

Измерители яркости цвета CS-200

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Россия (495)268-04-70

Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Киргизия (996)312-96-26-47

Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Казахстан (7172)727-132

Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Luminance & Colour Meter CS-200

The CS-200 Chroma Meter measures luminance and chromaticity of light emitting products as diverse as large plasma displays, compact LCDs and LEDs, outdoor screens, high pressure lamps, and instrument panels.



Introduction

Light source Incident Color Meter with accuracy similar to a Spectroradiometer

The CS-200 ChromaMeter measures luminance and chromaticity of light emitting products as diverse as large plasma displays, compact LCDs and LEDs, outdoor screens, high pressure lamps, and instrument panels.

The CS-200 is an instrument that enables highly accurate luminance and chromaticity measurements, comparable to those of a spectroscopic type of instrument while maintaining the simplicity, operability, and competitive price of a tristimulus type.

Principal applications

The CS-200 can be used for luminance and chromaticity measurement of various optical devices such as displays like LCDs, PDPs, organic ELs and FEDs, as well as light sources such as LEDs and lamps.

Features

The CS-200 features 40 sensors and performs calculations using the spectral sensitivity characteristics (colour-matching functions) corresponding to the sensitivity of the human eye. With this newly developed spectral fitting method, tristimulus values (XYZ for red, green, and blue) with a far higher accuracy than those of conventional tristimulus colorimeters can be obtained, providing excellent results.

Measurements over a wide range of luminance levels from a low luminance of 0.01 cd/m² through high luminance of 20,000,000 cd/m² (with measuring angle of 0.1°) can be carried out.

Three measuring angles can be selected: 1°, 0.2°, and 0.1°. The measuring angle can be switched according to the measurement target, ranging from display devices or other objects with large areas to measure, to objects with tiny areas to measure, such as car audio control panels, vehicle instrument panels, and compact LCDs.

Main Features

- Wide measuring range from low luminance to high.
- Performance comparable to many Spectroradiometers.
- Compact and lightweight. Battery power is also possible.
- Selectable measuring angle
- Data management software CS-S10w standard edition included.

Additional Functions

- Measurements can be synchronized with the display device by numerical input of the frequency. Selectable measurement speed (AUTO, LTD. AUTO, MANU, superFAST, FAST, SLOW and superSLOW)
- Large LCD display with backlight
- USB 1.1 communication
- Data storage: 101 measured values (9-letter ID assignment possible) and 20 reference values
- User calibration: 20 channels

Areas of application

Light sources of all types can be measured with the CS-200, for example signal, traffic lights, airport lighting, lamps, LEDs, picture tubes, LCDs, PDPs, etc., simply anything that emits light. With the ever-growing demand for diversified media, stimulated by the growth of information-technology business and full-scale service of digital broadcasting, research and development has accelerated for various display devices centring on plasma displays and LCDs. Innovations in LED technology have led to remarkable breakthroughs in the development of LED products including traffic lights, backlights for reflective LCDs, and large outdoor display screens.



Specifications

Principal Specifications of the CS-200

Model	Luminance & Color Meters CS-200
Measurement range	0.01 - 200,000 cd/m ² (Measuring angle 1°) 0.01 - 5,000,000 cd/m ² (Measuring angle 0.2°) 0.01 - 20,000,000 cd/m ² (Measuring angle 0.1°)

Accuracy (Measuring angle 1°) #1 (Temperature: 23°C±2°C, Relative humidity: 65% max.)	150 cd/m ² (for Illuminant A) : Lv ±2 % ±1digit ; xy ±0.002 0.01-0.5 cd/m ² (for Illuminant A) : Lv ±0.02 cd/m ² ±1digit ; 0.5-1 cd/m ² (for Illuminant A) : Lv ±0.02 cd/m ² ±1digit ; xy ±0.007 1-10 cd/m ² (for Illuminant A) : Lv ±2 % ±1digit ; xy ±0.004 10-200,000 cd/m ² (for Illuminant A) : Lv ±2 % ±1digit ; xy ±0.003 5000 cd/m ² (for Illuminant A) : color filter (R, G, B) ; xy ±0.006
Repeatability (Measuring angle 1°) #2	0.01-1 cd/m ² (for Illuminant A) : Lv ±0.01 cd/m ² ±1digit ;(2σ/AUTO) 1-2 cd/m ² (for Illuminant A) : Lv ±0.5 % ±1digit ; xy 0.002 (2σ/AUTO) 2-4 cd/m ² (for Illuminant A) : Lv ±0.5 % ±1digit ; xy 0.001 (2σ/AUTO) 4-8 cd/m ² (for Illuminant A) : Lv ±0.5 % ±1digit ; xy 0.0005 (2σ/AUTO) 8-200,000 cd/m ² (for Illuminant A) : Lv ±0.1% ±1digit ; xy 0.0004 (2σ/AUTO)
Measurement time	Automatic setting between 1s and 60s (AUTO); Automatic setting to 1s or 3s (LTD. AUTO) 0.5 sec / meas. (Super-FAST) 1 sec / meas. (FAST)3 sec / meas. (SLOW) 12 sec / meas. (Super-SLOW) (approx. 12 sec / meas)
Measurement method	Spectral method, Grating + linear photo diode array
Measuring angle	1°, 0.2°, 0.1°(switchable)
Minimum measuring area	0.5 mm 0.1 mm (close up lens)
Minimum measuring distance	296 mm (Distance from front edge of metal lens barrel)
Observer	2/10 degrees
Colour space	Lv x y, Lv u' v', Lv TΔuv, XYZ, dominant wavelength
Measurement synchronization setting range	Vertical synchronization frequency : 40 to 200Hz
Interface	USB 1.1
Power source	AC adapter or 4 AA-Size Batteries
Battery life	Approx. 3 hours (continuous measurement / Fast mode / AA-size alkaline cells)
Size	95 mm (W) × 127 mm (H) × 330 mm (L)
Weight	1.8 kg (without battery)
Operating temperature / humidity range	0°C to 40°C, relative humidity 85% or less (at 35°C) with no condensation
Storage temperature / humidity range	0°Cto 45°C,relative humidity 85% or less (at 35°C)with no condensation

#1

23°C±2°C Lv = 0.01-10 cd/m², SLOW, average of 30 measurements

Lv = 10 cd/m² and higher, SLOW, average of 10 measurements

#2

At 0.2°measuring angle, the amount of received light is approx. 1/25 of that for 1°.

Therefore, the repeatability becomes the same as that for 1°with 25 times lower luminance.

At 0.1°measuring angle, the amount of received light is approx. 1/100 of that for 1°.

Therefore, the repeatability becomes the same as that for 1°with 100 times lower luminance.

*Specifications are subject to change without prior notice.

Optional Accessories for CS-200

Close-up lens 122

Close-up lens

Item Order Code: 1804-742

Close-up lens 107

Close-up lens

Item Order Code: 1892-702

ND-Filter CS-A6

ND Filter (1/10)

Item Order Code: 1890-710

ND-Filter CS-A7

ND Filter (1/100)

Item Order Code: 1890-711

Soft Case CS-A23

Soft Case

Item Order Code: 1892-600

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Россия (495)268-04-70

Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Киргизия (996)312-96-26-47

Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Казахстан (7172)727-132

Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93