

## LMS TECHNOLOGIES FORCED AIR RECIRCULATING TEST OF PREMIERONE UV UNITS.

### 98.6% OF VIRUS IN TEST ROOM WAS KILLED IN 15 MIN RUN.

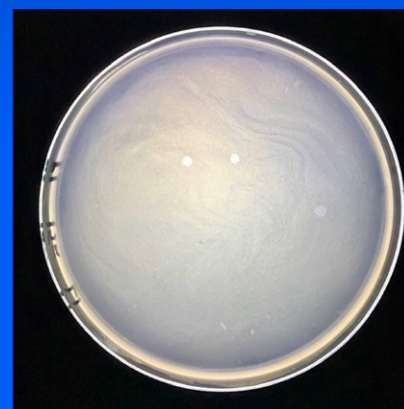
The PremierOne units were installed in a 16 X 20 air duct. The test room was 4000 cubic feet equivalent to approximately a 500 square foot room. Air was circulated through a test room. Within just 2 1/2 air exchanges 98.6% of the air born viruses in the room were inactivated in 15 minutes with our MUV7-100DR dual lamp unit. At 20 minutes the unit was 99.1% effective at inactivating the virus in the room.

Our units purify the air in the ductwork of the forced air system, not in the living space of a building.

The MS-2 virus that was used for this test is a protein RNA virus with the same makeup as SARS, COVID-19, and many other infectious viruses. We are not testing the COVID-19 virus. That would not be allowed because of the danger to the technicians, so instead we test a virus in the same family.



MS-2 Pfu at 0 time



MS-2 Pfu at 15 min

## LMS TECHNOLOGIES UVC TEST RESULTS SUMMARY

Date	Device Tested	% of Virus Inactivated	Air exchanges	% of Virus Inactivated	Air exchanges	Chamber Size
6/21/2021	MUV-7-50PS-16	91 %	3.3	96.9%	6.6	1000 cubic feet
6/21/2021	MUV-7-100DR-16	95.8%	3.3	99.99%	6.6	1000 cubic feet
8/ 2 /2021	MUV-7-100DR-16	98.6%	2.5	99.1 %	3.25	4000 cubic feet

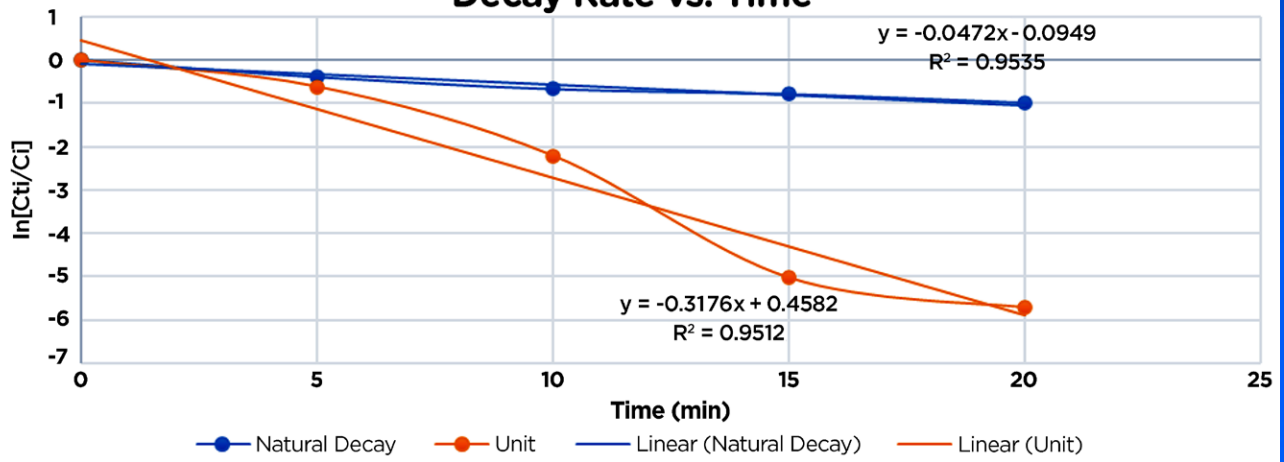


### Equipment

4000 ft<sup>3</sup> Stainless-Steel Test Chamber  
 SKC BioStage Single-Stage Impactors  
 TSI Scanning Mobility Particle Sizer (SMPS) 3938

% of Virus Inactivated	Air exchanges	% of Virus Inactivated	Air exchanges	Chamber Size
98.6%	2.5	99.1%	3.25	4000 cubic feet

### Decay Rate vs. Time



### Biological CADR of MS-2



MUV7-50PS



MUV7-100DR

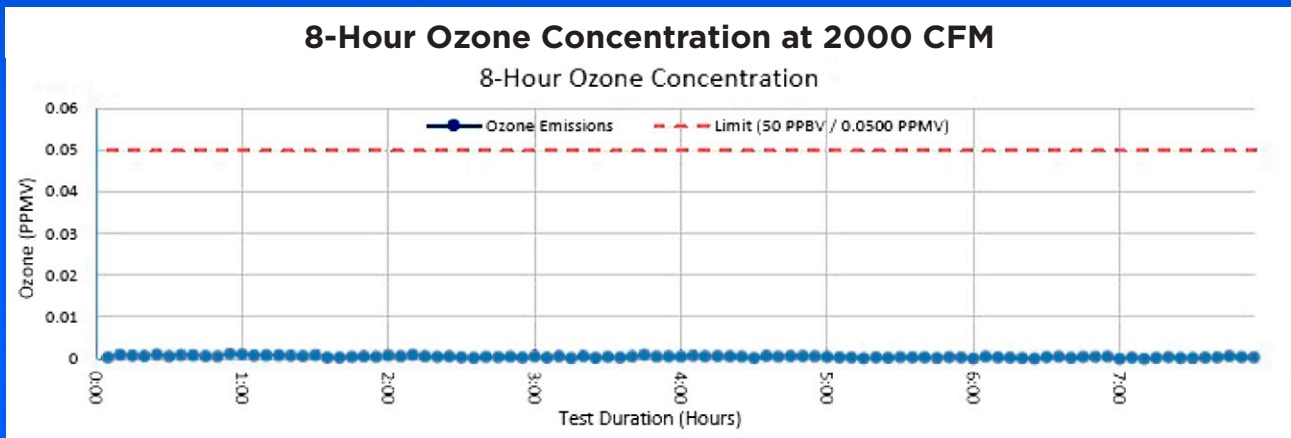
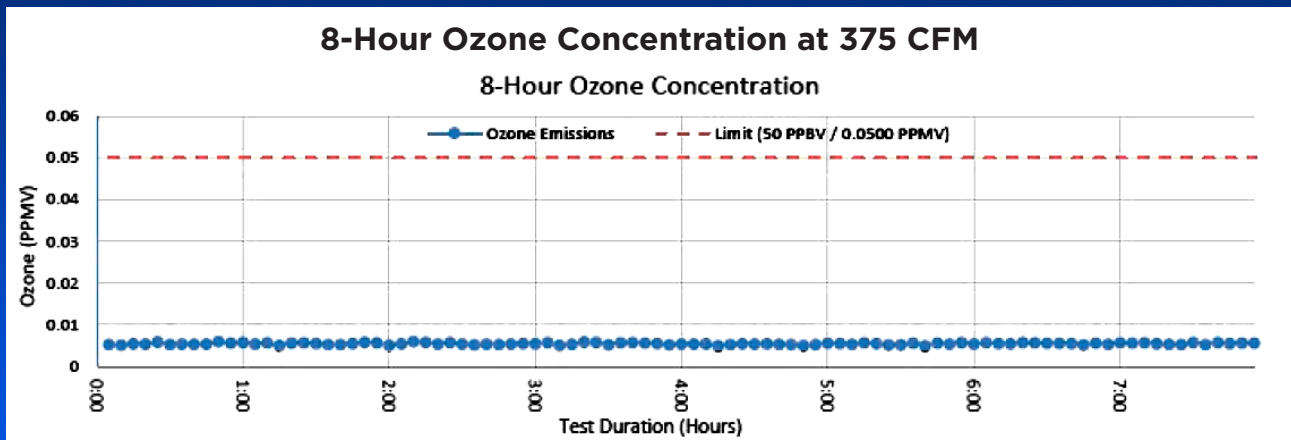
# BLUE HEAVEN TECHNOLOGIES CALIFORNIA CARB TEST FOR OZONE EMISSIONS OF PREMIERONE UV UNITS.

## OUR UNITS WITH ADJUSTABLE ODOR CONTROL PASSED THE TEST WITH EASE

In-Duct Ozone Testing of the In-duct Air Cleaner Model MUV7-50DR 12"

The above referenced product(s.) were evaluated to requirements contained in the following standards: CSA C22.2 No. 187:20, Electrostatic air cleaners, Section 7.6

MUV7-50DR tested at 0.005492 PPM in an average 8 hour run time with a maximum ozone reading over 8 hours of 0.00620 PPM. This is far below the maximum allowed of 0.0500 PPM.



## CARB TEST OF THE IN-DUCT AIR CLEANER MODEL MUV7-50DR 12"

July 22, 2021 8-Hour Ozone Emissions Test Test performed by Blue Heaven Technologies LLC.

Average 8-Hour Background Concentration	0.00193 PPM	Maximum Allowed	Pass/Fail
Average 8-Hour Downstream Concentration	0.00743 PPM		
Average 8-Hour Time Weighted Average (TWA) Ozone Concentration	0.005492	0.0500 PPM	PASS
Maximum Ozone Reading over 8-Hour Testing	0.00620	0.0500 PPM	PASS



# PREMIERONE UVC OZONE EMISSIONS TEST TO UL 2998 STANDARD

## OUR GERMICIDAL 254NM UNITS ARE OZONE-FREE

In-Duct Ozone Testing of the In-duct Air Cleaner Model MUV7-200QR-16"

The above referenced product(s.) were evaluated to requirements contained in the following standards: UL 867 Electrostatic Air Cleaners section 40: Ozone test and UL 2998 ozone emission standard.

MUV7-200QR tested less than 0.003 PPM in an average 8 hour run time. This means our germicidal-only units are virtually ozone-free.

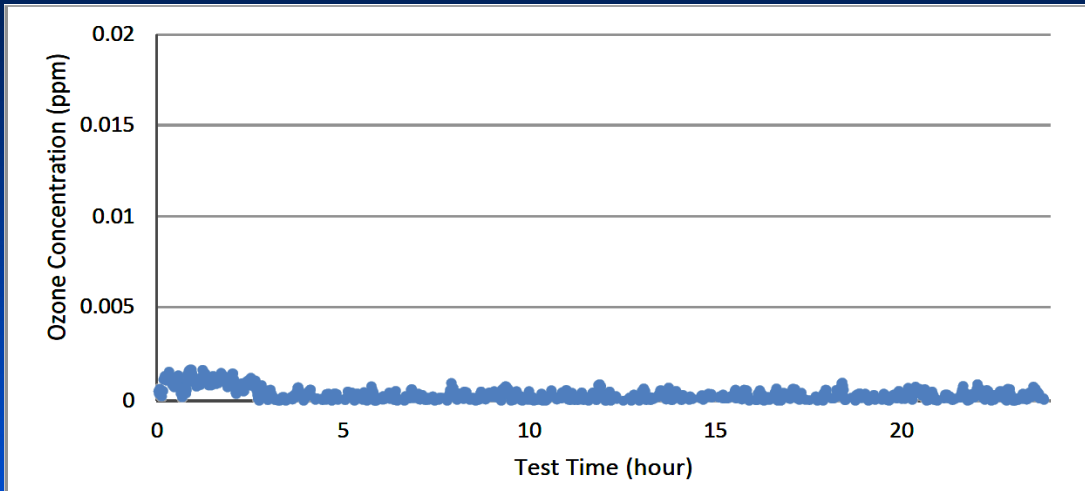


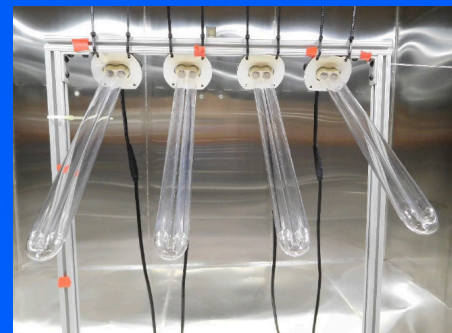
Figure 2: Ozone concentration throughout testing (rolling 5 minute average per UL 2998)

Table 4: Max Ozone Test

	UL Ref.	Pass/Fail	Mean	Min	Max	Delta	Units
Background C(t):	40.4.3	Pass	< 0.003	< 0.003	< 0.003	0.002	ppm
Test 1 min C(t):	40.1.2	Pass	< 0.003	< 0.003	< 0.003	< 0.001	ppm
Test 5 min C(t):	40.1.2	Pass	< 0.003	< 0.003	< 0.003	< 0.001	ppm
Chamber Supply Air Flow:	-	-	583	-	-	-	lpm
Required to test 2 <sup>nd</sup> sample:	40.1.2	No	-	-	-	-	-
Test Duration:	*40.4.6	24	-	-	-	-	h



MUV7-200QR-16



Photograph of sample under testing.

For a more detailed explanation of the test please email [marketing@premieroneproducts.com](mailto:marketing@premieroneproducts.com)  
[www.premieroneproducts.com](http://www.premieroneproducts.com)