Измерители цветности CL-70F
Технические характеристики

По вопросам продаж и поддержки обращайтесь:

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Казахстан (7172)727-132

kan@nt-rt.ru || https://konica.nt-rt.ru/

CRI Illuminance meter CL-70F

A compact, easy to use instrument for measuring light sources, including LED lighting and EL lighting. The CL-70F provides an entry-level solution for measurement of Colour Rendering Index, spectral irradiance, peak wavelength, tristimulus values, chromaticity, correlated colour temperature, dominant wavelength, excitation purity, illuminance, and difference values.

Introduction

Cost Effective solution for measuring light-source colour and illuminance

The CRI Illuminance meter CL-70F is a compact, lightweight, handheld instrument for measuring the colour and illuminance of light sources (including new LED and EL light sources). Measurement data is displayed in terms of CRI, tristimulus values, illuminance, chromaticity, dominant wavelength, excitation purity, correlated colour temperature, and difference values from a target.

The CL-70F can be used with a commercially available flash sync cable to take spectral measurements of photographic flash lights.

The utility software CL-SU1w is included as standard and adds further functionality for capturing and analysing data.

Principal applications

- Measurement and evaluation of special illumination sources used for restaurants, museums, studios, and stages, etc.
- Measurement and evaluation of indoor lightsources such as LEDs, fluorescent lamps, etc.
- LED billboard development, quality control, and maintenance
- Evaluating the light distribution characteristics of LED illumination modules
- Evaluating the illuminance distribution of lighting fixtures
- Building and interior lighting research
- Spatial lighting production and adjustment
- Color-viewing cabinet maintenance
- Projector light source research and colour inspection

- Checking environments for psychological research experiments

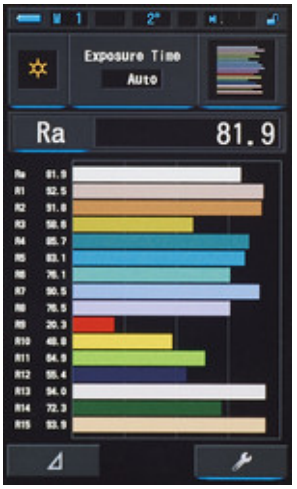
Features

Main features of CL-70F

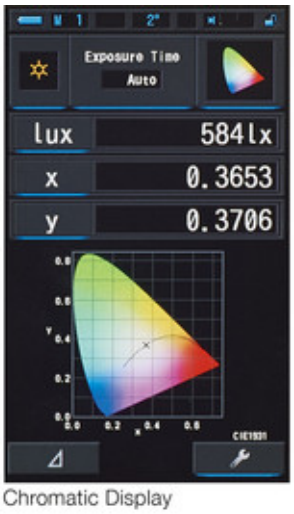
- Spectral sensor
- Measure CRI
- Compact, easy to carry and battery operated
- Color touch screen

The portable CL-70F body is designed for a variety of common lighting tasks including lighting design and ongoing maintainance. Providing spectral information and CRI measurement the CL-70F provides entry level access to cutting edge light measurement features. Combining the instrument with a flash sync cable enables spectral measurements of flash light making the CL-70F a powerful tool for professional imaging and entertainment markets.

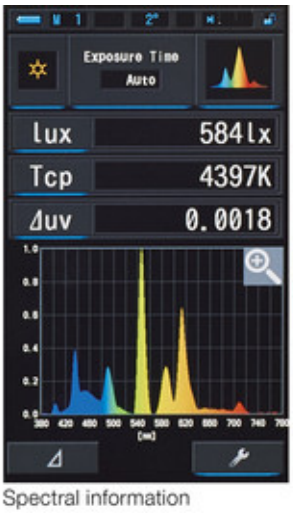
CRI measurement
The CL-70F provides easy access to CRI measurement data. The display shows the Ra value including all individual indices (R1 to R15) in a simple bar graph. For further information on Colour Rendering please see our light measurement resource : The Language of Light.



Easy measurement of correlated color temperature (Tcp)
The CL-70F can measure correlated color temperature and the difference from the blackbody locus Δuv, values which are often used to describe the color of light sources. The colour temperature of light is defined as the absolute temperature (in Kelvin) at which a blackbody would emit that particular color of light. The colours of light emitted by a blackbody at various temperatures can be plotted on a curve which is called the "blackbody locus". Since the output of many light sources do not lie directly on the blackbody locus, "correlated colour temperature" is used to describe their colours.



Chromatic Display



Spectral information

Overview of all relevant values

When describing a colour using correlated colour temperature, normally the difference from the blackbody locus

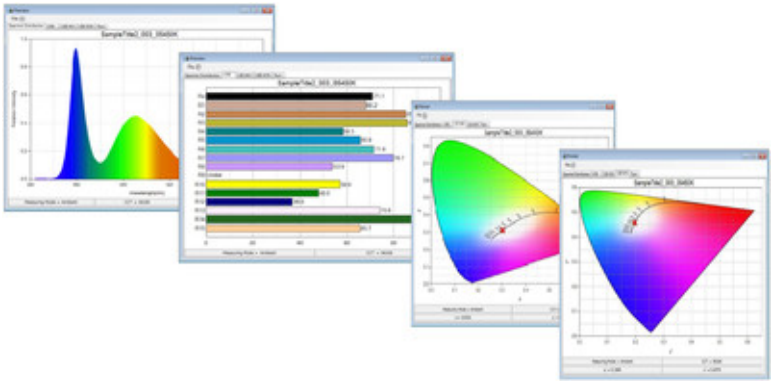
Δuv is stated in addition to the correlated colour temperature. To learn more about colour temperatue please read our light measurement resource : The Language of Light.

Rotating Receptor Head
The rotating receptor head improves screen visibility and comfortable use of the instrument.



Easy Zero-adjustment without a receptor cap
Slide the ring on the diffusor counterclockwise to perform dark calibration.

Additional features provided by included Utility software CL-SU1w
With the software CL-SU1w which is included as a standard accessory, you can modify instrument settings, store & group data and make further analysis of the measured data.



Specifications

Principal Specifications of CL-70F

Model	**CRI Illuminance Meter CL-70F**
Illuminance meter class	Conforms to requirements for Class A of JIS C1609-1：2006 "Illuminance meters Part1: General measuring instruments; Conforms to DIN 5032 Part 7 Class C
Sensor	CMOS linear image sensor
Spectral wavelength range	380 nm ～ 780 nm
Output wavelength pitch	1 nm

Measuring range	Constant light: 1 to 200,000 lx; 1,563 to 100,000 K (Chromaticity display requires 5 lx or more) Flash light: 20 to 20,500 lx・s; 2,500 to 100,000 K
Accuracy (Standard Illuminant A) *1 *2	E_V: ±5%+1digit of displayed value
	xy: 0.003 (at 800 lx)
Repeatability (2σ) (Standard Illuminant A)	E_V: 30 to 200,000 lx: 1%+1digit; 1 to 30 lx: 5%+1digit *3
	xy: 500 to 200,000 lx: 0.001 *4 xy: 100 to 500 lx: 0.002 *4 xy: 30 to 100 lx: 0.004 *4 xy: 5 to 30 lx: 0.008 *4
Visible-region relative spectral response characteristics (f1')	Within 9%
Cosine response (f2)	Within 6%
Temperature drift (fT)	E_V: ±5% ; xy: ±0.006
Humidity drift (fH)	E_V: ±3% ; xy: ±0.006
Power	2 AA-size batteries (Alkaline batteries or manganese dry cells); USB bus power
Response time	Constant light (Maximum): 15 sec Constant light (Minimum): 0.5 sec Flash light: 1 ～ 1/500 sec (in 1-step intervals) *5
Color indication modes	Correlated colour temperature Tcp, Difference from blackbody Δuv, XYZ, xy, u'v', Dominant wavelength λd, Excitation purity Pe, Spectral irradiance, EV, CRI (Ra, Ri), Peak wavelength λp, exposure value
Other functions	Data memory: 999 data; Preset function; Auto power off function
Display languages	English, Japanese, Chinese (Simplified)
Interface	USB 2.0 Mini B
Operating temperature and humidity range	-10 to 40°C, relative humidity of 85% or less (at 35°C) with no condensation
Storage temperature/humidity range	-10 to 45°C, relative humidity of 85% or less (at 35°C) with no condensation
Size	73 (W)× 183 (H) × 27 (D) mm (Not including projecting buttons)

*1 Measurement mode: Constant light (range L), Exposure time：AUTO
*2 Linear for EV
*3 10 times measurement (2σ) /Ave
*4 10 times measurement (2σ)
*5 Shutter speed

Specifications are subject to change without prior notice.

Accessories

Standard Accessories for CL-70F

- Strap
- Soft Case CL-A12
- Utility Software CL-SU1w

Optional accessories for CL-70F

- USB Cable T-A15

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