



I. Overview of *Rayleigh Optical Corporation*

Who are we?

- **Small corporation, established in 1987 by David & Vilma Anderson. We are a SBA minority and woman owned entity.**
- **Located in Baltimore, Maryland.**
- **Our primary business is the fabrication of large optics, optical components and systems.**
- **One of our specialties is making difficult convex aspheric optics of any size. These can be easily tested to *high accuracy* with our patented holographic test plate method.**

>>>> Our objective is to make large optics at a cost effective price without compromising optical quality.

II. Why you should select Rayleigh Optical as the fabricator to make Your Optics?

Because.....WE have the.....

- **Fabrication Experience**
- **Expertise**
- **Flexibility**
- **Ideas**
- **Knowledge of Critical Technologies**
- **Our *company size* allows us**
 - **To adapt easier to our customer needs**
 - **To make changes quickly, where needed and when needed.**
 - **To give our customers the attention they deserve.**

AND.....We can be cost effective.

Overview of our Capabilities ---

Fabrication capabilities

- **10,000 sq. feet, mostly dedicated to fabrication.**
- Numerous 1-meter polishers allowing us to do multiple projects.
- Two large polishers capable of making large optics up to 2.5 – 3 meters in diameter.
- Vibration isolated test towers (8m and a 5m) as well as a number of smaller isolated test tables and smaller towers.
- Testing area has a height clearance of 30 feet.
- **Machine shop allowing us to make equipment adjustments as necessary for any project.**

Metrology Capabilities

- ***“If you can not test it, you can not make it”***
- We have developed several of our tests and improved on others. In fact, large corporations are now using testing methods first thought and developed by David S. Anderson at Rayleigh Optical Corporation.
- Tests we use at various times include:
 - Swing-arm Profilometry (to an accuracy of 1 micron)
 - Phase measuring Interferometry
 - Holographic Test Plates
 - Computer Generated Holographic testing
 - Holographic null lens verification
- **Knowledge of the more traditional testing methods used in fabrication.**
- Phase-measuring interferometers with software packages allowing for analysis of wavefront data.

So **why** Rayleigh Optical Corporation?

Because we have a few happy Astronomers.....

Some of the projects we have worked on,

- 1-meter MMT Hectoshell primary mirror
- 1-meter, f/2 Air Force primary mirror
- 1-meter, f/2 Pomona Telescope optics
- Silicon SOLIS f/1.5 secondary mirror
- The artificial guide star laser projection lens system for the original MMT
- The wide field corrector for WIYN telescope
- The ADC lenses for the WIYN telescope
- A 2.4 meter f/1.2 and a 1.5-meter aluminum mirror for illumination systems
- Twin 1.3 meter, f/2 telescope optics for 2MASS project
- The 2-meter MAGNUM telescope optics
- The 1.2 meter SAO (Smithsonian Astrophysical Observatory) telescope
- 2, 1-meter diameter lenses for Discovery Park

- 6, .75 m diameter primary telescope mirrors for laser ranging system
- 2 Large beam expanders for interferometric metrology
- Large LIDAR steering flats
- Test plates for the 1.2 meter Sloan secondary and 0.75 meter Arc Secondary
- Large, fast, highly aspheric convex replication molds
- .8-meter, f/3.3 Chabot Observatory telescope optics
- Holographic Test plates for large corporation

Some of the Mountain tops where our Optics can be found;

Kitt Peak	Cerro Tololo	Haleakala	Apache Point
Mt. Bigelow	Mt. Hopkins	Texas	
Table Mountain	Oakland	Hanle, India	

Contact information –

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