171800341059

Hunan Shanshui Testing Co., Ltd

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Test report

Test report number: XD200228

Name of sample: MY-UV ultraviolet sterilizer

Submitting unit: MY LUMENS TECH.LTD,

Feb. 29th, 2020

CMA 171800341059

Hunan Shanshui Testing Co., Ltd

Test report

Sample acceptance No.: XD200228

Name of sample	**MY-UVultraviolet sterilizer**	**Sample quantity**	**2 sets**
Submitting unit	**MY LUMENS TECH.LTD,**	**Sample character**	**Complete**
Production unit	**MY LUMENS TECH.LTD,**	**Sample receipt date**	**Feb. 13th, 2020**
Production date or batch number	**20200225**	**Test completion date**	**Feb. 25th, 2020**
Specification or model	**MY-UV**		

Test standards: GB 19258-2012 UV Sterilizer, 2.1.3.4, 2.1.3.5 of Technical Standard for Disinfection 2002 Version

Evaluation standards**:** 2.1.5.4.3, 2.1.3.4 and 2.1.3.5 of Technical Standard for Disinfection 2002 Version

Test **conclusion:**

1. Take 10 UV lamps of MY-UV ultraviolet sterilizer samples randomly. The averages in radiation intensity measurements were 112μw/cm², 108μw/cm², 111μw/cm², 109μw/cm², 115μw/cm², 110μw/cm², 114μw/cm², 120μw/cm², 107μw/cm² and 115μw/cm² respectively. All the results were ≥107μw/cm² and comply with requirements specified in 2.1.5.4.3 of Technical Standard for Disinfection 2002 Version and the Product Specifications.

2. Three air disinfection simulated field tests were conducted in a 20m³ aerosol chamber. The MY-UV ultraviolet sterilize sample was turned on for 7.5min and it killed >99.90% of the staphylococcus Albus, it complies with the requirements in 2.1.3.4 of Technical Standard for Disinfection 2002 Version.

3. Three air disinfection simulated field tests were conducted in a 150m³ aerosol chamber. The MY-UV ultraviolet sterilizer sample was turned on for 15min and it killed >90.00% of the natural bacteria. It complies with the requirements in 2.1.3.5 of Technical Standard for Disinfection 2002 Version.

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Prepared by:

Reviewed by:

Legal representative
Authorized signatory (signature)

Inspection body
Seal

Date of final review: Feb. 29th, 2020

Name of sample: MY-UV ultraviolet sterilizer Sample receipt date: Feb. 13th, 2020

Test item: Ultraviolet radiation intensity measurement Test completion date: Feb. 24th, 2020

I. Apparatus

1.Sample: MY-UV ultraviolet sterilizer (batch No.: 20200225).

2. Equipment: LANCANM Multi-point UV radiation illuminometer (EB71-01).

II. Methods

1. Detection basis: GB 19258-2012

2. Test environment: The temperature is 25.3℃.

III. Result

Take 10 UV lamps of MY-UV ultraviolet disinfector samples randomly. The radiation intensity measurement results are shown in Table 1.

Table 1 Measurement results of main sterilization factor intensity

Sample model/specification	Nominal power	Lamp terminal type	Single lamp number	Radiation intensity measured value (μw/cm²)				
				1	2	3	4	Single lamp average
MY-UV	40W	Electrodeless lamp	1	109	96	114	130	112
			2	95	119	108	110	108
			3	96	104	126	116	111
			4	122	94	126	94	109
			5	120	127	121	90	115
			6	118	92	127	102	110
			7	129	110	107	109	114
			8	118	123	117	123	120
			9	115	98	113	100	107
			10	96	124	115	124	115

(Carried forward)

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IV. Conclusion

Upon testing: Take 10 UV lamps of MY-UV ultraviolet sterilizer samples randomly. The averages in radiation intensity measurements were 112μw/cm², 108μw/cm², 111μw/cm², 109μw/cm², 115μw/cm², 110μw/cm², 114μw/cm², 120μw/cm², 107μw/cm² and 115μw/cm² respectively. All the results were ≥107μw/cm² and comply with requirements specified in 2.1.5.4.3 of Technical Standard for Disinfection 2002 Version and the Product Specifications.

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Legal representative (or authorized technical principal) (signature)

Date of final review: Feb. 29th, 2020

Hunan Shanshui Testing Co., Ltd

Seal

Name of sample: MY-UV ultraviolet disinfector Sample receipt date: Feb. 13th, 2020

Test item: Air disinfection simulated field test Test completion date: Feb. 25th, 2020

I. Apparatus

1.Sample: MY-UV ultraviolet Sterilizer (batch No.: 20200225).

2. Experiment site: Two 20m^3 aerosol chambers (one for experiment and the other for control).

3. Bacterium suspension of Staphylococcus albus 8032 (provided by China Center of Industrial Culture Collection): Take fresh inclined plate culture cultured for 24h (5th generation). Wash the bacterial lawn with diluent. .Then dilute it with nutrient bouillon and make the bacterium quantity recovered to reach 5×104CFU/mL~5×106 CFU/mL.

4. Culture medium for experiment: Common nutrient agar culture medium.

5. Test equipment Six-stage sieve impaction sampler (2 sets), spray contamination device (2 sets), remote sampling car (2 sets), temperature and humidity regulator (2 sets), BSC-1300ПА2 biological safety cabinet (EC18-01), LRH-250F biochemical incubator (EB28-02).

II. Methods

1. Detection basis: 2.1.3.4 of Technical Standard for Disinfection 2002 Version.

2. Test environment: The temperature is 21.2°C-23.6°C, and the relative humidity is 53%-57%.

3. Method of the air sterilization stimulated field test:

3.1 Turn on the air-conditioner for humidification, and make the temperature and relative humidity of the aerosol chamber reach the requirements.

3.2 Bacteria spraying: Count the time with a stopwatch. Add the 10mL of filtered Staphylococcus albus nutrient bouillon to the sterilized glass sprayer. Turn on the bacteria spraying device to contaminate the aerosol chambers for experimental and control purposes, and turn on the internal circulating devices in the chambers. Spray bacteria for 5min and let them stand for another 5min.

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3.3 Initial contaminating bacteria sampling: Fix the six-stage sieve impaction sampler on the remote sampling car and bring the sampling cars to the center of the experimental and control aerosol chambers at a height of 1.0m. Turn on the vacuum pump to adjust the gas flow to 28.3L/min and sample the experimental group and the control group at the same time. The sampling time is 10s. The result is taken as the initial bacterial contamination amount of the experiment group before sterilization and the control group before the experiment starts.

3.4 Experimental group sampling: Turn on the MY-UV ultraviolet sterilizer for 7.5min and 15min respectively. Take the respective samples after radiation and the sampling time is 5min.

3.5 Control group sampling: Let the control group stand for 7.5min and 15min before sampling, the sampling time is 10s for both.

3.6 Take the unused culture medium of the same batch as negative controls. Put them in a 37℃ incubator with the above samples before and after the sterilization experiment for 48 hours. Then observe the results and calculate their bacterial mortality rates. Repeat the test for 3 times.

III. Result

Turn on the MY-UV sterilizer samples for 7.5min, the mortality rates of staphylococcus Albus were 99.98%, 99.97% and 99.96%, respectively.

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Table 2 Results of air disinfection simulated field test of MY-UV sterilizers

Experiment number	Action time: (min)	Control group (CFU/m³) Bacteria content in air (CFU/m³)	Control group Natural mortality rates (%)	Experimental group (CFU /m³) Bacteria content in air (CFU/m³)	Experimental group Bacterial mortality rate (%)
1	0	2.76×10^5	/	2.69×10^5	/
	7.5	2.46×10^5	10.87	42	99.98
	15	2.06×10^5	25.36	0	100.00
2	0	2.55×10^5	/	2.49×10^5	/
	7.5	2.31×10^5	9.41	71	99.97
	15	1.86×10^5	27.06	0	100.00
3	0	2.50×10^5	/	2.42×10^5	/
	7.5	2.22×10^5	11.20	1.06×10^2	99.96
	15	1.81×10^5	27.60	0	100.00

Note: No bacterial colony grew in the negative control group.

IV. Conclusion

Three air disinfection simulated field tests were conducted in a 20m³ aerosol chamber. The MY-UV ultraviolet sterilizer sample was turned on for 7.5min and it killed >99.90% of the Staphylococcus albus, it complies with the requirements in 2.1.3.4 of Technical Standard for Disinfection 2002 Version.

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Date of final review: Feb. 29th, 2020 Hunan Shanshui Testing Co., Ltd

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I. Apparatus

1.Sample: MY-UV ultraviolet sterilizer (batch No.: 20200225).

2. Experiment site: 150m^3 airtight space.

3. The experimental bacteria are natural bacteria in air.

4. Culture medium for experiment: Common nutrient agar culture medium.

5. Test equipment Six-stage sieve impaction sample (5 sets), BSC-1300ПА2 biological safety cabinet (EC18-01), LRH-250F biochemical incubator (EB28-02).

II. Methods

1. Detection basis: 2.1.3.5 of Technical Standard for Disinfection 2002 Version.

2. Test environment: The temperature is 21.2°C-22.7°C, and the relative humidity is 53%-50%.

3. Method of the air sterilization field test:

3.1 Sampling before disinfection: Choose a 150m^3 airtight space, place the 5 six-stage sieve impaction samplers at 5 equidistant sampling points located in the two diagonals in the room. The sampling height is 1.0m. Sample the natural bacteria in air at a rate of 28.3L/min for 5min before the treatment, and use them as pre-disinfection samples.

3.2 Sampling after disinfection: Turn on the MY-UV sterilizer samples for 15min. Sample the air with samplers containing nutrient agar plate under the same conditions, and use them as post-disinfection samples.

3.3 Take the unused culture medium of the same batch as negative control. Put them in a 37℃ incubator with the above samples before and after the sterilization experiment for 48 hours. Then observe the results and calculate their mortality rates of natural bacteria. Repeat the test for 3 times.

III. Result

Turn on the MY-UV sterilizer sample for 15min in a 150m^3 sealed room, the mortality rate of natural bacteria in air is about 100.00%.

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Table 3 Disinfection effect of natural bacteria in air of MY-UV sterilizer

Test bacteria	Function Time (min)	Experiment number	Control group (CFU/m³) Bacteria content in air at various sampling points (CFU/m³)	Control group (CFU/m³) Average bacteria content in air (CFU/m³)	Experimental group (CFU/m³) Bacteria content in air at various sampling points (CFU/m3)	Experimental group (CFU/m³) Average bacteria content in air (CFU/m³)	mortality rate of natural bacteria (%)
Natural bacteria in air	15	1	1.04×10^3 1.23×10^3 1.19×10^3 1.03×10^3 1.27×10^3	1.15×10^3	0 0 0 0 0	0	100.00
		2	1.22×10^3 8.20×10^2 1.41×10^3 1.13×10^3 1.46×10^3	1.21×10^3	0 0 0 0 0	0	100.00
		3	1.21×10^3 1.36×10^3 1.24×10^3 1.10×10^3 1.17×10^3	1.22×10^3	0 0 0 0 0	0	100.00

Note: No bacterial colony grew in the negative control group.

IV. Conclusion

Three air disinfection simulated field tests were conducted in a 150m³ aerosol chamber. The MY-UV ultraviolet sterilizer sample was turned on for 15min and it killed >90.00% of the natural bacteria. It complies with the requirements in 2.1.3.5 of Technical Standard for Disinfection 2002 Version.

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Legal representative (or authorized technical principal) (signature)

Date of final review: Feb. 29th, 2020 Hunan Shanshui Testing Co., Ltd

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