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| **Test Date** | May 10-15, 2012 |
| **Author(S)** | Liyuan Zhang, Margot Phelps, Patrick Murphy, GariLynn Billingsley |
| **Approval(s)** | GariLynn Billingsley |
| **Specification Doc.** | LIGO-E0900041 | Specification | 0.013-0.015 |
| **Procedure Doc.** | LIGO-E1000863 | Mean ± Error\* | 0.0148 ± 0.0003 |
| **Conclusion** | Qualified. |

\*Error is the calibration error, which is ~2%.

**Discussions and Comments:**

 **The scan was done in center of 160 mm in diameter with the beam and step sizes of 1 mm and positioning the arrow on barrel at Y+ direction, as shown in Fig.1. The calibration is done by normalizing the transmitted signal to the signal without mirror and the variation of laser power during scan is monitored and corrected.**

 **The transmission uniformity is quite good. In the histogram, the FWHM (~2.35\*RMS) over Mean is about 0.5%, which is dominated by the systematic error.**

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**Fig. 1 ITM08 transmission over a 160 mm diameter aperture.**