

USHIO

SPH™ HALOGEN

SPH™ 575W & 750W
FOR ENTERTAINMENT LIGHTING



TUNGSTEN HALOGEN LAMPS FOR PAR AND ELLIPSOIDAL SPOTLIGHTS

A new patent pending filament design for the SPH Superior Performance Halogen lamp allows for superior field uniformity and increased lumen performance for multiple brands of PAR fixtures and ellipsoidal spotlights.

The newly engineered filament geometry works with modern reflector technology to produce up to a 20% increase in fixture lumens over the GLC lamp. The universal G9.5 base will fit any socket that accepts the GLC, FLK, or FEL lamps.

APPLICATIONS

- Stage
- Film
- Concert
- Theatre

FEATURES & BENEFITS

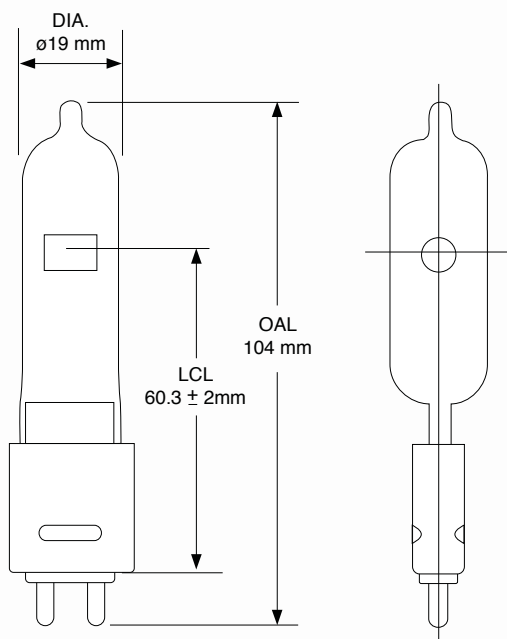
- 575 watt lamp provides 16,500 lumens without increasing lamp wattage.
- 750 watt lamp provides 21,000 lumens without increasing lamp wattage.
- Filament profile increases beam uniformity for a smoother field.
- Universal G9.5 base fits a variety of PAR and Ellipsoidal fixtures.
- 750 watt lamp used in PAR fixtures reduces energy usage when compared to 1000 watt encapsulated PAR64 lamps.

Actual results will depend upon fixture brand and beam angle because of variances in the reflector design and optics.

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SPH™ 575W & 750W
G9.5 Base

CHARACTERISTICS & SPECIFICATIONS



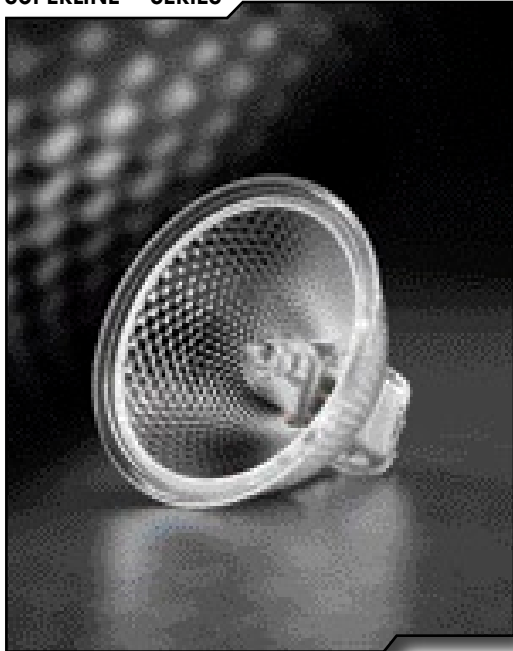
Watts (W)	Ushio Ordering Code	Ushio Lamp Description		Volts (V)	Filament Type	Color Temp (K)	Initial Lumens (lm)	Average Life (h)
575	1003584	SPH115V-575W	JCD115V-575WCM	115	CC-6	3250	16500	300
575	1003585	SPH115V-575W	JCD115V-575WBM	115	CC-6	3050	14000	800
750		SPH120V-750W	JCD120V-750WCM	120	CC-6	3250	21000	300

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MR-16 REFLECTOR LAMPS

SUPERLINE™ SERIES



MR-16 MULTILENSE REFLECTOR LAMPS FOR GENERAL LIGHTING

Superline™ series of Halogen MR-16 lamps provide professional accent lighting through evenly distributed light. The multilense geometry of the reflector surface in conjunction with an axial, computer-aligned filament, uniformly illuminates any surface. There is no ring-shaped shadow and no black spot in the middle of the light pattern. The refined beam pattern of the Superline™ lamp is perfectly suited for wall washing and illuminating artwork where the quality of light is not a compromise. The UV-cut halogen capsule and IR permeable reflector helps protect heat-sensitive objects. The multilayer reflector coating is made up of a hard Titanium Oxide surface that provides consistent color throughout the life of the lamp and consistent color from lamp to lamp. Superline™ has a long life of 5000 hours average life.

Available in— 20W, 35W, and 50W in

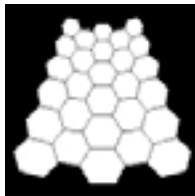
Narrow Flood and Flood beam spreads

FEATURES & BENEFITS

- Excellent center-to-edge uniformity
- High quality Titanium Oxide coating
- Consistent Color
- Axial filament for precise beam control
- Long Life — 5000 hrs average
- Dimmable
- Crisp white Halogen light
- UV-cut Halogen capsule
- Base type GU5.3

Superline™ — Multilense Reflector

Reflector Cross Section:
The hexagonal-shaped lenses provide total uniformity of light distribution



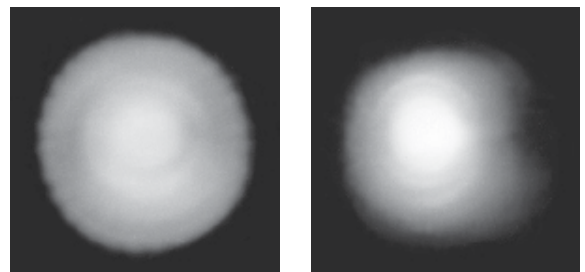
Reflector Surface:
Optimized reflector design with hexagonal-shaped lenses



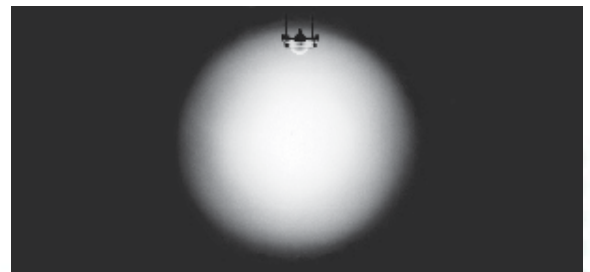
APPLICATIONS

- Museums and Galleries
- Wall Washing
- Accent Lighting
- Offices and Commercial Areas
- Restaurants

Standard Multimirror Reflectors



Superline — Multilense Reflector

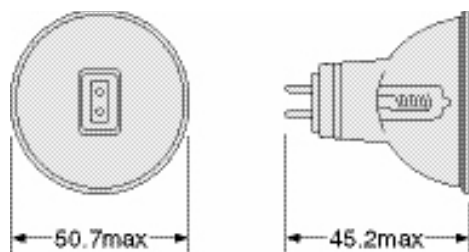


The geometry of the Multilense reflector together with an axial filament design, guarantees an absolute uniform appearance across the beam without unsightly shadows, dark spots or rings. (All photos: 20W, flood distribution, taken 1 meter from screen)

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CHARACTERISTICS & SPECIFICATIONS

SUPERLINE™ MR-16 LAMPS



GU5.3

All dimensions are in millimeters

LAMP SOCKET



The model C-33U socket is rated up to 24V-7A for use with all low voltage USHIO GU5.3 based MR-16 lamps. The metal clips secure the lamp firmly into the socket. Use Ordering Code 1002142

ø[m]	H[m]	E[lux]
0.43	1	870
0.85	2	218
1.28	3	97
1.70	4	54
24°	BBF	20W

ø[m]	H[m]	E[lux]
0.43	1	2000
0.85	2	500
1.28	3	222
1.70	4	125
24°	FMV	35W

ø[m]	H[m]	E[lux]
0.43	1	3000
0.85	2	750
1.28	3	333
1.70	4	188
24°	EXZ	50W

ø[m]	H[m]	E[lux]
0.65	1	510
1.30	2	128
1.95	3	57
2.60	4	32
36°	BAB	20W

ø[m]	H[m]	E[lux]
0.65	1	1200
1.30	2	300
1.95	3	133
2.60	4	75
36°	FMW	35W

ø[m]	H[m]	E[lux]
0.65	1	1580
1.30	2	395
1.95	3	176
2.60	4	99
36°	EXN	50W

Watts (W)	Ushio Ordering Code	Ushio Lamp Code	Voltage (V)	Color Temp (K)	Beam Angle	Beam Spread	Luminous Intensity (cd)	Avg Life (h)	Burn Position
20	1000043	BBF/SL	12	2950	24°	Narrow Flood	870	5000	Universal
20	1000020	BAB/SL	12	2950	36°	Flood	510	5000	Universal
20	1000015	BAB/FG/SL	12	2950	36°	Flood	510	5000	Universal
35	1000563	FMV/SL	12	2950	24°	Narrow Flood	2000	5000	Universal
35	1000560	FMV/FG/SL	12	2950	24°	Narrow Flood	2000	5000	Universal
35	1000577	FMW/SL	12	2950	36°	Flood	1200	5000	Universal
35	1000574	FMW/FG/SL	12	2950	36°	Flood	1200	5000	Universal
50	1000440	EXZ/SL	12	3050	24°	Narrow Flood	3000	5000	Universal
50	1000431	EXZ/FG/SL	12	3050	24°	Narrow Flood	3000	5000	Universal
50	1000409	EXN/SL	12	3050	36°	Flood	1580	5000	Universal
50	1000406	EXN/FG/SL	12	3050	36°	Flood	1580	5000	Universal



Superline™ lamps are manufactured under ISO 9001 guidelines ensuring quality and security for the purchaser

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Form No. S-MR16SL/R-1007

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MR-16 REFLECTOR LAMPS

SUPERLINE™ REFLEKTO™ SERIES



MR-16 ALUMINIZED REFLECTOR LAMPS FOR GENERAL LIGHTING

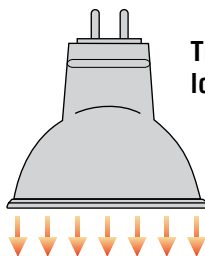
Superline™ Reflektto™ series of Halogen MR-16 lamps provide professional accent lighting through evenly distributed light. The multilense geometry of the reflector surface in conjunction with an axial, computer-aligned filament, uniformly illuminates any surface. There is no ring-shaped shadow and no black spot in the middle of the light pattern.

The Superline™ Reflektto™ combines an aluminum deposition and a high temperature colored coating on the reflector to prevent any back-spill of light and to reduce heat to the back of the lamp. The aluminized coating redirects heat through the front of the lamp, thus diminishing the risk of thermal damage to sockets, transformers, and ceilings. The Superline™ Reflektto™ is offered in three designer colors of matte black, silver and bronze — ideal for low voltage cable and track lighting.

Available in— 20W, 35W, and 50W, in
Flood and Narrow Flood beam spreads

FEATURES & BENEFITS

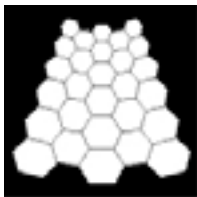
- No light diffusion from back-spill
- Reduced heat to socket, fixture and transformers
- 80% reduction of IR to the back of the lamp
- Decorative Aluminum coating in matte colors black, silver, and bronze
- Axial filament for precise beam control
- Dimmable
- Crisp white Halogen light
- UV-cut Halogen capsule



The aluminum coating of the reflector ensures lower heat radiation to the rear of the lamp.

Superline™ — Multilense Reflector

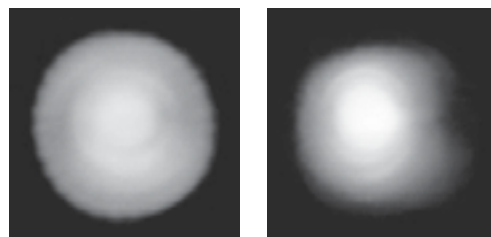
Reflector Surface:
Optimized reflector design with hexagonal-shaped lenses



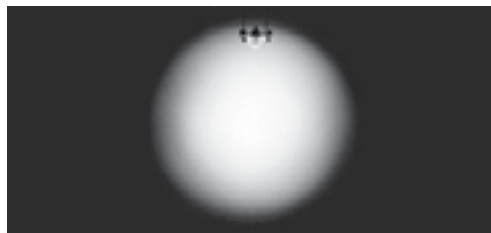
Reflector Cross Section:
The hexagonal-shaped lenses provide total uniformity of light distribution



Standard Multimirror Reflectors



Superline — Multilense Reflector



The geometry of the Multilense reflector together with an axial filament design, guarantees an absolute uniform appearance across the beam without unsightly shadows, dark spots or rings. (All photos: 20W, flood distribution, taken 1 meter from screen).

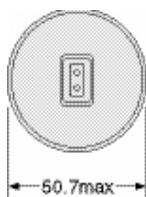
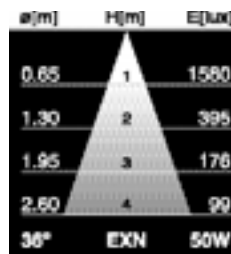
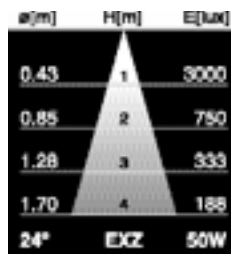
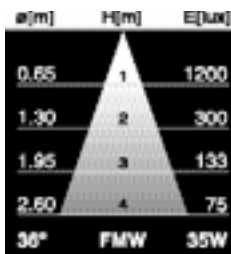
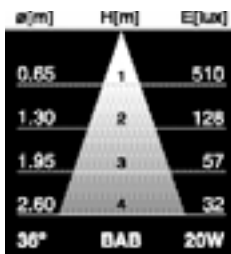
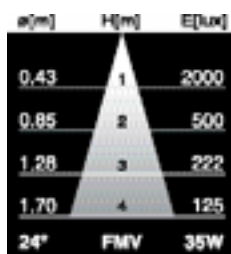
APPLICATIONS

- Accent lighting
- Restaurants
- Museums and galleries
- Shop windows, displays
- Track and cable lighting

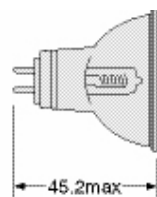
USHIO

CHARACTERISTICS & SPECIFICATIONS

SUPERLINE™ REFLEKTO™ MR-16 LAMPS



GU5.3



ions are in millimeters

LAMP SOCKET

The model C-33U socket is rated up to 24V-7A for use with all low voltage USHIO GU5.3 based MR-16 lamps. The metal clips secure the lamp firmly into the socket. Use Ordering Code 1002142



Watts (W)	Ushio Ordering Code	Ushio Lamp Code	Voltage (V)	Color Temp (K)	Beam Angle	Beam Spread	Luminous Intensity (cd)	Reflector Color Coating	Avg Life (h)
20	1000005	BAB/B	12	2900	36°	Flood	510	Black	3500
20	1000007	BAB/B/FG	12	2900	36°	Flood	510	Black	3500
20	1000018	BAB/S	12	2900	36°	Flood	510	Silver	3500
20	1000019	BAB/S/FG	12	2900	36°	Flood	510	Silver	3500
35	1000554	FMV/B/FG	12	2950	24°	Narrow Flood	2000	Black	3500
35	1000567	FMW/B	12	2950	36°	Flood	1200	Black	3500
35	1000568	FMW/B/FG	12	2950	36°	Flood	1200	Black	3500
35	1003543	FMW/BZ/FG	12	2950	36°	Flood	1200	Bronze	3500
35	1000575	FMW/S	12	2950	36°	Flood	1200	Silver	3500
35	1000576	FMW/S/FG	12	2950	36°	Flood	1200	Silver	3500
50	1001652	EXZ/B	12	3000	24°	Narrow Flood	3000	Black	3500
50	1000425	EXZ/B/FG	12	3000	24°	Narrow Flood	3000	Black	3500
50	1003542	EXZ/BZ/FG	12	3000	24°	Narrow Flood	3000	Bronze	3500
50	1001653	EXZ/S	12	3000	24°	Narrow Flood	3000	Silver	3500
50	1000439	EXZ/S/FG	12	3000	24°	Narrow Flood	3000	Silver	3500
50	1000399	EXN/B	12	3000	36°	Flood	1580	Black	3500
50	1000400	EXN/B/FG	12	3000	36°	Flood	1580	Black	3500
50	1003541	EXN/BZ/FG	12	3000	36°	Flood	1580	Bronze	3500
50	1000407	EXN/S	12	3000	36°	Flood	1580	Silver	3500
50	1000408	EXN/S/FG	12	3000	36°	Flood	1580	Silver	3500

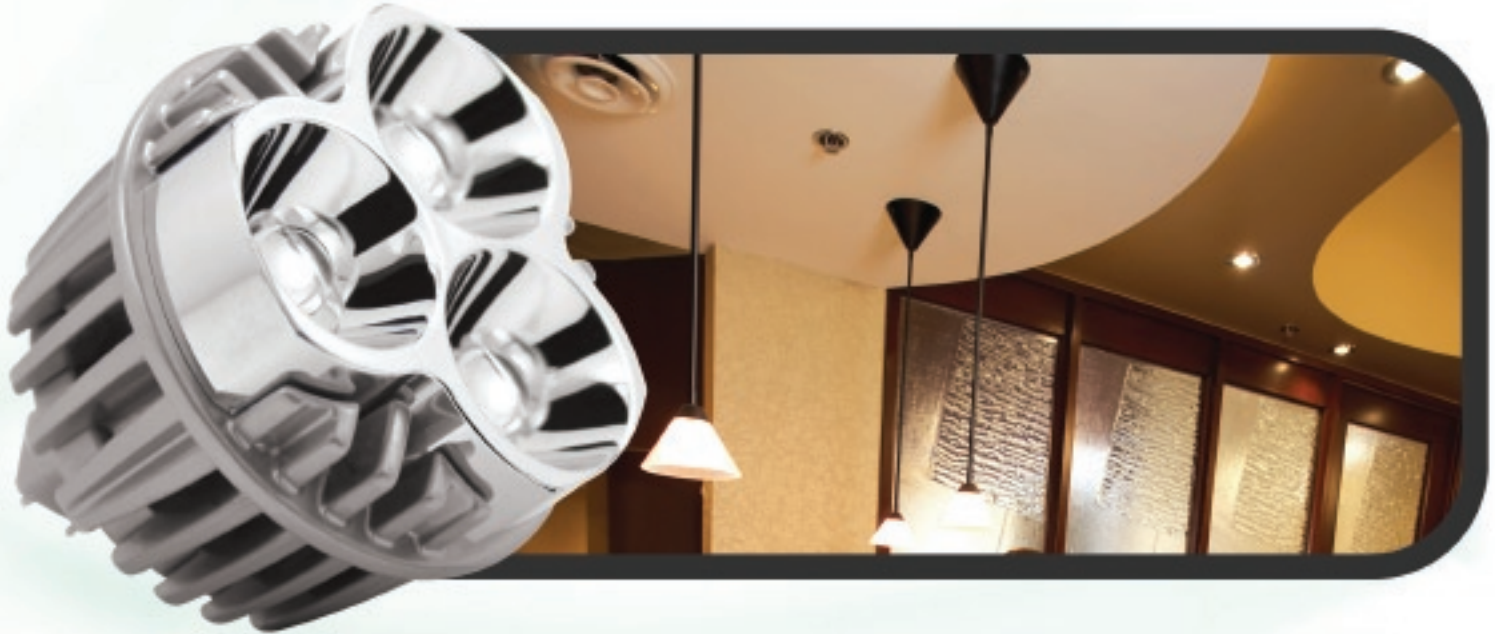


Superline™ Reflektol™ lamps are manufactured under ISO 9001 guidelines ensuring quality and security for the purchaser

Form No. S-MR16SLR/R-1007: The specifications on this sheet supercede all previously published specifications and may be subject to change for design and specification improvement without prior notice.

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FEATURES & BENEFITS

80% Energy Savings vs. Halogen MR-16

Long Life: 50,000 Hours

Direct Replacement for Halogen MR-16*

Application Grade: Truly Usable Light

Fully Dimmable

Cool Beam – Cool Operation

Application Friendly: UV Free & IR Free

Environmentally Friendly: Mercury Free, Lead Free

& RoHS Compliant

WORLD'S MOST EFFICIENT LED MR-16

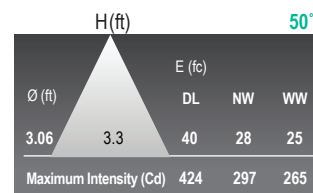
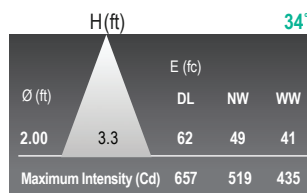
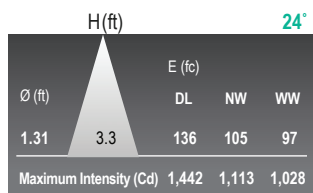
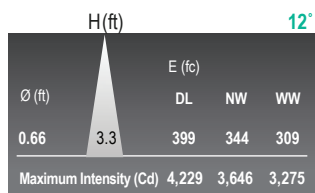
Synergie by USHIO: The culmination of USHIO's breakthrough combination of patented optical technology, LED packaging techniques, unique electronics and superior thermal management in the World's First Truly Usable LED MR-16 product!

From the world leader in MR-16 lamp technology comes the world's most efficient solid state LED MR-16 lamp. Synergie's state-of-the-art technology allows this 4W LED MR-16 to directly replace 20-25W halogen MR-16s. No false claims, just outstanding performance that yields 80% energy savings. In fact, Synergie is the first LED MR-16 lamp to meet the efficiency requirements of California's stringent Title 24 regulations.

Rated at 50,000 hours, Synergie has a true life rating of more than 10 times that of standard MR-16 lamps on the market today. Synergie is the premium choice for those applications where frequency of lamp changes and cost of ownership are significant factors.

Available in Spot (12°), Narrow Flood (24°), Flood (34°) and Wide Flood (50°) beam spreads.

USHIO



Graphs: DL = Daylight, NW = Neutral White, WW = Warm White

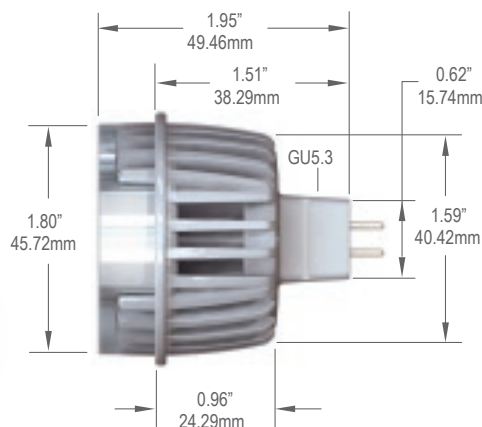
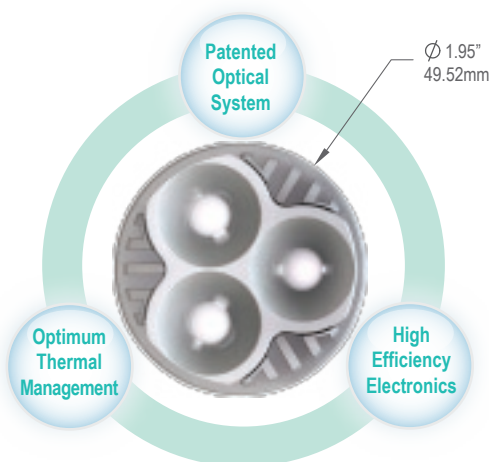
Color temperature and output specification measurements are taken at steady state operating conditions in open air with an ambient temperature of 25°C. Daylight White 5,600K available on special order. Call for information and minimum order quantities.

Watts (W)	USHIO Order Code	USHIO Lamp Description	Voltage (V)	Color Temp (K)	CRI	Beam Spread	Beam Angle	Minimum Luminous Flux **
4	1003601	Synergie MR16, SP12, DL	12	6,500	70	Spot	12°	230
4	1003602	Synergie MR16, NFL24, DL	12	6,500	70	Narrow Flood	24°	240
4	1003603	Synergie MR16, FL34, DL	12	6,500	70	Flood	34°	240
4	1003604	Synergie MR16, WFL50, DL	12	6,500	70	Wide Flood	50°	250
4	1003609	Synergie MR16, SP12, NW	12	4,200	80	Spot	12°	170
4	1003610	Synergie MR16, NFL24, NW	12	4,200	80	Narrow Flood	24°	175
4	1003611	Synergie MR16, FL34, NW	12	4,200	80	Flood	34°	175
4	1003612	Synergie MR16, WFL50, NW	12	4,200	80	Wide Flood	50°	180
4	1003605	Synergie MR16, SP12, WW	12	3,100	80	Spot	12°	150
4	1003606	Synergie MR16, NFL24, WW	12	3,100	80	Narrow Flood	24°	160
4	1003607	Synergie MR16, FL34, WW	12	3,100	80	Flood	34°	160
4	1003608	Synergie MR16, WFL50, WW	12	3,100	80	Wide Flood	50°	170

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Applications:

Track Lighting
 Recessed Lighting
 Accent Lighting
 Landscape & Pathway Lighting
 Display Case and Cabinet Lighting
 Art Gallery and Museum Lighting



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* Units may not operate with AC integral transformers due to low power consumption.

** Minimum lumen output values as measured in an integrating sphere.

USHIO

ELECTRONIC POWER SUPPLY

SMARTARC™ SERIES UBX 76

Item No. 5001569

ELECTRONIC POWER SUPPLY for EmArc® and DC gas discharge lamps



USHIO's new SMARTARC™ electronic power supply with digital power management and microprocessor controls is a compact and "intelligent" solution for operating DC powered arc discharge lamps.

FEATURES AND BENEFITS

- Operates EmArc® and DC gas discharge lamps, in powers ranging between 50W and 100W
- Output power and operation modes are selectable by DIL 16 step switch set-up
- Power factor corrected line input, built-in EMI-filter voltage range 90V AC to 264V AC. Meets CE and FCC Part "A"
- Newly designed anti-aging and arc control circuit for high optical reliability over lamp lifetime
- Digital Power Management micro-processor controlled with high output stability over life
- SmartStart™ operation ensures longer life and less lamp degradation
- Output is short circuit protected and arc to ground protected
- 90°C thermal shut-off feature
- Auto shut-off feature at end of lamp life or lamp failure
- Built in 12V fan supply



Scan with a smartphone
to view this product online.

Distributed by:

USHIO

UBX 76 Item No. 5001569

ELECTRICAL DATA

All values are valid at 25° ±5°C, unless otherwise noted

INPUT DATA			
Nominal Operation	Unit	Nominal	Tolerance
Input Voltage	V AC	100 – 240	90 – 264
Input Voltage	V DC	100 – 300	90 – 340
System Wattage	W	— — —	60 – 120*
Input Current	A	— — —	0.6 – 1.4*
Line Frequency	Hz	50/60 and DC	47 – 63
Power Factor	— — —	— — —	0.93 – 1.0

*Depends on lamp select. Presetable

LAMP OUTPUT DATA				
Ignition	Unit	Nominal	Tolerance	Remarks
Ignition Voltage	kV peak	±14kV	±12 – ±16	Load capacity <20pF
Ignition Time	sec.	1	0.9 – 1.1	
Automatic restart counter		5	— — —	attempts
Nominal Operation	Unit	Nominal	Tolerance	
Lamp Voltage	V	40-80	±5%*	
Lamp Wattage	W	50, 75, 100*	selectable 50, 75, 100W	
Cut-off voltage, End-Life	V	100	±2	
HF-Ripple of output power	$\Delta P_{La,rip}/P_{La}$	%<1 p-p		
Ripple 50 Hz-60Hz		%<2 p-p		
Output power shift vs. input voltage	$\Delta P_{La}/\Delta U_i$		<0.005 with nominal values	

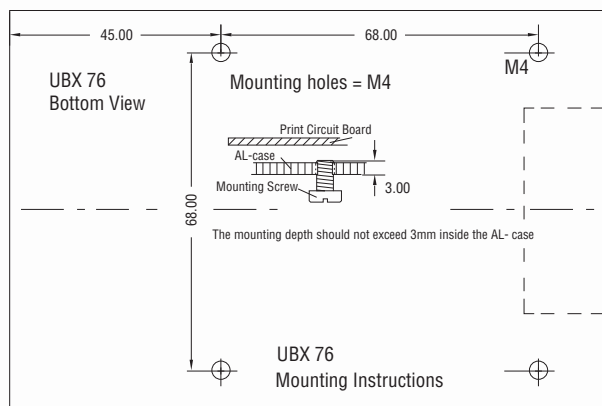
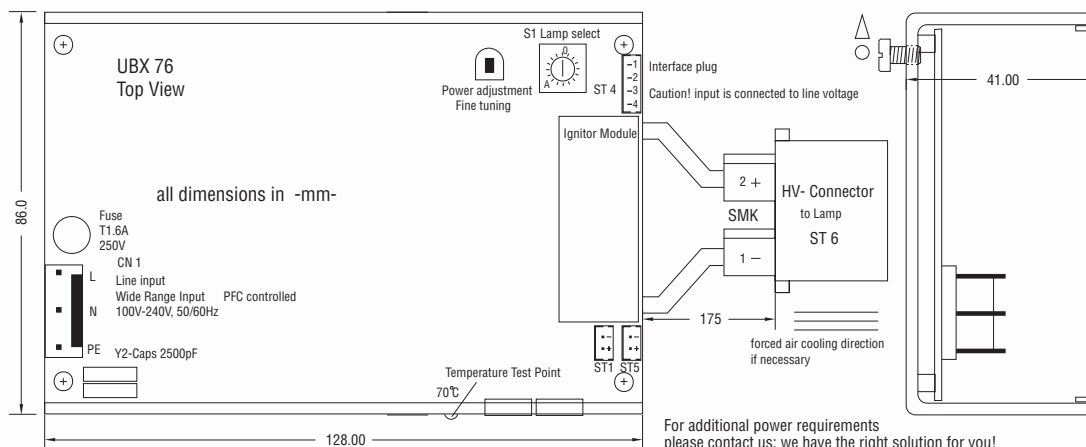
*Depends on lamp select. Presetable

LIFETIME DATA				
	Symbol	Nominal	Tolerance	Remarks
Ballast lifetime (h)	t_{Life}	25,000	>25,000	acc. to MIL HDBK for nominal operation

All values for $U_i = 230 V_{rms}$ Temperature at test point = 70° C

MISCELLANEOUS		
Nominal Operation	Nominal	Tolerance
Efficiency	0.85	0.75 – 0.9 depending on lamp power
Ambient Temperature (°C)	+25	+10 to +50
Max. Temperature at test point (°C)	+70	Case surface near output at U-profile
Switch off temperature (°C)	+90	+85 to +95

UBX 76 TOP & BOTTOM VIEW



Nominal Dimensions

Length (mm)..... 128.....

Width (mm) 86

Height (mm) 41

Weight (Kg / lb).....0.41 / .90

All dimensions are in millimeters

Plugs and Cables	Manufacturer / Type	Remarks / Header / Contacts
Ballast Mains Plug	CN1 AMP 643495-2 Wiring with AWG 18, 105°C, 900V recommended	AMP 770 849-5/770522-1
Fan Connection Plug	ST1 & ST5 JST/B2B-EH-A	JST EHR-2/SEH-001T-P0.6
Ignitor HV-plug to Lamp Lamp Cable	Housing: SMK/101CCT-091-01R Tecnasil/AWG20 UL Style 3239, 20kVDC, 150°C 20kVDC, 150°	



UBX 76

PIN ASSIGNMENT AND FUSE

Connector	Signal	Description
Line Input CN1 PIN 3 PIN 2 PIN 1	AC in -L- AC in -N- PE	AC wide range input voltage 90V-264V DC wide range input voltage 90V-300V Safety Ground
ST1 & ST5 Fan Drive JST B2B-EHA PIN 1 + PIN 2 -	Fan + 12V Fan - (0V)	Fan drive output voltage is only available when lamp is lit
Lamp output terminal ST6 PIN 1 - PIN 2 +	Minus lamp voltage Plus and Power	Connection to external ignitor UBX76i or High voltage output to lamp UBX76 SMK standard wiring length 175mm
Fuse	Built-in and fixed T 1.6A 250V	

STANDARDS

Safety and Performance
UL 60601-1 (medical)
CSA C22.2 No. 601-1
IEC 60601-1

ENVIRONMENTAL REQUIREMENTS

Storage Temperature Range
-20° C – +50° C
Operating Temperature Range
0° C to 60° C
Humidity Range
20% – 95% non-condensing
Altitude (operating)
0 ft. to 10,000 ft.

CAUTION!

SAFETY

Due to hot restrike capabilities of the power supply, the output voltage to the lamp can reach 15,000 volts. Ensure a minimum 15mm (>1/2") clearance between all lamp terminals to the power supply. All primary wiring must meet all local national safety regulations.

LAMP POWER SELECTION

There is a 16-step multimode switch close to the control terminal ST4. The label outside shows the power selection. Please set the correct switch position, before operating a lamp. A wrong selection may damage the lamp!

FAN DRIVE OUTPUT

The unit has two 12V output terminals for driving one or two fans. The output capacity for both outputs up to 200mA. The fan power is generated from the lamp output power. That means that the lamp power is reduced by $I_{fan} \times U_{lamp}$! For example: if a fan used 150mA and the lamp voltage is 55V, then the lamp power is reduced by approximately 8W. **PLEASE NOTE THIS FOR OPTIMAL LAMP OPERATION! FOR HIGH OUTPUT POWER ACCURACY AND LOW RIPPLE, THIS OUTPUT TERMINAL SHOULD NOT BE USED!** During warm-up time of the lamp it may be that the fan drive output does not reach 12V. The fan output voltage and current is limited by a special circuit to 12V/0.2A. The 12V output voltage is only available when the lamp is in operation.

COOLING

For driving a 50W lamp, it would not be necessary to cool down the power supply. When secured, the unit can be cooled down by natural convection. 75W and 100W selection needs forced air-cooling. The power losses are a function of the lamp current and output power. In all cases, the temperature at the temperature test point should be tested to ensure most reliable operation. This temperature must not exceed 70°C. Temperature overload is protected by an internal temperature switch at 90°C at the choke ferrite.

TYPE UBX 76 AND UBX 76i*

The standard power supply type is UBX 76. This provides a complete, cost effective solution to drive the lamp including the ignitor, without any additional wiring. Only line input and a lamp are necessary.

For special requirements, it is possible to offer the UBX 76 with a separate external ignitor (i). In this case the lamp and the ignitor can be placed remotely from the ballast unit by longer cables. Please speak with our Regional Sales Manager.

Form No. S-SMARTARC/UBX/R-1211

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USHIO
Lighting—Edge Technologies

DMX / MIDI Recorder UDMR

UDMR enables coordination of lighting (DMX), sound (MIDI) and video performance(V-LINK), and vastly reduces initial setup cost in a wide variety of entertainment venues.

■ DMX signals with high-density sampling rate of 40Hz.

The UDMR, DMX / MIDI recorder from USHIO, can easily record and playback DMX signals used for controlling lighting equipment at a high density sampling rate of 40Hz per frame. The UDMR is ideal where data changes are infrequent such as amusement parks, shopping malls, and LED lighting projects. UDMR lowers equipment cost significantly by replacing expensive standalone control consoles.

■ MIDI signals record / play

UDMR meets the unified standard of MIDI for controlling audio equipment and record/play MIDI signals. This unit controls the operation and setting of any equipment that meets MIDI specifications. The UDMR creates the ultimate entertainment environment by synchronizing lighting, sound, and video together in one device.

■ Interfaces for external devices.

UDMR also supports various interfaces such as AUDIO IN, LTC IN, and control input (contact point). UDMR also provides a wider range of expressions, for time code synchronizations, trigger playback via contact input, and synchronizing performance with external sound input such as music.

■ Editing recorded data.

DMX and MIDI signals are recorded as a “phrase” into the UDMR and is capable of recording up to 500 phrases with fade control to provide a smooth operation between phrases.

Phrases can be combined into pattern phrases and provides you with full control by configuring the pattern phrases according to your program.

A phrase editing function enables phrases to be deleted, shift orders, and duplicated. Any changes can also be edited on-site for unexpected modifications in the program and rerecording of single phrases.

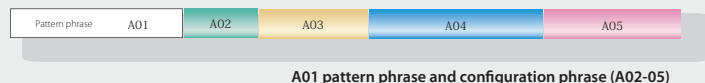
● Concept of the UDMR phrase



UDMR can record and playback DMX signals and MIDI signals. The data phrase (DMX phrase) which is received from when UDMR starts recording DMX signals to when it stops under the situation where DMX signal is being sent by a lighting controller etc. MIDI phrases can also be created using recorded data from external MIDI equipment.

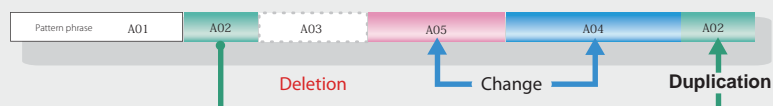
● Pattern phrase

Pattern phrases in which various phrases (up to 100 phrases) are combined can be created for consecutive entertainment programs.



● Phrase edit

Processing phrases such as deletions and duplication etc. can be carried out simply by specifying the phrase number. Within a pattern phrase the order of the individual phrases can be changed or a specific phrase modified, thus making any changes in the program or partial revisions much easier.



● Compact Flash card storage

(CF = compact flash memory card/hereinafter referred to as CF card)

High durability and maintenance free design

UDMR uses no mechanical devices to ensure its high durability and reliability. DMX phrases, MIDI phrases, and equipment settings are recorded directly to the CF card rather than the main unit. By using the CF card as storage, quick program changes can be achieved instantaneously by swapping out pre-programmed data on a different card. Unlike drive-system recording media such as HDDs, the use of the CF increases the reliability of the data.

Supports CF cards of 64MB ~ 2GB (Type 1. (*Available as an option))



● Card protector (accessory)

Includes a card protector that prevents omissions and extractions caused by operating errors with the CF card.

■ Appearance

● Front panel



1. Card access indicator
2. Memory card protector
3. Memory card slot
4. Inject button
5. DMX indicator
6. BPM indicator
7. LTC / MTC indicator
8. Card select indicator
9. Phrase No. / BPM display
10. Display
11. SELECT dial
12. [PLAY] button
13. [STOP] button
14. [MODE] button
15. [ENTER] button
16. POWER(power supply) switch

● Rear panel

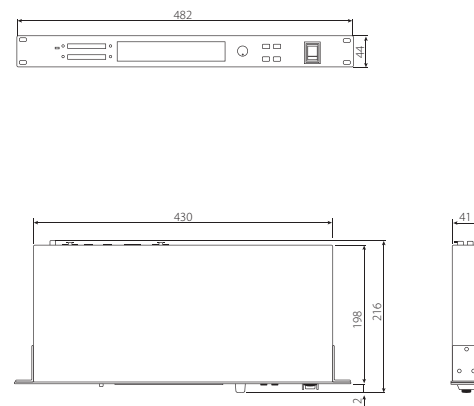


1. Power cord plug-in
2. Left CONTROL TERMINAL
3. Right CONTROL TERMINAL
4. DMX OUT / BACKUP terminal
5. DMX IN terminal
6. MIDI OUT / THRU terminal
7. MIDI IN terminal
8. LTC IN terminal
9. AUDIO IN (L/R) terminal

■ Specifications

DMX record system	Record frame : 20 / 40 Change of frame Record channel : 32 / 64 / 128 / 256 / 512
Recording media	CF card (Compact flash memory card)
CF card slot	2 slots (Type 1)
Type of phrase	DMX phrase / MIDI phrase
Number of phrases	500 phrases (when 2 cards are used)
Playback system	Manual (by hand) playback Direct playback : 10 phrases, 4 systems (normal, precedence - priority, following - priority, sequential) Binary playback 500 phrases MIDI playback 500 phrases DMX playback 500 phrases
Display	7 segment LEDx3 20 characters x2 lines LCD with lighting
Connecting terminal	AUDIO IN (line-in) terminal (L / R, RCA pin type) LTC IN terminal (3 pin XLR type) DMX terminal (OUT / BACKUP, IN, 5 pin XLR type) MIDI terminal (OUT / THRU, IN, 5 pin DIN type) Control input terminal (8 pin • Euro blockx2)
Power	Universal (50 Hz / 60 Hz)
Power consumption	Ex) 4W at AC200V
Outside dimension	482 (width) x216 (depth) x44 (height) mm (EIA-1U rack mount type)
Weight	2.4 kg
Operating ambient temperature	0°C ~ 40°C
Operating ambient humidity	0% ~ 80% (no condensation)
Accessories	Power cord Rubber foot (4) Card protector (2, including screws) Euro block (2) Instruction manual

■ Dimensions (mm)



USHIO

Lighting —Edge Technologies

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USHIO

LED LAMPS

U-LED™ SERIES



LED DECORATIVE CANDLE LAMPS

U-LED™ unique filament LED design breaks new ground in the field of seamless LED integration. During the first generation of LED replacement lamps consumers were told that they would have to get used to a new look for decorative lamps and abandon the old style decorative lamps they had come to love over the years. Well, not anymore!

USHIO America proudly introduces U-LED, a unique LED candle lamp configuration designed to replicate the appearance of incandescent filament lamps. This ground-breaking LED design makes it hard to distinguish between a U-LED lamp and an incandescent candle because the LED's are configured like a traditional incandescent filament mount. There are no visible circuit boards or chips. These candelabra base (E12) lamps consume less than 1 watt of energy and have a life rating of 40,000 hours, making them ideal for decorative chandeliers and ornamental fixtures.

Available in 120V candle shape.

FEATURES & BENEFITS

- Innovative LED filament design – Replicates the appearance of an incandescent filament lamp
- No visible circuit boards or chips – Doesn't look like an LED lamp
- Clear bulb glass – Doesn't hide the LEDs behind frosted glass
- Energy saving - Save dramatically on energy costs compared to incandescent lamps
- Long life – 40,000 hour average life
- No Mercury or Lead
- No UV or IR

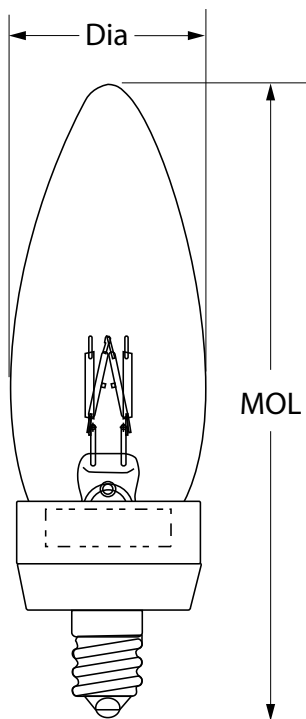
APPLICATIONS

- Chandeliers in Banquet Halls, Hotels, Retail Establishments
- Ornamental Fixtures
- High-End Residential / Commercial Decorative Lighting
- Marquees and Signs

USHIO

CHARACTERISTICS & SPECIFICATIONS

U-LED™ CANDLE FILAMENT LED LAMPS



U-LED™ CANDLE / E12

Watts (W)	Ushio Ordering Code	Ushio Lamp Description	Volts (V)	Dimensions			Color Temp (K)	Approx Lumens (lm)	Avg Life (h)
				Dia (in)	MOL (mm)	MOL (in)			
0.6	1003701	U-LED Candle/E12	120	1.26	101.1	3.98	2700	36	40,000



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USHIO

FLUORESCENT LAMPS

ULTRA 5™ SERIES



ULTRA 5™ T5 & T5HO FLUORESCENT LAMPS FOR GENERAL LIGHTING

USHIO's Ultra 5™ Fluorescent lamps were designed to provide the greatest lumen package in the shortest possible linear tube. Thus the Ultra 5™ series of lamps provides energy efficiency, high color rendition, optical control and improved lumen maintenance in one of the slimmest linear fluorescent lamps on the market today.

Energy Efficiency— A system utilizing Ultra 5™ lamps can deliver up to 104 LPW, thus outperforming T8 systems (90 LPW) and T12 systems (66 LPW).

High Color Rendition— All Ultra 5™ High Efficiency and High Output lamps utilize tri-phosphor coatings for superior color rendering properties. These lamps have an 85 color rendering index.

Optical Control— With a diameter of only $\frac{5}{8}$ inches, the reduced surface area has allowed luminaire manufacturers to design low profile luminaires with outstanding optical control. In addition, Ultra 5™ lamps work exceptionally in high-bay lighting fixtures where these T5 systems are replacing Metal Halide systems. With little or no strike and restrike time, these lamps can be used on dimmers and sensors and make a logical choice for these retrofit opportunities.

Improved Lumen Maintenance— Through the use of a proprietary phosphor coating which reduces mercury absorption and a special coiled cathode, the Ultra 5™ lamp is able to maintain a more stable lumen output over the life of the lamp. Light output of these lamps actually increases as the operating temperature increases. The light output of the T5 lamps peak at 95° F (35° C) which makes these lamps especially bright when used in higher heat locations and compact luminaires.

FEATURES & BENEFITS

- Low profile light source— Versatile slim design for better luminaire optics and a wider variety of applications
- Energy efficiency— Up to 104 LPW
- Special phosphor coating and coiled cathodes— Improves lumen stability over the life of the lamp
- High Color Rendering— High Efficiency and High Output T5 lamps have an 85 CRI
- High operating temperature— Lumens increase at hotter ambient temperatures
- Instant start and restrike capability— Ideal for use on dimming circuits and occupancy sensors
- Environmental asset— Long life prevents the build up of discarded lamps which means less waste

Available in—

Preheat: 5W, 6W, 8W, 13W

High Efficiency (standard): 14W, 21W, 28W, 35W

High Output: 24W, 39W, 54W

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USHIO

CHARACTERISTICS & SPECIFICATIONS

ULTRA 5™ T5 Bi-Pin G5 Base Universal Burn Position



Watts (W)	Ushio Ordering Code	Ushio Lamp Description	Dimensions MOL (mm)	Dimensions MOL (in)	Color Temp (K)	Initial Lumens (lm)	Average Rated Life* (h)	Commercial Life** (h)	Case Qty
Ultra 5™ Preheat 1,3									
4	3000109	F4T5WW	150	5.9	3000	110	6000	7500	100
4	3000107	F4T5CW	150	5.9	4200	140	6000	7500	100
4	3000108	F4T5D	150	5.9	6500	95	6000	7500	100
6	3000114	F6T5WW	226	8.9	3000	240	7500	9300	100
6	3000112	F6T5CW	226	8.9	4200	280	7500	9300	100
6	3000113	F6T5D	226	8.9	6500	210	7500	9300	100
8	3000119	F8T5WW	302	11.9	3000	400	7500	9300	100
8	3000117	F8T5CW	302	11.9	4200	400	7500	9300	100
8	3000118	F8T5D	302	11.9	6500	350	7500	9300	100
13	3000070	F13T5WW	531	20.9	3000	820	7500	9300	25
13	3000068	F13T5CW	531	20.9	4200	820	7500	9300	25
13	3000069	F13T5D	531	20.9	6500	700	7500	9300	25
Ultra 5™ High Efficiency (standard) 2,3— 85 CRI									
14	3000377	F14T5/830	563	22.2	3000	1350	24000	30000	25
14	3000459	F14T5/835	563	22.2	3500	1350	24000	30000	25
14	3000378	F14T5/841	563	22.2	4100	1350	24000	30000	25
21	3000380	F21T5/830	863	34.0	3000	2100	24000	30000	25
21	3000460	F21T5/835	863	34.0	3500	2100	24000	30000	25
21	3000381	F21T5/841	863	34.0	4100	2100	24000	30000	25
28	3000383	F28T5/830	1163	45.8	3000	2900	24000	30000	25
28	3000462	F28T5/835	1163	45.8	3500	2900	24000	30000	25
28	3000384	F28T5/841	1163	45.8	4100	2900	24000	30000	25
28	3000385	F28T5/850	1163	45.8	5000	2700	24000	30000	25
35	3000386	F35T5/830	1463	57.6	3000	3650	24000	30000	25
35	3000463	F35T5/835	1463	57.6	3500	3650	24000	30000	25
35	3000387	F35T5/841	1463	57.6	4100	3650	24000	30000	25
Ultra 5™ High Output 2,3— 85 CRI									
24	3000389	F24T5HO/830	563	22.2	3000	2000	24000	30000	25
24	3000461	F24T5HO/835	563	22.2	3500	2000	24000	30000	25
24	3000390	F24T5HO/841	563	22.2	4100	2000	24000	30000	25
39	3000392	F39T5HO/830	863	34.0	3000	3500	24000	30000	25
39	3000464	F39T5HO/835	863	34.0	3500	3500	24000	30000	25
39	3000393	F39T5HO/841	863	34.0	4100	3500	24000	30000	25
54	3000395	F54T5HO/830	1163	45.8	3000	5000	24000	30000	25
54	3000458	F54T5HO/835	1163	45.8	3500	5000	24000	30000	25
54	3000396	F54T5HO/841	1163	45.8	4100	5000	24000	30000	25
54	3000397	F54T5HO/850	1163	45.8	5000	4550	24000	30000	25

¹ These lamps are designed to operate on preheat ballasts. ² These lamps are designed to operate on rapid start ballasts and the life ratings listed reflect this fact. ³ When using dimmers, dimming systems, or occupancy sensors, the lamp life will also be affected. The dimming system manufacturer can advise the affect of their system on lamp life.

*Based on ANSI / IESNA standards of 3 hours per start
** Based on estimated commercial operating standards of 12 hours per start
Sold in Case Quantity only

- LAMP CONTAINS MERCURY
Manage in Accord with Disposal Laws
See: www.lamprecycle.org or 1-800-895-8842

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USHIO

FLUORESCENT LAMPS

ULTRA 8™ LINEAR AND U-BEND SERIES



ULTRA 8™ LINEAR AND U-BEND LAMPS FOR GENERAL LIGHTING

Through technological advances and the highest grade components, T8 fluorescent lamps can save up to 40% on energy costs with no loss of light over older technology T12 lamp types. The USHIO Ultra 8™ fluorescent series provides an economical as well as environmentally responsible alternative to standard T12 fluorescent lamps.

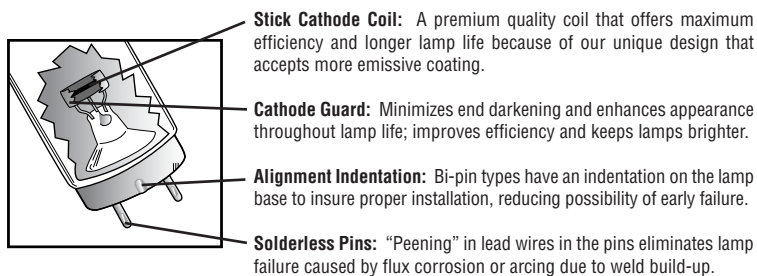
The Ultra 8™ lamps utilize protective coatings, effectively reducing the phosphor degradation while increasing lumen output. Advanced halophosphor and triphosphor coatings have also been added to increase the lumen stability and allow higher loading. USHIO Ultra 8™ lamps employ a precision engineered cathode guard, which prevents end darkening to insure maximum light output throughout the life of the lamp.

(800 Series) Tri-Phosphor lamps render colors closer to that of nature. These lamps are most suitable for paint stores, retail shops, clothing boutiques, hair salons, printing businesses and graphic arts studios.

(700 Series) Are applicable where color rendering is not of critical importance. These lamps are most suitable for office buildings, and manufacturing areas.

FEATURES & BENEFITS

- Select lamps are TCLP Compliant — Low mercury minimizes effects of lamp disposal on the environment
- Advanced technology saves up to 40% on energy costs over T12 lamps
- High Color Rendering — Up to 86CRI
- Precision engineered cathode guard prevents darkening throughout lamp life
- Improved light distribution and quality
- Environmental asset — Long life prevents the build up of discarded lamps which means less waste



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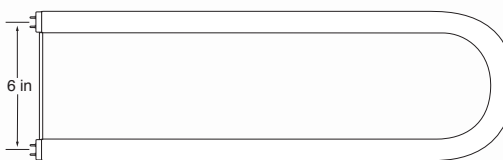
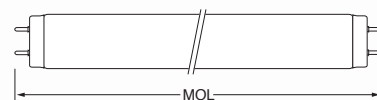
ENERGY SAVING ULTRA8™ LAMPS

ULTRA 8™ SERIES



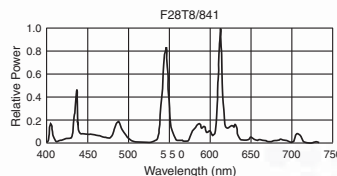
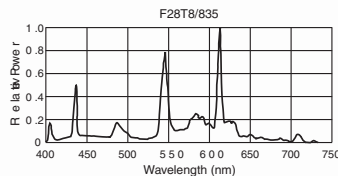
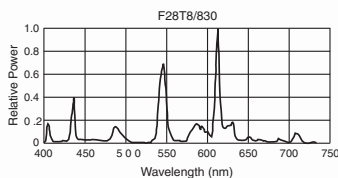
28W ENERGY SAVING T8 LAMPS

Energy costs account for the majority of lighting expenses and that illustrates the critical need for high performance and energy efficient lamp products. The 28W Ultra 8™ T8 lamps not only operate on high performance 28W ballasts they also provide the needed energy savings by directly replacing higher wattage 32W T8 lamps on Instant Start ballast systems. These tri-phosphor coated lamps provide the lumen stability and quality performance that goes hand-in-hand with dramatic energy savings (over 12% energy savings vs. standard 32W Ultra 8™ lamps).




Watts (W)	Ushio Ordering Code	Ushio Lamp Description	Dimensions MOL (mm)	Dimensions MOL (in)	Color Temp (K)	Initial Lumens (lm)	Average Rated Life* (h)	Commercial Life** (h)
Ultra8™ 800 Series — 86CRI^{1,2}								
28	3000483	F28T8/830	1219	48	3000	2800	24000	30000
28	3000484	F28T8/835	1219	48	3500	2800	24000	30000
28	3000485	F28T8/841	1219	48	4100	2800	24000	30000
28	3000503	FB28T8/830	584	23	3000	2800	24000	30000
28	3000504	FB28T8/835	584	23	3500	2800	24000	30000
28	3000505	FB28T8/841	584	23	4100	2800	24000	30000

SPECTRAL DISTRIBUTION



¹ When using dimmers, dimming systems, or occupancy sensors, the lamp life will also be affected. The dimming system manufacturer can advise the affect of their system on lamp life. ² These lamps may operate on suitable energy saving 28W ballasts or instant start 32W electronic ballasts with a minimum starting voltage of 550V rms. The life ratings listed reflect operation on suitable 28W ballasts. Rated life for these lamps on 32W instant start ballasts are reduced by 25%.

*Based on ANSI / IESNA standards of 3 hours per start
 ** Based on estimated commercial operating standards of 12 hours per start
 Sold in Case Quantity only (25/case)

 - LAMP CONTAINS MERCURY
 Manage in Accord with Disposal Laws
 See: www.lamprecycle.org or 1-800-895-8842

USHIO

CHARACTERISTICS & SPECIFICATIONS

ULTRA 8™ T8 Bi-Pin G13 Base Universal Burn Position



Watts (W)	Ushio Ordering Code	Ushio Lamp Description	Dimensions MOL (mm)	Dimensions MOL (in)	Color Temp (K)	Initial Lumens (lm)	Average Rated Life* (h)	Commercial Life** (h)
Ultra 8™ Preheat ^{1,3}								
15	3000081	F15T8WW ¹	451	18	3000	800	5000	6500
15	3000079	F15T8CW ¹	451	18	4200	875	5000	6500
15	3000080	F15T8D ¹	451	18	6500	760	5000	6500
Ultra 8™ 700 Series ^{2,3} — 78 CRI								
17	3000082	F17T8/730	610	24	3000	1325	24000	30000
17	3000083	F17T8/735	610	24	3500	1325	24000	30000
17	3000084	F17T8/741	610	24	4100	1325	24000	30000
17	3000085	F17T8/750	610	24	5000	1325	24000	30000
25	3000090	F25T8/730	915	36	3000	2125	24000	30000
25	• 3000091	F25T8/735	915	36	3500	2125	24000	30000
25	3000092	F25T8/741	915	36	4100	2125	24000	30000
25	• 3000093	F25T8/750	915	36	5000	2125	24000	30000
32	• 3000095	F32T8/730	1219	48	3000	2850	24000	30000
32	• 3000096	F32T8/735	1219	48	3500	2850	24000	30000
32	• 3000097	F32T8/741	1219	48	4100	2850	24000	30000
32	• 3000098	F32T8/750	1219	48	5000	2850	24000	30000
Ultra 8™ Tri-phosphor 800 Series ^{2,3} — 86 CRI 900 Series ^{2,3} — 95 CRI								
17	3000231	F17T8/830 Ⓔ	610	24	3000	1400	24000	30000
17	3000260	F17T8/835 Ⓔ	610	24	3500	1400	24000	30000
17	3000261	F17T8/841 Ⓔ	610	24	4100	1400	24000	30000
17	3000262	F17T8/850 Ⓔ	610	24	5000	1400	24000	30000
25	• 3000263	F25T8/830 Ⓔ	915	36	3000	2250	24000	30000
25	• 3000264	F25T8/835 Ⓔ	915	36	3500	2250	24000	30000
25	3000265	F25T8/841 Ⓔ	915	36	4100	2250	24000	30000
25	• 3000266	F25T8/850 Ⓔ	915	36	5000	2250	24000	30000
32	• 3000099	F32T8/830 Ⓔ	1219	48	3000	3050	24000	30000
32	• 3000100	F32T8/835 Ⓔ	1219	48	3500	3050	24000	30000
32	• 3000101	F32T8/841 Ⓔ	1219	48	4100	3050	24000	30000
32	• 3000102	F32T8/850 Ⓔ	1219	48	5000	3050	24000	30000
32	3000417	F32T8/960 Ⓔ	1219	48	6000	1960	24000	30000
32	3000480	F32T8/841/HL Ⓔ	1219	48	4100	3150	24000	30000
32	3000524	F32T8/850/HL Ⓔ	1219	48	5000	3150	24000	30000

Ⓔ = This bulb meets US Federal Minimum Efficiency Standard

*Based on ANSI / IESNA standards of 3 hours per start

** Based on estimated commercial operating standards of 12 hours per start

• TCLP Compliant

¹ These lamps are designed to operate on preheat ballasts. ² Life ratings reflect operation on rapid start ballasts. Rated life for these lamps on instant start ballasts are reduced by 25%. ³ When using dimmers, dimming systems, or occupancy sensors, the lamp life will also be affected. The dimming system manufacturer can advise the affect of their system on lamp life.

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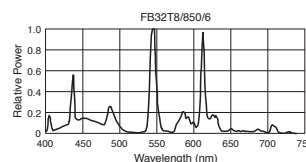
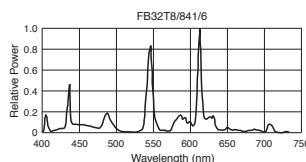
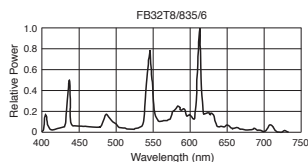
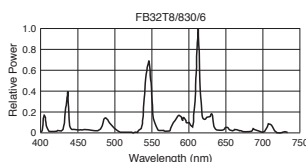
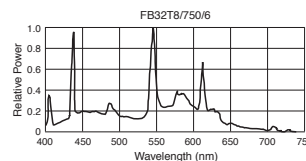
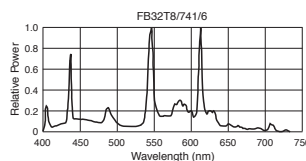
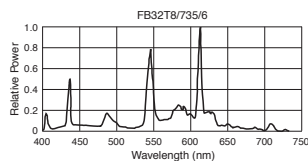
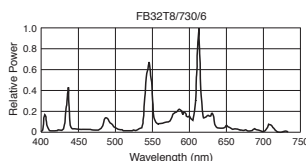
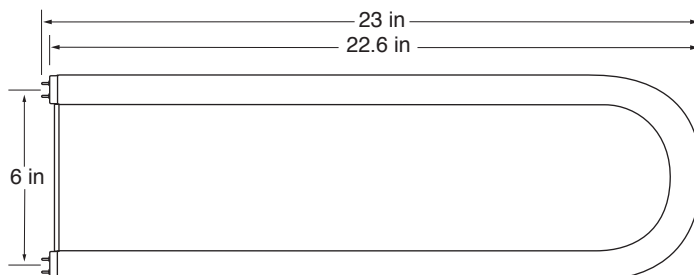


CHARACTERISTICS & SPECIFICATIONS

ULTRA 8™ T8 U-BEND

Bi-Pin G13 Base

Universal Burn Position



Watts (W)	Ushio Ordering Code	Ushio Lamp Code	MOL (mm)	MOL (in)	Color Temp (K)	CRI	Initial Lumens (lm)	Average Rated Life* (h)	Commercial Life** (h)
Ultra 8™ U-Bend 700 Series									
32	3000271	FB32T8/730/6	584	23	3000	75	2650	24,000	30,000
32	3000272	FB32T8/735/6	584	23	3500	75	2650	24,000	30,000
32	3000273	FB32T8/741/6	584	23	4100	75	2650	24,000	30,000
32	3000274	FB32T8/750/6	584	23	5000	75	2600	24,000	30,000
Ultra 8™ U-Bend Tri-phosphor 800 Series for superior color rendering									
32	3000275 ●	FB32T8/830/6	584	23	3000	85	2900	24,000	30,000
32	3000276	FB32T8/835/6	584	23	3500	85	2900	24,000	30,000
32	3000277	FB32T8/841/6	584	23	4100	85	2900	24,000	30,000
32	3000278	FB32T8/850/6	584	23	5000	84	2750	24,000	30,000

● Special order item only

* Based on ANSI / IESNA standards of 3 hours per start

** Based on estimated commercial operating standards of 12 hours per start

These lamps are designed to operate on rapid start ballasts and the life ratings listed reflect this fact. Rated life for these lamps on instant start ballasts are reduced by 25%. When using dimmers, dimming systems, or occupancy sensors, the lamp life will also be affected. The dimming system manufacturer can advise the affect of their system on lamp life.

Sold in Case Quantity only (20/case)



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Manage in Accord with Disposal Laws
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Form No. S-UFLT8/UB/R-0112

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USHIO

FLUORESCENT LAMPS



T10 FLUORESCENT LAMPS FOR GENERAL LIGHTING

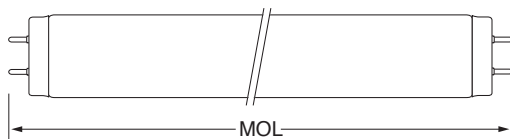
At 40 watts and a high lumen output, USHIO's Ultra 5000™ T10 fluorescent lamps can increase light output up to 15% over T12 lamps, while producing a whiter, more natural daylight color. When used with electronic ballasts, an additional 10%-15% in energy savings may result.

The triphosphor coatings allow for exceptional color rendering at 90 CRI making these lamps ideal for paint stores, retail shops, clothing boutiques, hair salons and graphic arts studios or other environments where color rendering is critical.

The Ultra 5000™ T10s are manufactured with a cathode guard which prevents end darkening to insure maximum light output throughout the life of the lamp.

FEATURES & BENEFITS

- Up to 15% increase in light output over T12 lamps
- Energy savings of 10%-15% when used with an electronic ballast
- Precision engineered cathode guard prevents darkening throughout lamp life
- High Color Rendering — 90 CRI
- Environmental asset — long life prevents the build up of discarded lamps which means less waste
- No ballast change required; lamps are able to work with standard F40T12 magnetic and electronic ballasts



G13 Base

Watts (W)	Ushio Ordering Code	Ushio Lamp Description	Dimensions		Color Temp (K)	Initial Lumens (lm)	Average Rated Life* (h)	Commercial Life** (h)
			MOL (mm)	MOL (in)				
40	3000282	F40T10/950	1219	48	5000	3500	20000	30000

When using dimmers, dimming systems, or occupancy sensors, the lamp life will also be affected. The dimming system manufacturer can advise the affect of their system on lamp life.

*Based on ANSI / IESNA standards of 3 hours per start

** Based on estimated commercial operating standards of 12 hours per start

Sold in Case Quantity only (25/case)

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Form No. S-UFLT10/R-0112

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USHIO

METAL HALIDE LAMPS

ULTRA-ARC™ SERIES



METAL HALIDE LAMPS FOR HPS RETROFIT

USHIO Ultra-Arc™ Metal Halide lamps feature the best combination of color balance and color rendering quality available for a direct retrofit into High Pressure Sodium fixtures.

The Ultra-Arc™ lamps are used in High Pressure Sodium fixtures where the high color rendering, and white light of metal halide is desired. Ideal for areas where security is a concern —higher color rendering lamps allow for surveillance/security cameras and eyewitnesses to visually interpret in true colors.

Available in— T15, E39 Mogul base

250W and 400W with a color temperature of 5200K

FEATURES & BENEFITS

- High Pressure Sodium retrofit —
No need to change ballast and ignitor
- High Color Temperature — 5200K
- Excellent Color Rendering — 85 CRI
- High Color Stability
- Long Life — Up to 20,000 hours average life

HIGH PRESSURE SODIUM		METAL HALIDE
LU250 ED18	→	UHI-S250DD, T15
LU400 ED18	→	UHI-S400DD, T15
22 CRI	→	85 CRI
2100K	→	5200K
Ballast		Ballast
S50- 250W; S51- 400W	→	S50- 250W; S51- 400W



UltraArc™ Metal Halide lamps are manufactured under ISO 9001 guidelines ensuring quality and security for the purchaser

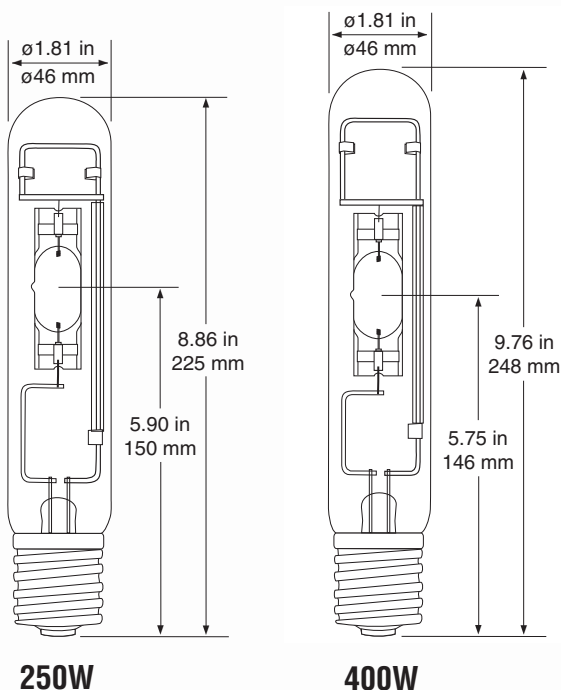
APPLICATIONS

- Security
- Parking Structures and Lots
- Downlighting
- Commercial and Industrial
- Walkways
- Bus Stops
- Pedestrian Areas

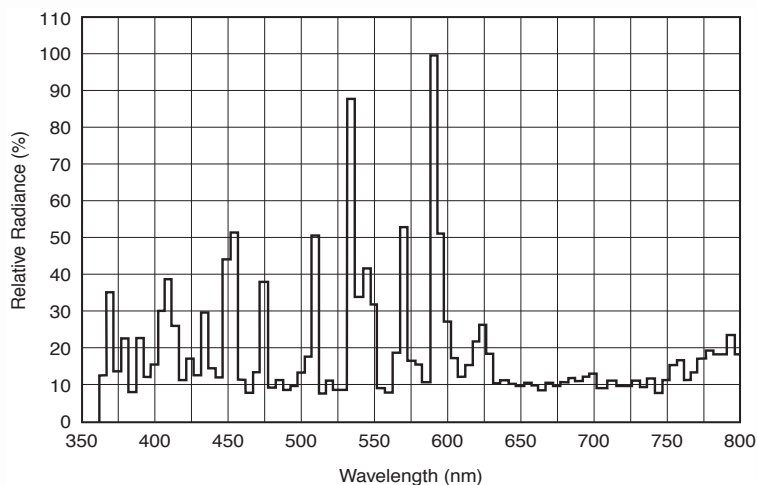
USHIO

CHARACTERISTICS & SPECIFICATIONS

ULTRA-ARC™ Mogul E39 Base



5200K SPECTRAL DISTRIBUTION



CRI: 85

Color coordinates: x= .340 y= .350

Watts (W)	USHIO Ordering Code	USHIO Lamp Description	Lamp Current (A)	Luminous Flux (lm)	Mean Lumens	Color Temp (K)	Arc Gap mm	ANSI Ballast	Average Life (h)	
									Horizontal Burn Pos	Vertical Burn Pos
E39 Base – T15										
250	5001175**	UHI-S250DD	3.0	20000	14000	5200	24	S50/E*	10000	15000
400	5000798	UHI-S400DD	4.6	33000	23000	5200	27	S51/E*	15000	20000

Burn Cycle:

11 hours ON and 1 hour OFF (Recommended shut down 15 minutes per week)

**Special order item only

Recommended Ignition Voltage: 2kV

ANSI Fixture Requirement:

/E = Enclosed fixture required

Case Quantity: 12/case

*use with ignitor



Scan with a smartphone to view this product online.

(Hg) - LAMP CONTAINS MERCURY

Manage in Accord with Disposal Laws

See: www.lamprecycle.org or 1-800-895-8842

R - NON SELF EXTINGUISHING LAMP

WARNING: This lamp can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for 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. Complies with the USA Federal Standard 21 CFR 1040.30 and Canada Standard SOR/80-381.

Form No. S-UHI/Ultra/R-0911

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USHIO

FLUORESCENT LAMPS

ULTRA-L™ SERIES



ULTRA-L™ HIGH LUMEN COMPACT FLUORESCENT LAMPS FOR GENERAL LIGHTING

Achieving high light output in a compact sized lamp is now available with USHIO's Ultra-L™ high lumen compact fluorescent lamps. The Ultra-L™ series of lamps can deliver up to 87 lumens per watt, making them one of the best energy efficient lamp choices on the market today and are ideal for the new, innovative low-profile fixtures.

The Ultra-L™ lamps are able to render colors very well with their tri-phosphor coating and 82 CRI properties. In addition, these lamps are rated at 12,000 hour average rated life.

These lamps can be used in a variety of fixtures and applications and can be operated on both instant start and rapid start ballasts.

Available in — 18W, 24W, 36W, 40W, and 55W
3000K, 3500K and 4100K

FEATURES & BENEFITS

- **High Lumens** — The Ultra-L™ from USHIO delivers high light output in a compact shape, suitable for smaller luminaires. For example: a 40W Ultra-L™ lamp produces 3150 lumens with a length of only 21.1 inches compared to an F32T8 lamp which produces 3050 lumens with a length of 48 inches.
- **Compact Size** — These lamps are made in compact shapes and sizes to fit today's compact, low-profile fixtures. These lamps will allow the user the versatility in selecting the right lighting system to suit their needs.
- **Energy Efficient** — These lamps deliver up to 87 lumens per watt, making them one of the best energy efficient light choices on the market today.
- **Long Life** — In an effort to reduce maintenance costs, the life rating of these lamps is 12,000 hours. Compared to incandescent lamps, these Ultra-L™ lamps will last 12 to 16 times longer.
- **Excellent Color Rendering** — All of the Ultra-L™ lamps are manufactured using a tri-phosphor coating ensuring that all lamps have the high color rendering properties of 800 series lamps. The Ultra-L™ lamps have a CRI of 82 and are available in 3000K, 3500K and 4100K color temperatures.
- **IS / RS Ballast Versatility** — These lamps can be used on either Instant Start or Rapid Start ballasts.

APPLICATIONS

- Retail Lighting
- Office Lighting
- High-Bay Lighting
- Cove Lighting
- Task Lighting

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USHIO

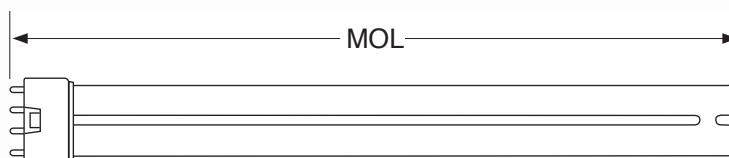
CHARACTERISTICS & SPECIFICATIONS

ULTRA-L™ Long Compact

4-Pin 2G11 Base

Universal Burn Position

82 CRI



Watts (W)	USHIO Ordering Code	USHIO Lamp Description	Dimensions		Color Temp (K)	Luminous Flux		Avg Rated Life*	Commercial Life**
			MOL (mm)	MOL (in)		Nom. (lm)	Min. (lm)	(h)	(h)
ULTRA-L™ — 82 CRI									
18	3000398	CF-L18SE/830	229	9.0	3000	1250	1075	12000	15500
*18	3000399	CF-L18SE/835	229	9.0	3500	1250	1075	12000	15500
*18	3000401	CF-L18SE/841	229	9.0	4100	1250	1075	12000	15500
*24	3000405	CF-L24SE/830	326	12.9	3000	1800	1548	12000	15500
*24	3000406	CF-L24SE/835	326	12.9	3500	1800	1548	12000	15500
*24	3000407	CF-L24SE/841	326	12.9	4100	1800	1548	12000	15500
*36	3000409	CF-L36SE/835	422	16.6	3500	2900	2494	12000	15500
40	3000411	CF-L40SE/830	572	22.5	3000	3150	2709	12000	15500
40	3000412	CF-L40SE/835	572	22.5	3500	3150	2709	12000	15500
40	3000413	CF-L40SE/841	572	22.5	4100	3150	2709	12000	15500
55	3000414	CF-L55SE/830	531	20.9	3000	4800	4128	12000	15500
55	3000415	CF-L55SE/835	531	20.9	3500	4800	4128	12000	15500
55	3000416	CF-L55SE/841	531	20.9	4100	4800	4128	12000	15500

These lamps are designed to operate on instant start or rapid start ballasts. When using dimmers, dimming systems, or occupancy sensors, the lamp life will also be affected. The dimming system manufacturer can advise the affect of their system on lamp life.

* Based on ANSI / IESNA standards of 3 hours per start

** Based on estimated commercial operating standards of 12 hours per start

Sold in Case Quantity only (10/case)

 - LAMP CONTAINS MERCURY

Manage in Accord with Disposal Laws

See: www.lamprecycle.org or 1-800-895-8842

USHIO

MR-16 REFLECTOR LAMPS

ULTRALINE™ SERIES



10,000 HOUR MR-16 REFLECTOR LAMPS FOR GENERAL LIGHTING

The exceptional performance of the Ultraline™ MR-16 reflector lamps are a result of our advancements in our filament design and gas fill technologies. Manufactured under ISO 9001 guidelines, refinements in the reflector coating process slows deterioration of the reflector, allowing Ultraline™ lamps to maintain their consistent Halogen color throughout the life of the lamp. Beware of Xenon filled imitations that produce a pale incandescent color.

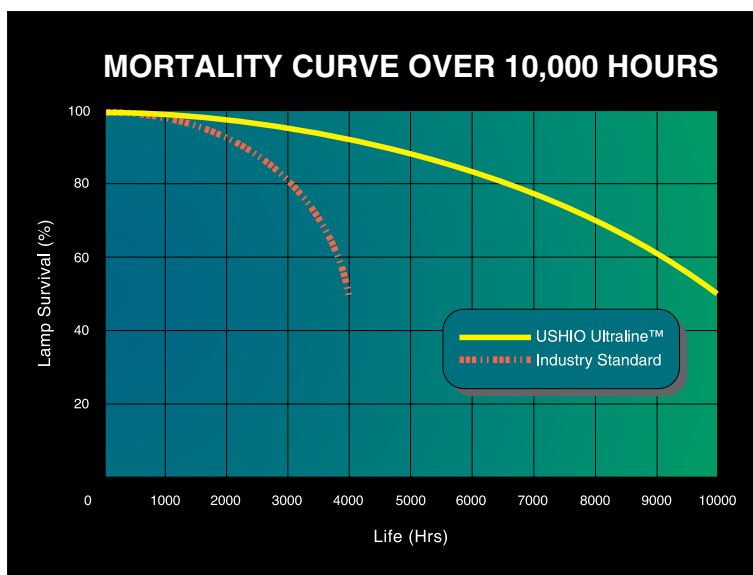
Rated at more than twice the life of other MR-16's on the market today, Ultraline™ lamps are an astute choice for applications where frequency of lamp changes and cost of ownership are significant factors. The Halogen capsule helps to protect ultraviolet sensitive objects by eliminating harmful UV emissions.

Available in— Spot, Narrow Flood, Flood and Wide Flood beam spreads, the Ultraline™ employs an axial filament that is computer aligned to attain precise 12°, 24°, 36° and 60° beam angles.

FEATURES & BENEFITS

- 10,000 Hours Average Life— A rated lifetime of over twice the life of the other MR-16 lamps currently on the market
- Minimizes the amount of maintenance required to support retail, commercial and display lighting installations
- Halogen Capsule cuts harmful UV— Reduces the amount of material wear from harmful UV radiation
- Advanced Titanium Oxide Coating — Consistent Color throughout lamp life
- Crisp white Halogen light
- High Color Temperature— 3100K
- Cool Beam effect
- Base Type GU5.3

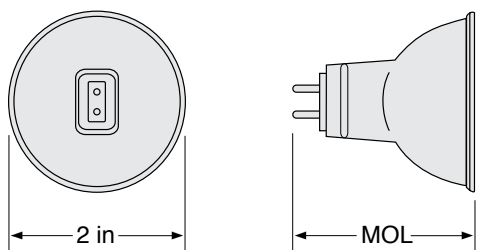
MORTALITY CURVE OVER 10,000 HOURS



USHIO

CHARACTERISTICS & SPECIFICATIONS

ULTRALINE™ MR-16 LAMPS

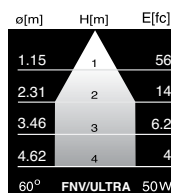
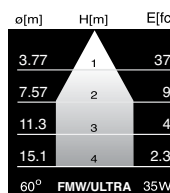
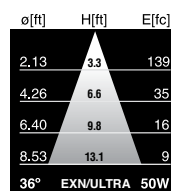
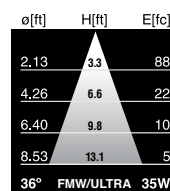
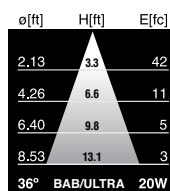
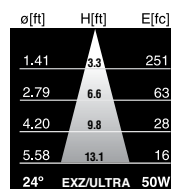
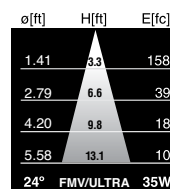
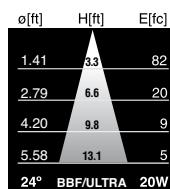
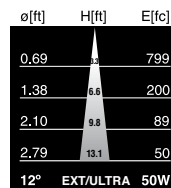


GU5.3



LAMP SOCKET

The model C-33U socket is rated up to 24V-7A for use with all low voltage USHIO GU5.3 based MR-16 lamps. The metal clips secure the lamp firmly into the socket. Use Ordering Code 1002142



Watts (W)	Ushio Ordering Code	Ushio Lamp Description	Voltage (V)	Color Temp (K)	Beam Angle	Beam Spread	Luminous Intensity (cd)	Avg Life (h)	Burn Position
20	1003413	BBF/FG/ULTRA	12	3000	24°	Narrow Flood	880	10,000	Universal
20	1003412	BAB/FG/ULTRA	12	3000	36°	Flood	450	10,000	Universal
35	1002236	FMV/FG/ULTRA	12	3000	24°	Narrow Flood	1700	10,000	Universal
35	1002237	FMW/FG/ULTRA	12	3000	36°	Flood	950	10,000	Universal
35	1003342	FMW/60/FG/ULTRA	12	3000	60°	Wide Flood	370	10,000	Universal
50	1002168	EXT/FG/ULTRA	12	3100	12°	Spot	8600	10,000	Universal
50	1002114	EXZ/FG/ULTRA	12	3100	24°	Narrow Flood	2700	10,000	Universal
50	1000410	EXN/FG/ULTRA	12	3100	36°	Flood	1500	10,000	Universal
50	1003343	FNV/60/FG/ULTRA	12	3100	60°	Wide Flood	620	10,000	Universal



Ultraline™ lamps are manufactured under ISO 9001 guidelines ensuring quality and security for the purchaser

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USHIO

MR-16 REFLECTOR LAMPS

ULTRALINE™ TITAN



EXTENDED LIFE MR-16 LAMPS FOR GENERAL LIGHTING – UP TO 18,000 HOUR LIFE

Historically, MR-16 lamps were known for outstanding performance, but limited life capabilities. USHIO broke new ground with the introduction of the Ultraline™ lamp series which allowed for long lamp life while maintaining outstanding lamp performance. Now the **Ultraline™ Titan** lamps from USHIO take MR-16 technology one step further. Introducing the longest life MR-16 on the market with a lamp life of up to 18,000 hours.

Manufactured under ISO 9001 guidelines, USHIO's proprietary advancements in filament design, gas fill technologies and refinements in the reflector coating process, produce long life hours and maintain consistent halogen color throughout the life of our **Ultraline™ Titan** series of lamps. The Halogen capsule also helps to protect ultraviolet sensitive objects by eliminating harmful UV emissions.

Rated at more than four times the life of standard MR-16 lamps on the market today, **Ultraline™ Titan** lamps are the number one choice for those applications where frequency of lamp changes and cost of ownership are significant factors.

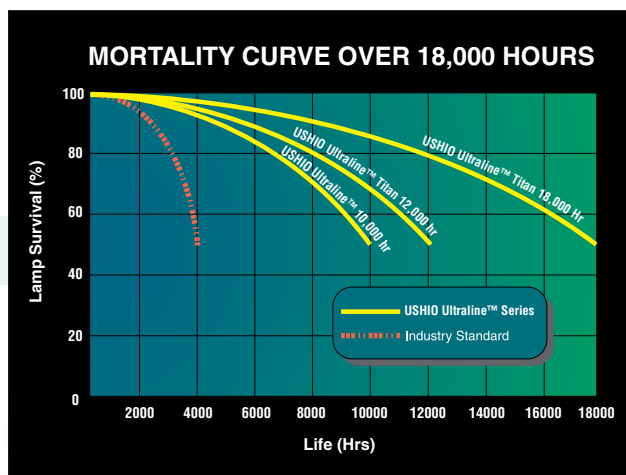
Available in Spot, Narrow Flood, Flood and Wide Flood beam spreads, the **Ultraline™ Titan** employs a computer aligned axial filament to attain precise 12°, 24°, 36° & 60° beam angles.

FEATURES & BENEFITS

- Up to 18,000 Hour lamp life – A rated lifetime of over four times the life of other standard MR-16 lamps currently on the market.
- Minimizes the amount of maintenance required to support retail, commercial and display lighting installations.
- Dramatically Reduces Lamp Costs – Eliminates up to 3 lamp replacements over the life of the Ultraline™ Titan lamp.
- Halogen Capsule Cuts Harmful UV— Reduces the amount of degradation from harmful UV radiation.
- Advanced Titanium Oxide Coating —Consistent Color throughout lamp life.
- Crisp White Halogen Light
- High Color Temperature— 3100K
- Cool Beam Effect
- Base Type GU5.3

APPLICATIONS

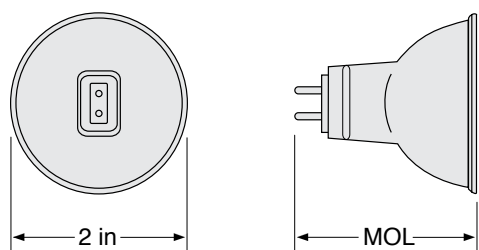
- Museums & Galleries
- Hotels & Restaurants
- Retail Shops
- Track Lighting
- Offices & Commercial Areas
- Accent Lighting



USHIO

CHARACTERISTICS & SPECIFICATIONS

ULTRALINE™ TITAN MR-16 LAMPS

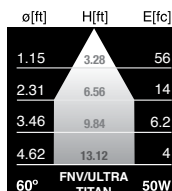
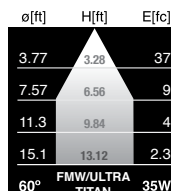
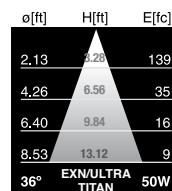
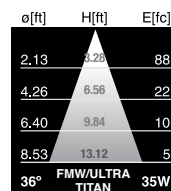
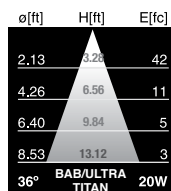
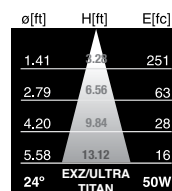
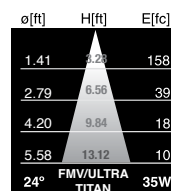
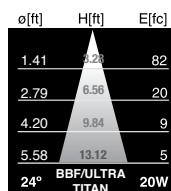
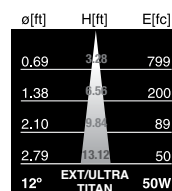


GU5.3



LAMP SOCKET

The model C-33U socket is rated up to 24V-7A for use with all low voltage USHIO GU5.3 based MR-16 lamps. The metal clips secure the lamp firmly into the socket. Use Ordering Code 1002142



Watts (W)	Ushio Ordering Code	Ushio Lamp Description	Voltage (V)	Color Temp (K)	Beam Angle	Beam Spread	Luminous Intensity (cd)	Avg Life (h)	Burn Position
20	1003551	BBF/FG/ULTRA TITAN	12	3000	24°	Narrow Flood	880	12,000	Universal
20	1003552	BAB/FG/ULTRA TITAN	12	3000	36°	Flood	450	12,000	Universal
35	1003556	FMV/FG/ULTRA TITAN	12	3000	24°	Narrow Flood	1700	18,000	Universal
35	1003557	FMW/FG/ULTRA TITAN	12	3000	36°	Flood	950	18,000	Universal
35	1003558	FMW/60/FG/ULTRA TITAN	12	3000	60°	Wide Flood	370	18,000	Universal
50	1003554	EXT/FG/ULTRA TITAN	12	3100	12°	Spot	8600	18,000	Universal
50	1003555	EXZ/FG/ULTRA TITAN	12	3100	24°	Narrow Flood	2700	18,000	Universal
50	1003553	EXN/FG/ULTRA TITAN	12	3100	36°	Flood	1500	18,000	Universal
50	1003559	FNV/60/FG/ULTRA TITAN	12	3100	60°	Wide Flood	620	18,000	Universal



Ultraline™ Titan lamps are manufactured under ISO 9001 guidelines ensuring quality and security for the purchaser

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USHIO

METAL HALIDE

UMH SERIES



METAL HALIDE MOGUL BASE FOR GENERAL LIGHTING

USHIO's UMH series metal halide lamps are introduced with the lighting distributor in mind. This family of industry standard metal halide lamps are interchangeable with existing mogul base lamps that are widely used in the industry today.

Wattages range from 50 up to 1000, and are available in mogul base configurations.

APPLICATIONS

FEATURES AND BENEFITS

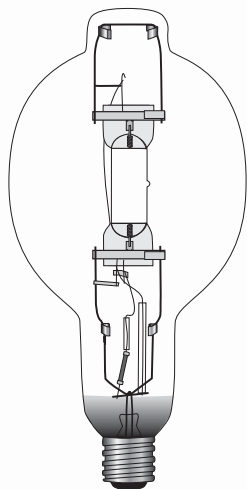
- High efficacy 3 to 5 times more efficient than incandescent
- White light; 65-75 CRI
- Lamps are manufactured to standard ANSI specifications
- Operates in any burning position
- Long life
- Clear and coated bulb finishes

- Commercial and Industrial
- Flood Lighting
- Stadium and Arena
- Tennis and Racquetball Courts
- Downlighting
- Parking Garages
- Security
- Wall Sconces
- Signage

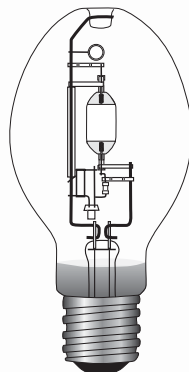
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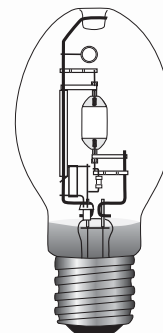
CHARACTERISTICS & SPECIFICATIONS



BT56
E39 Mogul Base



ED37
E39 Mogul Base



ED28
E39 Mogul Base

Watts (W)	Ushio Ordering Code	Ushio Lamp Description	Ballast	Bulb Type	Dimension		Color Temp (K)	Initial Lumens (lm)	Avg Life* (h)
					OAL (in / mm)	LCL (in / mm)			
E39 MOGUL BASE									
175	5000221	UMH-175/U, ED28	M57	ED28 Clear	8 5⁄16 211	5 127	4000	13500	10000
250	5000225	UMH-250/U, ED28	M58	ED28 Clear	8 5⁄16 211	5 127	4000	21000	10000
400	5000938	UMH-400/U, ED28	M59	ED28 Clear	8 5⁄16 211	5 127	4000	34000	20000
400	5000227	UMH-400/U, ED37	M59	ED37 Clear	11 1⁄2 292	7 178	4000	34000	20000
1000	5001139	UMH-1000/U, BT37	M47	BT37 Clear	11 1⁄2 292	7 178	4000	105000	12000
1000	5000214	UMH-1000/U, BT56	M47	BT56 Clear	15 3⁄8 391	9 1⁄2 241	4000	110000	12000
1500	5000217	UMH-1500/HBU, BT56	M47	BT56 Clear	15 3⁄8 391	9 1⁄2 241	3400	161000	3000

Use in enclosed fixtures only
Universal Burn Position

*Average Life Based upon vertical operation and 10 hour duty cycle.
Horizontal operation reduces life expectancy by approximately 25%.

(Hg) - LAMP CONTAINS MERCURY
Manage in Accord with Disposal Laws
See: www.lamprecycle.org or 1-800-895-8842

R - NON SELF EXTINGUISHING LAMP

WARNING: This lamp can cause serious skin burn and eye inflammation from shortwave ultraviolet radiation if outer envelope of the lamp is broken or punctured. Do not use where people will remain for 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. Complies with the USA Federal Standard 21 CFR 1040.30 and Canada Standard SOR/80-381.

Form No. S-UMH/R-0911

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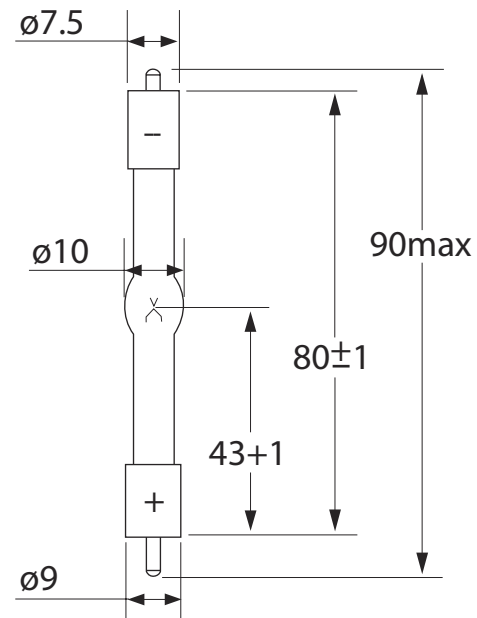
USHIO

MERCURY SHORT ARC LAMP

USH SHORT ARC MERCURY LAMP



EXTENDED LIFE 100W SHORT-ARC MERCURY LAMP



FEATURES & BENEFITS

- Enhanced electrode design for precise positioning and high arc stability
- Improved manufacturing process enables extended life (300 hours)
- USHIO developed product with tightly controlled ISO quality processes
- Designed for use in all 100W fluorescent microscope systems

All dimensions are in millimeters

Ushio Ordering Code	Ushio Lamp Code	Wattage Power Range (W)	Operating Voltage	Current Range (mm)	Luminous Flux* (lm) nom	Average Rated Life* (h)
5001329	USH-103D	100W	20 \pm 4V DC	4-6A DC	3000	300

* Based on 30% lumen depreciation from initial luminous flux
Operating position Anode Down, Permissible inclination Vertical $\pm 45^\circ$

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USHIO

ULTRAVIOLET LAMPS

UV AMALGAM



LOW-PRESSURE UV AMALGAM LAMPS

USHIO offers two types of low-pressure Amalgam lamps. These lamps have a special coating that allows for transmission at 254nm only or 254nm and 185nm for ozone production.

The low-pressure Amalgam lamps achieve ten times the UV power density of standard low-pressure lamps and five times more ozone production while operating at a higher temperature than conventional low-pressure Mercury lamps.

The higher efficiency of the Amalgam lamps allows less lamps per system or lower wattage lamps in the system while achieving the same results as standard low-pressure Mercury lamps.

Amalgam lamps use less mercury than standard low-pressure mercury lamps and are RoHS compliant. Life time of the Amalgam lamps are in excess of 12,000 hours with only a 20% degradation in output.

FEATURES & BENEFITS

- 254nm UVC output
- 254nm and 185nm output for ozone production
- Low Mercury dose for RoHS compliance
- Long Life – Up to 12,000 hours
- Flexible designs
- Increased operating temperature range
- Short warm-up time
- High lamp efficiency

APPLICATIONS

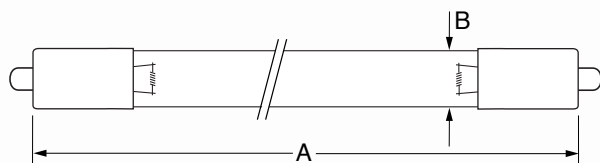
- Industrial Water Treatment
- Commercial Water Treatment
- Cooling Tower Water Conditioning
- Air Disinfection
- Sewage Treatment



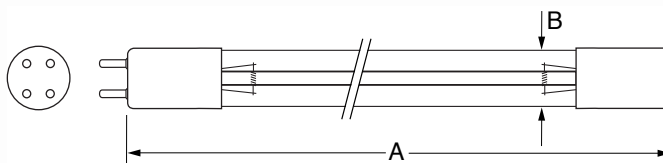
CHARACTERISTICS & SPECIFICATIONS

UV AMALGAM

All dimensions are in millimeters



T5 Single Pin Base



T5/T6 4-Pin Base

Customer specified length and base available.
Available in ozone (185nm output) and non-ozone (254nm output) versions.

USHIO Ordering Code	USHIO Lamp Description	Dimensions		Watts (W)	Current (A)	Volts (V)	UV Output		Avg Life (h)*	Maintenance 254nm
		Length (A) (mm)	Dia (B) (mm)				Watts @ 254nm	Watts @ 185nm		
T5 SINGLE PIN BASE - Instant Start (Ozone)										
	GA80T5LZR/SP	559	15	80	1.5	54	24	8	12000	80%
	GA100T5LZR/SP	711	15	100	1.5	67	30	10	12000	80%
	GA120T5LZR/SP	860	15	120	1.5	80	35	12	12000	80%
	GA130T5LZR/SP	965	15	130	1.5	87	38	13	12000	80%
	GA200T5LZ/SP	1553	15	200	1.5	140	72	24	12000	80%
T5 SINGLE PIN BASE - Instant Start (Non-Ozone)										
	GA80T5LR/SP	559	15	80	1.5	54	24	N/A	12000	80%
	GA100T5LR/SP	711	15	100	1.5	67	30	N/A	12000	80%
	GA120T5LR/SP	860	15	120	1.5	80	35	N/A	12000	80%
	GA130T5LR/SP	965	15	130	1.5	87	38	N/A	12000	80%
	GA200T5L/SP	1553	15	200	1.5	140	72	N/A	12000	80%
T6 4-PIN BASE - Instant Start (Ozone)										
	GA170T6LZ/4P	1120	19	170	2.0	85	60	20	12000	80%
T6 4-PIN BASE - Instant Start (Non-Ozone)										
	GA170T6L/4P	1120	19	170	2.0	85	60	N/A	12000	80%

*Based on maximum 1 cycle per day using Fulham ballast for SP lamps and maximum 1 cycle per day using UV-Technik ballast with pre-heat for 4P lamps.



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- LAMP CONTAINS MERCURY

Manage in Accord with Disposal Laws

See: www.lamprecycle.org or 1-800-895-8842

Form No. S-UVAMAL-0911

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UV LAMPS

FOR AQUACULTURE

CONTROLLING ALGAE GROWTH IN AQUARIUMS

The background of the advertisement features two clear glass UV lamps crossed in an 'X' shape. They are set against a deep blue background filled with numerous small, bright blue bubbles, suggesting an underwater or aquatic environment. The lighting is cool and blue-toned, emphasizing the aquatic theme.

USHIO

WWW.USHIO.COM



is your source for UV replacement lamps.

Aquanetics	Lamp Type	Item #
Aquanetics 4W	G4T5	3000013
Aquanetics 6W	G6T5	3000015
Aquanetics 8W	G8T5	3000016
Aquanetics 15W	G15T8	3000007
Aquanetics 25W	G25T8	3000008
Aquanetics 30W	G30T8	3000009
Coralife	Lamp Type	Item #
Coralife 12" 8W	G8T5	3000016
Coralife 14" 10W	G10T8	3000006
Coralife 18" 15W	G15T8	3000007
Coralife 18" 25W	G25T8	3000008
Coralife 36" 30W	G30T8	3000009
Coralife 5W	GPX5	3000321
Coralife Turbotwist 9W	GPX9	3000304
Coralife Turbotwist 18W	GPL18K	3000324
Coralife Turbotwist 36W	GPL36K	3000339
Tropical Marine	Lamp Type	Item #
Tropical Marine 8W	G8T5	3000016
Tropical Marine 15W	G15T8	3000007
Tropical Marine 25W	G25T8	3000008
Tropical Marine 30W	G30T8	3000009
Fishmate	Lamp Type	Item #
Fishmate 8W	G8T8	3000016
Fishmate 16W	G16T5	3000311
Fishmate 15W	G15T8	3000007
Fishmate 25W	G25T8	3000008
Fishmate 30W	G30T8	3000009
Hagen/Laguna	Lamp Type	Item #
Hagen/Laguna PT521	G8T5	3000016
Hagen/Laguna PT523	G16T5	3000311
Tetra	Lamp Type	Item #
Tetra PLS5	GPX5	3000321
Tetra PLS9	GPX9	3000304
Tetra 11W	GPX11	3000322
Tetra 13W	GPX13	3000323
Tetra PLL18	GPL18K	3000324
Tetra PLL36	GPL36K	3000339

Custom Sea Life	Lamp Type	Item #
Double Helix 9W	GPX9	3000304
Double Helix 18W	GPL18K	3000324
Double Helix 36W	GPL36K	3000339
Hozelock	Lamp Type	Item #
Bioforce 250	GPX5	3000321
Bioforce 500/1000	GPX9	3000304
Bioforce 2000/4000	GPX13	3000323
OASE	Lamp Type	Item #
OASE Bitron 9	GPX9	3000304
OASE Bitron 18	GPL18K	3000324
OASE Bitron 36	GPL36K	3000339
Aqua UV	Lamp Type	Item #
Aqua UV 15W	G14T5L/4P	3000348
Aqua UV 25W	G22T5L/4P	3000350
Aqua UV 40W	G36T5L/4P	3000343
Aqua UV 65W	G64T5L/4P	3000351
Current	Lamp Type	Item #
Current 15W	G14T5L/4P	3000348
Current 25W	G22T5L/4P	3000350
Current 40W	G36T5L/4P	3000343
Sentry	Lamp Type	Item #
Sentry 15W	G14T5L/4P	3000348
Sentry 25W	G22T5L/4P	3000350
Sentry 40W	G36T5L/4P	3000343
Pondmaster	Lamp Type	Item #
Pondmaster 10W	G10T5L/4P	3000355

*For more information on UV replacement lamps
contact customer service at:*

800-838-7446 Fax 800-776-3641

For specialty and technical support contact the product
manager at uv@ushio.com.

USHIO

ULTRAVIOLET LAMPS

UV EMITTERS



MEDIUM-PRESSURE MERCURY-ARC LAMPS

USHIO produces standard and custom UV Emitters. Our production facility is designed to meet specific customer requirements to produce customized one-off lamps, as well as achieve consistent quality in mass production. Because we at USHIO, design our own production machines, we are able to optimize our manufacturing process. This results in precision filling technology making our lamps virtually free of impurities, thus preventing early blackening of the lamp. USHIO UV Emitters are designed to achieve optimized output in the UVC range making them useful as components for products with germicidal applications, or shift wavelength peak to UVA or visible spectrum for other applications.


These lamps are components which may be used by customers to manufacture a variety of finished products.

FEATURES & BENEFITS

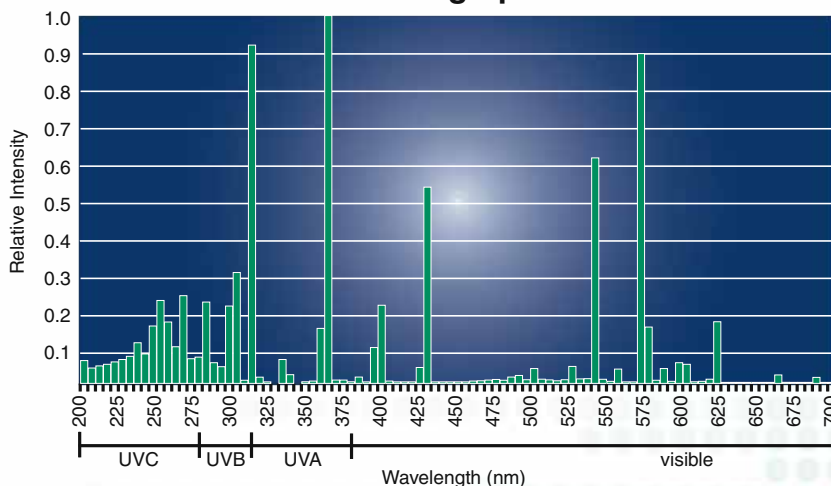
- Consistent quality for small or large quantity production
- Precise filling technology
- Optional reflective coating to shorten ignition warm up time
- Arc length from 60mm up to 2600mm
- Power density from 40W/cm up to 200W/cm

APPLICATIONS

- UV disinfection of air, water or surface
- UV activated oxidation of organic pollutants in air and water
- UV curing of solvent-free paints, coatings, and adhesives
- Industrial photochemistry
- Special applications such as ozone production and UV analysis

 - LAMP CONTAINS MERCURY
Manage in Accord with Disposal Laws
See: www.lamprecycle.org or 1-800-895-8842

UVC / Hg Spectrum



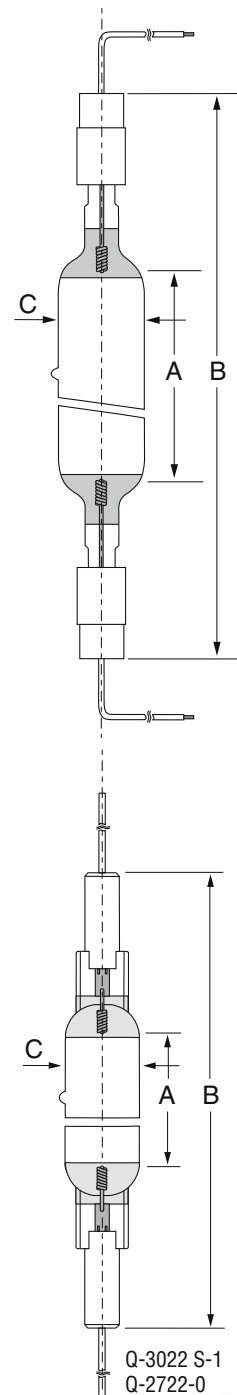
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USHIO Lamp Description	Nominal Wattage (W)	Emitter Voltage (V)	Voltage (V)	Emitter Current (A)	Spec Wattage (W/cm)	Arc Length (A)	Overall Length (B)	Dia (C)
UVH 1022-0 *	1000	145	230	7.5	100	106	230	22.5
UVH 1224-0 *	1000	130	230	8.6	80	120	215	24.5
UVH 1322-0 *	1300	150	230	9.7	100	125	230	22.5
UVH 1522-0 *	1500	150	230	11.0	100	152	275	22.5
UVH 1522-1 *	1500	150	230	11.0	100	152	275	22.5
UVH 1522/28-0 *	1700	275	400	7.0	115	152	275	22.5
Q-3022 S-1 *	2500	500	750	5.0	80	305	420	22.5
UVH 2022-0 *	2000	240	400	9.7	100	206	330	22.5
UVH 2022-3 *	2000	240	400	9.7	100	206	330	22.5
UVH 2420-0 *	2000	210	400	9.5	80	250	361	19.5
UVH 1524-1 *	2250	150	230	16.0	150	152	275	24.5
UVH 2026-1 *	2400	270	400	10.0	120	206	330	26.5
UVH 2522-0 *	2500	280	400	10.0	100	247	380	22.5
UVH 3022-0 *	3000	275	400	12.0	100	305	430	22.5
UVH 3023-0 *	3000	265	400	12.0	120	250	350	22.5
Q-2722-0 *	2700	280	400	10.7	100	272	365	19.5
UVH 3522/28-0 *	3600	275	400	14.5	100	356	480	22.5
UVH 3026-3 *	3700	230	400	18.0	120	300	410	26.5
UVH 2524-0 *	4000	280	400	16.0	160	250	329	24.5
UVH 4024-0	4000	360	570	12.0	150	256	380	24.5
UVH 4026-0	4000	360	570	12.0	150	256	380	26.5
UVH 4122-0 *	4100	270	400	16.0	100	425	550	22.5
UVH 4222-0	4200	600	1000	8.0	100	425	550	22.5
UVH 5022/45-0 *	5000	440	660	12.4	100	505	630	22.5
UVH 5822/45-0 *	5800	440	660	14.5	100	585	710	22.5
UVH 5822-0	5800	725	1200	9.0	100	585	710	22.5
UVH 6722-0	6700	850	1500	9.3	100	680	800	22.5
UVH 6426-0	6900	630	950	12.0	170	406	530	26.5
UVH 7322-0	7300	900	1500	9.0	100	740	860	22.5
UVH 8322-0	8300	1000	1700	9.3	100	829	939	22.5
UVH 10022-0	10000	1250	2200	9.0	100	1005	1130	22.5
UVH 11022-0	11000	1500	2300	8.6	100	1105	1230	22.5
UVH 14021-0	11000	1870	2500	6.5	80	1397	1575	19.5
UVH 14219-2	11000	1870	2800	6.3	80	1420	1575	19.5
UVH 10522-0	11700	1530	2300	8.5	110	1055	1180	22.5
UVH 12522-0	12500	1600	2600	9.2	100	1265	1390	22.5
UVH 13022-0	13000	1970	3000	7.6	100	1305	1430	22.5
UVH 14022 G-0	14000	1950	3000	8.0	100	1405	1530	22.5
UVH 14219-0	14200	1900	2500	8.3	100	1420	1575	19.5
UVH 14222-1	14200	1900	2500	8.3	100	1420	1575	22.5
UVH 14522-0	14500	1900	3000	9.0	100	1455	1580	22.5
UVH 16522-0	16500	2000	3200	9.2	100	1655	1780	22.5
UVH 10526-0	16800	1850	3200	9.6	160	1055	1180	26.5
UVH 14222-0	16800	1850	2500	9.9	120	1420	1548	22.5
UVH 19022-0	19000	2400	4000	8.8	100	1905	2030	22.5
UVH 20022-0	20000	2500	4000	9.0	100	2005	2130	22.5
UVH 14526-0	23200	2000	3200	12.3	160	1455	1580	26.5
UVH 22024-0	26400	2500	4000	11.2	120	2205	2330	24.5

* Ignitor required

All dimensions are in millimeters

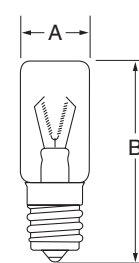
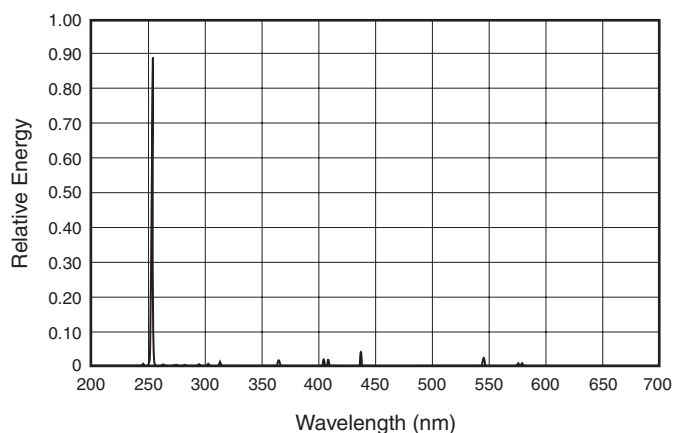


Our product list represents a small portion of our extensive product offering. We can produce lamps in various sizes, power and connector designs. Please consult our UV product manager with your specific requirements.

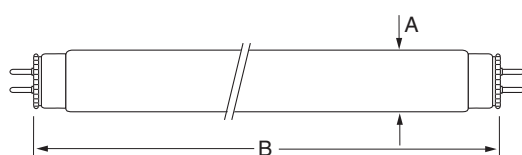
LOW PRESSURE GERMICIDAL LAMPS

Ushio Ordering Code	Ushio Lamp Code	Dimensions (mm)		Watts	Amps	Volts	Spectral Peak (nm)	UV Output (W)	Avg Life (h)	Base
		Dia (A)	OAL (B)							
E17 Base										
3000022	GTL3	20.0	63.0	3.0	0.300	10.5	253.7	0.16	3000	E17
T5 - Miniature Bi-Pin G5 Base										
3000013	G4T5	15.5	134.5	4.5	0.170	29.0	253.7	0.8	6000	G5
3000015	G6T5	15.5	210.5	6.0	0.160	42.0	253.7	1.8	8000	G5
3000309	G7T5	15.5	165.0	6.3	0.230	30.0	253.7	1.6	8000	G5
3000016	G8T5	15.5	287.0	7.2	0.145	57.0	253.7	2.2	8000	G5
3000310	G11T5	15.5	210.5	11.0	0.330	37.0	253.7	2.2	8000	G5
3000311	G16T5	15.5	287.0	16.0	0.350	50.0	253.7	3.2	8000	G5
3000344	G20T5	15.5	400.0	20.0	0.400	62.0	253.7	5.5	8000	G5
T8 - Medium Bi-Pin G13 Base										
3000006	G10T8	25.5	330.0	9.5	0.230	46.0	253.7	2.7	8000	G13
3000007	G15T8	25.5	436.0	15.0	0.305	55.0	253.7	4.9	8000	G13
3000008	G25T8	25.5	436.0	25.0	0.600	46.0	253.7	6.9	8000	G13
3000009	G30T8	25.5	893.0	30.5	0.355	99.0	253.7	13.9	8000	G13
3000316	G55T8	25.5	893.0	55.0	0.770	83.0	253.7	18.0	8000	G13
T10 - Medium Bi-Pin G13 Base										
3000314	G20T10	32.5	588.5	19.0	0.360	58.0	253.7	7.5	8000	G13
3000315	G40T10	32.5	1198.0	39.5	0.420	106.0	253.7	19.8	8000	G13

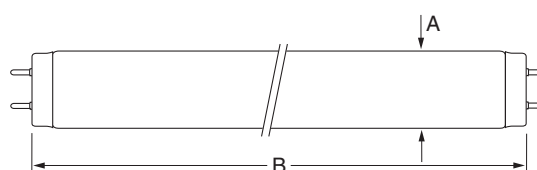
SPECTRAL DISTRIBUTION GERMICIDAL LAMP 253.7nm



E17 Base



T5 Miniature Bi-Pin G5 Base

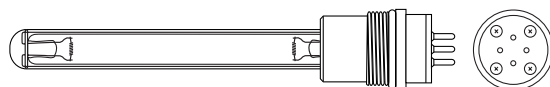
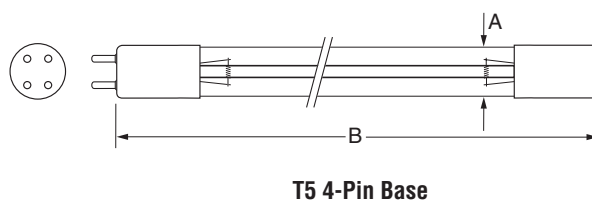
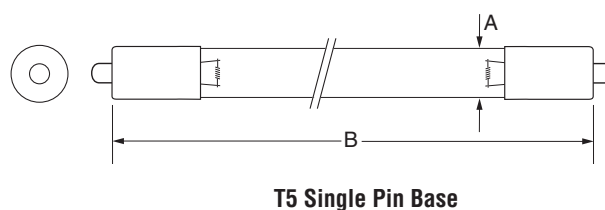
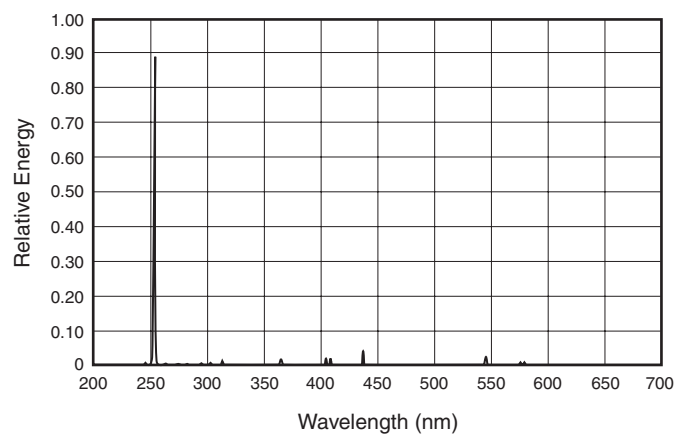


T8 & T10 Medium Bi-Pin G13 Base

LOW PRESSURE GERMICIDAL LAMPS

Ushio Ordering Code	Ushio Lamp Code	Dimensions (mm)		Watts	Amps	Volts	Spectral Peak (nm)	UV Output (W)	Avg Life (h)	Base
		Dia (A)	OAL (B)							
T5 - Single Pin Base										
3000345	G14T5L	15.5	287.0	14.0	0.400	40.0	253.7	3.0	8000	Single Pin
3000338	G10T5L	15.5	357.0	16.0	0.425	55.0	253.7	5.3	9000	Single Pin
3000347	G22T5L	15.5	436.0	22.0	0.420	62.0	253.7	7.0	8000	Single Pin
3000312	G36T5L	15.5	846.0	39.0	0.425	115.0	253.7	13.0	9000	Single Pin
3000313	G64T5L	15.5	1553.6	65.0	0.425	250.0	253.7	27.0	9000	Single Pin
T5 - 4-Pin Base										
3000348	G14T5L/4P	15.5	287.0	14.0	0.400	40.0	253.7	3.0	8000	4-Pin
3000355	G10T5L/4P	15.5	357.0	16.0	0.425	55.0	253.7	5.3	9000	4-Pin
3000350	G22T5L/4P	15.5	436.0	22.0	0.420	62.0	253.7	7.0	8000	4-Pin
3000343	G36T5L/4P	15.5	846.0	39.0	0.425	115.0	253.7	13.0	9000	4-Pin
3000351	G64T5L/4P	15.5	1553.6	65.0	0.425	250.0	253.7	27.0	9000	4-Pin

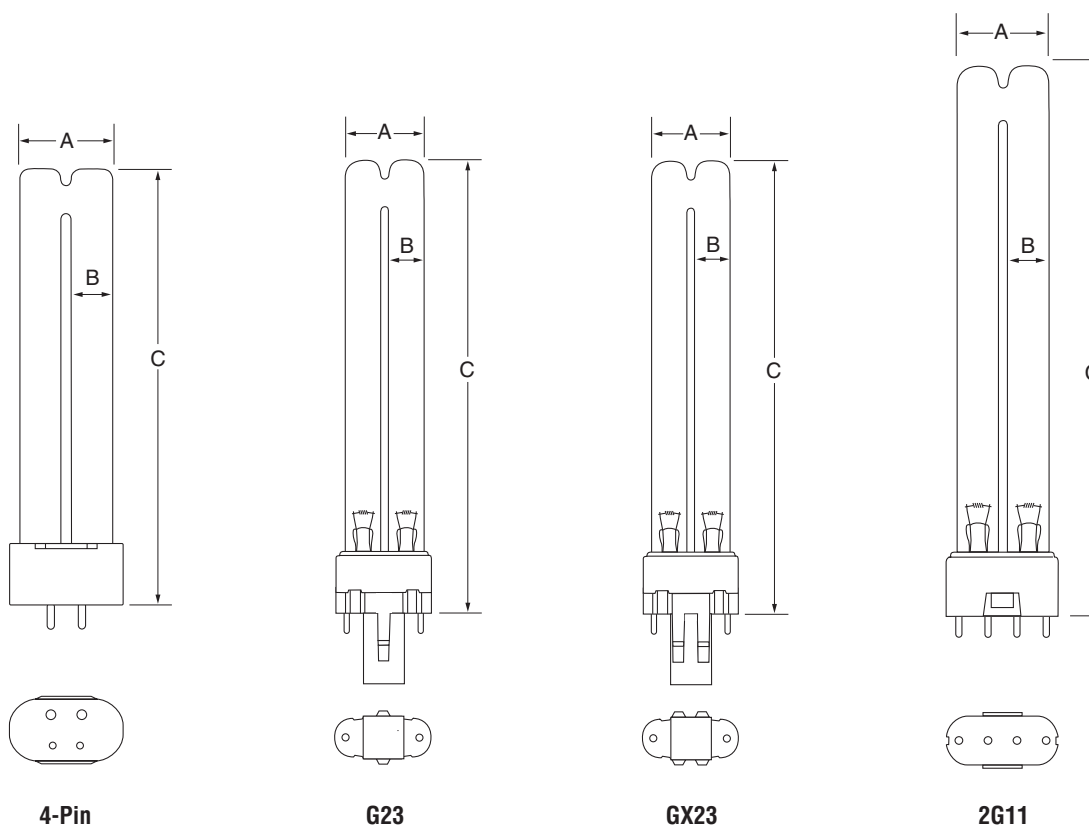
SPECTRAL DISTRIBUTION GERMICIDAL LAMP 253.7nm



Double Tube Model is available by request
Contact USHIO'S Germicidal product manager for more information

LOW PRESSURE GERMICIDAL LAMPS

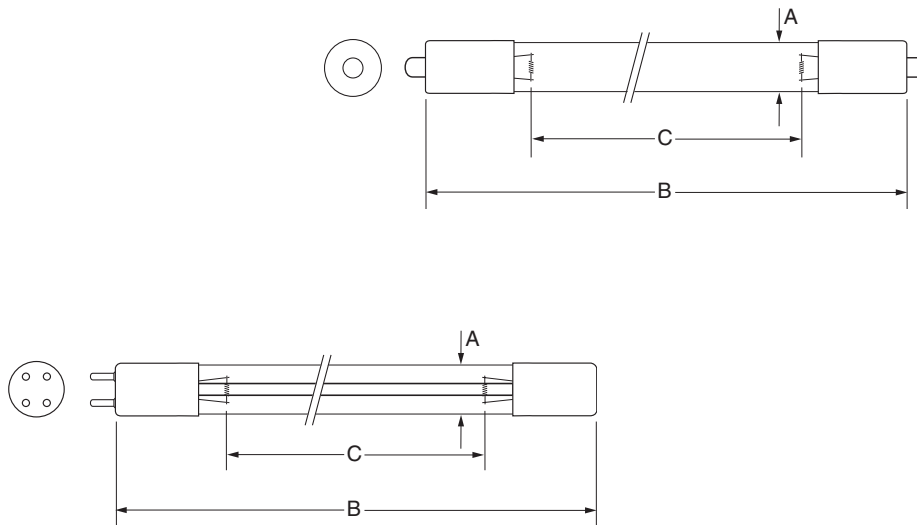
Ushio Ordering Code	Ushio Lamp Code	Dimensions (mm)			Watts	Amps	Volts	Spectral Peak (nm)	UV Output (W)	Avg Life (h)	Base
		Dia (A)	Dia (B)	Length (C)							
U-SHAPED 4-Pin Base											
3000336	GUL6	35.0	16.5	112.0	6.0	0.160	42	253.7	1.6	3000	4-Pin
G23 & GX23 Base											
3000321	GPX5	28.0	13.0	85.0	5.5	0.180	35	253.7	1.2	8000	G23
3000328	GPX7	28.0	13.0	115.0	7.0	0.180	45	253.7	1.9	8000	G23
3000304	GPX9	28.0	13.0	145.0	9.0	0.180	59	253.7	2.4	8000	G23
3000322	GPX11	28.0	13.0	215.0	11.8	0.155	91	253.7	3.0	8000	G23
3000323	GPX13	28.0	13.0	170.0	13.4	0.285	59	253.7	3.6	8000	GX23
2G11 Base											
3000324	GPL18K	40.0	20.0	225.0	18.0	0.375	58	253.7	5.5	8000	2G11
3000339	GPL36K	40.0	20.0	415.0	36.0	0.435	106	253.7	12.0	8000	2G11



LOW PRESSURE QUARTZ GERMICIDAL LAMPS

Ushio Lamp Code	Dimensions (mm)			Watts	Amps	Volts	Spectral Peak (nm)	UV Output (W)	Avg Life (h)
	Dia (A)	OAL (B)	Arc Length (C)						
Instant Start									
G10T5L	15.0	357	276	18	0.425	55	253.7	5.7	9000
G36T5L	15.0	843	762	39	0.425	120	253.7	14.2	9000
G64T5L	15.0	1554	1473	65	0.425	220	253.7	25	9000
Preheat Start									
GPH212T5L	15.0	212	131	10	0.425	32	253.7	2.9	9000
GPH287T5L	15.0	287	206	14	0.425	42	253.7	3.9	9000
GPH303T5L	15.0	303	222	15	0.425	44	253.7	4.1	9000
GPH356T5L	15.0	356	274	19	0.425	52	253.7	5.7	9000
GPH436T5L	15.0	436	356	24	0.425	66	253.7	7	9000
GPH793T5L	15.0	793	711	37	0.425	110	253.7	13	9000
High Output Type									
GHO10T5L	15.0	357	235	34	0.850	52	253.7	10.8	9000
GHO36T5L	15.0	843	721	87	0.850	125	253.7	28	9000
GHO64T5L	15.0	1554	1432	162	0.850	246	253.7	48	9000
GPH436T5L/HO	15.0	436	314	40	0.650	86	253.7	10	9000

Lamp life tested to 9000 hours at 40% depreciation, 7 hours on / 1 hour off per day.
All lamps available in Single pin, 4-pin and custom configured base design.
Lamps available in customer specified length.



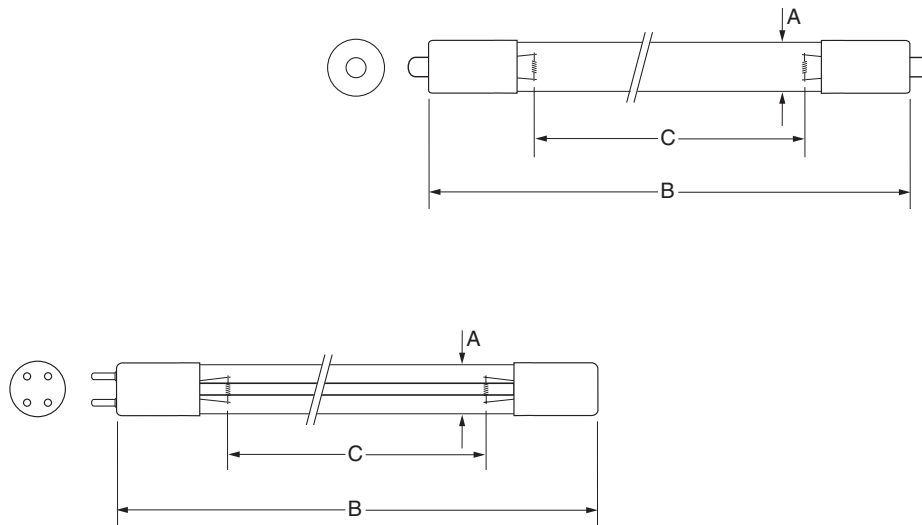
LOW PRESSURE OZONE PRODUCING QUARTZ LAMPS

Ushio Lamp Code	Dimensions (mm)			Watts	Amps	Volts	Spectral Peak (nm)	UV Output (W)	Avg Life (h)
	Dia (A)	OAL (B)	Arc Length (C)						
Instant Start									
G10T5VH	15.0	357	276	18	0.425	55	253.7	5.7	9000
G36T5VH	15.0	843	762	39	0.425	120	253.7	14.2	9000
G64T5VH	15.0	1554	1473	65	0.425	220	253.7	25	9000
Preheat Start									
GPH212T5VH	15.0	212	131	10	0.425	32	253.7	2.9	9000
GPH287T5VH	15.0	287	206	14	0.425	42	253.7	3.9	9000
GPH303T5VH	15.0	303	222	15	0.425	44	253.7	4.1	9000
GPH356T5VH	15.0	356	274	19	0.425	52	253.7	5.7	9000
GPH436T5VH	15.0	436	356	24	0.425	66	253.7	7	9000
GPH793T5VH	15.0	793	711	37	0.425	110	253.7	13	9000
High Output Type									
GHO10T5VH	15.0	357	235	34	0.850	52	253.7	10.8	9000
GHO36T5VH	15.0	843	721	87	0.850	125	253.7	28	9000
GHO64T5VH	15.0	1554	1432	162	0.850	246	253.7	48	9000
GPH436T5VH/HO	15.0	436	314	40	0.650	86	253.7	10	9000

Lamp life tested to 9000 hours at 40% depreciation, 7 hours on / 1 hour off per day.

All lamps available in Single pin, 4-pin and custom configured base design.

Lamps available in customer specified length.



AMALGAM LOW PRESSURE GERMICIDAL LAMPS

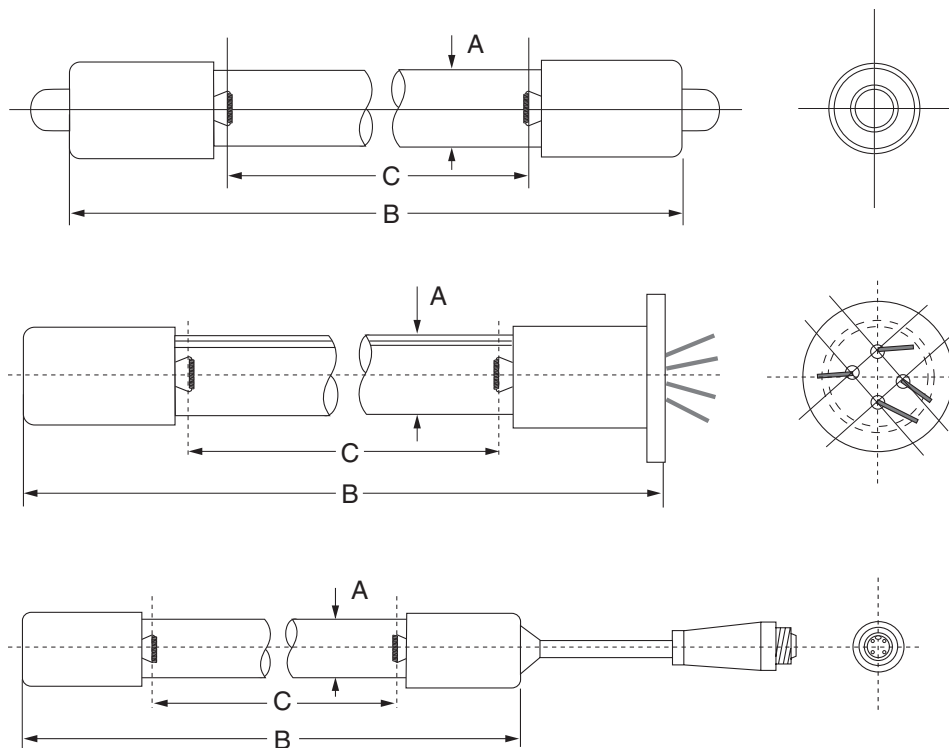
Ushio Lamp Code	Dimensions (mm)			Watts	Amps	Volts	Spectral Peak (nm)	UV Output (W)	Avg Life (h)
	Dia (A)	OAL (B)	Arc Length (C)						
Linear Shape									
GA40T5	15.0	305	240	40	1.0	47	253.7	12.5	8000
GA60T5	15.0	435	370	60	1.2	60	253.7	18	8000
GA70T5	15.0	505	440	70	1.2	70	253.7	20	8000
GA120T5	15.0	860	785	120	1.5	105	253.7	35	8000
GA200T6	19.0	1120	1040	170	2.0	100	253.7	48	8000
GA201T5	15.0	1553	1473	200	1.5	185	253.7	72	8000
GA240T6	19.0	1310	1220	200	2.0	110	253.7	60	8000
GA260T6	19.0	1550	1470	230	2.0	—	253.7	80	8000
GA300T6	19.0	2000	1920	260	2.1	—	253.7	95	8000
GA301T8	25.0	1553	1473	263	—	—	253.7	120	8000
GA360T10	32.0	1553	1473	295	—	—	253.7	147	8000

Lamp life tested to 8000 hours at 35% depreciation. Max. 3 cycles per day - using electronic power supply.

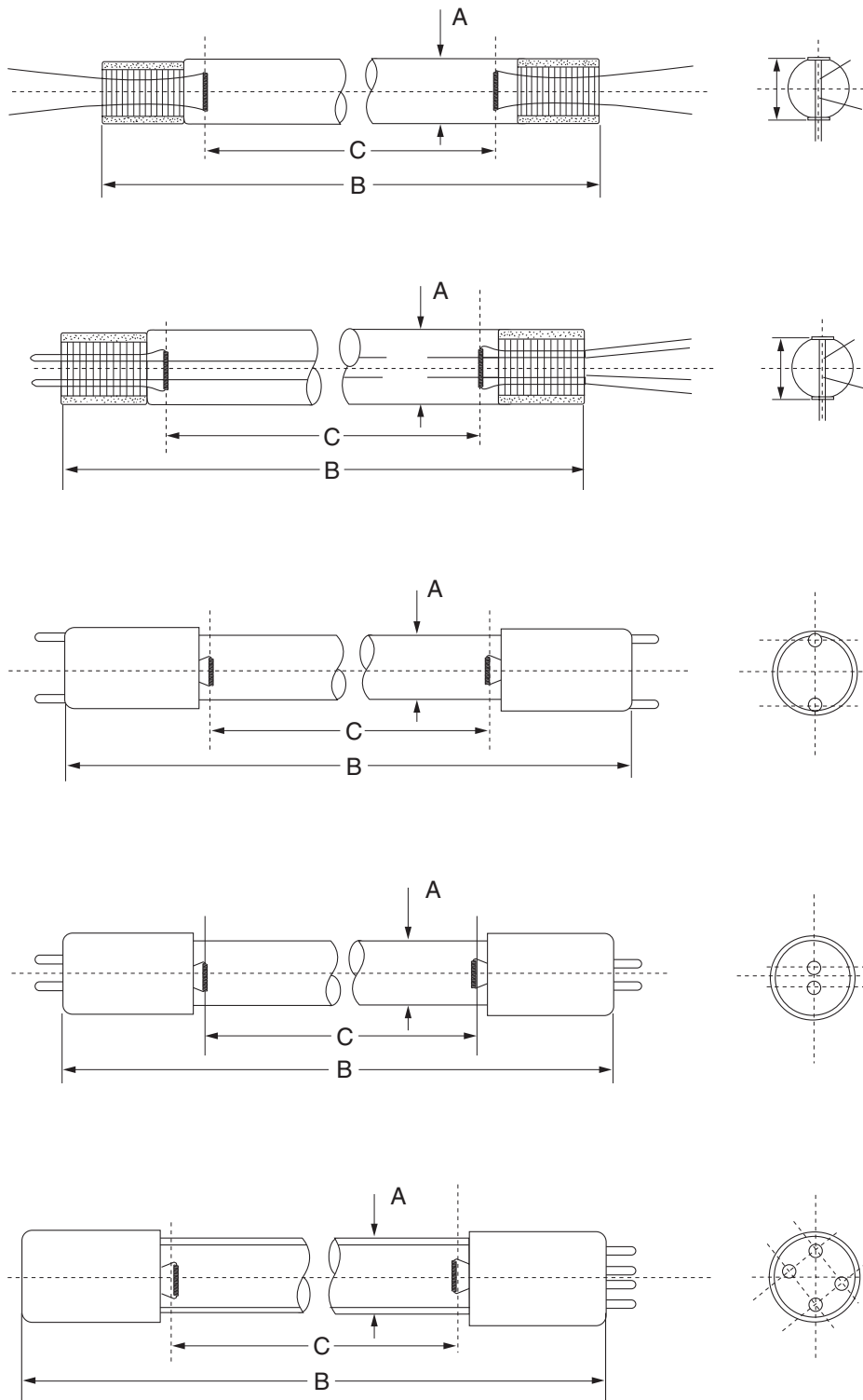
Customer specified length is available.

All lamps available in Bi-pin, Single pin, 4-pin configuration.

Ozone or Non-Ozone



AMALGAM LOW PRESSURE GERMICIDAL LAMPS



AMALGAM U-SHAPED LOW PRESSURE GERMICIDAL LAMPS

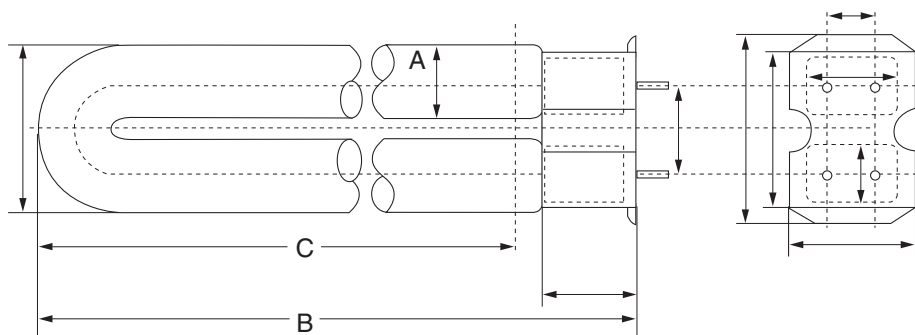
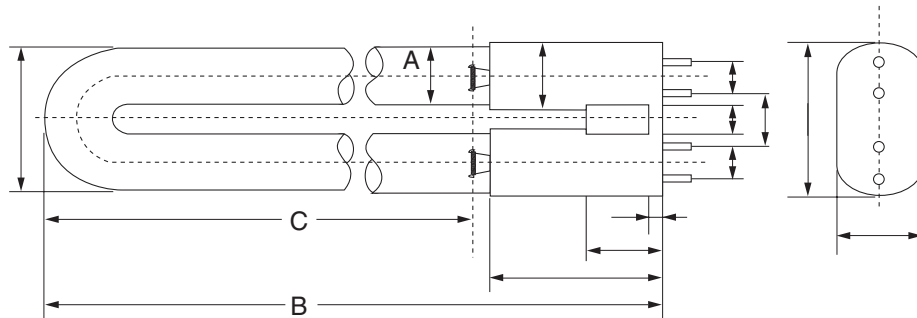
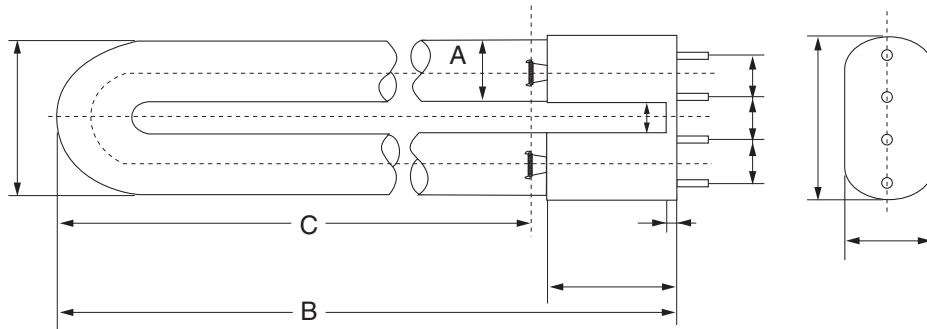
Ushio Lamp Code	Dimensions (mm)			Watts	Amps	Spectral Peak (nm)	UV Output (W)	Avg Life (h)
	Dia	OAL	Lighted Length					
	(A)	(B)	(C)					
U-SHAPE								
GA260T6-U	19.0	1005	940	260	2.0	253.7	95	8000
GA310T6-U	19.0	1205	1140	310	2.1	253.7	115	8000
GA365T6-U	19.0	1505	1440	365	2.2	253.7	140	8000

Lamp life tested to 8000 hours at 35% depreciation. Max. 3 cycles per day - using electronic power supply.

Customer specified length is available.

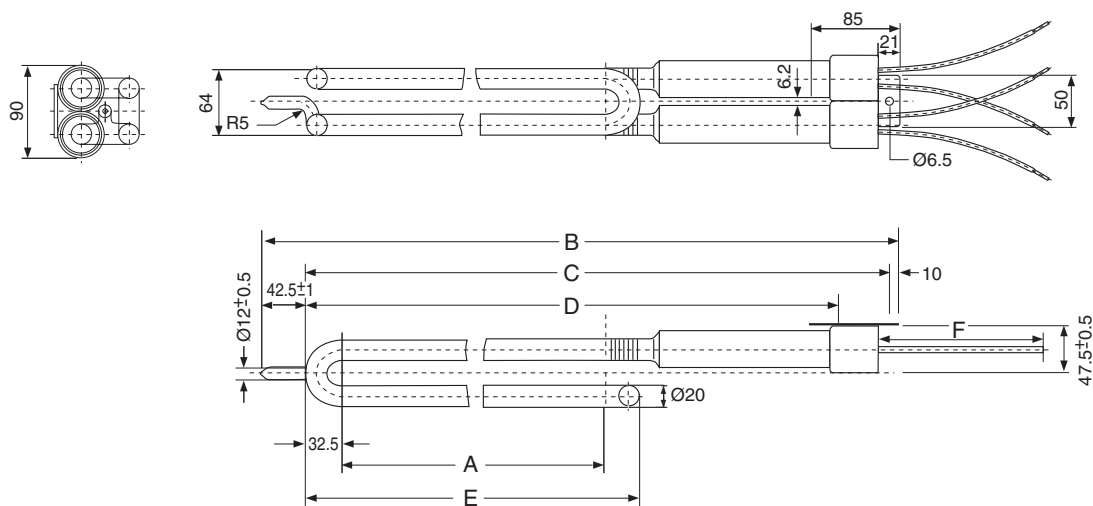
All lamps available in Bi-pin, Single pin, 4-pin configuration.

Ozone or Non-Ozone



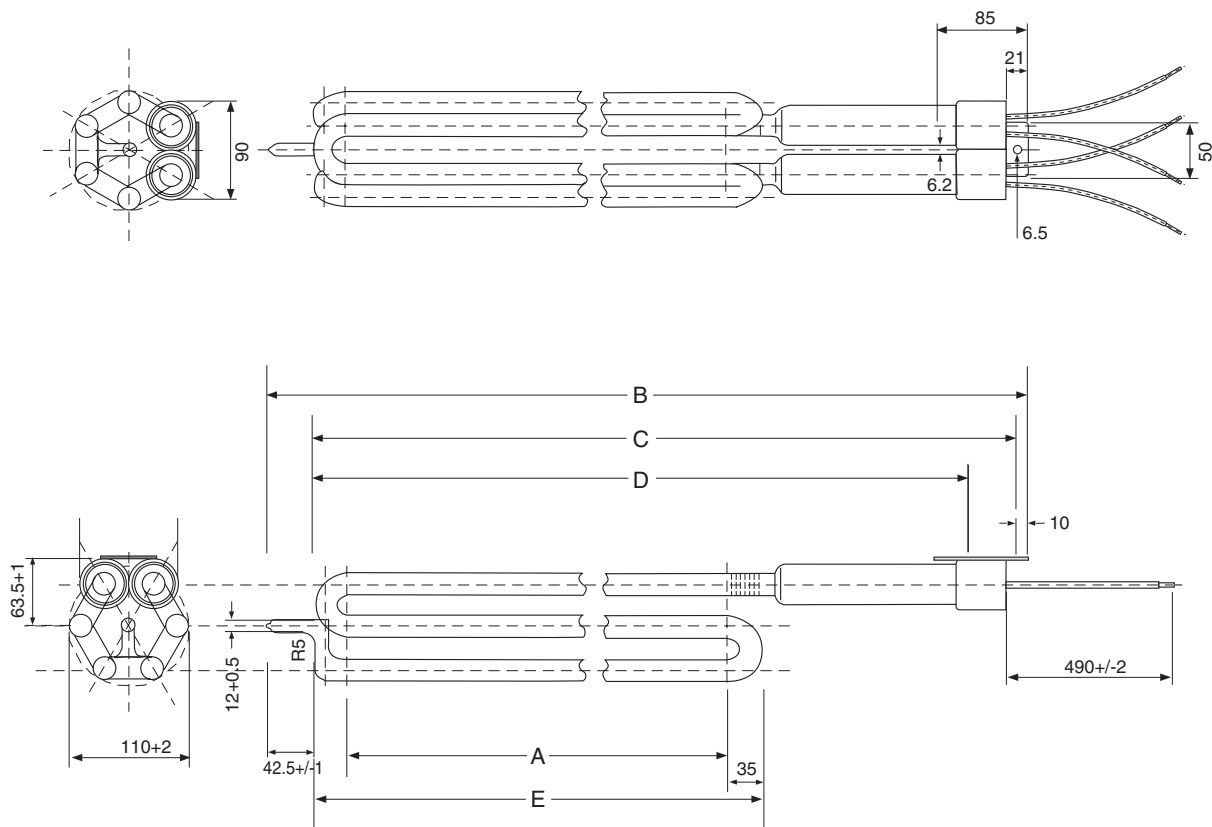
SPECIAL HIGH OUTPUT LOW PRESSURE GERMICIDAL LAMPS

Ushio Lamp Code	Dimensions (mm)						Amps	Volts	Power	Radiant	Arc	Total
	(A)	(B)	(C)	(D)	(E)	(F)			Consumption at 5A	Flux at 5A	Length (mm)	Length (mm)
(254nm)												
AC 4-25	250±1	550±2	505±2	502.5	315±2	165±2	0.5~5.0	280-130	650VA	144W	1200	602
AC 4-50	500±1	852.5	800±2	755±2	565±2	165±2	0.5~5.0	400-220	1100VA	264W	2200	852
AC 4-100	1000±1	1352.5	1300±2	1255±2	1065±2	490±2	0.5~5.0	550-350	1750VA	504W	4200	1352



SPECIAL HIGH OUTPUT LOW PRESSURE GERMICIDAL LAMPS

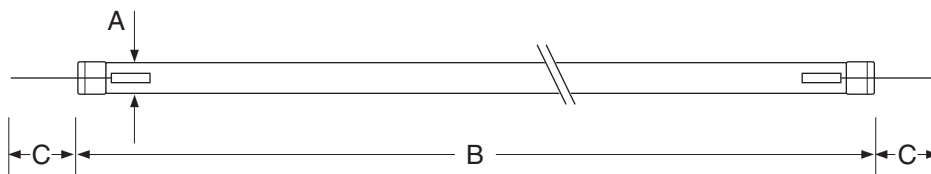
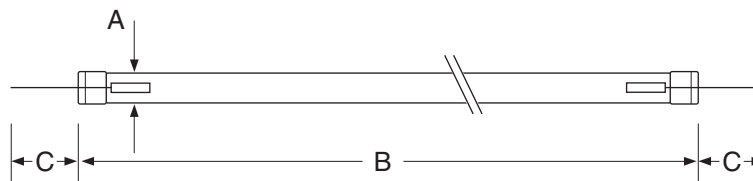
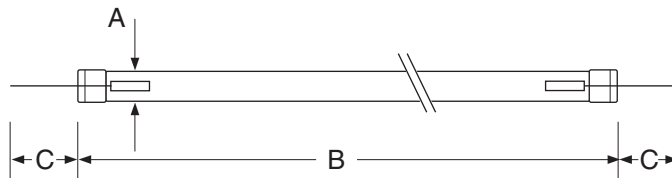
Ushio Lamp Code	Dimensions (mm)						Amps	Volts	Power Consumption at 5A	Radiant Flux at 5A	Arc Length (mm)	Total Length (mm)
	(A)	(B)	(C)	(D)	(E)	(F)						
High Intensity Ultraviolet Lamp										(254nm)		
AC 4-100	1000±1	1352.5	1300±2	1255±2	1065±2	490±2	1.0-5.0	790-480	2400VA	835W	4200	1352



MINIATURE COLD CATHODE GERMICIDAL LAMPS

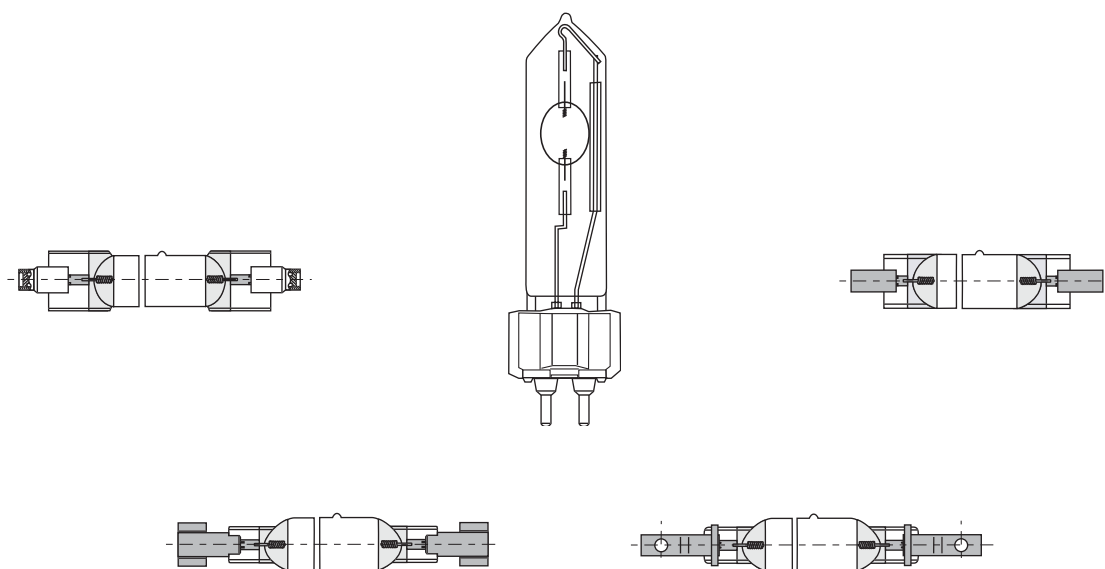
Ushio Lamp Code	Dimensions (mm)			mA	Limit of Usage Amps	Volts	UV Output (254nm) μW/cm²	Avg Life (h)
	Dia (A)	OAL (B)	Wire Length (C)					
Cold Cathode 3ø								
CGL50T3	3.0	50	17	5	4-6	165	12.0	10000
CGL70T3	3.0	70	17	5	4-6	200	18.0	10000
CGL100T3	3.0	100	17	5	4-6	250	26.0	10000
CGL200T3	3.0	200	17	5	4-6	420	55.0	10000
CGL300T3	3.0	300	17	5	4-6	590	85.0	10000
Cold Cathode 4.8ø								
CGL50T4.8	4.8	50	17	5	4-6	155	6.0	10000
CGL70T4.8	4.8	70	17	5	4-6	185	9.0	10000
CGL100T4.8	4.8	100	17	5	4-6	225	12.0	10000
CGL300T4.8	4.8	300	17	5	4-6	550	35.0	10000

- (1) Custom specified length up to 300mm available.
- (2) Measured at the ambient temperature of 25°C.
- (3) Lamp voltage only for reference.
- (4) UV irradiation measured at 30cm distant from the center of the lamp.
- (5) Exclusive inverter used for lighting circuit.
- (6) Rated life time shows hours from the initial output after 100 hours burning, until degradation to 50%.



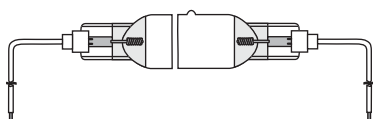
MHL – MEDIUM PRESSURE LAMPS

Ushio Lamp Code	Dimensions (mm)			Watts	Volts
	Dia	OAL	Arc Length		
MHL					
MHL 150	12	72	9	150	120
MHL 250	15	68	18	250	125
MHL 12	16	110	31	500	130
MHL 660	16	120	45	600	140
MHL 600	16	120	45	600	140
MHL 800L	18	117	39	800	130
MHL 800	18	120	39	800	135
MHL 1000S	25	134	30	1000	110
MHL 1007S	25	134	30	1000	120
MHL 13	25	159	75	1000	135
MHL 3001S	28	133	47	2000	200
MHL 3007S	28	133	47	2000	220
MHL 2000/3	25	180	86	2000	200
MHL 1403	25	180	86	2000	250
MHL 17	28	189	102	2000	240
MHL 170L	28	189	102	2000	250
MHL 261L	28	189	102	2000	250
MHL 121HT	25	181	86	3000	130
MHL 3020S	25	190	102	3000	400
MHL 3027S	25	190	102	3000	420
MHL 3002	25	237	145	3000	350
MHL 4001	28	230	102	3500	250
MHL 4007	28	230	102	3500	270



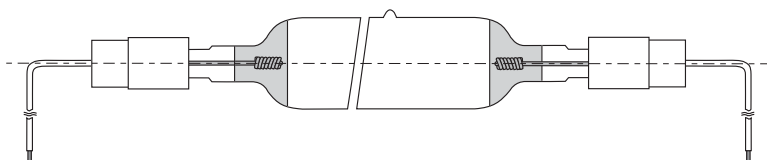
MHL – MEDIUM PRESSURE LAMPS

Ushio Lamp Code	Dimensions (mm)			Watts	Volts
	Dia	OAL	Arc Length		
MHL					
MHL 5000S	28	190	102	4000	400
MHL 5007S	28	190	102	4000	420
MHL 4010	30	198	104	4000	280
MHL 15	33	216	132	4000	240
MHL 281L	28	247	127	4000	480
MHL 282L	28	247	127	4000	480
MHL 280L	28	250	154	4000	400
MHL 6020S	28	215	127	5000	420
MHL 6027S	28	215	127	5000	440
MHL 8027S	28	215	127	5000	540
MHL 5020S	28	240	154	5000	400
MHL 5027S	28	240	154	5000	420
MHL 7500/1	28	242	127	5000	250
MHL 5000/2	25	281	175	5000	220
MHL 5000/4	25	281	175	5000	220
MHL 5000/7	25	281	175	5000	220
MHL 5000/7L	25	281	175	5000	220
MHL 6000	28	222	128	6000	180
MHL 6000	25	249	127	6000	540
MHL 7700/C	30	332	205	7000	510
MHL 7000/O	30	385	277	7000	550
MHL 7007/O	30	385	277	7000	550
MHL 7008/O	30	387	277	7000	550



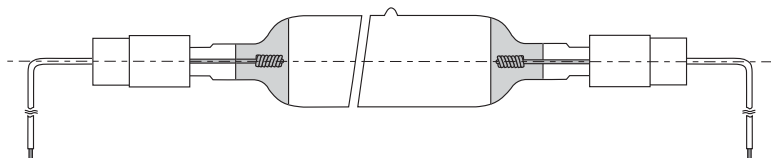
UVH – MEDIUM PRESSURE LAMPS

Ushio Lamp Code	Dimensions (mm)			Watts	Amps	Volts
	Dia	OAL	Arc Length			
UVH						
UVH 1022-0	22.5	230	106	1000	7.5	145
UVH 1224-0	24.5	215	120	1000	8.6	130
UVH 1322-0	22.5	230	125	1300	9.7	150
UVH 1522-0	22.5	275	152	1500	11	150
UVH 1522-1	22.5	275	152	1500	11	150
UVH 1522/28-0	22.5	275	152	1700	7	275
UVH 2019-0	19.5	360	253	2000	15	150
UVH 2022-0	22.5	330	206	2000	9.7	240
UVH 2022-3	22.5	330	206	2000	9.7	240
UVH 2420-0	19.5	361	250	2000	9.5	210
UVH 1524-0	24.5	275	152	2250	16	150
UVH 2026-1	26.5	330	206	2400	10	270
UVH 2522-0	22.5	380	247	2500	10	280
UVH M200S-0	22.5	279	200	2600	11	265
UVH M200U-0	22.5	330	195	2600	10.5	280
UVH 3022-0	22.5	430	305	3000	12	275
UVH 3023-0	22.5	350	250	3000	12	265
UVH 3219-0	19.5	520	403	3200	14.5	240
UVH 3522/28-0	22.5	480	356	3600	14.5	275
UVH 3026-3	26.5	410	300	3700	18	230
UVH 2524-0	24.5	329	250	4000	16	280
UVH 4024-0	24.5	380	256	4000	12	360
UVH 4026-0	26.5	380	256	4000	12	360
UVH 4122-0	22.5	550	425	4100	16	270
UVH 4222-0	22.5	550	425	4200	8	600
UVH 5022/45-0	22.5	630	505	5000	12.4	440
UVH 5822/45-0	22.5	710	585	5800	14.5	440



UVH – MEDIUM PRESSURE LAMPS

Ushio Lamp Code	Dimensions (mm)			Watts	Amps	Volts
	Dia	OAL	Arc Length			
UVH						
UVH 5822-0	22.5	710	585	5800	9	725
UVH 6722-0	22.5	800	680	6700	9.3	850
UVH 6426-0	26.5	530	406	6900	12	630
UVH 7322-0	22.5	860	740	7300	9	900
UVH 8322-0	22.5	939	829	8300	9.3	1000
UVH 10022-0	22.5	1130	1005	10000	9	1250
UVH 11022-0	22.5	1230	1105	11000	8.6	1500
UVH 14021-0	19.5	1575	1397	11000	6.5	1870
UVH 14219-2	19.5	1575	1420	11000	6.3	1870
UVH T550K-3	28.0	660	550	11000	11	1110
UVH CK1400-0	19.5	1584	1405	11200	6.6	1870
UVH MC1400-0	19.5	1532	1405	11200	6.5	1900
UVH 10522-0	22.5	1180	1055	11700	8.5	1530
UVH 12522-0	22.5	1390	1265	12500	9.2	1600
UVH 13022-0	22.5	1430	1305	13000	7.6	1970
UVH 14022 G-0	22.5	1530	1405	14000	8	1950
UVH T1400U-0	22.5	1532	1405	14000	8.4	1850
UVH 14219-0	19.5	1575	1420	14200	8.3	1900
UVH 14222-1	22.5	1575	1420	14200	8.3	1900
UVH 14522-0	22.5	1580	1455	14500	9	1900
UVH 16522-0	22.5	1780	1655	16500	9.2	2000
UVH 10526-0	26.5	1180	1055	16800	9.6	1850
UVH 14222-0	22.5	1548	1420	16800	9.9	1850
UVH 19022-0	22.5	2030	1905	19000	8.8	2400
UVH 20022-0	22.5	2130	2005	20000	9	2500
UVH 14526-0	26.5	1580	1455	23200	12.3	2000
UVH 22024-0	24.5	2330	2205	26400	11.2	2500

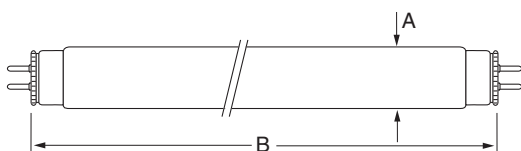


LOW PRESSURE MERCURY ARC LAMPS

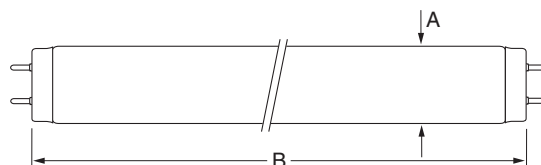
Ushio Ordering Code	Ushio Lamp Code	Dimensions (mm)		Watts	Amps	Volts	Spectral Peak (nm)	UV Output (W)	Avg Life (h)	Base
		Dia (A)	OAL (B)							
UV-B (306nm) Mid Range Lamp										
3000317	G6T5E	15.5	210.0	6.0	0.160	42	306	1.1	3000	G5
3000318	G8T5E	15.5	287.0	7.2	0.145	57	306	1.4	3000	G5
3000319	G15T8E	25.5	436.0	14.7	0.300	55	306	3.0	4000	G13
3000335	G25T8E	25.5	436.0	25.0	0.600	52	306	3.9	3000	G13
3000320	G40T10E	32.5	1198.0	39.5	0.420	106	306	9.3	5000	G13
HALF COAT (254nm/352nm)										
3000333	G4T5/HC	15.5	134.5	4.5	0.170	29	254/252	0.4/0.2	3000	G5
3000334	G6T5/HC	15.5	210.5	6.0	0.160	42	254/352	0.7/0.4	3000	G5
BLACKLIGHT T-5 Miniature Bi-Pin G5 Base										
3000105	F4T5BL	15.5	134.5	4.5	0.170	29	352**	0.5	3000	G5
3000110	F6T5BL	15.5	210.5	6.0	0.160	42	352**	1.0	3000	G5
3000115	F8T5BL	15.5	287.0	7.2	0.145	57	352**	1.2	3000	G5
BLACKLIGHT T-8 Medium Bi-Pin G13 Base										
3000077	F15T8BL	25.5	436.0	15.0	0.305	55	352**	2.6	4000	G13
BLACKLIGHT BLUE T-5 Miniature Bi-Pin G5 Base										
3000106	F4T5BLB	15.5	134.5	4.5	0.170	29	368	0.5	3000	G5
3000111	F6T5BLB	15.5	210.5	6.0	0.160	42	368	1.0	3000	G5
3000116	F8T5BLB	15.5	287.0	7.2	0.145	57	368	1.2	3000	G5
BLACKLIGHT BLUE T-8 Medium Bi-Pin G13 Base										
3000305	F10T8BLB	25.5	330.0	9.5	0.230	46	368	1.5	4000	G13
3000078	F15T8BLB	25.5	436.0	15.0	0.305	55	368	2.6	4000	G13
3000307	F18T8BLB*	25.5	588.5	18.0	0.370	57	368	3.7	4000	G13
3000148	F30T8BLB	25.5	893.0	30.5	0.355	99	368	6.3	4000	G13
3000308	F36T8BLB*	25.5	1198.0	36.0	0.430	103	368	8.1	8000	G13
BLACKLIGHT BLUE T-10 Medium Bi-Pin G13 Base										
3000306	F20T10BLB	32.5	588.5	19.0	0.360	58	368	3.7	4000	G13
3000138	F40T10BLB	32.5	1198.5	39.5	0.420	106	368	8.1	5000	G13

*Preheat

**368nm available upon request



T5 Miniature Bi-Pin G5 Base

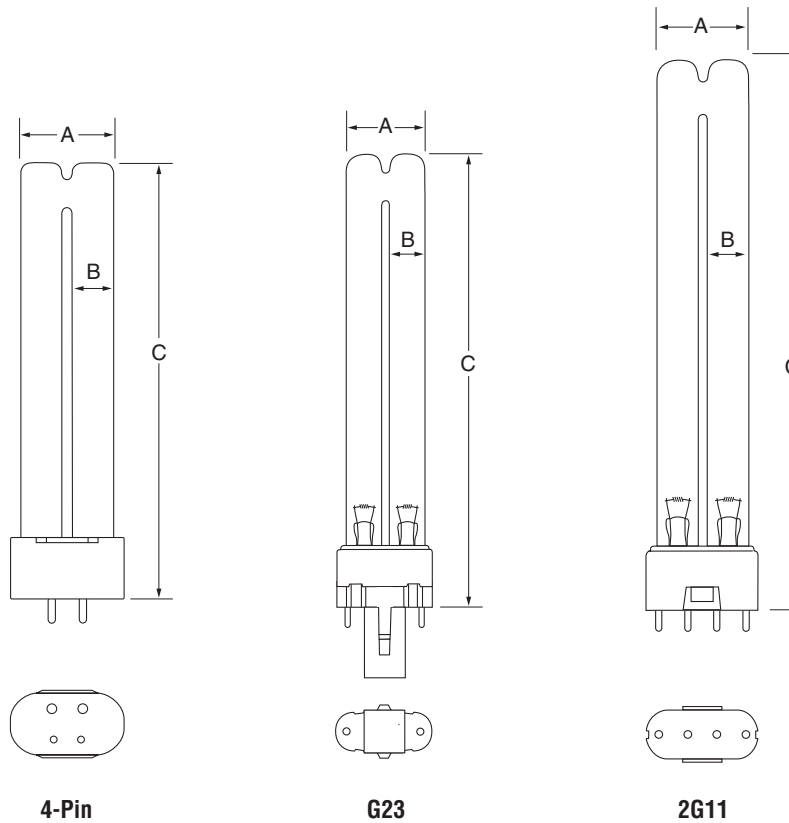


T8 & T10 Medium Bi-Pin G13 Base

LOW PRESSURE MERCURY ARC LAMPS

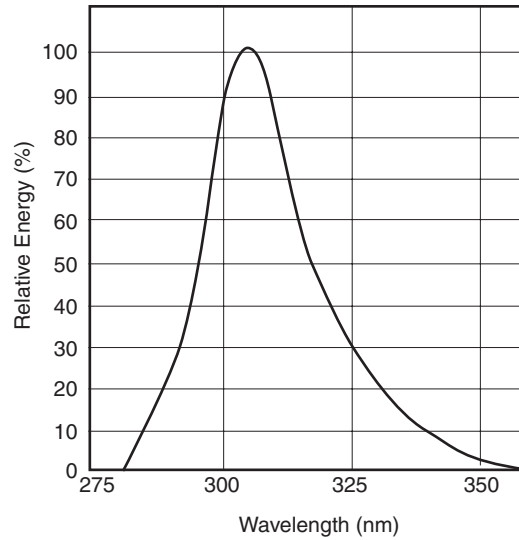
Ushio Ordering Code	Ushio Lamp Code	Dimensions (mm)			Watts	Amps	Volts	Spectral Peak (nm)	UV Output (W)	Avg Life (h)	Base
		Dia (A)	Dia (B)	Length (C)							
BLACKLIGHT, U-SHAPE, 4-Pin Base											
3000337	FUL6BL	35.0	16.5	112.0	6.0	0.160	42	352**	0.7	3000	4-Pin
BLACKLIGHT, G23 Base											
3000331	FPX9BL	28.0	13.0	145.0	9.0	0.170	60	352**	1.4	4000	G23
3000332	FPX11BL	28.0	13.0	215.0	11.0	0.155	91	352**	1.7	4000	G23
BLACKLIGHT BLUE, G23 & 2G11 Base											
3000329	FPX5BLB	28.0	13.0	85.0	5.5	0.180	35	368	0.7	4000	G23
3000330	FPX7BLB	28.0	13.0	115.0	7.0	0.180	45	368	1.0	4000	G23
3000325	FPX9BLB	28.0	13.0	145.0	9.0	0.180	59	368	1.4	4000	G23
3000326	FPX11BLB	28.0	13.0	215.0	11.8	0.155	91	368	1.7	4000	G23
3000327	FPX18KBLB	40.0	20.0	225.0	18.0	0.375	58	368	3.3	4000	2G11

**368nm available upon request

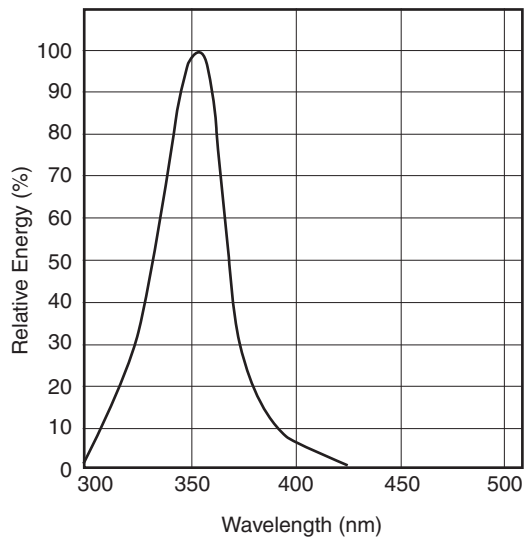


LOW PRESSURE MERCURY ARC LAMPS

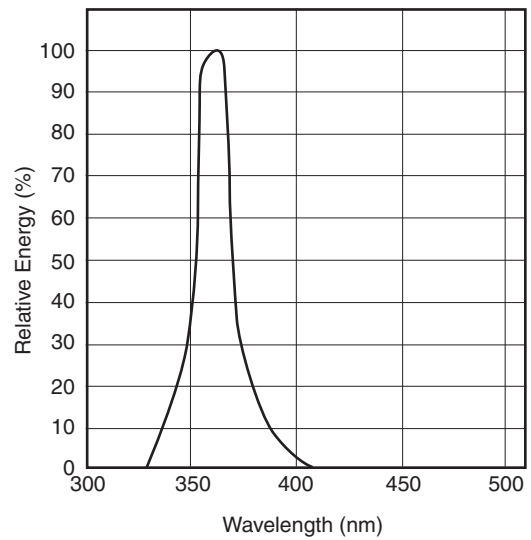
**UV-B Lamp
306nm**



**Blacklight Lamp (BL)
352nm**

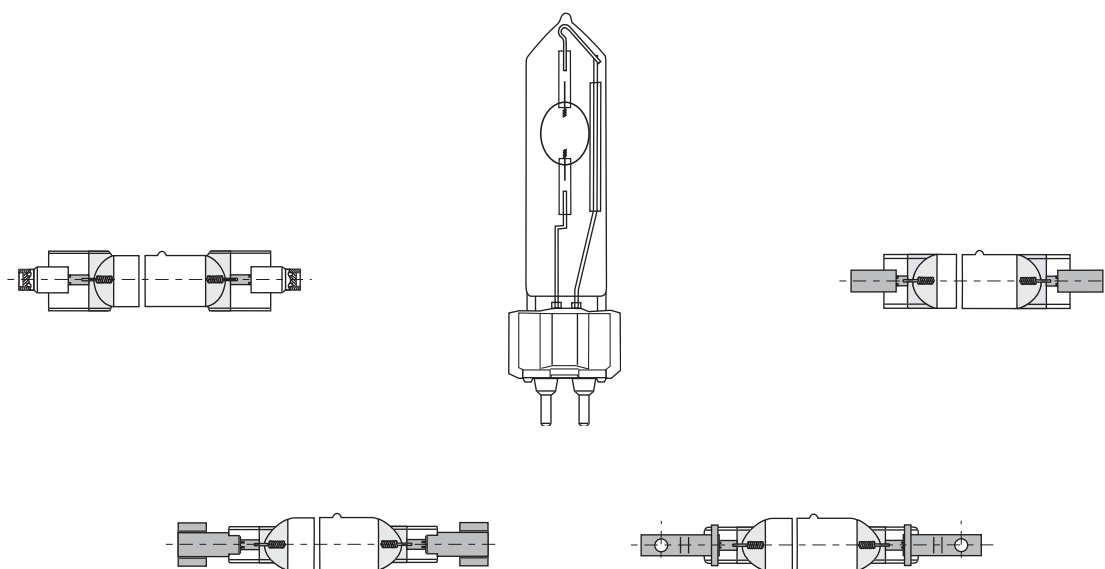


**Blacklight Lamp (BL) &
Blacklight Blue Lamp (BLB)
368nm**



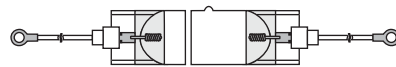
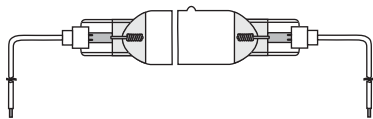
MHL – MEDIUM PRESSURE LAMPS

Ushio Lamp Code	Dimensions (mm)			Watts	Volts
	Dia	OAL	Arc Length		
MHL					
MHL 150	12	72	9	150	120
MHL 250	15	68	18	250	125
MHL 12	16	110	31	500	130
MHL 660	16	120	45	600	140
MHL 600	16	120	45	600	140
MHL 800L	18	117	39	800	130
MHL 800	18	120	39	800	135
MHL 1000S	25	134	30	1000	110
MHL 1007S	25	134	30	1000	120
MHL 13	25	159	75	1000	135
MHL 3001S	28	133	47	2000	200
MHL 3007S	28	133	47	2000	220
MHL 2000/3	25	180	86	2000	200
MHL 1403	25	180	86	2000	250
MHL 17	28	189	102	2000	240
MHL 170L	28	189	102	2000	250
MHL 261L	28	189	102	2000	250
MHL 121HT	25	181	86	3000	130
MHL 3020S	25	190	102	3000	400
MHL 3027S	25	190	102	3000	420
MHL 3002	25	237	145	3000	350
MHL 4001	28	230	102	3500	250
MHL 4007	28	230	102	3500	270



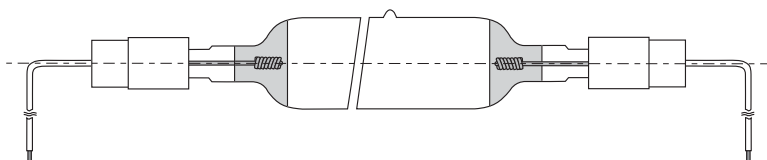
MHL – MEDIUM PRESSURE LAMPS

Ushio Lamp Code	Dimensions (mm)			Watts	Volts
	Dia	OAL	Arc Length		
MHL					
MHL 5000S	28	190	102	4000	400
MHL 5007S	28	190	102	4000	420
MHL 4010	30	198	104	4000	280
MHL 15	33	216	132	4000	240
MHL 281L	28	247	127	4000	480
MHL 282L	28	247	127	4000	480
MHL 280L	28	250	154	4000	400
MHL 6020S	28	215	127	5000	420
MHL 6027S	28	215	127	5000	440
MHL 8027S	28	215	127	5000	540
MHL 5020S	28	240	154	5000	400
MHL 5027S	28	240	154	5000	420
MHL 7500/1	28	242	127	5000	250
MHL 5000/2	25	281	175	5000	220
MHL 5000/4	25	281	175	5000	220
MHL 5000/7	25	281	175	5000	220
MHL 5000/7L	25	281	175	5000	220
MHL 6000	28	222	128	6000	180
MHL 6000	25	249	127	6000	540
MHL 7700/C	30	332	205	7000	510
MHL 7000/O	30	385	277	7000	550
MHL 7007/O	30	385	277	7000	550
MHL 7008/O	30	387	277	7000	550



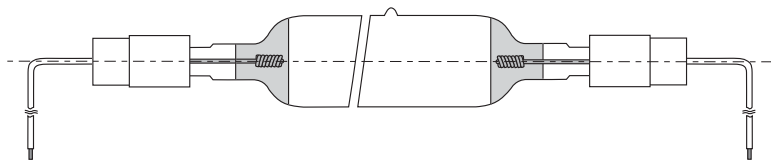
UVH – MEDIUM PRESSURE LAMPS

Ushio Lamp Code	Dimensions (mm)			Watts	Amps	Volts
	Dia	OAL	Arc Length			
UVH						
UVH 1022-0	22.5	230	106	1000	7.5	145
UVH 1224-0	24.5	215	120	1000	8.6	130
UVH 1322-0	22.5	230	125	1300	9.7	150
UVH 1522-0	22.5	275	152	1500	11	150
UVH 1522-1	22.5	275	152	1500	11	150
UVH 1522/28-0	22.5	275	152	1700	7	275
UVH 2019-0	19.5	360	253	2000	15	150
UVH 2022-0	22.5	330	206	2000	9.7	240
UVH 2022-3	22.5	330	206	2000	9.7	240
UVH 2420-0	19.5	361	250	2000	9.5	210
UVH 1524-0	24.5	275	152	2250	16	150
UVH 2026-1	26.5	330	206	2400	10	270
UVH 2522-0	22.5	380	247	2500	10	280
UVH M200S-0	22.5	279	200	2600	11	265
UVH M200U-0	22.5	330	195	2600	10.5	280
UVH 3022-0	22.5	430	305	3000	12	275
UVH 3023-0	22.5	350	250	3000	12	265
UVH 3219-0	19.5	520	403	3200	14.5	240
UVH 3522/28-0	22.5	480	356	3600	14.5	275
UVH 3026-3	26.5	410	300	3700	18	230
UVH 2524-0	24.5	329	250	4000	16	280
UVH 4024-0	24.5	380	256	4000	12	360
UVH 4026-0	26.5	380	256	4000	12	360
UVH 4122-0	22.5	550	425	4100	16	270
UVH 4222-0	22.5	550	425	4200	8	600
UVH 5022/45-0	22.5	630	505	5000	12.4	440
UVH 5822/45-0	22.5	710	585	5800	14.5	440



UVH – MEDIUM PRESSURE LAMPS

Ushio Lamp Code	Dimensions (mm)			Watts	Amps	Volts
	Dia	OAL	Arc Length			
UVH						
UVH 5822-0	22.5	710	585	5800	9	725
UVH 6722-0	22.5	800	680	6700	9.3	850
UVH 6426-0	26.5	530	406	6900	12	630
UVH 7322-0	22.5	860	740	7300	9	900
UVH 8322-0	22.5	939	829	8300	9.3	1000
UVH 10022-0	22.5	1130	1005	10000	9	1250
UVH 11022-0	22.5	1230	1105	11000	8.6	1500
UVH 14021-0	19.5	1575	1397	11000	6.5	1870
UVH 14219-2	19.5	1575	1420	11000	6.3	1870
UVH T550K-3	28.0	660	550	11000	11	1110
UVH CK1400-0	19.5	1584	1405	11200	6.6	1870
UVH MC1400-0	19.5	1532	1405	11200	6.5	1900
UVH 10522-0	22.5	1180	1055	11700	8.5	1530
UVH 12522-0	22.5	1390	1265	12500	9.2	1600
UVH 13022-0	22.5	1430	1305	13000	7.6	1970
UVH 14022 G-0	22.5	1530	1405	14000	8	1950
UVH T1400U-0	22.5	1532	1405	14000	8.4	1850
UVH 14219-0	19.5	1575	1420	14200	8.3	1900
UVH 14222-1	22.5	1575	1420	14200	8.3	1900
UVH 14522-0	22.5	1580	1455	14500	9	1900
UVH 16522-0	22.5	1780	1655	16500	9.2	2000
UVH 10526-0	26.5	1180	1055	16800	9.6	1850
UVH 14222-0	22.5	1548	1420	16800	9.9	1850
UVH 19022-0	22.5	2030	1905	19000	8.8	2400
UVH 20022-0	22.5	2130	2005	20000	9	2500
UVH 14526-0	26.5	1580	1455	23200	12.3	2000
UVH 22024-0	24.5	2330	2205	26400	11.2	2500



USHIO

CERAMIC XENON LAMPS

VAC CERAMIC XENON SERIES



Made in U.S.A.

VAC CERAMIC XENON LAMPS

USHIO America, a respected leader in specialty lighting, brings you the latest advancement in lamp technology - our new "VAC" Ceramic Xenon lamps.

Patent pending design and construction improves consistency and guarantees extraordinary quality for every lamp.

We build to exacting specifications in our U.S. manufacturing facility and hold the new "VAC" Ceramic Xenon lamps to rigorous quality standards.

USHIO "VAC" lamps exceed most requirements in critical applications that demand stable, consistent and long lasting light in surgical, scientific and analytical settings.

APPLICATIONS

- Surgical
- Bio-Medical
- Borescopy
- Microscope
- Analytical
- Fiber Optic Illumination
- Video/Data Projection
- Machine Vision
- Infrared & Visible Searchlights

FEATURES & BENEFITS

- New patent pending design ensures high arc stability and long life.
- Advanced tooling and optical design improves lumen maintenance and arc stability.
- Leading technology, manufacturing and quality processes enable unmatched performance, consistency and reliability - lamp to lamp.
- Strong, 700 hour, non-prorated warranty supports our unparalleled quality.

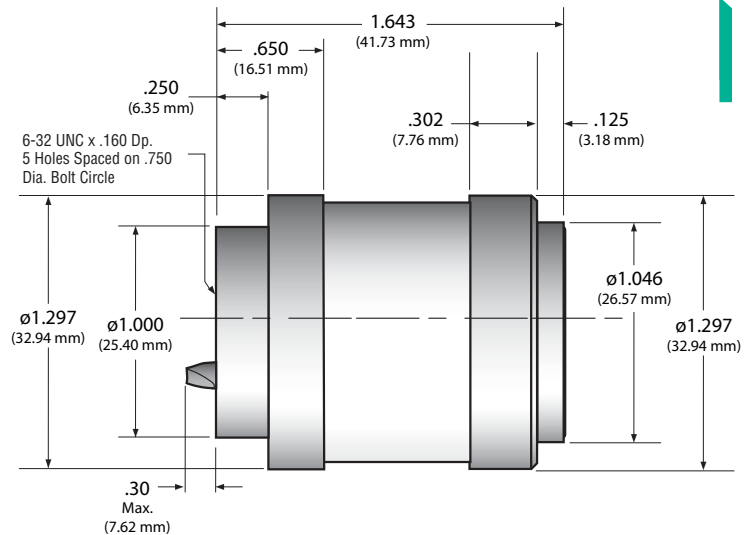
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CHARACTERISTICS & SPECIFICATIONS

VAC175-F-C VAC300-F-C5

PHYSICAL/MECHANICAL SPECIFICATIONS	VAC175-F-C	VAC300-F-C5
Overall Length	1.643in./41.73mm	1.643in./41.73mm
Diameter	1.297in./32.94mm	1.297in./32.94mm
Window Diameter	1.046in./26.57mm	1.046in./26.57mm
Reflector Geometry	Parabolic	Parabolic
Max. Body Temp. (C°)	150	150



PRODUCT DESCRIPTION USHIO ORDERING CODE	VAC175-F-C 5001603	VAC300-F-C5 5001543
ELECTRICAL SPECIFICATIONS		
Power (Watts)	175W	300W
Power Range (Watts)	150-200W	175-350W
Current (A)	14A	22A
Current Range (A)	12-16A	13-24A
Voltage (V)	12.5V	14V
Voltage Range (V)	11.0-14.0V	11.5-15.5V
Minimum Ignition Voltage at Lamp (kV)	25	25
PHOTOMETRIC SPECIFICATIONS+		
ALL VALUES ARE NOMINAL+		
Radiant Output (Watts)	25	50
Visible Output (Lumens)	2500	6000
UV Output <390nm (Watts)	1.1	2.5
IR Output >770nm (Watts)	16.2	30
Color Temperature (K°)	5600	5600
FOCUSED OUTPUT F/1.0 LENS		
6 MM Aperture (Lumens/Watt)	1600/15.0	3300/29.0
3 MM Aperture (Lumens/Watt)	900/8.0	2200/19.0
Beam Angle at 10% Beam Height	10°	10°
Typical Beam Instability	4%	4%
Typical Life (Hours)*	1,000	1,200
Warranted Life Non-Prorated (Hours)*	700	700
Package Qty	1	1

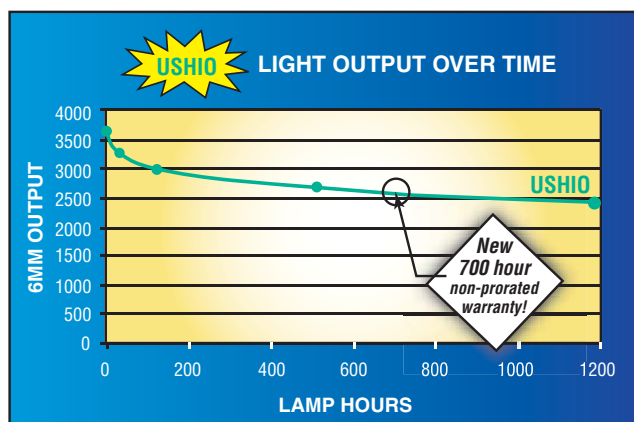
*Average rated life hours are based on 50% lumen depreciation from initial output as measured through a 6mm aperture.



PERFORMANCE COMPARISON DATA

USHIO's NEW VAC CERAMIC XENON LAMPS

Give More Light and Superior Lumen Maintenance Over Life!

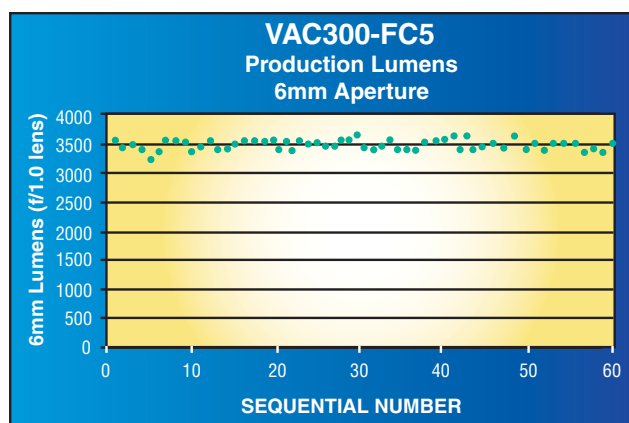


Key developments in lamp design features and technological refinements by industry leading engineers have created a ceramic xenon lamp that starts with *more light output and outlasts all the others!***

**Represents average values measured in lab conditions. All lamps measured under same conditions. Lamps' duty cycle of 1 hour 45 minutes ON and 15 minutes OFF with 32 dBA fan.

USHIO's NEW VAC CERAMIC XENON LAMPS

Have Unrivaled Built-In Quality, Consistent Output, and Performance – *EVERYTIME!*



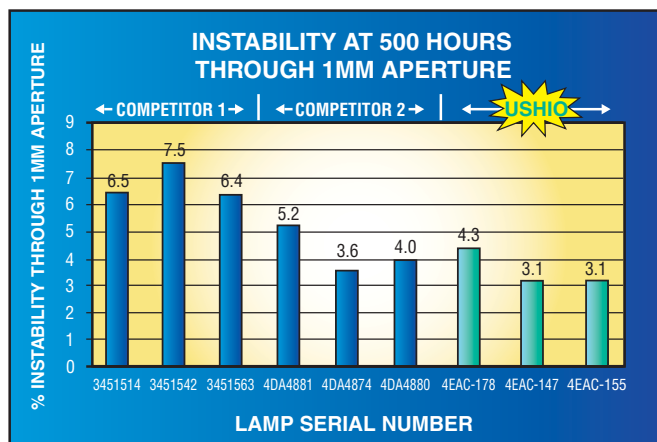
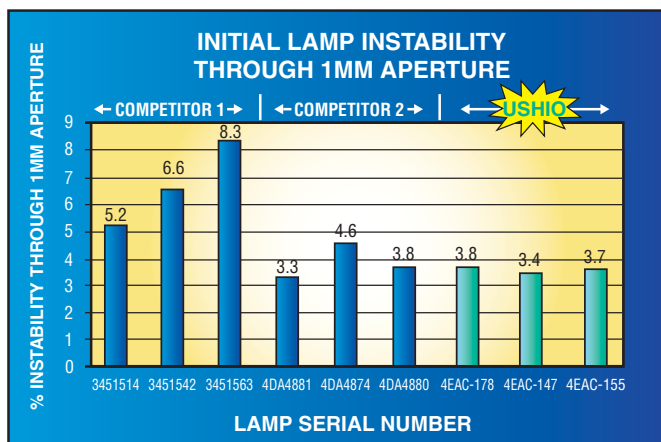
New advanced tooling designs and manufacturing processes reliably ensure your application has the best performing ceramic xenon lamp on the market.

THE NEW USHIO AMERICA VAC LAMPS COME BACKED WITH A NON-PRORATED 700 HOUR WARRANTY. Δ

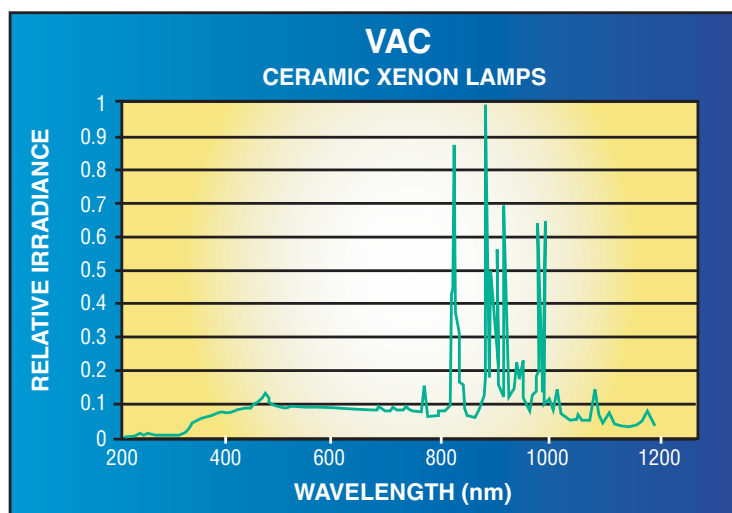
Confidence in our unmatched quality enables us to give our customers the product they need with extraordinary support. A 40% increase to our standard non-prorated warranty shows the USHIO America commitment to you and your customers!

Δ Contact your Regional Sales Manager or Customer Service Representative for return authorization. Laboratory evaluation and warranty disposition at the sole discretion of USHIO America, Inc., Cypress, CA.

ELECTRODE DESIGN IS THERMALLY MODELED FOR
OPTIMUM LIFE/STABILITY - LESS FLICKER



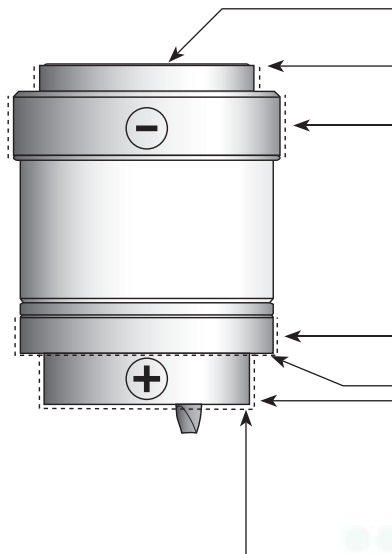
SPECTRAL DISTRIBUTION CHART



- Observe correct polarity and install the lamp accordingly. Running the lamp with reversed polarity will damage the lamp and void the warranty.
- Do not exceed rated current.
- Lamp should be operated in the horizontal position. Operating the lamp within 45° of vertical with the window up can cause thermal stress on the window and possible failure.
- Lamp operating temperature should not exceed 150° C any time throughout lamp life. Use heatsinks, thermally conductive grease, and forced air cooling to maintain proper operating temperature. A thin layer of thermal grease is required on ALL lamp-to-heatsink mating surfaces.
- Window should be free from grease, fingerprints, and other oils and contaminants to avoid stresses during operation. Use alcohol wipes to clean window as necessary.
- Remove the vinyl tubing from the filling tip before installing the lamp.



Thermal heat transfer paste is necessary on the metal surfaces shown as a means of reducing thermal contact resistance between the lamp and heatsink. This results in decreased lamp operating temperature and improved lamp life. The thermal paste compound should be applied uniformly with a thickness no greater than .005" (.13mm).



The lamp window must remain free of any thermal compound residue.

Apply thermal compound to the indicated metal surfaces

Lamps having thread mounted heatsinks should have thermal compound applied to this back surface.



SAFETY & HANDLING

Ceramic Xenon lamps are under high pressure and emit high levels of radiation. Proper handling procedures and safety precautions must be utilized to assure the safety of the user of this product. Only operate this lamp within recommended operating specifications as detailed in our product data sheets.

Safety Hazards – Following these guidelines will help assure user safety:

Explosion: These lamps are under high pressure. Use of face shields or safety glasses during handling is recommended. Avoid applying excessive shock or stress to the lamp during handling.

High Voltage: The ignition voltage presents a high-voltage hazard. Do not touch the lamp during operation. The input power must be disconnected prior to attempting to service the lamp to avoid the risk of electrical shock.

UV, Visible, and IR Radiation: These lamps emit high levels of radiation that can cause severe skin burns and permanent eye damage. Avoid direct exposure to the emitted or reflected beam.

Ozone Emissions: Some lamps emit ultraviolet radiation that can generate ozone. Assure adequate filtration or ventilation during operation to avoid ozone accumulation which can create a respiratory hazard.

Thermal Hazards: These lamps can get very hot during and after operation—up to several hundred degrees centigrade. To avoid potential for serious burns, do not touch lamp during operation, or after, until lamp has adequately cooled.

Disposal: It is recommended that the lamp's internal pressure is relieved prior to disposal. This is accomplished by squeezing the tip-off with pliers until the gas escapes. Pressurized lamps should not be incinerated, but disposed of in a landfill.

For more information on the safe operation of your USHIO lighting products, feel free to contact us at 800.838.7446, or email us at info@ushio.com



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AMERICA, INC.

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2730 Brighton Road
Oakville, Ontario Canada L6H 5T4
905.829.3338

Toll-Free 877.902.0722
Fax 905.829.5343

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Scan with a smartphone
to view this product online.



USHIO

HALOGEN LAMPS

VL1K HALOGEN



TUNGSTEN HALOGEN LAMPS FOR VARI* LITE VL1000T/TS FIXTURES

USHIO's VL1K lamp was specifically designed for the Vari*lite VL1000 automated ellipsoidal reflector spotlight.

The award winning duo of the USHIO VL1K and Vari*Lite's VL1000 fixture unites the light qualities of a high efficacy tungsten halogen lamp with the versatility of an automated ellipsoidal instrument. Tightly controlled filament design and gas-fill tolerances of the VL1K lamp propel the fixture performance to more than 10,000 lumens. The VL1K lamp provides a consistent warm color and seamless dimming desired in theatrical applications.

FEATURES & BENEFITS

- Over 25,000 lumens
- Consistent color— 3200K
- High efficacy— 28.5 lumens/watt
- Seamless theatrical dimming



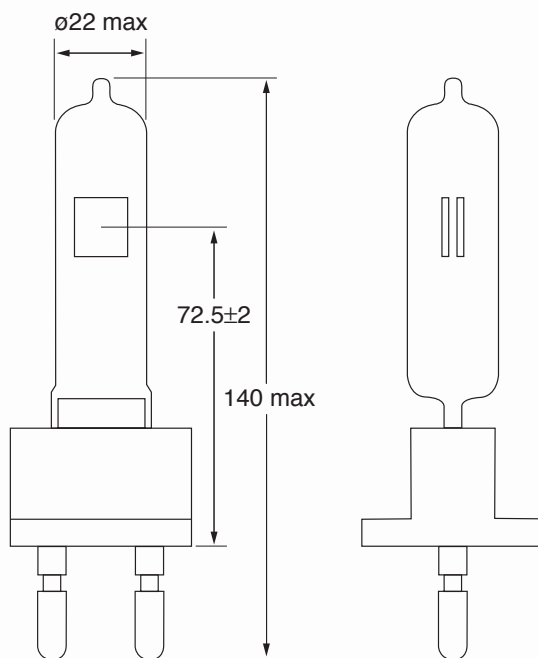
APPLICATIONS

- Vari*Lite VL1000T and VL1000TS

USHIO

CHARACTERISTICS & SPECIFICATIONS

VL1K HALOGEN



G22 Base

All dimensions are in millimeters

Watts (W)	Ushio Ordering Code	Ushio Lamp Code	Description	Voltage (V)	Color Temp (K)	Approx Lumens (lm)	Filament Type	Oper Life (h)*
1000	1003250	VL1K-100V	JS100V-1000WC/V	100	3200	28500	8-C-13D	300
1000	1003248	VL1K-115V	JS115V-1000WC/V	115	3200	28500	8-C-13D	300
1000	1003273	VL1K-240V	JS240V-1000WC/V	240	3200	25500	8-C-13D	300
1000	—	VL1K-250V	JS250V-1000WC/V	250	3200	25500	8-C-13D	300

* life hours based on use in Vari*lite VL1000T/TS fixtures



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Distributed by:

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USHIO

MR-16 REFLECTOR LAMP

WHITESTAR™ SERIES



WHITESTAR™ 4200K - 6500K HIGH COLOR TEMPERATURE MR-16 FOR GENERAL LIGHTING

The Whitestar™ high color temperature series of lamps were designed to provide a balanced, full spectrum MR-16 for display and task lighting. These high color temperature lamps project a high luminous intensity with low ultraviolet and infrared emissions to protect artwork and valuable merchandise.

Whitestar™ lamps have a correlated color temperature range of 4200K through 6500K. Whitestar™ lamps can be specified to meet your specialty display applications.

Available in: 35W in flood beam spread
50W in spot, narrow flood and flood beam spreads

FEATURES & BENEFITS

- 4200K, 4700K, 5300K & 6500K — Daylight Spectrum
- Consistent Color — Titanium Oxide Reflector Coating
- Integrated UV Protection
- Cool Beam Effect
- Integrated Cover Glass
- Precisely Focused Light Cone
- Homogeneous Color with 4200K Metal Halide & Fluorescents



The Whitestar™ series of lamps are manufactured under ISO 9001 guidelines ensuring quality and security for the purchaser

APPLICATIONS

- | | |
|-----------------------|-------------------------|
| • Retail | • Museums |
| • Jewelry | • Eyewear |
| • Textile Displays | • Crystal and Glassware |
| • Color Matching | • Task Lighting |
| • Waterscape | • Machine Vision |
| • Silver and Platinum | • Health Care |

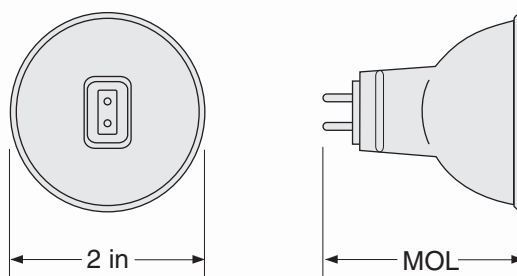
USHIO

CHARACTERISTICS & SPECIFICATIONS

WHITESTAR™
12 Volt - 35 & 50 Watt
GU5.3 Base

Chromaticity Coordinates:

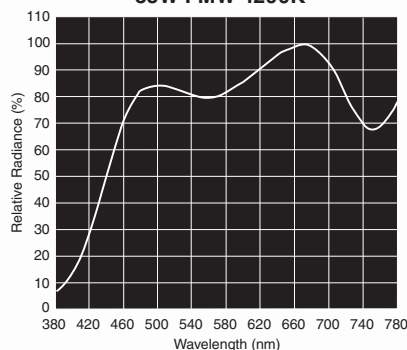
4200K: x= 0.372 y= 0.371
4700K: x= 0.356 y= 0.365
5300K: x= 0.337 y= 0.345
6500K: x= 0.315 y= 0.325



Watts (W)	USHIO Ordering Code	USHIO Lamp Description	Dimension MOL (in)	Color Temp (K)	Beam Angle	Beam Spread	Luminous Intensity (cd)	Avg Life (h)
35	1003340	FMW/FG/WS/4200	1.78	4200	36°	Flood	600	4000
35	1003341	FMW/FG/WS/5300	1.78	5300	36°	Flood	500	4000
50	1002287	EXT/FG/WS/4700	1.78	4700	12°	Spot	5000	4000
50	1002286	EXZ/FG/WS/4200	1.78	4200	24°	Narrow Flood	2000	4000
50	1002249	EXN/FG/WS/4200	1.78	4200	36°	Flood	1200	4000
50	1003226	EXT/FG/WS/6500	1.78	6500	12°	Spot	3300	4000
50	1003224	EXZ/FG/WS/5300	1.78	5300	24°	Narrow Flood	1100	4000
50	1003225	EXN/FG/WS/5300	1.78	5300	36°	Flood	600	4000

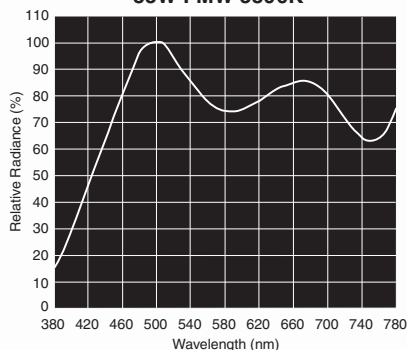
WHITESTAR™

35W FMW 4200K



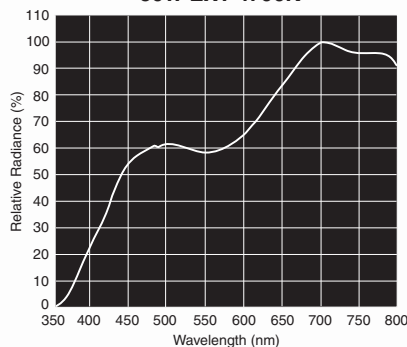
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2.13	3.3	56
4.26	6.6	14
6.40	9.8	6
8.53	13.1	4
36°	FMW 4200K	35W

35W FMW 5300K



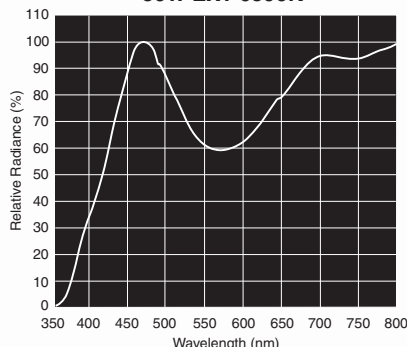
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2.13	3.3	46
4.26	6.6	12
6.40	9.8	5
8.53	13.1	3
36°	FMW 5300K	35W

50W EXT 4700K



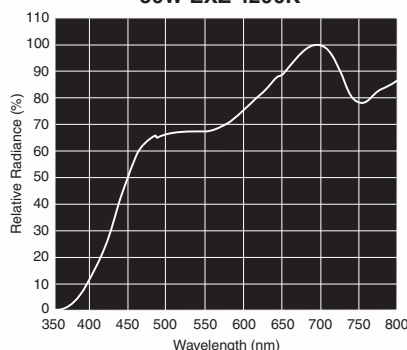
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0.69	3.3	465
1.38	6.6	116
2.10	9.8	52
2.79	13.1	29
12°	EXT 4700K	50W

50W EXT 6500K



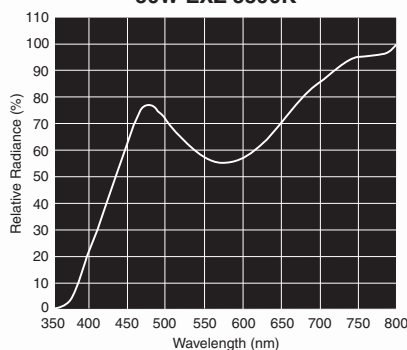
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0.69	3.3	307
1.38	6.6	77
2.10	9.8	34
2.79	13.1	19
12°	EXT 6500K	50W

50W EXZ 4200K



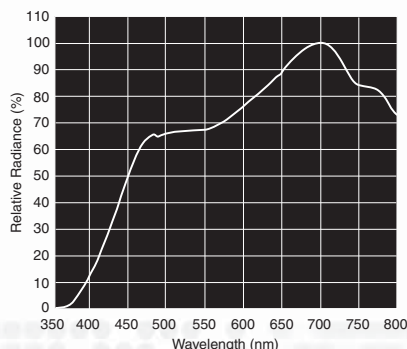
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1.41	3.3	186
2.79	6.6	46
4.20	9.8	21
5.58	13.1	12
24°	EXZ 4200K	50W

50W EXZ 5300K



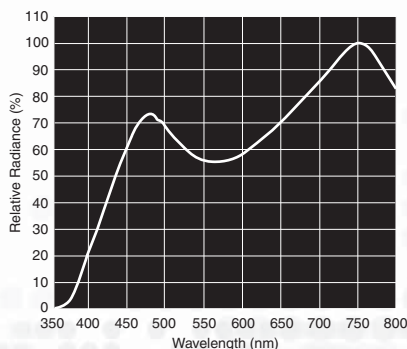
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1.41	3.3	102
2.79	6.6	26
4.20	9.8	11
5.58	13.1	6
24°	EXZ 5300K	50W

50W EXN 4200K



ø[ft]	H[ft]	E[fc]
2.13	3.3	111
4.26	6.6	28
6.40	9.8	12
8.53	13.1	7
36°	EXN 4200K	50W

50W EXN 5300K



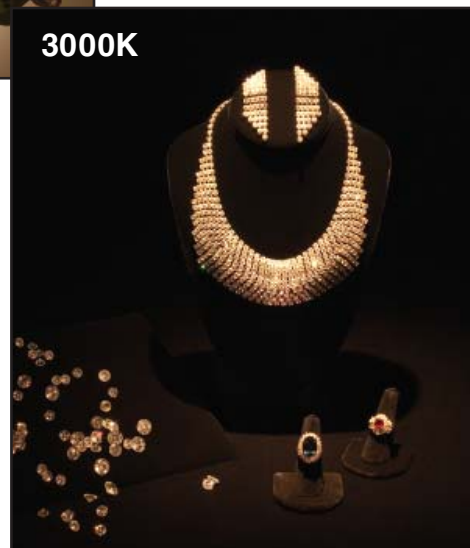
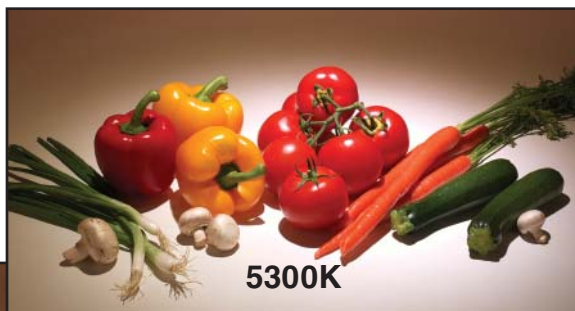
ø[ft]	H[ft]	E[fc]
2.13	3.3	56
4.26	6.6	14
6.40	9.8	6
8.53	13.1	4
36°	EXN 5300K	50W

USHIO

WHITESTAR™

The right light can make all of the difference between browsing and buying

Whitestar™ MR-16 lamps from USHIO utilize Titanium Oxide hard coatings on the reflector to maintain consistent color from lamp to lamp and throughout the life of the lamp. Harmful UV light is reduced through a special doping process of the quartz envelope. A proprietary dichroic coating of the front glass reduces the yellow light thereby enhancing the blue and white light spectrum in 4200K, 4700K, 5300K, and 6500K lamps.



The daylight spectrum of Whitestar™ lamps brings out the brilliance, fire and scintillation of diamonds. White metals such as Platinum and Silver display their luminescence under the light of Whitestar™ lamps. Sapphire color saturation will be pure and vivid and tones will be balanced.



Scan with a smartphone
to view this product online.

Form No. S-MR16WS/R-0112: The specifications on this sheet supercede all previously published specifications and may be subject to change for design and specification improvement without prior notice.

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USHIO

XENON FLUORESCENT LAMPS

XeFI™



XENON FLUORESCENT EXCIMER LAMPS FOR PHOTO, FILM & VIDEO LIGHTING

The XeFI™ Xenon Excimer lamp is the latest in illumination technology from USHIO. Utilizing digital scanning and LCD backlight display technology, USHIO has adapted its XeFI™ lamp for use in film, video, and photographic lighting applications with a color temperature of 5800K and 90CRI. This environmentally friendly technology is mercury free, emits no UV, and has a highly reliable lifetime of 40,000 to 60,000 hours. Because the lamp contains no mercury, it produces constant, even illumination over a wide ambient temperature range of -22° F to 140° F. The 16" T4 XeFI™ lamp has a luminous efficacy of 55 lm/W.

FEATURES & BENEFITS

- Mercury Free = Environmentally Friendly
- 40,000 – 60,000 Average Life = High Reliability
- 1ms Instant Start = Instant Brightness
- No UV Emission
- No Ambient Temperature Dependence = Constant Brightness from -22F – 140F
- 5800K / 90CRI
- T4 Compact Size
- 16" to Maximum Length of 59"

16" T4 Lamp

- Wattage 11W
- 610 Lumens
- 55 Lumens/Watt

USHIO

XENON LAMPS

XENOLINE™ SERIES



MINIATURE XENON LAMPS FOR GENERAL LIGHTING

The USHIO Xenoline™ series consists of: Festoon, Rigid Loop and Wedge Base miniature Xenon lamps. All Xenoline™ lamps are low voltage and have an extremely long life making these lamps ideal for track and strip lighting.

Available in: Festoon 5W, 10W; Rigid Loop 5W, 10W; and Wedge Base ranging from 3W to 18W

BENEFITS

- Long life — up to 20,000 hours average life
- UV protected
- Low pressure
- Less heat
- Dimmable
- Compact tubular design

APPLICATIONS

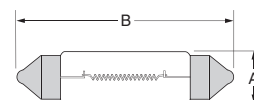
- Accent Lighting
- Track Lighting
- Strip Lighting
- Landscape Lighting

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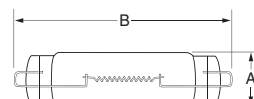


CHARACTERISTICS & SPECIFICATIONS

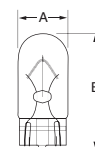
Watts (W)	Ushio Ordering Code	Ushio Lamp Code	Volts (V)	Amps (A)	Approx Lumens (lm)	Dimensions Dia (A)	MOL (B)	Avg Life (h)
FESTOON - S8.5/8 BASE								
5	5000765	FST 12V-5W/C/XX	13.5	.370	50	10	44.0	20000
5	5000886	FST 12V-5W/F/XX	13.5	.370	50	10	44.0	20000
5	5000766	FST 24V-5W/C/XX	26	.192	50	10	44.0	15000
5	5000755	FST 24V-5W/F/XX	26	.192	50	10	44.0	15000
10	5000850	FST 12V-10W/C/XX	13.5	.740	120	10	44.0	20000
10	5000891	FST 12V-10W/F/XX	13.5	.740	120	10	44.0	20000
10	5000851	FST 24V-10W/C/XX	26	.385	120	10	44.0	10000
10	5000756	FST 24V-10W/F/XX	26	.385	120	10	44.0	10000
RIGID LOOP								
5	5000852	XRL 12V-5W/C/XX	12	.417	45	10	43.0	20000
5	5000899	XRL 12V-5W/F/XX	12	.417	45	10	43.0	20000
5	5000854	XRL 24V-5W/C/XX	24	.208	40	10	43.0	20000
5	5000883	XRL 24V-5W/F/XX	24	.208	40	10	43.0	20000
10	5000853	XRL 12V-10W/C/XX	12	.833	100	10	43.0	20000
10	5000901	XRL 12V-10W/F/XX	12	.833	100	10	43.0	20000
10	5000855	XRL 24V-10W/C/XX	24	.417	90	10	43.0	20000
10	5000903	XRL 24V-10W/F/XX	24	.417	90	10	43.0	20000
WEDGE BASE								
3.36	1001417	UWX-10122 15LM	14	.240	15	10.3	26.8	19000
5	1001419	UWX-10124 33LM	13.5	.370	33	10.3	26.8	8000
5	1002260	UWX-10124 Frosted	13.5	.370	33	10.3	26.8	8000
5	1003157	UWX-10125S/BULK, 50LM	13.5	.370	50	10.3	26.8	2000
5	1003155	UWX-1045/BULK, 45LM	13.5	.370	45	10	26.8	2000
5.1	1001423	UWX-1024S 50.2LM	24	.214	50.2	10.3	26.8	1000
5	1003156	UWX-1024S/BULK, 55LM	24	.208	55	10	26.8	2000
5	1001598	UWX-1024S/LL 37.7LM	24	.208	37.7	10.3	26.8	10000
5	1002262	UWX-1024S/LL 37.7 Frosted	24	.208	37.7	10.3	26.8	10000
7.2	1003002	UWX-15 67.9LM	24	.300	67.9	15	37.8	2500
7.2	1003151	UWX-15/BULK	24	.300	67.9	15	37.8	3000
7.5	1002272	UWX-T10XEWB 65.3LM	24	.313	65.3	10.3	26.8	10000
10	1003038	UWX-15 126LM	24	.416	126	15	37.8	2000
10	1003152	UWX-15/BULK, 126LM	24	.416	126	15	37.8	3000
11.5	1001430	UWX-15-1 120LM	12	.960	120	15	37.8	10000
18	1001433	UWX-15-5 250LM	12	1.50	250	15	37.8	10000
18	1002270	UWX-15-5 250LM Frosted	12	1.50	250	15	37.8	10000



Festoon



Rigid Loop



Wedge Base

Form No. S-XE-MINI-0106

The specifications on this sheet supercede all previously published specifications and may be subject to change for design and specification improvement without prior notice.

All dimensions are in millimeters

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USHIO

XENON SHORT ARC LAMPS

UXL SERIES



FOR STRONG FOLLOWSPOTS

UXL-20FS • UXL-2000FS • UXL-3000FS

These three new xenon lamps from USHIO are specifically designed and approved for use in STRONG high performance followspots. During manufacturing, the quartz tip-off position was moved to the cathode side of the lamp to allow easier installation and a more precise fit into the reflector. The cable on the UXL-3000FS has been lengthened to allow ease of lamp positioning during installation.

USHIO's UXL series are high pressure, short-arc xenon discharge lamps. UXL spectral distribution is well balanced in the visible spectrum to resemble daylight. The high gas fill pressure provides high luminance and high luminous efficacy. Fast ignition and a stable arc are what USHIO has achieved with the UXL lamp design.

*Strong Spotlights, Super Trouper®, Super Trouper II®, and Gladiator III® are trade names owned by Ballantyne of Omaha, Inc.

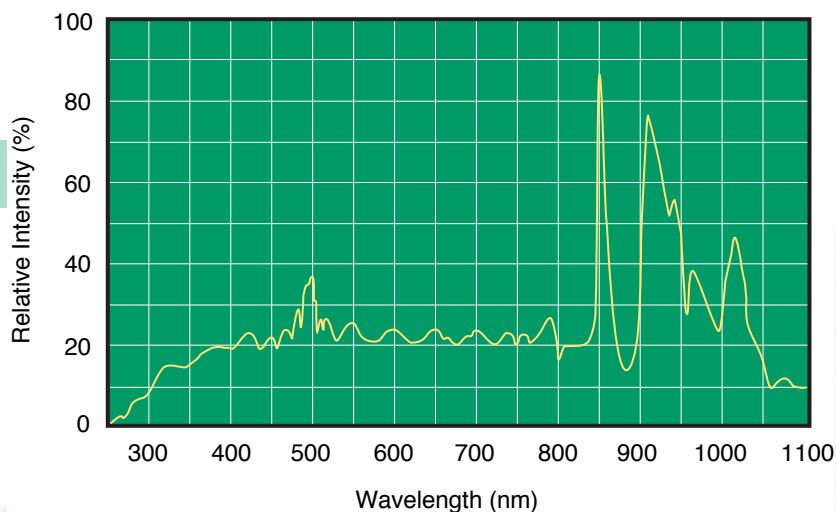
STRONG FOLLOWSPOTS

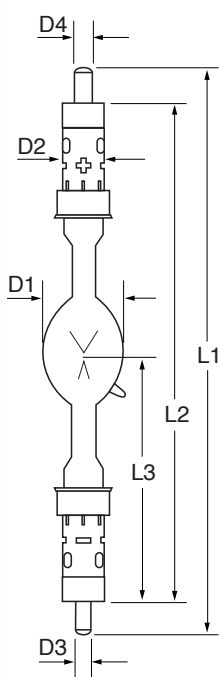
- UXL-2000FS – for Xenon Super Trouper® 83070, 83080
- UXL-20FS – for Super Trouper II® 24000
- UXL-3000FS – for Xenon Gladiator III® 47061

APPLICATIONS

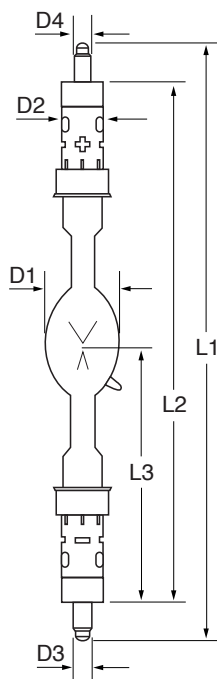
- Concert Touring
- Theatrical Events
- Sports Events
- Special Venues

XENON SPECTRAL DISTRIBUTION

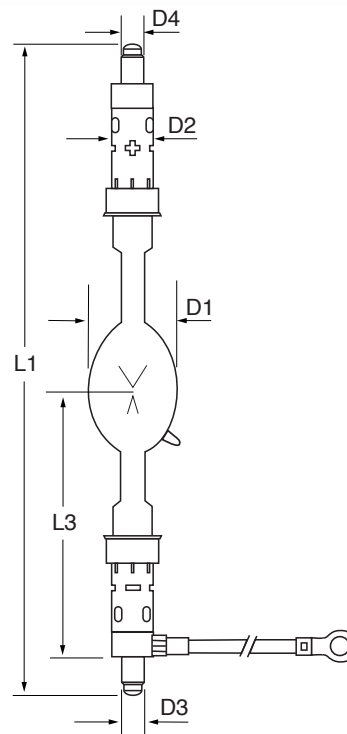




UXL-20FS



UXL-2000FS



UXL-3000FS

Watts (W)	Ushio Ordering Code	Ushio Lamp Code	Rated Lamp Current (A)	Operating Current Range (A)	Lamp Voltage at Rated Current (V)	Diameter				Length		
						(D1)	(D2)	(D3)	(D4)	(L1)	(L2)	(L3)
UXL Series Xenon Short Arc Lamps												
2000	5001062	UXL-20FS	80	50~85	25	60	27	7.8	9.4	342	302	147
2000	5001063	UXL-2000FS	70	50~85	29	55	27	12	10	370	320	145
3000	5001064	UXL-3000FS	100	60~100	30	70	27	14	13	428	—	171

Average life: UXL-20FS & UXL-2000FS – 2000 hours
UXL-3000FS – 1200 hours

Arc Gap: UXL-20FS & UXL-2000FS – 6mm
UXL-3000FS – 7mm

All dimensions are approximate measurements in millimeters

Operating Conditions

Burn Position:
Vertical (anode up) or
Horizontal $\pm 15^\circ$

Base surface temperature:
200°C Max.

Cooling:
Forced 10-13 m/s

Current Ripple:
10% Max.

These lamps are ozone free

Form No. S-UXL/R-0609
The specifications on this sheet supercede all previously published specifications and may be subject to change for design and specification improvement without prior notice.

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