



Specifications

Measurement area				CA-527	
Accuracy guaranteed measurement distance				Ø27 mm	
Accuracy guaranteed luminance range *7				30 ± 5 mm	
Luminance	Accuracy (for white)*1, *3		> 0.0001 cd/m ²	0.0001 to 10,000 cd/m ²	
			> 0.001 cd/m ²	± 9 %	
			> 0.01 cd/m ²	± 2 %	
	Repeatability (2σ)*1	AUTO	> 0.1 cd/m ²	± 1.5 %	
			> 0.0001 cd/m ²	± 1.5 %	
			> 0.001 cd/m ²	10 %	
			> 0.01 cd/m ²	1 %	
			> 0.1 cd/m ²	0.30 %	
				> 0.1 cd/m ²	0.12 %
				> 1 cd/m ²	0.10 %
Chromaticity	Accuracy (for white)*1, *3		> 0.001 cd/m ²	0.001 to 10,000 cd/m ²	
			> 0.01 cd/m ²	± 0.003	
			> 0.1 cd/m ²	± 0.002	
	Repeatability (2σ)*1	AUTO	> 0.001 cd/m ²	± 0.002	
			> 0.01 cd/m ²	0.0030	
			> 0.1 cd/m ²	0.0009	
			> 0.1 cd/m ²	0.0004	
			> 1 cd/m ²	0.0002	
				> 1 cd/m ²	0.0002
Flicker (CA-310 Mode)*6	Flicker (Contrast)		Measurement luminance range*7		0.5 to 10,000 cd/m ²
			Measurement target (Flicker frequency)		0.25 to 65 Hz
			Accuracy	30 Hz, AC/DC 10% sine wave	± 0.3 %
				60 Hz, AC/DC 10% sine wave	± 0.3 %
	Repeatability (2σ)	20 to 65 Hz, AC/DC 10% sine wave		0.3 %	
		Measurement luminance range*7		0.5 to 10,000 cd/m ²	
		Measurement target (Flicker frequency)		0.42 to 65 Hz	
		Accuracy	30 Hz, AC/DC 4% sine wave	± 0.35 dB	
	30 Hz, AC/DC 1.2% sine wave		± 0.35 dB		
	Repeatability (2σ)		30 Hz, AC/DC 4% sine wave	1.0 dB	
			30 Hz, AC/DC 1.2% sine wave	0.3 dB	
		Measurement luminance range*7		0.1 to 10,000 cd/m ²	
		Sampling frequency		200 kHz Changeable	
	Repeatability (2σ)	Lv: 0.1 cd/m ² , fs: 3 kHz, fc: 1 kHz		1.8 %	
		Measurement luminance range*7		0.5 to 10,000 cd/m ²	
		Sampling frequency		200 kHz Changeable	
Measurement target (Flicker frequency)		0.25 to 240 Hz			
Accuracy	1 to 120 Hz, AC/DC 10% sine wave		± 0.3 %		
	Repeatability (2σ)	1 to 120 Hz, AC/DC 10% sine wave		0.3 %	
		Measurement luminance range*7		0.5 to 10,000 cd/m ²	
		Measurement target (Flicker frequency)		0.25 to 200 Hz	
Accuracy		30 Hz, AC/DC 10% sine wave	± 1.5 %		
	60 Hz, AC/DC 10% sine wave	± 2.2 %			
	Repeatability (2σ)	20 to 65 Hz, AC/DC 10% sine wave	1.6 %		
		Measurement luminance range*7		0.5 to 8,500 cd/m ²	
Measurement target (Flicker frequency)		0.42 to 200 Hz			
Accuracy		30 Hz, AC/DC 4% sine wave	± 0.35 dB		
	30 Hz, AC/DC 1.2% sine wave	± 0.35 dB			
	Repeatability (2σ)	30 Hz, AC/DC 4% sine wave	0.4 dB		
		30 Hz, AC/DC 1.2% sine wave	1.4 dB		
Measurement luminance range*7		0.1 to 10,000 cd/m ²			
Sampling frequency		3 kHz Changeable			
Repeatability (2σ)	Lv: 0.1 cd/m ²		13 %		
	Lv: 1 cd/m ²		1.0 %		
Accuracy guaranteed measurement speed *4	Lvxy	AUTO		1 time/sec (> 0.0001 cd/m ²)	
		Flicker (Contrast)		5 times/sec (> 0.015 cd/m ²)	
	Flicker (JEITA/VESA)		20 times/sec (> 0.2 cd/m ²)		
	Flicker (JEITA/VESA)		20 times/sec		
	VRR-Flicker	Sampling frequency: 3 kHz		0.5 times/sec (at 1 Hz pitch), 2.5 times/sec (at 10 Hz pitch)	
		0.7 times/sec (at 1 s Exp.)			
Measurement target (Vertical synchronization frequency)				0.5 to 240 Hz (luminance and chromaticity)	
Power supply				DC 5 V (input from USB bus power line or RS communication connector)	
Operating temperature/humidity range*5				10 to 35°C, relative humidity 85% or less with no condensation	
Storage temperature/humidity range				0 to 45°C, relative humidity 85% or less (at 35°C) with no condensation	

*1: Measured under Konica Minolta's standard light source (6,500K).

*2: The luminance for monochrome is measured when reading of luminance for white is 100 cd/m².

*3: Temperature 23°C±2°C, relative humidity 40%±10%

*4: In NTSC synchronization mode using USB with one probe. Measured using a Konica Minolta-designated PC (with PC and probe directly connected, using the supplied measurement software).

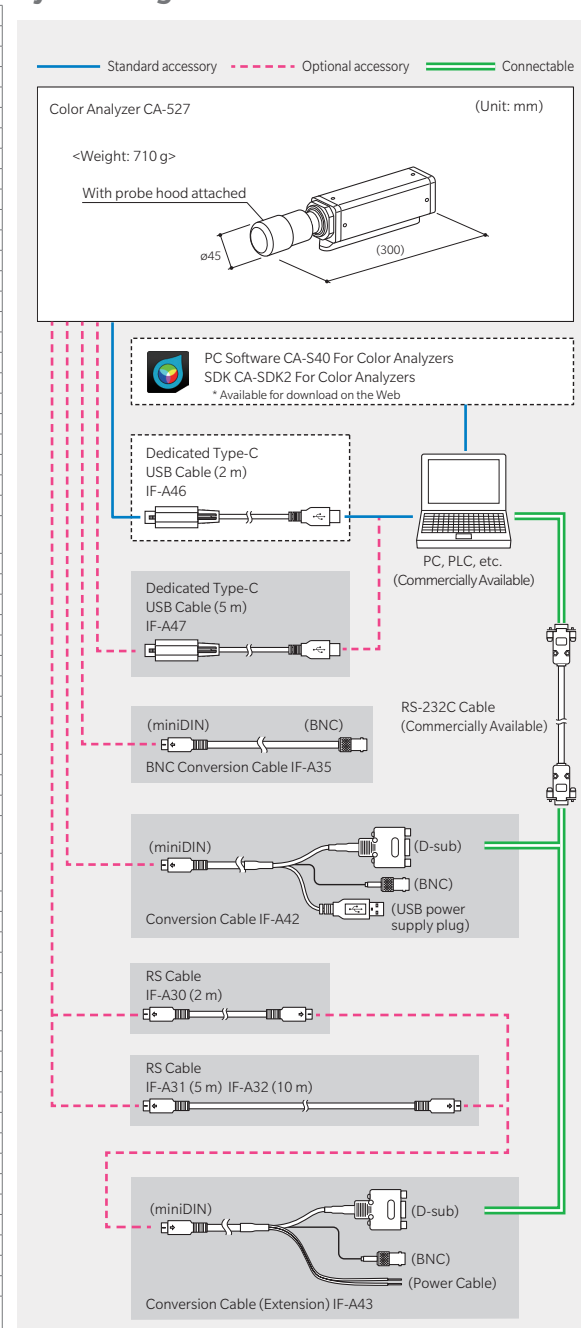
*5: Reading fluctuation (compared to reference reading at 23°C, 40% RH): Luminance: ±2% for white; Chromaticity (at 100 cd/m²): ±0.002 for white, ±0.003 for monochrome.

*6: "Flicker (CA-310 Mode)" and "XYZ (Wide Frequency Mode)" are mode names for PC Software CA-S40.

*7: Measured under Konica Minolta's standard light source (constant light). If the luminance momentarily greatly exceeds the upper limit, such as with a PWM light source with a small duty cycle, luminances below the upper limit may be shown as too high.

* Unless otherwise specified, specifications are given for conditions established by Konica Minolta.

System Diagram



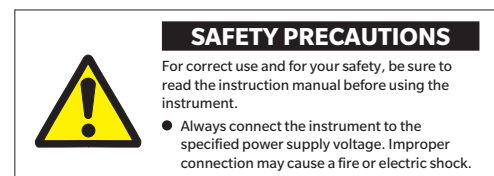
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KONICA MINOLTA

NEW Display Color Analyzer
CA-527



Improved accuracy and reliability,
and faster measurement
for ultra-low luminance



Five industry-leading features to satisfy the needs of the latest display evaluations

1 Expanded accuracy guaranteed range of luminance

The expanded measurement dynamic range, which covers the range from ultra-low to high luminance, achieves a wider range of measurement accuracy and repeatability than the conventional Display Color Analyzer series. This meets the need for more accurate evaluation of luminance and chromaticity required by the latest displays such as OLED and micro-LED displays, which have higher contrast ratios and wider color gamut.

Accuracy guaranteed luminance range

Probe model	CA-527	* Reference comparison with CA-VP427A (conventional model)
Measurement area	Ø27	Ø27
Luminance measurement	0.0001 to 10,000 cd/m ²	0.0003 to 5,000 cd/m ²
Chromaticity measurement	0.001 to 10,000 cd/m ²	0.003 to 5,000 cd/m ²

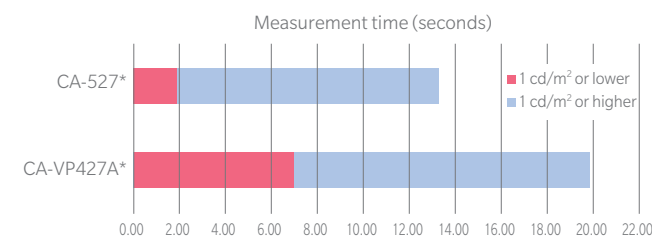
2 Even faster measurements

The latest optical design used in the CA-527 allows for significantly shorter low-luminance measurement times than the models in the conventional Display Color Analyzer series. This can help solve issues related to takt time improvement at display production line and the realm of high-definition display R&D.

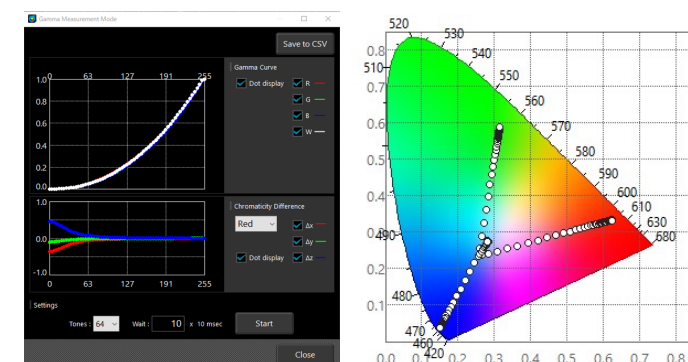
Accuracy guaranteed luminance measurement time*

Probe model	CA-527	* Reference comparison with CA-VP427A (conventional model)
Luminance measurement time	0.0001 cd/m ² : 1 sec	0.0003 cd/m ² : 6 sec

* When using AUTO mode.



* Actual measurement conditions : OLED display (approximately 6 inches), 700 cd/m² (white), 0.002 cd/m² (black), 64 gradations, Wy measurement
* "AUTO" mode used (accuracy guaranteed mode)



(Gamma measurement)

3 Significantly improved waveform measurement performance

The CA-527 can measure lower-luminance areas at a higher sampling rate than the models in the conventional Display Color Analyzer series. This allows for more accurate capture of the emission waveforms of displays, which have become increasingly complex with recent technological trends in displays, such as OLED displays evolving toward even higher contrast ratios and the latest micro-LED displays employing the dynamic drive system.

NEW

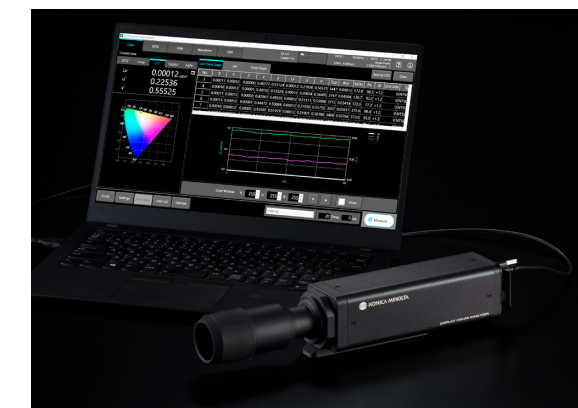
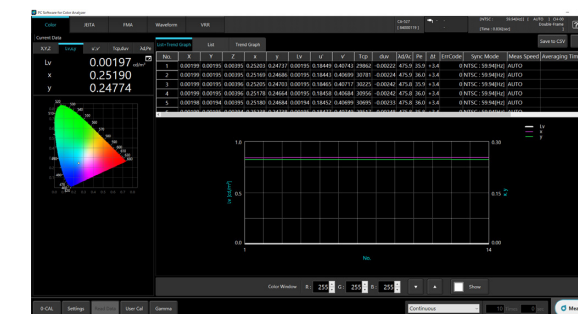
4 Variable refresh rate (VRR) flicker measurement

This model provides a new flicker measurement function related to VRR, the latest index for flicker evaluation, in addition to the high-performance flicker measurement function using the JEITA, VESA, and FMA methods as provided by the conventional Display Color Analyzer series. With the industry's best flicker measurement performance, the CA-527 sets a new standard while meeting the need for quality evaluation of the latest displays pushing the boundaries in advanced video quality and power saving.

5 Full software support

Display Color Analyzer CA-527 also offers a PC software CA-S40 in addition to Software Development Kit (SDK)* that can be downloaded from Konica Minolta website free of charge. They can be used for a wide range of applications, from computer control and operation to measurement with direct incorporation into automation equipment.

* Click the link below to download CA-S40/CA-SDK2 free of charge. Software downloads require input of customer information.
<https://www.konicaminolta.com/instruments/download/software/display/index.html>



(Luminance/chromaticity measurement)



(Waveform measurement function)



(VRR flicker measurement function)



<Key features of PC software CA-S40>

- Detects display frequency
- Measures flicker (supports the VRR, JEITA, VESA, and FMA methods)
- Measures waveforms (emission waveforms of displays)
- Supports graph display in various color spaces (xy, u'v', etc.)
- Supports both Windows and macOS

<System requirements for CA-S40>

OS	Windows®10 Pro 64bit, Windows®11 Pro, macOS® Monterey, macOS® Ventura * The required PC system configuration is the recommended configuration for the operating system above or the specifications below (whichever is more advanced).
Computer	Computer equipped with Intel Core i series, or equivalent processor, or a computer equipped with an Apple Silicon M1 chip, or equivalent processor (Apple silicon native support)
Memory	More than 4 GB
Hard disk	More than 500 MB of available space Out of the above, there must be at least 50 MB of available space on the system drive (drive where the OS is installed)
Display resolution	Display that supports at least 1,440 × 900 pixels and 16-bit colors
Other	USB 2.0 or above required to connect the instrument
Display languages	Display: English only