	3150	20	500	14 (.55)	52 (2.05)	28.8 (1.1)	CC-8	3

Note: • Burning Position: Universal

Type	Reference or Substitute Lamp	Watts (W)	Approx. Initial Lumens (ℓm)	Colour Temp. (K)	Rated Av. Life (hrs.)	Dimensions (mm)			Base	Filament	Fig. No.
						M.D.	M.O.L.	L.C.L.			
JFR6.6A35W/N3	—	35	—	3000	1500	—	36	—	GZ4	C-8	4

Note: • Burning position: Any

Aircraft/Airfield
Double ended metal sleeve, R7s

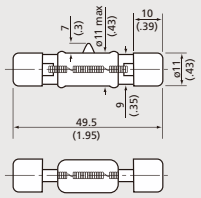


Fig.1

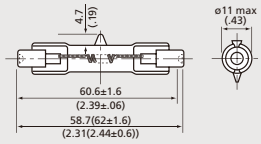


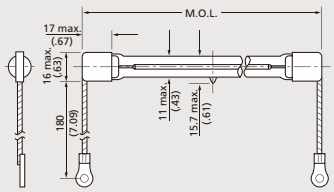
Fig.2

PHYSICAL DATA AND CHARACTERISTICS

Type	Volts (V)	Watts (W)	Approx. Initial Lumens (ℓm)	Colour Temp. (K)	Std. Pkg. Qty	Rated Av. Life (hrs)	Dimensions mm (in)			Filament	Fig. No.
							M.D.	M.O.L.	L.C.L.		
Aircraft use halogen lamps metal sleeve base											
J10V100W	10	100	1800	2900	20	2000	11 (.44)	49.5 (2.05)	—	C-8	1
Airfield use halogen lamps R7s base											
JF6.6A100W	6.6	100	2120	3000	20	1000	11 (.44)	58.7 (2.4)	—	CC-8	2
JF6.6A200W	6.6	200	4240	3000	20	1000	11 (.44)	62 (2.4)	—	CC-8	(2)

Note: • Burning Position: Universal

Quartz Heater-Infrared lamps
Double ended



PHYSICAL DATA AND CHARACTERISTICS

Type	ANSI Ref.	Volts (V)	Watts (W)	Colour Temp. (K)	Std. Pkg. Qty	Rated Av. Life (hrs)	M.O.L. mm (in)	Bulb Finish	Base	Filament
Double-ended lead wire & R7s lead wire										
QIR200/220V1000W	—	200/220	1000	2500	10	5000	350 (13.8)	Clear	R7s Lead Wire	C-8
QIR240V1000W	—	240	1000	2500	10	5000	303 (11.9)	Clear	Lead Wire	C-8
QIR480V6000W	—	480	6000	3200	10	150	298 (11.7)	Clear	Lead Wire	C-8

Notes: • Burning Position: Horizontal ±4°

Quartz Heater-Infrared lamps
MR16 G6.35, GX5.3 base

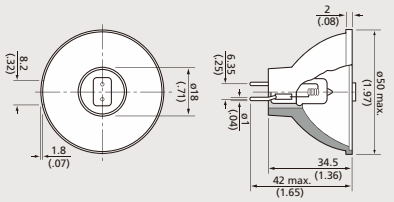


Fig.1

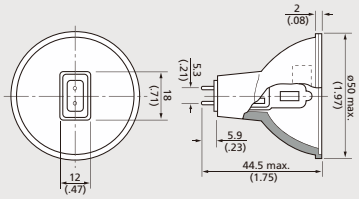


Fig.2

PHYSICAL DATA AND CHARACTERISTICS

Type	Volts (V)	Watts (W)	Colour Temp. (K)	Std. Pkg. Qty	Rated Av. Life (hrs)	Working Distance mm (in)	Reflector Coating	M.O.L. mm (in)	Base	Filament	Fig. No.
MR16 glass 2 pin base - GZ6.35											
JCR12V100W10H/G1/AL	12	100	3000	50	1000	32 (1.26)	Aluminum	42.0 (1.7)	GZ6.35	C-8	1
JCR12V100W10H/G/G1	12	100	3000	50	1000	32 (1.26)	Gold	42.0 (1.7)	GZ6.35	C-8	1
JCR15V150WG/G1	15	150	3350	50	50	32 (1.26)	Gold	42.0 (1.7)	GZ6.35	C-8	1
MR16 glass 2 pin base - GX5.3											
JCR24V200W10HAL/G2/H50	24	200	3000	50	1000	100 (3.94)	Aluminum	44.5 (1.8)	GX5.3	CC-6	2

Notes: • Burning Position: Universal

Halogen ANSI/LIF reference

ANSI / LIF	Type	Descriptioin	Page
BAB	JR1203	20MR16/40°	70
BAB	JR1253	20MR16CG/38°	64
BAB	JR1253D	20MR16CG/36°/3350K	66
BAB	JR1253F	20MR16FCG/43°	69
BAB	JR1256	20MR16CG/38°/4200K	66
BAB	JR5253	20MR16CG/38°/UVC	65
BAB	JR8233	20MR16CG/UVC/38°/10000H	63
BAB	JR8253	20MR16CG/38°/10000H	63
BBF	JR1252	20MR16CG/23°	64
BBF	JR8232	20MR16CG/UVC/23°/10000H	63
BBF	JR8252	20MR16CG/23°/10000H	63
BRL	JC12V50W/G1	JC12V50W/G1	81
DRA	JCD300WL/G1	JCD300WL/G1	83
DWT	JPD1000WC	JPD1000WC	85
DWY,P1/9	JPD650WS	JPD650WS	85
DWZ	JPD375W	JPD375W	85
DXB	JPD1000WS	JPD1000WS	85
DXM	JPD250W	JCD250W	85
DXW	JPD1000WC	JPD1000WC	85
DXX	JPD800WC	JPD800WC	85
DYA	JPD1000WC	JPD1000WC	85
DYN	JPD1000WC	JPD1000WC	85
DZE	DZE24V150W	DZE24V150W	84
DZZ	JC12V100W10H/B	JC12V100W10H/B	84
EFN	JCR12V75W/G1	JCR12V75W/G1	80
EFP	JCR12V100W/G1	JCR12V100W/G1	80
EFR	JCR15V150W/G1	JCR15V150W/G1	80
EHJ	JC24V250W/G1	JC24V250W/G1	81
EHR	JPD400W20H	JPD400W20H	85
EHT	JD120V250W/M2	250Q/CL/MC	73
EKD	JCD650WS/B	JCD650WS/B	84
ENL	JR1503	50MR16/32°	70
ENL	JR1553	50MR16CG/32°	64
ENL	JR5553	50MR16CG/32°/UVC	65
EPZ	JR1505	50MR16/12°	70, 80
ESN	JD120V100W/BD	100Q/CL/DC	74
ESS	JD120V250W/BD	250Q/CL/DC	74
ESX	JR1201	20MR16/12°	70
ESX	JR1251	20MR16CG/9°	64
ESX	JR1251D	20MR16CG/10°/3350K	66
ESX	JR5251	20MR16CG/12°/UVC	65
ESX	JR8231	20MR16CG/UVC/9°/10000H	63
ESX	JR8251	20MR16CG/9°/10000H	63
ETC	JD120V150W/BD	150Q/CL/DC	74
ETG	JD120V150W/M2	150Q/CL/MC	73
EVR	JD120V500W/M2	500Q/CL/MC	73
EXN	JR1504	50MR16/40°	70
EXN	JR1554	50MR16CG/38°	64
EXN	JR1554D	50MR16CG/36°/3450K	66
EXN	JR1554F	50MR16FCG/52°	69
EXN	JR1580	50MR16CG/38°/4200K	66
EXN	JR3554	12V50WB/W/CG	67
EXN	JR5554	50MR16CG/38°/UVC	65
EXN	JR7553	50MR16CG/40°/24V	68
EXN	JR8533	50MR16CG/UVC/38°/10000H	63

Halogen ANSI/LIF reference

ANSI / LIF	Type	Descriptioin	Page
EXN	JR8553	50MR16CG/38°/10000H	63
EXN	JR8574	50MR16CG/UVC/36°/10000H/3450K	63, 66
EXT	JR1501	50MR16/13°	70
EXT	JR1551	50MR16CG/13°	64
EXT	JR1551D	50MR16CG/12°/3450K	66
EXT	JR3551	12V50WB/N/CG	67
EXT	JR5551	50MR16CG/13°/UVC	65
EXT	JR7551	50MR16CG/13°/24V	68
EXT	JR8531	50MR16CG/UVC/12°/10000H	63
EXT	JR8551	50MR16CG/12°/10000H	63
EXT	JR8571	50MR16CG/UVC/12°/10000H/3450K	63, 66
EXZ	JR1502	50MR16/26°	70
EXZ	JR1552	50MR16CG/26°	64
EXZ	JR1552D	50MR16CG/26°/3450K	66
EXZ	JR3552	12V50WB/M/CG	67
EXZ	JR5552	50MR16CG/26°/UVC	65
EXZ	JR7552	50MR16CG/26°/24V	68
EXZ	JR8532	50MR16CG/UVC/25°/10000H	63
EXZ	JR8552	50MR16CG/25°/10000H	63
EXZ	JR8572	50MR16CG/UVC/25°/10000H/3450K	63, 66
EYC	JR2753	75MR16CG/44°	64
EYF	JR2751	75MR16CG/13°	64
EYJ	JR2752	75MR16CG/26°	64
EYP	JR1403	42MR16/40°	70
EYP	JR1453	42MR16CG/38°	64
EYR	JR1401	42MR16/12°	70
EYR	JR1451	42MR16CG/12°	64
EYS	JR1402	42MR16/25°	70
EYS	JR1452	42MR16CG/25°	64
EYW	JD130V500W/M2	500Q/CL/MC/130V	73
FAD	JPD650WC	JPD650WC	85
FAL	JPD420WC	JPD420WC	85
FCB	JPD600WC	JPD600WC	85
FCR	JC12V100W/G2	JC12V100W/G2	81
FCS	FCS24V150W	FCS24V150W	81
FDA	JPD400WC	JPD400WC	85
FDS	FDS24V150W	FDS24V150W	84
FDT	FDT12V100W	FDT12V100W	84
FDV	JC24V150W1H/G1	JC24V150W1H/G1	81
FDW	FDW24V150W	FDW24V150W	81
FDX	FDX12V100W	FDX12V100W	81
FEA,A1/228	JPD600WC	JPD600WC	85
FEB,A1/228	JPD600WC	JPD600WC	85
FER	JPD1000WC	JPD1000WC	85
FEX	JPD2000WC	JPD2000WC	85
FEY	JPD2000WC	JPD2000WC	85
FFJ	JPD600WC	JPD600WC	85
FMW	JR1303	35MR16/40°	70
FMW	JR1353	35MR16CG/38°	64
FMW	JR1353D	35MR16CG/36°/3450K	66
FMW	JR1353F	35MR16FCG/47°	69
FMW	JR1356	35MR16CG/38°/4200K	66
FMW	JR3353	12V35W/W/CG	67
FMW	JR5353	35MR16CG/38°/UVC	65
FMW	JR7353	35MR16CG/40°/24V	68

Halogen ANSI/LIF reference

ANSI / LIF	Type	Descriptioin	Page
FMW	JR8333	35MR16CG/UVC/36°/10000H	63
FMW	JR8353	35MR16CG/36°/10000H	63
FMW	JR8373	35MR16CG/UVC/36°/10000H/3450K	63, 66
FNV	JR1516	50MR16/60°	70
FNV	JR1566	50MR16CG/55°	64
FNV	JR1566F	50MR16FCG/63°	69
FNV	JR1581	50MR16CG/56°/4200K	66
FNV	JR3566	12V50WB/SW/CG	67
FNV	JR5566	50MR16CG/55°/UVC	65
FPA	JR2651	65MR16CG/13°	64
FPA	JR6651	65MR16CG/13°/UVC	65
FPB	JR2653	65MR16CG/38°	64
FPB	JR6653	65MR16CG/38°/UVC	65
FPC	JR2652	65MR16CG/26°	64
FPC	JR6652	65MR16CG/26°/UVC	65
FRA	JR1302	35MR16/23°	70
FRA	JR1352	35MR16CG/23°	64
FRA	JR5352	35MR16CG/23°/UVC	65
FRA	JR7352	35MR16CG/23°/24V	68
FRA	JR8332	35MR16CG/UVC/22°/10000H	63
FRA	JR8352	35MR16CG/22°/10000H	63
FRA	JR8372	35MR16CG/UVC/23°/10000H/3450K	63, 66
FRB	JR1301	35MR16/12°	70
FRB	JR1351	35MR16CG/12°	64
FRB	JR1351D	35MR16CG/12°/3450K	66
FRB	JR5351	35MR16CG/12°/UVC	65
FRB	JR7351	35MR16CG/11°/24V	68
FRB	JR8331	35MR16CG/UVC/12°/10000H	63
FRB	JR8351	35MR16CG/12°/10000H	63
FRB	JR8371	35MR16CG/UVC/12°/10000H/3450K	63, 66
FTA	JM1111	12MR11/8°	71
FTA	JM1161	12MR11CG/10°	71
FTB	JM1211	20MR11/8°	71
FTB	JM1261	20MR11CG/10°	71
FTB	JM7261	20MR11CG/10°/24V	72
FTC	JM1212	20MR11/19°	71
FTC	JM1262	20MR11CG/20°	71
FTC	JM7262	20MR11CG/22°/24V	72
FTD	JM1213	20MR11/28°	71
FTD	JM1263	20MR11CG/34°	71
FTD	JM7263	20MR11CG/34°/24V	72
FTE	JM1311	35MR11/10°	71
FTE	JM1361	35MR11CG/10°	71
FTE	JM7361	35MR11CG/10°/24V	72
FTF	JM1312	35MR11/20°	71
FTF	JM1362	35MR11CG/20°	71
FTF	JM7362	35MR11CG/23°/24V	72
FTH	JM1313	35MR11/29°	71
FTH	JM1363	35MR11CG/34°	71
FTH	JM7363	35MR11CG/35°/24V	72
M28	JC12V100W20H/G2	JC12V100W20H/G2	82
M32	JC12V50W20H/G2	JC12V50W20H/G2	82
M33	JC24V250W3H/G1	JC24V250W3H/G1	82
M36	JC24V250W20H/G2	JC24V250W20H/G2	82

Halogen lamps

Beam diameter and illuminance

p63 MR16 10,000 hours life

20W

Beam angle: 9°

ø(m)	H(m)	E(lx)
0.16	1	4000
0.31	2	1000
0.47	3	444

Beam angle: 38°

ø(m)	H(m)	E(lx)
0.69	1	500
1.38	2	125
2.07	3	56

35W

Beam angle: 12°

ø(m)	H(m)	E(lx)
0.21	1	7400
0.42	2	1850
0.63	3	820

Beam angle: 22°

ø(m)	H(m)	E(lx)
0.39	1	2200
0.78	2	550
1.17	3	240

Beam angle: 36°

ø(m)	H(m)	E(lx)
0.65	1	1100
1.30	2	280
1.95	3	120

50W

Beam angle: 12°

ø(m)	H(m)	E(lx)
0.21	1	9500
0.42	2	2400
0.63	3	1050

Beam angle: 25°

ø(m)	H(m)	E(lx)
0.44	1	3100
0.88	2	780
1.32	3	340

Beam angle: 38°

ø(m)	H(m)	E(lx)
0.69	1	1650
1.38	2	410
2.07	3	180

35W (MR16 High Colour Temp. Cover Glass)

Beam angle: 12°

ø(m)	H(m)	E(lx)
0.21	1	4200
0.42	2	1050
0.63	3	470

Beam angle: 23°

ø(m)	H(m)	E(lx)
0.41	1	1400
0.82	2	350
1.23	3	160

Beam angle: 36°

ø(m)	H(m)	E(lx)
0.65	1	880
1.30	2	220
1.95	3	98

50W (MR16 High Colour Temp. Cover Glass)

Beam angle: 12°

ø(m)	H(m)	E(lx)
0.21	1	5300
0.42	2	1330
0.63	3	590

Beam angle: 25°

ø(m)	H(m)	E(lx)
0.44	1	2250
0.88	2	560
1.32	3	250

Beam angle: 36°

ø(m)	H(m)	E(lx)
0.65	1	1300
1.30	2	325
1.95	3	145

p64 MR16 with cover glass

20W

Beam angle: 9°

ø(m)	H(m)	E(lx)
0.16	1	4000
0.31	2	1000
0.47	3	440

Beam angle: 23°

ø(m)	H(m)	E(lx)
0.41	1	880
0.82	2	220
1.23	3	100

Beam angle: 38°

ø(m)	H(m)	E(lx)
0.69	1	500
1.38	2	120
2.07	3	50

35W

Beam angle: 12°

ø(m)	H(m)	E(lx)
0.21	1	7600
0.42	2	1900
0.63	3	840

Beam angle: 23°

ø(m)	H(m)	E(lx)
0.40	1	2300
0.80	2	580
1.20	3	260

Beam angle: 38°

ø(m)	H(m)	E(lx)
0.69	1	1100
1.38	2	270
2.07	3	120

42W

Beam angle: 12°

ø(m)	H(m)	E(lx)
0.19	1	7500
0.38	2	1880
0.57	3	830

Beam angle: 25°

ø(m)	H(m)	E(lx)
0.40	1	2600
0.80	2	650
1.20	3	285

Beam angle: 38°

ø(m)	H(m)	E(lx)
0.69	1	1100
1.38	2	280
2.07	3	120

50W

Beam angle: 13°

ø(m)	H(m)	E(lx)
0.23	1	9800
0.46	2	2450
0.69	3	1090

Beam angle: 26°

ø(m)	H(m)	E(lx)
0.46	1	3200
0.92	2	800
1.38	3	350

Beam angle: 32°

ø(m)	H(m)	E(lx)
0.57	1	2250
1.14	2	560
1.71	3	250

Beam angle: 38°

ø(m)	H(m)	E(lx)
0.69	1	1600
1.38	2	400
2.07	3	180

Beam angle: 55°

ø(m)	H(m)	E(lx)
0.96	1	700
1.92	2	175
2.88	3	77

65W

Beam angle: 13°

ø(m)	H(m)	E(lx)
0.23	1	12000
0.46	2	3000
0.69	3	1330

Beam angle: 26°

ø(m)	H(m)	E(lx)
0.46	1	4100
0.92	2	1030
1.38	3	460

Beam angle: 38°

ø(m)	H(m)	E(lx)
0.68	1	2100
1.36	2	530
2.04	3	230

75W

Beam angle: 13°

ø(m)	H(m)	E(lx)
0.23	1	12700
0.46	2	3175
0.69	3	1411

Beam angle: 26°

ø(m)	H(m)	E(lx)
0.46	1	4400
0.92	2	1100
1.38	3	489

Beam angle: 44°

ø(m)	H(m)	E(lx)
0.81	1	2200
1.62	2	550
2.43	3	244

Halogen lamps

Beam diameter and illuminance

p65 MR16 UV-cut with cover glass

20W

Beam angle: 12°

ø(m)	H(m)	E(lx)
0.21	1	4000
0.42	2	1000
0.63	3	444

Beam angle: 38°

ø(m)	H(m)	E(lx)
0.66	1	500
1.33	2	125
1.99	3	56

35W

Beam angle: 12°

ø(m)	H(m)	E(lx)
0.21	1	7600
0.42	2	1900
0.63	3	844

Beam angle: 23°

ø(m)	H(m)	E(lx)
0.40	1	2300
0.80	2	575
1.20	3	256

Beam angle: 38°

ø(m)	H(m)	E(lx)
0.66	1	1100
1.33	2	275
1.99	3	122

50W

Beam angle: 13°

ø(m)	H(m)	E(lx)
0.23	1	9800
0.45	2	2450
0.68	3	1089

Beam angle: 26°

ø(m)	H(m)	E(lx)
0.45	1	3200
0.91	2	800
1.36	3	356

Beam angle: 32°

ø(m)	H(m)	E(lx)
0.56	1	2250
1.12	2	563
1.68	3	250

Beam angle: 38°

ø(m)	H(m)	E(lx)
0.66	1	1600
1.33	2	400
1.99	3	178

Beam angle: 55°

ø(m)	H(m)	E(lx)
0.96	1	700
1.92	2	175
2.88	3	78

65W

Beam angle: 13°

ø(m)	H(m)	E(lx)
0.23	1	12000
0.45	2	3000
0.68	3	1333

Beam angle: 26°

ø(m)	H(m)	E(lx)
0.45	1	4100
0.91	2	1025
1.36	3	456

Beam angle: 38°

ø(m)	H(m)	E(lx)
0.66	1	2100
1.33	2	525
1.99	3	233

p67 MR16 neodymium with cover glass

20W

Beam angle: 20°

ø(m)	H(m)	E(lx)
0.35	1	750
0.70	2	188
1.05	3	83

Beam angle: 25°

ø(m)	H(m)	E(lx)
0.44	1	600
0.87	2	150
1.31	3	67

35W

Beam angle: 21°

ø(m)	H(m)	E(lx)
0.37	1	1700
0.73	2	425
1.10	3	189

Beam angle: 32°

ø(m)	H(m)	E(lx)
0.56	1	1100
1.12	2	275
1.68	3	122

50W

Beam angle: 21°

ø(m)	H(m)	E(lx)
0.37	1	2700
0.73	2	675
1.10	3	300

Beam angle: 32°

ø(m)	H(m)	E(lx)
0.56	1	1800
1.12	2	450
1.68	3	200

65W

Beam angle: 20°

ø(m)	H(m)	E(lx)
0.35	1	3500
0.70	2	875
1.05	3	389

Beam angle: 29°

ø(m)	H(m)	E(lx)
0.51	1	2500
1.01	2	625
1.52	3	278

p67 MR16 aluminium coated with cover glass

20W

Beam angle: 36°

ø(m)	H(m)	E(lx)
0.63	1	500
1.26	2	125
1.89	3	56

35W

Beam angle: 12°

ø(m)	H(m)	E(lx)
0.21	1	6200
0.42	2	1550
0.63	3	689

Beam angle: 36°

ø(m)	H(m)	E(lx)
0.63	1	1000
1.26	2	250
1.89	3	111

50W

Beam angle: 12°

ø(m)	H(m)	E(lx)
0.21	1	8000
0.42	2	2000
0.63	3	889

Beam angle: 26°

ø(m)	H(m)	E(lx)
0.45	1	2500
0.91	2	625
1.36	3	278

Beam angle: 38°

ø(m)	H(m)	E(lx)
0.66	1	160
1.33	2	40
1.99	3	18

Beam angle: 56°

ø(m)	H(m)	E(lx)
0.98	1	600
1.96	2	150
2.93	3	67

Halogen lamps

Beam diameter and illuminance

p68 MR16 24V with cover glass

35W

Beam angle: 11°

ø(m)	H(m)	E(lx)
0.39	1	5900
0.78	2	1480
1.17	3	656

Beam angle: 23°

ø(m)	H(m)	E(lx)
0.41	1	1700
0.81	2	425
1.22	3	189

Beam angle: 40°

ø(m)	H(m)	E(lx)
0.73	1	870
1.46	2	218
2.19	3	97

50W

Beam angle: 13°

ø(m)	H(m)	E(lx)
0.23	1	8600
0.45	2	2150
0.68	3	956

Beam angle: 26°

ø(m)	H(m)	E(lx)
0.46	1	2600
0.92	2	650
1.39	3	289

Beam angle: 40°

ø(m)	H(m)	E(lx)
0.73	1	1500
1.46	2	375
2.19	3	167

p68 MR16 24V, 28V anti-vibration with cover glass

50W

Beam angle: 36°

ø(m)	H(m)	E(lx)
0.65	1	850
1.30	2	210
1.95	3	90

55W

Beam angle: 36°

ø(m)	H(m)	E(lx)
0.65	1	1700
1.30	2	430
1.95	3	190

p70 MR16 without cover glass

20W

Beam angle: 12°

ø(m)	H(m)	E(lx)
0.21	1	4300
0.42	2	1080
0.63	3	480

Beam angle: 40°

ø(m)	H(m)	E(lx)
0.73	1	525
1.46	2	131
2.18	3	58

35W

Beam angle: 12°

ø(m)	H(m)	E(lx)
0.21	1	8000
0.42	2	2000
0.63	3	890

Beam angle: 23°

ø(m)	H(m)	E(lx)
0.40	1	2500
0.80	2	630
1.20	3	280

Beam angle: 40°

ø(m)	H(m)	E(lx)
0.73	1	1200
1.46	2	300
2.19	3	130

42W

Beam angle: 12°

ø(m)	H(m)	E(lx)
0.21	1	8200
0.42	2	2050
0.63	3	910

Beam angle: 25°

ø(m)	H(m)	E(lx)
0.44	1	2850
0.89	2	710
1.33	3	320

Beam angle: 40°

ø(m)	H(m)	E(lx)
0.73	1	1200
1.46	2	300
2.19	3	130

50W

Beam angle: 13°

ø(m)	H(m)	E(lx)
0.23	1	10500
0.46	2	2630
0.69	3	1170

Beam angle: 26°

ø(m)	H(m)	E(lx)
0.46	1	3400
0.92	2	850
1.38	3	380

Beam angle: 32°

ø(m)	H(m)	E(lx)
0.57	1	2450
1.14	2	610
1.71	3	270

Beam angle: 40°

ø(m)	H(m)	E(lx)
0.73	1	1750
1.46	2	440
2.19	3	190

Beam angle: 60°

ø(m)	H(m)	E(lx)
1.15	1	750
2.30	2	190
3.45	3	80

p70 MR8 with cover glass

20W

Beam angle: 10°

ø(m)	H(m)	E(lx)
0.16	1	1400
0.35	2	350
0.53	3	160

Beam angle: 21°

ø(m)	H(m)	E(lx)
0.37	1	700
0.74	2	180
1.11	3	80

Beam angle: 40°

ø(m)	H(m)	E(lx)
0.73	1	200
1.46	2	50
2.19	3	22

35W

Beam angle: 12°

ø(m)	H(m)	E(lx)
0.21	1	2000
0.42	2	500
0.63	3	220

Beam angle: 24°

ø(m)	H(m)	E(lx)
0.43	1	1300
0.83	2	330
1.26	3	140

Beam angle: 44°

ø(m)	H(m)	E(lx)
0.81	1	340
1.62	2	85
2.43	3	40

Halogen lamps

Beam diameter and illuminance

p71 MR11 with cover glass

12W

Beam angle: 10°

ø(m)	H(m)	E(lx)
0.18	1	1500
0.35	2	375
0.52	3	170

Beam angle: 20°

ø(m)	H(m)	E(lx)
0.35	1	840
0.70	2	210
1.05	3	95

Beam angle: 34°

ø(m)	H(m)	E(lx)
0.59	1	480
1.19	2	120
1.78	3	55

20W

Beam angle: 10°

ø(m)	H(m)	E(lx)
0.18	1	3750
0.35	2	940
0.52	3	420

Beam angle: 20°

ø(m)	H(m)	E(lx)
0.35	1	1360
0.70	2	340
1.05	3	150

Beam angle: 34°

ø(m)	H(m)	E(lx)
0.59	1	900
1.19	2	230
1.78	3	100

35W

Beam angle: 10°

ø(m)	H(m)	E(lx)
0.18	1	4200
0.35	2	1050
0.53	3	470

Beam angle: 20°

ø(m)	H(m)	E(lx)
0.35	1	2350
0.70	2	590
1.06	3	260

Beam angle: 34°

ø(m)	H(m)	E(lx)
0.59	1	1300
1.19	2	330
1.78	3	145

p71 MR11 without cover glass

12W

Beam angle: 8°

ø(m)	H(m)	E(lx)
0.14	1	1500
0.28	2	375
0.42	3	167

Beam angle: 19°

ø(m)	H(m)	E(lx)
0.33	1	500
0.66	2	125
0.99	3	56

Beam angle: 25°

ø(m)	H(m)	E(lx)
0.54	1	350
1.07	2	88
1.61	3	39

20W

Beam angle: 8°

ø(m)	H(m)	E(lx)
0.18	1	4200
0.35	2	1050
0.53	3	467

Beam angle: 19°

ø(m)	H(m)	E(lx)
0.35	1	1450
0.70	2	363
1.05	3	161

Beam angle: 28°

ø(m)	H(m)	E(lx)
0.61	1	700
1.22	2	175
1.83	3	78

35W

Beam angle: 10°

ø(m)	H(m)	E(lx)
0.18	1	6000
0.35	2	1500
0.53	3	667

Beam angle: 20°

ø(m)	H(m)	E(lx)
0.35	1	2500
0.70	2	625
1.05	3	278

Beam angle: 29°

ø(m)	H(m)	E(lx)
0.61	1	1350
1.22	2	338
1.83	3	150

p72 MR11 24V with cover glass

20W

Beam angle: 10°

ø(m)	H(m)	E(lx)
0.18	1	3000
0.35	2	750
0.53	3	330

Beam angle: 22°

ø(m)	H(m)	E(lx)
0.38	1	1100
0.77	2	275
1.15	3	120

Beam angle: 34°

ø(m)	H(m)	E(lx)
0.59	1	580
1.19	2	145
1.78	3	65

35W

Beam angle: 10°

ø(m)	H(m)	E(lx)
0.18	1	4100
0.35	2	1020
0.52	3	455

Beam angle: 23°

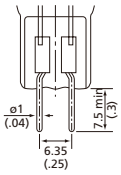
ø(m)	H(m)	E(lx)
0.40	1	1900
0.80	2	475
1.20	3	210

Beam angle: 35°

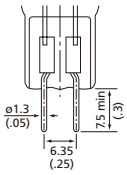
ø(m)	H(m)	E(lx)
0.61	1	1100
1.22	2	275
1.83	3	120

Base Type and Filament Designation

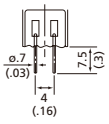
BASE TYPE



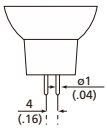
G6.35 (G1)



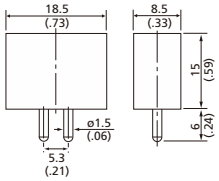
GY6.35 (G2)



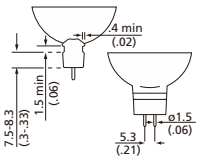
G4



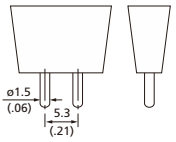
GZ4



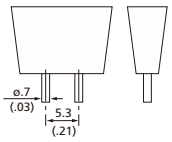
G5.3 (A1)



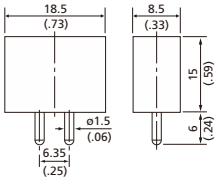
GU5.3



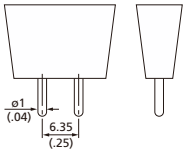
GX5.3 (G2)



GY5.3



G6.35-1.5 (A2)



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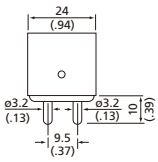
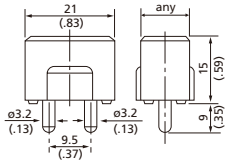
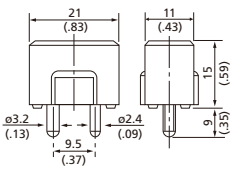


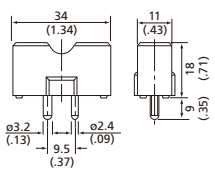
G9.5



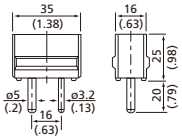
GX9.5



GY9.5 (B)



GY9.5 (C3)



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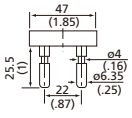
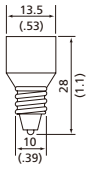
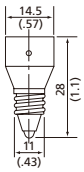


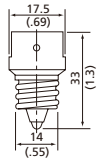
G22



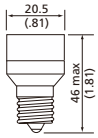
Mini Screw
E10 (M1)



Mini-Candelabra
E11 (MC) (M2)

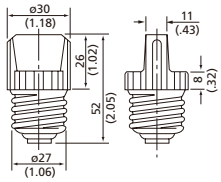


European Mini-Can
E14 (M7)

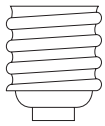


Intermediate
E17

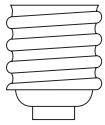
Medium
E26/25



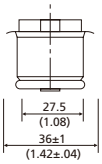
E27 (E27/30), E2



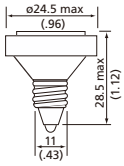
Mogul
E39/41



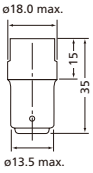
E40



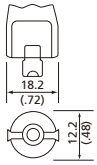
P28s



Special E11
(M5)



BD, BA15d



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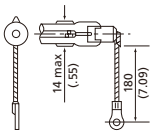
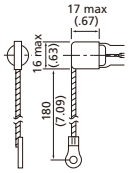
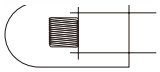


R7s Wire Lead

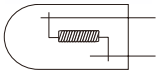


Wire Lead

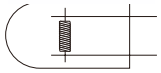
FILAMENT DESIGNATION



C-Bar-6



C-8
CC-8



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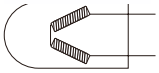
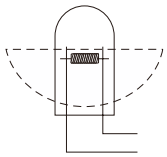
CC-8

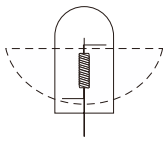


CC-2V

C-8
CC-8



C-6
CC-6



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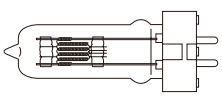
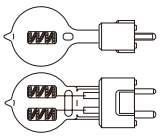
CC-8



C-13D



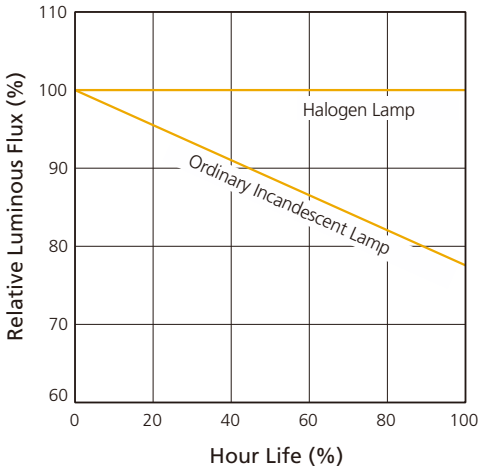
2CC-8

Explanation of the prefix "C" and "CC"

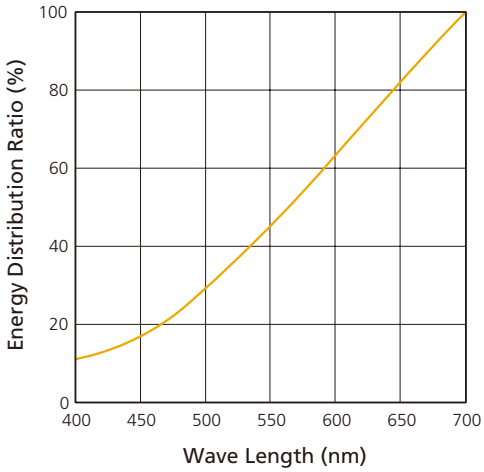
C: Single Cell Filament Wire
CC: Coiled Cell Filament Wire
All measurements shown as mm (in) unless otherwise noted.

Technical Information

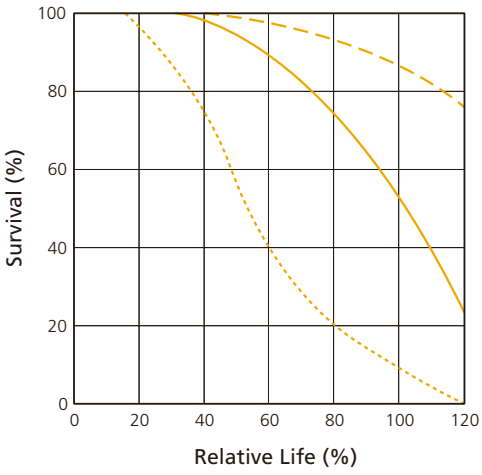
Lumen Maintenance Curve



Spectral Energy Distribution

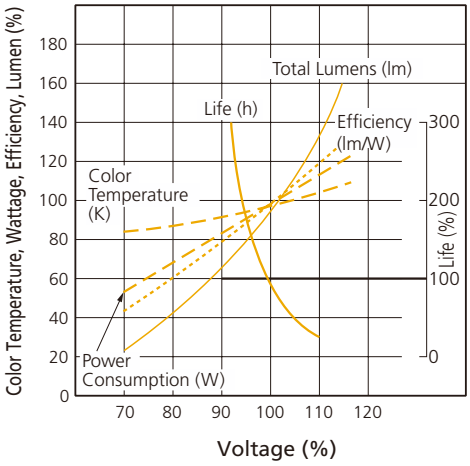


Expected Life v.s. Line Voltage



95% of rated line volts
Rated line volts
105% of rated line volts

Voltage Fluctuation Characteristics of Halogen Lamps



This diagram shows average figures of common characteristics of halogen lamps. Figures may vary according to type of halogen lamp.

INCANDESCENT REFLECTOR LAMPS

EYE photographic incandescent lamps

PHYSICAL DATA AND CHARACTERISTICS

Type	Volts (V)	Watts (W)	Base	Bulb shape	Overall length (mm)	Initial characteristics		Rated Av. Life (hrs)
						Initial Lumens (ℓm)	Colour Temp. (K)	
Flood								
PRF100V500W/E26	100	500	E26	R127	175	9000	3200	100
PRF120V500W/E26	120	500	E26	R127	175	9000	3200	100
PRF230V250WD/E27	230	250	E27	R100	135	4000	5900	50
PRF230V500W/E26	230	500	E26	R127	175	8100	3200	100
PRF230V500W/E27	230	500	E27	R127	175	8100	3200	100
PRF100V500WD/E27	100	500	E27	R130	170	3400	5900	10
PRF230V500WD/E27	230	500	E27	R130	170	3060	5900	10
PRF230V500WD100H/E27	230	500	E27	R130	170	3060	5900	100

EYE Photo-Flood provides broad-beam main or fill lighting. Shadows are minimized particularly when cross beams from several lamps are employed. Combinations of floods and spots produce excellent effects.

EYE reflector lamps for outdoor use

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std. Pkg. Qty.	M.O.L. (mm)	Total Lumens (ℓm)	Max.Light Intensity (cd)	Rated Av. Life (hrs)
RF220V90WH	90	R120	E27	10	160	700	400	2000
RF220V135WH	135	R120	E27	10	160	1160	960	2000
RF220V180WH	180	R120	E27	10	160	1550	1350	2000
RF220V270WH	270	R135	E40	10	214	2920	3200	2000
RF220V450WH	450	R160	E40	10	241	5120	5280	2000
RF220V900WH	900	R180	E40	6	320	10800	8000	2000

EYE infrared ray lamps

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std.Pkg. Qty.	M.O.L. (mm)	Initial Characteristics		Colour Temperature (K)	Rated Av. Life (hrs)
						Total Radiant Flax (W)	Radiant Efficiency (%)		
IR220V125WRH	125	R127	E27	10	188	77min.	62min.	2250	6000
IR220V250WRH	250	R127	E27	10	188	165min.	66min.	2350	6000
IR220V375WRH	375	R127	E27	10	188	255min.	68min.	2400	6000

The EYE Infrared Ray lamp has a built-in reflector and is designed to produce more infrared rays at a lower filament temperature compared with that of ordinary incandescent lamps.
Our infrared Ray lamps are manufactured strictly in accordance with Japanese industrial Standards (JIS) at our authorized factory. Materials used for filaments, outer bulbs, bases, etc., are carefully selected under strict quality control standards and manufactured with precision and care.

FEATURES

- As heat radiation increases, it is absorbed directly by the object materials with minimal loss and high speed.
- These infrared ray lamps can be installed in small places because of their compact size and their high efficiency is insured by a built-in vaporized aluminum reflector.
- A mechanical base is employed, instead of a conventional asbestos one, which increases mechanical strength as it reduces the possiblity of accidents due to a loose base or an electric shock.
- The outer bulb is made of hard, heat-resistant glass which ensures satisfactory service in all weather conditions.
- Because the gas is sealed into bulbs with a special mechanism, a higher efficiency can be maintained and reflector deterioration can be eliminated. Thus, EYE infrared Ray lamps have longer life with less maintenance costs.
- The replacement of lamps and cleaning can be performed easily and safety.

APPLICATIONS

- Painting Industries: Heating for electric apparatus, painting of automobiles, etc.
- Textile Industries: Heating for starching,dyeing and weaving of textiles.
- Metal Industries: Heating for soaking pit and galvanizing line. Heating for cast iron and sand casts.
- Electrical Industries: Heating for motor, generator and electric cathode.
- Chemical Industries: Heating for plastics, fine products, rubber, vinyl, oiled paper, clothes, etc.
- Glass Industries: Heating for glass and mirror coatings, bottles and glass plates.
- Food Industries: Heating for mushrooms, tea, seaweed, dried small sardines and orher agricultural and fishery products.
- Printing Industries: Heating for photogravure printing, metal plate printing, papers for printing and colour rendition processes
- Pharmaceutical Industries: Heating for powder and tablets, explosives, ampoules and germicidal use.
- Medical use: Warming affected parts and drying gypsum, etc.
- Beauty Salon: For beauty culture and permanent dryers.
- Household: Heating for bathroom, Kitchen and bedroom.
- Livestock and Poultry Farm: Heating System used for example in egg incubator, pigfarms and sericulture.

SPECIAL APPLICATION LAMPS

EYE black light lamps

PHYSICAL DATA AND CHARACTERISTICS

Type	Watts (W)	Bulb	Base	Std.Pkg. Qty.	M.O.L. (mm)	Lamp		Rated Av. Life (hrs)
						Voltage (Volts)	Current (A)	
H125BL	125	E75	E27	12	177	125	1.15	3000
H250BL	250	BT100	E40	12	250	130	2.13	3000
H400BL	400	BT116	E40	12	292	135	3.25	3000
160WSB/E24-BL	160	E24	E27	12	175	220/230	0.80	3000

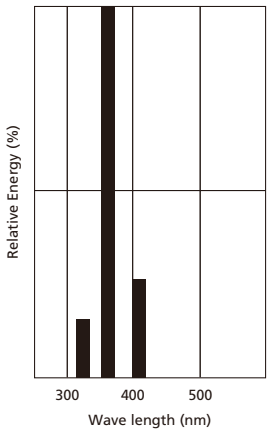
FEATURES

"EYE" Black Light is designed to effectively absorb visible light and emit near ultraviolet rays through a dark bulb of special filter glass.
Using a near ultraviolet phosphor like that used for fluorescent chemical lamps, it produces highly efficient ultraviolet rays.

APPLICATIONS

- Food Industries: To inspect classification, freshness, harmful mixtures, etc. in food stuffs.
- Metal and Mining industries: To discriminate ores such as uranium, tungsten, etc. and also to detect the defects on the surface of metals and others.
- Textile industries: To analyse the materials in textiles by their unique fluorescent reaction.
- Lighting: Illumination for sign boards, show windows, wall decorations, stages, control boards, etc.
- Reproduction: To utilize the maximum sensitivity to light at 350-400nm, the black light to be used for the effective source of photo-sensitivity
- Insecticidal Use: To ensure the effective elimination of harmful insects because of their sensitive reaction to blue light or near ultraviolet rays.
- Promotion of Photo-Chemical Reaction: To be utilized for the acceleration of photo-chemical reactions such as chloride addition to BHC, composition of artificial rubber, disposal of pulps, etc.
- Discovery of Forgery: To discover the forgery of checks, stamps, documents, etc. and also

SPECTRAL DISTRIBUTION



Alphanumeric list of types

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