



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.

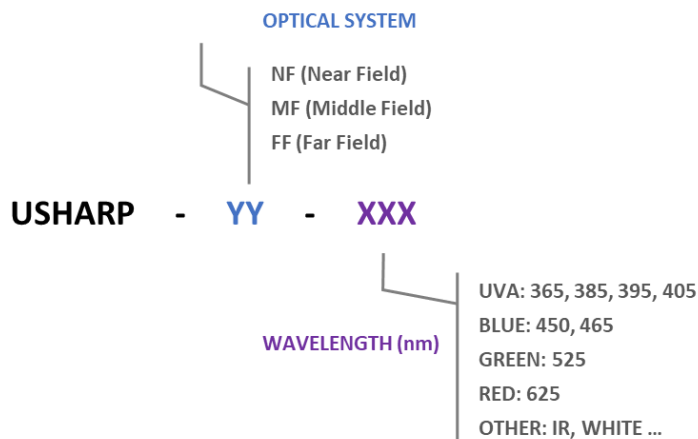


Electronics	Power supply	24 VDC $\pm$ 10% (maximal power consumption: 5W)
	Connector	M12 – 4pins male for power and signals
	Illumination mode	Continuous with a direct DIM signal [0-24V]
Optics	Wavelength	UVA: 365, 385, 395, 405 nm VIS: 465nm (Blue), 525nm (Green), 625nm 5Red), Other on request.
	Irradiance	Up to 100 mW/cm ² in the UVA range
	Homogeneity	> 90% on the surface shaped by the optical system (NF, MF or FF)
Mechanics	Diameter	32mm
	Length	Up to 180mm
	Weight	250 g
	Material	Device body: Aluminum alloy
	IP rating	IP40
Environment	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

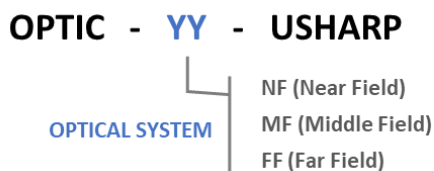


Product reference

Standard USHARP version:



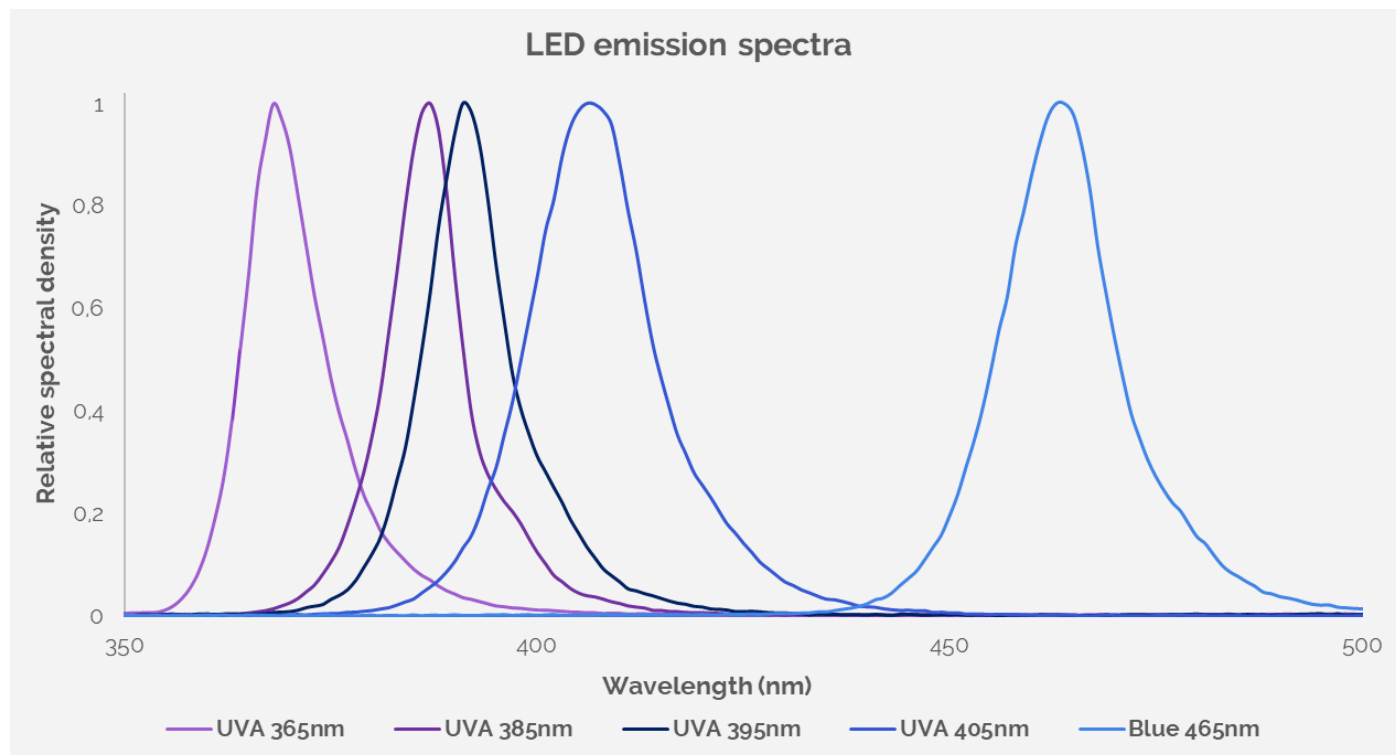
Optical system reference:





Optical considerations

LED spectra



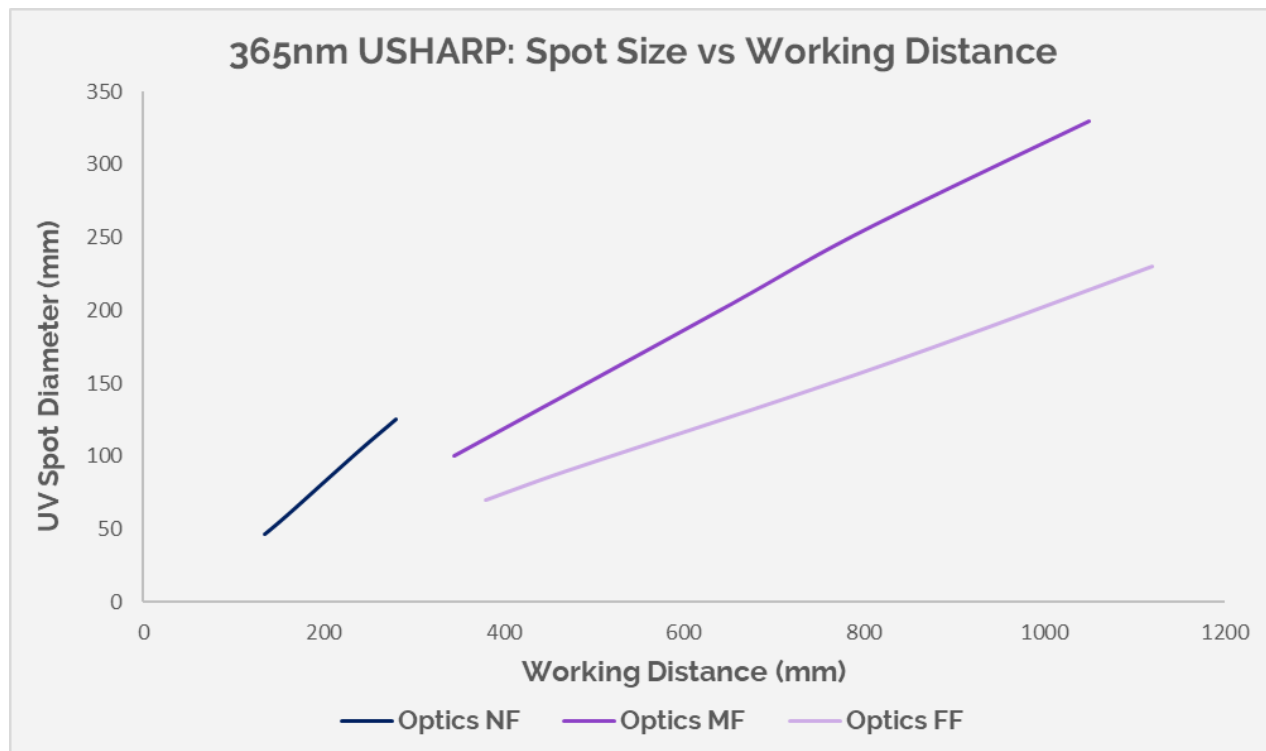
For other wavelengths (UVC / UVB / UVA / VISIBLE / IR), feel free to ask us!

Optical systems available

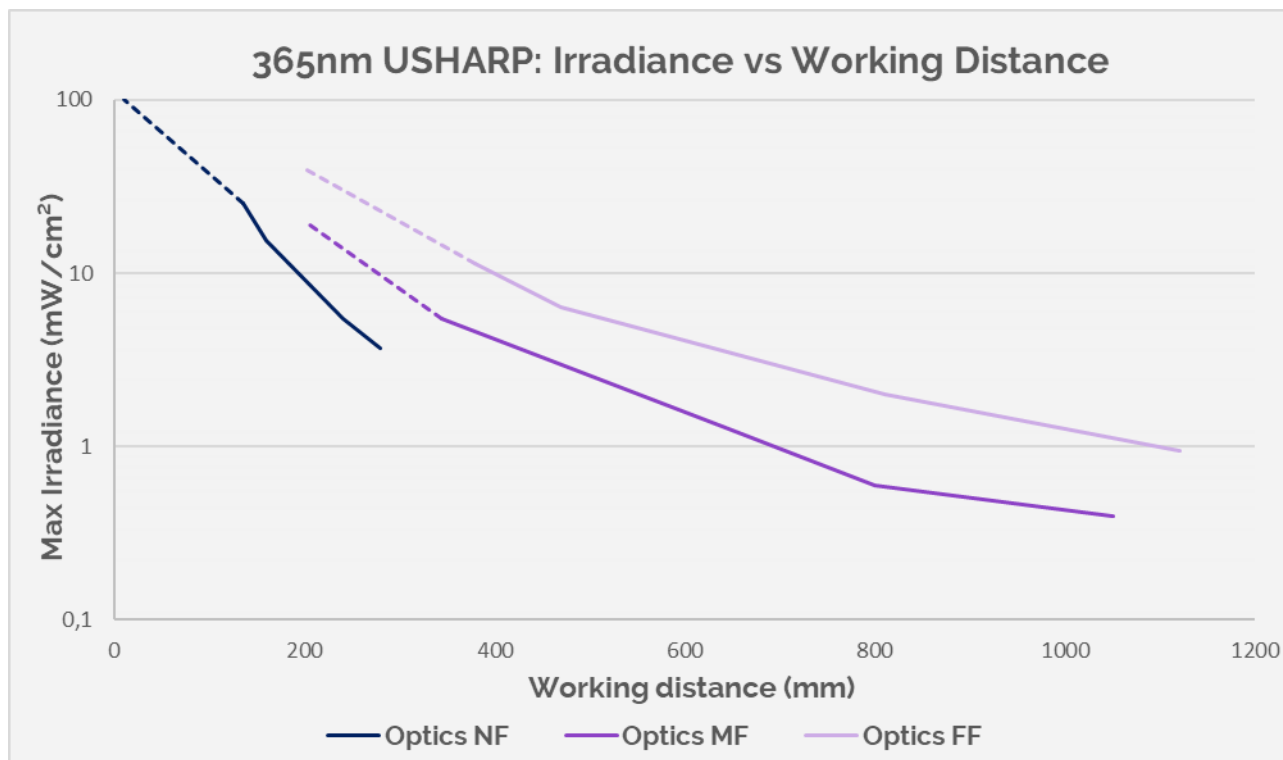
Thanks to UWAVE expertise and know-how in UV LED lighting manufacturing, there are three optical systems available for USHARP: NF (Near Field), MF (Middle Field) and FF (Far Field).



UV spot size



Photometry

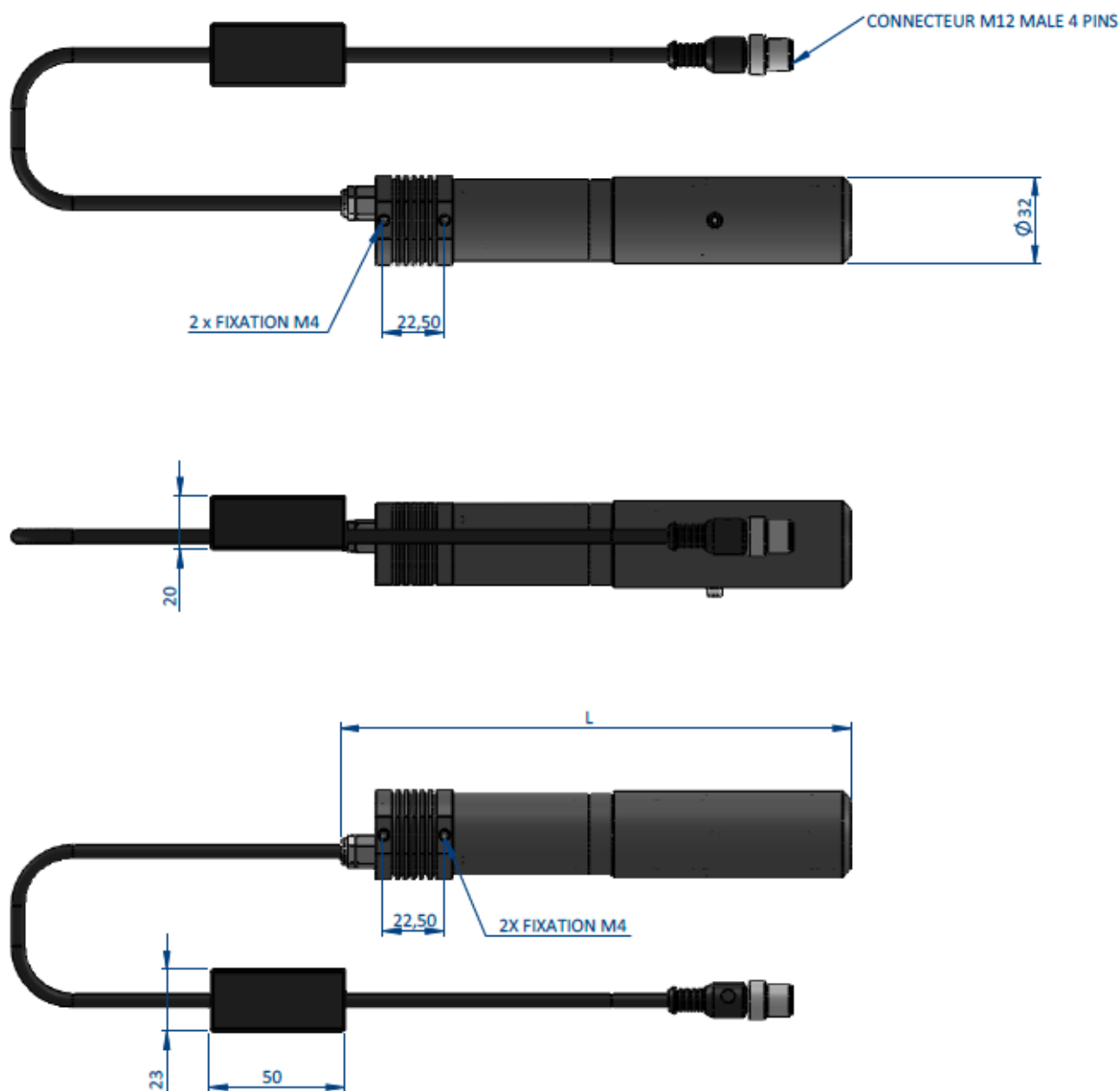


Curve plotted for UVA wavelength. Radiometer: GIGA HERTZ OPTIK RCH-116 (June 2023). For the UV spot graph, the spot size is the exposed area where the irradiance is higher than 50% of the maximum irradiance.



Mechanical considerations (mm)

USHARP-XXX

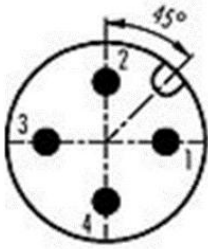




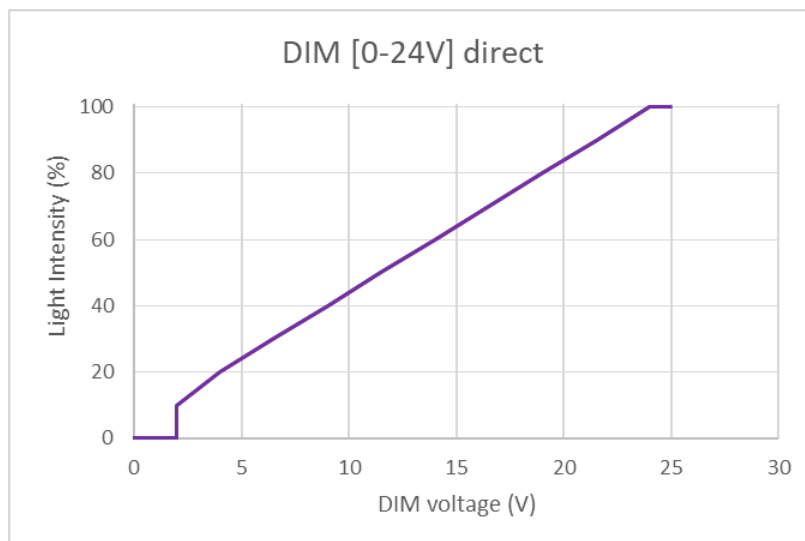
Electronical considerations

Wiring layout

The USHARP requires 24V DC input power. It integrates smart electronical board to achieve stable optical power and exploitable output signals. It 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
 Male M12 4pins	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:

Cables 	One side with bare wire (towards PLC): UCAB - M12 - FD - 5 - D - L A 2 5 10 Cable length in meters Both sides connector (power supply link): UCAB - M12 - FM - 5 - DD - L A 2 5 10 Cable length in meters
Compact power supply	USPWR-36W-24V-102-EU for ON/OFF control of x1 USHARP.  UDIMMER can be added to manually adjust UV power through dimming signal. 
Easy-to-use power supply	UPOWER-50W-24V-USPOT for control of up to x2 USHARP simultaneously. 

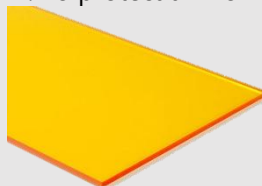


UV security

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:

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