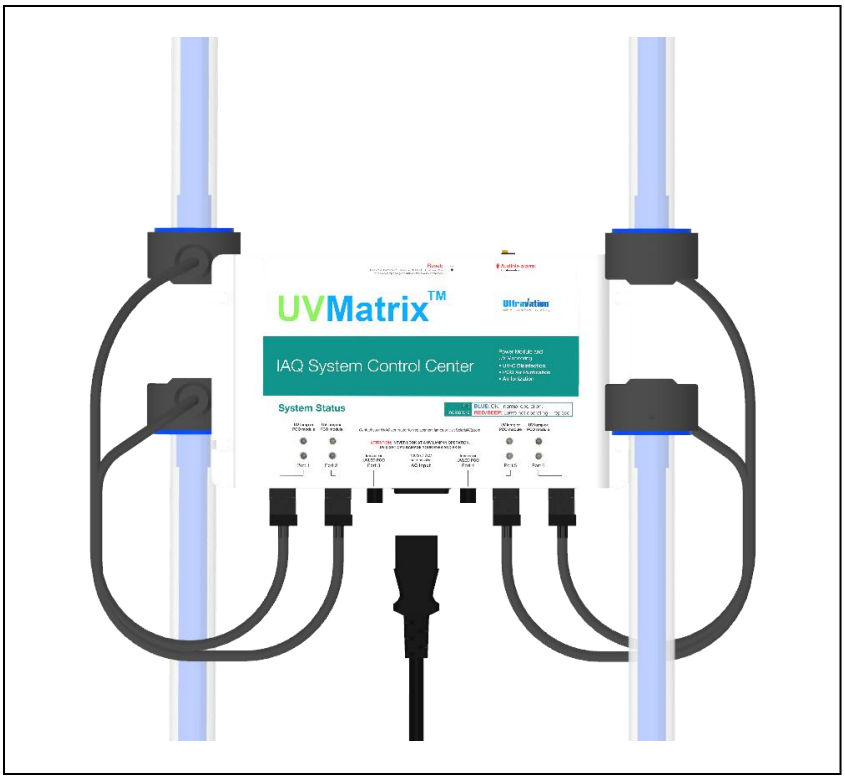
Ultravation®

Better Air | Better Water | Better Living™

UVMATRIX AS-R SERIES
AIR STREAM IRRADIATION
OWNERS GUIDE



Models: **UVMatrix™ AS-R-2/12, UVMatrix™ AS-R-2/17, UVMatrix™ AS-R-2/22, UVMatrix™ AS-R-3/12, UVMatrix™ AS-R-3/17, UVMatrix™ AS-R-3/22, UVMatrix™ AS-R-4/12, UVMatrix™ AS-R-4/17, UVMatrix™ AS-R-4/22**

Table of Contents:

Shipping and Packaging List:

- IAQ System Control Center
- UVC Warning Label
- Warranty Card
- Appropriate Quantity of T3 Lamps
- Appropriate Quantity of 6' Lamp Leads
- 4 – Lamp Mounting Plates
- 4 – Lamp mounting gaskets
- 8 – Lamp mounting screws
- 20 – ¾" Self-tapping mounting screws
- 1 – Power Cord

In the event of accidental breakage or replacement of the ultraviolet lamp, please ensure that the lamp is disposed of in accordance with local and state environmental laws

NOTICE:

Ultravation disinfectant equipment is designed for installation in HVAC (heating, ventilation, and air conditioning) systems. It is recommended a trained technician install this unit.

The best location to install the unit is into the supply side ductwork exiting the HVAC system. Placement as close to the air source as possible assures less untreated area. This unit can be installed in any position necessary, horizontal, vertical or upside down, but lamps should be centrally located within the duct.

Installation near an A/C coil will help keep the coil free of microbial growth and eliminate odors associated with such growth.

Installation in a return air duct is also acceptable.

This unit is designed to operate constantly and **should not** cycle on and off with a blower motor.

Safety Precautions:

WARNING: UV hazard. Always protect eyes from ultraviolet light. NEVER look at UV lamps in operation. Unplug or disconnect power before re-lamping or servicing.

WARNING: No openings in the air handler or duct are allowed which would give direct line-of-sight to the UV light.

WARNING: Operate after being installed only.

WARNING: DO NOT operate outside of duct. Mount base to duct first.

WARNING: No openings in duct are allowed which would give direct line-of-sight to the UV light.

CAUTION: Equipment Damage Hazard. Ultraviolet light can cause shift or surface degradation and sometimes structural degradation of non-metallic components. Select mounting location that prevents exposure to plastic flexible duct components, polyurethane foam, insulation material, rubber hoses, wire insulation, etc. If mounting options are limited, items above should be protected with ultraviolet resistant material such as aluminum foil, aluminum tape, or metallic shields.

It is recommended that this unit be installed and maintained by a trained technician.

In the event of accidental breakage or replacement of the ultraviolet lamp, please ensure that the lamp is disposed of in accordance with local and state environmental laws regarding fluorescent lamps containing mercury.

Warranty:

Ultravation warrants this product against any defects in material or workmanship for a period of 10 years after date of installation, (minimum expected lifetime of product within normal operating conditions) with the exception of the Ultraviolet Lamp(s), which are warranted for a period of one year after date of installation. This warranty does not include damage to the unit from accident, misuse or improper installation. If this product should become defective during the warranty period, Ultravation will repair or elect to replace the product free of charge. Ultravation will return repaired or replaced warranted products pre-paid, provided that the product was delivered pre-paid. Ultravation shall have no responsibilities for charges incurred by the customer for installation or removal of warranted items. Liability is limited only to the replacement or repair of this product. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. All returns must be accompanied by a return authorization number, which may be obtained by contacting Ultravation, Inc.

Ultravation, Inc. ~ 67 Tubbs Ave, Brandon Vermont 05733
Phone: 802-287-9735 ~ Fax: 802-287-9203 ~ www.ultravation.com

Installation Steps:

1. See the last section on the last page to calculate the optimum location for the UVC lamps. This will help determine the best location to mount the IAQ System Control Center as each of the lamps will be on a 6' lamp lead that needs to reach each lamp back to the IAQ System Control Center

Then simply mount the IAQ System Control Center using the supplied ¾" Self-tapping mounting screws.

2. At this time the electrician should bring power 120V standard outlet within 6' of the IAQ System Control Center mounting location. The IAQ System Control Center can also be hard wired from any voltage within 120-277VAC.

NOTE: Keep the supplied cord unplugged from the IAQ System Control Center unit the lamps and lamp leads are connected

3. Using the last section of the last page of this document locate the positioning of the lamps to optimize the UVC energy within the ductwork. Using a 2-inch hole saw, lamp holes should be cut out accordingly. Then the supplied lamp mounting plates and lamp gaskets should be mounted over these holes using the supplied ¾" Self-tapping mounting screws.

4. The T3 lamps are now ready to be installed. This consists of inserting the lamp into the gasket/lamp mounting plate via supplied Phillips head lamp screws.

5. Connect each 6' lamp lead to the lamp and the IAQ System Control Center

6. Connect the power cord into he IAQ System Control Center

Maintenance:

Maintenance typically consists of replacing of the ultraviolet lamps every two years. Quartz sleeves should be kept clean; time intervals required to accomplish this is dependent on the application and environment.

UV lamps undergo a photochemical process during operation. This slowly reduces the amount of UV light generated to disinfect against airborne pathogens. At the end of one year, a typical UV lamp will emit 40% less energy than when the lamp was 100 hours old. Ultravation lamps only lose 20% of original output during two years of operation. Therefore you are still getting 80% output at the end of two years.

When installing new lamps, ensure that the lamp glass is free from any fingerprints or debris, as this may alter the path of the UV energy. Use rubbing alcohol and a dry cloth to remove any surface contaminants.

IAQ System Control Center Explanation:

The IAQ System Control Center is designed to operate and monitor each UVC lamp connected to the system. Once the IAQ System Control Center detects the lamp is installed it monitors each lamp and shows a BLUE LED next to each lamp lead connector if the connected UVC lamp is operational and within its serviceable lamp life.

If any UVC lamp goes out for any reason a RED LED will flash and an audible alarm will go off (audible alarm can be turned off via a switch located on the IAQ System Control Center. When this happens the lamp needs to be replaced and the IAQ System Control Center reset:

> When replacing lamps after 2 years of operation disconnect power to the unit first. Replace the UVC lamps, apply power and push and hold the reset button for 10 seconds to restart the system.

Troubleshooting:

The Ultravation air disinfection equipment is designed to provide many years of trouble free operation. In the unlikely event of a problem, please contact your local dealer or Ultravation directly. Before calling for service, please be sure that:

1. Unit has 120V power
2. Power disconnect is in the ON position
3. Lamps are securely plugged into their sockets

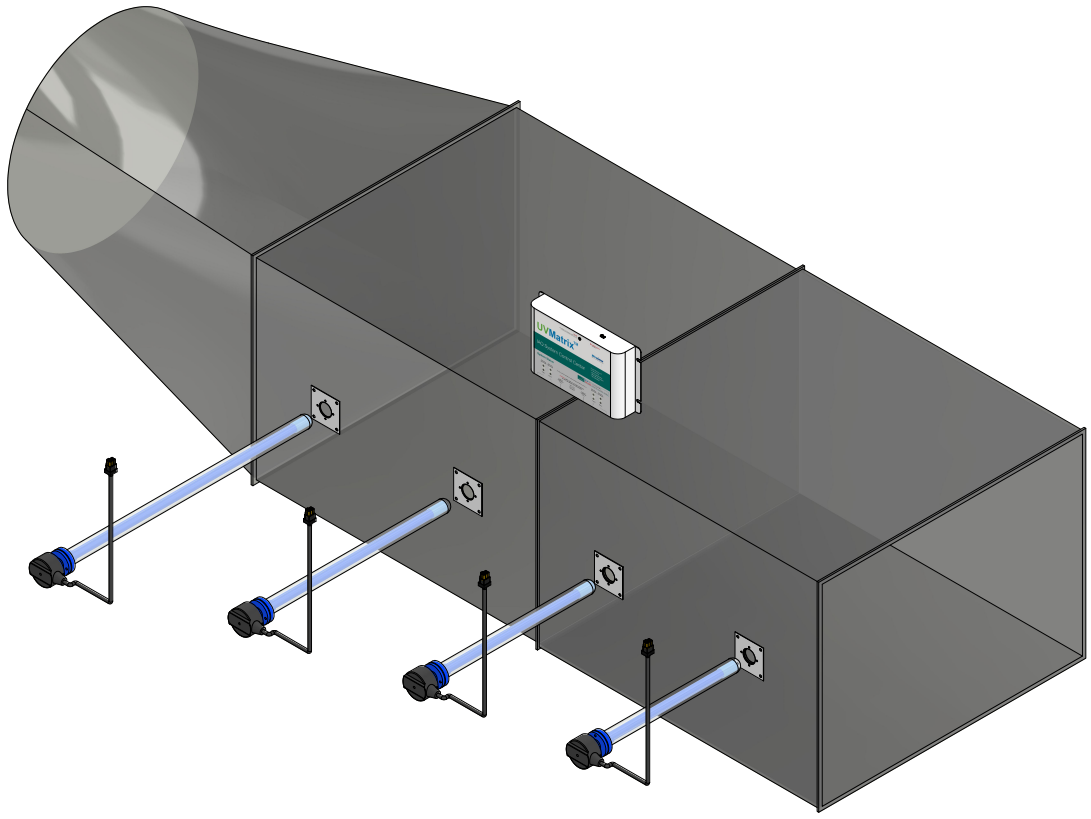
Please contact your local dealer or Ultravation directly for replacement lamps.
Refer servicing to qualified service personnel.

Part No: AS-IH-1001
Standard with AS-R-2/12,AS-R-3/12 & AS-R-4/12
Lamp Wattage: 16 Watts
Minimum Duct Clearence 12"

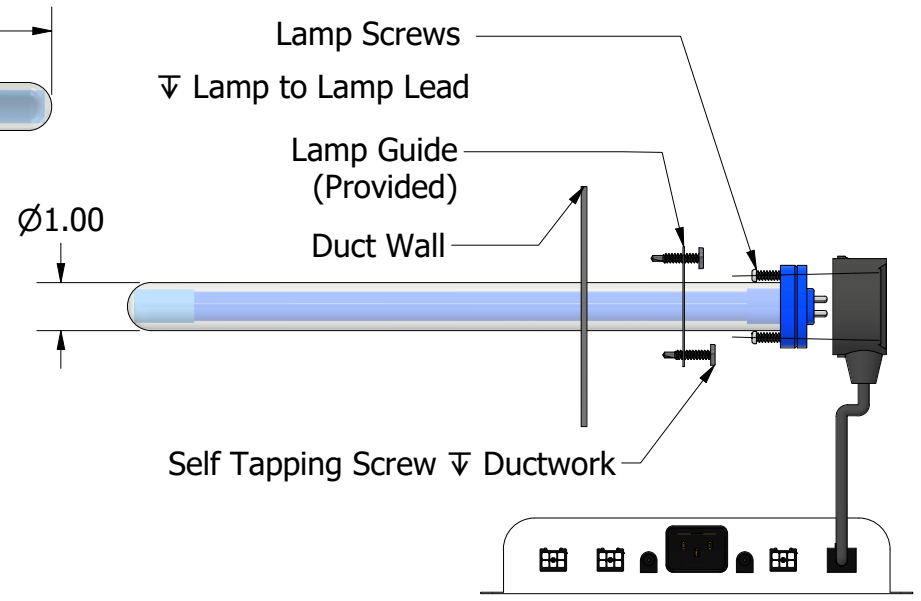
Part No: AS-IH-1024
Standard with AS-R-2/14,AS-R-3/14 & AS-R-4/14
Lamp Wattage: 18 Watts
Minimum Duct Clearence 13 1/2"

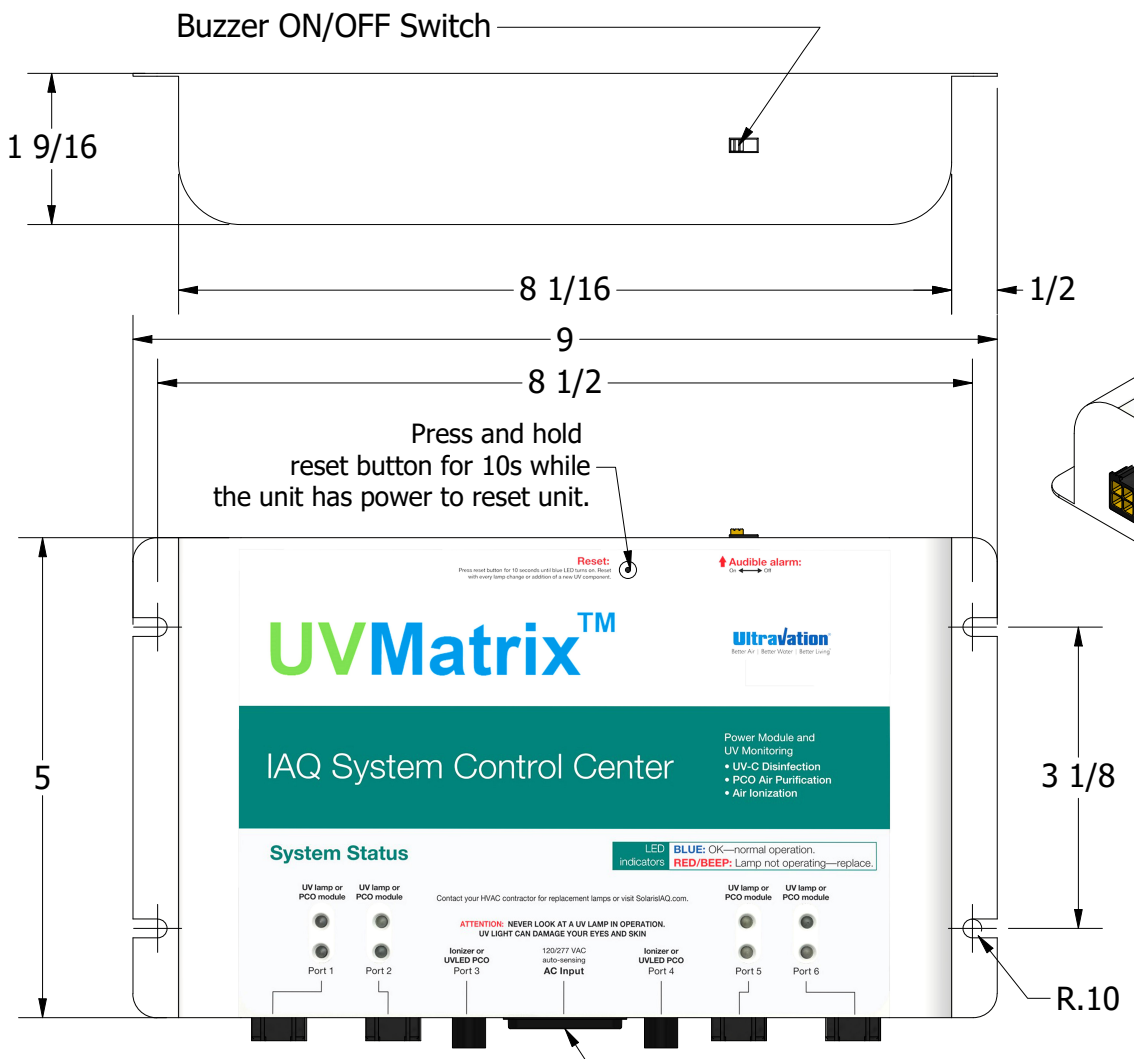
Part No: AS-IH-1003
Standard with AS-R-2/17,AS-R-3/17 & AS-R-4/17
Lamp Wattage: 25 Watts
Minimum Duct Clearence 16 1/4"

Part No: AS-IH-1005
Standard with AS-R-2/22,AS-R-3/22 & AS-R-4/22
Lamp Wattage: 28 Watts
Minimum Duct Clearence 21 1/4"



For optimal UV solution:
Determine duct sizes & Configure with longest possible lamp.





Input: 120-277 VAC,50/60Hz, 1.4 amps.
RFI, EMI compliance: FCC PART 18A
Power Factor: >0.98

DRAWN	Anik D.	9/22/2022
CHECKED	B. Fowler	9/22/2022
QA		
MFG		
APPROVED		
All dimensions are in	inches	

Ultravation
67 TUBBS AVE, BRANDON VT-05733. 866-468-8247. www.ultravation.com

TITLE
UV Matrix AS-R

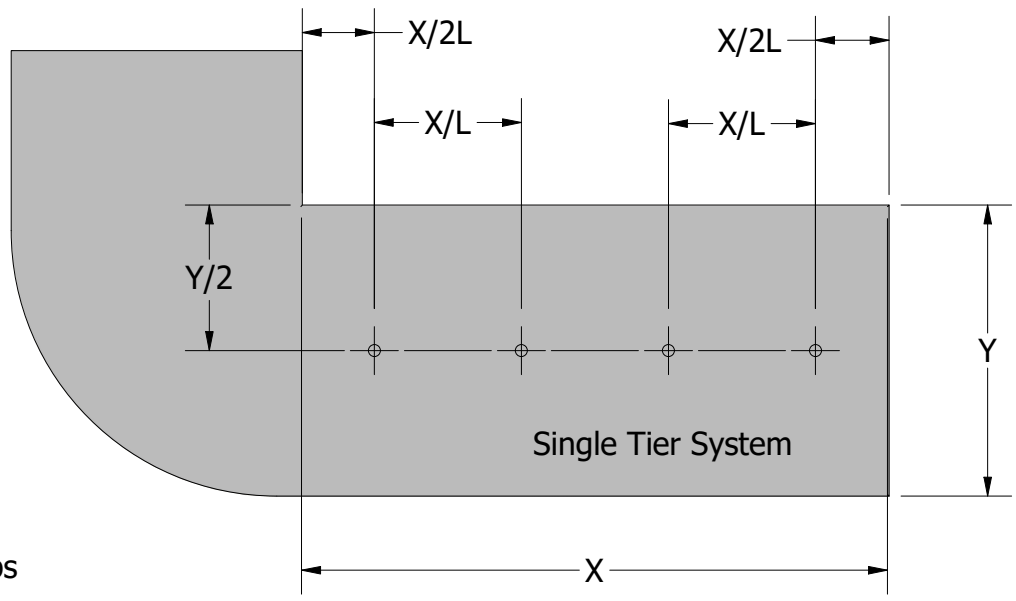
UV System with (2) to (4) 12" to 22" High intensity, 254 nm non ozone UVGI lamps on 6ft remote leads & High efficiency power supply.

SIZE		PRODUCT FAMILY:	REV
A3		UV Matrix IAQ Solution	N/A

SCALE		Tolerance: ±0.03	SHEET 1 OF 2
N/A			

Configurations		
UV Matrix AS-R- (No. of Lamp)/ (Length of Lamp)		Power Consumption
UV Matrix AS-R-2/12	UV System with (2) 12″ High intensity, 254 nm non ozone UVGI lamps on 6ft remote leads & High efficiency power supply.	34 VAC
UV Matrix AS-R-3/12	UV System with (3) 12″ High intensity, 254 nm non ozone UVGI lamps on 6ft remote leads & High efficiency power supply.	50 VAC
UV Matrix AS-R-4/12	UV System with (4) 12″ High intensity, 254 nm non ozone UVGI lamps on 6ft remote leads & High efficiency power supply.	66 VAC
UV Matrix AS-R-2/14	UV System with (2) 14″ High intensity, 254 nm non ozone UVGI lamps on 6ft remote leads & High efficiency power supply.	38 VAC
UV Matrix AS-R-3/14	UV System with (3) 14″ High intensity, 254 nm non ozone UVGI lamps on 6ft remote leads & High efficiency power supply.	56 VAC
UV Matrix AS-R-4/14	UV System with (4) 14″ High intensity, 254 nm non ozone UVGI lamps on 6ft remote leads & High efficiency power supply.	74 VAC
UV Matrix AS-R-2/17	UV System with (2) 17″ High intensity, 254 nm non ozone UVGI lamps on 6ft remote leads & High efficiency power supply.	52 VAC
UV Matrix AS-R-3/17	UV System with (3) 17″ High intensity, 254 nm non ozone UVGI lamps on 6ft remote leads & High efficiency power supply.	77 VAC
UV Matrix AS-R-4/17	UV System with (4) 17″ High intensity, 254 nm non ozone UVGI lamps on 6ft remote leads & High efficiency power supply.	102 VAC
UV Matrix AS-R-2/22	UV System with (2) 22″ High intensity, 254 nm non ozone UVGI lamps on 6ft remote leads & High efficiency power supply.	58 VAC
UV Matrix AS-R-3/22	UV System with (3) 22″ High intensity, 254 nm non ozone UVGI lamps on 6ft remote leads & High efficiency power supply.	86 VAC
UV Matrix AS-R-4/22	UV System with (4) 22″ High intensity, 254 nm non ozone UVGI lamps on 6ft remote leads & High efficiency power supply.	114 VAC

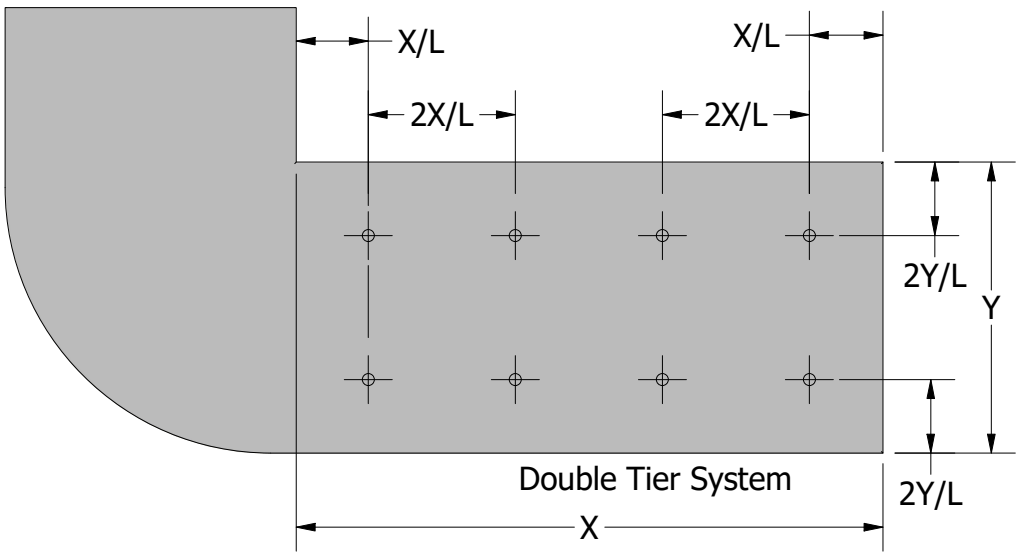
Use The Template Below To Determine Lamp Placement To Optimize Air Stream Disinfection



In A Single Tier System Center Y
& Divide X By The Number Of Lamps
Start And End Coordinate Will Be Half
Of The Distance In Between Central Lamp.

X= Length of Duct
Y= Width of Duct
L= Number of Lamps

In A Double Tier System The Lamps in Y direction
Will Be 2Y/Number Of Lamps Away From The Walls
& Divide 2X By The Number Of Lamps
Start And End Coordinate Will Be Half
Of The Distance In Between Central Lamp.



For 3 Or More Tier Systems
Center One Row Of Uv Lamps By Y
Then Follow Tier 2 Systems Equations
For Distance From Wall/Lamps