

COBRA Cure™ FX1

UV LED Curing System



Compact, Fan-Cooled UV LED Curing System

Designed for ease of integration and lasting performance in the field, COBRA Cure FX1 offers high intensity with excellent uniformity. COBRA Cure FX1's compact form factor, coupled with its innovative features, provide end users with excellent performance and easy maintenance.

COBRA Cure FX1 is designed utilizing Chip-on-Board LED technology. ProPhotonix build the light engine used to power the COBRA Cure FX series in-house enabling the maximum level of control of each LED ensuring optimum LED density to deliver powerful, uniform UV LED light.

Offering all the benefits of a UV LED System, COBRA Cure FX1 delivers intensity of up to $6\text{W}/\text{cm}^2$ and energy density of $6.5\text{ J}/\text{cm}^2$.

COBRA Cure FX1's features edge to edge illumination for a stackable UV LED Curing System with minimal drop in intensity and dose uniformity across the line. The lamps are designed with multiple mounting options to enable the lamps to be set at an optimum working distance for the application. The FX1 product range is CE and UL certified to EN/UL 61010 (UL file E504220).

Key Features

- Compact, Fan-Cooled Design
- Delivers Intensities of up to $6\text{W}/\text{cm}^2$ at 2 mm
- Provides a Maximum Dose of $6.5\text{J}/\text{cm}^2$ at 2 mm
- UL, CE, IEC Certified
- Linear Intensity Control

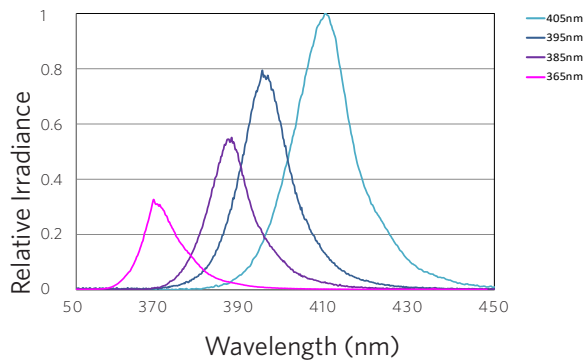
Options Available

- Divergent and Collimated Configurations
- 365nm, 385nm, 395nm, 405nm

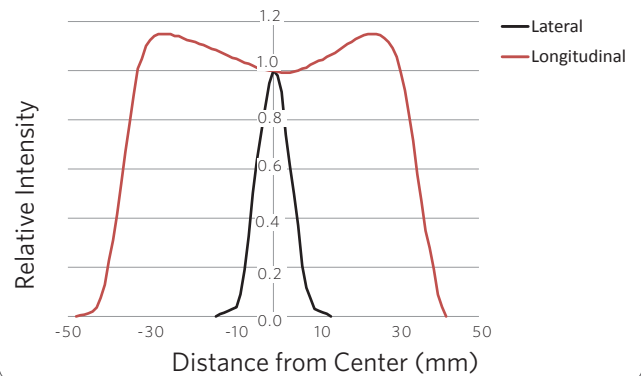
Key Applications

- UV Curing of:
 - Inks
 - Coatings
 - Adhesives
- Pinning of Inks
- 3D Printing

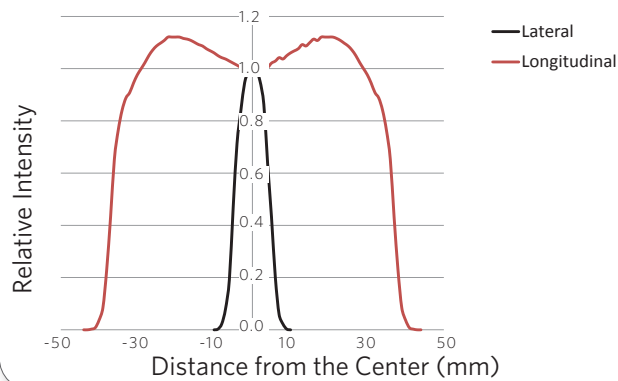
Relative Irradiance versus Wavelength with 405nm



Lateral & Longitudinal Intensity Profiles - Divergent Wide DW



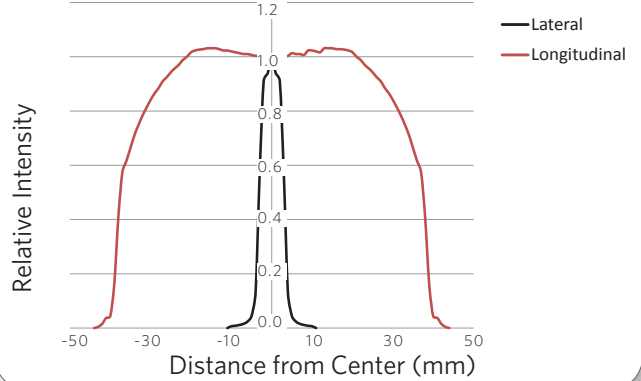
Lateral & Longitudinal Intensity Profiles - Divergent D4



Measured at 2mm

Linewidth (FWHM) approx. -10mm

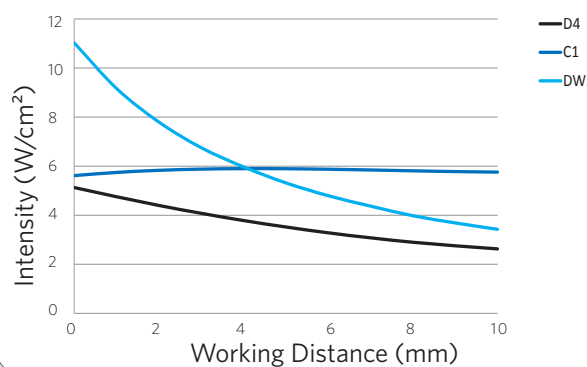
Lateral & Longitudinal Intensity Profiles - Collimated C1



Measured at 3.5mm

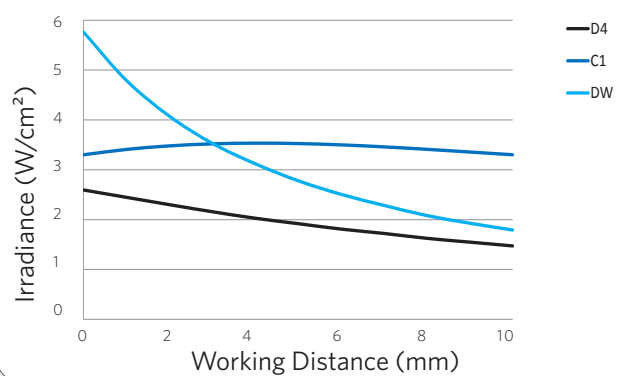
Linewidth (FWHM) approx. - 7 mm

Intensity versus Working Distance - 395nm

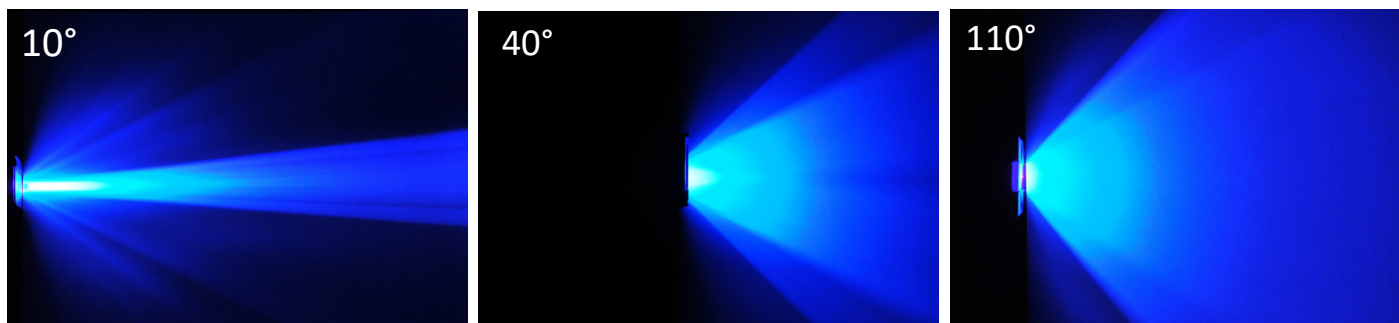


Measured on the central axis of the unit.

Intensity versus Working Distance - 365nm



Measured on the central axis of the unit.



Wavelength (nm)	Optical Configuration	Output Angle (°)	Working Distance(mm)	Factory Set Dose (J/cm ²)	Nominal Intensity (W/cm ²)
405nm	DW	110	2.0	6.5	5.4
405nm	D4	40	2.0	5.5	4.8
405nm	C1	10	3.5	4.2	6.0
395nm	DW	110	2.0	6.5	5.4
395nm	D4	40	2.0	5.7	5.1
395nm	C1	10	3.5	4.2	6.0
385nm	DW	110	2.0	3.7	3.2
385nm	D4	40	2.0	3.5	3.0
385nm	C1	10	3.5	2.3	3.2
365nm	DW	110	2.0	2.5	2.1
365nm	D4	40	2.0	2.3	1.9
365nm	C1	10	3.5	1.9	2.7

The stated wavelength is the peak wavelength $\pm$ 5nm. Working distance is the distance from the window to the point at which the intensity and dose is measured. The dose is set at the factory. The dose is measured using a Loctite Radiometer Dosimeter. It is scanned at a speed of 10mm/sec (0.6 m/min). Nominal intensity is the intensity expected at the specified dose level.

General Characteristics (per 75mm lamp)	Values	Units
Weight	0.26	Kg
Noise sound pressure level at 0m	84*	dBA
Noise sound pressure level at 1m	54*	dBA
Maximum Ambient Temperature	35	°C

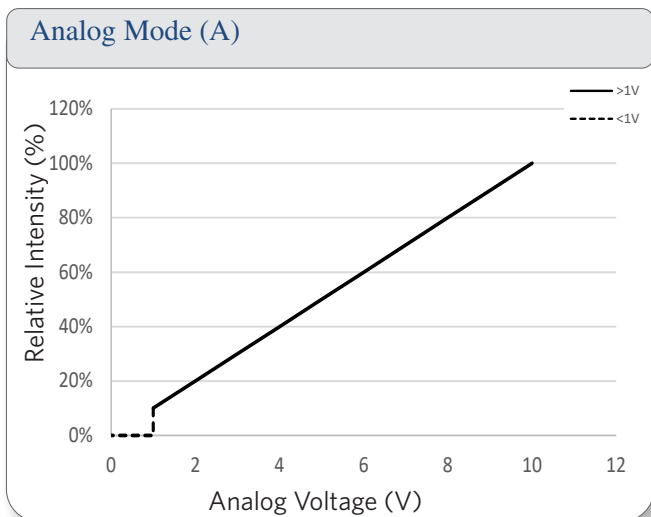
*For every subsequent module add 3dBA.

Field Replaceable Window

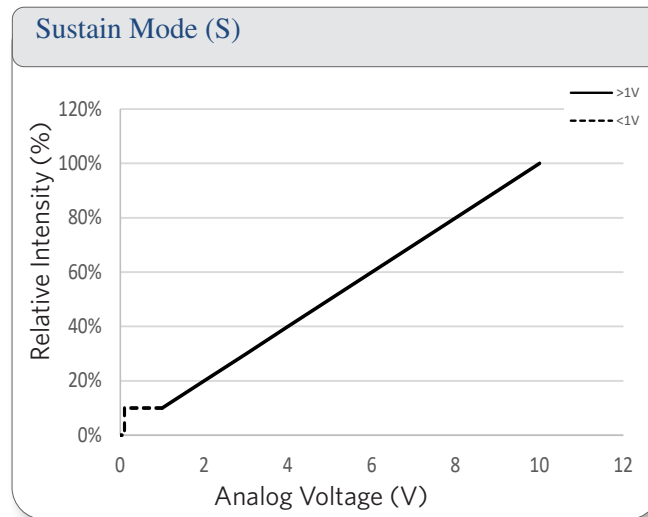


Note: The D4 configuration is supplied with the Replaceable Window design. The DW configuration is available in a fixed window design only.

Intensity Response to Analog Control



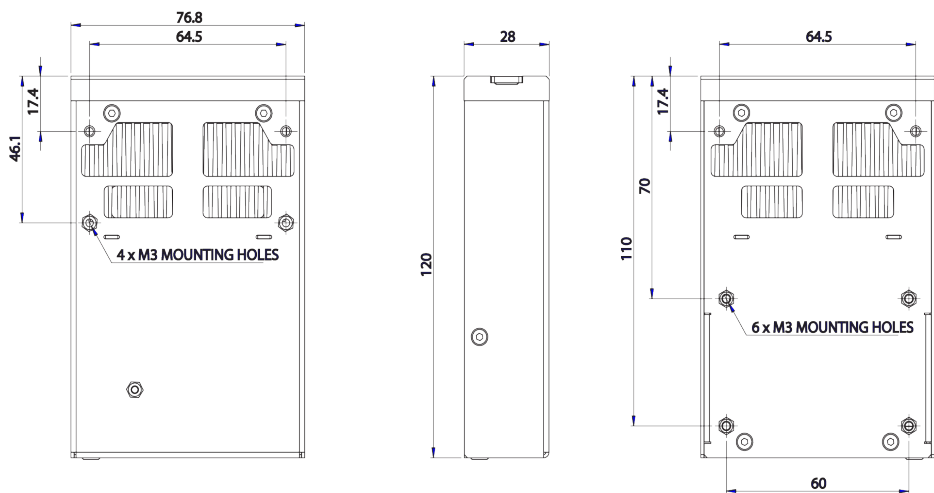
Turns off at 1V



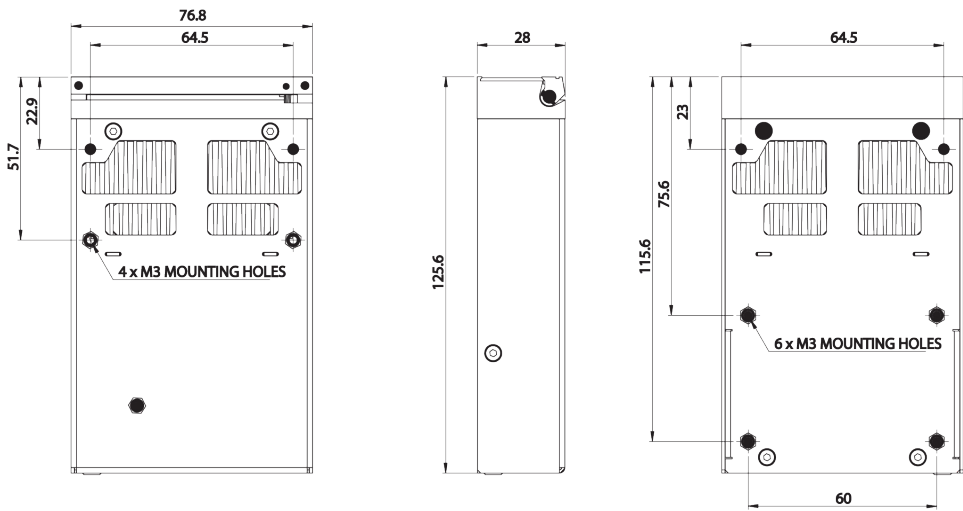
Turns off at 1V. From 300mV to 1V, lamps operate at 10% intensity.

Dimensional Diagram

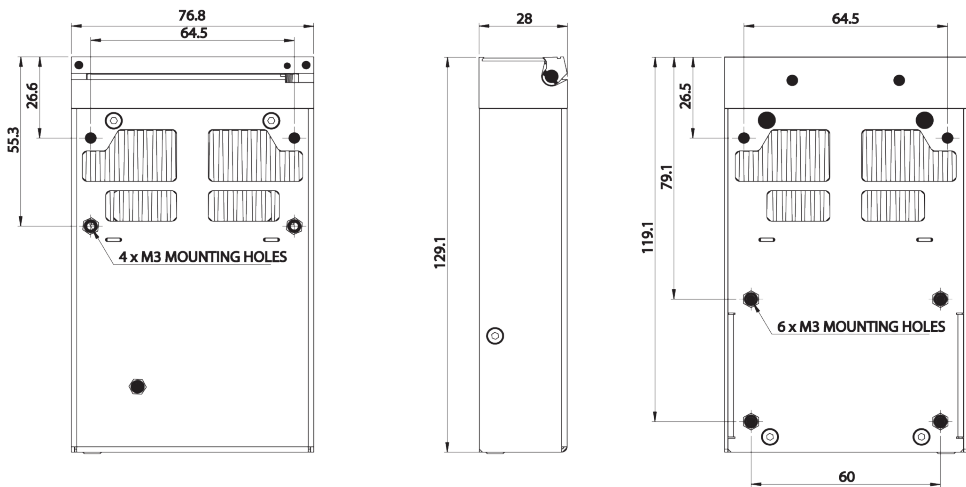
COBRA Cure FX1 (DW)



COBRA Cure FX1 (D4)



COBRA Cure FX1 (C1)



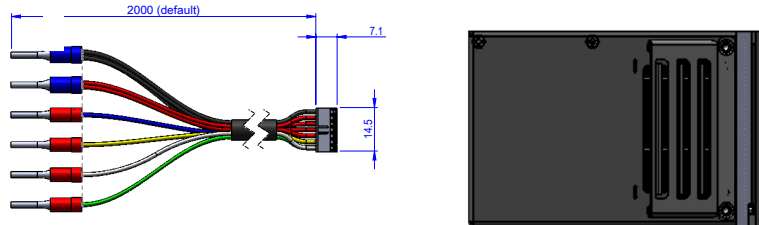
COBRA Cure FX1 Connection Schemes

COBRA Cure™ FX1 lamps can be used in two basic configurations. All configurations allow the user to control the intensity of the modules.

FX1 Connected to Flying Lead Cables

FX1-CAB-F-A-02

2m 14 PIN Ribbon Cable to 6-way Flying Lead Cable



This connection scheme allows the user to configure their own power and control scheme. These cables allow the FX1 module interface to be connected to external power supplies and controllers via flying leads. The intensity is adjusted by varying the voltage using a 1-10V control signal on the control wire. Activation/Enable is achieved by applying a 16-24V signal on the enable wire. This connection configuration also allows the user to monitor the operating status through the status wire.

FX1 Connected to Flying Lead Power Cables and Intensity Controller with or without PSU



This Connection scheme allows the user to configure their own power scheme while utilizing ProPhotonix' Intensity Controller to control the intensity of the lamp.

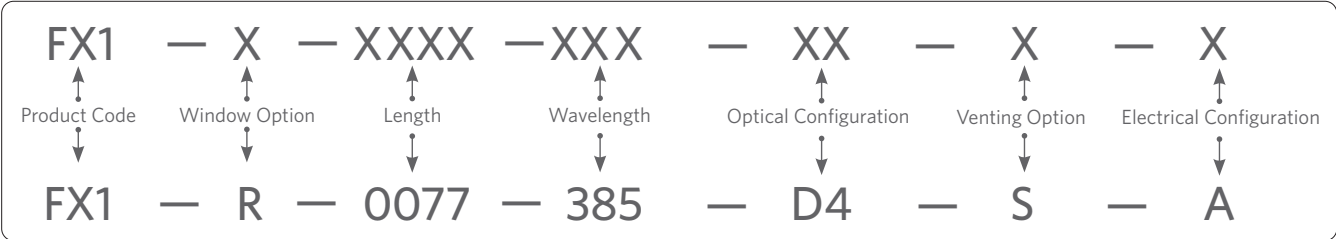
The Intensity Controller has 2 manual inputs. The slider switch is used to activate/enable the unit and there is a rotary potentiometer to adjust the intensity. The controller also incorporates a LED light that illuminates a fault when detected.

The controller can be powered by a wall plug power supply (ProPhotonix Part Number: PSA-48V-120 -XX, where XX is the country). The controller can also be controlled using the customer's own power supply by circular connector to flying lead cables or circular connector to M4 ring cables (not pictured). The circular connector to flying lead cable ProPhotonix part number is CAB0053-LLL. The circular connector to M4 ring cable ProPhotonix part number is CAB0053-4R-LLL. LLL is the length of the cable.

Part Number

Product Code	Window Option	Length (mm)	Wavelength (nm)	Optical Configuration	Venting Option	Electrical Configuration
FX1	R - Replaceable	77	405	C1 - Collimated	S - Side Vented	A - Analog
	F - Fixed		395	D4 - Divergent		S - Sustain
			385	DW - Div. Wide		
			365			

To order your COBRA Cure FX1- Use product code (FX1) - Select Window Option (X) - Select Length (XXXX) - Select Wavelength (XXX) - Select Optical configuration (XX) - Select Venting Option (X) - Select Electrical Configuration (X)



Accessories Part Number

Accessory	Part Number
48V Power Supply	PSU-48V-120W-XX
Replaceable Window (pack of 5)	FX1-W-0077
Wall Plug Power Supply	PSA-48V-120W-XX
2m 14 Pin Ribbon Cable	FX1-CAB-A-A-02
Intensity Controller	FX-CTL-A
14 Pin Ribbon Cable to 6 way Flying Lead Cable	FX1-CAB-F-A-02
2-way Flying Lead to Circular Power Cable	CAB0053-02

LLL represents length of cable. The standard length is 2m. Example 1: Require 2m cable, the product number is then FX1-CAB-F-A-020. Example 2: Require 0.5m cable, the product number is then FX1-CAB-F-A-0.5. XX represents Region Code: US, EU, UK.

US Sales

Tel: +1 603-893-8778
sales@prophotonix.com

EMEA & ROW Sales

Tel: +44-1279-717170
sales@prophotonix.com

ProPhotonix and the ProPhotonix logo are trademarks of ProPhotonix, Inc. All other brand and product names are trademarks or registered trademarks of their respective holders. Copyright © 2024 ProPhotonix, Inc. All rights reserved.



Visit us on the Web: www.prophotonix.com