FURST Feed Optic Specification

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1 Introduction

The Full-sun Ultraviolet Rocket SpecTrometer (FURST) is a *proposed* NASA sounding rocket mission to obtain well calibrated FUV spectra of the full sun from 120-200 nm. This document describes the FURST feed optics. These are small glass cylinders, to be coated by the customer, which reflect sunlight into the spectrometer. *We are presently requesting a quotation for budgetary purposes, to support the proposal process. Response is requested by July 14.*

2 Requirements

Table 1 lists requirements for the feed optics. Dimensions and layout are specified in figure 1.

3 Deliverables

1. 25 uncoated feed optics meeting the above specifications (11 flight plus spares).

2. Conformance report, including all test results relevant to this specification.

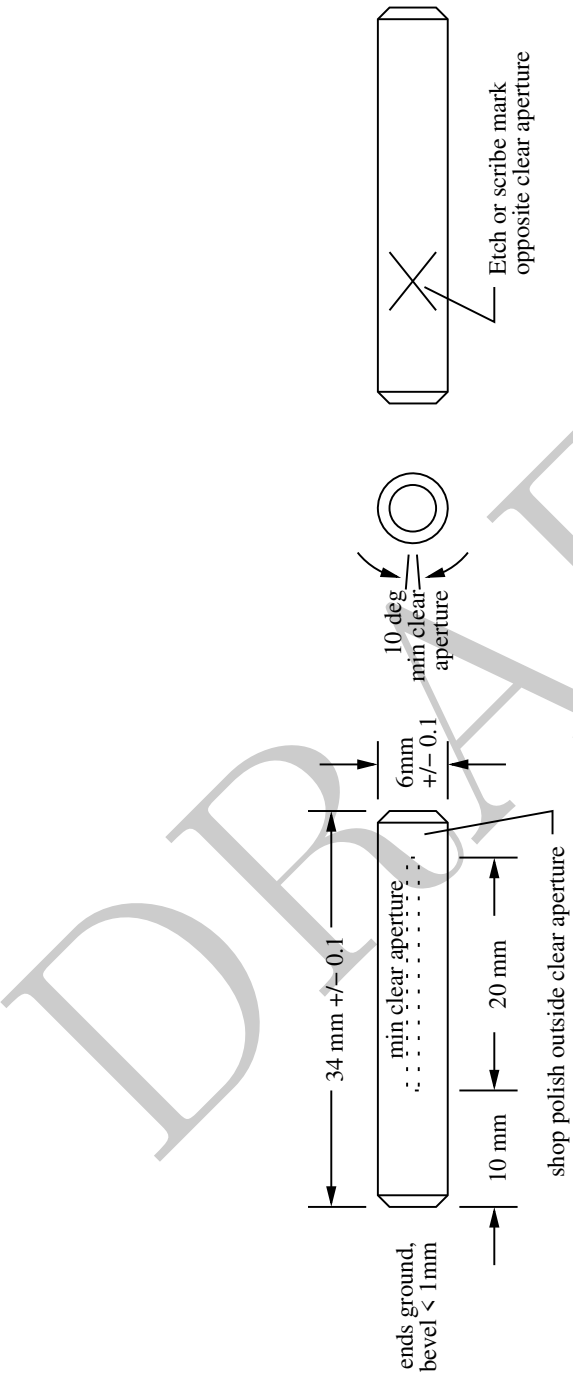

Figure 1: Sketch of the feed optic design.

Table 1: Requirements Table for the FURST grating. Verification methods are T (test), M (measurement), I (inspection), C (calculation), D (design/mfg process).

Specification	Requirement	Verification
Type	Cylindrical mirror per fig 1	I
Radius	3 ± 0.05 mm convex cylinder	M
Wavefront error	$\lambda/4$ PV over clear aperture	M
Material	Pyrex	mat'l cert
Dimensions	per fig 1	I
Diameter uniformity	$\pm 25\,\mu$m end to end, each part	I
Microroughness	3.5 nm RMS, periods 0.1-10 μm on clear aperture	M
Surface quality	20-10 scratch-dig on clear aperture	I