



UCUBE-10 & UCUBE-10-HP DATASHEET

Very Powerful UV LED curing floodlight

Full UV 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.

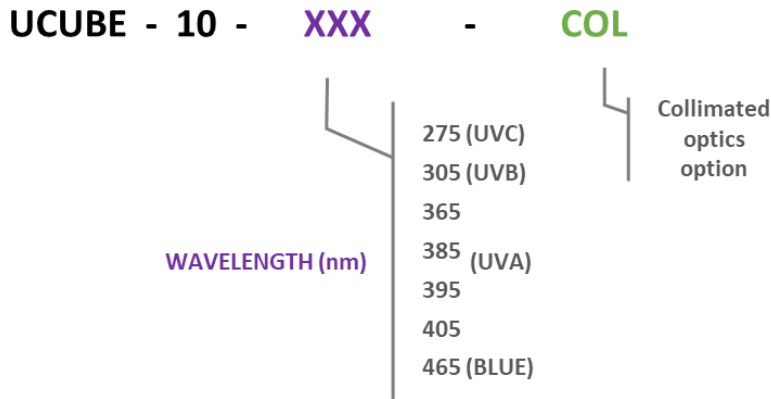


Electronics	Power supply	48 VDC \pm 10% (maximal power consumption: 100W for UCUBE-10 & 400W for UCUBE-10-HP)
	Connector	SUBD13W3 – 13pins for power and signals
	Illumination mode	Continuous with a direct DIM signal [0-10V]
Optics	Wavelength	UVC: 275 nm - UVB: 305 nm - UVA: 365, 385, 395, 405 nm - VIS: 465 nm
	Irradiance	Up to 2000 mW/cm ² in the UVA range Up to 50 mW/cm ² in UVC & UVB range
Mechanics	Width x Height x Length	100mm x 100mm x 183mm for both version
	Weight	2,2 kg
	Material	Device body: Aluminum alloy
	IP rating	IP4X
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



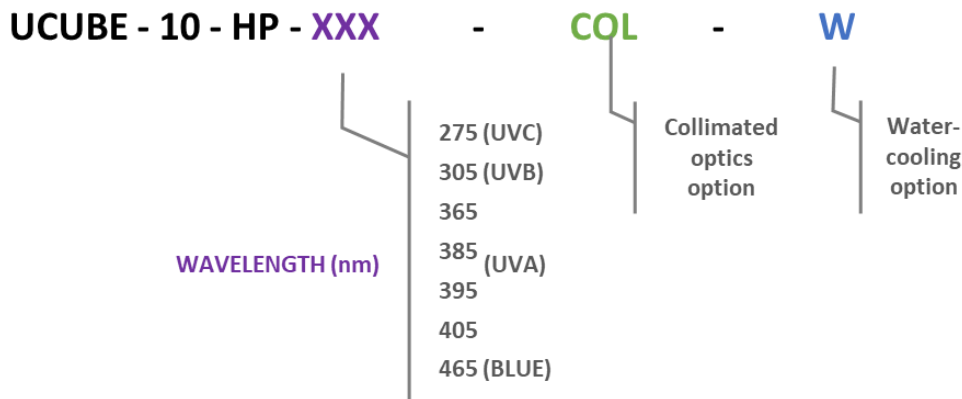
Product reference

UCUBE-10 standard (25 LED) version:



Collimated optics option is not available for UVC & UVB wavelengths.

UCUBE-10 high power (HP – 100 LED) version:

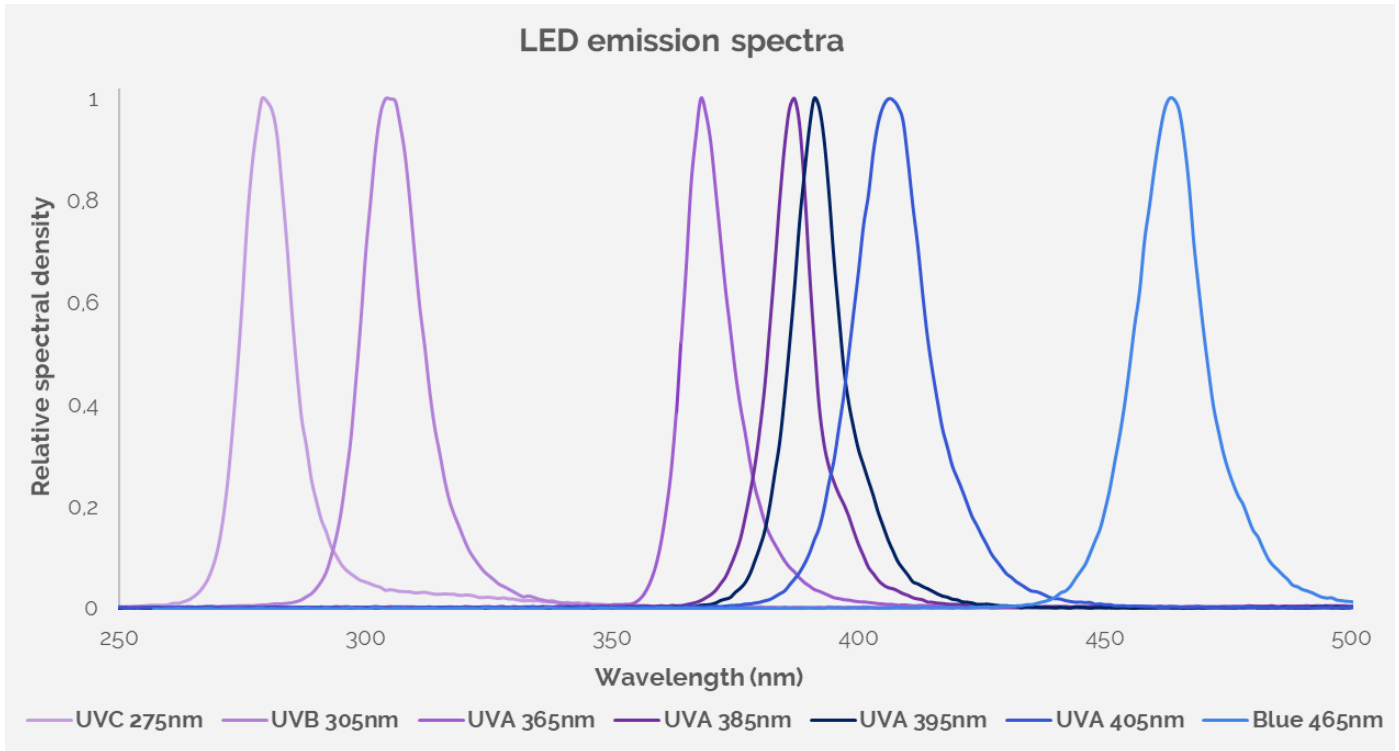


Collimated optics option is not available for UVC & UVB wavelengths.



Optical considerations

LED spectra



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

Collimation optics option (-COL)

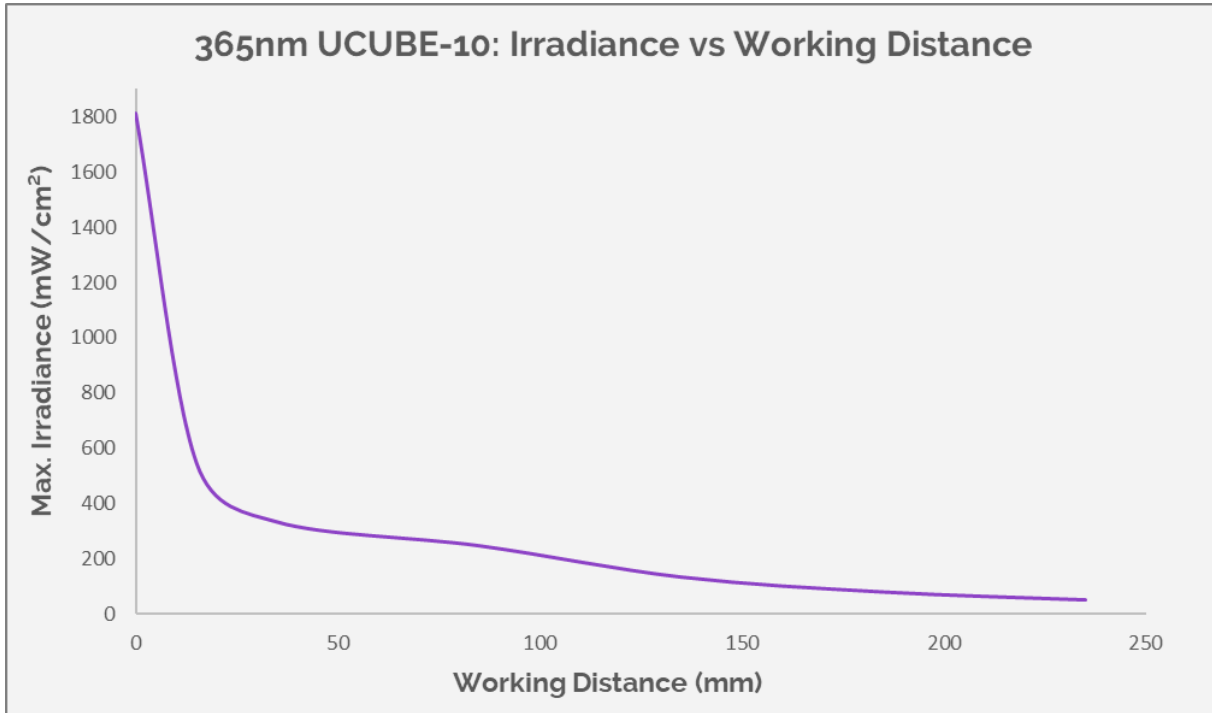
The UCUBE-10-XXX and the UCUBE-10-HP-XXX have a dispersive UV illumination, but an optional collimation optical system (6° light beam) can be added to strongly increase irradiation uniformity.

- 1 Without COL option**
- 2 With COL option**

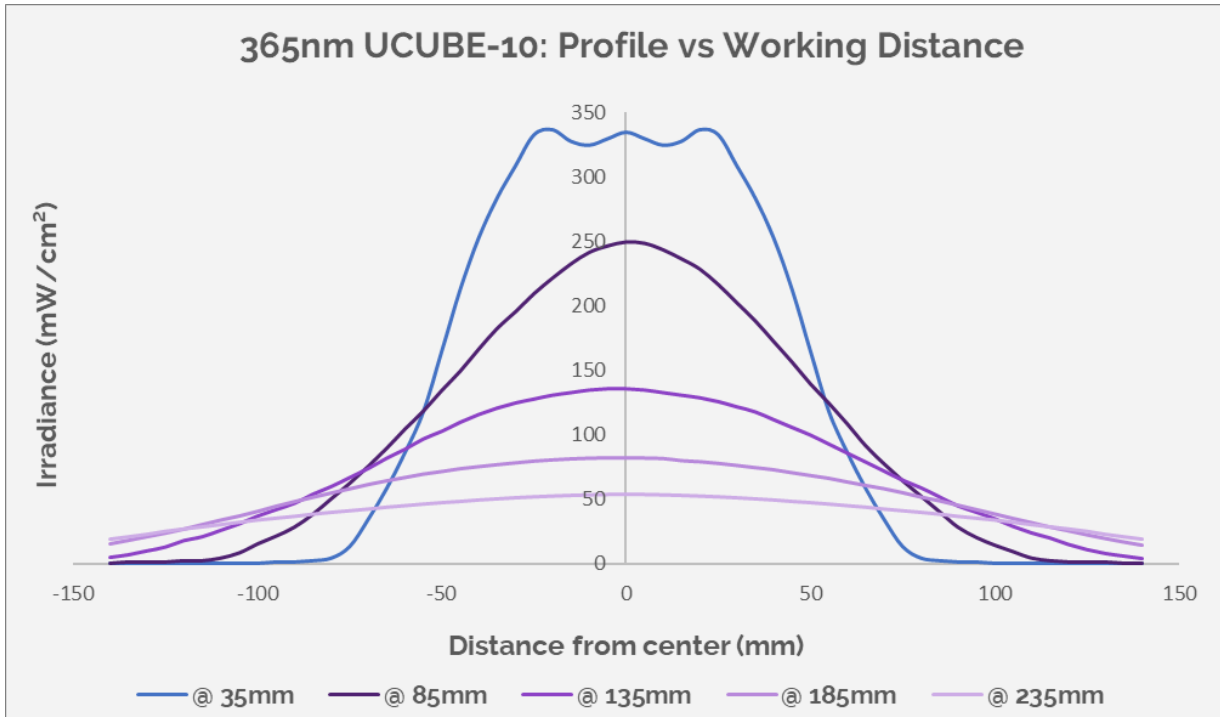


UCUBE-10 optical data

Photometry



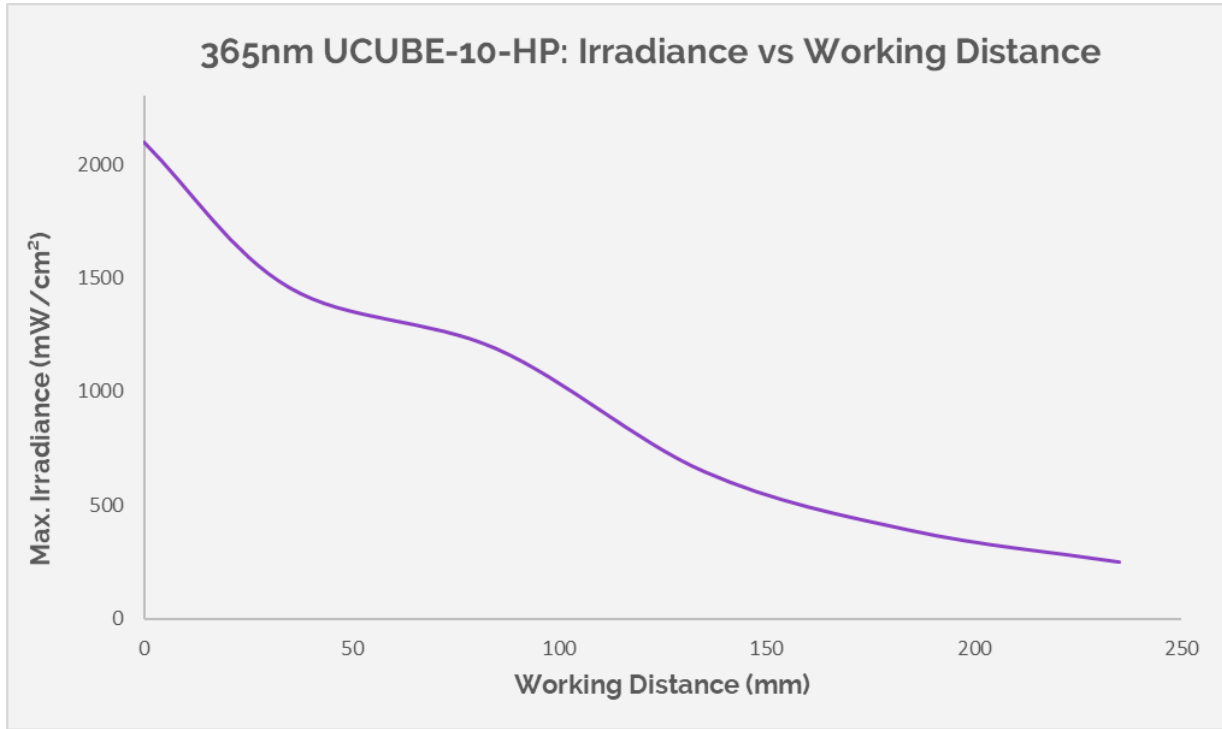
Irradiation profile



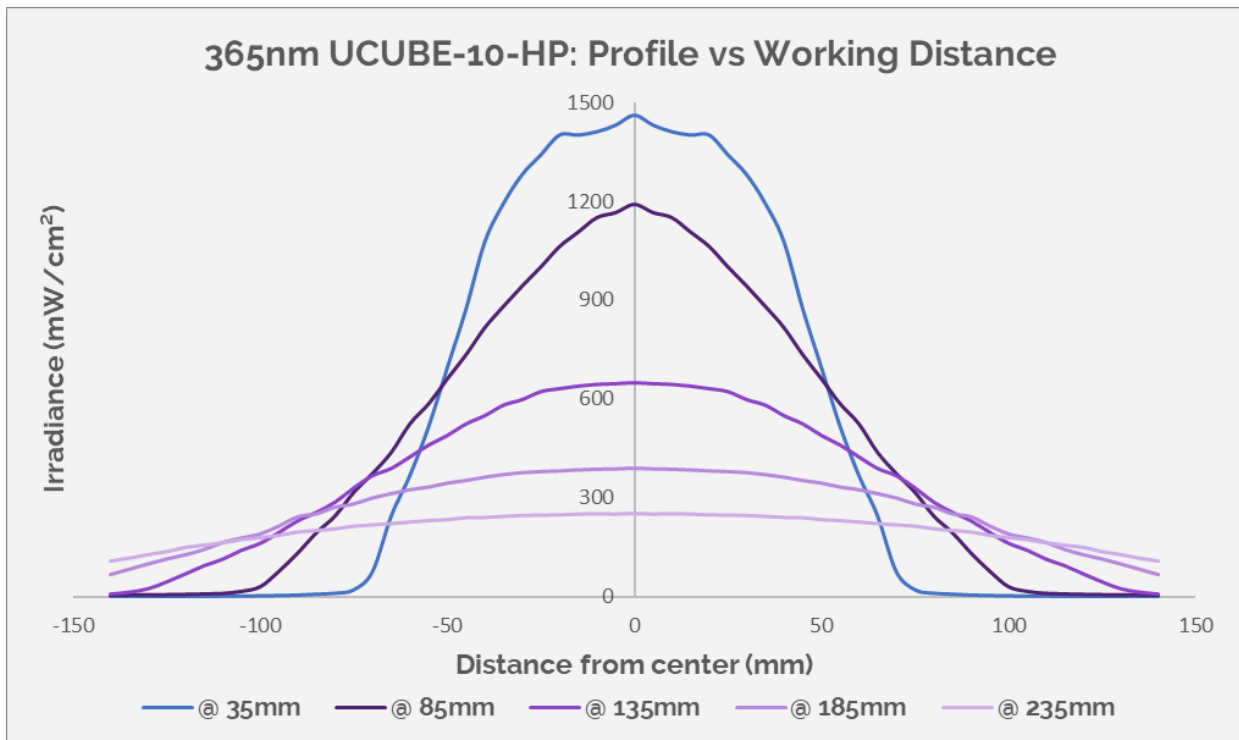
Curve plotted for UVA wavelength. For UVC & UVB irradiance, please divide the irradiance value by a factor of 40. Radiometer: GIGA HERTZ OPTIK RCH-116 (June 2023). For the UV spot graph, the spot size is the exposed area where the irradiance is higher than 50% of the maximum irradiance.

UCUBE-10-HP optical data

Photometry



Irradiation profile

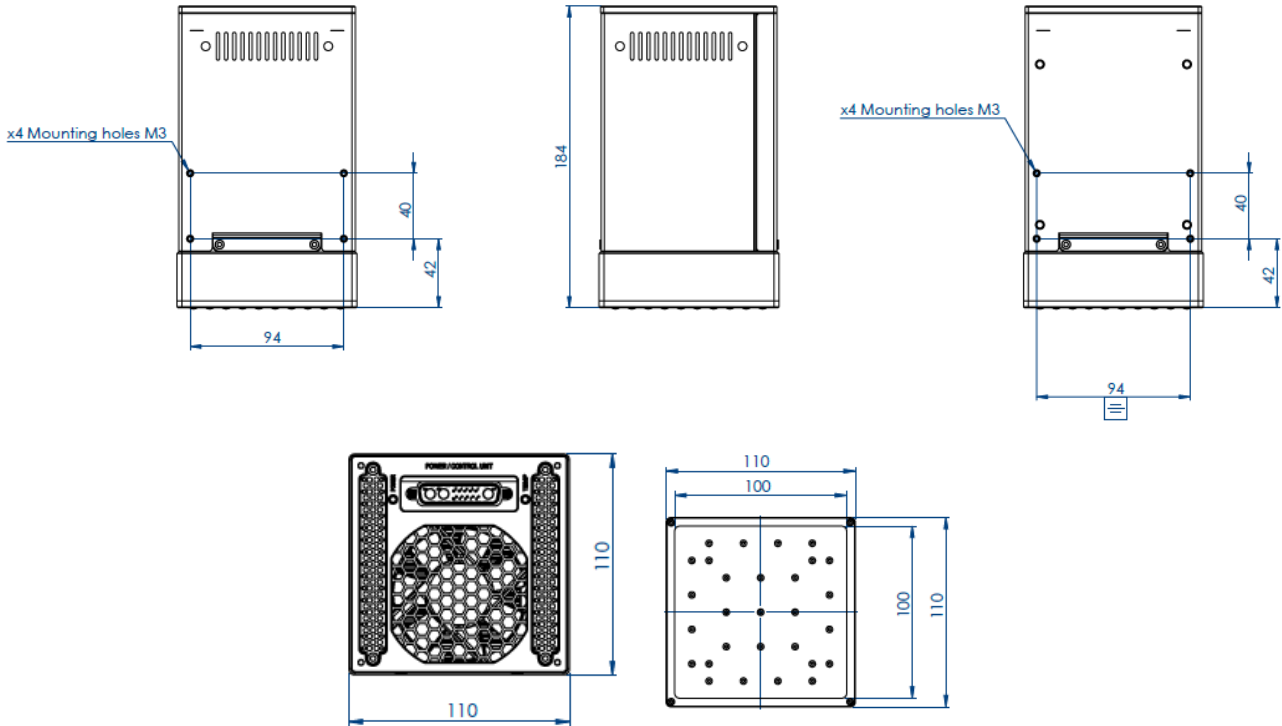


Curve plotted for UVA wavelength. For UVC & UVB irradiance, please divide the irradiance value by a factor of 40. Radiometer: GIGA HERTZ OPTIK RCH-116 (June 2023). For the UV spot graph, the spot size is the exposed area where the irradiance is higher than 50% of the maximum irradiance.

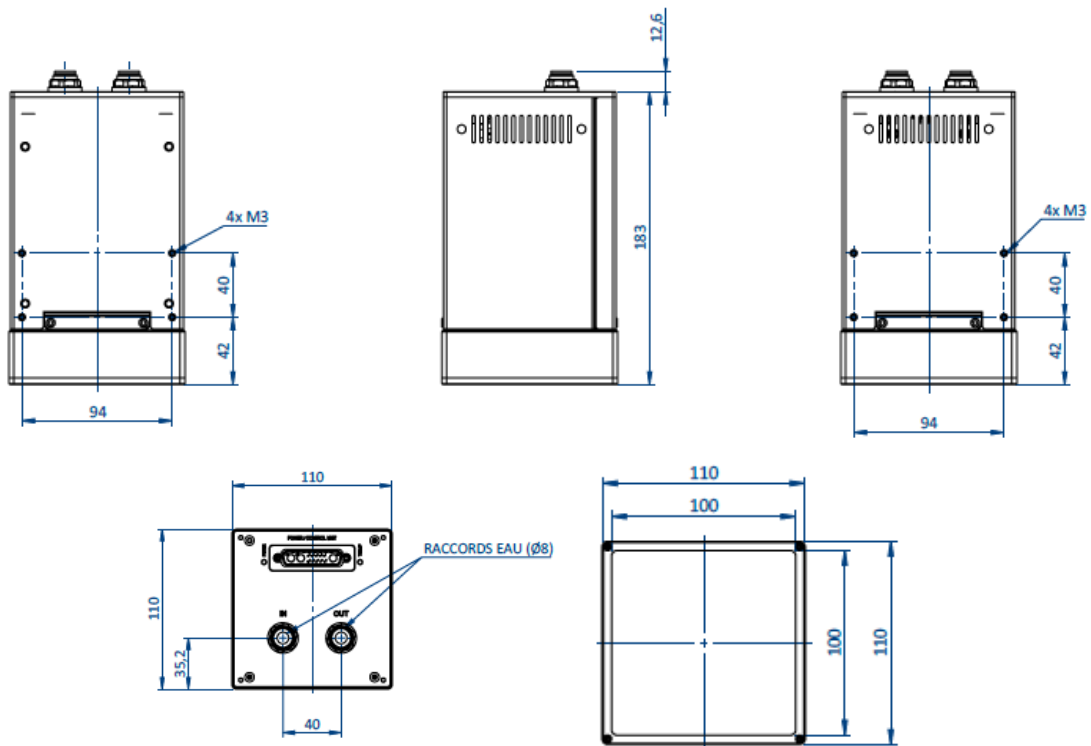


Mechanical considerations

UCUBE-10 & UCUBE-10-HP version:



UCUBE-10-HP with WATER option:






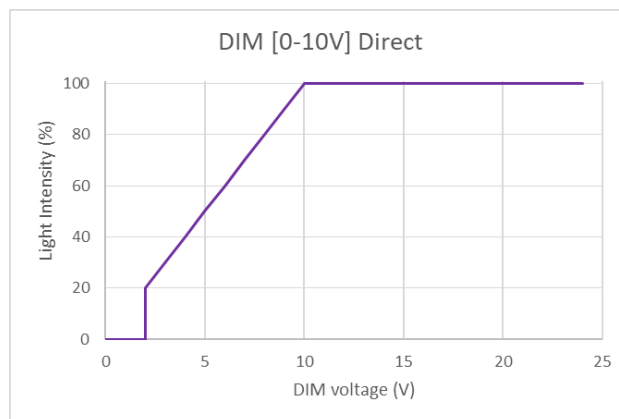
Electronical considerations

Wiring layout

The UCUBE requires 48V DC input power. It integrates smart electronical board to achieve stable optical power and exploitable output signals. The UCUBE 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 D-SUB 13W3pins</p>	A1	Brown	Power supply Input – 48V DC (8,3 A max)
	A2	Yellow & Green	Protective ground
	A3	Blue	Power supply Input – 0V DC (GND)
	1	White	Dimming Input – [0-10V] direct
	2	Blue	COMMON_OUT – Allows dry contact with pin 3, 6 and 7. 40mA maximum per contact.
	3	White	UV LED ON output – dry contact with pin 2 if device is currently emitting UV or opened if UV LED are off.
	4	Blue	Enable + (dry contact with pin 5 to allow UV insolation)
	5	White	Enable – (dry contact with pin 4 to allow UV insolation)
	6	Blue	TEMPERATURE ERROR output – dry contact with pin 2 if device is overheating or opened if LED temperature is OK.
	7	White	DRIVER ERROR output – dry contact with pin 2 if there is a driver issue is detected or opened if drivers are OK.
	8	Blue	Power supply input – 0V DC (GND)
9 & 10	-	Not used	

Intensity Control






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>Cables</p> 	<p>One side with bare wire (towards PLC): UCAB - SUBD - FD - 13W3 - D - L A</p> <p>2 5 Cable length in meters 10</p> <hr/> <p>Both sides connector (power supply link): UCAB - SUBD - FM - 13W3 - DD - L A</p> <p>2 5 Cable length in meters 10</p>
<p>Advanced power supply</p>	<p>UPOWER-0600-48 for control of x1 UCUBE-10. UPOWER-600-48-2SUBD for simultaneous control of x2 UCUBE-10. UPOWER-1500-48-2SUBD for simultaneous control of x2 UCUBE-10-HP.</p>  <p><i>For other controlling configurations, please contact directly UWAVE team.</i></p>
<p>Easy-to-use oven with UCUBE-10 integrated on top</p>	<p>CHAMBER-10 to protect operators and to work in hidden time. A tray inside can be placed at different working distance from the UV light.</p>  <p><i>For further information about CHAMBER-10, please refer to CHAMBER datasheet.</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.



Knowing 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.