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International Light Technologies, Inc.

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Germicidal

Use of ultraviolet for germicidal disinfection is a technology which can be applied to air, water and surfaces.

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Use of ultraviolet for germicidal disinfection is a technology which can be applied to air, water and surfaces. UV irradiation is an effective method of killing a broad range of microbes. In essence, the UV radiation breaks the molecular bonds in the organism's DNA. The most effective wavelength for accomplishing this is 263 nm. However, the readily available intense 254 nm output from low pressure Hg lamps is also very effective, as well as broader spectral output from medium pressure UV lamps.

IL offers a variety of germicidal radiometers for testing effective germicidal irradiance for many lamp types; including narrowband (line) 254 nm, effective germicidal measurements conforming to the IES luckiesh and DIN standards, and unfiltered systems specifically designed for testing low pressure mercury lamps where 95% of the output is at 254 nm. Many IL systems can be customized for use underwater. IL also offers a variety of input optics including right angle micro probes, PIN probes and a variety of fibre optics to allow sensing in small, remote and hard to reach locations.

Click links in "IL Product Options" column below for detailed specifications

Germicidal Measurement					
Application	Common Sources	IL Spectral Range	IL Product Options	IL Measurement Range	Units
EFFECTIVE GERMICIDAL RADIATION	Low pressure mercury	220-1050 nm	RPS900 SPECTRORADIOMETER	Customized spectrum	W/m ² /nm
	Xenon arc	249-259 nm,	IL1700, SED240/NS254/W	8.00e ⁻⁹ to 4.00e ⁻³	W/cm ²
	Xenon merc. arc	CW 254 nm	IL1400, SEL240/NS254/TD	2.08e ⁻⁶ to 2.08e ⁻²	W/cm ²
	High pressure merc.	249-259 nm,	IL1700, XRD140T254	6.67e ⁻⁹ to 6.67e ⁺⁰	W/cm ²

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	Mercury arc	CW 254 nm	IL1400, XRL140T254	3.33e-7 to 1.17e+0	W/cm ²
	Mercury tube	235-307 nm	IL1700, SED240/ACT5/W	5.00e-9 to 2.50e-3	eff W/cm ²
	UV source	235-307 nm	IL1400, SEL240/T2ACT5	1.49e-7 to 1.49e-3	eff W/cm ²
LOW PRESSURE MERCURY SOURCES ONLY	Low pressure only	214-360 nm	IL77 GERMICIDAL SYSTEM	1.00 to 199.99	mW/cm ²
	Low pressure only	185-310 nm	IL1700, SED240/W	1.00e-9 to 5.00e-4	W/cm ²
	Low pressure only	185-310 nm	IL1400, SEL240/QNDS2/TD	3.33e-5 to 3.33e-1	W/cm ²
	Low pressure only	185-310 nm	IL1700, SED240/QNDS2/W	6.67e-7 to 3.33e-1	W/cm ²
OZONE/GERMICIDAL		165-200 nm	IL1700, SED185/NS185	9.52e-7 to 4.76e-1	W/cm ²
		165-200 nm	IL1400, SEL185/NS185	4.76e-5 to 4.76e-1	W/cm ²
		165-200 nm	IL1700, SED220/NS185	5.00e-9 to 2.00e-3	W/cm ²
		165-200 nm	IL1400, SEL220/NS185	2.50e-7 to 2.50e-3	W/cm ²

* All Radiometers/Photometers/Spectroradiometers are NIST Traceable.
 * If units of measure are not shown please contact us (empirical units also available i.e. fc, fL, nits, lm/ft²).

E-mail: ilsales@intl-lighttech.com · Tel: 978-818-6180 · Fax: 978-818-6181

10 Technology Drive · Peabody, MA 01960

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