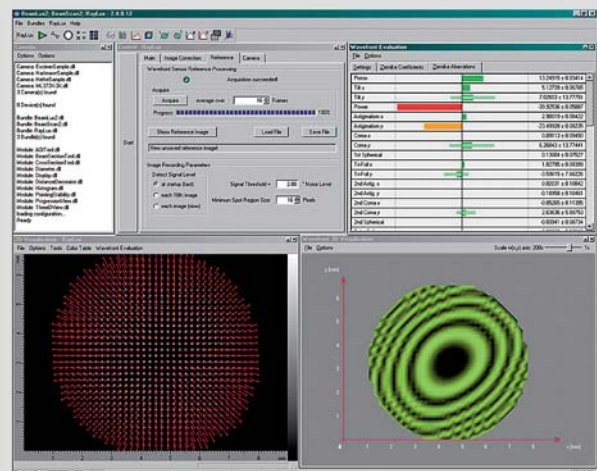


- **Reliable quality control online**
with our ML1205 raylux software for production with PASS/FAIL output
- **Improve efficiency and productivity**
with on line evaluation of your laser beam's wavefront
- **Speed up production**
online monitoring and evaluating the wavefront, faster set-up, faster production, faster throughput
- **save on your production cost**
on-line results while adjusting of optical components (tuning)
- **shorten time in quality control**
customize evaluations, instant display in table format, Pass/Fail, all raw data preserved if needed for evaluation.



Everything can be improved • We give you a tool to be faster

Shack-Hartmann wavefront sensor

Our wavefront sensor consists of a sensor head and our new software raylux ML1205, it allows high dynamic range and high accuracy.

Our sensor head is pre-calibrated, a reference wavefront is already implemented into the software. Without further calibration already measurements with high accuracy can be done.

The software includes analysis of the wavefront of lasers as well as the ISO compliant beam profiler software beamlux ML1200. The beam profiling can be optionally done with our ML3743 camera.

raylux ML4010 sensor head

CCD-Sensor	2/3"
Dynamic	12 bit
Pixel #	1392 x 1040
Wavelength range	350 nm - 1100 nm
with optional converter	190 nm - 350 nm
Pupil size	8.97 x 6.71 mm
Max. frame rate	15 fps
Spatial Resolution	200 μ m
Number of Sub Apertures	45 x 34
Dynamic Range (Tilt)	$\pm 1,6^\circ$ (730 lamda)
Wavefront Accuracy	< 16 μ rad
Dynamic Range (Focus)	72 mm (370 lamda)
Accuracy	5×10^{-4} /m
System Accuracy	10 nm
Repeatability	100 nm
Wavefront Accuracy	50 nm



CE/UL certified

raylux software ML1205

- Fast online wavefront computation
- Computation of Zernike polynomial terms (tilt, defocus, astigmatism,...)
- Automatic gain and shutter control
- Automatic synchronization with pulsed lasers
- Noise and background control
- Decrease measurement errors by averaging
- Numerical data files of wavefront
- 2D/3D display of wavefront viewable from any angle or elevation with zoom
- Progression view (time dependent view of all important parameters)
- M^2 and beam divergence analysis
- Additional beam analysis in compliance to ISO
- Far field analysis
- Near field analysis
- Store and recall screens in single or video fashion
- Fully flexible screen format including save configuration

Evaluation results

with Pass / Fail indication

Wavefront Evaluation			
File Options			
Settings	Zernike Coefficients	Zernike Aberrations	
Piston			13.24915 \pm 0.03414
Tilt x			5.12739 \pm 0.06765
Tilt y			7.02603 \pm 13.77751
Power			-39.92536 \pm 0.05897
Astigmatism x			2.90019 \pm 0.08422
Astigmatism y			-23.49328 \pm 0.08235
Coma x			0.09113 \pm 0.09450
Coma y			6.26843 \pm 13.77441
1st Spherical			0.13004 \pm 0.07527
Tri-Foil x			1.82795 \pm 0.09399
Tri-Foil y			-3.59615 \pm 7.66226
2nd Astig. x			0.02031 \pm 0.10842
2nd Astig. y			-0.18958 \pm 0.10461
2nd Coma x			-0.05265 \pm 0.11395
2nd Coma y			2.63636 \pm 5.89753
2nd Spherical			-0.03941 \pm 0.08734

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