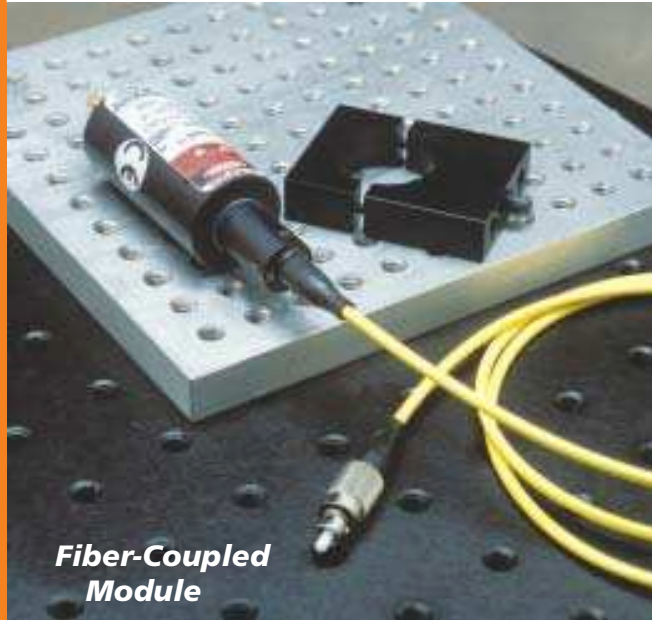


OPTICAL CORRECTION METHODS

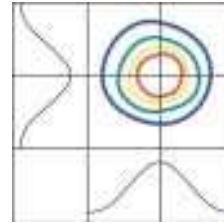
3 Methods of Beam Correction

- ▶ Employing the Blue Sky μ LENS™
- ▶ Using a pair of anamorphic correcting prisms
- ▶ Coupling a laser beam into a fiber optic

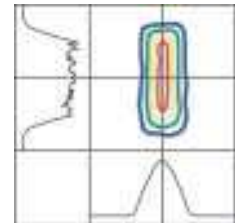


Fiber-Coupled Module

Round vs. Elliptical Output



Round output achieved via the Blue Sky μ LENS™



Output resulting from standard optics

A laser diode naturally produces a beam that is divergent, elliptical, and astigmatic. Our advanced optical procedures correct for these deficiencies, and our more sophisticated lasers can produce a beam that is circular and diffraction-limited with low divergence.

Whether your application requires a module with anamorphic correcting prisms, or a laser diode complete with the Blue Sky μ Lens™, we can help make your application a success.

Optical Correction Methods—

We employ three methods to improve laser beam quality:

- ▶ We can integrate Blue Sky Research's highly advanced μ LENS™ into a variety of our packages. Microlensing circularizes the naturally elliptical light output of a laser diode. The microlensed diode emits a circular, diffraction-limited beam without the inclusion of correcting prisms and lenses. In addition, the extremely high entrance NA (numerical aperture) of the Blue Sky μ LENS™ captures virtually all of the optical energy available from the laser diode. The μ LENS™ is compatible with a number of our lasers, including the IQ1A, IQ1C, IQ1H, IQ head, PM, PMH, PMT, PPM, PPMT, SPM, and SPMT.
- ▶ Another method of beam circularization employs a pair of anamorphic correcting prisms. By adjusting the angles of the prisms and incorporating a circular aperture, we can circularize an elliptical beam. For astigmatic correction, we use a weak cylindrical lens after the collimating lens. Employing both of these methods results in a cost-effective means of correcting a beam.
- ▶ A method of both circularizing an elliptical beam and correcting astigmatism involves coupling a laser beam into a fiber optic. This method yields a superior, circular beam with low light scattering and no residual astigmatism.

