

ICS 17.180  
CCS A 60

**JJF**

**INDUSTRY STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA**

**JJF 1660-2017**

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**Calibration Specification for Wide-band Irradiance Meters  
(English Translation)**

**Issued on: November 20, 2017**

**Implemented on: February 20, 2018**

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**Issued by: General Administration of Quality Supervision, Inspection and  
Quarantine**

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## Introduction

JJF 1001 "General Terms and Definitions of Measurement", JJF 1032 "Glossary Terms and Definitions of Optical Radiation Measurement", JJF 1059.1 "Measurement and Representation of Measurement Uncertainty" and JJF 1071 "Rules for the Preparation of National Metrology Calibration Specifications" Form the basic series of specifications that support the development of this specification.

This specification is the first release.

### Wideband Irradiance Calibration Specification

#### 1 Scope

This specification applies to the calibration of broadband irradiance meters.

#### 2 terms

2.1 Irradiance meter an instrument used to measure irradiance in a range of wavelengths, usually consisting of a probe and a reading unit.

They are connected by cables or by wireless communication systems. Probe assembly includes cosine corrector, filter and optoelectronics the pool; the reading unit mainly includes signal processing and display circuits.

2.2 Bandwidth the spectral width of the instrument response. It is usually characterized by the difference in wavelength between the two spectral response half-peak points.

2.3 wide-band irradiation meter wide-bandirradiancemeter an irradiator measuring a wide range of wavelengths (bandwidth over 30 nm) and located in the range of (250 to 2500) nm.

2.4 Spectral irradiance standard lamp standard lamp for spectral irradiance Also known as a spectral radiation standard lamp, it is a special electric light source for storing and transmitting spectral illuminance unit quantity, the illuminants are arranged in a plane or straight line in order to calculate the distance between the illuminants and the illuminated surface.

### 3 Overview

The irradiance at a point on the surface is the ratio of the radiant flux incident on the bin containing the point to the area of the bin.

Since irradiance usually manifests as irradiance over a range of wavelengths, the corresponding defined radiant flux is this wave.

Radiant flux over a long range. One way to measure irradiance over a specific wavelength range is to use a spectroradiometer to measure Spectral irradiance in this wavelength range, then irradiance is determined by integration; another method is to use spectral response range the irradiance meter, which is consistent with this particular range, is measured directly. The irradiance meter used in the latter method is the calibration of this specification.

Object.

Figure 1 Schematic diagram of the wide-band irradiance detector

C-cosine corrector; F-filter; D-photodetector in order to make the broad-band irradiance spectral response range consistent with a specific wavelength range, a certain bandpass filter is usually selected.