Instrument Systems
KONICA MINOLTA Group

LumiTop X30 AR

Spectrally enhanced imaging colorimeter

Key features at a glance

- Human-eye-inspired lens – FOV 42° x 32° with 150 PPD
- Characterization of near-eye displays in AR glasses
- Cooled CMOS camera with 31 megapixels and global shutter
- Proven LumiTop concept – spectrally enhanced imaging colorimeter
- Combination of 2D RGB sensor with spectroradiometer and flicker sensor

\\ TECHNICAL SPECIFICATIONS

LumiTop X30 AR (preliminary)	
Measurement quantities	
2D	Luminance, color
Spot	Spectrum, luminance, color, flicker
General specifications	
Dimensions (l x w x h)	730 mm x 288 mm x 215 mm
Weight	17 kg
Operating system	Windows 10 (64 bit), Windows 11 (64 bit)
Power supply	24 V
Operating temperature range	15 – 35 °C

Camera specifications	
Effective resolution (h x v)	6464 x 4852 (31 megapixels, RGB, CMOS)
Pixel size	3.45 µm x 3.45 µm
AD converter	12 bit
Size sensor	27.9 mm diagonal (APS-C)
Interface camera	CoaXPress
Angular resolution	150 px/°
Lens specifications	
Lens shape	Straight
Field of view (FOV) (h x v)	42° x 32°
Focus distance VID	0.25 m to infinity (fixed)
Entrance pupil	1 – 5 mm (fixed)
Lens barrel diameter (between entrance pupil and fold mirror)	< 46 mm
Virtual aperture position	12.5 mm from first surface

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Camera specifications		
Accuracy and precision	**Luminance**	**Color**
Accuracy of camera (rel. to CAS) [1]	±0.4 %	±0.0015
Instrumental precision camera [2]	±0.03 %	±0.00015
Camera uniformity [3]	±0.35 %	±0.0013

CAS specifications	**CAS 140D**	
Interface CAS	USB, Gigabit Ethernet	
Accuracy and precision	**Luminance**	**Color**
Accuracy of CAS	±3.0 % [4]	±0.0015 [5]
Instrumental precision CAS [2]	±0.1 %	±0.0001
Polarization sensitivity [6]	±2.0 %	±0.002

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[1] Typical value for maximum deviation over the FOV relative to the CAS spot.
[2] 2σ of repeated measurements of one instrument (L ≈ 100 cd/m², autoexposure).
[3] RNU (response non-uniformity) is defined as 99.7 % percentile of the deviation of the mean image value.
[4] Immediately after calibration relative to calibration standard.
[5] Immediately after calibration.
[6] Maximum deviation from average of repeated CAS measurements with a linear polarized light source and varying polarization angle.

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