Display Device I-V-L Test System

VS-7310 OLED IVL

One of Most important characteristics of display device is the relationship of its **L**uminance with applied **V**oltage/Current (**I**). 7310 OLED I-V-L Test system consists of following Parts:

1. Data Acquisition Software

2. Luminance Sensors, or Luminance Meter

3. Programmable Power Supply

4. Device Holder & Dark Enclosure

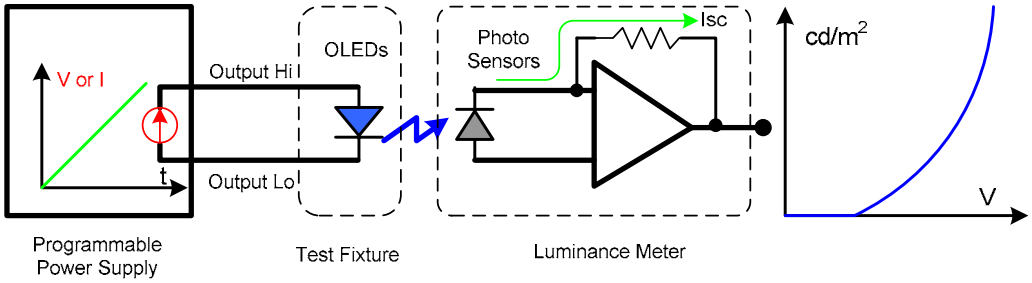


Figure: 2 Test Principles

Data Acquisition Software

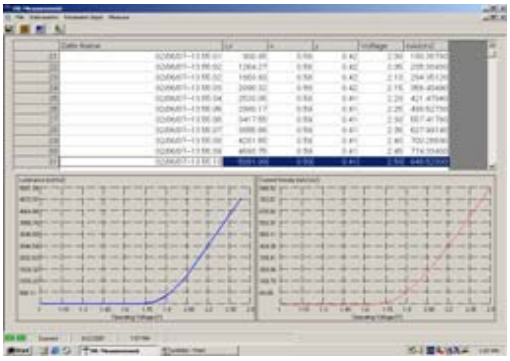


Fig. 3: Screen Display

-- **Current** vs Voltage**, Luminance vs Voltage** are plotted; and test data (L, V, I) are recorded simultaneously;

-- Test Data is saved as Text file.

-- The sweep voltage, Limit current, steps are programmable;

-- At Super Fast Mode of CS-200, it takes 0.5sec/meas;

Luminance Meter

There are three ways to get Luminance of display device: Calibrated Luminance Sensor, or Luminance meter, or Chroma Meter.

Minolta Chroma Meter CS-200 has a selectable View angle 0.1°, 0.2°, and 1°. It makes us easy to measure large and very small objects in a wide luminance range. Its main specification has:

Fig. 4: Chroma Meter

Minimum Meas Area:	Ø0.1mm
Meas Range:	0.01 --20,000,000 cd/m^2
Meas Accuracy:	0.02cd/m^2
Meas Time:	0.5sec/meas at Super Fast Mode
Meas Method:	Spectral
Meas Data:	Lv, xy, Lv uv;

Option -- Luminance Sensor (Si-Photodiode)

A Si photodiode with its sensitivity close to spectral Luminous efficiency V(λ) can be used as luminance sensor. But it has following facts which affect its measurement accuracy:

1. It must be calibrated by using Standard Luminance meter;
2. Test Device should have a similar light spectrum and same size of light emission area as one which is used for calibration;
3. It's difficult to measure Ø0.1mm Area's luminance without optical lens.

Figure. 6 Photo sensor

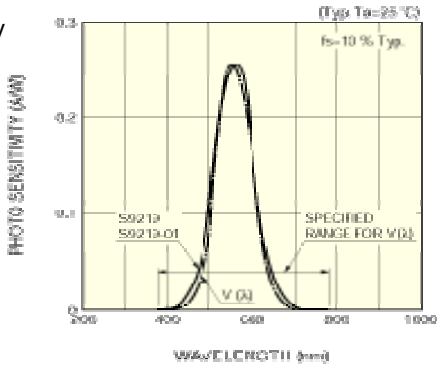


Figure. 5 Spectral Response

Programmable Power Supply

Constant Current Output:	0 --- 20mA, 20VDC Maximum
Constant Voltage Output:	0 --- 20VDC, 100mA Maximum;
Resolution:	0.01mA for CC mode setting
	0.01V for CV mode setting
Photo current Amplifier:	Vo = 100Kohm x Isc; **or**
(option)	Vo = 1000Kohm x Isc
PC Interface:	PCI or USB (option)

Dark Enclosure

Dark enclosure includes following parts:

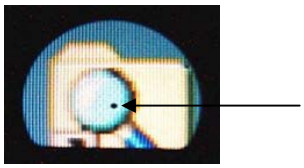
-- A Customized design Device Holder with spring contact probe makes the electric contact reliable, durable.

-- XY stage makes Test position adjustable;

-- Z axis slide makes measure area adjustable;

Other Accessory

-- A Image View can be shown on PC Screen by attaching a camera into CS-200, and it can be saved as test condition file.



Test Point, Meas Area : Ø0.2mm

Image of Camera View

For future information, Please contact:	Manufactory: **VISIONTEC** **Industrial Vision Technology (S) Pte Ltd** #06 - 22/23, Block 67, Ayer Rajah Crescent Singapore 139950 Tel: (65) 65636110 Fax: (65) 6563 1556 email: sales@visiontec.com.sg