

A COMPLETE LINEUP OF LIGHT-MEASURING INSTRUMENTS

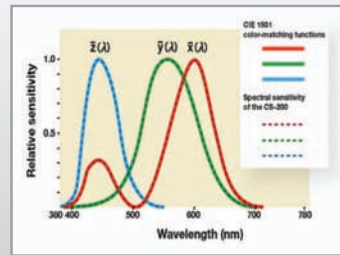
FOR VARIOUS TYPES OF DISPLAY DEVICES



- CS-2000 Spectroradiometer
 - CA-2000 2D Color Analyzer
 - CS-200 Chroma Meter
 - CS-100A Chroma Meter
 - CA-310 Display Color Analyzer
 - CA-100Plus CRT Color Analyzer
 - CL-200A Chroma Meter
 - SpectraRad Irradiance Meter
 - SpectraRad Xpress Irradiance Meter

LUMINANCE - PORTABLE SENSOR BASED CHROMA METER
Chroma Meter CS-200

Measuring items: Luminance, chromaticity, color temperature



CIE 1931 color-matching functions and CS-200 spectral response

Features:

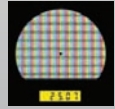
- Repeatability: Luminance 0.1 % ± 1 digit
Chromaticity 0.0004
- Measuring angle can be switched instantly on the body to match the measurement subject.
- Portable - Perfect for field calibrations/measurements



Measurement angle 1°



Measurement angle 0.2°



Measurement angle 0.1°

MEASURE LUMINANCE & CHROMATICITY UNEVENNESS IN TWO DIMENSIONS
2D Color Analyzer CA-2000

Measurement items: Luminance, chromaticity



Measurement example of car speedometer

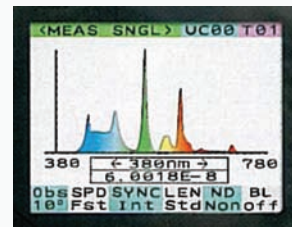
Features:

- Can measure the luminance and chromaticity of 980 x 980 points simultaneously.
- Interchangeable lenses allow measurements of the luminance unevenness and chromaticity unevenness of subject sizes ranging from large-area projectors to tiny areas.

MEASURE EXTREME LOW LUMINANCE
Spectroradiometer CS-2000

Features:

- Highly accurate measurement of luminances as low as 0.003 cd/m².
- Quick measurements even at low luminance.
- Selectable measuring angle for measurement of tiny areas.



LED Display Screen

LIGHT METERS

LS-100/110

Measurement item: Luminance



Features:

- LS-100 - Measures low luminance in small places
- LS-110 - 1/3 degree spot measurement

CS-100A

Measurement items: Luminance & Chromaticity



Features:

- Quick light & color measurements for QA/QC applications

T-10

Measurement item: Luminance



T-10M

Measurement item: Luminance



Features:

- Illuminance measurement in small places

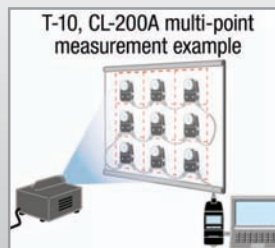
CL-200A

Measurement item: Luminance, chromaticity, color temperature



Features:

- High illuminance measurements



T-10, CL-200A multi-point measurement example

FOR MANUFACTURING & INSPECTION

High-speed measurement at up to 20 times/second!

Display Color Analyzer CA-310

Measurement items: Luminance, chromaticity, color temperature



Features:

- Measurements possible at luminances as low as 0.005 cd/m²
- Special optical system minimizes effect of viewing angle characteristics
- Conforms to IEC 61747-6

CRT Color Analyzer CA-100Plus

Measurement items: Luminance, chromaticity, color temperature

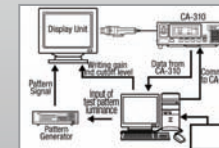


Features:

- Measurements possible at luminances as low as 0.05 cd/m²
- Optimized for PDPs



CA-310 Small Universal Probe



Gamma Adjustment System

Light measurement solutions for various kinds of display devices

DEVICE	Spectroradiometer CS-2000	Chroma Meter CS-200	Chroma Meter CS-100A	2D Color Analyzer CA-2000	Display Color Analyzer CA-310	CRT Color Analyzer CA-100Plus	Chroma Meter CL-200A
ATTRIBUTES	<ul style="list-style-type: none"> • CCD based Spectroradiometer • Laboratory Reference Instrument • Ultra low luminance measurements (0.003 cd/m²) • Detect contrast ratios up to 1.67M : 1 • Provides spectral energy graphs • 3 measuring angles (1°, 0.2° and 0.1°) • Measures areas as small as 0.1 mm² diameter 	<ul style="list-style-type: none"> • Sensor based Chroma Meter • Accuracy comparable to many spectroradiometers • Wide measuring range (0.01 - 20,000,000 cd/m²) • 3 measuring angles (1°, 0.2° and 0.1°) • Portable and battery operated • Perfect for field calibrations 	<ul style="list-style-type: none"> • Tristimulus based Chroma meter • Measures cd/m² and foot-Lamberts • NIST traceable calibration • 1" measuring spot • Compact and lightweight 	<ul style="list-style-type: none"> • 2 Dimensional Color Analyzer • Chromaticity and Luminance uniformity measurement • Powerful tool for product development and evaluation • High resolution CCD (1 Mega pixel) • Simultaneous measurement of multiple spots • Fast measurements; as fast as 5 seconds 	<ul style="list-style-type: none"> • Non-contact Display Color Analyzer • Designed for LCD, OLED and Rear Projection applications • Ability to measure flicker • Fast measurements up to 20x/second • Excellent for QA/QC applications • Ultra low luminance measurement (0.005 cd/m²) 	<ul style="list-style-type: none"> • CRT Display Color Analyzer • Designed for CRTs and Plasma Displays • Fast measurements up to 20x/second • Well suited for QA/QC applications • High luminance measuring capability (up to 2000 cd/m²) 	<ul style="list-style-type: none"> • Handheld Incident Chroma Meter • Perfect for front projection applications • Measures Chromaticity, Luminance and Color Temperature • Multi-point measurements possible (up to 30) • Software included
LCD	✓	✓		✓	✓		
PDP	✓	✓		✓		✓	
Front Projection	✓	✓	✓	✓			✓
Rear Projection	✓	✓		✓	✓		
Active EL Displays	✓	✓		✓	✓		
CRT	✓	✓	✓			✓	
OLED/LED	✓	✓		✓	✓		
Backlight Panels	✓	✓	✓	✓			
Digital Cinema	✓	✓	✓				✓

LED Light Measurement

	Application				Instrument		
	LED Luminaire	LED Sign Display	LED Module	LED	CS-2000/2000A	CS-200	CL-200A
Absolute Spectral Distribution (%)	✓	✓	✓	✓	✓		
Relative Spectral Distribution (%)	✓	✓	✓	✓		✓	
Illuminance (lx)	✓	✓			✓	✓	✓
xy Chromaticity	✓	✓	✓	✓	✓	✓	✓
Correlated Color Temperature (K)	✓	✓	✓	✓	✓	✓	✓
Difference From Blackbody Locus (duv)	✓	✓	✓	✓	✓	✓	✓
Color Rendering Index	✓	✓	✓	✓	✓		
Dominant Wavelength (nm)		✓	✓	✓	✓	✓	✓
Excitation Purity (%)		✓	✓	✓	✓	✓	✓

SPECTRAL IRRADIANCE METERS

SpectraRad

Features:

- Cosine corrected, NIST Traceable irradiance meter capable of providing full spectral and colorimetric data
- Spectral range of 380-750nm (Standard) or 350-1050nm (Other ranges available upon request)
- Resolution of < 1.5nm
- TE Cooled allowing for higher sensitivity



SpectraRad Xpress

Features:

- Cosine corrected, NIST Traceable, irradiance meter capable of providing full spectral and colorimetric data
- Spectral range of 380-750nm (Standard) or 350-1050nm
- Resolution of < 4.0nm
- Powered completely by USB for maximum portability

