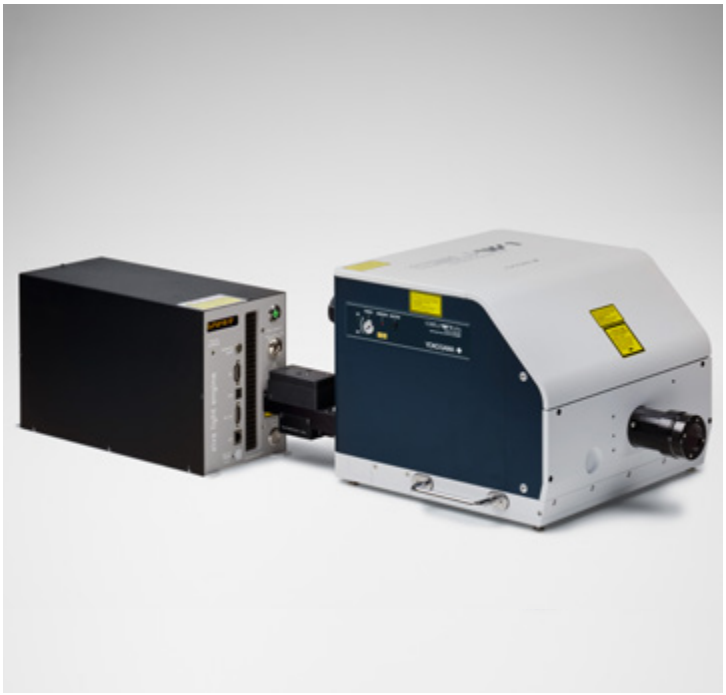


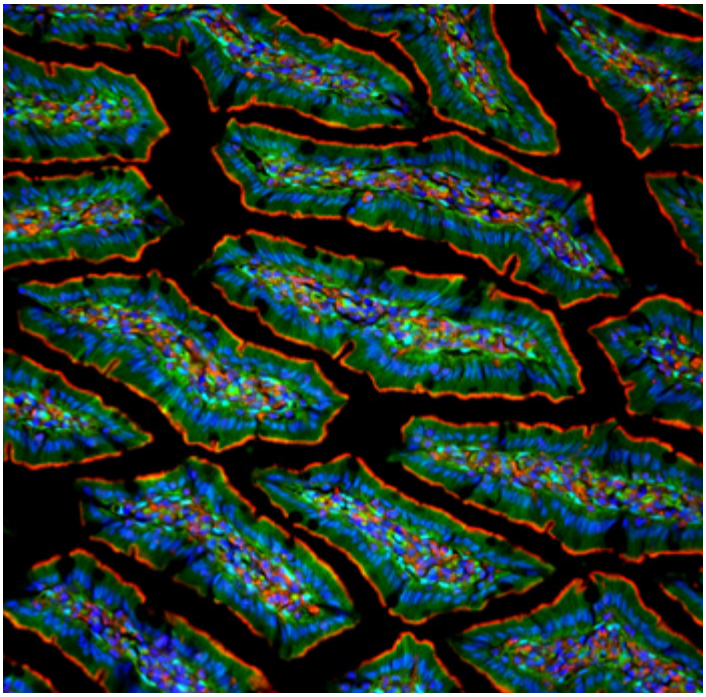


Image by Simon C. Watkins, Ph.D, CBI University of Pittsburgh

ZIVA Light Engine for YOKOGAWA
7 Turn-key Lasers for CSU-W1 Confocal Scanner

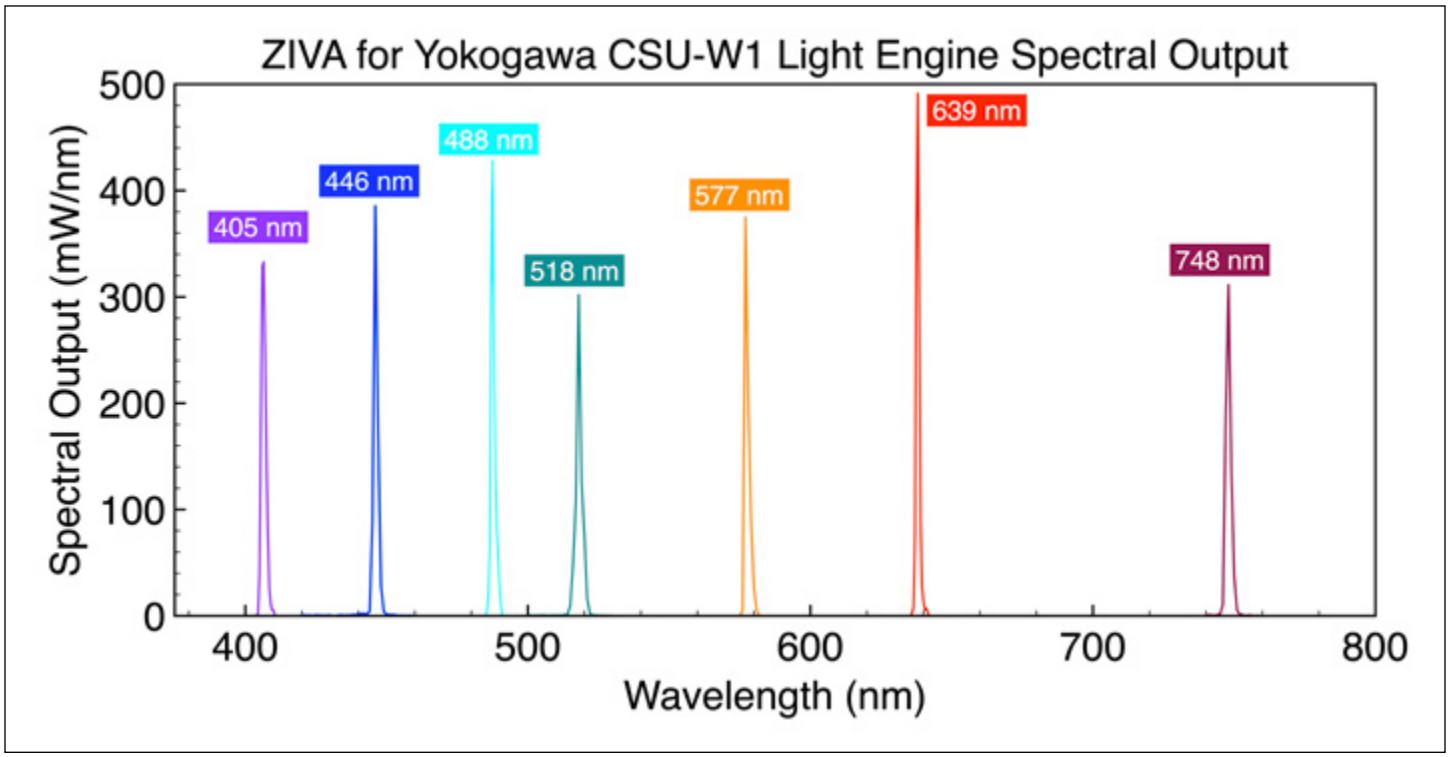
Yokogawa CSU-W1 users highly value both the fast imaging speeds and large field-of-view of this spinning disk confocal scanner available for 3-dimensional imaging of live cells, tissues and microorganisms. However, the range of fluorescence excitation wavelengths provided by light sources installed on CSU-W1 systems is commonly limited to four lasers. Further, the cost of these light sources often exceeds that of the CSU-W1 scanner itself. Lumencor's ZIVA Light Engine for Yokogawa increases the number of lasers from four to seven at a price significantly lower than that of the CSU-W1 scanner.

ZIVA's lasers are refined by bandpass filters, merged into a common optical train, passed through a despeckler and directed to the light output port on the front panel. Wavelength selection is managed by on/off switching of the lasers. There is no light leakage as with other laser subsystems in which outputs are managed through an external selection device such as an AOTF. The ZIVA output port is coupled to the Yokogawa CSU-W1 scanner through a precision engineered adapter. This optical coupling provides intense, uniform illumination at the sample plane.

ZIVA's capabilities are assembled in a compact, bench-top device. ZIVA Light Engines feature advanced electronic controls based on an onboard computer with an embedded command library. A convenient GUI, provides simple implementation of the command library. Access is provided not only to basic control functions of laser selection, on/off switching and output intensity, but also to an extensive panel of operating status reports and advanced control features. Significantly, laser power is linear with respect to intensity control and is monitored in real-time in the control GUI. ZIVA controls are also implemented in several common image acquisition software packages. TTL trigger inputs are provided for each laser for applications requiring fast (100 microsecond) switching. Long-term stability is sustained by active feedback control to maintain constant light output over time.

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

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



Features and Operating Characteristics:

Features	Details
Sources	7 solid-state, class 4 lasers with despeckler
Wavelengths	Center wavelengths 405, 446, 488, 518, 577, 639, 748 ± 2 nm [1]
Filters	One internal bandpass filter per laser
Output Power	~700 mW per laser at Light Engine output port
Light Delivery	Output adapter for Yokogawa CSU-W1 scanner included [2]
Safety Interlocks	Laser output contingent on manual (key) and remote (electronic) interlocks [3]
Control Interfaces	Source selection, light output on/off and intensity via serial interface (RS-232/USB or ethernet). Source selection and light output on/off control via TTL.
Software	Onboard control GUI accessed through ethernet connection or PC-based image acquisition software.
Onboard Metrology	Real-time power, cumulative laser on-time, internal temperature, humidity, dew point [3]
Power Requirements	100–240 V AC, 50–60 Hz. DC power supply (220 W, 24 V/9.2 A) and AC cord included
Warranty	24 months
Dimensions (W x L x H)	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
Accessories	9-channel breakout cable for TTL triggering. Multiband dichroic beamsplitters for Yokogawa CSU-W1 [1]

[1] Installation of multiband dichroic beamsplitter 10-11013 and/or 10-11042 in Yokogawa CSU-W1 is required for transmission of 405, 446, 488, 518, 577, 639 and 748 nm light.
[2] Installation alignment required.
[3] Interlock status and metrology readouts displayed in onboard control GUI.