

# DIN 19294-3:2020-08 (E)

## Devices for the disinfection of water using ultraviolet radiation - Part 3: Reference radiometers for devices equipped with UV low pressure lamps - Requirements and testing

---

<b>Contents</b>		<b>Page</b>
Foreword .....		3
<b>1</b>	<b>Scope .....</b>	<b>4</b>
<b>2</b>	<b>Normative references .....</b>	<b>4</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>4</b>
<b>4</b>	<b>Requirements for reference radiometers and testing .....</b>	<b>5</b>
4.1	General .....	5
4.2	Design of reference radiometers .....	5
4.3	Structural characteristics of the sensor of a reference radiometer .....	5
4.3.1	Requirements .....	5
4.3.2	Design .....	6
4.3.3	Testing .....	7
4.4	Measurement technology requirements for the reference radiometer and testing .....	8
4.4.1	Relative angular response .....	8
4.4.2	Selectivity -- Spectral sensitivity .....	10
4.4.3	Measuring range and indication accuracy .....	11
4.4.4	Linearity .....	11
4.4.5	Temperature sensitivity .....	13
4.4.6	Measurement uncertainty .....	14
4.5	Calibration of the sensitivity regarding the microbicidal irradiation .....	14
4.5.1	General .....	14
4.5.2	Source-based calibration .....	14
4.5.3	Detector-based method .....	15
4.6	Correction factors and measurement uncertainty analysis .....	16
<b>5</b>	<b>Testing and validity .....</b>	<b>19</b>
5.1	Data and materials required for testing .....	19
5.1.1	Reference radiometer .....	19
5.1.2	Indicator .....	19
5.1.3	Sensors .....	19
(normative)	Microbicidal action spectrum .....	20
Bibliography .....		22