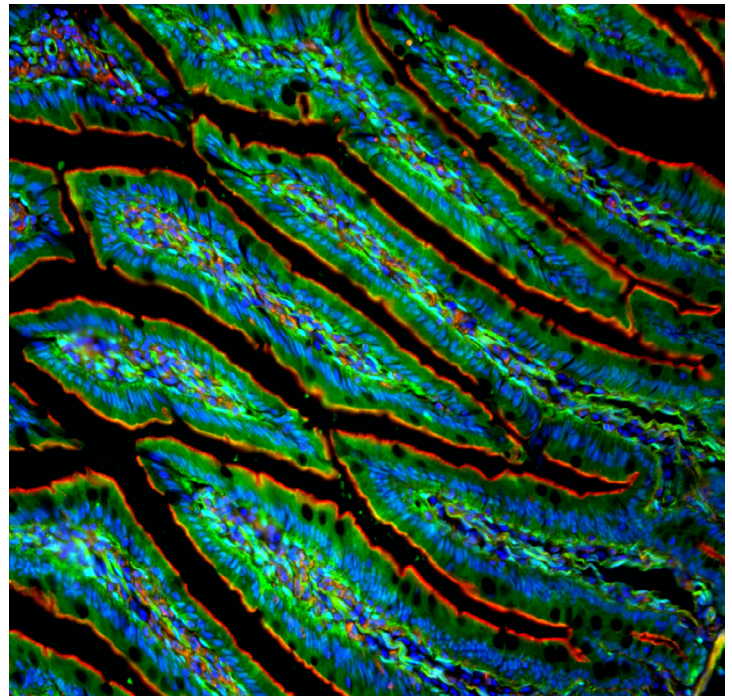## SPECTRA Light Engine

Image by Simon C. Watkins

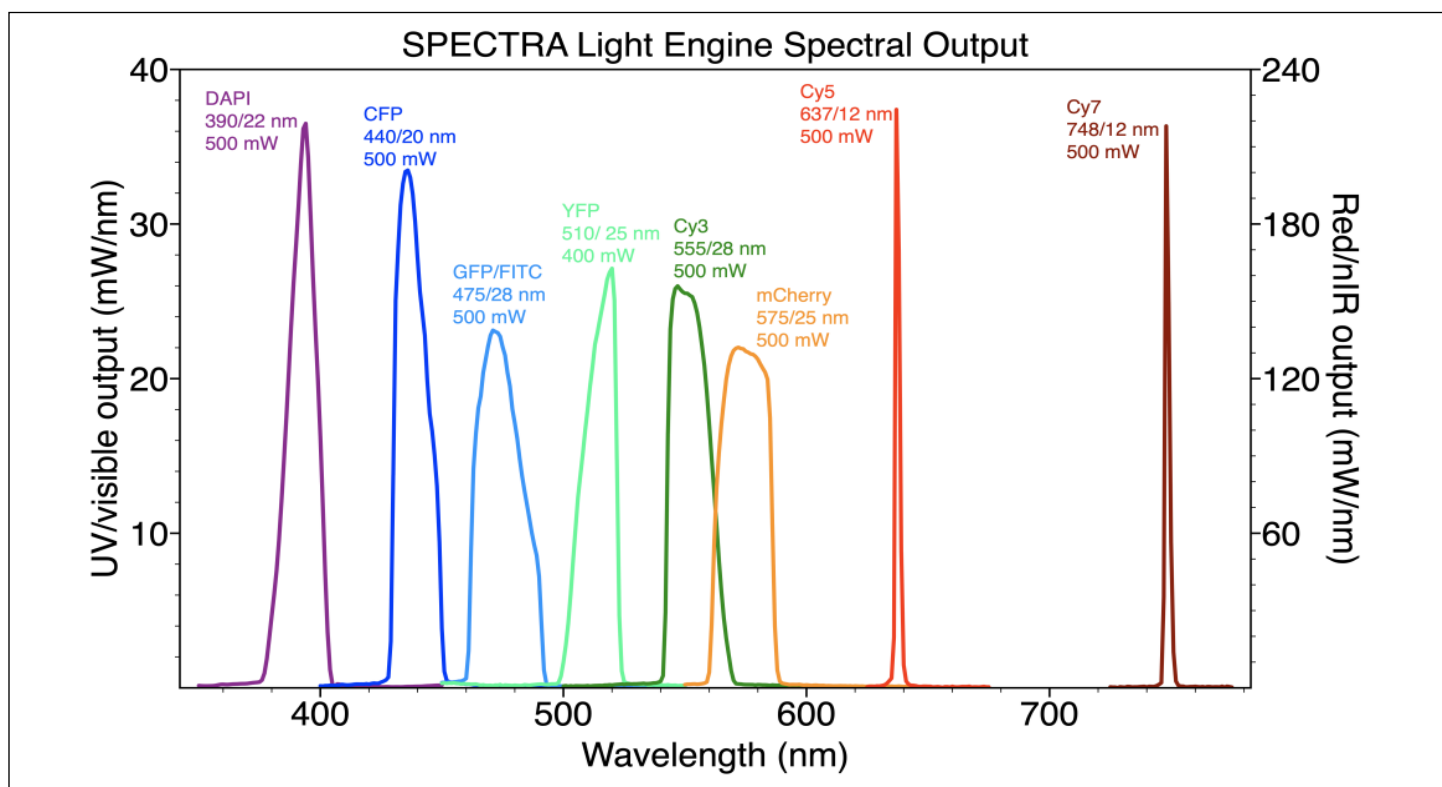# Integrated Array of Eight Powerful Solid-State Light Sources

The next generation of solid-state illumination is here. In Lumencor's SPECTRA Light Engine, eight individually addressable solid-state light sources deliver unprecedented performance. Each color band provides on the order of a half a watt of optical power at the end of a liquid light guide. The constituent light sources include LEDs, Lumencor's proprietary luminescent light pipes and lasers. The outputs of the sources are refined by bandpass filters and merged into a common optical train directed to the light output port on the front panel. The light output port has a built-in adapter for connection to microscopes and other bioanalytical instruments through a standard, 3 mm diameter liquid light guide (LLG).

The SPECTRA Light Engine delivers substantial increases in output power compared to its SPECTRA and SPECTRA X predecessors. The advantages are clear: YFP and Cy7 excitation outputs are increased five-fold; GFP and Cy5 exception outputs are doubled. Not only are the outputs more intense but they are sustained by active stabilization. An onboard feedback loop continuously monitors the light output and maintains constant light output over time. SPECTRA is not only bright but undeniably reliable, stable and consistent.

The SPECTRA features an advanced control system based around an onboard computer with an embedded command library. This facilitates control using simple and intuitive commands. Command sets give access to the basic control functions of light source selection, on/off switching and output intensity adjustment. Additionally, there are an extensive panel of operating status reports and preference settings available in this new Light Engine model. A GUI, resident on the onboard computer and viewed using a web browser via a LAN connection, provides convenient access to many of the command library functions. SPECTRA controls are also implemented in several image acquisition software packages. TTL trigger inputs are provided for all eight sources for applications requiring fast (10 microseconds) switching.

As with all Lumencor products, OEM customization is available upon request.

For more information on the SPECTRA Light Engine, please contact us at info@lumencor.com. To receive a purchase quotation for a SPECTRA Light Engine, please submit our online quotation request form.

SPECTRA Light Engine Spectral Output

DAPI
390/22 nm
500 mW

CFP
440/20 nm
500 mW

GFP/FITC
475/28 nm
500 mW

YFP
510/ 25 nm
400 mW

Cy3
555/28 nm
500 mW

mCherry
575/25 nm
500 mW

Cy5
637/12 nm
500 mW

Cy7
748/12 nm
500 mW

Eight Features and Operating Characteristics:

Features	Details
Sources	8 solid-state sources including LEDs, lasers and proprietary luminescent light pipes
Wavelengths	380 – 750 nm
Bandpass Filters	Integrally installed bandpass filters for spectral output refinement
Output Power	~500 mW per color band ± 10% through a 3 mm liquid light guide (LLG) [1]
Light Delivery	3 mm diameter, 2 m length liquid light guide or SMA-terminated optical fiber [2]
Control Interface	Source selection, light output on/off and intensity via serial interface (RS-232/USB or TCP). Source selection and light output on/off via TTL
Software	Onboard GUI or PC-based image acquisition software
Power Requirements	220 W (24 V DC/9.2 A) power supply included
Warranty	24 Months
Dimensions (WxLxH)	145 mm x 340 mm x 203 mm (5.7 in x 13.4 in x 8.0 in)
Weight	8.7 kg /19.1 lbs
Optional Accessories	8-channel breakout cable for TTL triggering. Light Engine control pod [3]

[1] ~ 200 mW for red and near-infrared LED sources.
[2] Output adapter is built-in. Ensure LLG or fiber output is correctly specified when ordering.
[3] Control pod connects to Light Engine USB port and controls source selection, light output on/off and intensity settings.