Instrument Systems
KONICA MINOLTA Group

LumiCam 2400B Series

2D Imaging Colorimeter

Key features at a glance

- Motorized objective lenses
- Up to 30 % shorter measurement time due to optimized stepper motor actuation
- Approx. 20 % smaller footprint for compact design
- Various analysis features such as spotmeter, polygons, and flexible polylines
- Straightforward determination of luminance distributions, color coordinates / temperature, Planck distance, dominant wavelength, or contrast

\\ TECHNICAL SPECIFICATIONS

LumiCam 2400B	Mono	Color	Advanced
Quantities			
Photometric quantities	Luminance (cd/m²), luminous intensity (cd), contrast		
Colorimetric quantities	-	Color coordinates (x,y), color coordinates (u',v'), tristimulus values (X, Y, Z), dominant wavelength (nm), color saturation, correlated color temperature CCT (K)	
Camera data			
Sensor	Sony IMX264LLR CMOS Sensor		
Sensor size	2/3", 11.1 mm diagonal		
Effective number of pixels (h x v)	2428 x 2028 (5 MP)		
Pixel size	3.45 µm x 3.45 µm		
AD converter	12 bit		
Exposure time	40 µs to 30 s		
Luminance measurement			
Measurement range [1]	0.3 mcd/m² – 2.5 Mcd/m²		
Extended measurement range [2]	2.5 x 10^{10} cd/m²		
Measurement time incl. data saving time (at 10 cd/m²) [3]	1.9 s		
Measurement time incl. data saving time (at 100 cd/m²) [3]	1.8 s		
Accuracy for std. illuminant A [4]	±3 %	±3 %	±3 %
Accuracy for LED color light [8]	-	-	±2 %
Repeatability [5]	±0.03 %		
Linearity	±0.5 %		
Uniformity [6]	±0.5 %		
Filter match [7]	f_1' < 3 %		

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Color measurement			
Measurement time incl. data saving time (at 10 cd/m²) [3]	-	10 s	16 s
Measurement time incl. data saving time (at 100 cd/m²) [3]	-	8 s	12 s
Accuracy (x, y) for std. illuminant A [4]	-	±0.003	±0.003
Accuracy (x, y) for color light [8]	-	±0.010	±0.010
Accuracy (x, y) for LED color light [9]	-	-	±0.005
Repeatability (x, y) [5]	-	±0.0001	±0.0003
Uniformity (x, y) [6]	-	±0.001	±0.001
Filter match	f_1' (Y) < 3 %	f_1' (Xb) < 6 % f_1' (Xr) < 6 % f_1' (Y) < 3 % f_1' (Z) < 4 %	f_1' (Xb) < 6 % f_1' (Xr) < 6 % f_1' (Y) < 3 % f_1' (Z) < 4 %
General			
Interface	Gigabit Ethernet		
Operating system	Windows 7 (32/64 bit), Windows 10 (64 bit)		
Dimensions (L x W x H) (incl. 50 mm objective lens, no handle)	210 mm x 105 mm x 100 mm	235 mm x 119 mm x 133 mm	
Weight	1.5 kg	3 kg	
Power supply	24 V external		
Operating conditions	10 to 40 °C, max. 70 % relative humidity (non-condensing)		

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[1] The lower limit corresponds to the maximal exposure time and smallest f-number at SNR 10:1 and vice versa.
[2] Valid for OD4 filter.
[3] Value calculated from 100 repetitions taking data saving time into account.
[4] Calculated from 100 repetitions; refers to the deviation of the mean from the reference value.
[5] Calculated from 50 repetitions. Refers to the double standard deviation of the measured values.
[6] Refers to the maximum deviation from the mean value calculated from flat-field verification image.
[7] Deviation of the filter transmission from the V(λ) curve integrated over the entire visible spectrum.
[8] Maximum deviation from the reference source (illuminant A with set of color glass filters).
[9] Derived from 20 repetitions for R, G, and B - LEDs with optimized signal level. Refers to the double standard deviation.

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