

Product Angular reflector
Serial number 6C3Y83
Date of calibration 29th Aug 2024



Calibration certificate

Specification

The specified angular measurement accuracy (when using calibrated optics with a known angular factor) is $\pm 0.02\%A \pm 0.5 \pm 0.1M$ μ radians where A is the angle measured in μ radians, ± 0.5 is the interpolation error term in μ radians and M is the linear measurement distance between the angular interferometer and angular reflector in metres.

Measured values and uncertainties of calibration for the serial number specified above

Measured angular factor	0.9990
-------------------------	--------

Uncertainty of calibration ($k=2$)	0.0002 (0.02%)
--------------------------------------	----------------

Reference standard	Serial number	Certificate no.	Calibration date
XL-80 laser interferometer	86H528	86H528-211125-00	25 th November 2021
RX10 rotary table	41T940	SAL100436	18 th October 2021
Test procedure	WI-10335		-

Angular measurement accuracy: Based on this calibration, when this angular reflector is used as part of an angular optics kit with an XL laser (within specification), the angle measured (in angle measurement mode) will have an accuracy that is within the above specification. See the system manual for further details.

Authorised signature	Signatory	Position	Issue date
	Dave Wall	Director & General Manager	29 th Aug 2024

This certificate may not be reproduced other than in full, except with the prior written approval of:

Renishaw plc
Laser & Calibration Products Division
New Mills
Wotton-under-Edge
Gloucestershire
GL12 8JR
United Kingdom
Tel +44 (0)1453 524524

Certificate number 6C3Y83-240829-00
--

Calibration notes

1. **Calibration method.** The angular reflector is calibrated using a Renishaw RX10 rotar axis calibrator and XL-80 laser angular interferometer system.
2. **Traceability.** All reference standards (listed overleaf) used in these calibrations are traceable either directly to major international metrology institutes who have signed the CIPM Mutual Recognition Agreement (e.g. NPL: UK; LNE: France; NIST: USA; PTB Germany; NMIJ: Japan) or to a national accreditation body (e.g. UKAS: UK; A2LA: USA).
3. **Environment.** The equipment used for calibration is located in a facility held between 15 °C and 25 °C.
4. **Uncertainty calculations.** The uncertainty calculations have been carried out according to the European Co-operation for Accreditation document EA-4/02.
5. **Quality accreditation.** All calibrations are covered by Renishaw's ISO 9001:2015 quality assurance system. The system is audited and certified by an accredited agency.
6. **Re-calibration.** Customers may wish to confirm that systems are performing within published specifications over time. If so, it is recommended that they should be periodically re-calibrated.