

THE PATHOGEN DEATH WAND COMPANY LLC

The Pathogen Death Wand™
With PDe³™ - Pathogen Destruction Technology

Product #: PDW00110008
January 2018

OWNER'S USE AND CARE GUIDE

(INCLUDING INSTALLATION MANUAL AND WARRANTY)

Thank you for purchasing a Pathogen Death Wand product. We appreciate your confidence in our products. Your satisfaction is our priority.

U.S. Consumer Relations
(760) 289-7017 Pacific Standard Time
Email: info@pdwand.com
warranty@pdwand.com

www.pdwand.com

Mail Address: The Pathogen Death Wand Company LLC, 1013 Centre Rd,
Suite 403-A, Wilmington, DE 19805

Pathogen Death Wand, PDe³ and the Pathogen Death Wand logo are trademarks of The Pathogen Death Wand Company Limited.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including but not limited to photocopying, recording, information retrieval systems, or computer network without the permission of The Pathogen Death Wand Company.

INSTALLATION MANUAL

WARNING:

EYE INJURY

Avoid direct eye viewing of the emitters. Never look directly at the emitters when they are powered on. An indicator light is located on the panel and will shine green when the device is powered on. Just like sunlight, this device produces wavelengths of light (not the ultraviolet part of the spectrum) that are not visible to the human eye and that could potentially damage the retina and cornea. There is no reason to view the emitters, but should this occur always wear high quality safety glasses designed to provide the best protection from the sun's harmful rays.

IMPORTANT SAFETY INFORMATION

Install in accordance with the directions provided. The Pathogen Death Wands are for professional use and are to be used in a facility with proper ventilation only. Use of our products in small, enclosed spaces is not recommended and may create a potential fire hazard. By purchasing our product, you agree to the recommended use and release all liability of Pathogen Death Wand Company and respective agents for any misuse of the product.

- This product is intended to be connected to a properly installed UL listed outlet and should be installed according to national and local building codes.
- This product must be connected to a nominal 120Volt, 60 Hz power source. Any other connection voids the warranty.
- This fixture is designed for use in a circuit protected by a fuse or circuit breaker and is to be installed in accordance with national and local electrical codes. If you are unsure about your wiring, or in any event, consult a qualified electrician or local electrical inspector and check your local electrical code.
- For safety reasons, the unit should be securely attached.

- While the Pathogen Death Wand assembly is designed for dry and damp locations, the plug/outlet connection must be located in a dry location. A drip loop shall be used on the power cord prior to the outlet to prevent water ingress.
- Clean the unit with soft, damp cloth only. Do not use any chemical cleaners.

INSTALLATION INSTRUCTIONS

- 1) The Pathogen Death Wand assembly comes with a 12 ft. long power cable incorporating its driver at the mid section and a NEMA 1-15P Polarized plug at the end (see Figure 1).
- 2) Before proceeding with the installation, do a visual inspection and verify cable connections. Validate that the Wand is being installed close to a compatible power source that is free of switches (i.e. has a constant power circuit).
- 3) The Pathogen Death Wand is designed to be installed alongside existing grow lights. As with all LEDs, heat will reduce the effective life of the Wand. Avoid placing the Wand too close to existing lamps or other sources of heat. A gap should be left around the unit to allow good heat dissipation.
- 4) Determine optimal placement of the unit. Refer to Figure 2, which is an illustration of the beam spread. The unit should be parallel to the plants and ideally in a horizontal, parallel position. The Pathogen Death Wand total beam coverage is 120°. For optimal results, the unit should be oriented so that the entire area to be treated is exposed within the central 60° of the beam.
- 5) All grow spaces have unique properties which makes operating them a challenge. To protect your crop, begin a new grow with the Pathogen Death Wand at a height greater than 21 inches and no higher than 24 inches above the seedlings. For best results, we recommend hanging the Wand 22 inches above the seedlings. A single Wand will cover an area that is approximately 4 ft. x 4 ft. Install as many Wands as are needed to provide coverage across your entire grow room. If you need to increase the intensity of the light, lower the Wand closer to the plants. At

14 inches the intensity will be approximately doubled and the coverage will be 4 ft. x 2 ft. It is safe to go as close as 12 inches from the crop with no plant damage. In the cure room, keep the height within 12 to 18 inches above.

- 6) A versatile hanging system (chains and S hooks) is provided for most installations, but additional hardware may be needed for certain configurations in your grow. Other means of attachment can be used depending on the supporting structure and your configuration. The Wand should be installed by a professional who can assess the best fit and means of attachment for a specific location while maintaining the integrity of the surrounding equipment.
- 7) Do a complete verification of the installation before plugging the Wand into the power outlet.
- 8) A green LED located at one end of the Wand will indicate if the unit is powered and actively operating. If the green LED is not on, verify all connections and that the power supply is switched on. **The green LED is the only visible indication that the unit is operating.**

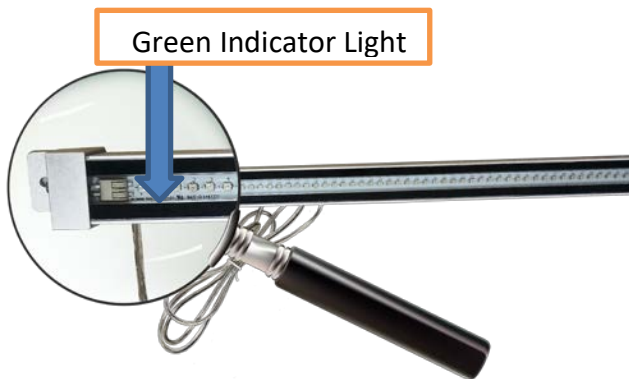


Figure 1: Pathogen Death Wand assembly

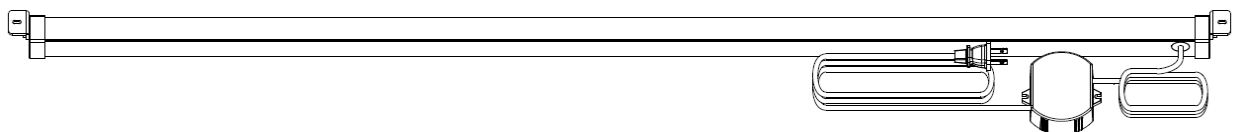
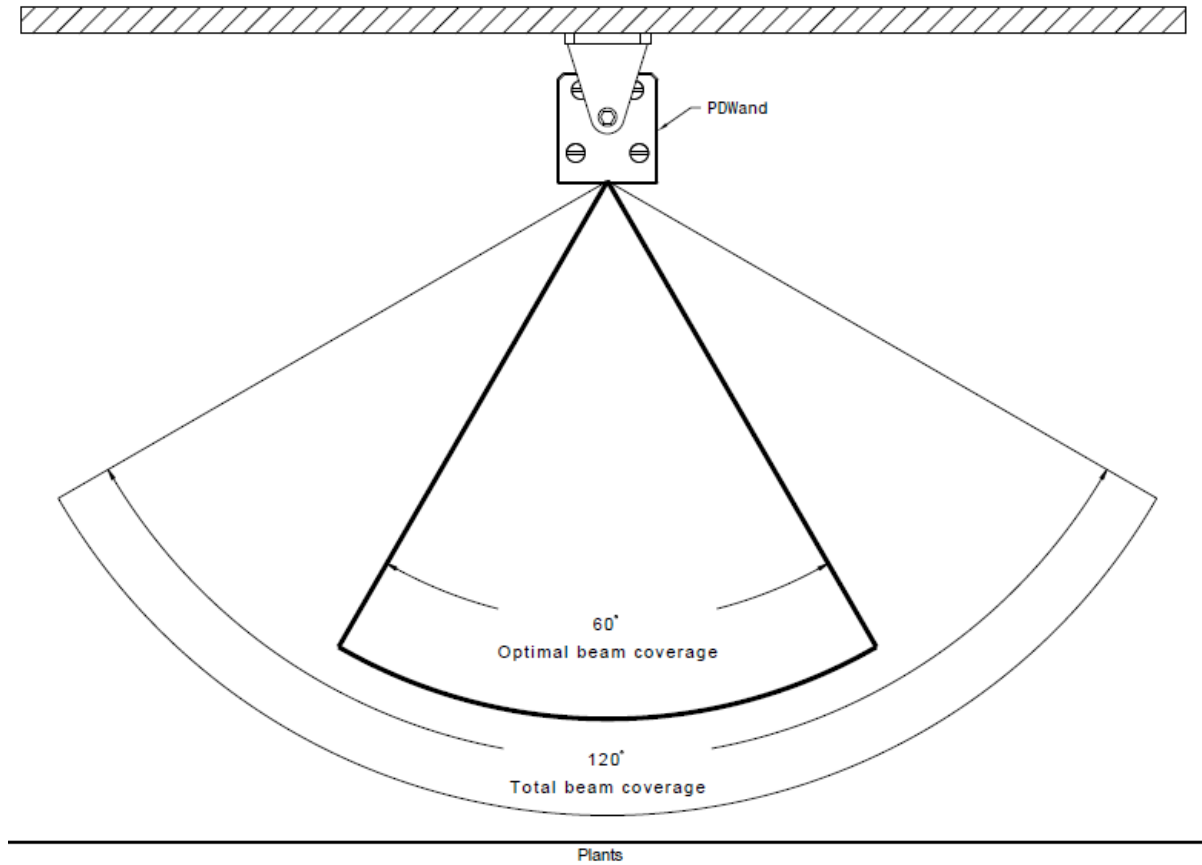


Figure 2: Illustration of Beam Spread



TECHNICAL SPECIFICATIONS

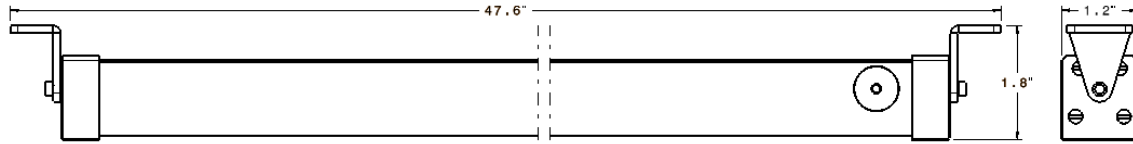
Line Voltage: 120~277Vac 50/60Hz

Power: 22W

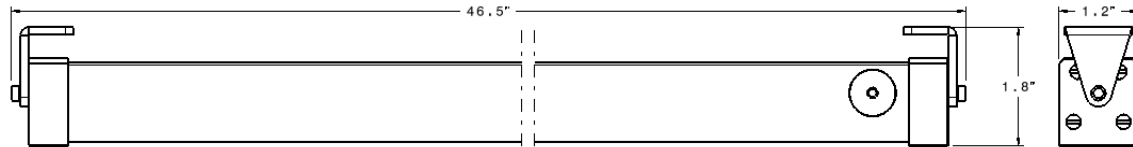
Weight: 3 lbs.

Dimension: 46 inches x 1.2 inches (without brackets)

Brackets pointing outward:



Brackets pointing inward:



USER'S GUIDE

READ CAREFULLY BEFORE USING

SAVE THESE INSTRUCTIONS

WARNING:

EYE INJURY

Avoid direct eye viewing of the emitters. Never look directly at the emitters when they are powered on. An indicator light is located on the panel and will shine green when the device is powered on. Just like sunlight, this device produces wavelengths of light (not the ultraviolet part of the spectrum) that are not visible to the human eye and that could potentially damage the retina and cornea. There is no reason to view the emitters, but should this occur always wear high quality safety glasses designed to provide the best protection from the sun's harmful rays.

IMPORTANT SAFETY INFORMATION

When using electrical products, basic safety precautions should always be taken to reduce the risk of fire, electric shock, and injury to persons. Precautions include but are not limited to the following:

1. Read and follow all instructions and the safety disclaimer above.
2. Use this device only as described in this guide.

3. Install in accordance with the installation manual.
4. The use of attachments not recommended or sold by the manufacturer may cause an unsafe condition. Do not modify the device.
5. Do not install near any heat sources such as radiators, heat registers, stoves or other appliances that produce heat.
6. This product is not intended for use outdoors.
7. To protect against electric shock, do not immerse device in water. Do not locate device where it may fall into water.
8. Keep out of reach of children. Do not operate when children are near.
9. Turn the device off when not in use and before cleaning.
10. Do not operate the device if the product malfunctions, is dropped or damaged in any manner (see warranty).
11. Do not operate if either the LED housing or lens cover is damaged.

CONSUMER RELATIONS

Thank you for your purchase. We've incorporated the latest technology into the production of this device. Pathogen Death Wand products are manufactured and inspected to ensure the highest quality. We stand behind our products.

Please let us know immediately if you find any defects when you open your Pathogen Death Wand. All devices found defective upon receipt will either be repaired by an authorized service representative or replaced under the terms of the warranty.

- Website
 - Visit our website at www.pdwand.com/support. There you can visit our forums, browse our frequently asked questions pages, or request assistance. Email questions or comments using the contact us page of our website.
- Email: info@pdwand.com
- Telephone
 - Office Phone: (760) 289-7017
 - Our support team is based in California from 8:00 AM to 4:00 PM (Pacific Standard Time), Monday – Friday.

NOTE: If you experience a problem, please first contact consumer relations or refer to the warranty. Do not attempt to repair the device yourself.

Doing so will void the warranty and may damage the device or cause personal injury.

REGISTER YOUR PRODUCT

Please take a moment now to register your product online at: www.pdwand.com/register. There are many benefits to registering. Federal law requires us to tell you how we collect, use, share and protect your personal information. Federal law also limits how we can use your personal information. The Pathogen Death Wand Company may use your registration information to:

- communicate with you about our products, services and/or personalized promotional offers;
- help us provide you with a more efficient warranty service;
- contact you in the unlikely event a safety notification or recall is required.

Your registration can serve as proof of purchase for insurance loss claims. And lastly, any feedback you may provide regarding this product will help us create the products you will want to use in the future.

Please note that you do not have to register your product to activate the warranty. Product warranties are activated on the date of delivery and full payment. As long as you save your receipt and file it with the warranty, you will be all set. Your receipt will document the date of your purchase and prove that you are the original owner as ours is a nontransferable warranty.

Both the product number and serial number are usually located on the original product box. The serial number is located on the product itself, either on the end or the top of the unit.

BEFORE THE FIRST USE

Unpack the unit carefully. Check to make sure the driver and the housing are in good order.

Install in accordance with the installation manual. By purchasing our product, you agree to the recommended use and release all liability of Pathogen Death Wand Company and respective agents for any misuse of the product. The Pathogen Death Wands are for professional use and are to be

used in a facility with proper ventilation only. Use of our products in small, enclosed spaces is not recommended and may create a potential fire hazard.

While the Pathogen Death Wand assembly is designed for dry and damp locations, the plug/outlet connection must be located in a dry location. A drip loop shall be used on the power cord prior to the outlet to prevent water ingress.

OPERATING INSTRUCTIONS

Read and follow all instructions and the safety disclaimer above.

The Pathogen Death Wand is designed to be installed alongside your existing grow lights to add pathogen destruction capability to your grow room facility. The Pathogen Death Wand is not a grow light; it is a pathogen destruction device.

The Pathogen Death Wand is easy to install and uses high efficiency LED emitters that require minimal electricity to operate. The Wand does not require a reflective surface to perform. The Wand does not require additional ventilation to operate. However, as with all LEDs, heat will reduce the effective life of the Wand. Therefore, avoid placing the Wand too close to existing lamps or other sources of heat. A gap should be left around the unit to allow good heat dissipation.

Determine optimal placement of the unit. Refer to Figure 2, which is an illustration of the beam spread. The unit should be parallel to the plants and ideally in a horizontal, parallel position. The Pathogen Death Wand total beam coverage is 120°. For optimal results, the unit should be oriented so that the entire area to be treated is exposed within the central 60° of the beam.

All grow spaces have unique properties which makes operating them a challenge. To protect your crop, begin a new grow with the Pathogen Death Wand at a height greater than 21 inches and no higher than 24 inches above the seedlings. For best results, we recommend hanging the Wand 22 inches above the seedlings. A single Wand will cover an area that is approximately 4 ft. x 4 ft. Install as many Wands as are needed to provide coverage across your entire grow room. If you need to increase the intensity of the light, lower the Wand closer to the plants. At 14 inches the intensity will be approximately doubled and the coverage will be 4 ft. x 2 ft. It is safe to go

as close as 12 inches from the crop with no plant damage. In the cure room, keep the height within 12 to 18 inches above.

From the outset and for each growing stage, the Wand should be left on for the same duration as your existing grow lights. With our field tests, 12 hours on and 12 hours off proved successful. In the cure room, leave the Wands on 24/7. No visible spectrum is employed in the darkened cure room. The Wand can operate 24 hours per day for extended periods if you are faced with a very serious pathogen problem, or say 18 hours on, 6 hours off for a lesser problem. It should not be necessary to leave the Wand on 24/7 for prevention and the long-term effect on a crop with 24/7 stimulation is not known.

Based on growing conditions and your choice of grow light as well as overall plant health and density of the canopy, two Wands may be needed to protect a 4 ft. x 4 ft. section. Hang the Wands a foot apart. Our support team will help you evaluate the situation and address your individual needs but in general adhere to the same height and on/off times described above.

Once your desired height is determined, space your Wand(s) appropriately for good coverage and program your timers. The Wand will do the rest of the work. As the plants grow, the lights will need to be raised to maintain the appropriate distance. Wipe the lens of the Wand with a clean cloth as needed.

If any bacteria, mold or mildew emerges (as outbreaks can occur) contact our support team and be ready to place a second or third Wand above each 4 ft. x 4 ft. section affected by plant disease. We may recommend that you lengthen the exposure time to maintain maximum control of these pathogens and/or reduce the height of the Wands above your plants (9-12 inches, for example) until the outbreak is clearly destroyed. **At that point, wipe the dead powdery mildew residue off with a damp cloth.** Once you have things in check, you can resume normal operating use.

Thank you for having the confidence to invest in our device and cutting-edge technology. The Pathogen Death Wand has been developed very recently as a result of extensive research and development in various areas of plant biology, biophysics, microbiology and optoelectronics. The Pathogen Death Wand Company and its distributors are happy to stand by your investment in our equipment. We are entirely open for cooperation with you, helping to solve your problem. Please contact our consumer relations department and be sure to read our blog for additional information about the Wand.

CLEANING, CARE AND MAINTENANCE

For best performance, we recommend:

- Cleaning the exterior with a soft, damp cloth. Do not use any chemical cleaners.
- Cleaning the glass with a soft, damp cloth.
- Storing the device in its box in a clean, dry place.
- Handling the device with care as you would with any fragile item.
- Relying on an authorized service representative for any maintenance or repair. Do not attempt to repair the device yourself. Doing so will void the warranty and may damage the device or cause personal injury.

TROUBLESHOOTING

| Problem | Possible solution: |
|----------------|---------------------------|
|----------------|---------------------------|

| | |
|--|--|
| <p>The green indicator light works but no visible improvement occurred after two weeks of use.</p> | <p>Make sure that the installation was done properly.</p> <p>Also, refer to the operating instructions section of this user's guide.</p> <p>Note: Some species of pathogens (wild yeasts and molds) will require more power to be destroyed. Based on the specific conditions of growing facilities and plant's health problem (for example, if the plants are very weak and/or were seriously contaminated with pathogens), it may be necessary to double the number of units and/or move them up and down.</p> |
| <p>The top leaves of the plants have symptoms of wilting or injuries (dark spots, etc.).</p> | <p>If installed at the proper height, it is very unlikely that the device would overheat the upper level of plants. Make sure that a temperature in your growing facilities is within normal range and the plants do not suffer from a lack of water.</p> |
| <p>The green indicator light is not turning on.</p> | <p>The device may not be properly powered. Verify that there is current to the outlet and that the device is plugged in properly. If the green indicator light is still off after validation, contact our consumer relations department.</p> |
| <p>The green indicator light is blinking.</p> | <p>The driver is not providing the correct current to the emitters. The Wand will probably need to be repaired. Contact our consumer relations department.</p> |

THE PATHOGEN DEATH WAND COMPANY LLC
LIMITED WARRANTY

United States, United States Territories and Canada

For: The Pathogen Death Wand™
Product #: PDW00110008

WHAT THE WARRANTY COVERS

The Pathogen Death Wand Company LLC (“Company”) warranty obligations are limited to the terms set forth herein. The Pathogen Death Wand Company warrants this product against defects in materials and workmanship for five (5) years from a validated original date of delivery and payment in full. In the unlikely event of a failure of the product, the Company will arrange for your Pathogen Death Wand product to be serviced, free-of-charge (using new or refurbished replacement parts) or exchange the product with one that is new or which has been manufactured from new or serviceable used parts. If the Company chooses to replace the product and is not able to do so because it has been discontinued or is not available, the Company reserves the right to replace the product with a comparable product. Equipment either repaired or exchanged under a warranty claim may bear cosmetic blemishes that will not affect performance. Unless otherwise specified by the Company in writing, repaired or exchanged equipment (or parts thereof) are covered only for the remaining initial warranty period or ninety (90) days from the date of repair or exchange, whichever provides longer coverage for you. All defective equipment (or parts thereof) replaced by The Pathogen Death Wand Company become the property of The Pathogen Death Wand Company.

WHAT THE WARRANTY DOES NOT COVER

This warranty applies only to the repair or replacement of product and only when the product is properly handled, installed and maintained according to our installation manual and user’s guide. The use of attachments and connections not recommended or sold by The Pathogen Death Wand Company may cause unsafe operating conditions. Do not modify the device. Unless otherwise specified and validated by the Company, the product shall only be installed in combination with the provided driver and in accordance with the directions provided. Any repair, alteration or modification of the product will void the limited warranty in its entirety.

This warranty excludes normal wear and tear as well as damage resulting from improper installation, storage or maintenance; servicing by anyone who is not an authorized service provider; improper cleaning or abuse (including water damage or disregard for the environmental conditions outlined in the user’s guide); natural disasters; lightning; fire; vandalism; civil disturbances;

improper power supply; and power changes, failure or surges arising from local or regional power issues.

OBTAINING WARRANTY SERVICE

The Company's products and drivers fall under a 5 year limited warranty from date of delivery and payment in full as long as original purchaser has proof of delivery and payment and has adhered to the installation and operating instructions provided. The warranty is non-transferable. For questions about filing a warranty claim or to schedule a repair by an authorized service provider, please contact The Pathogen Death Wand Company's U.S. Consumer Relations at warranty@pdwand.com or (760) 289-7017. Do not attempt to repair the device yourself. Doing so will void the warranty and may damage the device or cause personal injury. The Pathogen Death Wand Company will restrict warranty service for this product to the country where the Company or its authorized distributors originally sold the device.

Purchaser must notify The Pathogen Death Wand Company in writing within 30 days of noticing the defect. Before any fixtures are removed, please be sure to take clear photographs of the device and its location, setup and wiring. The Pathogen Death Wand Company will investigate all claims and if the claim is determined to be valid, the Company will repair, or at our discretion, replace the defective product during the stated warranty period.

Before shipping any product to The Pathogen Death Wand Company, the customer must obtain and return a return authorization form from the Company and provide proof of warranty eligibility. If returning a product to us for servicing, the customer is responsible for packing and shipping the product to a service facility designated by The Pathogen Death Wand Company within thirty (30) days after receipt of the return authorization form. If sent a replacement product, customer will receive a return authorization form as well and from that point forward has thirty (30) days to tender the defective product to the return carrier for shipment to the service center designated by The Pathogen Death Wand Company.

HOW STATE LAW RELATES TO THE WARRANTY

Legal rights vary from state to state (and by country). The Pathogen Death Wand Company does not exclude, limit or suspend other rights you may have. Therefore, you may want to refer to laws specific to your state or country for a full understanding of your rights.

The foregoing is the only obligation relating to defective products and is in lieu of all other obligations or warranties, expressed or implied, oral or written, including the implied warranties of merchantability and fitness for a particular purpose. In no event shall The Pathogen Death Wand Company be responsible for consequential, incidental, indirect or special damages of any kind.

HOW DO WE RESOLVE DISPUTES?

We endeavor to resolve customer disputes in a fair and professional manner. In the unlikely event that we are unable to resolve a dispute related to this limited warranty, you and The Pathogen Death Wand Company agree to resolve claims between us only by binding arbitration. For purposes of this section, references to "claims" shall include any dispute, claim or controversy arising from or relating to this limited warranty.

Arbitration means that you and The Pathogen Death Wand Company are each waiving the right to a jury trial or to participate in a class action.

Parties agree to try to remedy through open discussion to come to an agreeable solution or remedy. Should this fail, then any dispute, controversy or claim arising out of or relating to the product warranty shall be settled by arbitration by a sole arbitrator in accordance with the United Nations Commission on International Trade Law (UNCITRAL) Arbitration Rules as at present in force. The appointment authority for such arbitrator shall be the American Arbitration Association and the place of arbitration shall be New York, United States. The language to be used in the arbitral proceedings shall be English. In interpreting this warranty, the arbitrator shall use the UNIDROIT Principles (2004). The written decision of the arbitrators shall be confidential, final, binding, and convertible to a court judgment in any appropriate jurisdiction. The arbitration will be confidential.