



Named "LumaCon", its innovative design represents a departure from other collimator types. Through integration of computer assisted sensors and a focal plane microscope feature, LumaCon provides an efficient and objective method for precise assessment of lens performance and isolation of faults. Even large inventories of lenses can be efficiently maintained thanks to LumaCon's ability to produce consistent and repeatable measurements of lens characteristics.

A one year parts and labor warranty applies to all products, with service undertaken by factory trained technicians at Luma Tech USA or GearCam in the Netherlands.

System consists of:

- Optical bench
- Focal plane microscope
- Projection targets
- PC & 15" touchscreen
- Proprietary software

Additional accessories:

- Various lens mounts (Canon EF, Nikon F, etc.)
- Projection targets
- Macro extender



Evaluation-report

Date & time	: 21-Apr-1 / 9:23:21	Inventory#	:
Office	:	Brand	:
Engineer	:	Type	:
File name	: C:\Program Files\Lumacon\report\BasicReport_21_Apr_16_9_23_19_AM.pdf		



Zoom-focus curve report

Date & time	: 20-Apr-1 / 7:05:55	Inventory#	:	Camera gain	: 0
Office	:	Brand	:	Camera zoom	: 1
Engineer	:	Type	:	Dist	: 350 x 250
File name	: D:\Report_20_Apr_16_7_05_55_AM.pdf			Macro option	: Off
				De-aliasing	: Off

Focus length	18.0mm	19.5mm	21.0mm	22.5mm	24.0mm	25.5mm	27.0mm	28.5mm	30.0mm	31.5mm	33.0mm	34.5mm	36.0mm	37.5mm	39.0mm	40.5mm
Rms error	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06

Luma TECH USA Central | (954) 990 6999
Europe | +31 (0)35 76 04 567

Gear Cam
Europe | www.lumatech.tv | +31 (0)35 76 04 567

www.lumatechinc.com | www.lumatech.tv

next generation collimator

innovative design and technology that is a departure from traditional collimators

www.lumatechinc.com | www.lumatech.tv



The LumaCon is a linear collimator consisting of two main parts; hardware comprising an optical bench with illuminated test targets, optical infinity and detector plus proprietary software that is responsible for control of the optical bench and user-interface.

One of the design goals was to develop a system which is invaluable to trained optical engineers as well as maintenance personnel. Our software-controlled solution removes vagueness from the job of judging back-focus and other routine tasks, but does not totally remove human judgment from more advanced testing. Therefore the collimator allows both a quick lens check as well as throughout fault-analysis. Both with only one intention; having your lenses where they belong, in the field not in the service department.

Optimization of back-focus.



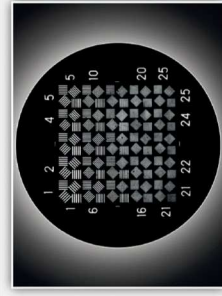
Lens adjustment starts with back-focus optimization. Thanks to the built-in contrast measurement method, you will get a precise value, so there is no longer a need for trail-and-error adjustments. LumaCon's software generates a contrast curve of the target image and calculates the required correction with micron accuracy.

Verification of focus distance scale markings.



For a focus-puller there is nothing more important than correct focus scales. LumaCon allows you to check the accuracy of focus-scale markings. Or if you wish, the system can help generate user-specified focus scale markings.

Lens resolution check (in center).



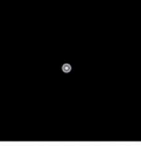
The LumaCon can generate a center-weighted resolution reading for comparison of lenses of similar type. It is not intended as an absolute resolution test or a substitute for MTF analysis.

It is most useful as a comparative check in aid of maintaining consistent quality across your lens inventory.

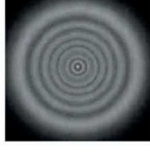
Expert fault analysis



For the trained engineer, LumaCon also offers more expert fault analysis tools. The LumaCon comes equipped with a focal-plane microscope that offer the possibility for following lens assembly faults.



For reference, a fault-free assembly: Point source is reproduced as generated.



Aberration: Spherical aberration
Caused by: Incorrect regulation of air-gaps between lens elements or groups.



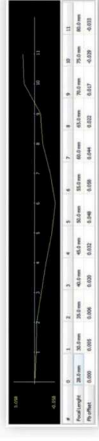
Aberration: Coma
Caused by: Decentering of optical parts or components of the lens assembly



Aberration: Astigmatism
Caused by: Optics are pinching (uneven mechanical pressure).
Lens elements incorrectly ground.

Zoom Lenses: Focus Curve Analysis

Despite careful setting of back-focus (at wide angle) and front focus (at telephoto), zoom lenses exhibit deviations from the point of best focus as you zoom them through their focal length range. This is the "Focus Curve".



The amount of deviation and its position along the focal length range of this lens-specific behaviour is now made graphic with the LumaCon system. This function reveals zoom lens performance right on your shop bench as no other instrument of such compact construction and affordable cost has done before.

Intended as a comparative rather than an absolute test, but none the less extremely accurate and repeatable within parameters set by the user. Optical maintenance operations can now swiftly and reliably compare focus curves across their zoom lens inventory. This allows problem-cases to be isolated and corrected while maintaining uniformity of performance among other lenses of the same type.

For the independent lens engineer, the system provides data that can be used to spot a "problem" lens and build a data-base of zoom curves over an extended time period. Likewise, it can be used to pick out an exceptionally well-corrected lens for critical work (e.g.: special effects). This is a powerful tool for maintaining peak performance in zoom lenses of many types and documenting historical performance values.

Length of test lens (min/max)	0 - 550 mm
Object distance (min/max)	100 mm - infinity
Dimensions of the optical bench (functional)	165 x 18 x 26 cm (L x W x H)
Dimensions of the optical bench (transport)	165 x 18 x 11 cm (L x W x H)
Dimensions of the computer & touch-screen monitor	30 x 36 x 40 cm (L x W x H)
Weight (Optical bench with PC & monitor)	14.5 kg