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LIGHTHOUSE WORLDWIDE SOLUTIONS

Manufacturer's Calibration Certificate
ISO 21501-4

REPORT OF CALIBRATION

Model:	**R2014**	
Serial Number:	**180221001**	LWS Location: 1221 Disk Drive, Medford, OR 97501
Sensor ID:	**180221-001**	

Calibration of this instrument has been accomplished by and is fully compliant to the methods defined in ISO 21501-4 *Part 4: Light scattering airborne particle counter for clean spaces.* The accuracy of the standards and equipment used in the calibration are traceable to the National Institute of Standards and Technology or have been derived from acceptable values of natural and physical constants. All records of work performed are maintained by Lighthouse Worldwide Solutions.

The combined standard uncertainty of the size calibration for the above instrument is: 2.5%
The combined standard uncertainty of the size calibration is calculated using Root Sum Square method (RSS).

Test Equipment:

TSI Flow Meter 0.1	41431703003	Calibration Due:	7/30/2018
DMM	004292	Calibration Due:	3/22/2018
MCA	00732	Calibration Due:	7/27/2018
LD Test Standard	150506001	Calibration Due:	3/21/2018

Calibration was performed under the following controlled conditions:
Reference Temp: 73.0 **°F** Reference RH: 25.0 **%**

This certifies the above named instrument conforms to the original specifications in effect at date of manufacture and test.

Threshold Voltage Settings:

Particle Size:	0.20 µm	Lot# 179339	Channel 1 Threshold Voltage:	70 mV
Particle Size:	0.30 µm	Lot# 183039	Channel 2 Threshold Voltage:	615 mV
Particle Size:	0.50 µm	Lot# 188886	Channel 3 Threshold Voltage:	2296 mV
Particle Size:	1.00 µm	Lot# 178291	Channel 4 Threshold Voltage:	4212 mV

Flow Rate:	Measured Flow:	**0.101 CFM**	(limit ±5% of nominal)
False Count Rate:	Observed Cts:	**0 /M^3**	
Counting Efficiency:	Size 0.203 µm:	**51.14%**	(limit 30% - 70%)
Counting Efficiency:	Size 0.303 µm:	**104.31%**	(limit 90% - 110%)
Size Resolution:	Size 0.240 µm:	**3.44%**	(limit 15%)

Signature: _____ Certification Date: February 13, 2018

Calibration tech/engineer T. Tucker

Next calibration on this instrument is due: **February 13, 2019**

LIGHTHOUSE WORLDWIDE SOLUTIONS
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