

# shadow<sup>®</sup>

BLACKLIGHT FIXTURES

Models 4, 6, 8, 15, 20 & 30 Watt Fixture



## Installation, Operation & Maintenance

Read and Follow All Safety Instructions. Save These Instructions.

 SINCE 1963  
**ATLANTIC ULTRAVIOLET**  
CORPORATION<sup>®</sup>

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# Owner's Manual

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These instructions generally describe the installation, operation and maintenance of the **Shadow**<sup>®</sup> Blacklight Fixtures. Questions that are not specifically answerable by these instructions should be directed to the factory.

Atlantic Ultraviolet Corporation takes all possible precautions when packaging equipment to prevent damage. Carefully inspect and report all damages. Do not install damaged equipment.


Follow all instructions on any labels or tags. Carefully inspect all packing materials before discarding to prevent the loss of accessories, mounting hardware, spare parts or instructions


The information and recommendations contained in this publication are based upon data collected by the Atlantic Ultraviolet Corporation<sup>®</sup> and are believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. Specifications and information are subject to change without notice.





# SAFETY WARNINGS


- All personnel should be alerted to the potential hazards indicated by the product safety labeling on this fixture.
- The following conventions are used to indicate and classify precautions in this manual and on product safety labeling. Failure to observe precautions could result in injury to people or damage to property.


 This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.


 **DANGER** Danger indicates an **IMMINENTLY** hazardous situation, which, if not avoided, **WILL** result in death or serious injury.


 **WARNING** Warning indicates a **POTENTIALLY** hazardous situation, which, if not avoided, **COULD** result in death or serious injury.


 **CAUTION** Caution indicates a **POTENTIALLY** hazardous situation, which, if not avoided, **MAY** result in minor or moderate injury.


 **CAUTION** Caution used without the safety alert symbol indicates a potentially hazardous situation, which, if not avoided, may result in property damage.


 This symbol is used to identify an **ELECTRICAL SHOCK** or **ELECTROCUTION** hazard.

 This symbol is used to identify an **ULTRAVIOLET LIGHT** hazard.


 This symbol is used to identify the need to wear approved ultraviolet blocking eyewear.

 This symbol is used to identify the need to wear approved ultraviolet blocking face shield.

 This symbol is used to identify the need to wear protective gloves.





 This symbol is used to identify components which must not be disposed of in trash

# SAFETY INSTRUCTIONS

 **WARNING** To guard against injury, basic safety precautions should be observed, including the following:

1. Read and follow **ALL** safety instructions.

    **WARNING** Avoid exposure to direct or reflected ultraviolet rays.

2. Intended for indoor use only.
3. Do not alter design or construction.
4. Do not use this fixture for other than its intended purpose, as described in this manual.
5. Do not mount under any source of moisture or condensation, such as humidifiers, cooling coils, etc.
6. Do not remove any labels or devices.
7.   **WARNING** Do not operate without proper electrical ground.
8. Do not operate the fixture if there is visible or suspected damage to the fixture or, if applicable, there is damage to power cord and/or plug.
9. Utility power supplied, to the fixture, **MUST** match power requirements listed on the fixture label.
10.   **WARNING** Always disconnect power to the fixture before performing any service or maintenance.
11. Read and follow all notices and warnings on the fixture.
12. **SAVE THESE INSTRUCTIONS.**

# SAFETY LABELS

Hg - LAMP CONTAINS MERCURY.  
Do not put in trash. Dispose in accord  
with local, state or federal law.  
No. 00-0297



Label: Hg fixture (00-0297)

Location of Safety Label  
(00-0297)

# CAUTION

It is the user's responsibility to determine and validate the suitability of this equipment for use in the user's system or process.

No warranty or representation is made by the manufacturer with respect to suitability or performance of this equipment or to the results that may be expected from its use.

The user should periodically inspect, clean as necessary and confirm the presence and good legibility of the product safety labels. Contact the factory for replacement labels in the event that any of the labels are missing or illegible.

# PRODUCT APPLICATION

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## CONSTRUCTION

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The **Shadow**<sup>®</sup> Blacklight Fixture consists of:

- **STER-L-RAY**<sup>®</sup> Blacklight Blue Lamp, which delivers ultraviolet energy at the specific wavelength of 365 nanometers (nm).
- The wavelength emits longwave ultraviolet radiation (also known as UVA).
- **Surelite**<sup>™</sup> Electronic Ballast, capable of operating at 120 volts 60 Hertz
- All electrical parts and wiring are housed in an enclosure constructed of chrome-plated steel.

## PRINCIPLE OF OPERATION

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The **Shadow**<sup>®</sup> line of blacklight fixtures utilize blacklight blue lamps that emit longwave ultraviolet radiation and very little visible light. Blacklight blue lamps create a fluorescent or glowing effect.



**⚠ WARNING** Avoid exposure to direct or reflected ultraviolet rays.

## UNPACKING

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**IN ORDER TO PERFORM THIS TASK, BE SURE TO WEAR THE FOLLOWING SAFETY EQUIPMENT: SAFETY GOGGLES OR A FACE SHIELD, AS WELL AS GLOVES**

- Remove the **Shadow**<sup>®</sup> Blacklight Fixture from its shipping carton.
- Atlantic Ultraviolet Corporation<sup>®</sup> takes all possible precautions when packaging this fixture to prevent damage. Carefully inspect the fixture, power cord and plug for damage and report all damage immediately. Do not assemble or operate if there is any damage, visible or suspected.
- The blacklight lamp is in with the fixture, to ensure maximum protection for the lamp. Keep the lamp aside until ready for installation. When installing lamp, avoid touching glass with bare hands. Carefully inspect all packing materials to prevent the loss of accessories, mounting hardware, spare parts or instructions.
- Carefully inspect all packing materials to prevent loss of accessories, mounting hardware, spare parts or instructions.
- Do not discard packing materials until fixture is assembled and start up is complete.

The **Shadow**<sup>®</sup> Blacklight Fixture includes:


- 1 - Blacklight fixture with attached 6-foot lead cord.
- 1 - **STER-L-RAY**<sup>®</sup> Blacklight Blue Lamp
- 1 - Installation and Operation Manual.


# INSTALLATION



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IN ORDER TO PERFORM THIS TASK, BE SURE TO WEAR THE FOLLOWING SAFETY EQUIPMENT: SAFETY GOGGLES OR A FACE SHIELD, AS WELL AS GLOVES

 **WARNING** Always disconnect power to the fixture before performing any service or maintenance.

 **CAUTION** Blacklight lamps are easily damaged and may cause injury if broken. Exercise care when handling.

- For all standard **Shadow**<sup>®</sup> Fixtures:
  - Remove lamp** by turning 90° so pins on each end are vertical to opening at top of lampholders. Lift lamp out of lampholders.
  - Require the removal of the cover from the base to mount the fixture. All electrical components, lampholders, etc. are mounted to the cover.
  - Should be located within 5-feet of an electrical outlet.
  - Should be easily accessible with enough room for routine cleaning and maintenance.
- Appropriate hardware should be selected for mounting location. Follow all manufacturers' instructions when installing mounting hardware.
- After the fixture is mounted, **install lamp**. Line up the contact pins, of the lamp, with the openings in the lampholders. Make sure that the contact pins are inserted into both lampholders. Once the pins are in, turn the lamp a ¼ turn (90°) and the lamp should “snap” into place.
- Verify that the lamp is properly seated.
- Moisten a clean, lint-free cloth with denatured alcohol and clean lamp.
- Apply power to the **Shadow**<sup>®</sup> fixture.
-   Verify operation by viewing lamp, use of personal protection equipment is required. If the fixture is not operating properly, go to “**Troubleshooting**” section.

## PRECAUTIONS

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- Procedures **MUST** be adopted to ensure that the **Shadow**<sup>®</sup> is disconnected from power whenever anyone (personnel, contractors, etc.) work in the irradiated space. Personnel who work in and around the fixture **MUST** be briefed on the precautions to be observed.
- If there are any doubts or concerns about the safety or the effectiveness of the installation, please contact our Application Specialists.

# MAINTENANCE

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IN ORDER TO PERFORM THIS TASK, BE SURE TO WEAR THE FOLLOWING SAFETY EQUIPMENT: SAFETY GOGGLES OR A FACE SHIELD, AS WELL AS GLOVES

- The **Shadow**<sup>®</sup> Blacklight Fixture is designed to operate with a minimal amount of maintenance.
- A regular cleaning schedule of the blacklight lamp **MUST** be established, and carefully maintained, based on visual inspection and experience. The time between cleanings will vary with the conditions surrounding each installation.
- It is recommended that the blacklight lamp be cleaned whenever dust or visible deposits are observed on lamp.
- The blacklight lamp used in the **Shadow**<sup>®</sup> has a manufacturer's rated average effective life of 3,000 hours for some lamps and 4,000 hours for others (see “**Technical Specifications**” on **Page 4**). Lamps may operate longer than their rated effective life, but the reduction in ultraviolet output will make it impractical to use past the manufacturer's rated life. For maximum efficiency lamp replacement is recommended every 3,000 hours of continuous operation.
- See “**Installation**” instructions above for proper blacklight lamp replacement and cleaning procedure.

 **WARNING** Always disconnect power to the fixture before performing any service or maintenance.

(“Maintenance” section continued on Page 6)

## BREAKAGE

**CAUTION** Broken Glass is **SHARP**.



Wear protective gloves when handling broken lamp(s). In the event of breakage, **DO NOT** use a household vacuum cleaner to pick up glass fragments. Sweep up debris into a plastic bag and dispose of properly.

## DISPOSAL OF MERCURY ADDED LAMPS



Blacklight ultraviolet lamps, like standard fluorescent lamps, contain small amounts of mercury. Mercury added lamps should not be placed in the trash. Dispose of properly. For further information regarding the disposal and recycling of lamps containing mercury, along with Federal and State requirements visit [LampRecycle.org](http://LampRecycle.org). For more information on **STER-L-RAY**® Blacklight Ultraviolet Lamps, visit [Ultraviolet.com](http://Ultraviolet.com) or [BuyUltraviolet.com](http://BuyUltraviolet.com).

## TROUBLESHOOTING

**WARNING** Always disconnect power to the fixture before performing any service or maintenance.



**IN ORDER TO PERFORM THIS TASK, BE SURE TO WEAR THE FOLLOWING SAFETY EQUIPMENT: SAFETY GOGGLES OR A FACE SHIELD, AS WELL AS GLOVES**

**IMPORTANT:** This fixture is to be serviced **ONLY** by qualified, and appropriately trained and/or licensed personnel.

Table 1 - Troubleshooting

Problem	Possible Cause	Corrective Action
Fixture not operating	No electrical power	Verify that the fixture is connected to a live power source.
	Power connections to fixture is loose or disconnected	Verify power connection to fixture is fully engaged.
Blacklight lamp not operating	<b>STER-L-RAY</b> ® Lamp(s) not properly seated	Confirm connection between lamp and lampholder is tight, and that lamp is making full contact with lampholder.
	<b>STER-L-RAY</b> ® Lamp(s) faulty	Swap suspect lamp, with known good. If known good lamp does not operate, replace ballast.
	<b>Surelite</b> ™ Ballast not functioning	Locate ballast and replace.

If the above measures fail to correct the problem(s), contact our application specialists. Contact options can be found in the “**User Assistance**” section of this manual on the back page.

## OPTIONAL ACCESSORIES

- ArmorLite**™ Safety Shield: A protective coating applied to **STER-L-RAY**® Blacklight Blue Lamps that ensures protection by eliminating the dangers associated with fragments of broken glass and mercury contamination.
- Promate**™ Safety Goggles: Safety eyewear **MUST** be used as general-purpose safety protection and for additional shielding from ultraviolet rays
- Promate**™ Face Shield: Lightweight visor with adjustable headgear provides eye and face protection from ultraviolet rays.

For more information and purchasing contact our offices, weekdays between 8:30 am and 5:00 pm Eastern time, at:

Atlantic Ultraviolet Corporation®, 375 Marcus Boulevard, Hauppauge, New York, 11788

Tel: 631.273.0500 • Fax: 631.273.0771 • E-mail: [Sales@AtlanticUV.com](mailto:Sales@AtlanticUV.com) • Website: [Ultraviolet.com](http://Ultraviolet.com) – [BuyUltraviolet.com](http://BuyUltraviolet.com)

# TECHNICAL SPECIFICATIONS

Table 2 - Technical Specifications

Model	4 Watt	6 Watt	8 Watt	15 Watt	20 Watt	30 Watt	
<b>Volts:</b>	120v	120v	120v	120v	120v	120v	
<b>Hertz:</b>	60Hz	60Hz	60Hz	60Hz	60Hz	60Hz	
<b>Amps:</b>	0.10	0.12	0.16	0.15	0.25	0.33	
<b>Lamp</b>	<b>Lamp:</b>	05-1089	05-1090	05-1085	05-1084	05-1083	05-1081-R
	<b>Power Consumption:</b>	4.6w	5.9w	7.9w	14.7w	19w	30.5w
	<b>Ave. Effective Life (Hrs):</b>	3000	3000	3000	4000	4000	4000
<b>Length:</b>	9	12	15	19 - 1/2	25 - 1/4	37 - 1/2	
<b>Width:</b>	1 - 3/8	1 - 3/8	1 - 3/8	2 - 5/8	2 - 5/8	2 - 5/8	
<b>Height:</b>	2 - 3/16	2 - 3/16	2 - 3/16	3 - 1/2	3 - 1/2	3 - 1/2	

All specification, dimensional data etc. are approximate and subject to change without notice.

- ① 230v 50Hz fixtures may be available. Consult factory with volatage requirements.
- ② Wattage is lamp watts only and does not include ballast loss.

# REPLACEMENT PARTS

Table 3 - Replacement Parts

Model	4 Watt	6 Watt	8 Watt	15 Watt	20 Watt	30 Watt
<b>STER-L-RAY® Blacklight Lamp</b>	05-1089	05-1090	05-1085	05-1084	05-1083	05-1081-R
<b>Surelite™ Ballast - 120v/60Hz</b>	10-1050	10-1050	10-1050	10-1051	10-1051	10-0185
<b>Promate™ Starter</b>	35-1270	35-1270	35-1270	35-1268	35-1268	-
<b>Steadfast™ Lampholder</b>	05-1322	05-1322	05-1322	05-1324	05-1324	05-1324
<b>Promate™ Starter Block</b>	35-1317	35-1317	35-1317	35-1317	35-1317	-
<b>Promate™ Lead Cord 120v</b>	35-1100	35-1100	35-1100	35-1100	35-1100	35-1100

Other replacement parts are available. Consult Atlantic Ultraviolet Corporation® for specific requirements.

# USER ASSISTANCE

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Atlantic Ultraviolet Corporation® makes every effort to ensure that the **Shadow®** Blacklight Fixture are products of superior quality and workmanship. This manual describes the installation, operation and maintenance of the **Shadow®** Blacklight Fixture.

Please read and become familiar with the contents of this manual before installing or using this fixture. If after reading the manual you still have questions, or concerns, regarding the installation or use of this fixture, contact our offices, weekdays between 8:30 am and 5:00 pm Eastern Time, at:

Atlantic Ultraviolet Corporation®  
375 Marcus Boulevard  
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Tel: 631.273.0500  
Fax: 631.273.0771  
E-mail: [Sales@AtlanticUV.com](mailto:Sales@AtlanticUV.com)  
Website: [Ultraviolet.com](http://Ultraviolet.com)  
[BuyUltraviolet.com](http://BuyUltraviolet.com)

## PATENT NOTICE

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No attempt has been made to determine the patent status of applications illustrated or described in this publication. Inclusion in this publication of any design or method of use, which may be patented, is not to be construed as promoting or sanctioning unauthorized use.

# WARRANTY & PRODUCT REGISTRATION

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**We warrant this product to the original owner to be free from defects in material and workmanship when installed in accordance with Atlantic Ultraviolet Corporation® specifications for a period of time as follows:**

**UV Water Purifier Chambers** – Type 316 stainless steel chambers will have a Twelve (12) year Limited Warranty on the stainless steel chamber, from the date of original purchase while the Type 304 stainless steel chambers will have a Six (6) year Limited Warranty on the stainless steel chamber.

**UV Air Disinfection Housing** – Three (3) year Limited Warranty on the metal housing, from the date of original purchase.

**Ballasts** – Three (3) year Limited Warranty, from the date of original purchase.

**UV Lamps, Monitoring Devices, Optional Accessories, and Other Parts** – One (1) year Limited Warranty from the date of original purchase.

Within the warranty period we shall repair or replace such products, which are returned to us with shipping charges prepaid and which are determined by us to be defective. This warranty will not apply to any product, which has been subjected to misuse, negligence or accident; or misapplied; or modified; or repaired by unauthorized person; or improperly installed. Warranty will be null and void if any of the product's original labels are removed. This Limited warranty excludes the cost of labor.

The Buyer shall inspect the product promptly after receipt and shall notify us at our main office in writing of claims, including claims of breach of warranty, within thirty (30) days after the Buyer discovers or should have discovered the facts upon which the claim is based. Failure of the Buyer to give written notice of a claim within the time period shall be deemed to be a waiver of such claim.

The provisions of the above warranty are our sole obligation and exclude all other remedies or warranties, expressed or implied, including warranties of merchantability and fitness for a particular purpose, whether or not purposes or specifications are described herein. We further disclaim any responsibility whatsoever to the customer, or to any person for injury to person, damage to, or loss of property or value caused by any product which has been subjected to misuse, negligence, accident; or modified or repaired by unauthorized persons; or improperly installed.

Under no circumstances shall the Company be liable for any incidental, consequential or special damages; losses or expenses arising from the contract for this product, or in connection with the use of, or inability to use, our product for any purpose whatsoever.

Be sure to register your product and validate purchase within 30 days — registration is simple and will take less than 2 minutes to do.

**NOTE – failure to register your purchase may jeopardize warranty.**

Go to [Ultraviolet.com](http://Ultraviolet.com) and scroll down to the bottom of the page, under “Trust” click the “Warranty Registration Form”, complete and click “Submit”. Or click on “Warranty Registration PDF” to download the warranty registration card as a PDF, complete and mail to us at 375 Marcus Boulevard, Hauppauge, NY 11788, or simply fax to 631-273-0771. If you prefer to register by phone, please call 631-273-0500 and our customer service staff will be glad to assist you.

For your convenience, record the following information below. The model and serial number can be found on a label located on the **Shadow®** Blacklight Fixture. Keep this manual, along with proof of purchase, handy when contacting our offices.

Purchased From:	Date:
Model:	Serial No.: