

Air for Life UK LTD

OZONE TEST REPORT

SCOPE OF WORK

Ozone Emissions Testing of Household Electrostatic Air Cleaners for Model: LNT2-6000

REPORT NUMBER

104415274CRT-001

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TEST REPORT FOR AIR FOR LIFE UK LTD

Report No.: 104415274CRT-001

Date: August 18, 2020

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SECTION 1

SUMMARY

The representative sample(s) have been tested, investigated, and found to comply with the requirements of the following Standard(s):

Electrostatic Air Cleaners, UL 867, Section 40, Fifth Edition, August 4, 2011 revision: August 7, 2018

Household And Similar Electrical Appliances - Safety - Part 2-65: Particular Requirements For Air-Cleaning Appliances (R2016), [CSA E60335-2-65:2011 Ed.2], Section 32

The equipment identified in this report has been found to meet the criteria for emittance of ozone not exceeding a concentration of 0.050 ppm. Furthermore, a second sample was not required to be tested, according to UL 867, as the first sample's maximum emissions were less than 0.030 ppm, which satisfies the exception in the Section 40.1.1.

This report completes our evaluation covered by Intertek Project Number G104415274 which has been authorized by Intertek Intercompany Agreement. If there are any questions regarding the results contained in this report, or any of the other services offered by Intertek, please do not hesitate to contact the undersigned.

OZONE EMISSIONS SUMMARY			
FAN SPEED	FILTER(S)	03/VOLTAGE SETTING	C(t) _{max} [ppm]
High	YES	-	0.004
Low	YES	-	0.001
High	NO	-	0.004

Highest 8-hour time weighted average: 0.002[ppmv]

Completed by: Joseph Hartley
Title: Technician II

Reviewed by: Jacob Langenbacher
Title: Engineer

Signature:

Date: 8/17/2020

Signature:

Date: 8/17/2020

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SECTION 2

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CHAMBER EQUIPMENT INFORMATION

TEST EQUIPMENT LIST

Instrument	Model	Intertek Ctrl #	Cal Due Date
Teledyne – Advanced Pollution Instrumentation Ozone Calibrator	703E	O204	09-18-2020
Teledyne – Advanced Pollution Instrumentation Ozone Monitor	400E	O202	*
Vaisala – Temperature & Humidity Transducer	HMD-70Y	T1307	06-03-2021
Fluid Components International- Flow meter	ST75V	D713	09-05-2020

* The 400E Ozone Monitor is calibrated using the 703E calibrator.

SECTION 3

UNIT UNDER TEST INFORMATION

MODEL INFORMATION			
Manufacturer:	Air for Life UK LTD	Pre-Filter:	Yes
Model Number:	LNT2-6000	HEPA Filter:	No
Production/Prototype/ Design	Production	ESP Filter:	No
Fan Speeds:	2	Carbon Filter:	No
O3/Voltage Settings:	-	UV Light:	Yes
O3 Monitor:	-	Ionizer:	Yes
Model Notes:			

RUN-IN TEST			
FIRST SAMPLE			
Run-in Start:	7/30/2020 8:50 AM	Run-in End:	8/3/2020 7:49 AM
Run-in Temperature:	77 +/-4	Tracking Number:	CRT2007061418-001
Serial Number:	3251000215	Manufacture Date:	NA
Sample Notes:			
SECOND SAMPLE			
Run-in Start:	NA	Run-in End:	NA
Run-in Temperature:	NA	Tracking Number	CRT2007061418-002
Serial Number	3251000213	Manufacture Date:	NA
Sample Notes:	Per the exception listed under clause 40.1.1 of UL 867, the second sample was not required to be tested.		

SECTION 4

PEAK OZONE TEST

GRILL AND AIR PERIPHERY DIMENSIONS			
		Date of Test:	8/11/2020
Grill Height:	2.00	Air Periphery Height:	2.00
Grill Width:	6.00	Air Periphery Width:	6.00
Estimated Grill Area:	12.00	Est. Air Periphery Area:	12.00
Notes:	Measurements are in Inches		

PEAK LOCATION			
	Loc.	X	Y
	-	[inches]	[inches]
	1	-1.75	0.5
	2	1.75	0.5
	3	0	0
	4	-1.75	-0.5
	5	1.75	-0.5
* Location measurements are coordinates in reference to the center point.			

PEAK OZONE CONCENTRATIONS (ppm)				
Location	<i>With Filter(s)</i>		<i>Without Filter(s)</i>	
	<i>Highest</i>	<i>Lowest</i>	<i>Highest</i>	<i>Lowest</i>
1	0.0012	0.0009	0.0031	
2	0.0024	0.0012	0.0028	
3	0.0014	0.0013	0.0016	
4	0.0003	0.0014	0.0000	
5	0.0022	0.0008	0.0029	

Note: Peak Ozone Test concentrations are shown with background subtracted.

SECTION 5

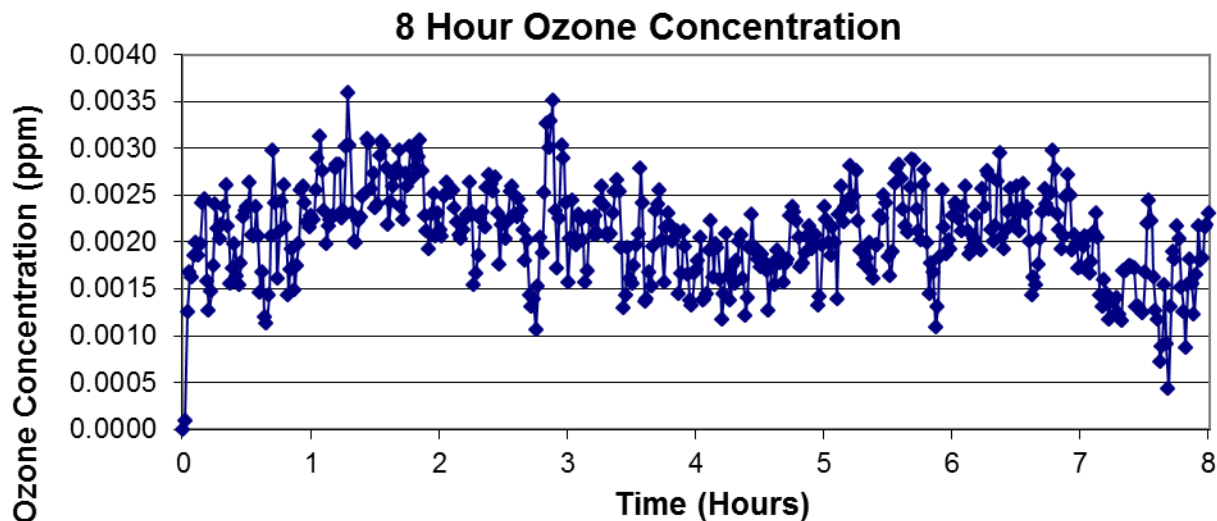
MAX OZONE TEST

START DATE OF TEST: 8/11/2020

SAMPLE: First Sample

FAN SPEED: 2 (Highest)

FILTER(S): Pre-filter installed, UV light and Ionizers ON



MAXIMUM OZONE TEST RESULTS							
	UL Ref.	Pass/Fail	Mean	Min	Max	Delta	Units
Background C(t) O3:	40.4.3	PASS	0.002	0.002	0.003	0.001	[ppm]
Test 1min C(t) O3:	40.1.2	PASS	0.002	0.000	0.004	0.004	[ppm]
Test 5min C(t) O3:	40.1.2	PASS	0.002	0.001	0.003	0.002	[ppm]
Chamber Temperature:	40.4.2	PASS	79	79	80	1	[degF]
Chamber Humidity:	40.4.2	PASS	50	49	51	3	[%RH]
Chamber Static Pressure:	-	PASS	0.02	0.00	0.04	0.03	["H2O]
Chamber Supply Air Flow:	-	-	20	19	20	0	[SCFM]
Required to Test 2nd Sample:	40.1.1	NO					
Test Duration:	*40.4.6	8 hours					

NOTES: Peak Test Location 2

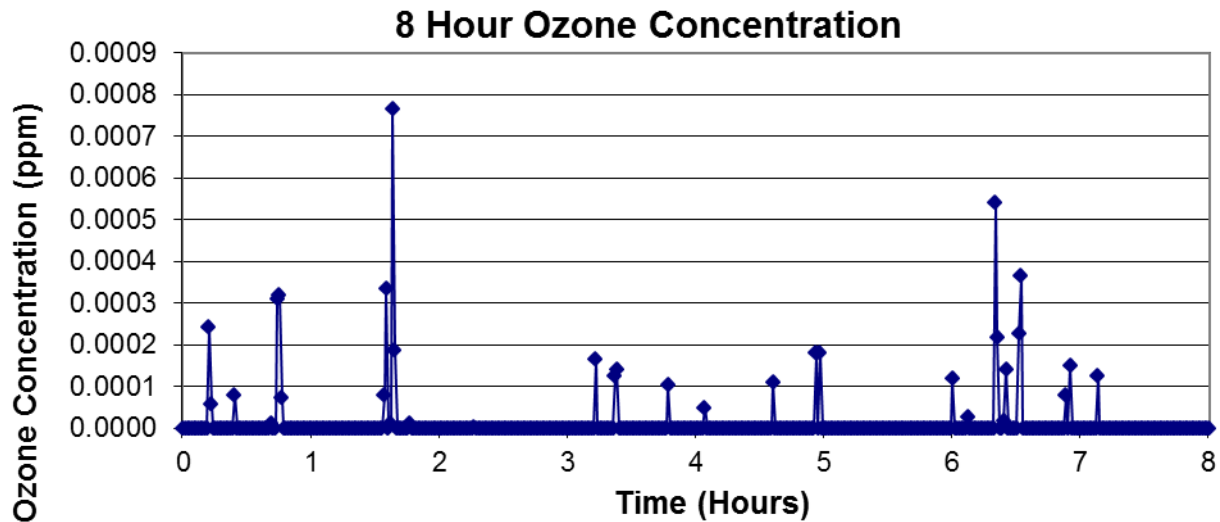
MAX OZONE TEST

START DATE OF TEST: 8/12/2020

SAMPLE: First Sample

FAN SPEED: 1 (Lowest)

FILTER(S): Pre-filter installed, UV light and Ionizers ON



MAXIMUM OZONE TEST RESULTS							
	UL Ref.	Pass/Fail	Mean	Min	Max	Delta	Units
Background C(t) O3:	40.4.3	PASS	0.002	0.002	0.003	0.001	[ppm]
Test 1min C(t) O3:	40.1.2	PASS	0.000	0.000	0.001	0.001	[ppm]
Test 5min C(t) O3:	40.1.2	PASS	0.000	0.000	0.002	0.002	[ppm]
Chamber Temperature:	40.4.2	PASS	79	79	80	1	[degF]
Chamber Humidity:	40.4.2	PASS	50	47	52	4	[%RH]
Chamber Static Pressure:	-	PASS	0.02	0.01	0.04	0.02	["H2O]
Chamber Supply Air Flow:	-	-	20	19	20	0	[SCFM]
Required to Test 2nd Sample:	40.1.1	NO					
Test Duration:	*40.4.6	8 hours					

NOTES: Peak Test Location 4

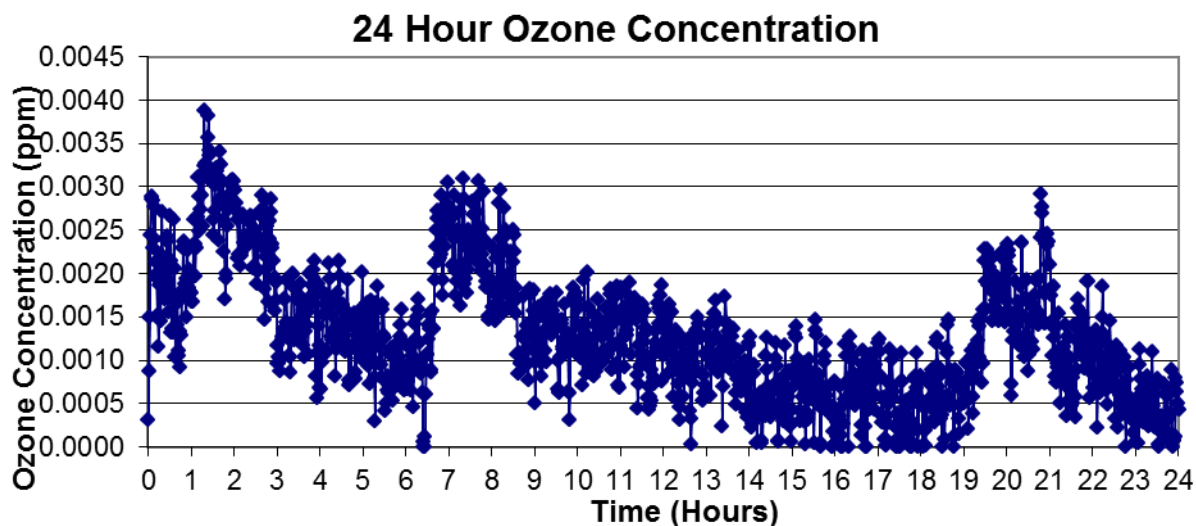
MAX OZONE TEST

START DATE OF TEST: 8/13/2020

SAMPLE: First Sample

FAN SPEED: 2 (Highest)

FILTER(S): Pre-filter removed, UV light and Ionizers ON



MAXIMUM OZONE TEST RESULTS							
	UL Ref.	Pass/Fail	Mean	Min	Max	Delta	Units
Background C(t) O3:	40.4.3	PASS	0.002	0.001	0.002	0.001	[ppm]
Test 1min C(t) O3:	40.1.2	PASS	0.001	0.000	0.004	0.004	[ppm]
Test 5min C(t) O3:	40.1.2	PASS	0.001	0.000	0.003	0.003	[ppm]
Chamber Temperature:	40.4.2	PASS	79	79	80	1	[degF]
Chamber Humidity:	40.4.2	PASS	50	50	51	1	[%RH]
Chamber Static Pressure:	-	PASS	0.02	0.01	0.03	0.01	["H2O]
Chamber Supply Air Flow:	-	-	20	19	20	0	[SCFM]
Required to Test 2nd Sample:	40.1.1	NO					
Test Duration:	*40.4.6	24 hours					

NOTES: Peak Test Location 1

Highest 8-hour time-weighted average: 0.002 [ppmv]

All 8-hour time-weighted averages:

0h-8h: 0.002 [ppmv]

8h-16h: 0.001 [ppmv]

16h-24h: 0.001 [ppmv]

SECTION 6**APPENDIX****DATA FILES**

TEST NAME	RAW DATA FILE
Model Half Life	4099 Halflife ozonelog.csv
Max Ozone: High Speed w/ Filter	4100 Max HIWIF ozonelog.csv
Max Ozone: Low Speed w/ Filter	4101 Max LOWIF ozonelog.csv
Max Ozone: High Speed w/o Filter	4102 Max HIWOF ozonelog.csv

ATTACHMENT DOCUMENTS

DOCUMENT	SOFT-COPY FILE NAME
ARB Application	NA
Chain of Custody: Sample 1	COC_CRT2007061418-001.pdf
Chain of Custody: Sample 2	COC_CRT2007061418-002.pdf

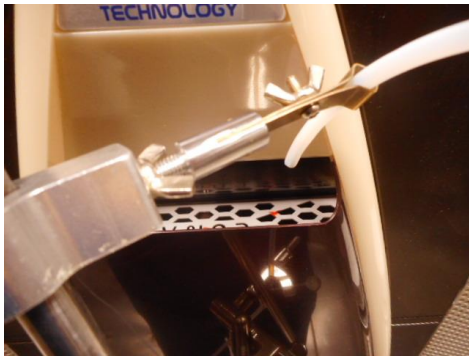
UUT PHOTOGRAPHS

UUT



Nameplate

UUT PHOTOGRAPHS: PEAK TEST



Location 2



Location 4

HIGH SPEED w/ FILTER

LOW SPEED w/ FILTER



Location 1

HIGH SPEED w/o FILTER

UUT PHOTOGRAPHS: MAX OZONE TESTS



Location 2



Location 4

HIGH SPEED w/ FILTER

LOW SPEED w/ FILTER



Location 1

HIGH SPEED w/o FILTER

7.0 REVISION SUMMARY

Date/Proj # Site ID	Project Handler/ Reviewer	Section	Description of Change
			None