

AHAM PORTABLE ELECTRIC ROOM AIR CLEANER CERTIFICATION PROGRAM VERIFICATION TESTING REPORT (A-5)

Conducted in Accordance with ANSI / AHAM AC-1 (latest edition)

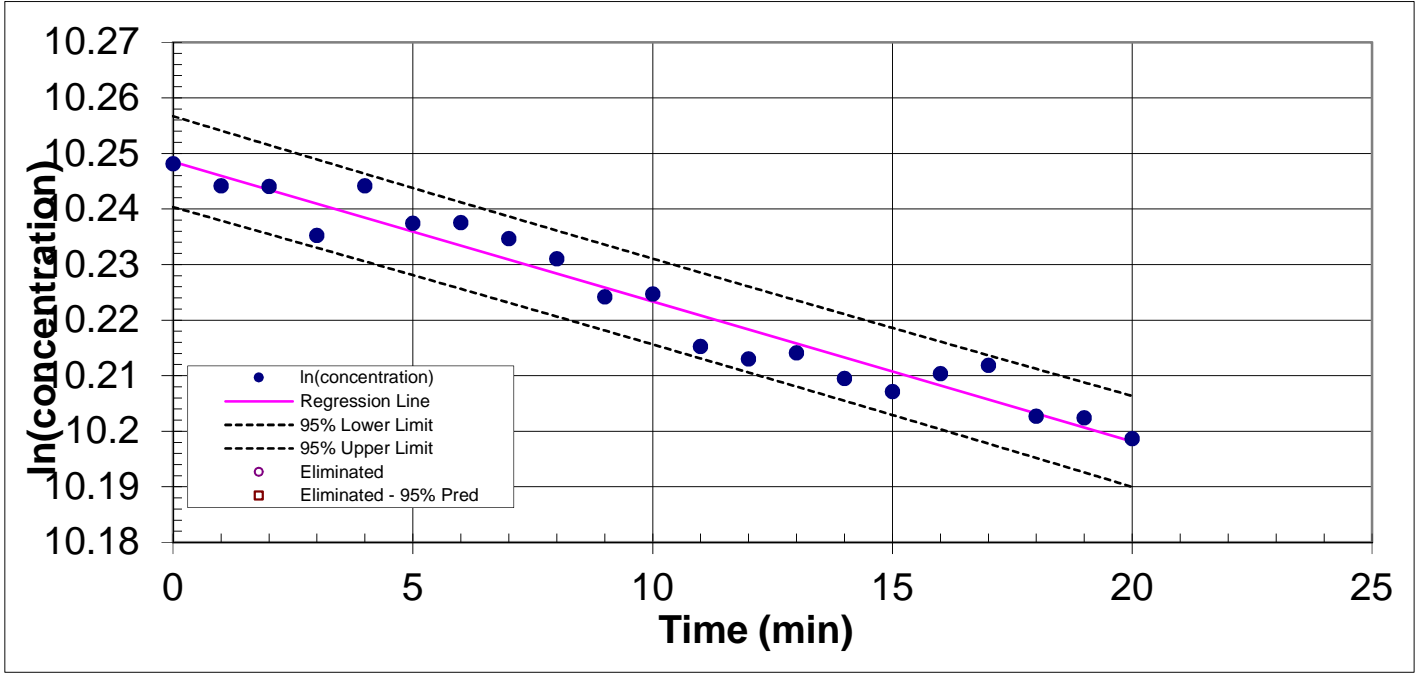
Issue Date:	November 28, 2018			
Test No.	AC-18076-E	Report Number	103659649CRT-001	
Test Code	FST	Program Year	2018	
Rendered To:	ELFI Elektrofiter AB Maskingatan 2-4 441 39, Alingsas Sweden			
Brand Name:	Wood's	Test Date:	November 13-14, 2018	
Brand Owner:	Tes Scandinavia AB	Model No.:	ELFI 155	
Manufacturer:	ELFI Elektrofiter AB	Serial No.:	TALL15518301213	
Selection Date:	September 19, 2018	Voltage:	220-230	
Received Date:	October 1, 2018	Frequency (Hz):	50-60	
CLEAN AIR DELIVERY RATE (CADR)				
Pollutant	Certified Value	Measured Value	Measured / Certified %	Results
Smoke	84	79.0	94	PASS
Dust	94	93.4	99	PASS
Pollen	113	149.3	132	PASS
ENERGY STAR VERIFICATION				
Results				
Dust CADR/Watt	5.3	PASS		
Standby Power (Watts)	0.06	PASS		
NATURAL DECAY DATA				
Parameter	Smoke	Dust	Pollen	
Room Conditions				
Temperature, °F	68	68	67	
Humidity, %	37	43	42	
Background Count, part/cc	0.31	0.01	0.02	
Test Data				
	Smoke	Dust	Pollen	
Initial Concentration, part/cc	28468	273.76	7.34	
Decay Constant	0.0025	0.0054	0.1005	
Slope Std. Deviation	0.13	0.15	2.32	
EXPERIMENTAL DECAY DATA				
Parameter	Smoke	Dust	Pollen	
Room Conditions				
Temperature, °F	68	68	67	
Humidity, %	36	38	42	
Background Count, part/cc	0.31	0.01	0.01	
Test Data				
	Smoke	Dust	Pollen	
Initial Concentration, part/cc	27704	356.66	6.43	
Decay Constant	0.0809	0.0981	0.2486	
Slope Std. Deviation	0.71	0.62	5.61	
Watts	17.56	17.65	17.92	
Comments:	<p>Our verification results show this sample meets the AHAM Certification Program and ENERGY STAR Program requirements and shall remain certified. This units nameplate is 220-230V 50-60Hz. The unit was tested at 120V, 60Hz as the unit has an external power adaptor and the air cleaner assembly only see a supply voltage of 12V DC.</p> <p>Filter Cartridge Model: Active ION HEPA Filter per Manual</p>			

Randy Springer
Program Administrator

Michael J Hudson
Program Manager

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Smoke Natural



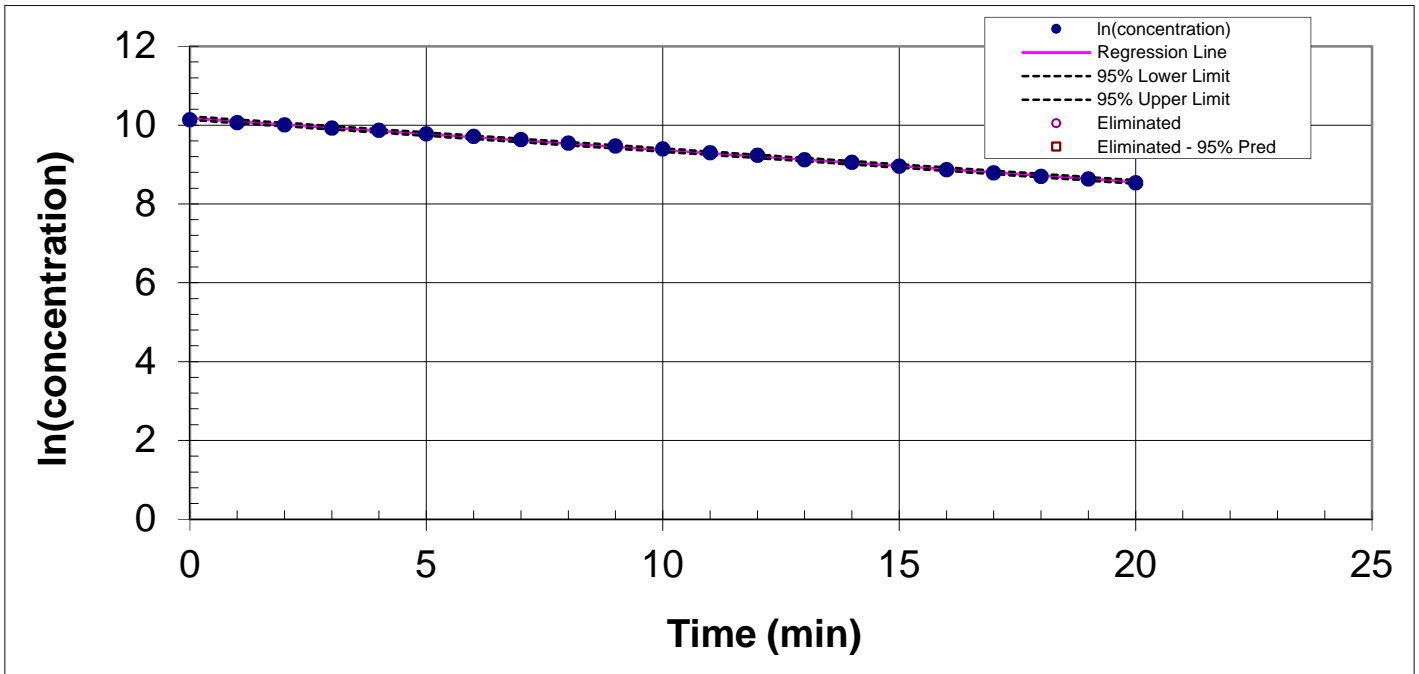
TIME(MIN)	Cti	ln(Cti)	TIME(MIN)	Cti	LN(Cti)
0.00	28,229.73	10.25	11.00	27,316.28	10.22
1.00	28,118.53	10.24	12.00	27,255.79	10.21
2.00	28,115.17	10.24	13.00	27,285.43	10.21
3.00	27,867.71	10.24	14.00	27,159.56	10.21
4.00	28,117.61	10.24	15.00	27,095.41	10.21
5.00	27,929.42	10.24	16.00	27,183.08	10.21
6.00	27,932.48	10.24	17.00	27,224.63	10.21
7.00	27,852.13	10.23	18.00	26,975.65	10.20
8.00	27,750.40	10.23	19.00	26,967.40	10.20
9.00	27,561.29	10.22	20.00	26,867.50	10.20
10.00	27,575.35	10.22			

Quantity	Measured	Lower Limit	Upper Limit	Acceptable
Decay Constant	0.00252	-	-	
Slope Standard Deviation (cfm)	0.13	-	2.00	YES
Background at Injection (part/cc)	0.3055	-	20.00	YES
Initial Concentration (part/cc)	28470	24000	35000	YES
Data points used	21	9	-	YES
Average Temperature (°F)	68	65	75	YES
Average Humidity (%RH)	37	35	45	YES
Average Input Voltage (volts)	0.0			
Average Test Unit Power (watts)	0.0			

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AC-1 Air Cleaner Testing Facility

Smoke Measured



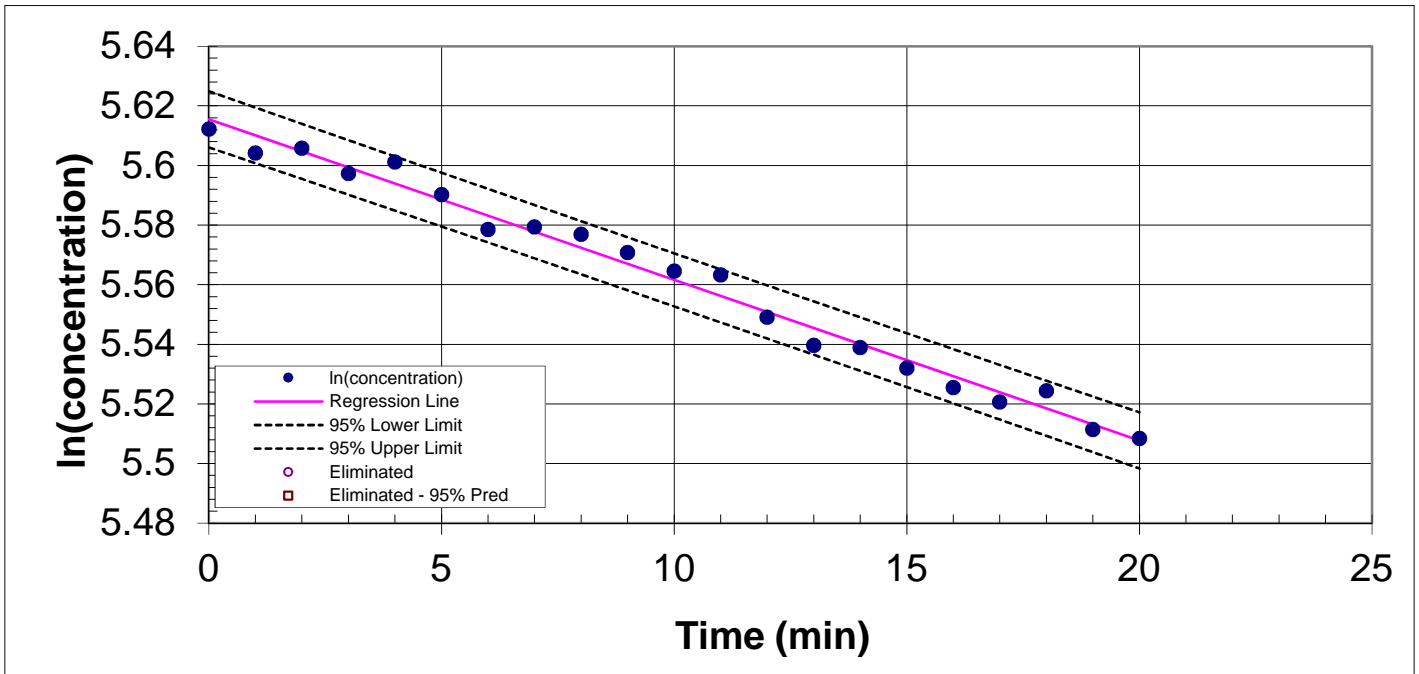
TIME(MIN)	Cti	ln(Cti)	TIME(MIN)	Cti	LN(Cti)
0.00	25,281.35	10.14	11.00	10,963.17	9.30
1.00	23,510.36	10.07	12.00	10,210.42	9.23
2.00	22,149.67	10.01	13.00	9,165.00	9.12
3.00	20,324.92	9.92	14.00	8,579.97	9.06
4.00	19,244.06	9.86	15.00	7,744.43	8.95
5.00	17,616.35	9.78	16.00	7,110.21	8.87
6.00	16,454.84	9.71	17.00	6,561.22	8.79
7.00	15,233.45	9.63	18.00	6,002.77	8.70
8.00	13,941.80	9.54	19.00	5,604.70	8.63
9.00	12,922.34	9.47	20.00	5,080.16	8.53
10.00	11,987.82	9.39			

Quantity	Measured	Lower Limit	Upper Limit	Acceptable
Decay Constant	0.08092	-	-	
Slope Standard Deviation (cfm)	0.71	-	8.16	YES
Background at Injection (part/cc)	0.3055	-	20.00	YES
Initial Concentration (part/cc)	27704	24000	35000	YES
Data points used	21	9	-	YES
Average Temperature (°F)	68	65	75	YES
Average Humidity (%RH)	36	35	45	YES
Average Input Voltage (volts)	120.1			
Average Test Unit Power (watts)	17.6			

CADR	79.03		
CADR Standard Deviation	0.7	9.0	YES

AC-1 Air Cleaner Testing Facility

Dust Natural



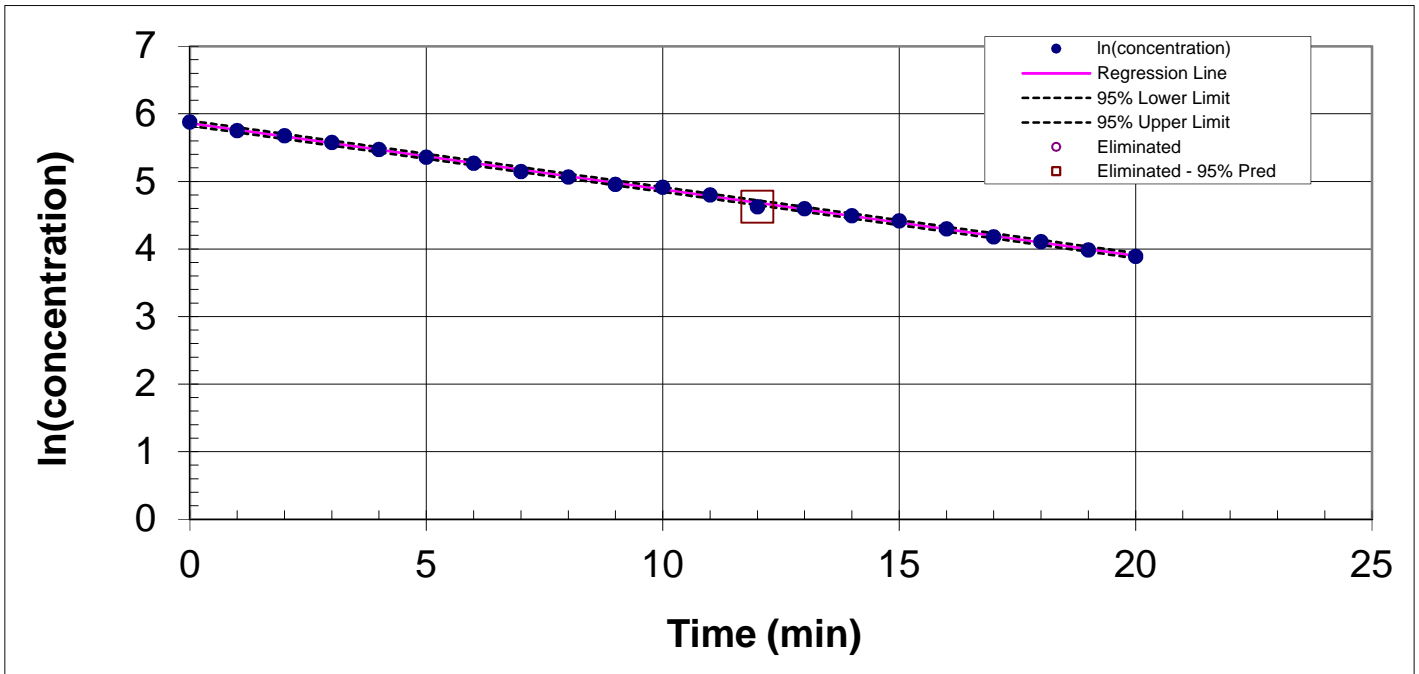
TIME(MIN)	Cti	ln(Cti)	TIME(MIN)	Cti	LN(Cti)
0.00	273.76	5.61	11.00	260.67	5.56
1.00	271.56	5.60	12.00	256.99	5.55
2.00	271.99	5.61	13.00	254.59	5.54
3.00	269.70	5.60	14.00	254.39	5.54
4.00	270.75	5.60	15.00	252.65	5.53
5.00	267.78	5.59	16.00	250.99	5.53
6.00	264.66	5.58	17.00	249.79	5.52
7.00	264.91	5.58	18.00	250.72	5.52
8.00	264.25	5.58	19.00	247.50	5.51
9.00	262.63	5.57	20.00	246.76	5.51
10.00	261.01	5.56			

Quantity	Measured	Lower Limit	Upper Limit	Acceptable
Decay Constant	0.00539	-	-	
Slope Standard Deviation (cfm)	0.15	-	1.00	YES
Background at Injection (part/cc)	0.006	-	0.03	YES
Initial Concentration (part/cc)	273.8	200	400	YES
Data points used	21	9	-	YES
Average Temperature (°F)	68	65	75	YES
Average Humidity (%RH)	43	35	45	YES
Average Input Voltage (volts)	0.0			
Average Test Unit Power (watts)	0.0			
Coefficient of Determination	0.985	0.900	-	YES

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AC-1 Air Cleaner Testing Facility

Dust Measured



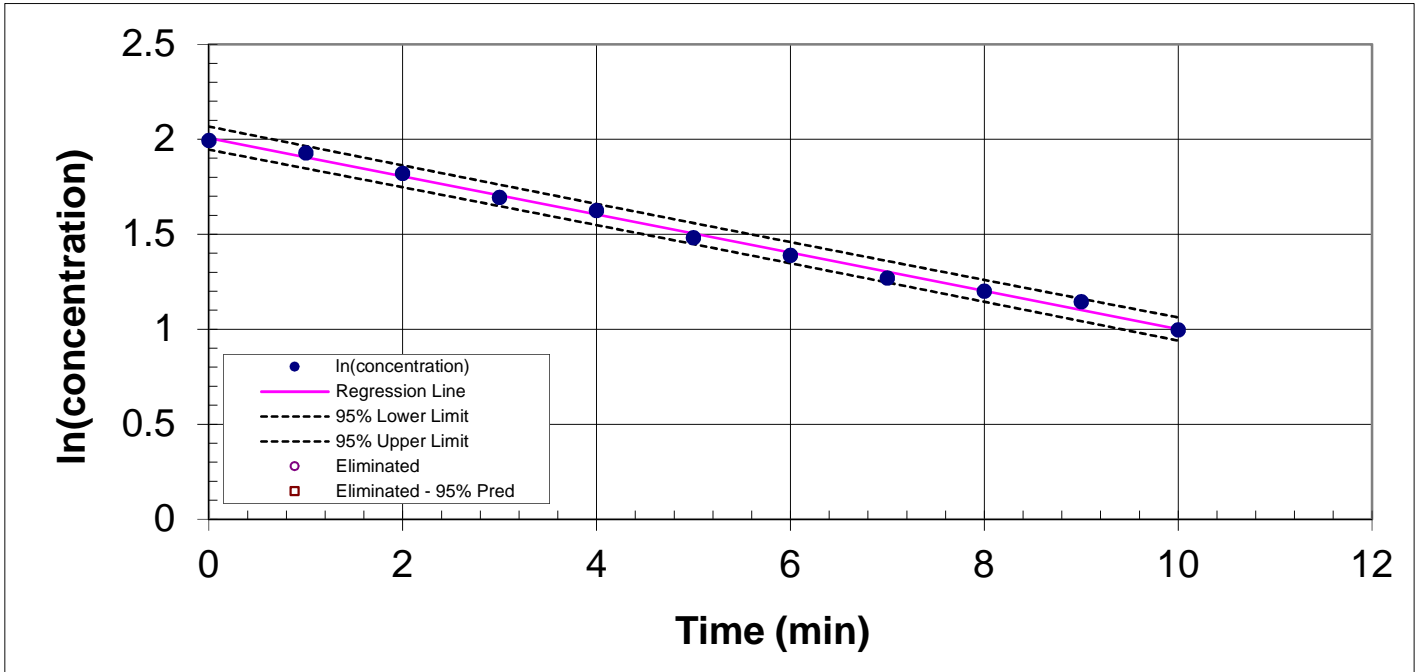
TIME(MIN)	Cti	ln(Cti)	TIME(MIN)	Cti	LN(Cti)
0.00	356.66	5.88	11.00	121.22	4.80
1.00	314.18	5.75	12.00	101.96	4.62 (eliminated - 95% pred.)
2.00	291.93	5.68	13.00	99.22	4.60
3.00	263.28	5.57	14.00	89.33	4.49
4.00	238.17	5.47	15.00	82.53	4.41
5.00	212.68	5.36	16.00	73.59	4.30
6.00	193.96	5.27	17.00	65.35	4.18
7.00	171.17	5.14	18.00	60.79	4.11
8.00	158.08	5.06	19.00	53.65	3.98
9.00	141.82	4.95	20.00	48.96	3.89
10.00	135.94	4.91			

Quantity	Measured	Lower Limit	Upper Limit	Acceptable
Decay Constant	0.09806	-	-	
Slope Standard Deviation (cfm)	0.62	-	9.88	YES
Background at Injection (part/cc)	0.012	-	0.03	YES
Initial Concentration (part/cc)	356.7	200	400	YES
Data points used	20	9	-	YES
Average Temperature (°F)	68	65	75	YES
Average Humidity (%RH)	38	35	45	YES
Average Input Voltage (volts)	120.1			
Average Test Unit Power (watts)	17.6			
Coefficient of Determination	0.999	0.900	-	YES

CADR	93.41			
CADR Standard Deviation	0.6	0.9	10.0	YES

AC-1 Air Cleaner Testing Facility

Pollen Natural



TIME(MIN)	Cti	ln(Cti)	TIME(MIN)	Cti	LN(Cti)
0.00	7.34	1.99			
1.00	6.88	1.93			
2.00	6.17	1.82			
3.00	5.43	1.69			
4.00	5.07	1.62			
5.00	4.40	1.48			
6.00	4.01	1.39			
7.00	3.56	1.27			
8.00	3.32	1.20			
9.00	3.14	1.14			
10.00	2.71	1.00			

Quantity	Measured	Lower Limit	Upper Limit	Acceptable
Decay Constant	0.10049	0.095	0.143	YES
Slope Standard Deviation (cfm)	2.32	-	10.13	YES
Background at Injection (part/cc)	0.02	-	0.03	YES
Initial Concentration (part/cc)	7.336	4	9.5	YES
Data points used	11	5	-	YES
Average Temperature (°F)	67	65	75	YES
Average Humidity (%RH)	42	35	45	YES
Average Input Voltage (volts)	0.0			
Average Test Unit Power (watts)	0.0			
Coefficient of Determination	0.995	0.900		YES

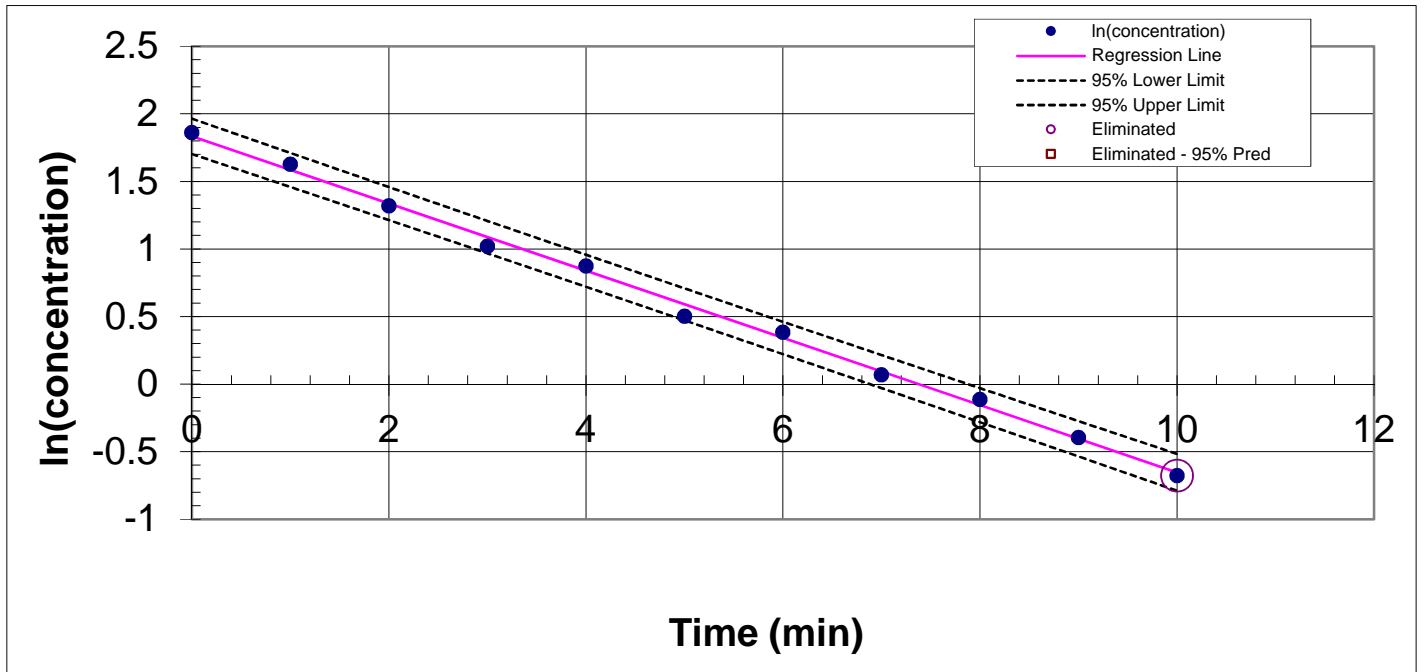
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AC-1 Air Cleaner Testing Facility

Control Number PS-CRT1809041403-001

Test Number AC-18076-E TALL 155

Pollen Measured



TIME(MIN)	Cti	In(Cti)	TIME(MIN)	Cti	LN(Cti)
0.00	6.43	1.86			
1.00	5.08	1.63			
2.00	3.74	1.32			
3.00	2.77	1.02			
4.00	2.40	0.87			
5.00	1.65	0.50			
6.00	1.47	0.38			
7.00	1.07	0.07			
8.00	0.89	-0.11			
9.00	0.67	-0.39			
10.00	0.51	-0.68 (eliminated - measurability)			

Quantity	Measured	Lower Limit	Upper Limit	Acceptable
Decay Constant	0.24864	-	-	
Slope Standard Deviation (cfm)	5.61	-	25.06	YES
Background at Injection (part/cc)	0.008	-	0.03	YES
Initial Concentration (part/cc)	6.432	4	9.5	YES
Data points used	10	5	-	YES
Average Temperature (°F)	67	65	75	YES
Average Humidity (%RH)	42	35	45	YES
Average Input Voltage (volts)	120.2			
Average Test Unit Power (watts)	17.9			
Coefficient of Determination	0.996	0.900		YES

CADR	149.33		
CADR Standard Deviation	6.1	-	29.9 YES



Test By: *[Signature]*
Reviewed By: *[Signature]*

Order Number G103659649
Date 11/13/18 23:30:47

AC-1 Air Cleaner Testing Facility

Control Number PS-CRT1809041403-001
Test Number AC-18076-E TALL 155

Operating Power

Quantity	Measured	Lower Limit	Upper Limit	Acceptable
Operating Power (watts)	17.6			
Operating Voltage (volts)	120.1	119	121	YES
Points Used	13	10		YES
Dust CADR	93.41			
Energy Star (CADR/Watt)	5.3	2.0		YES

Operating Power (watts)	17.6		
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Total Quality. Assured.

Test By: rp
Reviewed By: [Signature]

Order Number G103659649
Date 11/13/18 23:30:47

AC-1 Air Cleaner Testing Facility

Control Number PS-CRT1809041403-001
Test Number AC-18076-E TALL 155

Standby Power

Quantity	Measured	Lower Limit	Upper Limit	Acceptable
Standby Watt Variation	0.46%		5%	YES
Standby Duration (minutes)	22.0	5		YES
Standby Voltage (volts)	114.9	114	116	YES
Standby Frequency (Hz)	59.9	59	61	YES
Standby Temp (degF)	67.7	64.4	82.4	YES
Standby THD (%)	0.10%		2%	YES
Standby Power (watts)	0.1		2.0	YES