

# Xenon Lamp Listing



## High performance short arc Xenon lamp solutions

At the heart of Christie's CP Series Digital Cinema projector line are Christie's CDXL high performance short-arc Xenon lamps. These lamps have been optimized for use with the CP Series Digital Cinema projectors. With increased brightness in the same form factor as standard cinema grade lamps, CDXL lamps provide higher output and brightness in a more cost-efficient package.

To get a true representation of color in any professional environment, you need a truly remarkable light source. Christie's Xenon Arc Lamps offer stable color temperature, a wide range of power levels and excellent color rendition. Christie lamps are backed by the best warranty in the industry.

**CHRISTIE®**



▲ Warner Bros. Movie World, Australia's only world-class movie studio theme park opened in the Fall of '05 with an all new, cutting-edge attraction starring Shrek®. The DreamWorks® Shrek 4D Adventure is a 3D film like no other using specially designed "Ogre Vision" glasses, motion-controlled seating and Christie's acclaimed high resolution CP2000 DLP Cinema® projectors to project the latest ogre-whelming adventure.

To achieve high resolution and high brightness projection for this state-of-the-art 3D animation, the technical team at Warner Bros. Movie World installed two high resolution Christie CP2000 projectors in the

main theatre with an uncompressed digital video server in a custom configuration. The projectors display high resolution stunning 3D images onto the 15m (49ft) wide Harkness screen.

"The Christie CP2000 projectors are amazing. They're brilliant with their true-to-life colors. They're an absolute pleasure to work with and are definitely the future of film. So far, they've operated without error for over 500 hours and the Shrek 4D Adventure is now running at 21 shows a day," says Terence Brown, Group Chief Projectionist, Technical Supervisor, Ride Photo Systems, Warner Village Theme Parks.





WAVELENGTH DIAGRAM

Ultraviolet Radiation

Visible Radiation

Infrared

Radiation

375nm

750nm

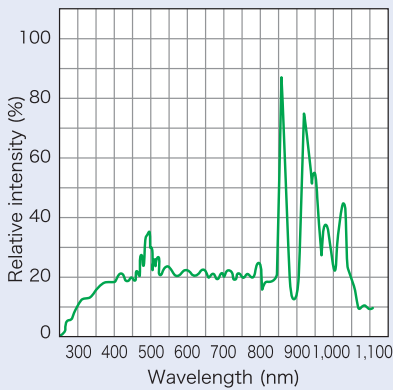
1500nm

6000nm

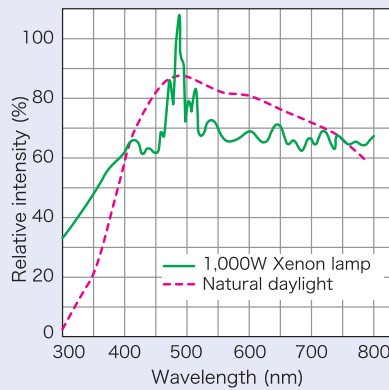
Xenon Short Arc Lamps

Engineered for superior performance in all cinema applications.

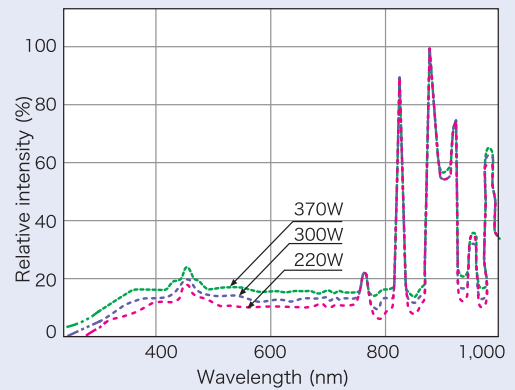
Spectral distribution diagram



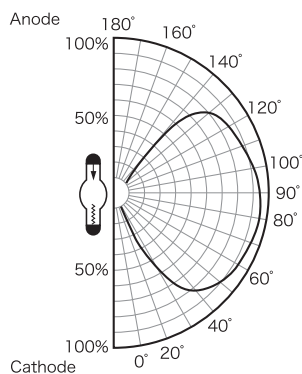
Spectrum comparison between Xenon lamp and daylight



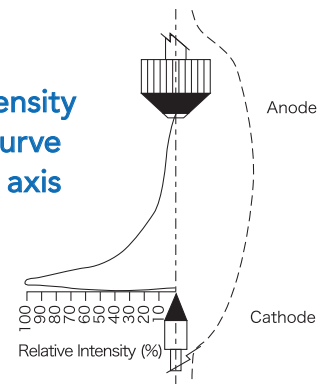
Variation spectral distribution corresponding to input variation



Luminous intensity distribution curve

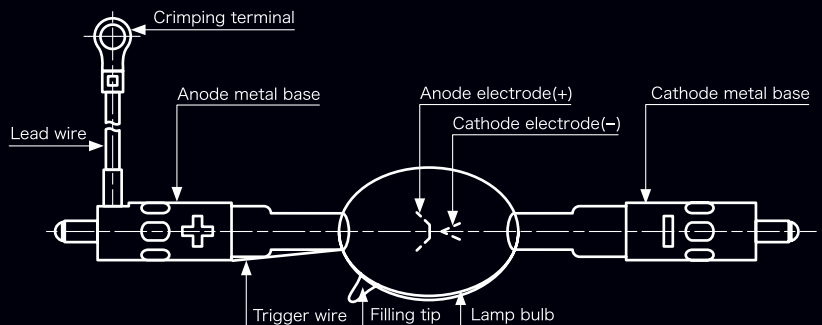


Luminous intensity distribution curve along the arc axis



Construction of a Xenon short arc lamp

Structure







The Christie CP Series Digital Cinema projectors, powered by CDXL Xenon short arc lamps, set new levels of performance for Digital Cinema technology. Choices in brightness levels and power levels offer flexibility for a variety of screen sizes in existing theater infrastructure.

The use of a CDXL lamp is guaranteed against defect while operating in any Christie CP Series Digital Cinema projector.



## CDXL short arc Xenon lamps

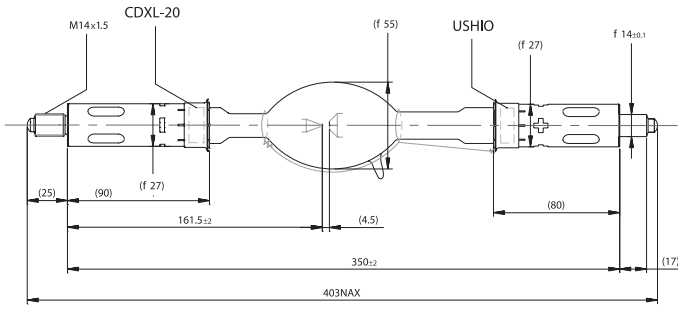
Christie's digital cinema projectors light up screens around the world with the latest digital releases from major studios. With the improved performance of cost-efficient CDXL short-arc Xenon lamps, the power consumption of these lamps is lower than standard Xenon lamps.

### Also available:

Part number	Description
003-001976-01	• CDXL-20SD
003-001165-01	• CDXL-30SD
See Christie Rep	• CDXL-60SD

◀ As one of the top movie theatre operators in the U.S., Cinemark's primary focus has always been to give its customers a fun and exciting movie-going experience.

**CDXL-20** (003-000598-02)



- Improved performance
- Cost-efficient
- Purpose built for cinema applications

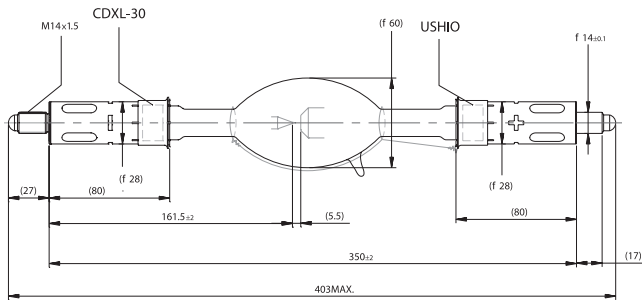
**OPERATIONAL INFORMATION**

Lamp	Avg life	Warranty	Performance gain
CDXL-20	3500	0-1200 – 100% 1201-2400 – Pro-rated	26%

**TECHNICAL DATA**

Rated input power	W	2000
Rated current	A	80
Operating current range	A	60 - 85
Rated voltage	V	25
Cold arc gap	mm	4.5
Lamp length (L1)	mm	403
Lamp length (L2)	mm	350
LCL (L3)	mm	161.5
Bulb diameter	mm	∅ 55
Base diameter	mm	∅ 27
Cathode pin diameter	mm	∅ M14 X 1.5
Anode pin diameter	mm	∅ 14
Horizontal	°	±5°
Base surface temperature	°C	200°C max
Forced air cooling	m/s	10 to 13

**CDXL-30** (003-000599-02)



- Improved performance
- Cost-efficient
- Purpose built for cinema applications

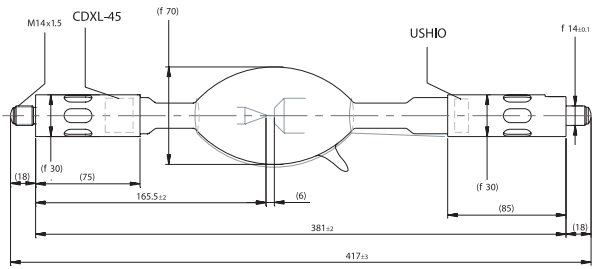
**OPERATIONAL INFORMATION**

Lamp	Avg life	Warranty	Performance gain
CDXL-30	2500	0-720 – 100% 721-1400 – Pro-rated	27%

**TECHNICAL DATA**

Rated input power	W	3000
Rated current	A	110
Operating current range	A	90 - 120
Rated voltage	V	27
Cold arc gap	mm	5.5
Lamp length (L1)	mm	403
Lamp length (L2)	mm	350
LCL (L3)	mm	161.5
Bulb diameter	mm	∅ 60
Base diameter	mm	∅ 28
Cathode pin diameter	mm	∅ M14 X 1.5
Anode pin diameter	mm	∅ 14
Horizontal	°	±5°
Base surface temperature	°C	200°C max
Forced air cooling	m/s	10 to 13

**CDXL-45** (003-000600-02)



- Improved performance
- Cost-efficient
- Purpose built for cinema applications

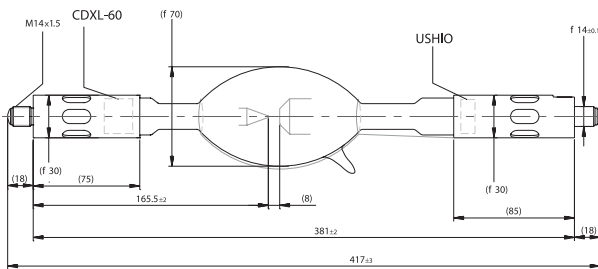
**OPERATIONAL INFORMATION**

Lamp	Avg life	Warranty	Performance gain
CDXL-45	1000	0-500 – 100% 501-900 – Pro-rated	38%

**TECHNICAL DATA**

Rated input power	W	4500
Rated current	A	145
Operating current range	A	95 - 155
Rated voltage	V	31.5
Cold arc gap	mm	6
Lamp length (L1)	mm	417
Lamp length (L2)	mm	381
LCL (L3)	mm	165.5
Bulb diameter	mm	∅ 70
Base diameter	mm	∅ 30
Cathode pin diameter	mm	∅ M14 X 1.5
Anode pin diameter	mm	∅ 14
Horizontal	°	±5°
Base surface temperature	°C	200°C max
Forced air cooling	m/s	10 to 13

**CDXL-60** (003-000601-02)



- Improved performance
- Cost-efficient
- Purpose built for cinema applications

**OPERATIONAL INFORMATION**

Lamp	Avg life	Warranty	Performance gain
CDXL-60	900	0-300 – 100% 301-600 – Pro-rated	11%

**TECHNICAL DATA**

Rated input power	W	6000
Rated current	A	155
Operating current range	A	105 - 165
Rated voltage	V	39
Cold arc gap	mm	8
Lamp length (L1)	mm	417
Lamp length (L2)	mm	381
LCL (L3)	mm	165.5
Bulb diameter	mm	∅ 70
Base diameter	mm	∅ 30
Cathode pin diameter	mm	∅ M14 X 1.5
Anode pin diameter	mm	∅ 14
Horizontal	°	±5°
Base surface temperature	°C	200°C max
Forced air cooling	m/s	10 to 13

Christie understands the cinema industry. We know our customers personally. With no margin for error, the show must always go on - and our CXL Short-Arc Xenon lamps are integral to that promise. Christie brings over 75 years of experience, knowledge and value to your cinema business. From concept to completion, Christie is the undisputed leader in creating solutions for your cinema.

PRODUCT REFERENCE NOTES & SUFFIXES		
<ul style="list-style-type: none"> <li>• Consult factory for proper application</li> <li>• A – with Anode Cable</li> <li>• S – Short Lamp Length / Threaded Tip on Cathode end and 11mm pin on Anode End/ No Cables</li> <li>• SC - Short Lamp Length / 8mm Cathode and 9.5mm Anode pins / With Anode Cable</li> <li>• LC - Longer Lamp Length / Lug Type Connector / 14mm pins / With Anode Cable</li> <li>• R - Longer Lamp Length / With Both Cables</li> <li>• No Suffix - Threaded Tip on Cathode end and 14mm pin on Anode End/ No Cables</li> </ul>	CXL-900	CXL-4200A
	CXL-10	CXL-45
	CXL-10S	CXL-50SC
	CXL-10SC	CXL-60
	CXL-1600A	CXL-60SC
	CXL-16S	CXL-70
	CXL-16SC	CXL-70SC
	CXL-20	
	CXL-20R	<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; padding-right: 5px;">CHRISTIE CORE LAMPS</div> <ul style="list-style-type: none"> <li>• CXL-20</li> <li>• CXL-25</li> <li>• CXL-30</li> <li>• CXL-40</li> <li>• CXL-45</li> <li>• CXL-60</li> </ul> </div>
	CXL-20SC	
	CXL-25	
	CXL-2500LC	
	CXL-25SC	
	CXL-30	
	CXL-30R	
	CXL-30SC	
	CXL-40	
	CXL-40SC	





Hoyts Cinema, Australia



		CXL-900	CXL-10	CXL-10S	CXL-10SC	CXL-16SC	CXL-16S	CXL-1600A	CXL-20	CXL-20SC	CXL-20R
Rated input power	W	900	1000	1000	1000	1430	1430	1600	2000	2000	2000
Rated current	A	45	45	50	50	65	65	65	80	80	70
Operating current range	ADC	30 - 45	35 - 50	30 - 55	30 - 55	45 - 70	45 - 70	45 - 70	60 - 85	50 - 85	50 - 85
Rated voltage	VDC	20	20	20	20	22	22	24	25	25	29
Cold arc gap	mm	4.0	5.0	4.2	4.2	4.0	4.0	4.8	6.0	6.0	6.0
Overall lamp length	mm	330	330	235	236	236	235	365	375	342	370
Lamp length between connector faces	mm	275	275	205	222	222	205	320	320	302	320
Lamp length from rear connector face to arc center	mm	125	125	96.5	96.5	96.5	96.5	145	145	147	145
Bulb diameter	mm	40	45	40	40	48	48	55	55	60	55
Cathode pin diameter	mm	12	M14XP1.5	5/16-18UNC	5/16-18UNC	5/16-18UNC	5/16-18UNC	12	M14XP1.5	7.9	12
Anode pin diameter	mm	10	14	11	N/A	N/A	11	10	14	9.4	10
Cables included	mm	Both	No	No	Anode	Anode	No	Anode	No	Anode	Both
Vertical tolerance	±°	30	N/A	N/A	N/A	N/A	N/A	30	15	30	30
Horizontal tolerance	±°	N/A	15	15	15	15	15	N/A	15	30	30

CXL-25	CXL-2500LC	CXL-25SC	CXL-30	CXL-30SC	CXL-30R	CXL-40	CXL-40SC	CXL-4200A	CXL-45	CXL-50SC	CXL-60	CXL-60SC	CXL-70	CXL-70SC
2500	2500	2500	3000	3000	3000	4000	4000	4200	4500	5000	6000	6000	7000	7000
90	83	90	100	100	100	130	135	140	150	140	160	160	160	160
70 - 95	60 - 85	70 - 100	80 - 110	60 - 110	60 - 100	100 - 140	80 - 150	100 - 150	100 - 160	110 - 150	110 - 170	110 - 170	110 - 170	110 - 170
24	27	28	27	30	30	29	29	30	30	35	37	37	43	43
7.0	7.0	6.0	7.0	6.5	7.0	7.0	7.0	7.0	8.0	8.0	9.0	9.0	11.0	11.0
403	433	345	403	342	428	433	410	428	433	410	417	433	417	433
350	380	300	350	302	382	380	370	380	380	370	381	392	381	392
165	171	147	165	147	171	170	174.5	170	170	171	170	176	170	176
60	57	60	60	60	70	70	70	70	80	70	80	80	80	80
M14XP1.5	14	7.9	M14XP1.5	7.9	14	M14XP1.5	7.9	14	M14XP1.5	7.85	M14XP1.5	7.85	M14XP1.5	7.85
14	13	9.4	14	9.5	13	14	9.4	13	14	9.4	14	9.4	14	9.4
No	Anode	Anode	N/A	Anode	Both	No	Anode	Both	No	Anode	No	Anode	No	Anode
15	30	15	N/A	30	30	N/A	N/A	N/A	N/A	N/A	N/A	15	N/A	15
15	30	15	15	30	30	15	15	15	15	15	15	15	15	15

**Christie Xenolite Lamps** (Model numbers subject to change without notice)

WATTAGE	MODEL NO.	OSRAM	LTI
1000	CXL-10	XBO 1000W/HTP OFR	LTIX 1000W-HTP
1000	CXL-10S	XBO 1000W/HS OFR	LTIX 1000W-HS
1000	CXL-10SC	XBO 1000W/HSC OFR	LTIX 1000W-HSC
1600	CXL-16S	XBO 1600W/HS OFR	LTIX 1600W-HSCH
1600	CXL-16SC	XBO 1600W/HSC OFR	LTIX 1600W-HSCCH
2000	CXL-20	XBO 2000W/HTP OFR	LTIX 2000W-HTPCH
2000	CXL-20R	XBO 2000W/H OFR	LTIX 2000-HCH
2000	CXL-20SC	XBO 2000W/HS OFR	LTIX 2000W-HSXH
2500	CXL-25	NONE	NONE
2500	CXL-25SC	XBO 2500W/HS OFR	LTIX 2500W-HSCH
3000	CXL-30	XBO 3000W/HTP OFR	LTIX 3000W-HTPCH
3000	CXL-30R	XBO 3000W/H OFR	LTIX 3000W-HCH
3000	CXL-30SC	XBO 3000W/HS OFR	LTIX 3000W-HSXH
4000	CXL-40	XBO 4000W/HTP OFR	LTIX 4000W-HTPCH
4000	CXL-40SC	XBO 4000W/HS OFR	LTIX 4500W-HSCH
4500	CXL-45	NONE	NONE
5000	CXL-50SC	NONE	L5000W-HS
6000	CXL-60	NONE	LTIX 6000W-HTP
6000	CXL-60SC	NONE	LTIX 6002W-HS
7000	CXL-70	NONE	NONE
7000	CXL-70SC	XBO 7000W/HS OFR	LTIX 7000W-HSCH
900	CXL-900	XBO900W OFR	LTIX 900W-H
1600	CXL-1600A	XBO 1600W/CA OFR	LTIX 1600W-H
2000	CXL-20R	XBO 2000W/H OFR	LTIX 2000W-H
2500	CXL-2500 (LC)	XBO 2500W OFR	LTIX 2500W-H
3000	CXL-30R	XBO 300W/H OFR	LTIX 3000W-H
4000	CXL-4200	XBO 4000W OFR	LTIX 4200W-HC
4200	CXL-4200A	XBO 4200W/CA OFR	LTIX 4200W-H



### Champion Xenolite Bulb Warranty

MODEL CXL	FULL CREDIT HRS	PRO-RATED CREDIT HRS
-10S, -10SC, -16S, -16SC	0 - 1000	1001 - 2000
-10, -20, -20R, -20SC	0 - 1200	1201 - 2400
-30, -30R, -30SC	0 - 750	751 - 1500
-25, -25SC	0 - 750	751 - 1500
-40, -40SC, -45	0 - 600	601 - 1200
-50SC	0 - 500	501 - 1000
-60, -60SC	0 - 300	301 - 600
-70, -70SC	0 - 250	251 - 500
900, 900A, 1600A	0 - 1200	1201 - 2400
2500LC	0 - 900	901 - 1800
4200A	0 - 600	601 - 1200

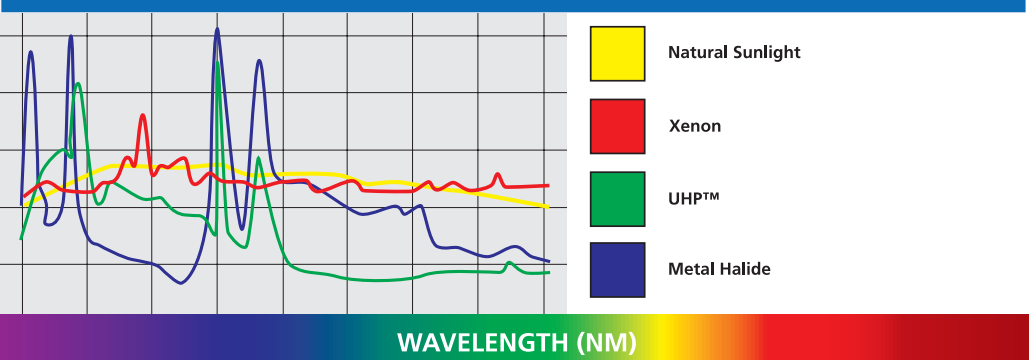
### New warranty hours effective Jan 1, 2006

Lamps purchased after January 1, 2006 will be subject to the above warranty life hours and the following standard terms and conditions\*

\* Credit is subject to the following conditions or exclusions:









- DAMAGE IN SHIPMENT IS NOT COVERED BY WARRANTY.** Bulbs must be inspected upon arrival. If damaged, a claim must be filed immediately with the carrier.
- Defective bulb (all metal parts if bulb is shattered) must be returned to Christie, freight prepaid and insured for the amount of anticipated credit, together with completed warranty form.
- Bulb must have been operated with the correct polarity, not below rated minimum current, nor above maximum rated power, in accordance with applicable air cooling requirements and other operating conditions.
- If the bulb is operated with a spherical reflector, the reflected cathode hot spot must not be superimposed on either of the bulb's electrodes.
- INSPECTION AND TEST AT CHRISTIE MUST VERIFY CLAIM.**
- Christie shall not be reliable for any consequential damage other than **REFLECTOR** under CXL lamp types or **REFLECTOR, UV FILTER AND INTEGRATOR**, if used in CP2000 series projectors.
- Any credit due is based on the Christie net selling price and warranty applicable at time of purchase of the defective bulb and issued to the original purchaser. New, unused lamps may be returned only if within 2 years from original date of purchase. Lamps over 5 years old will not be covered under warranty regardless ours used.
- In the event of a warranty dispute, the final decision rests solely with Christie.






### LIGHT SPECTRUM





## Warning

-  Do not operate the lamp in close proximity to paper, cloth or other combustible material, nor cover it with such materials, even immediately after it is turned off. Otherwise it could cause a fire.
-  As the lamp is filled with high pressure xenon gas, do not hit the lamp against anything, apply excessive stress or scratch the lamp. Otherwise it could cause an injury if it bursts.
-  The lamp must be operated in a splinter-scatter-proof lamp house. Do not open the lamp house while the lamp is operating or immediately after it is turned off. Otherwise it could cause an injury if it bursts.
-  Do not touch the lamp while it is operating or immediately after it is turned off because it is extremely hot. Otherwise it could cause a burn.
-  Do not operate the lamp in an atmosphere containing an inflammable substance, such as gasoline, spray containing volatiles, thinner, lacquer or dust. Otherwise it could cause a fire or an explosion.
-  As the lamp is filled with high pressure xenon gas, it must be kept in the provided protective case when transporting, storage or disposal. Otherwise it could cause an injury, if it bursts.
-  The lamp that has been used for the rated service life is more likely to break and burst because of the deteriorated glass condition. Therefore, follow the instructions in this leaflet for replacement and disposal of the used lamp. Otherwise it could cause injury if it bursts.
-  Wear a protective mask, protective gloves and a thick long-sleeved shirt, when the lamp is handled or installed and removed to/from the lamp house.
  - The protective mask which covers the carotid, must be made with thicker than 2mm polycarbonate or another material with same strength or more.
  - Gloves and a thick long-sleeved shirt must be made with ripping-proof and piercing-proof material like aramid fiber. Otherwise it could cause an injury if the lamp bursts.

-  Operate the lamp in the position indicated in the column of the burning position in this certificate. Otherwise it could cause overheating of the lamp house, lamp breakage or short lamp life.
-  Thoroughly ventilate the area or the room when operating the lamp in an oxygen atmosphere (in air), except in the case of ozone-free lamps. If ozone is inhaled, it could cause headaches, nausea, dizziness, etc.
-  Turn off the electrical power before installing, removing or cleaning the lamp house. Otherwise it could cause electrical shock.
-  During operation the lamp emits intense UV radiation which is harmful to the eyes and skin. Do not look directly or indirectly at the operating lamp. Otherwise it could cause eye aches or eyesight problems.
-  Do not directly or indirectly expose your skin to the lamp light. Otherwise it could cause inflammation of the skin.

## Important operation notes

- The lamp must be operated under the specified use conditions such as lamp current, lamp voltage and cooling condition.
- Keep the lamp base temperature below 200°C or maximum temperature if specified by following cooling conditions designated.

## Caution

### Handling

- When the lamp is soiled with fingerprints by touching glass envelope with bare hand or dust, clean it with alcohol-soaked cloth. Otherwise it could cause burst or short lamp life.
- Do not subject the lamp to vibration or shock, since it is a glass product. Otherwise it could burst or shorten lamp life.

### Installation

- Install the lamp in the correct polarity. Otherwise it could cause burst, overheating of the lamp house or short lamp life.
- Do not apply excessive stress such as twisting or bending when installing the lamp. Otherwise it could cause an injury if it bursts.
- Do not use any tools to tighten connections when fixing the lamp, use only hands. Otherwise it could cause breakage.
- Fix the lamp and its lead wire firmly to the terminals. Before fixing, make sure that there is no rust, burning or discoloration where electrical connections are made between the lamp and the lamp house. Otherwise it could cause overheating by poor electrical connection.
- Install the lamp with the protective cover. Be sure to remove the protective cover from the lamp after installation.
- Cover the lamp with the protective cover before removing the lamp from the lamp house. Otherwise it could cause an injury if the lamp bursts.

### Operation

- Do not open the lamp house for at least ten (10) minutes after the lamp is turned off. Otherwise it could cause an injury if it bursts.
- Remove the lamp from the lamp house after making sure it has been turned off for more than 15 minutes and the lamp and lamp house have cooled down. Otherwise, it could cause an injury or burn if the lamp bursts.
- Use a suitable lamp house and power supply (ballast). Operate a lamp in the range of wattage designated.

### Storage

Store the lamp under the following conditions.

Temperature: -25 ~ 65°C Humidity: 20 ~ 95%RH without condensation

### Disposal

- The used lamp must be kept in the provided protective case until disposal by breaking the glass part. Otherwise it could cause injury.
- The lamp is filled with high pressure Xenon gas. Disposal without breaking the glass part may result in lamp burst. Follow the instructions below to prevent harmful repercussions:

**WEAR A PROTECTIVE MASK, PROTECTIVE GLOVES AND A LONG SLEEVED SHIRT WHEN HANDLING THE LAMP.**

1. The used lamp must be kept in the provided protective case; the case must be securely locked by the metallic stopper.
2. Place the used lamp in the protective case into the provided box. Firmly attach the tape of the paper case to make certain the case will not open if the lamp is dropped.
3. From about one (1) meter in height, drop the provided box, with the lamp and protective case inside, onto a hard floor.
4. Shake the box to determine if the lamp is broken.
5. Dispose of as industrial waste. Dispose separately where metal and glass must be disposed of separately.



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