MK350S Premium

Handheld Spectrometer

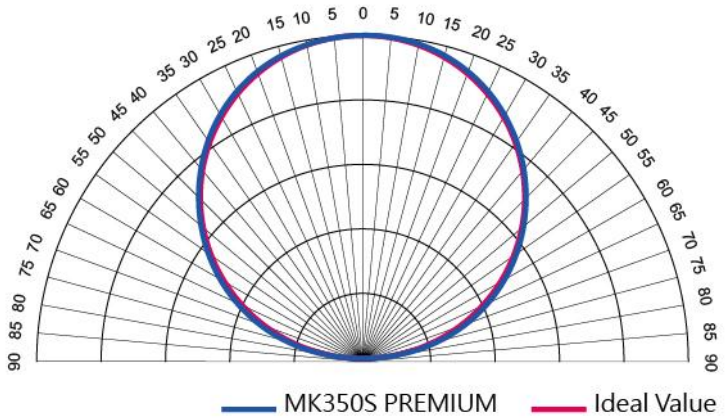
↘ Specification

Spectrum		
Sensor	CMOS Linear Image Sensor	
Illuminance meter class	Directional response conforms to JIS C 1609-1:2006 for General Class AA. Directional response conforms to DIN 5032 Part 7 Class B.	
Wavelength Range	380 to 780 nm	
Wavelength Data Increment	1 nm	
Spectral Bandwidth	Approximately 9 nm (Half Bandwidth)	
Wavelength Reproducibility	± 1 nm [*1]	
Measurement Range	1 to 150,000 lx	
Illuminance Accuracy	Illuminant A @ 2,856 K	± 2.5%
Illuminance Repeatability (2σ)	at 20,000 lx [*2*7]	0.2% in CIE 1931 x,y (100 to 150,000 lx) 0.5% in CIE 1931 x,y (5 to 100 lx) 1% in CIE 1931 x,y (1 to 5 lx)
Color Accuracy		±0.002 in CIE 1931 x,y (100 to 150,000 lx) ±0.0025 in CIE 1931 x,y (5 to 100 lx) ±0.003 in CIE 1931 x,y (1 to 5 lx)
Color Repeatability (2σ)		0.0002 in CIE 1931 x,y (500 to 150,000 lx) 0.0004 in CIE 1931 x,y (30 to 500 lx) 0.001 in CIE 1931 x,y (5 to 30 lx) 0.002 in CIE 1931 x,y (1 to 5 lx)
CCT Accuracy		± 2%
CRI Accuracy @ Ra		± 1.5%
Stray Light	-25 dB max. [*3]	
Integration Time Range	60us to 5,000 ms	
Digital Resolution	16 bits	

Flicker	
Measurement Range	1 to 150,000 lx
Sampling Rate	100k sample/sec
Frequency Range	5 to 50k Hz
Frequency Resolution	2, 4, 8, 16, 32 Hz
Accuracy	5% (5 to 30K Hz)*6
Feature	
Capture Function	One time / Continuous
Operation Mode	Standalone Mode / WiFi Mode*4 USB Mode（MSC Mode*5+PC connection）
Integration Mode	Auto / Manual
Dark Calibration	Yes (Auto)
Measuring Modes	1. Basic Mode
	2. Spectrum Mode
	3. CRI Mode
	4. CIE 1931 / 1976 Chromaticity Mode
	5. LUX Image Distribution Mode
	6. Log Mode
	7. BIN Chart Mode
	8. Quality Control Checker Mode
	9. Measurement Comparison Mode
	10. Transmit Mode
	11. TM-30-15 Mode
	12. Flicker Mode
	13. Frequency Mode
	14. Flicker Risk Mode
	15. Blue Light Hazard Mode
	16. HCL Mode (Human Centric Lighting Mode)
	17. Browser Mode
	18. Option Mode
Measuring Capabilities	1.Illuminance (LUX)/Foot Candle (fc)
	2. Correlated Color Temperature ; CCT (K)
	3. CIE Chromaticity Coordinates (1) CIE 1931 x,y Coordinates (2) CIE 1976 u',v' Coordinates (3) CIE 1931 XYZ Value
	4. Δx , Δy , Δu' , Δv'
	5. Delta uv (Duv)

	6. Dominant Wavelength (λd) ; Hue
	7. Excitation Purity (%)
	8.Scotopic and Photopic Ratio (S/P)
	9.BIN ANSI C78.377 or Customized
	10.Standard Deviation Color Matching (SDCM)
	11.Color Rendering Index (CRI, Ra)/R1 to R15
	12.Color Quality Scale (CQS)
	13.Gamut Area Index (GAI)
	14.TM-30-15 (Rf, Rg, Color Vector Graphic)
	15.Television Lighting Consistency Index (TLCI)
	16.Flicker Frequency (Hz)
	17.Percent Flicker (%)
	18.Flicker Index
	19.Stroboscopic Effect Visibility Measure (SVM)
	20.Flicker Risk - IEEE PAR1789
	21. PPFD (400 to 700nm) µmol/(m^2*s) (1) PFD-UV (380nm to 400nm) µmol/m^2/sec (2) PFD-B (400nm to 500nm) µmol/m^2/sec (3) PFD-G (500nm to 600nm) µmol/m^2/sec (4) PFD-R (600nm to 700nm) µmol/m^2/sec (5) PFD-FR (700nm to 780nm) µmol/m^2/sec
	22. Irradiance（380nm~780nm）(W/m^2)
	23. Spectral Power Distribution (SPD), Unit: (mW/m^2)
	24.Peak Wavelength ; λp (nm)
	25.Peak Wavelength Value ; λpV (mw/m^2)
	26.Transmittance (%)
	27.Blue Light Weighted Irradiance ; EB (w/m^2)
	28.Blue Light Hazard Efficacy of Luminous Radiation ; KB,V (w/lm)
	29.Blue Light Hazard Risk Group(RG)
	30.Blue Light Hazard Blue-ray %
	31. Melanopic Lux (1) Mel Irradiance (2) Mel Daylight Lux (3) Melanopic Ratio (4) Rod (Rhodopic Lux) (5) M-cone (Chloropic Lux) (6) L-cone (Erythropic Lux)

	(7) S-cone (Cyanopic Lux)
System Configurations	
Display	4.3" 800X480 Resistive Touch LCD
Max. Files	≒ 21,000 Files @ 8GB SD Card (Excel + JPG)
Battery Operation Time	≦ 4 hours / Fully Charged
Power	Adapter; 2500 mAh (3.7V Rechargeable Li-ion Battery)
Data Output Interface	SD Card (SD2.0,SDHC/up to 32G) / Mini USB Port (USB 2.0) / WiFi SD Card compatible with iOS and Android (Android app not ready yet)
Data Format	Compatible Excel / JPG
Dimensions	163 x 81 x 26.6 mm (H x W x D)
Weight (with Battery)	260 g ± 10 g
Operating Temperature / Humidity	0 to 35 ℃, relative humidity 70% or less without condensation
Storage Temperature / Humidity	-10 to 40 ℃, relative humidity 70% or less without condensation
Display Languages	English / Traditional Chinese / Simplified Chinese / Japanese / Spanish / German / French / Italian / Russian
Camera Resolution	2M pixels
Cosine Correction	



*1：Input source must be a stable light source.

*2：Temperature 23±2℃ and relative humidity 50% or less.

*3：Input the 550nm monochromatic light and measure the stray light ratio at 550nm ± 40nm.

*4：It can be connected to mobile phones and tablets.

*5：MSC- Mass Storage Class

*6：Test condition is based on LUX > 300 lx of sine wave light source.

*7：Repeatability test is based on the status of shutter opening.