Continuously Variable filter set for the range 320 nm to 850 nm

This filter set consist of a continuously variable long wave pass filters and a continuously variable short wave pass filters. CVLWP 310-850 (LF102475) can be combined with CVSWP 320-850 (LF102474) to make a continuously variable bandpass filter for the range 320 nm to 850 nm.

Filter set specifications

λ_{center} tuning range	Minium bandwidth	Maximum bandwidth	Out of band Blocking	Product numbers
324 – 841 nm	6.4 – 17 nm	20 – 100 nm	OD2.4 (SW) OD4 (LW)	LF102474, LF102475

Detailed data for the three filters in this set are given below.

CVLWP 310-850 (LF102475)

Continuously variable long-wavelength-pass filter with $\lambda_{50\,\%}$ travelling from ≤ 310 nm to ≥ 850 nm within ≤ 58 mm

OD2 blocking reached within 0.01 * $\lambda_{50\,\%}$

Near-edge average transmittance

T_{avg}	$\lambda_{50\,\%}$	Interval start	Interval end
≥ 85 %	310 nm – 420 nm	1.01 * $\lambda_{50\,\%}$	1.1 * $\lambda_{50\,\%}$
≥ 92 %	420 nm – 850 nm	1.01 * $\lambda_{50\,\%}$	1.1 * $\lambda_{50\,\%}$

Broad-band minimum transmittance

T_{avg}	$\lambda_{50\,\%}$	Interval start	Interval end
≥ 80 %	310 nm – 420 nm	1.02 * $\lambda_{50\,\%}$	$\lambda_{50\,\%}$ + 120 nm
≥ 90 %	420 nm – 850 nm	1.02 * $\lambda_{50\,\%}$	$\lambda_{50\,\%}$ + 120 nm

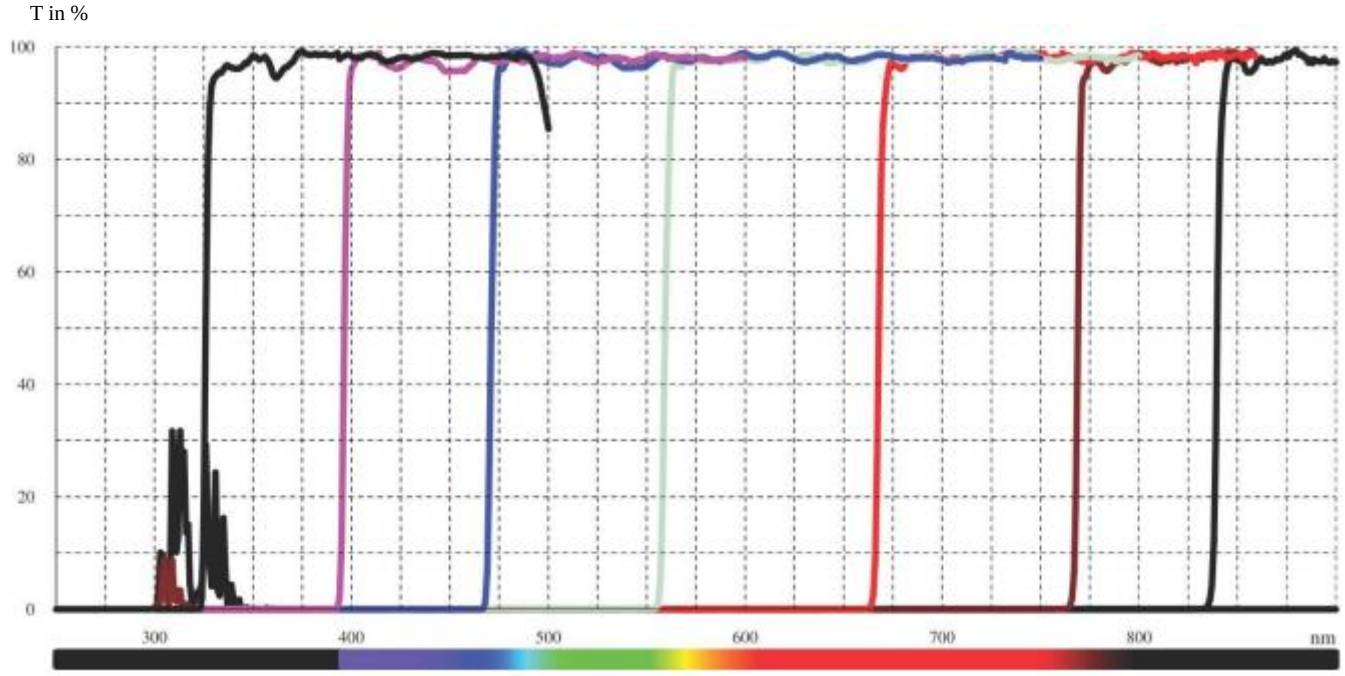
Broad-band blocking (maximum transmittance)

T_{max}	$\lambda_{50\,\%}$	Interval start	Interval end
≤ 1 %	310 nm – 850 nm	190 nm	0.99 * $\lambda_{50\,\%}$
≤ 0.1 %	310 nm – 850 nm	190 nm	0.97 * $\lambda_{50\,\%}$

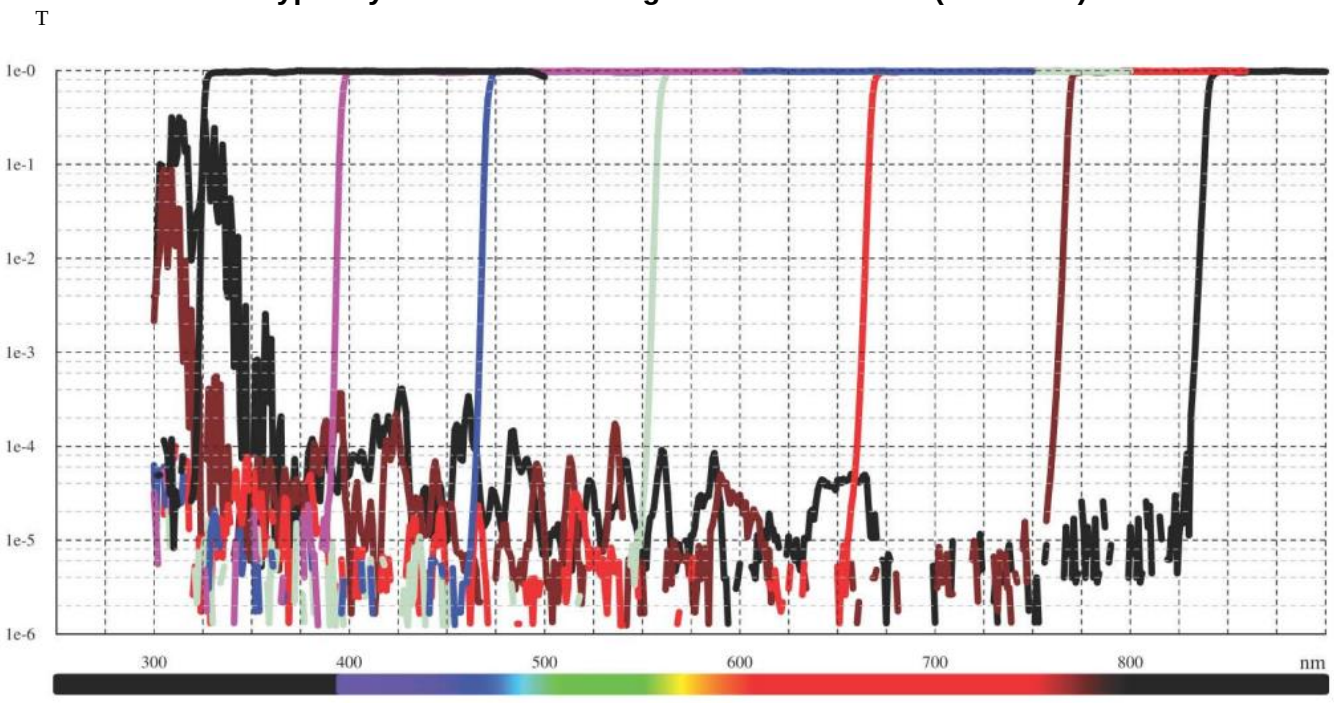
Broad-band blocking (average transmittance)

T_{avg}	$\lambda_{50\,\%}$	Interval start	Interval end
≤ 0.05 %	310 nm – 850 nm	190 nm	0.97 * $\lambda_{50\,\%}$

Typically measured transmittance of CVLWP 310-850 (LF102475)



Typically measured blocking of CVLWP 310-850 (LF102475)



CVSWP 320-850 (LF102474)

Continuously variable short-wavelength-pass filter with $\lambda_{50\,\%}$ travelling from ≤ 320 nm to ≥ 850 nm within ≤ 58 mm

OD2 blocking reached within 0.02 * $\lambda_{50\,\%}$

Near-edge average transmittance

T_{avg}	$\lambda_{50\,\%}$	Interval start	Interval end
≥ 42 %	320 nm – 370 nm	0.96 * $\lambda_{50\,\%}$	0.99 * $\lambda_{50\,\%}$
≥ 65 %	370 nm – 430 nm	0.95 * $\lambda_{50\,\%}$	0.99 * $\lambda_{50\,\%}$
≥ 85 %	430 nm – 520 nm	0.95 * $\lambda_{50\,\%}$	0.99 * $\lambda_{50\,\%}$
≥ 90 %	520 nm – 850 nm	0.95 * $\lambda_{50\,\%}$	0.99 * $\lambda_{50\,\%}$

Broad-band minimum transmittance

T_{min}	$\lambda_{50\,\%}$	Interval start	Interval end
≥ 40 %	320 nm – 330 nm	305 nm	0.98 * $\lambda_{50\,\%}$
≥ 60 %	330 nm – 370 nm	0.94 * $\lambda_{50\,\%}$	0.98 * $\lambda_{50\,\%}$
≥ 70 %	370 nm – 430 nm	0.88 * $\lambda_{50\,\%}$	0.98 * $\lambda_{50\,\%}$
≥ 80 %	430 nm – 520 nm	0.83 * $\lambda_{50\,\%}$	0.98 * $\lambda_{50\,\%}$
≥ 87 %	520 nm – 850 nm	$\lambda_{50\,\%}$ - 100 nm	0.98 * $\lambda_{50\,\%}$

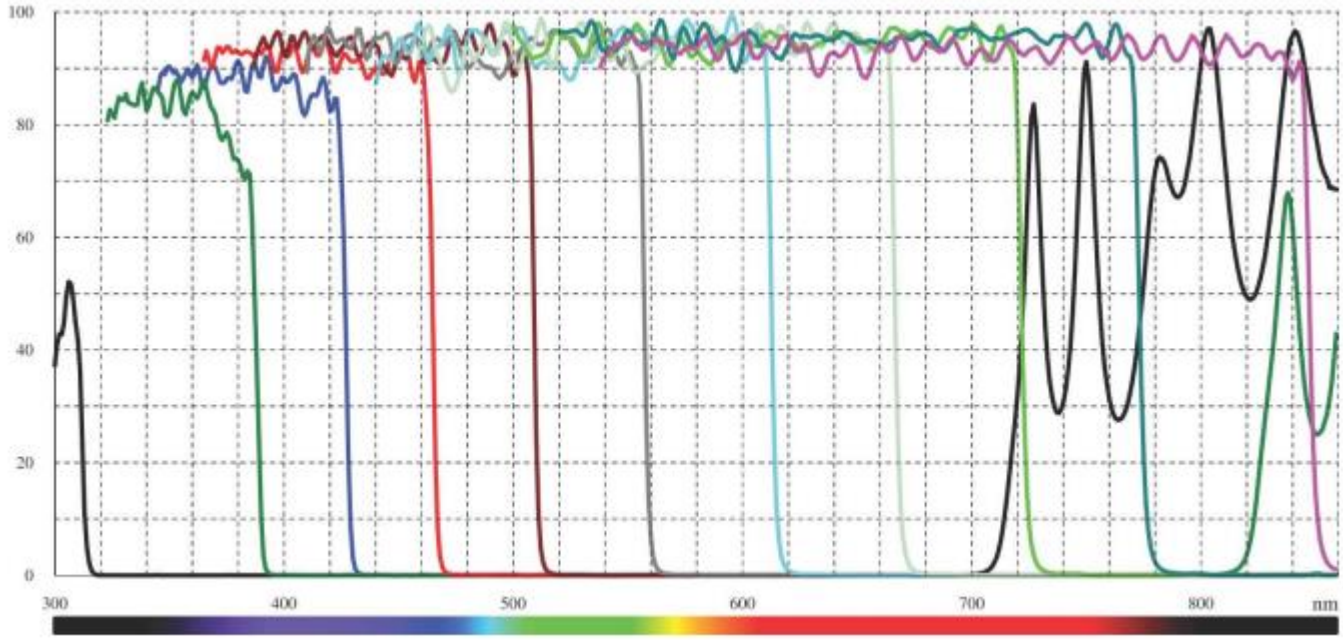
Broad-band blocking (maximum transmittance)

T_{max}	$\lambda_{50\,\%}$	Interval start	Interval end
≤ 1 %	320 nm – 850 nm	1.02 * $\lambda_{50\,\%}$	1.45 * $\lambda_{50\,\%}$ + 220 nm
≤ 0.2 %	320 nm – 850 nm	1.03 * $\lambda_{50\,\%}$	1.4 * $\lambda_{50\,\%}$ + 220 nm

Broad-band blocking (average transmittance)

T_{avg}	$\lambda_{50\,\%}$	Interval start	Interval end
≤ 0.02 %	395 nm – 815 nm	1.03 * $\lambda_{50\,\%}$	1.4 * $\lambda_{50\,\%}$ + 220 nm

Typically measured transmittance of CVSWP 320-850 (LF102474)



Typically measured blocking of CVSWP 320-850 (LF102474)