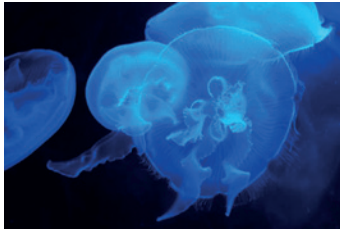


# Detector selection by application



# Detector selection by application

## Low light level measurement



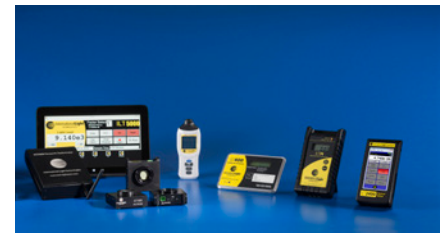
### Application: Low light

Chemical reactions, moonlight, phosphorescence, R&D, bioluminescence, reflectance, transmission, light blocking

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
250 - 600	W/cm <sup>2</sup>	10e <sup>-15</sup> – 1e <sup>-7</sup>	ILT-ILT5000	ILT-SPM068/QNDS3/W
320 - 600	W/cm <sup>2</sup> /sr	2e <sup>-13</sup> – 1e <sup>-6</sup>	ILT-ILT5000	ILT-SPM068/QNDS3/R
250 - 780	W/cm <sup>2</sup>	10e <sup>-15</sup> – 1e <sup>-7</sup>	ILT-ILT5000	ILT-SPM068-1/QNDS3/W
320 - 780	W/cm <sup>2</sup> /sr	2e <sup>-13</sup> – 1e <sup>-6</sup>	ILT-ILT5000	ILT-SPM068-1/QNDS3/R
380 - 680	fc	1e <sup>-8</sup> – 7e <sup>-3</sup>	ILT-ILT5000	ILT-SPM068-1/ZPM/W Scotopic
380 - 680	fL	4e <sup>-7</sup> – 0.2	ILT-ILT5000	ILT-SPM068-1/ZPM/R Scotopic

# Detector selection by application

## Plant photobiology



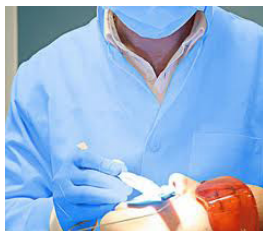
Application: Plant growth (PAR: Photosynthetically Active Radiation)

Common source: sun, solar simulators, plant growth lamps

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
410 - 770	$\mu\text{mol}/\text{m}^2/\text{sec}$	$2.00\text{e}^{-6} - 1.00\text{e}^{+3}$	ILT-ILT5000	ILT-SED033/PAR/W
410 - 770	$\mu\text{mol}/\text{m}^2/\text{sec}$	$6.00\text{e}^{-5} - 1.00\text{e}^{+3}$	ILT-ILT2400	ILT-SED033/PAR/W
410 - 770	$\mu\text{mol}/\text{sec}$	$1\text{e}^{-9} - 5\text{e}^{-1}$	ILT-ILT2400	ILT-SED033/PAR/INS125
370 - 515	$\text{W}/\text{cm}^2$	$1.40\text{e}^{-10} - 2.86\text{e}^{-1}$	ILT-ILT5000	ILT-SED033/TBLU/W
370 - 515	$\text{W}/\text{cm}^2$	$1.43\text{e}^{-8} - 5.00\text{e}^{-2}$	ILT-ILT2400	ILT-SED033/TBLU/W
610 - 730	$\text{W}/\text{cm}^2$	$5.90\text{e}^{-11} - 1.18\text{e}^{-1}$	ILT-ILT5000	ILT-SED033/TRED/W
610 - 730	$\text{W}/\text{cm}^2$	$5.88\text{e}^{-9} - 2.06\text{e}^{-2}$	ILT-ILT2400	ILT-SED033/TRED/W
710 - 810	$\text{W}/\text{cm}^2$	$7.70\text{e}^{-11} - 1.50\text{e}^{-1}$	ILT-ILT5000	ILT-SED033/TFRD/W
710 - 810	$\text{W}/\text{cm}^2$	$7.36\text{e}^{-9} - 2.58\text{e}^{-2}$	ILT-ILT2400	ILT-SED033/TFRD/W

# Detector selection by application

## Photodynamic therapy



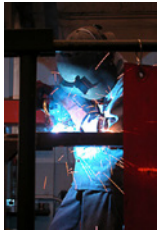
Application: Photodynamic therapy (maladies including cancers)

Common source: Lasers, LEDs, xenon lamps, halogen lamps, laser diodes

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
400 - 1064	W	$7.69e^{-13}$ - $1.50e^{-2}$	ILT-ILT5000	ILT-SED100/F/K15
400 - 1064	W	$4.00e^{-10}$ - $8.00e^{-3}$	ILT-ILT2400	ILT-SED100/F/K15
400 - 1000	W	$7.30e^{-9}$ - $7.30e^{+0}$	ILT-ILT5000	ILT-SED033/F/HNK15
400 - 1000	W	$2.00e^{-7}$ - $3.00e^{+0}$	ILT-ILT2400	ILT-SED033/F/HNK15
400 - 1064	W/cm <sup>2</sup>	$7.69e^{-11}$ - $1.54e^{-1}$	ILT-ILT5000	ILT-SED033/F/W
400 - 1064	W/cm <sup>2</sup>	$4.00e^{-9}$ - $7.00e^{-2}$	ILT-ILT2400	ILT-SED033/F/W
610 - 730	W/cm <sup>2</sup>	$5.90e^{-11}$ - $1.18e^{-1}$	ILT-ILT5000	ILT-SED033/TRED/W
610 - 730	W/cm <sup>2</sup>	$5.88e^{-9}$ - $2.06e^{-2}$	ILT-ILT2400	ILT-SED033/TRED/W
710 - 810	W/cm <sup>2</sup>	$7.70e^{-11}$ - $1.50e^{-1}$	ILT-ILT5000	ILT-SED033/TFRD/W
710 - 810	W/cm <sup>2</sup>	$7.36e^{-9}$ - $2.58e^{-2}$	ILT-ILT2400	ILT-SED033/TFRD/W

# Detector selection by application

## Optical radiation hazard



Application: Unprotected skin and eye hazard, extreme sensitivity to any light source  
Common source: Manufacturing, welding, office light, office copier, solar simulator, UV light emitters

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
235 - 307*	eff W/m <sup>2</sup>	3.0e <sup>-9</sup> - 2.5e <sup>-3</sup>	<b>ILT-ILT5000</b>	<b>ILT-SED240/ACT5/W</b>
180 - 400*	eff W/cm <sup>2</sup>	8.0e <sup>-8</sup> - 1.0e <sup>-3</sup>	<b>ILT-ILT2400</b>	<b>ILT-SED240/T2ACT5</b> (also measure germicidal light)

Application: Eye cornea conjunctiva, lens skin photokeratitis, conjunctivitis, cataractogenesis, erythema, elastosis, skin cancer

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
250 - 400*	W/cm <sup>2</sup>	2.3e <sup>-8</sup> - 2.3	<b>ILT-ILT5000</b>	<b>ILT-SED005/WBS320/W</b>
250 - 400*	W/cm <sup>2</sup>	1.0e <sup>-7</sup> - 1.0	<b>ILT-ILT2400</b>	<b>ILT-SED005/WBS320/TD</b>

Application: Eye lens, cataractogenesis

Common source: Broadband UV source, UVA lamps, UV curing lamps, UV LEDs

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
315 - 390*	W/cm <sup>2</sup>	2.0e <sup>-10</sup> - 0.1	<b>ILT-ILT5000</b>	<b>ILT-SED033/UVA/W</b>
315 - 390*	W/cm <sup>2</sup>	2.0e <sup>-8</sup> - 0.2	<b>ILT-ILT2400</b>	<b>ILT-SED033/UVA/TD</b>

Application: "Blue eye" hazard, retinal photochemical protection, cataract hazard

Common source: LED's solar light, high powered VIS, manufacturing, lasers, welding

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
410 - 510*	W/cm <sup>2</sup>	4.0e <sup>-10</sup> - 0.3	<b>ILT-ILT5000</b>	<b>ILT-SED033/SCS395/TBLU/TD</b>
<b>Eye lens, cataractogenesis</b>				
410 - 510*	W/cm <sup>2</sup> /sr	7.4e <sup>-10</sup> - 0.741 <sup>1</sup>	<b>ILT-ILT5000</b>	<b>ILT-SED033/SCS395/TBLU/R</b>
305 - 700*	W/cm <sup>2</sup>	2.0e <sup>-8</sup> - 0.3	<b>ILT-ILT2400</b>	<b>ILT-SED033/SCS395/TBLU/TD</b>
305 - 700*	W/cm <sup>2</sup> /sr	5.6 - 5.6	<b>ILT-ILT2400</b>	<b>ILT-SED033/SCS395/TBLU/R</b>
400 - 700*	W/cm <sup>2</sup>	2.0e <sup>-10</sup> - 0.1 <sup>-1</sup>	<b>ILT-ILT5000</b>	<b>ILT-SED033/F/HMR/W</b>
400 - 700*	W/cm <sup>2</sup>	2.7e <sup>-9</sup> - 0.1	<b>ILT-ILT2400</b>	<b>ILT-SED033/F/HMR/W</b>

Application: EML equivalent Melanopic

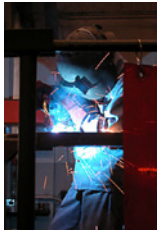
LED based lamps, signs, TVs, displays

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
400-600 nm	Lux	5.0e <sup>-9</sup> - 0.09	<b>ILT-ILT2400</b>	<b>ILT-SED033/EML/TD</b>

\*EU directive 2006/25/EC

# Detector selection by application

## Optical radiation hazard



### Application: IR-A, Near IR, retinal protection protocol

Common source: IR heat sources, manufacturing, lasers

Spectral range [nm]	Units	Measurement range	Radiometer	Detector
800 - 1400*	W/cm <sup>2</sup>	4.0e <sup>-11</sup> - 0.03	<b>ILT-ILT5000</b>	<b>ILT-SED007/W</b>
800 - 1400*	W/cm <sup>2</sup>	2.0e <sup>-9</sup> - 0.03	<b>ILT-ILT2400</b>	<b>ILT-SED007/W</b>

### Application: IR hazard, cornea thermal injury

Common source: IR heat sources, manufacturing, lasers

Spectral range [nm]	Units	Measurement range	Radiometer	Detector
700 - 2100*	W/cm <sup>2</sup>	9.0e <sup>-5</sup> - 0.4	<b>ILT-ILT5000</b>	<b>ILT-SED623/SCS695/W**</b>
700 - 2100*	W/cm <sup>2</sup>	9.0e <sup>-5</sup> - 0.4	<b>ILT-ILT2400</b>	<b>ILT-SED623/SCS695/W**</b>

\*\*Note: SCS780 filter can be substituted for SCS695 to obtain cutoff of 780 nm

### Application: Visible, IR-A and IR-B bands, Skin, burn

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
380 - 3000*	W/cm <sup>2</sup>	9.0e <sup>-5</sup> - 0.4	<b>ILT-ILT5000</b>	<b>ILT-SED623/SCS395/W</b>
380 - 3000*	W/cm <sup>2</sup>	9.0e <sup>-5</sup> - 0.4	<b>ILT-ILT2400</b>	<b>ILT-SED623/SCS395/W</b>

\*EU directive 2006/25/EC

# Detector selection by application

## Germicidal (UV-disinfection)



### Application: Dual germicidal light and optical radiation hazard measurement

Common source: Mercury arc, tube, UV, xenon arc, mercury lamps

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
249 - 259	W/cm <sup>2</sup>	4.0e <sup>-9</sup> - 3.0e <sup>+0</sup>	ILT-ILT5000	ILT-XRD140T254
249 - 259	W/cm <sup>2</sup>	2.0e <sup>-7</sup> - 2.0e <sup>+0</sup>	ILT-ILT2400	ILT-XRD140T254
235 - 307	eff W/cm <sup>2</sup>	3.0e <sup>-9</sup> - 2.5e <sup>-3</sup>	ILT-ILT5000	ILT-SED240/ACT5/W
235 - 307	eff W/cm <sup>2</sup>	8.0e <sup>-8</sup> - 1.0e <sup>-3</sup>	ILT-ILT2400	ILT-SED240/ACT5/W
254	W/cm <sup>2</sup>	8.0e <sup>-9</sup> - 4.0e <sup>-3</sup>	ILT-ILT1700	ILT-SED240/NS254/W
254	W/cm <sup>2</sup>	2.0e <sup>-6</sup> - 2.0e <sup>-2</sup>	ILT-ILT2400	ILT-SED240/NS254/TD

### Application: Effective germicidal radiation measurement

Common source: only low pressure mercury lamps

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
185 - 320	W/cm <sup>2</sup>	1.0e <sup>-9</sup> - 5.0e <sup>-4</sup>	ILT-ILT5000	ILT-SED240/W
185 - 320	W/cm <sup>2</sup>	2.0e <sup>-5</sup> - 0.3	ILT-ILT2400	ILT-SED240/QNDS2/TD
185 - 320	W/cm <sup>2</sup>	6.7e <sup>-6</sup> - 0.33	ILT-ILT5000	ILT-SED240/QNDS2/W

### Application: Ozone / Germicidal

Common source: low intensity, ozone-producing lamps

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
165 - 200	W/cm <sup>2</sup>	4.7e <sup>-7</sup> - 4.7e <sup>-1</sup>	ILT-ILT5000	ILT-SED185/NS185
165 - 200	W/cm <sup>2</sup>	2.0e <sup>-5</sup> - 0.3	ILT-ILT2400	ILT-SED185/NS185
165 - 200	W/cm <sup>2</sup>	5.0e <sup>-9</sup> - 2.0e <sup>-3</sup>	ILT-ILT2400	ILT-SED220/NS185

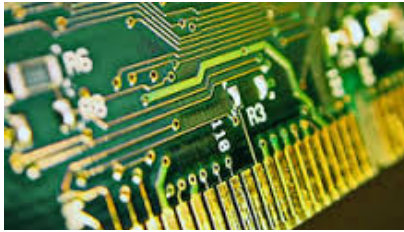
### Application: Air and water sterilization

Common source: LEDs

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
365	W/cm <sup>2</sup>	2.0e <sup>-6</sup> - 1	ILT-ILT2400	SED005/NS365/W
365	W/cm <sup>2</sup>	2.0e <sup>-6</sup> - 1	ILT-ILT1005/NS365/W	

# Detector selection by application

## UV-Curing



### Application: Broadband UV

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
250 - 400	W/cm <sup>2</sup>	2.3e <sup>-8</sup> - 2.3	<b>ILT-ILT5000</b>	<b>ILT-SED005/WBS320/W</b>
250 - 400	W/cm <sup>2</sup>	1.0e <sup>-7</sup> - 1.0	<b>ILT-ILT2400</b>	<b>ILT-SED005/WBS320/TD</b>

### Application: Narrowband 335

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
330 - 340	W/cm <sup>2</sup>	5.0e <sup>-9</sup> - 5	<b>ILT-ILT5000</b>	<b>ILT-SED005/NS335/W</b>
330 - 340	W/cm <sup>2</sup>	5e <sup>-7</sup> - 5	<b>ILT-ILT2400</b>	<b>ILT-SED005/NS335/W</b>

### Application: Xenon flash

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
326 - 401	W/cm <sup>2</sup> & J/cm <sup>2</sup>	3.0e <sup>-8</sup> - 20	<b>ILT-ILT5000</b>	<b>ILT-SED033/B/QNDS2/W</b>

### Application: Low profile high UV

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
250 - 400	W/cm <sup>2</sup>	5.0e <sup>-7</sup> - 100	<b>ILT-ILT5000</b>	<b>ILT-SED005/WBS320/RAMP</b>
250 - 400	W/cm <sup>2</sup>	5.0e <sup>-6</sup> - 10	<b>ILT-ILT2400</b>	<b>ILT-SED005/WBS320/RAMP</b>

### Application: Low profile low UV

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
250 - 400	W/cm <sup>2</sup>	2.2e <sup>-7</sup> - 0.9	<b>ILT-ILT5000</b>	<b>ILT-SSD001</b>
250 - 400	W/cm <sup>2</sup>	6.0e <sup>-6</sup> - 0.9	<b>ILT-ILT2400</b>	<b>ILT-SSD001</b>

### Application: Dental curing

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
370 - 515	W/cm <sup>2</sup>	1.3e <sup>-7</sup> - 13 <sup>1</sup>	<b>ILT-ILT5000</b>	<b>ILT-SED033/TBLU/T1MM</b>



# Detector selection by application

## Laser power measurement



### Application: Laser light measurement

Nd:YAG, HeNe, laser diodes, CW laser

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
215 - 355	W	$2.00e^{-7}$ - $3.33e^{-2}$	ILT-ILT5000	ILT-SED270/HNK15
215 - 355	W	$6.00e^{-6}$ - $3.33e^{-2}$	ILT-ILT2400	ILT-SED270/HNK15
250 - 675	W	$4.15e^{-5}$ - $2.00e^{+2}$	ILT-ILT5000	ILT-SED005/QNDS3/HNK15
250 - 675	W	$2.00e^{-3}$ - $2.00e^{+2}$	ILT-ILT2400	ILT-SED005/QNDS3/HNK15
400 - 1064	W	$1.82e^{-10}$ - $1.82e^{-1}$	ILT-ILT5000	ILT-SED100/F/K15
400 - 1064	W	$4.00e^{-10}$ - $8.00e^{-3}$	ILT-ILT2400	ILT-SED100/F/K15
400 - 1064	W	$1.22e^{-5}$ - $2.00e^{+2}$	ILT-ILT5000	ILT-SED033/F/QNDS3/HNK15
400 - 1064	W	$4.00e^{-4}$ - $2.00e^{+2}$	ILT-ILT2400	ILT-SED033/F/QNDS3/HNK15
200 - 2100	W	$4.39e^{-3}$ - $4.88e^{+1}$	ILT-ILT5000	ILT-SED623/HNK15
200 - 2100	W	$4.00e^{-3}$ - 10	ILT-ILT2400	ILT-SED623/HNK15

### Application: Laser light safety, audience scanning, LIP's testing, optical hazard, eye safety

Nd:YAG, HeNe, laser diodes, CW laser

Audience scanning laser systems

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
400-1000 nm	W/cm <sup>2</sup>	$7e^{-11}$ - 0.05	ILT-ILT5000	SED033/F/A313-7MM
400-1000 nm	W/cm <sup>2</sup>	$4e^{-9}$ - 0.05	ILT-ILT2500	SED033/F/A313-7MM
400-1000 nm	W/cm <sup>2</sup>	$4e^{-9}$ - 0.05	ILT-ILT2400	SED033/F/A313-7MM
400-1000 nm	W/cm <sup>2</sup>	$4e^{-9}$ - 0.05	ILT1000/F/A313-7MM	

# Detector selection by application

## Photometry



Application: Illuminance

Common source: office/home lights, lamp manufacturer, LED's, fluorescents, halogen

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
400 - 700	lux	$8.34e^{-5} - 1.67e^{+6}$	ILT-ILT5000	ILT-SED033/Y/W
400 - 700	lux	$3.00e^{-2} - 5.00e^{+5}$	ILT-ILT2400*	ILT-SED033/Y/W
400 - 700	lux	$9.00e^{-2} - 1.00e^{+6}$	ILT-ILT2400*	ILT-SCD110

Application: Luminance

Common source: displays, LED's, signs

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
400 - 700	cd/m <sup>2</sup>	$6.00e^{-3} - 1.00e^{+7}$	ILT-ILT5000	ILT-SED033/Y2/R
400 - 700	cd/m <sup>2</sup>	$3.00e^{-1} - 5.00e^{+6}$	ILT-ILT2400	ILT-SEL033/Y2/R
400 - 700	cd/m <sup>2</sup>	$6.67e^{-3} - 1.33e^{+7}$	ILT-ILT5000	ILT-SPD025Y
400 - 700	cd/m <sup>2</sup>	$4.00e^{-1} - 6.00e^{+6}$	ILT-ILT2400	ILT-SPD025Y
400 - 700	cd/m <sup>2</sup>	$5.00e^{-1} - 2.5$	ILT-ILT5000	ILT-SED033/Y/PIN4
400 - 700	cd/m <sup>2</sup>	$2.00e^{+1} - 2.50 e^{+7}$	ILT-ILT2400	ILT-SED033/Y/PIN4

Application: Flash photometry; luminous intensity, beam candela

Common source: warning lights, runway lights

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
400 - 700	lux	$7.00e^{-6} - 3.0e^{+3}$	ILT-ILT5000	ILT-SED033/Y/L30 (>25'/7.62 m) Flash/steady
400 - 700	lux	$3.00e^{-4} - 3.0e^{+3}$	ILT-ILT2500	ILT-SED033/Y/L30 (>25'/7.62 m) Flash/steady
400 - 700	lux	$3.00e^{-4} - 3.0e^{+3}$	ILT-ILT2400	ILT-SED033/Y/L30 (>25'/7.62 m) Flash/steady
400 - 700	lux	$2.00e^{-4} - 9.0e^{+4}$	ILT-ILT5000	ILT-SED033/Y/H (<25'/7.62 m) Flash/steady
400 - 700	lux	$9.00e^{-3} - 9.0e^{+4}$	ILT-ILT2500	ILT-SED033/Y/H (<25'/7.62 m) Flash/steady
400 - 700	lux	$9.00e^{-3} - 9.0e^{+4}$	ILT-ILT2400	ILT-SED033/Y/H (<25'/7.62 m) Flash/steady

Application: Scotopic luminance/illuminance

Common source: signs, displays, LED's

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
400 - 700	lux	$2.00e^{-3} - 1.0e^{+6}$	ILT-ILT5000	ILT-SED033/ZCIE/W
400 - 700	lux	$9.00e^{-2} - 1.0e^{+6}$	ILT-ILT2400	ILT-SED033/ZCIE/W
400 - 700	cd/m <sup>2</sup>	$3.00e^{-2} - 2.0e^{+7}$	ILT-ILT5000	ILT-SED033/ZCIE/R
400 - 700	cd/m <sup>2</sup>	$3.0e^{-1} - 2.0e^{+6}$	ILT-ILT2400	ILT-SED033/ZCIE/R

# Detector selection by application

## Photostability



Application: Photodegradation  
Common source: photostability, chambers

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
315 - 390	W/cm <sup>2</sup>	7e <sup>-9</sup> - 0.1	ILT-ILT2400	ILT-SED033/UVA/TD
Light source				
400 - 700	lux	0.024 - 2.4 <sup>+6</sup>	ILT-ILT5000	ILT-SED033/Y/TD
Solar Simulator				
400 - 700	lux	3.00e <sup>-2</sup> - 5.00e <sup>+5</sup>	ILT-ILT2400	ILT-SED033/Y/TD

Application: Photostability  
Common source: UVA and visible (white) light test system

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
315 - 390	W/m <sup>2</sup> (UVA)	2.22e <sup>-6</sup> - 4.44e <sup>+3</sup>	ILT-ILT5000	ILT-SED033/UVA/TD
& 400 - 700	lux (VIS)	2.43e <sup>-2</sup> - 2.43e <sup>+6</sup>		ILT-SED033/Y/TD
315 - 390	W/m <sup>2</sup> (UVA)	2.00e <sup>-3</sup> - 1.00e <sup>+3</sup>	ILT-ILT1000/UVA/W & ILT-ILT1000/Y/W	
& 400 - 700	lux (VIS)	& 9.00e <sup>-1</sup> - 7.00e <sup>+5</sup>		

# Detector selection by application

## LED Test and measurement systems



Application: LED Measurement

Common sources: UV VIS IR LED's, medical devices, indicator lights, fiber optics, remote controls

Spectral range [nm]	Units	Measurement range	Radiometer	Detector
185 - 310	W	$6.00e^{-8}$ - $5.00e^{-2}$	ILT-ILT5000	ILT-SED240/INS250N
185 - 310	W	$2.50e^{-6}$ - $5.00e^{-2}$	ILT-ILT2400	ILT-SED240/INS250N
400 - 700	cd	$3.00e^{-6}$ - $4.00e^{+3}$	ILT-ILT5000	ILT-SED033/Y/LED
400 - 700	cd	$2.13e^{-4}$ - $7.45e^{+2}$	ILT-ILT2400	ILT-SED033/Y/LED
400 - 700	lm	$5.00e^{-6}$ - $8.00e^{+3}$	ILT-ILT5000	ILT-SED240/Y/INS250N
400 - 700	lm	$2.50e^{-4}$ - $8.70e^{-2}$	ILT-ILT2400	ILT-SED240/Y/INS125

Application: LED Measurement

Common sources: thermal management, architectural lighting

Spectral range [nm]	Units	Measurement range	Radiometer	Detector
400 - 1064	W/sr	$3.50e^{-9}$ - $3.00e^{+0}$	ILT-ILT5000	ILT-SED033/F/LED
400 - 1064	W/sr	$2.00e^{-7}$ - $3.00e^{+0}$	ILT-ILT2400	ILT-SED033/F/LED
400 - 1064	W	$3.50e^{-9}$ - $6.60e^{+0}$	ILT-ILT5000	ILT-SED033/F/INS250N
400 - 1064	W	$3.30e^{-7}$ - 4.0	ILT-ILT2400	ILT-SED033/F/INS125

Application: LED Measurement

Common sources: automobiles, blimp display

Spectral range [nm]	Units	Measurement range	Radiometer	Detector
400 - 700	cd/m <sup>2</sup>	$6.00e^{-3}$ - $1.00e^{+7}$	ILT-ILT5000	ILT-SED033/Y2/R
400 - 700	cd/m <sup>2</sup>	$3.00e^{-1}$ - $5.00e^{+6}$	ILT-ILT2400	ILT-SED033/Y2/R
400 - 1064	W/cm <sup>2</sup> /sr	$3.00e^{-9}$ - $2.00e^{+0}$	ILT-ILT5000	ILT-SED033/F/R
400 - 1064	W/cm <sup>2</sup> /sr	$6.00e^{-8}$ - $1.00e^{+0}$	ILT-ILT2400	ILT-SED033/F/R

\*The ILT-ILT2400 can be replaced by the new ILT-ILT1000. More information on request.

# Detector selection by application

## Solar radiation measurement



Application: Sun and solar simulator

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
200 - 1100	W/cm <sup>2</sup>	1.00e <sup>-8</sup> - 1.00e <sup>+1</sup>	<b>ILT-ILT5000</b>	<b>ILT-SED033/QNDS2/W</b>
200 - 1100	W/cm <sup>2</sup>	6.00e <sup>-7</sup> - 1.00e <sup>+1</sup>	<b>ILT-ILT2400</b>	<b>ILT-SED033/QNDS2/W</b>
200 - 2100	W/cm <sup>2</sup>	6.92e <sup>-4</sup> - 7.69e <sup>+0</sup>	<b>ILT-ILT5000</b>	<b>ILT-SED623/QNDS1/W</b>
200 - 2100	W/cm <sup>2</sup>	7.00e <sup>-4</sup> - 3.00e <sup>+0</sup>	<b>ILT-ILT2400</b>	<b>ILT-SED623/QNDS1/W</b>

Application: UVB

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
265 - 310	W/cm <sup>2</sup>	5e <sup>-9</sup> - 1	<b>ILT-ILT5000</b>	<b>ILT-SED270/UVB-Z/TD</b>
265 - 310	W/cm <sup>2</sup>	3.0e <sup>-7</sup> - 1	<b>ILT-ILT2400</b>	<b>ILT-SED270/UVB-Z/TD</b>

Application: UVA

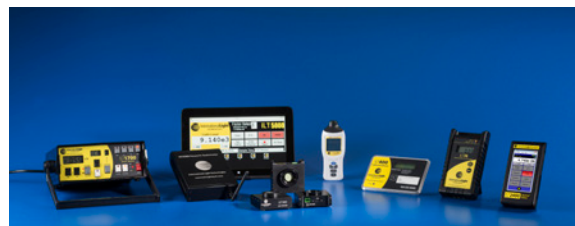
Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
315 - 390	W/cm <sup>2</sup>	3.0e <sup>-9</sup> - 2	<b>ILT-ILT5000</b>	<b>ILT-SED005/UVA/TD</b>
315 - 390	W/cm <sup>2</sup>	1.0e <sup>-7</sup> - 2	<b>ILT-ILT2400</b>	<b>ILT-SED005/UVA/TD</b>

Application: Visible

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
400 - 700	lux	1.20e <sup>-2</sup> - 1.20e <sup>+6</sup>	<b>ILT-ILT5000</b>	<b>ILT-SED033/Y/TD</b>
400 - 700	lux	9.00e <sup>-2</sup> - 1.00e <sup>+6</sup>	<b>ILT-ILT2400</b>	<b>ILT-SCD110</b>

# Detector selection by application

## Radiometry



### Application: Radiometry

Common source: all sources of light, lamps, flames, chemical reactions

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
400 - 1064	W/cm <sup>2</sup>	7.69e <sup>-11</sup> - 1.54e <sup>-1</sup>	ILT-ILT5000	ILT-SED033/F/W
400 - 1064	W/cm <sup>2</sup>	2.00e <sup>-10</sup> - 0.15	ILT-ILT2500	ILT-SED033/F/W
400 - 1064	W/cm <sup>2</sup>	4.00e <sup>-9</sup> - 7.00e <sup>-2</sup>	ILT-ILT2400	ILT-SED033/F/W
400 - 1064	W/cm <sup>2</sup>	8.00e <sup>-8</sup> - 7.00e <sup>-2</sup>	ILT-ILT1000/F/W Flat Response Irradiance Monitor	
400 - 700	W/cm <sup>2</sup>	2.00e <sup>-10</sup> - 1.00e <sup>-1</sup>	ILT-ILT5000	ILT-SED033/F/HMR/W
400 - 700	W/cm <sup>2</sup>	2.7e <sup>-8</sup> - 1.00e <sup>-1</sup>	ILT-ILT2400	ILT-SED033/F/HMR/W
250 - 400	W/cm <sup>2</sup>	2.33e <sup>-8</sup> - 2.33e <sup>+0</sup>	ILT-ILT5000	ILT-SED005/WBS320/W
250 - 400	W/cm <sup>2</sup>	1.e <sup>-7</sup> - 1	ILT-ILT2500	ILT-SED005/WBS320/W
250 - 400	W/cm <sup>2</sup>	1.00e <sup>-7</sup> - 1.00e <sup>-1</sup>	ILT-ILT2400	ILT-SED005/WBS320/TD
250 - 400	W/cm <sup>2</sup>	2.00e <sup>-6</sup> - 1.00e <sup>+0</sup>	ILT-ILT1005/WBS320/W UV Irradiance Monitor	
850 - 1700	W/cm <sup>2</sup>	4.00e <sup>-11</sup> - 3.00e <sup>-2</sup>	ILT-ILT5000	ILT-SED007/W
850 - 1700	W/cm <sup>2</sup>	2.00e <sup>-9</sup> - 3.00e <sup>-2</sup>	ILT-ILT2400	ILT-SED007/W
850 - 1700	W/cm <sup>2</sup>	4.00e <sup>-8</sup> - 3.00e <sup>-2</sup>	ILT-ILT1007/W NIR Irradiance Monitor	
200 - 4200	W/cm <sup>2</sup>	2.00e <sup>-5</sup> - 1.00e <sup>-1</sup>	ILT-ILT5000	ILT-SED623/K9
200 - 4200	W/cm <sup>2</sup>	2.00e <sup>-5</sup> - 1.00e <sup>-1</sup>	ILT-ILT2400	ILT-SED623/K9
200 - 40.000	W/cm <sup>2</sup>	2.00e <sup>-5</sup> - 1.00e <sup>-1</sup>	ILT-ILT5000	ILT-SED624/K9
200 - 40.000	W/cm <sup>2</sup>	2.00e <sup>-5</sup> - 1.00e <sup>-1</sup>	ILT-ILT2400	ILT-SED624/K9

### Application: High gain, very low light levels

Common source: Photon counting, chemical reactions, phosphorescence

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
250 - 600	W/cm <sup>2</sup>	1.05e <sup>-12</sup> - 1.05e <sup>-5</sup>	ILT-ILT5000	ILT-SPM068/QNDS3/W
250 - 600	W/cm <sup>2</sup> /sr	1.37e <sup>-11</sup> - 1.37e <sup>-4</sup>	ILT-ILT5000	ILT-SPM068/QNDS3/R

# Detector selection by application

## Phototherapy



Application: UVA measurements, eczema, vitiglio, psoriasis light treatment

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
315 - 390 nm	W/cm <sup>2</sup>	2.00e <sup>-10</sup> - 1.00e <sup>-1</sup>	<b>ILT-ILT5000</b>	<b>ILT-SED033/UVA/W</b>
315 - 390 nm	W/cm <sup>2</sup>	2.0e <sup>-8</sup> - 2.00e <sup>-1</sup>	<b>ILT-ILT2400</b>	<b>ILT-SED033/UVA/W</b>

Applications: UVB measurements, eczema, vitiglio, psoriasis light treatment

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
265 - 332	W/cm <sup>2</sup>	3.0e <sup>-7</sup> - 0.1	<b>ILT-ILT5000</b>	<b>ILT-SED240/UVB-2/W</b>
265 - 332	W/cm <sup>2</sup>	6e <sup>-6</sup> - 1.00e <sup>-1</sup>	<b>ILT-ILT2400</b>	<b>ILT-SED240/UVB-2/TD</b>
280 - 315	W/cm <sup>2</sup>	5e <sup>-9</sup> - 1	<b>ILT-ILT5000</b>	<b>ILT-SED270/UVB-2/TD</b>
280 - 315	W/cm <sup>2</sup>	3.0 - 1	<b>ILT-ILT2400</b>	<b>ILT-SED270/UVB-2/TD</b>

Applications: Narrow UVB source, Philips UVB lamp

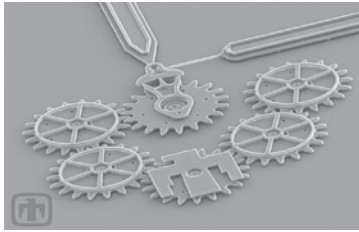
Spectral range [nm CW]	Units	Dynamic range	Radiometer	Detector
312	W/cm <sup>2</sup>	2.00e <sup>-8</sup> - 20	<b>ILT-ILT5000</b>	<b>ILT-SED005/TLS312/W</b>
312	W/cm <sup>2</sup>	2.00e <sup>-6</sup> - 20	<b>ILT-ILT2400</b>	<b>ILT-SED005/TLS312/TD</b>

Applications: Bili blankets, bili belts, bili light sources, bilirubin light source, jaundice treatment, Hyperbilirubinemia

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
370 - 515	W/cm <sup>2</sup>	1.40e <sup>-10</sup> - 2.86e <sup>-1</sup>	<b>ILT-ILT5000</b>	<b>ILT-SED033/TBLU/W</b>
370 - 515	W/cm <sup>2</sup>	1.43e <sup>-8</sup> - 5.00e <sup>-2</sup>	<b>ILT-ILT2400</b>	<b>ILT-SED033/TBLU/W</b>

# Detector selection by application

## Photoresist



### Application: Photoresist

Common source: PC board-exposure systems, UVA sources, UV-VIS sources

Spectral range [nm]	Units	Dynamic range	Radiometer	Detector
320 - 475	W/cm <sup>2</sup>	2.00e <sup>-9</sup> - 2.00e <sup>+0</sup>	<b>ILT-ILT5000</b>	<b>ILT-SED033/A/W</b>
320 - 475	W/cm <sup>2</sup>	2.00e <sup>-7</sup> - 2.00e <sup>0</sup>	<b>ILT-ILT2400</b>	<b>ILT-SED033/A/W</b>
320 - 475	W/cm <sup>2</sup>	4e <sup>-8</sup> - 0.7	<b>ILT-ILT2400</b>	<b>ILT-XSD140A</b>
320 - 475	W/cm <sup>2</sup>	2.0e <sup>-7</sup> - 2.0	<b>ILT-ILT1000/A/W</b>	
320 - 475	W/cm <sup>2</sup>	8.0e <sup>-7</sup> - 10	<b>ILT-ILT2400</b>	<b>ILT-XSD340A</b>
326 - 401	W/cm <sup>2</sup>	3.0e <sup>-10</sup> - 0.2	<b>ILT-ILT5000</b>	<b>ILT-SED033/B/W</b>
326 - 401	W/cm <sup>2</sup>	2.0e <sup>-8</sup> - 0.2	<b>ILT-ILT2400</b>	<b>ILT-SED033/B/W</b>
326 - 401	W/cm <sup>2</sup>	2.0e <sup>-7</sup> - 2.0	<b>ILT-ILT1000/B/W</b>	
326 - 401	W/cm <sup>2</sup>	7.0e <sup>-8</sup> - 1.0	<b>ILT-ILT2400</b>	<b>ILT-XSD140B</b>
326 - 401	W/cm <sup>2</sup>	2.0e <sup>-6</sup> - 30	<b>ILT-ILT2400</b>	<b>ILT-XSD340B</b>
260 - 400	W/cm <sup>2</sup>	6.00e <sup>-6</sup> - 9.00e <sup>-01</sup>	<b>ILT-ILT2400</b>	<b>ILT-SSD001</b>

### SUD detectors for underwater light measurements

Most of the SED series detectors (for ILT2400 and ILT5000) are available in underwater SUD versions.

Every underwater detector is pressure tested to 40 meters depth (60 psi). The 'WU' quartz diffuser is required to withstand the pressures of underwater use. Filters are optional, with O-ring seals between all filter rings.

SUD detectors come with a 3, 5 or 30 m long, water-blocked cable. The anodized aluminum components provide excellent corrosion resistance to salt water for all weather durability.

