

JJG

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Ultraviolet Radiometers (English Translation)

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Table of Contents

Introduction...	5
1 Scope...	6
2 Overview...	6
3 Metrology performance requirements...	7
3.1 Spectral response and band division...	7
3.2 Zero-value error (full scale FS)...	7
3.3 Long-wave response error...	7
3.4 Cosine characteristic (directional response) error...	8
3.5 Nonlinear error...	8
3.6 Shifting error...	8
3.7 Fatigue error...	9
3.8 Relative indication error...	9
4 General technical requirements...	9
4.1 Appearance...	9
4.2 Optical attenuator...	9
4.3 Spectral response range...	9
5 Measuring instrument control...	10
5.1 Verification conditions...	10
5.2 Verification items...	11
5.3 Verification methods...	12
5.4 Processing of verification results...	19
5.5 Verification cycle...	19

1 Scope

This Regulation applies to initial verification, subsequent verification and in-use inspection for standard-level, level-1 and level-2 ultraviolet radiometers that comply with the division of ultraviolet radiation UV-A, UV-B, UV-C, UV-A1, UV-365, UV-310, UV-254 bands.

2 Overview

The International Commission on Illumination (CIE) divides ultraviolet radiation into three bands. UV-A (315nm~400nm), UV-B (280nm~315nm) and UV-C (100nm~280nm). Since ultraviolet radiation of 100nm~200nm is strongly absorbed in the air, for the UV-C band, this Regulation only considers the wavelength range of 200nm~280nm.

3.2 Zero-value error (full scale FS)

The zero-value error (FS) of ultraviolet radiometers shall not exceed the requirements of Table 1.

3.3 Long-wave response error

The long-wave response error of the ultraviolet radiometer shall not exceed the requirements of Table 2.

3.4 Cosine characteristic (directional response) error

The cosine characteristics (directional response) of the ultraviolet radiometer shall not exceed the requirements of Table 3.

4.1 Appearance

4.1.1

The nameplate of the ultraviolet radiometer shall be marked with the trademark, model, product number, date of manufacture and CMC logo. The power supply used and the safety protection during operation shall be given accurate and eye-catching descriptive markings.

4.2 Optical attenuator

If the ultraviolet radiometer is equipped with a light attenuator, the light attenuator shall be intact and the attenuation rate shall be marked.

4.3 Spectral response range

The spectral response range of the ultraviolet radiometer shall comply with the provisions of 3.1.

5 Measuring instrument control

Measuring instrument control includes initial verification, subsequent verification and in-use inspection.

5.1.1.3 Measurement device for comparison of UV radiation illuminance

The reference schematic diagram of the structure of the ultraviolet radiation illumination comparison measurement device is shown in Figure 2

5.1.2 Environmental conditions

Indoor temperature $23^{\circ}\text{C}\pm 5^{\circ}\text{C}$; relative humidity $\leq 70\%$.

Shading measures shall be taken indoors to prevent interference from the sun, incandescent light sources and other light sources.

5.2 Verification items

See Table 8 for the verification items.

5.3.5 Shifting error

The test is performed between two different ranges of the Ultraviolet radiometer.

Ultraviolet radiometers with a single range do not perform this test.

5.3.6 Fatigue error

Install the detector and UV radiation source of the Ultraviolet radiometer on the measuring device (Figure 2). Adjust the light path according to the requirements for calibrating the Ultraviolet radiometer. Then cover the detector so that it is not exposed for 24 h.

5.5 Verification cycle

The verification cycle of UV radiation illuminance meter generally does not exceed one year.

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