

Proficiency Test Final Report

NCSLI Learning Lab
EXAMPLE CALIPER

National Association for Proficiency Testing

A Non-Profit Organization Providing Proficiency Testing Tools to the Metrology Community

This report presents the measurement results submitted to NAPT along with associated uncertainties. Two comparisons are presented. First, each measurement data point is compared against the established reference value, both in the value reported and the uncertainty associated with value. Secondly, each measurement data point is compared to other test participants along with a comparison of their reported uncertainties.

The ILC/PT consisted of 2 set points. Your organization submitted results where 2 of 2 had Error Normalized (En) values greater than -1 and less than 1. Most accreditation bodies require the En value to be between -1 and 1 to be considered a satisfactory performance in an ILC/PT.

To add clarity and simplification in understanding the results, several additional indicators are included for each reported data point. These include: Participant En values, S/U (satisfactory/unsatisfactory) ratings, Z-score, mean value of satisfactory results and mean values of all participant reported results. Reported values are rounded, in accordance with accepted practices, to coincide with resolution of measurement made.

The programs, ILC/PT's, offered by the National Association for Proficiency Testing are conducted in accordance with ISO/IEC 17043, the international standard for proficiency testing. Assignment of reference values are in accordance with ISO 13528, the standard for use of statistical methods by proficiency testing providers.

The Final Report indicates the performance and capability of multiple laboratories performing like calibrations on a single type of artifact. Results also give each participant a basis for evaluation and perhaps improvement of their calibration performance.

If you have any questions regarding this ILC/PT please contact the Managing Director who is responsible for the content of this report.

Thank you for participating in this evaluation. We look forward to your participation in additional NAPT-Sponsored ILC/PTs.

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Organization Participating:	ABC Calibrations
Results Reported To:	John Doe
ILC/PT Performed By:	Participant One
Date of Participation:	22 Jul 2024
Date of Issue	26 Dec 2025



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Date of Participation: 22 Jul 2024

Your organization has been identified as **Lab: B37424** throughout the report.

All artifacts used in this ILC/PT were acquired thru the metrology community, chosen based on their ability to provide the wide characterization and spectrum needed for this ILC/PT. Specific nominal set points for measurements were determined prior to distribution of the kit. A description of the artifacts in the kit are listed below.

Model	Serial Number	Attribute	Manufacturer
CD-6" CS	0004736	dimensional	Mitutoyo

Participants were instructed to acquire measurements at predefined set points using their standard calibration procedures, while taking into account any additional instructions from NAPT.

Established reference values were established in accordance with NAPT Quality Procedures and NAPT work instructions. For additional guidance on interpretation of this report, please refer to NAPT's Supplemental Guide to Interpretation of Reports, available for download at www.proficiency.org.

The final results presented here may be different from the values issued in your Preliminary Report. The reason for a possible change is because during the course of each ILC/PT, thorough technical reviews are conducted by NAPT's Technical Director and the Technical Advisor(s) assigned to the ILC/PT. This is done to assure the ILC/PT integrity and look for trends and/or anomalies in the data submitted to NAPT. By performing these reviews on a scheduled basis, NAPT is better able to assist participants in the event prompt corrective action is necessary. Any change in the established reference value is based on those reviews and in accordance with ISO 13528.

Notes / Table Descriptors: The following bullets are meant to assist reader in reviewing tables.

- Values are rounded to the resolution of the data. Rounding does not effect the data analysis & is for reporting purposes only
- All uncertainties are at (or normalized to) K=2 (coverage factor associated with a 2-sigma, 95%, normal distribution)
- **En** = (Participant's Reported Value – Reference Value) / SQRT (Participant's Reported Uncertainty² + Reference Uncertainty²)
- **S** (Satisfactory): Participant's Computed En is within range of +1 to -1
- **U** (Unsatisfactory): Participant's Computed En is outside range of +1 to -1
- One star "*" present indicates that the test value is an outlier and falls outside +/- 2 Standard Deviations from the Mean. Two stars "***" present indicates that the test/lab was manually excluded from the calculations and is considered an extreme outlier. These indicators do not indicate pass or fail performance.
- Z-Score = (Participant's Reported Value – Mean Reference Value) / Standard Deviation
- Blue Text Indicates Revised Data / Red Values Indicate En is greater than one



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Analysis of the data submitted is shown below. In the table below, your reported values are compared against the established reference values only.

Individual performance indicators include:

- Your measurement data at each nominal set point
- Reference values and uncertainties of test artifact(s)
- Participant's En values, S/U (satisfactory/unsatisfactory) ratings and Z score

Measurement Description	Reported Value / Reference Value	Reported Uncertainty / Reference Uncertainty	En	S/U	Z-Score
MV 1) 30.00 mm	30.24 / 30.24	0.020 / 0.035	-0.01	S	0.00
MV 2) 4.000 in	4.0010 / 4.0010	0.00020 / 0.00022	0.00	S	0.00