



**USHARP**

**High-precision UV LED spotlight**

**More than 90% irradiance homogeneity on the spot**

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

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

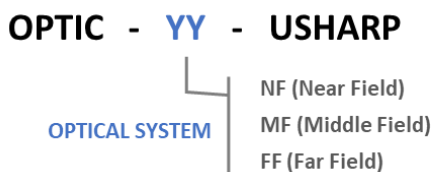
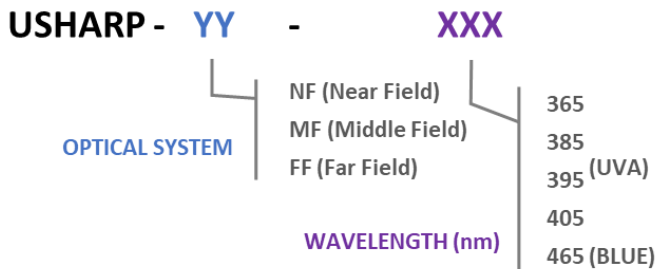


<b>Electronics</b>	Power supply	24 VDC $\pm$ 10% (maximal power consumption: 5W)
	Connector	M12 – 4pins male for power and signals
	Illumination mode	Continuous with a direct DIM signal [0-24V]
<b>Optics</b>	Wavelength	UVA: 365, 385, 395, 405 nm - VIS: 465 nm
	Irradiance	Up to 100 mW/cm <sup>2</sup> in the UVA range
<b>Mechanics</b>	Diameter	32mm
	Length	Up to 180mm
	Weight	250 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

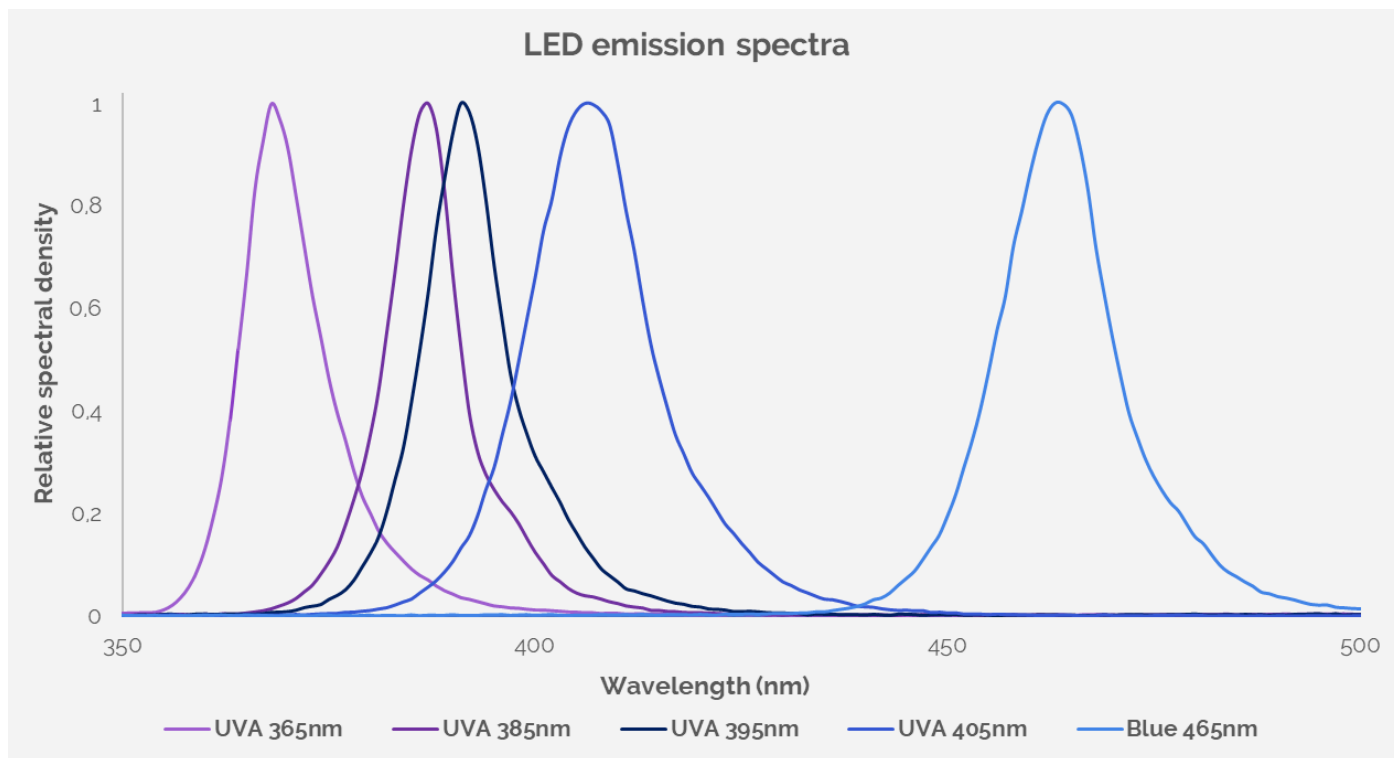
Standard USHARP version:





Optical considerations

LED spectra



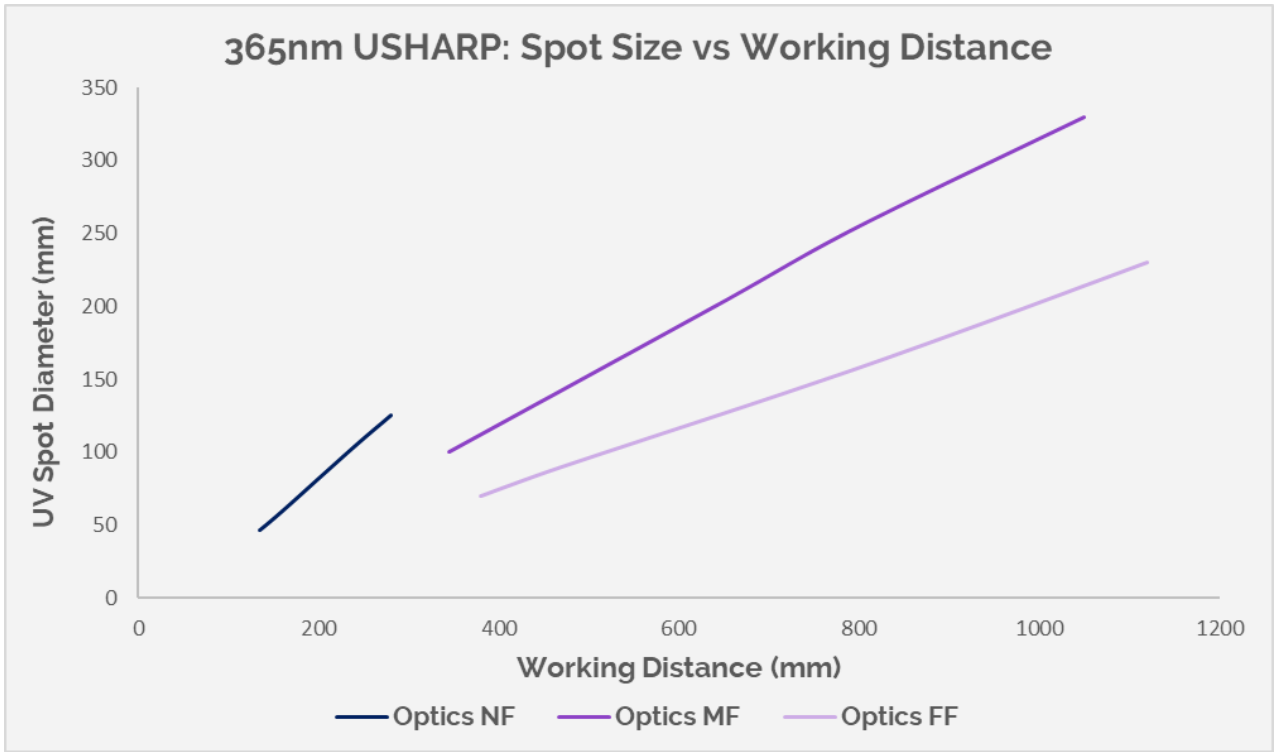
 For other wavelengths (UVC / UVB / UVA / VISIBLE / IR), feel free to ask us!

Optical systems available

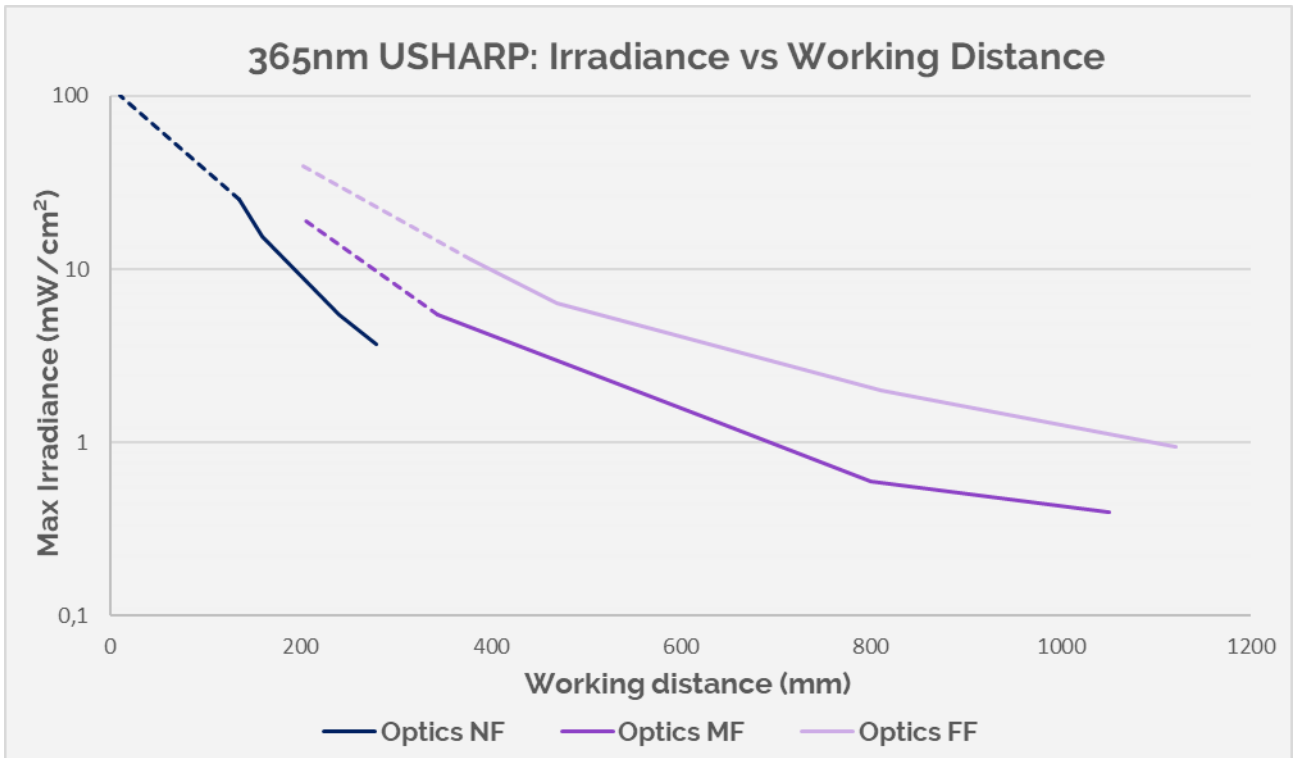
Thanks to UWAVE expertise and know-how in UV LED lighting manufacturing, there are three optical systems available for USHARP: NF (Near Field), MF (Middle Field) and FF (Far Field).



**UV spot size**



**Photometry**

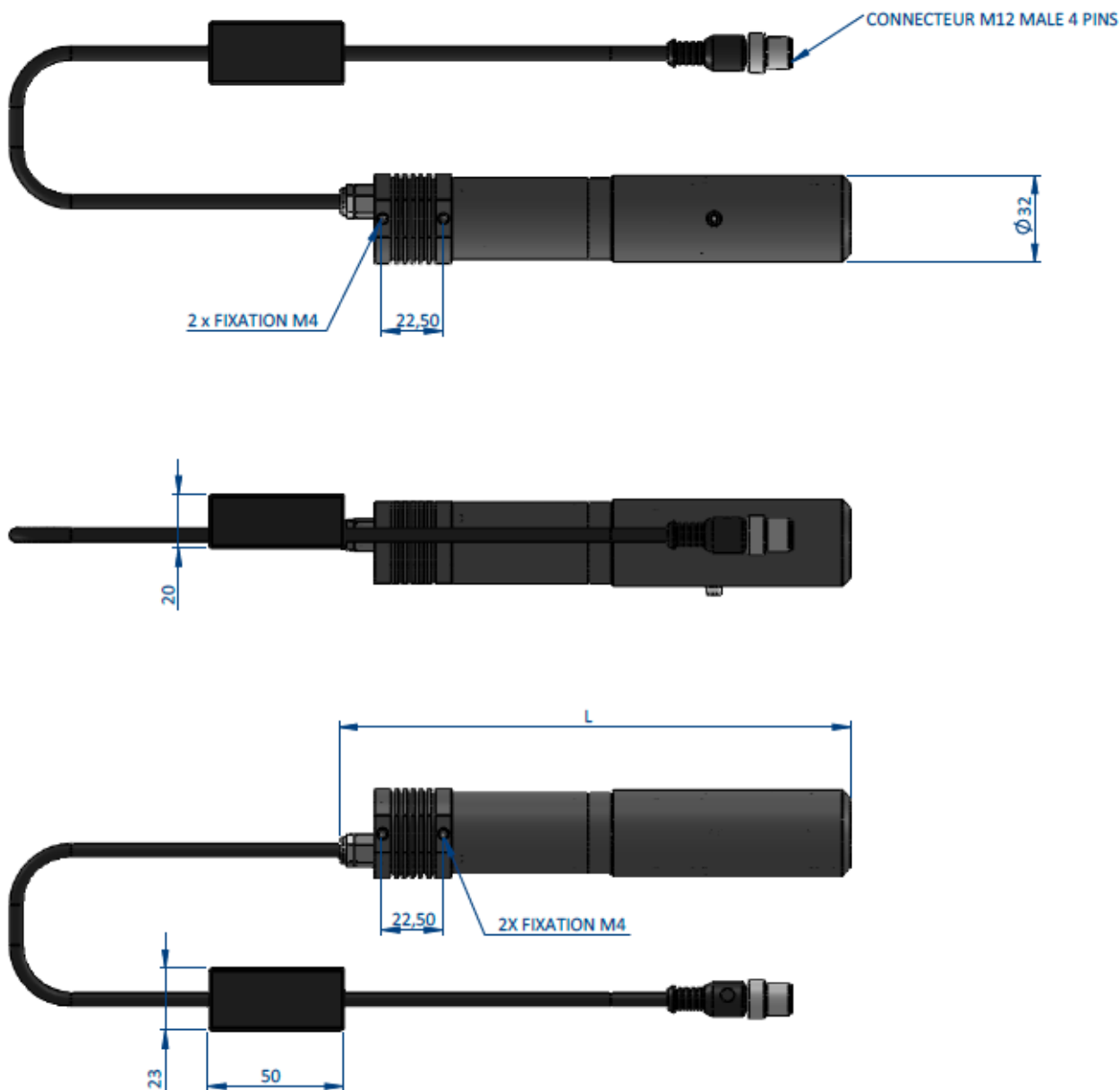


Curve plotted for UVA wavelength. Radiometer: GIGA HERTZ OPTIK RCH-116 (June 2023). For the UV spot graph, the spot size is the exposed area where the irradiance is higher than 50% of the maximum irradiance.



Mechanical considerations (mm)

USHARP-XXX





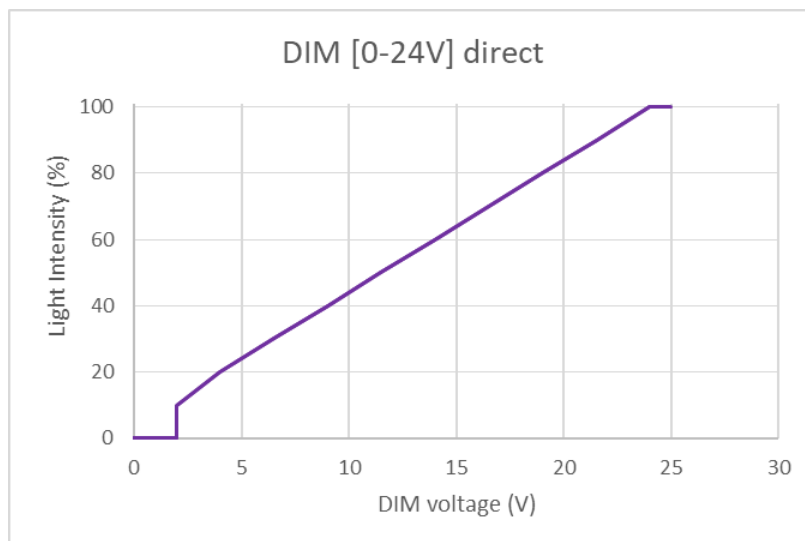
### Electrical considerations

#### Wiring layout

The USPOT requires 24V DC input power. It integrates smart electronic 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 4pins</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

#### 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.



**Accessories**

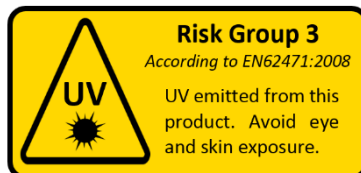
UWAVE offers a wide range of accessories to complete its UV LED lighting solution:

<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>USPWR-36W-24V-102-EU for ON/OFF control of x1 USHARP.</p>  <p>UDIMMER can be added to manually adjust UV power through dimming signal.</p> 
<p><b>Easy-to-use power supply</b></p>	<p>UPOWER-50W-24V-USPOT for control of x1 USHARP.</p> 
<p><b>Advanced power supply</b></p>	<p>UPOWER-0200-24-xM12 for simultaneous control of x1, x2 or x4 USHARP. UPOWER-0200-24-xM12-I for independent control of x1, x2 or x4 USHARP.</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:

<b>Eyes protection</b>	UGLASS-02: To protect eyes from direct rays. 	UGLASS-03: To cover all the face. 	
	<b>Body protection</b>	UGLOVE-01: to protect hands. 	UV-SHIELD: To protect all workers around. 
<b>UV measurement</b>	EIT LEDCURE: UV values recording. 	GIGAHERTZ OPTIK: Direct UV value reading. 	
	<b>UWAVE expertise</b>	EXPOSURE LIMIT VALUE  According to European Directive 2006/25/EC.	PERFORMANCES QUALIFICATION  Monitoring of all performances of your device.