Channel	Filter#	3 mm liquid light guide		1 mm optical fiber	
		Power (mW)◇	Irradiance (mW/mm^2)*	Power (mW)◇	Irradiance (mW/mm^2)*
Violet	395/25	295	42	106	135
Blue	440/20	256	36	82	104
Cyan	470/24	196	28	58	74
Teal	510/25	62	9	19	24
Green	550/15	260	37	78	99
Yellow	575/25	310	44	98	125
Red	640/30	231	33	65	83
nIR◉	740/20	74	10	19	24

Table 1. SPECTRA X light engine outputs from liquid light guides and optical fibers.

Filter center wavelength (CWL)/full width at half maximum (FWHM) in nm.
◇ Specimen measurement of SPECTRA X light engine output power through 3 mm liquid light guide or 1 mm optical fiber. These values represent averages of measurements on multiple SPECTRA X light engines. Values for individual SPECTRA X light engines will vary.
◉ Requires SPECTRA X with near-IR source option.
* Irradiance at the output window of the light guide or optical fiber.

Optical Fibers

Although silica core optical fibers deliver less output total power than liquid light guides, they provide higher levels of irradiance (power density; Table 1). This makes them particularly suitable for applications where the light engine output must be concentrated upon small target areas. However, they are structurally less flexible than liquid light guides. Lumencor supplies optical fibers with 1.5, 1.0 and 0.2 mm core diameters with SMA+SMA or SMA+FC/PC terminating couplers. SMA terminations are used for connection to light engine output adapters, with SMA or FC/PC options for connecting to microscopes, scanners and other bioanalytical instruments. Typical outputs from SPECTRA X light engines delivered by 1 mm optical fibers are listed in Table 1. For 1.5 mm and 0.2 mm fibers, the power output delivered is about 225% and 4% respectively of the corresponding value for a 1 mm fiber.