



# Tinsley Custom Optics

## Precision Aspheric Optical Fabrication

Coherent acquired Tinsley Labs, a recognized leader in large format precision aspheric optical polishing with experience going back nearly 100 years.

We provide design-to-specification and build-to-print subsystems for aspheric, off-axis lenses, objectives, and mirror-based optical systems. Wavelength and applications range from UV-VIS-IR to multispectral and hyperspectral imaging and non-imaging systems.

The technology for creating high-performance optical surfaces is a sophisticated, computer-driven manufacturing, testing and measurement technique called "Computer-Controlled Optical Surfacing" (CCOS). The CCOS process is capable of processing materials of all types including optical glasses, germanium, silicon, stainless steel, beryllium, copper, nickel-plated substrates and silicon-clad silicon carbide. In addition to CCOS, Single Point Diamond Turning (SPDT) and conventional optical polishing techniques are employed, depending on requirements.

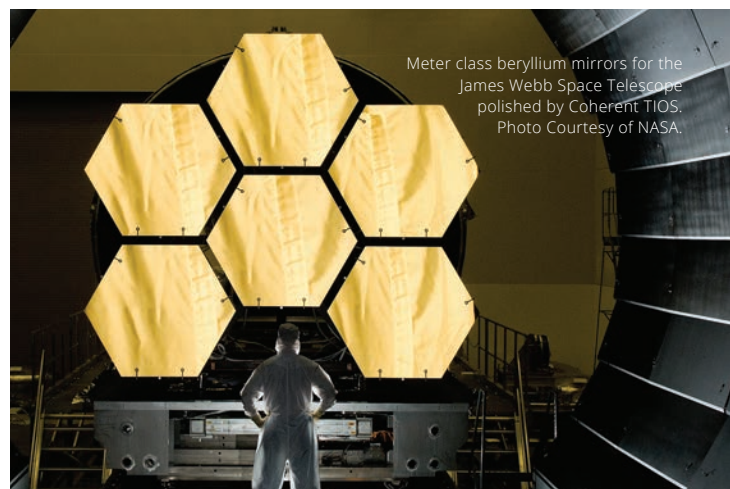
By pushing optical fabrication and polishing performance to higher levels, we enable customer success in exacting applications. Superior performance and quality is engineered into every product through extensive knowledge and an open, customer-centric collaborative process.

## FEATURES

- Superior surface accuracies
- Metal, glass, and crystal optics
- Deterministic surfacing technologies
- Highly skilled workforce
- Concurrent engineering  
"Design to specification"
- "Build to print"

## APPLICATIONS

- Satellite Optics
- Laser Fusion Optics
- Consumer Electronics
- Ground Based Astronomy
- Aerospace and Defense
- Remote Sensing

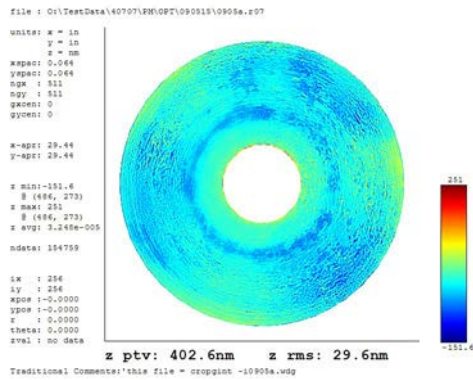


Meter class beryllium mirrors for the James Webb Space Telescope polished by Coherent TIOS. Photo Courtesy of NASA.

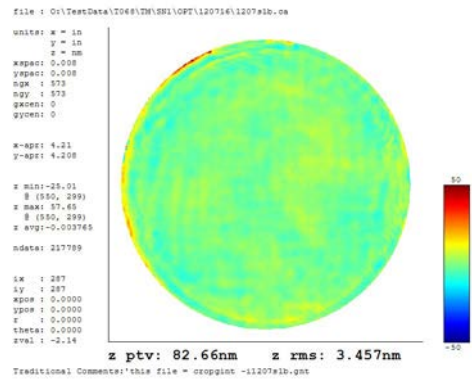
SPECIFICATIONS	Glass	Metal	SiC (Si Clad)
Operating Wavelength	UV to IR	UV to IR	UV to IR
Surface Accuracy (nm, RMS)	3	12	3
Surface Roughness (Å, RMS)	5	15	5
Dimensions	15 mm to 1.6m		

**SURFACE MAPS**

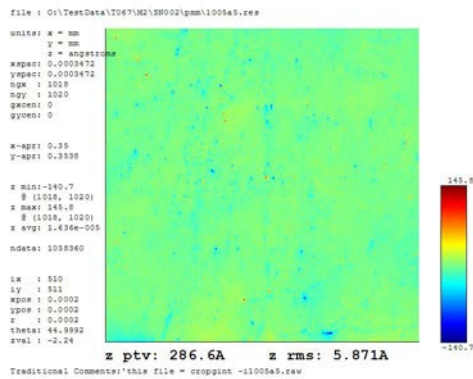
**30 inch Aluminum Optic**



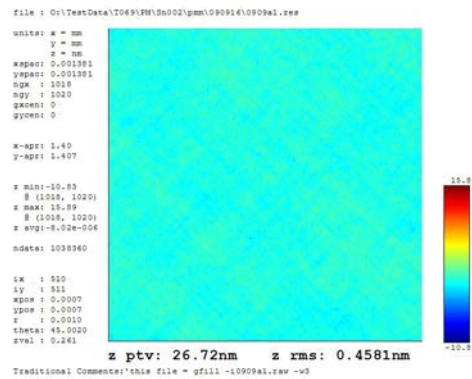
**4 inch Wedge Ellipse Zerodur**



**40x 5A RSP Roughness**



**10x 5A Zerodur Glass**



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice.

Coherent offers a limited warranty for all custom optics. For full details of this warranty coverage, please refer to the Service section at [www.Coherent.com](http://www.Coherent.com) or contact your local Sales or Service Representative. Printed in the U.S.A. MC-008-17-0M0717Rev.B Copyright ©2017 Coherent, Inc.