



## USPOT & USPOT-WINDOW

**Very Powerful UV LED curing spotlight**

**Full UV LED range available: UVC, UVB and UVA**

**Long lifetime & few maintenances thanks to LED technology**

**Easy-to-use with a PLC thanks to integrated smart electronics.**



<b>Electronics</b>	Power supply	24 VDC $\pm$ 10% (maximal power consumption: 36W)
	Connector	M12 – 5pins male for power and signals
	Illumination mode	Continuous with a direct DIM signal [0-24V]
<b>Optics</b>	Wavelength	UVC: 255, 265, 275 nm UVB: 295, 305, 325, 340 nm UVA: 365, 385, 395, 405 nm VIS: 450, 465 nm (Blue), 525nm (Green), 625nm (Red), others on request.
	Irradiance	Up to 6000 mW/cm <sup>2</sup> in the UVA range Up to 300 mW/cm <sup>2</sup> in UVC & UVB range
<b>Mechanics</b>	Width x Height x Length	65mm x 65mm x 171mm (x 134mm for the WINDOW version)
	Weight	850 g
	Material	Device body: Aluminum alloy
	IP rating	IP40
<b>Environment</b>	Operation	Temperature: 10°C to 35°C – Humidity: 20% to 80% humidity (with no condensation) – Altitude: Up to 2000m
	Regulations & marking	CE - UKCA - FCC - ICES-3/NMB-3
	Environmental standards	RoHS III Directives - REACH Regulation - WEEE Regulation



Product reference

Standard USPOT version with optical system:

**USPOT - XXX**

WAVELENGTH (nm)

- UVA: 365, 385, 395, 405
- BLUE: 450, 465
- GREEN: 525
- RED: 625



WINDOW version without optical system:

**USPOT - XXX - WINDOW**

WAVELENGTH (nm)

- UVC: 255, 265, 275
- UVB: 295, 305, 315, 325
- UVA: 365, 385, 395, 405
- BLUE: 450, 465
- GREEN: 525
- RED: 625



WINDOW version available into a complete KIT for manual use:

**KIT - USPOT - XXX - WINDOW**

WAVELENGTH (nm)

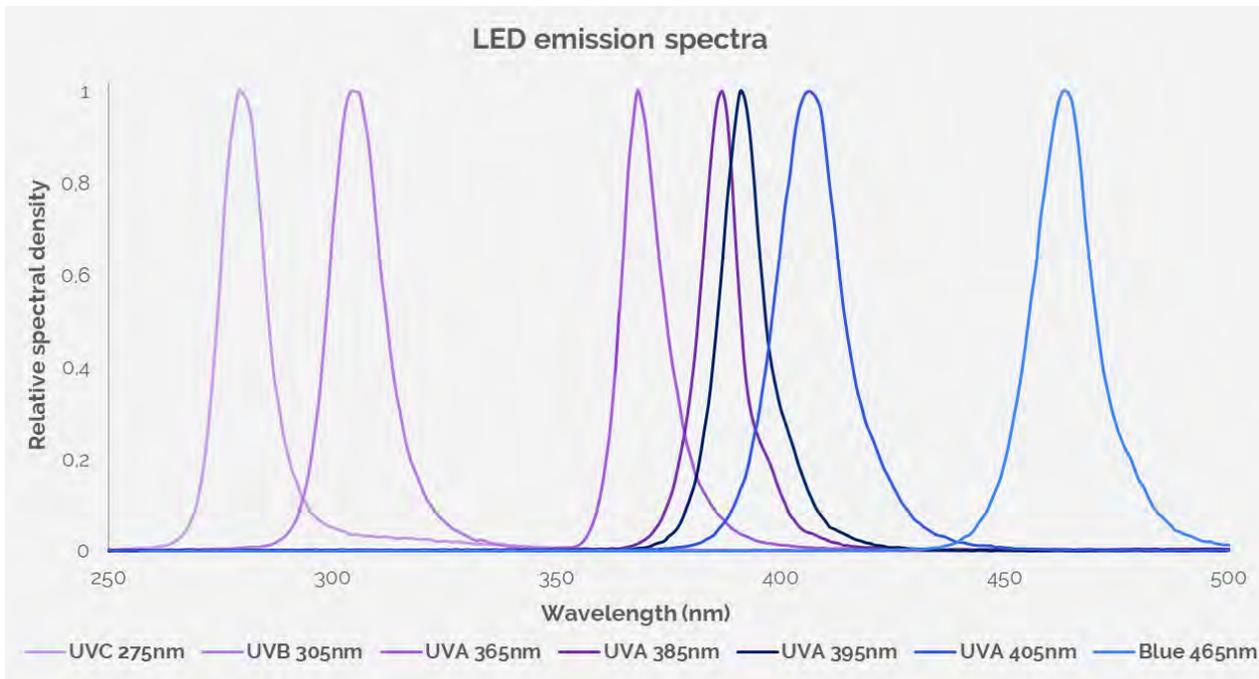
- UVC: 255, 265, 275
- UVB: 295, 305, 315, 325
- UVA: 365, 385, 395, 405
- BLUE: 450, 465
- GREEN: 525
- RED: 625





Optical considerations

LED spectra



 For other wavelengths (UVC / UVB / UVA / VISIBLE / IR), feel free to ask us!

Optical versions available

Thanks to UWAVE expertise and know-how in UV LED lighting manufacturing, there are two optical versions available: USPOT or USPOT-WINDOW.



**USPOT**

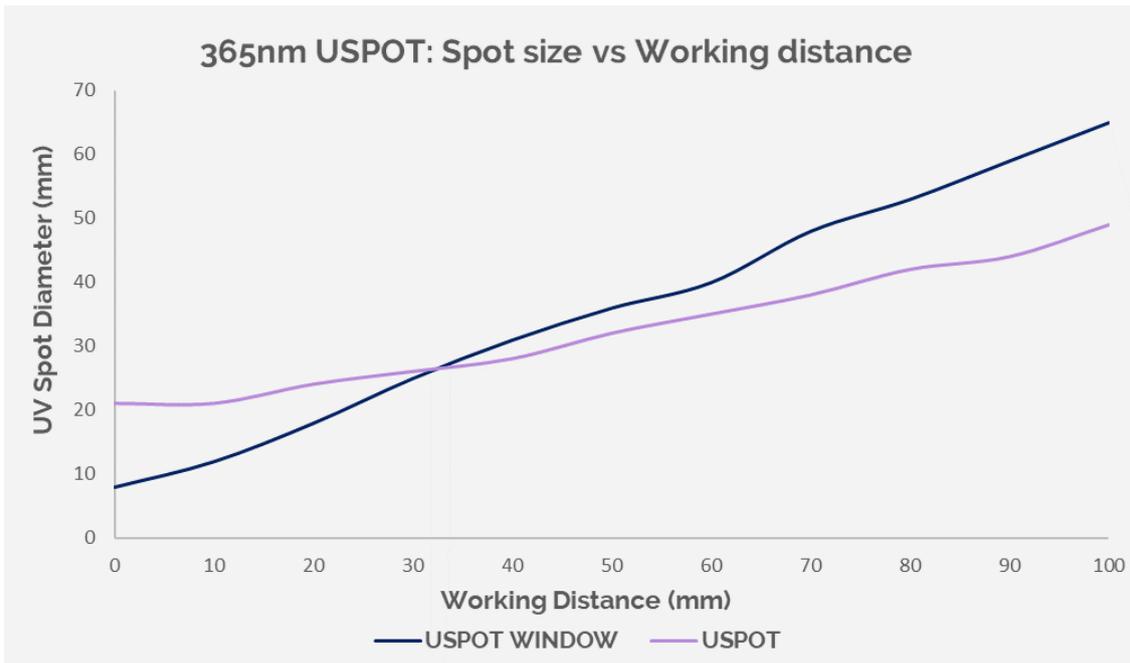
Features an integrated optical system to keep a concentrated and powerful UV light on a long working distance.



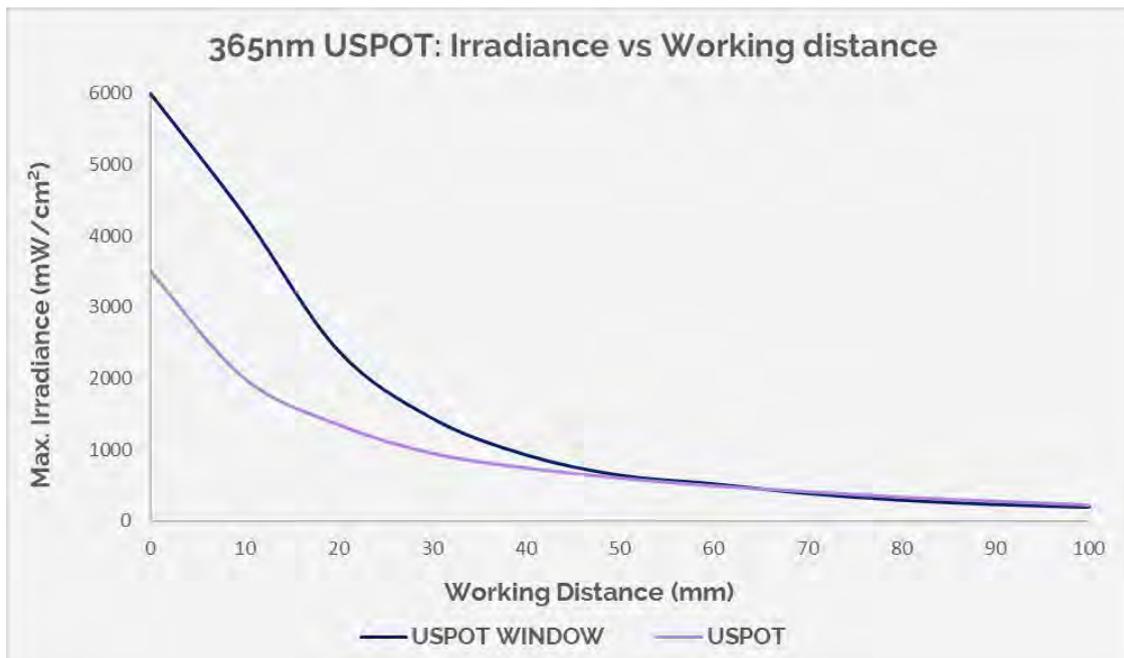
**USPOT-WINDOW**

Offers a more dispersive light distribution which is ideal to work close when high level of irradiance is needed.

**UV spot size**



**Photometry**

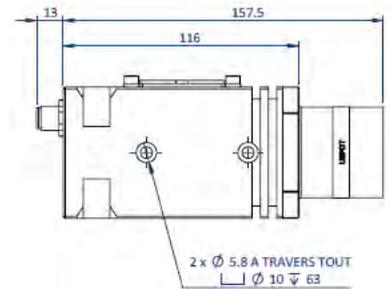
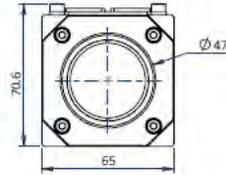
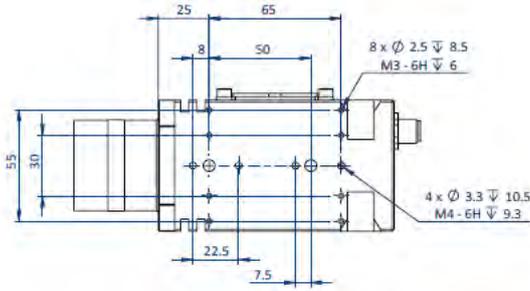


Curve plotted for UVA wavelength. For UVC & UVB irradiance, please divide the irradiance value by a factor of 40. Radiometer: GIGA HERTZ OPTIK RCH-116 (June 2023). For the UV spot graph, the spot size is the exposed area where the irradiance is higher than 50% of the maximum irradiance.

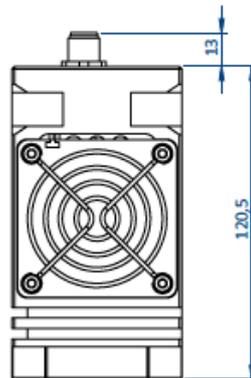
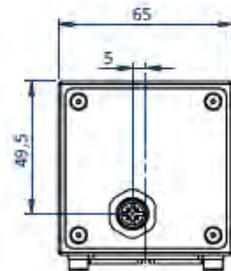
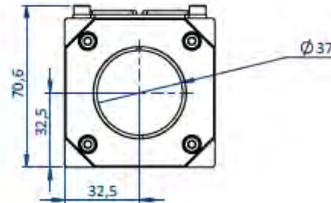
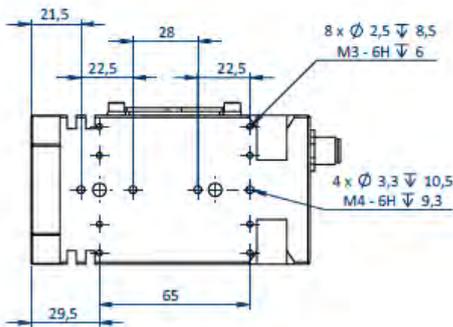


Mechanical considerations (mm)

USPOT-XXX



USPOT-XXX-WINDOW

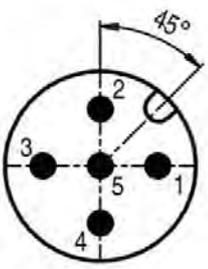




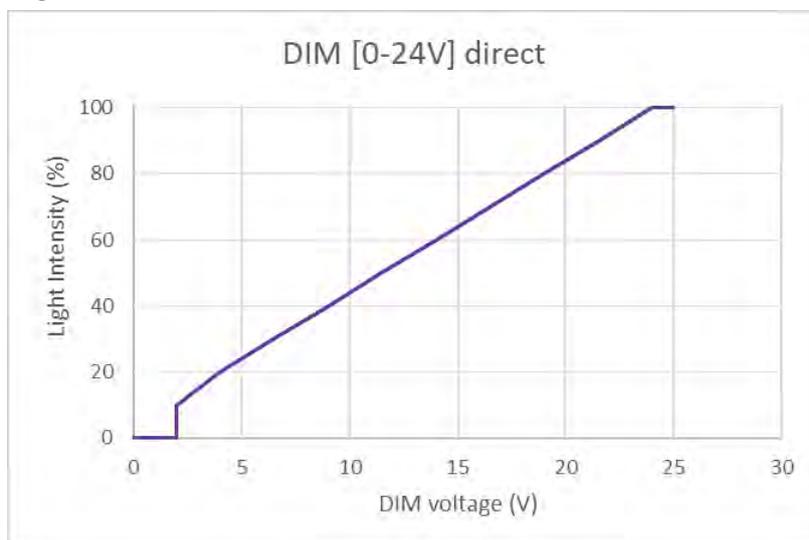
## Electrical considerations

### Wiring layout

The USPOT requires 24V DC input power. It integrates smart electronical board to achieve stable optical power and exploitable output signals. The USPOT can be managed with a control unit (UPOWER – please refer to accessories part of this datasheet) or without a control unit through PLC wiring.

Contact arrangement	Pin number	Cable color	Designation
 <p>Male M12 5pins</p>	1	Brown	Power supply Input – 24V DC (1,5 A max)
	2	White	UV LED ON output – 24V DC if device is currently emitting UV or 0V DC if UV LED are off.
	3	Blue	Power supply Input – 0V DC (GND)
	4	Black	Dimming Input – [0-24V] direct
	5	Gray	TEMPERATURE ERROR output – 24V DC if LED temperature is correct or 0V DC if device overheats.

### Intensity Control (DIM signal)



Other Dimming signals are available upon request: 0-24V indirect, 0-10V direct, 0-10V indirect, 0-5V direct or 0-5V indirect.



**KIT**

In order to allow facilitated manual use of the USPOT-XXX-WINDOW, UWAVE has developed a complete kit which contains the following components:





**Accessories**

UWAVE offers a wide range of accessories to complete its UV LED lighting solution:

<p><b>Cables</b></p> 	<p>One side with bare wire (towards PLC): <b>UCAB - M12 - FD - 5 - D - L A</b></p>  <p>2 5 10 Cable length in meters</p> <hr/> <p>Both sides connector (power supply link): <b>UCAB - M12 - FM - 5 - DD - L A</b></p>  <p>2 5 10 Cable length in meters</p>
<p><b>Compact power supply</b></p>	<p><b>USPWR-36W-24V-102-EU</b> for ON/OFF control of x1 USPOT.</p>  <p><b>UDIMMER</b> can be added to manually adjust UV power through dimming signal.</p> 
<p><b>Easy-to-use power supply</b></p>	<p><b>UPOWER-50W-24V-USPOT</b> for control of x1 USPOT.</p> 
<p><b>Advanced power supply</b></p>	<p><b>UPOWER-0200-24-xM12</b> for simultaneous control of x1, x2 or x4 USPOT. <b>UPOWER-0200-24-xM12-I</b> for independent control of x1, x2 or x4 USPOT.</p>  <p><i>For other controlling configurations, please contact directly UWAVE team.</i></p>

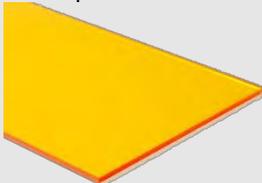


**UV security**

UWAVE products come under the standard DIN EN 62471:2008 which classified sources of optical radiation into risk groups subject to their potential photo biological hazard. Due to the emission of high UV irradiation, our products belong to Risk Group 3 (hazardous even for momentary exposure) therefore special safety measures, detailed in the following, must be observed.



Thanks to its experience and knowledge about UV risks, UWAVE offers to its customer a wide range of UV protections & services:

<p><b>Eyes protection</b></p>	<p>UGLASS-02: To protect eyes from direct rays.</p> 	<p>UGLASS-03: To cover all the face.</p> 	
<p><b>Body protection</b></p>	<p>UGLOVE-01: to protect hands.</p> 	<p>UV-SHIELD: To protect all workers around.</p> 	
<p><b>UV measurement</b></p>	<p>LEDCURE: UV values recording.</p> 	<p>URAD-PR: Direct UV value reading.</p> 	
<p><b>UWAVE expertise</b></p>	<p>EXPOSURE LIMIT VALUE</p>  <p>According to European Directive 2006/25/EC.</p>	<p>PERFORMANCES QUALIFICATION</p>  <p>Monitoring of all performances of your device.</p>	<p>MAINTENANCE &amp; REPAIR</p>  <p>Preventive maintenance on site &amp; LED repair service.</p>