

# PCAL Calibration Factors for LHOY

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<b>Description</b>	<b>Variable(Units)</b>	<b>D20150522</b>	<b>D20150811</b>
Mass of ETM	$M(Kg)$	$39.6430 \pm 0.01\%$	$39.6430 \pm 0.01\%$
Cosine of Incident Angle	$Cos\theta$	$0.9884 \pm 0.07\%$	$0.9884 \pm 0.07\%$
WS/GS(T15000035)	(V/V)	$0.9262 \pm 0.03\%$	$0.9262 \pm 0.03\%$
GS/NIST(T15000035)	(V/W)	$-1.6935 \pm 0.44\%$	$-1.6935 \pm 0.44\%$
WS/TX (inner beam)	(V/V)	$-0.1806 \pm 4.0 \times 10^{-03} \%$	$-0.1808 \pm 4.4 \times 10^{-03} \%$
WS/TX (outer beam)	(V/V)	$-0.1835 \pm 4.2 \times 10^{-03} \%$	$-0.1838 \pm 3.9 \times 10^{-03} \%$
WS/TX (inner beam)	(V/V)	$-0.1760 \pm 4.4 \times 10^{-03} \%$	$-0.1790 \pm 4.3 \times 10^{-03} \%$
WS/TX (outer beam)	(V/V)	$-0.1799 \pm 3.6 \times 10^{-03} \%$	$-0.1814 \pm 4.6 \times 10^{-03} \%$
RX/TX (inner beam)	(V/V)	$0.7032 \pm 7.6 \times 10^{-04} \%$	$0.7164 \pm 4.5 \times 10^{-04} \%$
RX/TX (outer beam)	(V/V)	$0.7187 \pm 2.1 \times 10^{-03} \%$	$0.7267 \pm 4.0 \times 10^{-04} \%$
Optical efficiency (inner)	$e_i$	$0.9744 \pm 0.75\%$	$0.9898 \pm 0.30\%$
Optical efficiency (outer)	$e_o$	$0.9804 \pm 0.57\%$	$0.9868 \pm 0.38\%$
Optical efficiency	$e$	$0.9774 \pm 0.66\%$	$0.9883 \pm 0.34\%$
TX/WS (combined)	(V/V)	$-2.7465 \pm 3.8 \times 10^{-04} \%$	$-2.7423 \pm 3.9 \times 10^{-04} \%$
RX/WS (combined)	(V/V)	$-3.9953 \pm 6.1 \times 10^{-03} \%$	$-4.0042 \pm 6.3 \times 10^{-03} \%$
Calibration factor (TxPD)	(V/W)	$4.3572 \pm 0.79541\%$	$4.3268 \pm 0.55881\%$
Calibration factor (RxPD)	(V/W)	$6.1953 \pm 0.79544\%$	$6.2438 \pm 0.55885\%$
Displacement factor (TxPD)/ $f^2$	(m/V)	$9.669 \times 10^{-13} \pm 0.79991\%$	$9.737 \times 10^{-13} \pm 0.56519\%$
Displacement factor (RxPD)/ $f^2$	(m/V)	$6.8 \times 10^{-13} \pm 0.79993\%$	$6.748 \times 10^{-13} \pm 0.56522\%$
Force Coefficient (TxPD)	(N/V)	$1.513 \times 10^{-09} \pm 0.79981\%$	$1.524 \times 10^{-09} \pm 0.56505\%$
Force Coefficient (RxPD)	(N/V)	$1.064 \times 10^{-09} \pm 0.79983\%$	$1.056 \times 10^{-09} \pm 0.56508\%$