



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005
& ANSI/NCSL Z540-1-1994

EAGLE EYE CALIBRATION LABS, INC.
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CALIBRATION

Valid To: December 31, 2018

Certificate Number: 3135.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following calibrations¹:

I. Dimensional

Parameter/Equipment	Range	CMC ^{2,3} (±)	Comments
Gage Blocks	Up to 4 in	(4.6 + 1.1L) μin	UMM; gage blocks
Calipers	Up to 6 in	22 μin + 0.6R	Gage blocks
	Up to 8 in	23 μin + 0.6R	
	Up to 12 in	29 μin + 0.6R	
Micrometers	Up to 4 in	18 μin + 0.6R	Gage blocks
	(4 to 20) in	66 μin + 0.6R	
Cylindrical Plug Gages, Pin Gages	Up to 13 in	(7.4 + 4.5D) μin	Universal measurement machine (UMM)
Cylindrical Ring Gages	(0.128 to 14) in	(7.4 + 4.5D) μin	UMM
Length Standards/Bars	Up to 20 in	63 μin	Gage blocks

Parameter/Equipment	Range	CMC ² (±)	Comments
Thread Measuring Wires	(5 to 80) TPI	9 µin	UMM, gage blocks
Thread/Set Plug Gages	(5 to 80) TPI	83 µin	UMM, gage blocks, thread wires
Indicators, Drop	(0 to 2) in	84 µin	Gage blocks
Indicators, Test	(0 to 0.060) in	38 µin	UMM, gage blocks

II. Electrical – DC/Low Frequency

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
DC Voltage – Generate	Up to 330 mV 330 mV to 3.3 V (3.3 to 33) V (33 to 330) V (330 to 1020) V	62 µV/V + 3.0 µV 48 µV/V + 5.0 µV 44 µV/V + 50 µV 52 µV/V + 0.50 mV 52 µV/V + 1.5 mV	Fluke 5500A
DC Current – Generate	Up to 3.3 mA (3.3 to 33) mA (33 to 333) mA 330 mA to 1 A	0.014 % + 50 nA 99 µV/V + 0.25 µA 0.010 % + 3.3 µA 0.033 % + 44 µA	Fluke 5500A
Resistance – Generate	Up to 11 Ω (11 to 33) Ω (33 to 330) Ω 330 Ω to 3.3 kΩ (3.3 to 33) kΩ (33 to 110) kΩ (110 to 330) kΩ 330 kΩ to 3.3 MΩ (3.3 to 11) MΩ	0.059 % + 6.0 mΩ 0.038 % + 10 mΩ 0.016 % + 10 mΩ 0.013 % + 60 mΩ 0.013 % + 60 mΩ 0.014 % + 6.0 Ω 0.013 % + 6.0 Ω 0.016 % + 55 Ω 0.016 % + 550 Ω	Fluke 5500A

Parameter/Equipment	Range	CMC ^{2,4} (±)	Comments
Resistance – Generate (cont)	(11 to 33) MΩ (33 to 110) MΩ (110 to 330) MΩ	0.099 % + 0.55 kΩ 0.47 % + 5.5 kΩ 0.47 % + 17 kΩ	Fluke 5500A

Parameter/Range	Frequency	CMC ^{2,4} (±)	Comments
AC Voltage – Generate			
(1 to 33) mV	(10 to 45) Hz 45 Hz to 10 kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 500) kHz	0.50 % + 20 μV 0.30 % + 20 μV 0.35 % + 20 μV 0.40 % + 20 μV 0.60 % + 33 μV 1.4 % + 60 μV	Fluke 5500A
(33 to 330) mV	(10 to 45) Hz 45 Hz to 10 kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 500) kHz	0.28 % + 50 μV 0.063 % + 20 μV 0.11 % + 20 μV 0.19 % + 40 μV 0.37 % + 0.17 mV 0.93 % + 0.33 mV	
330 mV to 3.3 V	(10 to 45) Hz 45 Hz to 10 kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 500) kHz	0.17 % + 0.25 mV 0.037 % + 60 μV 0.083 % + 60 μV 0.16 % + 0.30 mV 0.37 % + 1.7 mV 0.74 % + 3.3 mV	
(3.3 to 33) V	(10 to 45) Hz 45 Hz to 10 kHz (10 to 20) kHz (20 to 50) kHz (50 to 100) kHz	0.17 % + 2.5 mV 0.044 % + 0.60 mV 0.098 % + 2.6 mV 0.23 % + 5.0 mV 0.37 % + 17 mV	
(33 to 330) V	45 Hz to 1 kHz (1 to 10) kHz (10 to 20) kHz	0.053 % + 6.6 mV 0.090 % + 15 mV 0.11 % + 33 mV	
(330 to 1020) V	45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	0.055 % + 80 mV 0.20 % + 0.10 V 0.25 % + 0.50 V	

Parameter/Range	Frequency	CMC ^{2,4} (±)	Comments
AC Current – Generate			
(30 to 330) µA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz	0.36 % + 0.15 µA 0.24 % + 0.15 µA 0.32 % + 0.25 µA	Fluke 5500A
	(1 to 5) kHz (5 to 10) kHz	0.51 % + 0.15 µA 1.3 % + 0.15 µA	
330 µA to 3.3 mA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	0.22 % + 0.30 µA 0.12 % + 0.30 µA 0.12 % + 0.30 µA 0.22 % + 0.30 µA 0.61 % + 0.30 µA	
(3.3 to 33) mA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	0.22 % + 3.0 µA 0.12 % + 3.0 µA 0.11 % + 3.0 µA 0.22 % + 3.0 µA 0.61 % + 3.0 µA	
(33 to 330) mA	(10 to 20) Hz (20 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz (5 to 10) kHz	0.22 % + 30 µA 0.12 % + 30 µA 0.12 % + 30 µA 0.22 % + 30 µA 0.61 % + 30 µA	
330 mA to 1 A	(10 to 45) Hz 45 Hz to 1 kHz (1 to 5) kHz	0.23 % + 0.30 mA 0.14 % + 0.30 mA 0.69 % + 0.30 mA	

Parameter/Equipment	Range	CMC ^{2,5} (±)	Comments
DC Voltage – Measure	Up to 100 mV (0.1 to 1) V (1 to 10) V (10 to 100) V (100 to 1000) V	14 µV/V + 0.30 µV 14 µV/V + 0.30 µV 14 µV/V + 0.50 µV 14 µV/V + 30 µV 26 µV/V + 0.10 mV	HP 3458, Option II

Parameter/Equipment	Range	CMC ^{2,5} (±)	Comments
DC Current – Measure	Up to 100 μ A (0.1 to 1) mA (1 to 10) mA (10 to 100) mA (0.1 to 1) A	68 μ A/A + 0.80 nA 35 μ A/A + 5.0 nA 35 μ A/A + 50 nA 53 μ A/A + 0.50 μ A 0.014 % + 10 μ A	HP 3458, option II
Resistance – Measure	Up to 10 Ω (10 to 100) Ω 100 Ω to 1 k Ω (1 to 10) k Ω (10 to 100) k Ω 100 k Ω to 1 M Ω (1 to 10) M Ω (10 to 100) M Ω	28 $\mu\Omega/\Omega$ + 0.10 m Ω 28 $\mu\Omega/\Omega$ + 1.0 m Ω 22 $\mu\Omega/\Omega$ + 1.0 m Ω 22 $\mu\Omega/\Omega$ + 10 m Ω 22 $\mu\Omega/\Omega$ + 0.10 Ω 27 $\mu\Omega/\Omega$ + 4.0 Ω 93 $\mu\Omega/\Omega$ + 0.10 k Ω 0.12 % + 1.0 k Ω	HP 3458, option II

Parameter/Range	Frequency	CMC ^{2,5} (±)	Comments
AC Voltage – Measure			
100 mV to 1 V	40 Hz to 1 kHz (1 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 300) kHz (0.3 to 1) MHz	88 μ V/V + 20 μ V 0.014 % + 20 μ V 0.030 % + 20 μ V 0.080 % + 20 μ V 0.30 % + 100 μ V 1.0 % + 0.10 mV	HP 3458, option II
(1 to 10) V	40 Hz to 1 kHz (1 to 20) kHz (20 to 50) kHz (50 to 100) kHz (100 to 300) kHz	88 μ V/V + 0.20 mV 0.014 % + 0.20 mV 0.030 % + 0.20 mV 0.081 % + 0.20 mV 0.30 % + 1.0 mV	
(10 to 100) V	40 Hz to 1 kHz (1 to 20) kHz	0.023 % + 2.0 mV 0.020 % + 2.0 mV	
(100 to 750) V	40 Hz to 1 kHz (1 to 20) kHz	0.046 % + 14 mV 0.060 % + 14 mV	

Parameter/Range	Frequency	CMC ^{2, 5} (±)	Comments
AC Current – Measure			
(5 to 100) μA	(10 to 20) Hz (20 to 45) Hz (45 to 100) Hz (0.1 to 1) kHz	0.46 % + 30 nA 0.17 % + 30 nA 0.070 % + 30 nA 0.071 % + 30 nA	HP 3458, option II
100 μA to 1 mA	(10 to 20) Hz (20 to 45) Hz (45 to 100) Hz (0.1 to 5) kHz	0.46 % + 0.20 μA 0.17 % + 0.20 μA 0.070 % + 0.20 μA 0.036 % + 0.20 μA	
(1 to 10) mA	(5 to 10) kHz (10 to 20) Hz (20 to 45) Hz (45 to 100) Hz (0.1 to 5) kHz (5 to 10) kHz	0.070 % + 0.20 μA 0.46 % + 2.0 μA 0.17 % + 2.0 μA 0.072 % + 2.0 μA 0.043 % + 2.0 μA 0.072 % + 2.0 μA	
(10 to 100) mA	(10 to 20) Hz (20 to 45) Hz (45 to 100) Hz (0.1 to 5) kHz (5 to 10) kHz	0.46 % + 20 μA 0.17 % + 20 μA 0.070 % + 20 μA 0.037 % + 20 μA 0.070 % + 20 μA	
100 mA to 1 A	(10 to 20) Hz (20 to 45) Hz (45 to 100) Hz (0.1 to 5) kHz	0.46 % + 0.20 mA 0.17 % + 0.20 mA 0.094 % + 0.20 mA 0.12 % + 0.20 mA	

III. Mechanical

Parameter/Equipment	Range	CMC ² (±)	Comments
Pressure	(0 to 12 000) psi	1.6 % Full Scale	Deadweight tester

¹ This laboratory offers commercial calibration service.

- ² Calibration and Measurement Capability Uncertainty (CMC) is the smallest uncertainty of measurement that a laboratory can achieve within its scope of accreditation when performing more or less routine calibrations of nearly ideal measurement standards or nearly ideal measuring equipment. CMCs represent expanded uncertainties expressed at approximately the 95 % level of confidence, usually using a coverage factor of $k = 2$. The actual measurement uncertainty of a specific calibration performed by the laboratory may be greater than the CMC due to the behavior of the customer's device and to influences from the circumstances of the specific calibration.
- ³ In the statement of CMC, L is the numerical value of the nominal length of the device measured in inches. In the statement of CMC, D is the numerical value of the nominal diameter of the device measured in inches and R is the resolution of the device under test.
- ⁴ The measurands stated are generated with the Fluke 5500A series of instruments. This capability is suitable for the calibration of the devices intended to measure the stated measurand in the ranges indicated. CMCs are expressed as either a specific value that covers the full range or as a fraction/percentage of the reading plus a fixed floor specification.
- ⁵ The measurands stated are measured with the HP 3458. This capability is suitable for the calibration of the devices intended to generate the measurand in the ranges indicated. CMCs are expressed as either a specific value that covers the full range or as a combination of the fraction/percentage of the reading/output plus a range specification.



Accredited Laboratory

A2LA has accredited

EAGLE EYE CALIBRATION LABS., INC.

Chatsworth, CA

for technical competence in the field of

Calibration

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the requirements of ANSI/NCSLI Z540-1-1994 and the requirements of ANSI/NCSLI Z540.3-2006 and R205 – *Specific Requirements: Calibration Laboratory Accreditation Program*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009*).



Presented this 3rd day of March 2017.

A handwritten signature in black ink, written over a horizontal line.

President and CEO
For the Accreditation Council
Certificate Number 3135.01
Valid to December 31, 2018
Revised November 30, 2018

For the calibrations to which this accreditation applies, please refer to the laboratory's Calibration Scope of Accreditation.