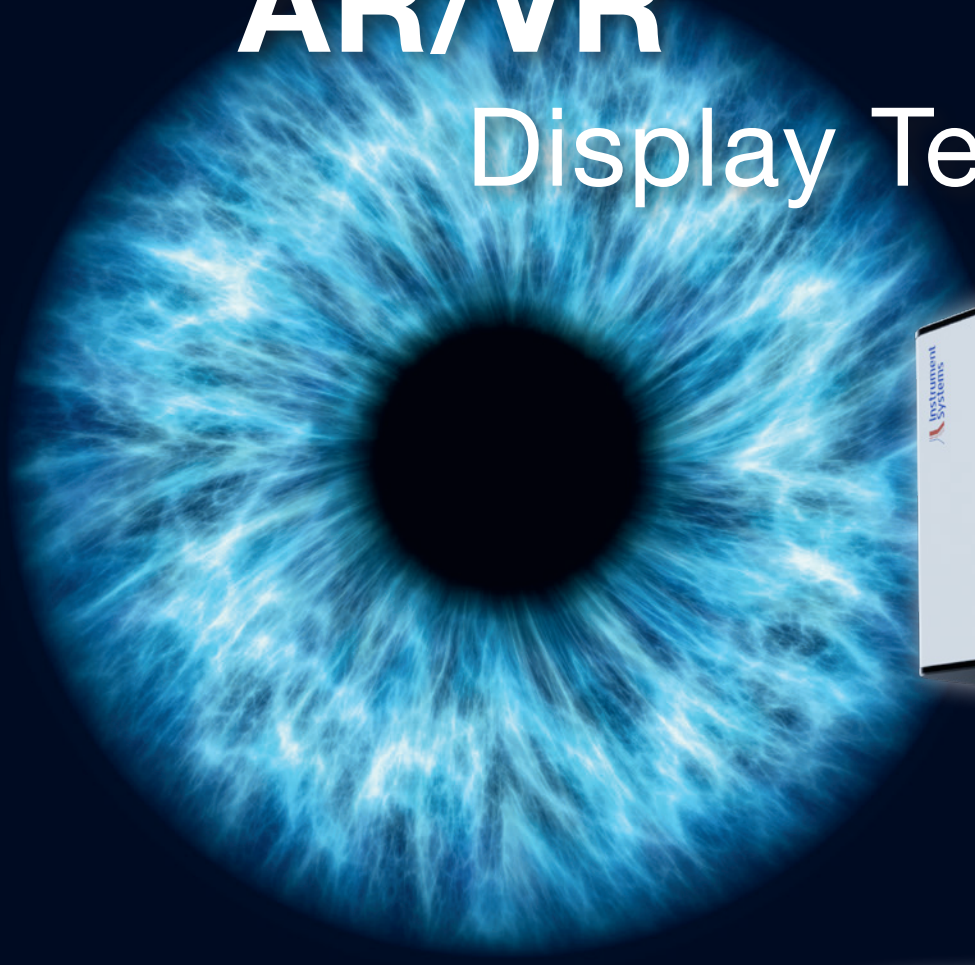
Instrument Systems
KONICA MINOLTA Group

AR/VR
Display Testing



NEW

Discover the next NED dimension!

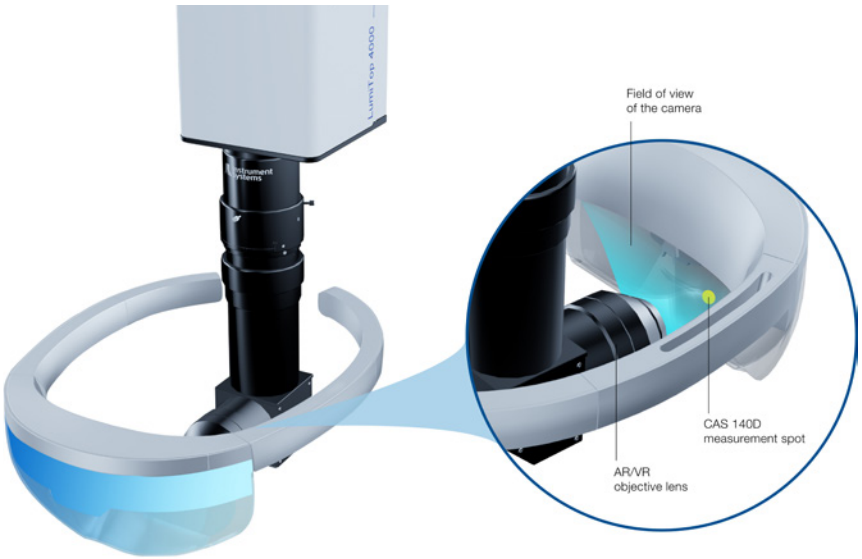
- New periscope AR/VR lens for the unique LumiTop imaging colorimeter.
- Characterization of Near-Eye Displays in AR and VR headsets
- Human-eye inspired lens — Large field of view & variable pupil sizes.
- Adjustable focus distance for multiple test applications.

01 \\ Augmented and virtual reality (AR/VR) testing

Upcoming

LumiTop AR/VR brings speed and absolute photometric accuracy to near-eye displays!

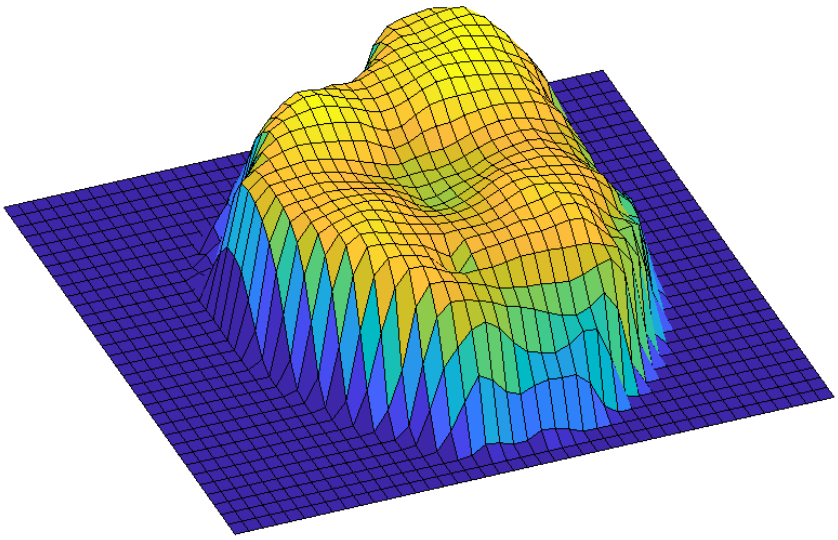
Instrument Systems AR/VR lens for LumiTop imaging colorimeters is specifically designed for production testing of near-eye displays (NEDs) in virtual and augmented reality headsets. The optical design mimics the human eye and measures color and luminance exactly as seen by the user. A large field of view, various pupil sizes and adjustable focus distance enable a wide range of testing applications. A unique periscope design facilitates easy access to the NED.



LumiTop with AR/VR lens

- LumiTop accuracy and speed
- >120° FoV
- Adjustable focus 0.3 m – ∞
- Various pupil sizes
- Space for “2-eyes” measurement

The periscope design enables an optimal measurement position also under the tight spatial constraints of fully assembled head mounted devices. Even parallel operation of two LumiTops is possible to measure both NEDs simultaneously.



Contrast across the near-eye display of an AR head mounted device.

User experience of true colors and luminance

- High resolution camera to avoid Moiré effects
- Optimized lens design to measure what the human eye sees
- Fast photometer and trigger for synchronization and control of modulated light sources

LumiTop with AR/VR lens delivers highly reproducible, traceable and accurate color and luminance measurements to provide the best displays for augmented and virtual reality.

02 \\ Technical specifications

LumiTop AR/VR (preliminary)

LumiTop AR/VR	
Camera specifications	
Measurement range 2D	L = 0.01 cd/m² – 170,000 cd/m²
Measurement range CAS	L = 0.003 cd/m² – 2 x 10^6 cd/m²
Angular resolution	> 30 Pixel/° (full FoV)
Lens specifications	
Field of View (FoV)	120°
Adjustable focus distance	0.3 m – ∞
Entrance pupil	~1 – 3.6 mm
MTF @ 50 LP/mm	> 50 %
Lateral chromatic aberrations	~1 Pixel

Calibration specifications	
Luminance accuracy	± 3%
Color accuracy (CAS 140D)	± 0.0015 Traceability to PTB (= very low device-to-device deviations in distributed production environment)

Instrument Systems is continually working on the further development of its products. Technical changes, errors and misprints do not justify claims for damages. For all other purposes, our Terms and Conditions of Business shall be applicable.

03 \\ Videos & presentations

Live Demo: AR/VR Testing with LumiTop Imaging Colorimeter

Scan me to watch!

Presentation: LumiTop for AR/VR Testing

Scan me to watch!

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