

COBRA Cure™ FX1 Max

UV LED Curing System



Compact, High-Intensity, Fan-Cooled UV LED Curing System

Designed to maximize intensity and dose, COBRA Cure FX1 Max offers up to 20% higher intensity than the COBRA Cure FX1 from the same compact form factor.

With COBRA Cure FX1 Max, ProPhotonix has utilized its expertise in Chip-on-Board LED array design and packaging to deliver the optimum solution for applications where space is restricted but higher intensity and dose levels are required. COBRA Cure FX1 Max delivers intensities up to $6.4\text{W}/\text{cm}^2$ and a factory set dose of up to $7.8\text{J}/\text{cm}^2$.

ProPhotonix builds the light engine used to power the COBRA Cure FX series in-house and has engineered each step of the design and manufacturing process to ensure that intensity, dose as well as lifetime are maximized in the COBRA Cure FX1 Max.

Built on the COBRA Cure FX platform, this latest innovation offers all the benefits of a UV LED Curing System: improved lifetimes, reduced maintenance costs, energy savings and with no ozone, offers a more sustainable solution than traditional technologies.

COBRA Cure FX1 Max offers an ideal solution for UV curing of inks, coatings and adhesives as well as 3D printing applications.

The COBRA Cure FX Series has been designed with multiple mounting options allowing the lamps to be set to the optimum working distance for the application. The FX1 Max product range is CE and UL certified to EN/UL 61010 (UL file E504220).

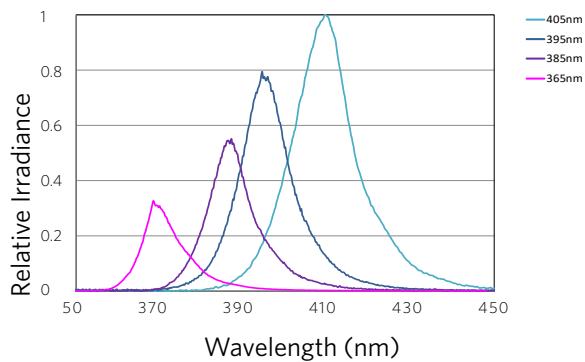
Key Features

- Compact, Fan-Cooled Design
- Delivers Intensities of up to $6.4\text{W}/\text{cm}^2$ at 2 mm
- Provides a Maximum Dose of $7.8\text{J}/\text{cm}^2$ at 2 mm
- UL, CE, IEC Certified
- Field Replaceable Window Option
- Linear Intensity Control

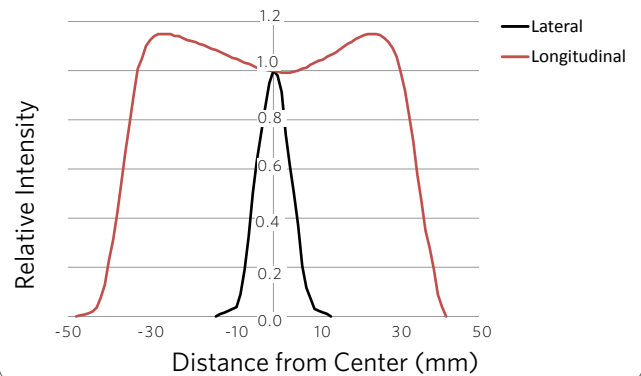
Key Applications

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

RELATIVE IRRADIANCE VERSUS WAVELENGTH WITH

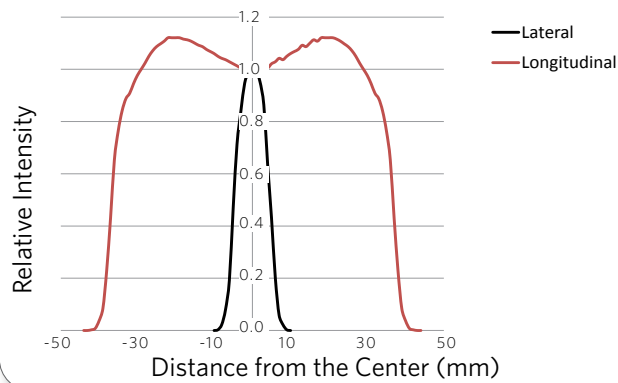


LATERAL & LONGITUDINAL INTENSITY PROFILES - DIVERGENT WIDE DW



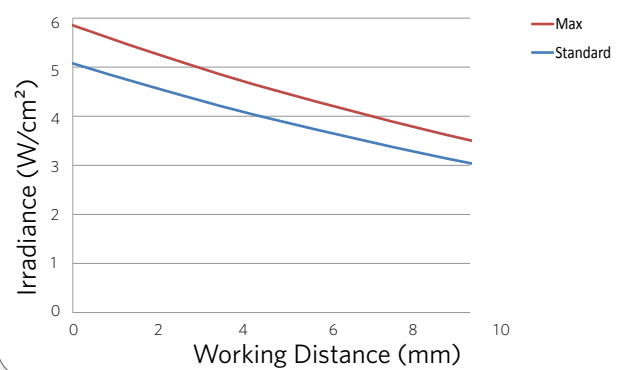
Measured at 3.5mm
Linewidth (FWHM) approx. - 7 mm

LATERAL & LONGITUDINAL INTENSITY PROFILES - DIVERGENT D4



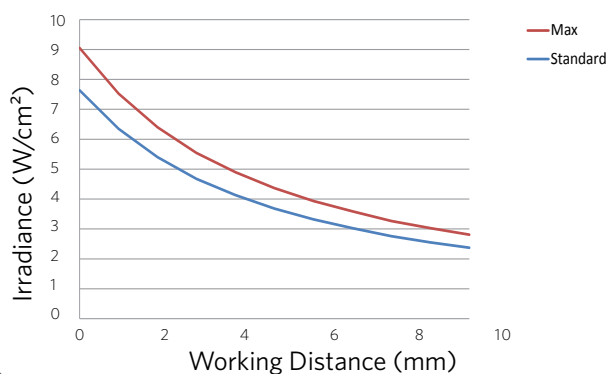
Measured at 2mm
Linewidth (FWHM) approx. -10mm

INTENSITY VERSUS WORKING DISTANCE - 395NM



Measured on the central axis of the unit.

INTENSITY VERSUS WORKING DISTANCE - 395NM

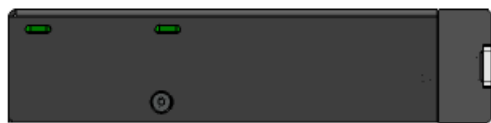


Measured on the central axis of the unit.

For more information on COBRA Cure FX1 (Standard), download the latest datasheet: www.prophotonix.com

Optical Configurations

DW (110°)



D4 (40°)



Optical Characteristics

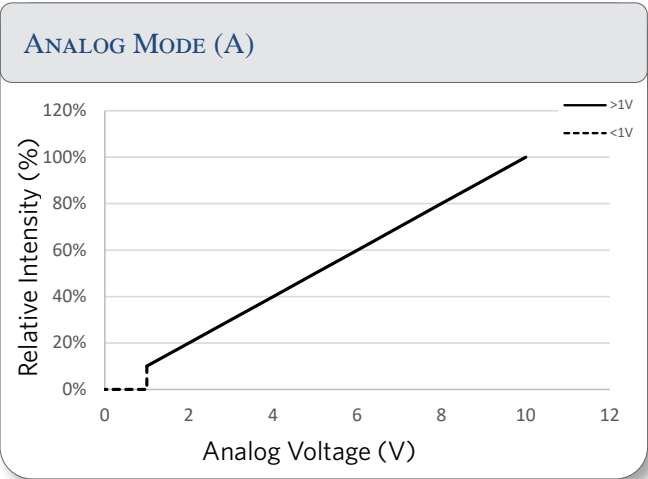
Wavelength	Optical Configuration	Output Angle (°)	Working Distance (mm)	Factory Set Dose (J/cm ²)	Nominal Intensity (W/cm ²)
405nm	DW	110	2.0	7.8	6.5
405nm	D4	40	2.0	6.6	5.8
395nm	DW	110	2.0	5.0	7.2
395nm	D4	40	2.0	7.8	6.1
385nm	D4	40	2.0	2.8	3.6
385nm	DW	110	2.0	4.4	3.8
365nm	D4	40	2.0	2.8	2.3
365nm	DW	110	2.0	2.3	3.2

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.

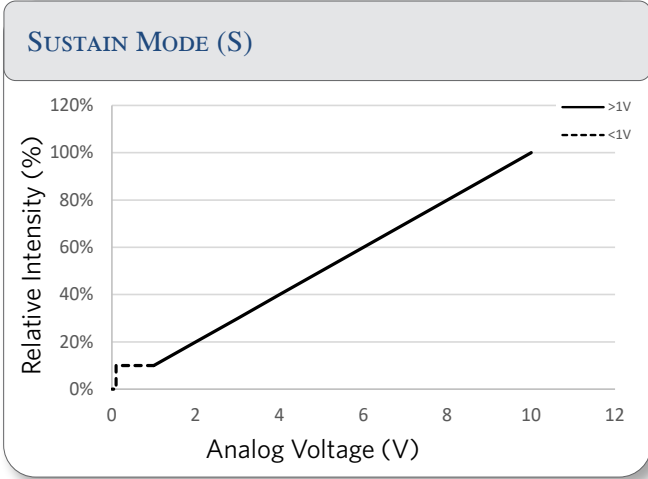
General Characteristics	Values	Units
Weight	0.26	Kg
Noise sound pressure level at 0m	84*	dBA
Noise sound pressure level at 1m	54*	dBA
Maximum Ambient Temperature	35	°C

*For every subsequent module add 3dBA.

Intensity Response to Analog Control



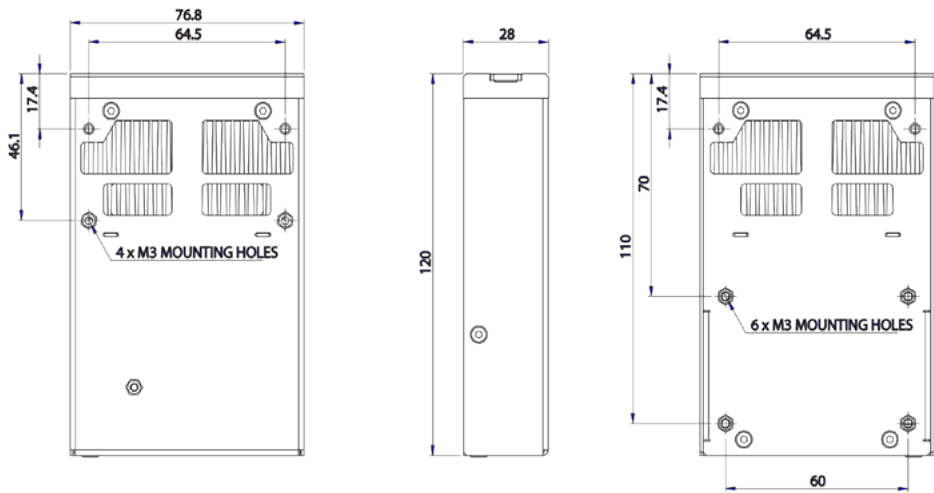
Turns off at 1V



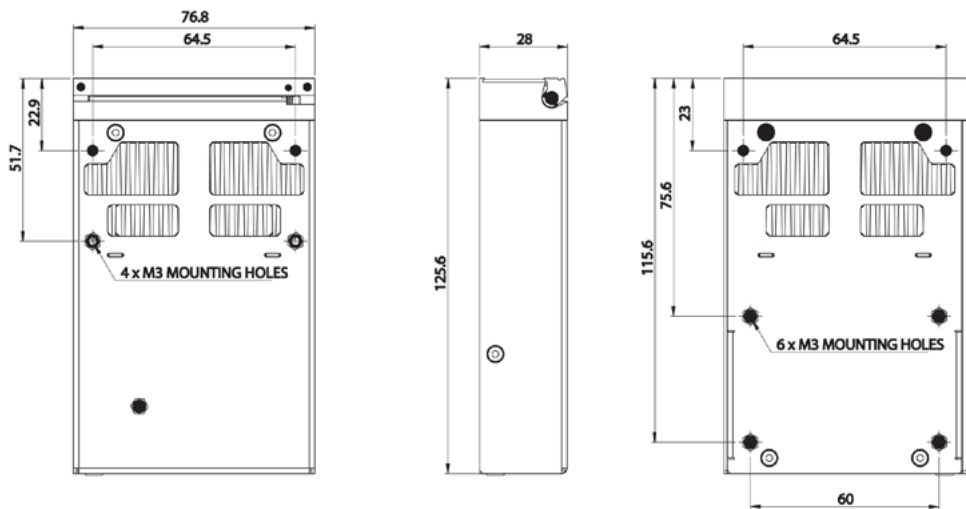
Turns off at 300mV. From 300mV to 1V lamp operates at 10% intensity

Dimensional Diagram

COBRA Cure FX1 Max (DW)



COBRA Cure FX1 Max (D4)



Note: The D4 configuration is supplied with the Replaceable Window design. The DW configuration is available in a fixed window design only. Maximum tread depth is 6mm for all fasteners.

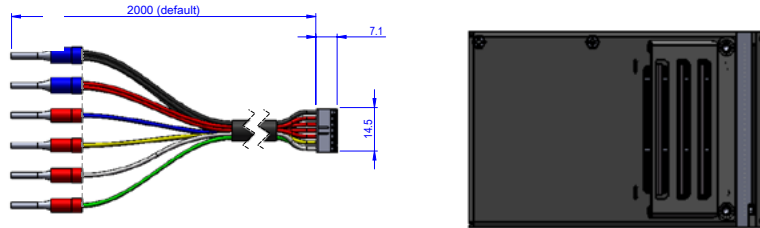
COBRA Cure FX1 Max Connection Schemes

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

FX1 Max 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 Max 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 Max 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.

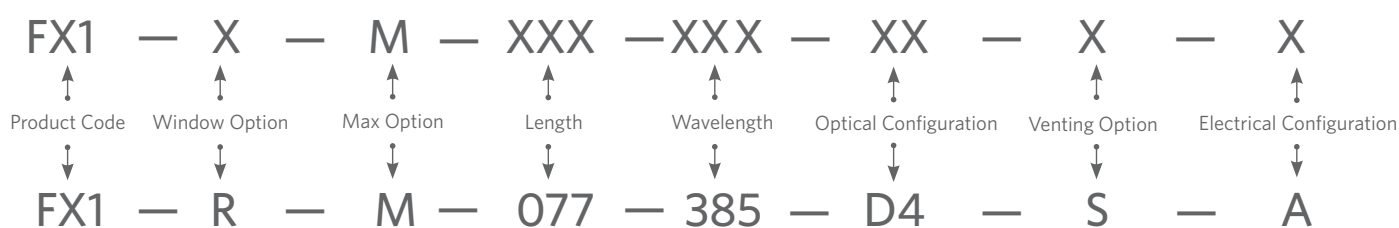
The Intensity Controller has 2 manual inputs. The slider switch is used to activate/enable the unit and there is a rotary potentiometer to adjust the intensity. The controller also incorporates a LED light that illuminates a fault when detected.

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-LL. The circular connector to M4 ring cable ProPhotonix part number is CAB0053-4R-LL. LL is the length of the cable.

Part Number

Product Code	Window Option	Max	Length (mm)	Wavelength (nm)	Optical Configuration	Venting Option	Electrical Configuration
FX1	R - Replaceable	M	077	395	D4 - Divergent	S - Side Vented	A - Analog
	F - Fixed				DW - Div. Wide		S - Sustain

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



* D4 is only available with the replaceable (R) window option

* DW is only available as a fixed (F) window option

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

LL represents length of cable. The standard length is 2m. Example 1: Require 2m cable, the product number is then FX1-CAB-F-A-02. XX represents Region Code: US, EU, UK.

Document Revision:
(270324)

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