News Release

Konica Minolta to Release the CS-3000HDR Spectroradiometer Capable of Measuring Ultra-low Luminance Areas up to the Highest Levels in the World

The CS-3000 and CS-2000Plus to be Concurrently Released as the CS-3000 Series

Tokyo (April 25, 2023) – Konica Minolta, Inc. (Konica Minolta) today announced that the company will release the CS-3000HDR spectroradiometer capable of measuring ultra-low luminance areas up to the highest levels in the world[*1] as well as the CS-3000 and CS-2000Plus (the three models hereinafter collectively referred to as "the CS-3000 series") in July 2023.

The CS-3000HDR is the succeeding model of the CS-2000A, which was highly evaluated for its outstanding measurement performance and was indispensable for developing and manufacturing various light-emitting devices, including high-definition displays. The CS-3000HDR is the flagship spectroradiometer model. While maintaining data compatibility with the CS-2000 series, the CS-3000HDR expanded the measurement range from low luminance to high luminance and achieved higher speed and automation of measurement.

The lineup of the CS-3000 series also includes the CS-3000, which is the standard model, and the CS-2000Plus, which is the cost-effective model, in addition to the CS-3000HDR, to contribute to the development of displays and lower process cost at manufacturing sites.

Value Proposition by the CS-3000 Series

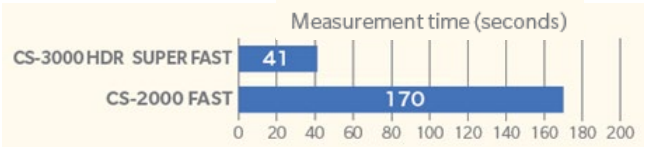
1. Achieving accurate measurement with a high dynamic range from ultra-low luminance to high luminance

In response to measurement needs for displays, which continuously evolve to provide ever more vivid and higher-definition output, the CS-3000HDR achieves accurate measurement in a wide dynamic range down to 0.0001 cd/m^2,[*2] which is one-fifth the darkness measured by the CS-2000A for low luminance, and up to 10,000,000 cd/m^2,[*3] which is 20 times the brightness for high luminance. In addition to the LCD and OLED types commonly used today, it can measure standard values in high dynamic range (HDR) displays that use micro- or mini-LEDs.

2. Improving work efficiency by reducing the measurement time

In quality assurance and control of displays, reducing the measurement time in R&D and

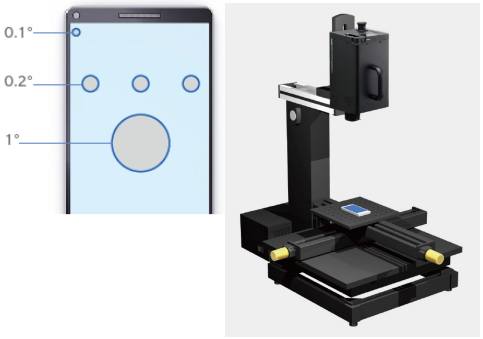
at production sites contributes greatly to improving work efficiency. The CS-3000HDR and CS-3000 feature the Super Fast mode, which performs calculations even faster than the conventional Fast mode. This Super Fast mode can significantly reduce the time, such as the gamma measurement time, which is one of the display calibration items, to 25% or less of the time needed with conventional equipment.*4



3. Fully automatic measurement system achieved by powered switching of the measurement angle

The CS-3000 series enables the user to select the measurement angle setting from 1°, 0.2°, and 0.1°. The CS-3000HDR and CS-3000 can be used in a fully automatic measurement system by powered switching using communication commands. This helps improve work efficiency at display development and production sites.

<Example measurement diameters for 500 mm objective distance>



The minimum measurement diameter is ϕ0.5 mm, while the use of an optional close-up lens enables measurement of ϕ0.1 mm. This supports the measurement of light sources in tiny areas, such as instrument panels for vehicles and aircraft, as well as indicators for car audio systems, in addition to general displays.

CS-3000 Series Specifications

Model		CS-3000HDR	CS-3000	CS-2000Plus
Measurement wavelength range		380 to 780 nm		
Spectrum wavelength width		5 nm max. (Half width value)		
Luminance range with guaranteed accuracy (Standard light source A)	1°	0.0001 to 100,000 cd/m²	0.0005 to 5,000 cd/m²	0.003 to 5,000 cd/m²
	0.2°	0.0025 to 2,500,000 cd/m²	0.0125 to 125,000 cd/m²	0.075 to 125,000 cd/m²
	0.1°	0.01 to 10,000,000 cd/m²	0.05 to 500,000 cd/m²	0.3 to 500,000 cd/m²
Measurement time	Standalone	Minimum of 1 second to approx. 190 seconds		Minimum of 1 second to approx. 242 seconds
	Communication*	Approx. 0.07 second		Approx. 0.08 second
Measurement angle switching		Powered		Manual
Interface		RS-232C, USB 2.0		
Size		Spectroradiometer: 158 x 262 x 392 (W x H x D) mm		
Weight		Approx. 7.0 kg		

*: When the settings are Manual 33.333 ms and Intelligent Dark

*1: As a polychromator-type spectroradiometer as of April 1, 2023

*2: At 1° measurement angle

*3: At 0.1° measurement angle

*4: Simulation conditions: 100 cd/m² (white); 0.1 cd/m² (black); 64 gradations; Wγ measurement; using Intelligent Dark function

###