



Beam Shaping

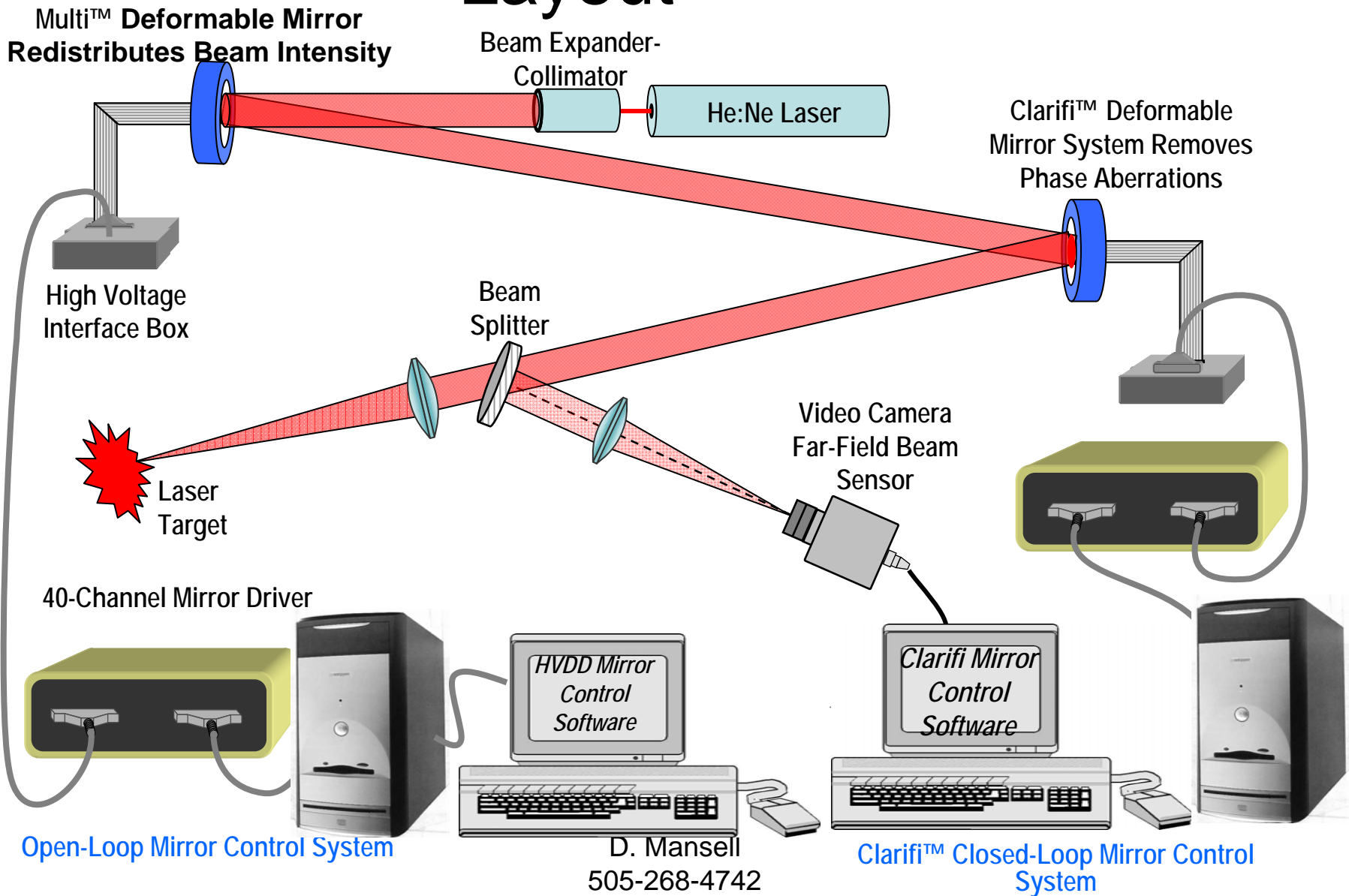
AgilOptics, Inc
1717 Louisiana, NE Suite 202
Albuquerque, NM 87110
505-268-4742
www.agiloptics.com

D. Mansell
505-268-4742

Intensity Redistribution

- Intensity redistribution of a Gaussian beam has been achieved using an AgilOptics Multi™ (16mm) deformable mirror and a Clarifi™ wave front aberration removal system.
- This application has been named IRC (Intensity Redistribution Clarifi™).

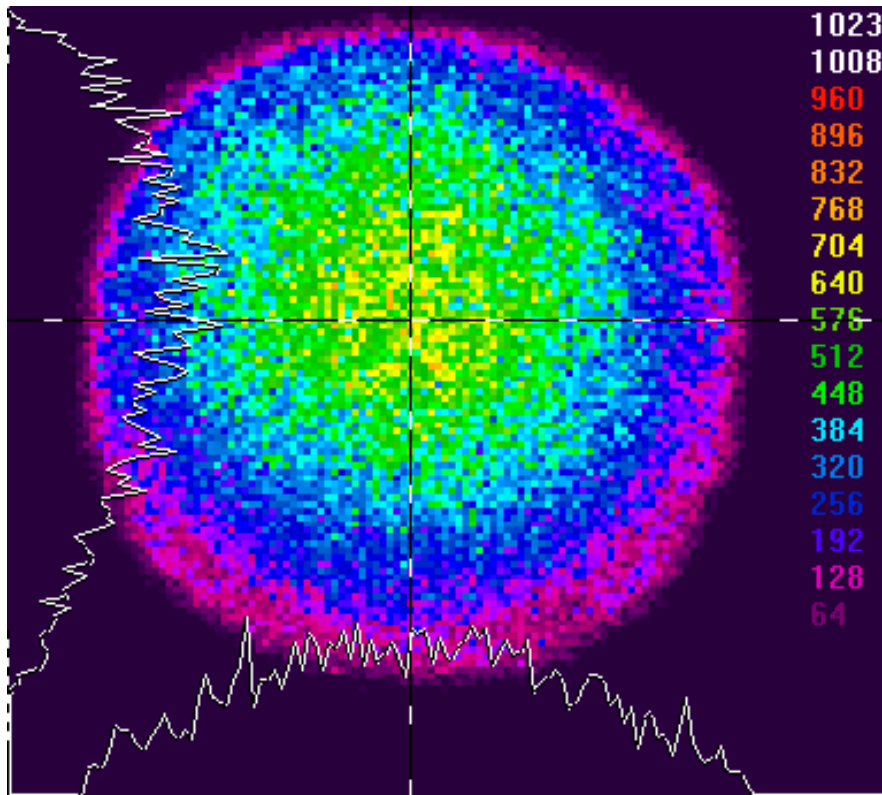
Redistribution Experiment Layout



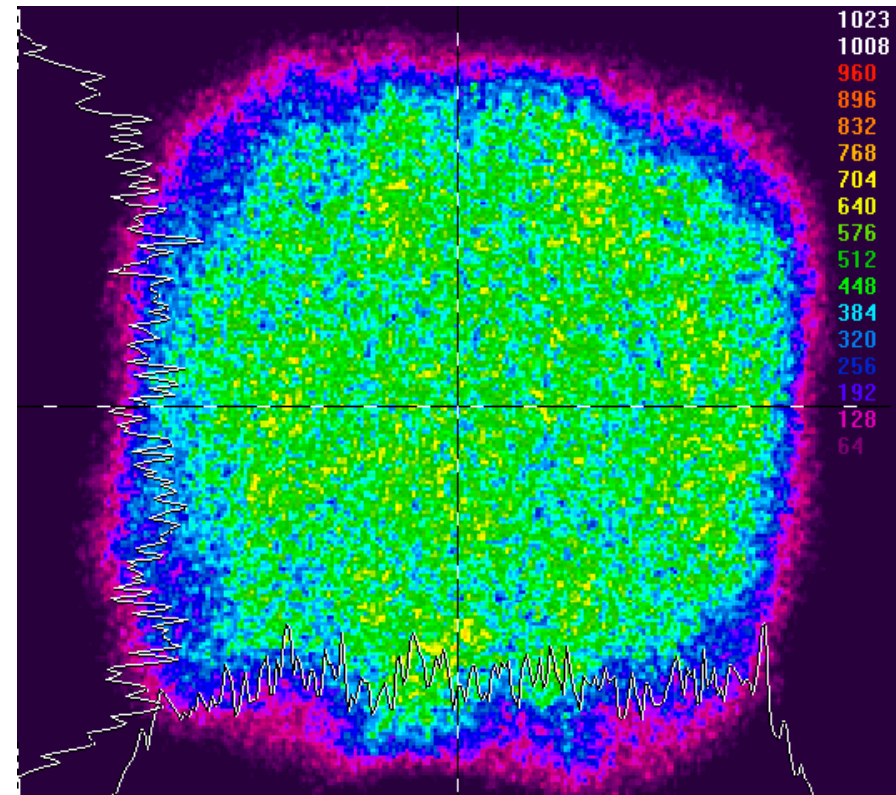
D. Mansell
505-268-4742

Transformation From Gaussian to Flat-Top Intensity Profile

(Near-Field Unfocused Beams)

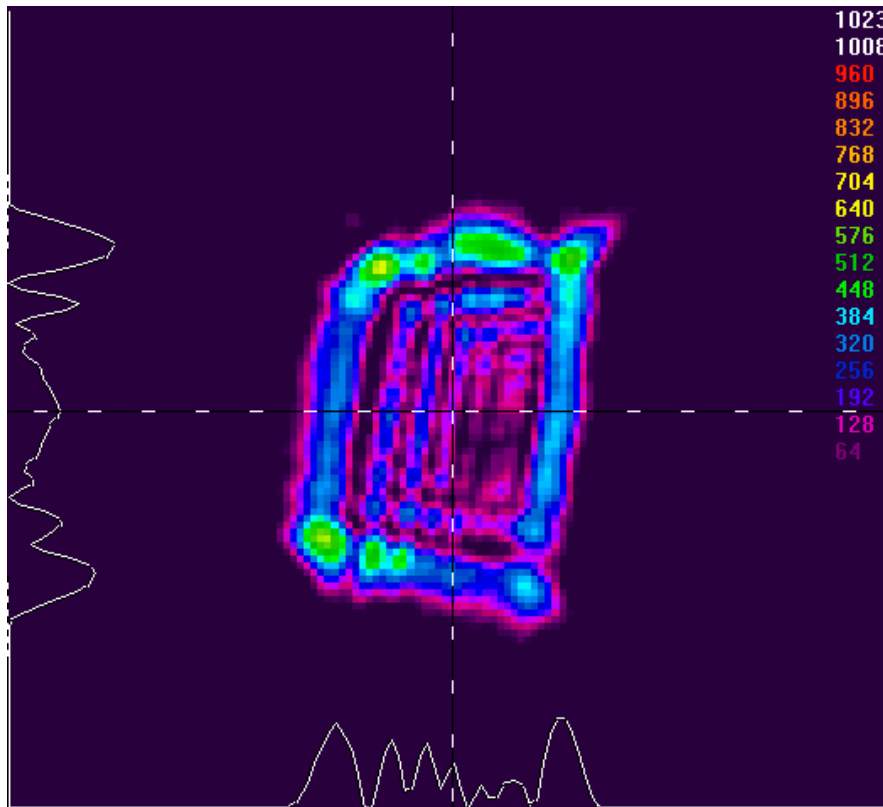


Collimated Gaussian Beam
From Laser Beam Expander

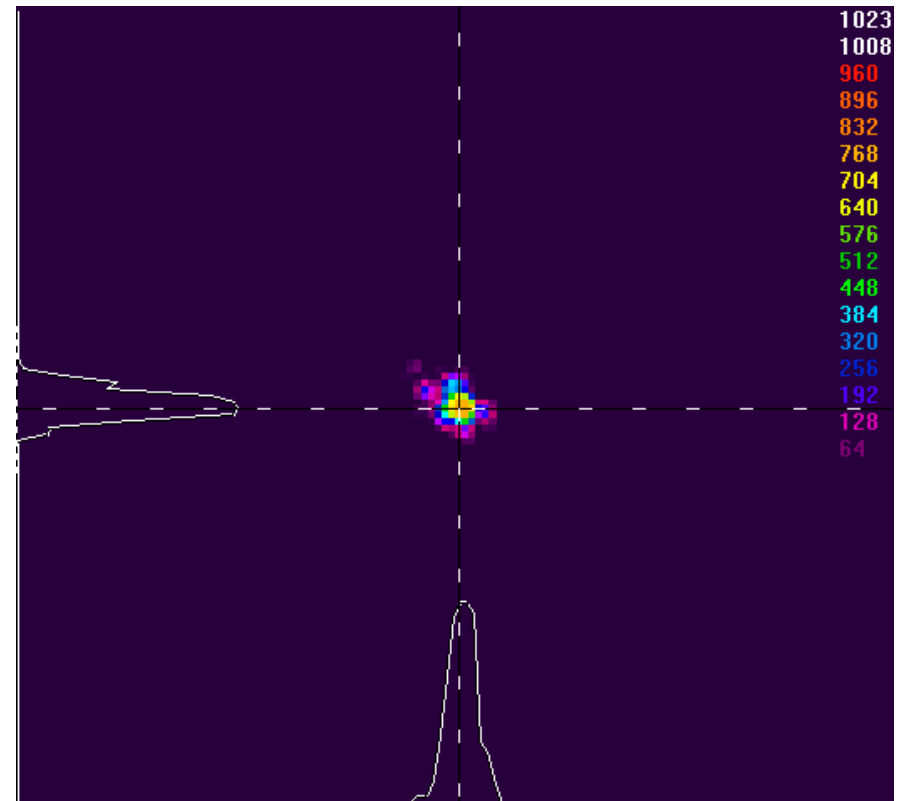


Intensity Redistributed Into Square
Flat-Top Beam By Open-Loop Mirror

Focused Far-Field Flat-Top Beam



Before Phase Correction With
Clarifi™ Closed-Loop Control System

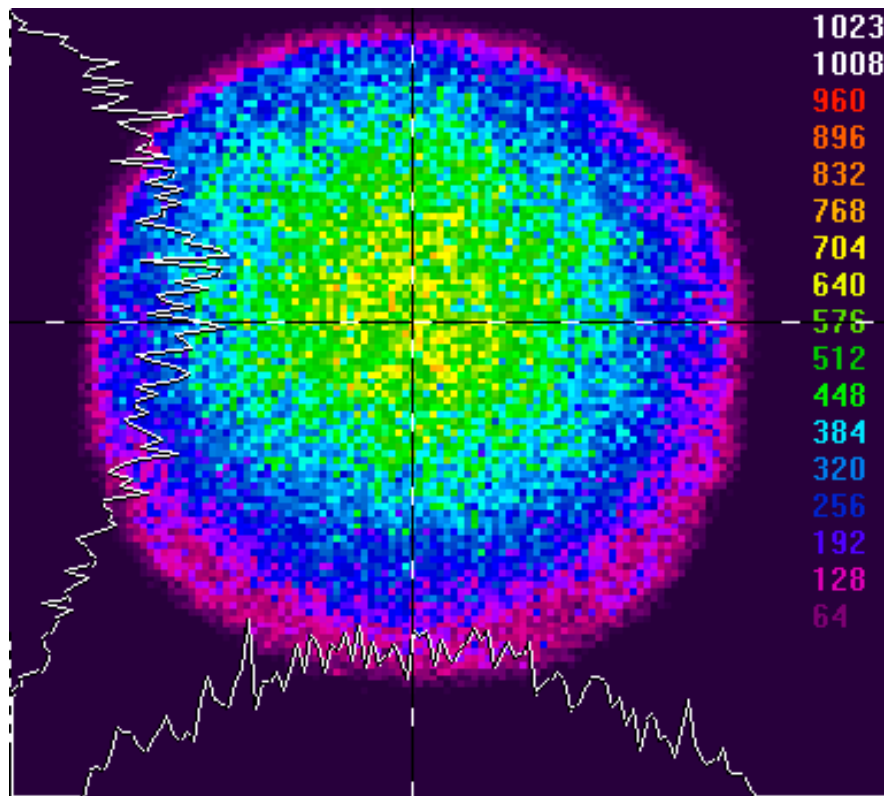


After Phase Correction With
Clarifi™ Closed-Loop Control System

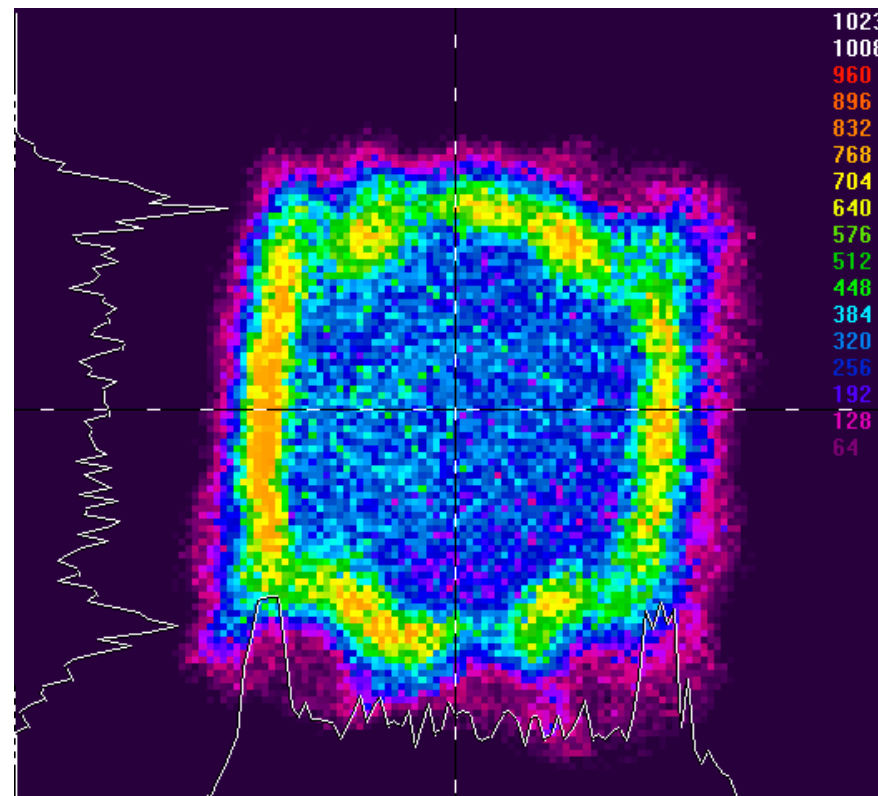
Transformation From Gaussian to Annular Intensity Profile



(Near-Field Unfocused Beams)



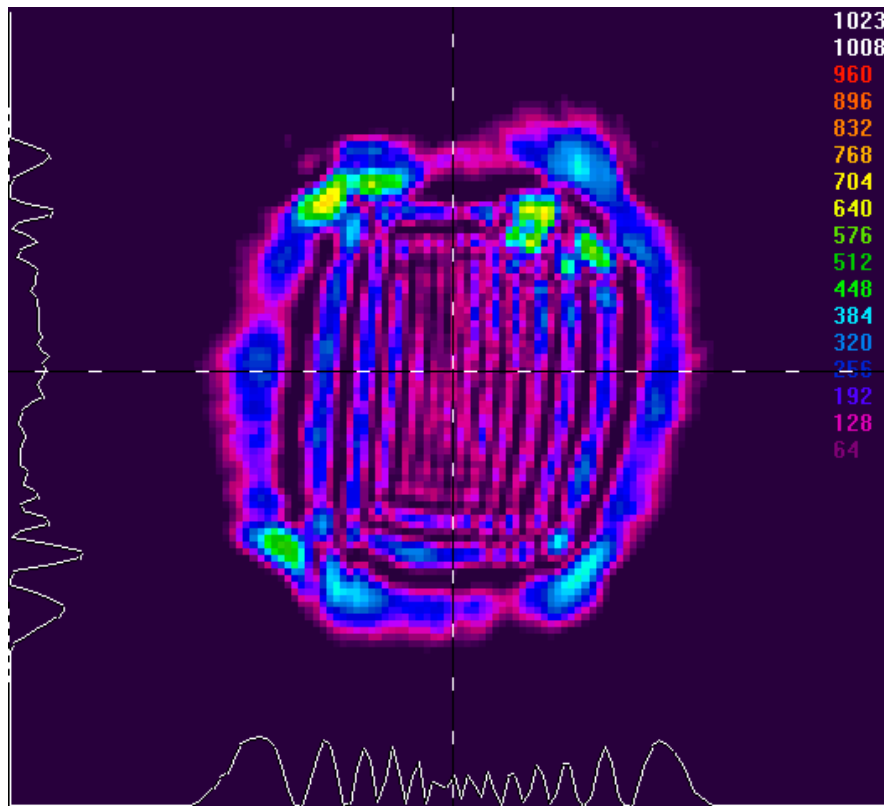
Collimated Gaussian Beam
From Laser Beam Expander



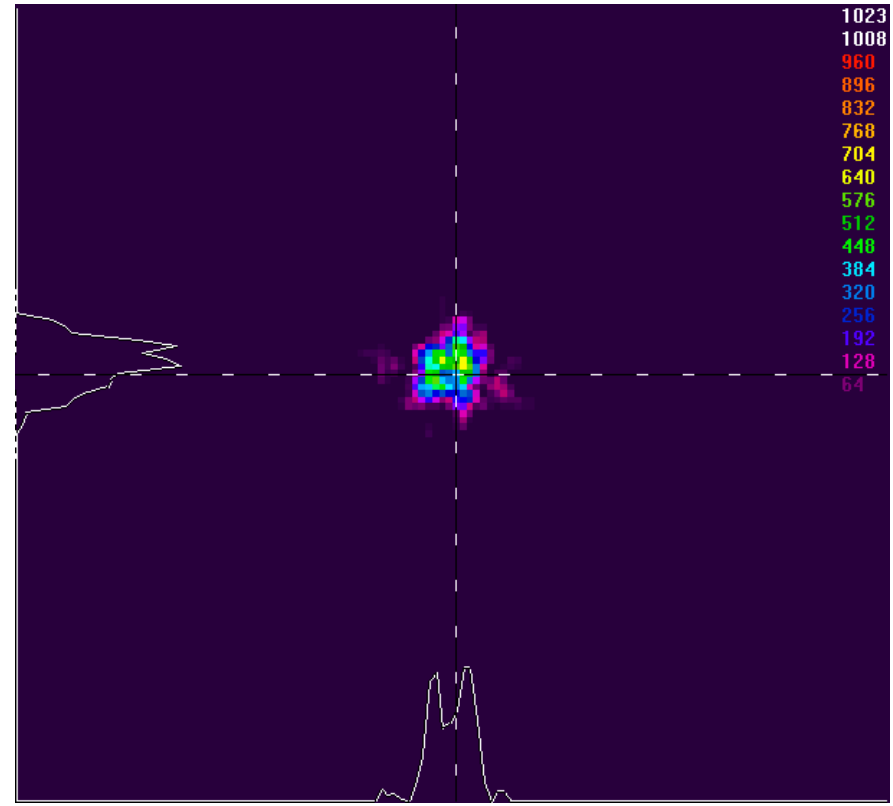
Intensity Redistributed Into Square
"Donut" Beam By Open-Loop Mirror

D. Mansell
505-268-4742

Focused Far-Field Annular Beam



Before Phase Correction With Clarifi™ Closed-Loop Control System



After Phase Correction With Clarifi™ Closed-Loop Control System

D. Mansell
505-268-4742

IRC Summary

- A two mirror adaptive optics system can successfully redistribute the intensity of a Gaussian beam to Tophat and annular wave fronts, and focus the redistributed wave front to the far field.
- HVDD™ software allows intensity redistribution and the Clarifi™ system corrects phase aberrations in real time.