



Unit 29, Riverside Business Centre, Victoria Street, High Wycombe, HP11 2LT, UK



Certificate of Conformance of ELODIZ THEYA - LED Calibration Light Source for 532nm Raman Systems

Product name	THEYA-LED Calibration Light Source for 532nm
Model Number	ELO-9001
Serial Number	IFS-605
ELODIZ DocID certificate Number	4Ba5Aa2_532_LED_IFS605_Cert

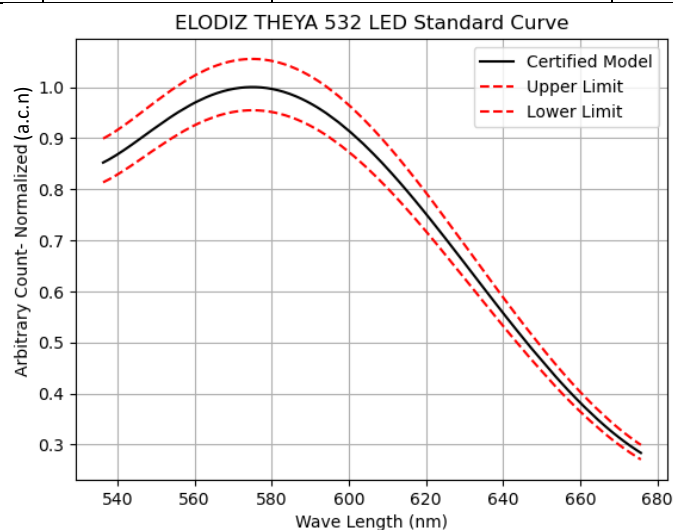
The ELODIZ THEYA-LED Calibration Light Source for relative intensity correction of 532 nm Raman Systems is produced for its use as a reference light source for spectroscopy devices in standard laboratory conditions only. **This reference light source is a secondary calibration standard which is based upon NIST 2242a standard.** The ELODIZ THEYA-LED Calibration Light Source identified above has been evaluated to conform to all applicable tests for this product to match our operational specifications. The data and the results of the test are documented in the completed factory test report and summarized in this conformance certificate; a full copy of the results can be obtained by request to ELODIZ.

This document certifies that the identified product meets applicable factory specifications and accepted international standards for intensity calibration light sources. This certificate is written based on the test results obtained in our manufacturing and test protocols.

For the spectral range of applicability of the THEYA-LED intensity calibration source corresponds to the calibration function:

$$Y(x, \text{nm}) = A0 + A1*x + A2*x^2 + A3*x^3 + A4*x^4 + A5*x^5$$

Polynomial Coefficients	Certified Model	Upper Limit (+5% Standard Deviation)	Lower Limit (-5% Standard Deviation)
A0	0.843810726	0.8860012623	0.8016201896999999
A1	5.20823553e-05	5.4686473065e-05	4.9478237535e-05
A2	2.24063716e-07	2.352669018e-07	2.1286053019999997e-07
A3	-1.69378672e-10	-1.778476056e-10	-1.609097384e-10
A4	3.18890727e-14	3.3483526334999997e-14	3.0294619065e-14
A5	-1.63659717e-18	-1.7184270285e-18	-1.5547673114999998e-18

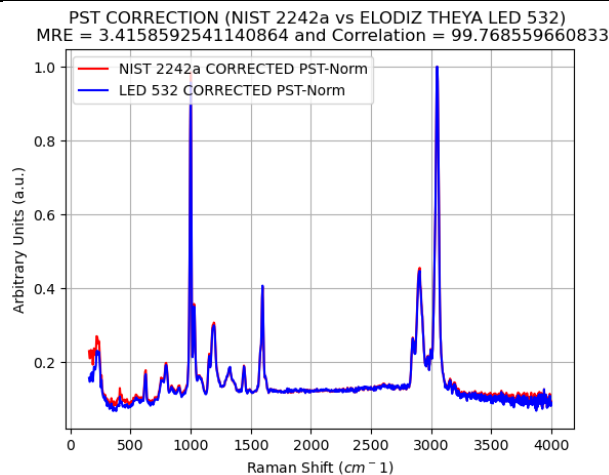


An ELODIZ manufacturing sticker reflecting the conformance is applied to the device, next to the Serial Number assigned to this product. The certification date of this certificate applies for the first validation period. Following recertifications of the unit will require new stickers and certificates.

Range, nm (with respect to the 532 nm line)	536nm to 675 nm equivalent to 150cm ⁻¹ to 4000cm ⁻¹ at 532nm laser excitation
Temperature, °C	20 to 30
Serial Number	IFS-605
Mean relative error (MRE), % (Polystyrene corrected with NIST 2242a vs ELODIZ THEYA 532 LED)	3.41585
Final Disposition (MRE < 5%)	PASS
Certification Date	04/02/2025
Certification Expiration	2 years from certificate or 250h of use

The table below provides the Relative Errors between Corrected Polystyrene using NIST 2242a and ELODIZ THEYA 532 LED.

S.No	Raman Shift (cm ⁻¹)	Relative Error (%)	PASS/FAIL
1	620.9	6.29	Relative Error < 7% (PASS)
2	795.0	3.00	
3	1001.6	2.80	Relative Error < 5% (PASS)
4	1031.7	1.83	
5	1155.4	2.69	
6	1448.9	1.19	
7	1583.3	0.86	
8	1602.6	0.79	
9	2852.2	1.11	
10	2905.9	1.78	
11	2977.0	0.86	
12	3001.8	1.09	Relative Error < 7% (PASS)
13	3056.1	0.06	
14	3163.8	3.24	
15	3201.8	3.66	



Additional Information:

- 1- The certified values become invalid if the unit is improperly stored or used, damaged, contaminated, or altered in any way.
- 2- Please refer to the User's Guide to correctly use this device.
- 3- Measurement Conditions: The measuring unit is wavelength calibrated as per CHARISMA CWA-1 (17815)

Performed by: Muhammad Faizan

Title: Development Engineer

Signature: *Muhammad Faizan*

Date: 04/02/2025