LED Comprehensive Characteristic Measurement (Photoelectric Basic Version)

BEX-8202C

Summary

The parts used in the comprehensive LED experiment, such as the voltage stabilizing power supply, constant current source, illuminance meter, integrating sphere, are all jointly developed with professional LED measurement enterprises. Under the premise of meeting the teaching requirements, the functions, accuracy, and reliability are maintained at a high level.

The experiment comprehensively covers the light, electricity, color, and heat characteristics of LEDs. The modules are independent and the functions are clear. It conforms to teaching standards, and the software design is complete. The testing principles strictly follow international authoritative standards. The operation is clear and easy to understand, which helps to deepen theoretical learning.

Features

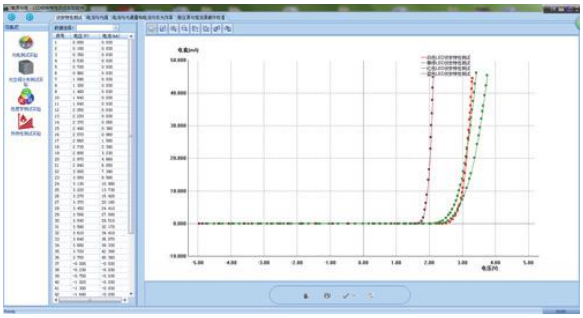
1. 1.Several experiment modules are independent of each other but also mutually supportive. The function divisions of the components are clearly defined, making it easy for students to understand.
2. 2.The components of the experimental device and the software design are all designed according to the standards of teaching products. The operation settings comply with teaching requirements, and the software functions are complete, including knowledge navigation, independent test modules, which enable students to have a clear logical thinking and easy understanding when using it, achieving the effect of deepening theoretical learning.
3. The principle of parameter testing strictly follows the current authoritative testing standards in China and abroad.

Main Experiment Contents

1. Volt-ampere characteristic test experiment.
2. Relationship experiment between light intensity and current.
3. Relationship experiment between luminous flux and current.
4. Measurement experiment of spatial distribution characteristics of LED output light.

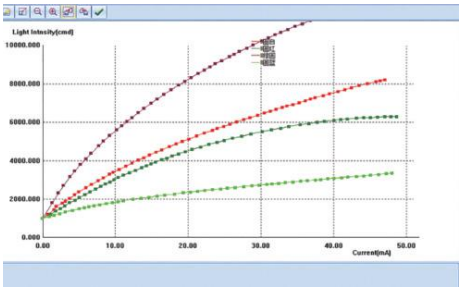
Experiment Contents and Typical Data

1. Electrical & electro-optical conversion experiment

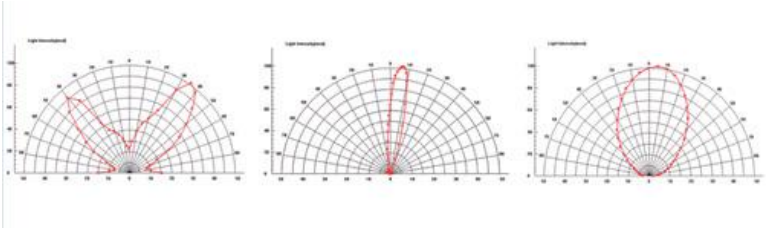


LED Forward and Reverse V-I Characteristics Measurement

2. Light spatial distribution (light distribution curve) experiment



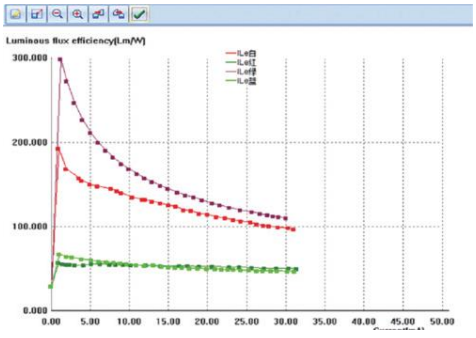
The curve showing the variation of the average light intensity in one-dimensional space with the current



Two-dimensional spatial light distribution (light distribution) curve

3. Investigate the relationship between current, luminous flux and luminous efficiency

The curve showing the relationship between current and luminous flux



The curve showing the relationship between current and luminous efficiency

Specifications

NO.	Part Name	Main Parameter
1	LED Power Supply I (constant current source)	110V/220V input, 0~50/500mA output, voltage range 0-10V
2	LED Power Supply II (constant voltage source)	110V/220V input, 0~10V output; current range 0 - 0.1A
5	Illuminometer with Detector	Measurable illuminance and luminous flux values, illuminance range: 0.001 LX to 2000 LX; Luminous flux range: 0.001 LM to 999 LM;
10	Integrating Sphere	Radiation integrating sphere
11	LED Fixture and Holder	Dia 50mm

Configuration List

NO.	Part Name	Model	Qty.
1	LED Power Supply I (constant current source)	BEM-5036	1
2	LED Power Supply I (constant voltage source)	BEM-5035	1
3	Illuminometer with Detector	BEM-5409	1
4	Laser Module with Fixture	BEM-5047	1
5	LED Test Samples with Storage Case	BEM-5048	1
6	Integrating Sphere	BEM-5216-15003	1
7	LED Fixture and Holder	BEM-5217	1
8	Adjustment Platform for Light Source	BEM-5214	1
9	Aperture tube with Holder	BEM-5215	1
10	Aperture	BEM-5221-03	1
11	View Screen	BEM-5410	1
12	Track	BEM-5201-06	1
13	Carrier	BEM-5204-50	1
14	Adjustable Post Holder	BEM-5205-25	1
15	Poster	BEM-5209-09	1
16	Power Cable	BC-105075	2
17	USB Cable	BC-105080	1
18	4mm banana plug connection wire, red	BC-105084	3
19	4mm banana plug connection wire, black	BC-105083	3