LASER INTERFEROMETER GRAVITATIONAL WAVE OBSERVATORY

LIGO Laboratory / LIGO Scientific Collaboration

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AOS SLC ITM Elliptical Baffle Fabrication, Installation, and Test Plan

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Abstract

This document describes the plan for acceptance testing of the ITM Elliptical Baffle during manufacturing, and for testing the final assembly before installing in the aLIGO chambers.

1 Introduction

This document describes the plan for acceptance testing of the ITM Elliptical Baffle during manufacturing, and for testing the final assembly before installing in the aLIGO chambers.

2 Tests

2.1 Vendor Tests

The first article ITM Elliptical will be assembled by the vendor and witnessed by LIGO QA personnel.

The vendor shall provide the following reports: 1) Materials certifications, 2) Dimensional and QC inspection reports--this shall include a report showing that parts have been inspected and fall within specified tolerances, and 3) Certificate or statement of compliance with all contract and drawing process restrictions.

2.2 LIGO Tests

2.2.1 Suspension Blade Balance Test

The ITM Elliptical Baffle suspension blade spring will be tested with dummy weights to determine the balance load for each vertical blade spring.

2.2.2 Final Assembly Suspension Test

The ITM Elliptical Baffle will be impulse-tested and a ring-down will be performed to confirm that the quality factor of the suspended ITM Elliptical Baffle meets the damping requirements.