

Continuously Variable filter set for the range 410 nm to 895 nm

This filter set consist of two continuously variable long wave pass filters and two continuously variable short wave pass filters. CVLWP 410-652,5 (LF104559) can be combined with CVSWP 425-652.5 (LF104561) to make a continuously variable bandpass filter for the range 410-652.5 nm. CVLWP 652.5-895 (LF104560) can be combined with CVSWP 652.5-895 (LF104562) to make a continuously variable bandpass filter for the range 652-895 nm.

Compared to the combination of our CVLPW 310-850 (LF102474) and CVSWP 320-850 (LF102475), these sets offer steeper edges and allows for a larger spot size without broadening of the filters.

Filter set specifications

λ_{center} tuning range	Minium bandwidth	Maximum bandwidth	Out of band Blocking	Product numbers
415 – 645 nm	8 – 13 nm	70 – 156 nm	OD4	LF104559, LF104561
659 – 886 nm	13 – 18 nm	94 – 119 nm	OD4	LF104560, LF104562

Detailed data for the four filters in this set are given below:

CVLWP 410-652.5 (LF104559)

Continuously variable long-wavelength-pass filter with $\lambda_{50\%}$ travelling from ≤ 410 nm to ≥ 652.5 nm within ≤ 66.6 mm

Broad-band average transmittance

T_{avg}	$\lambda_{50\%}$	Interval start	Interval end
$\geq 92\%$	410 nm – 652.5 nm	$\lambda_{50\%} + 5$ nm	$1.4 * \lambda_{50\%} - 70$ nm or 685nm (whichever is smallest)

Broad-band minimum transmittance

T_{min}	$\lambda_{50\%}$	Interval start	Interval end
$\geq 85\%$	410 nm – 652.5 nm	$1.01 * \lambda_{50\%}$	$1.4 * \lambda_{50\%} - 70$ nm or 685nm (whichever is smallest)

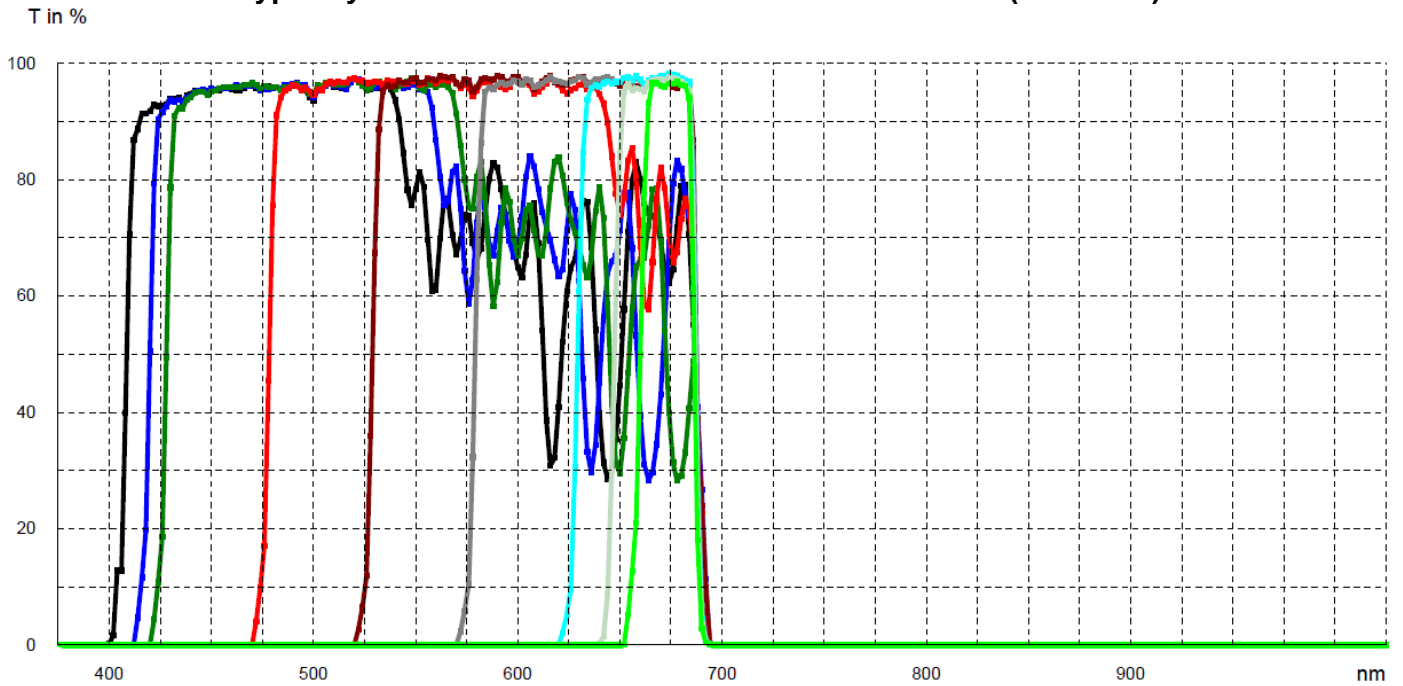
Broad-band blocking (maximum transmittance)

T_{max}	$\lambda_{50\%}$	Interval start	Interval end
$\leq 0.01\%$	410 nm – 652.5 nm	390 nm	$\lambda_{50\%} - 20$ nm
$\leq 0.01\%$	410 nm – 652.5 nm	718 nm	1025 nm

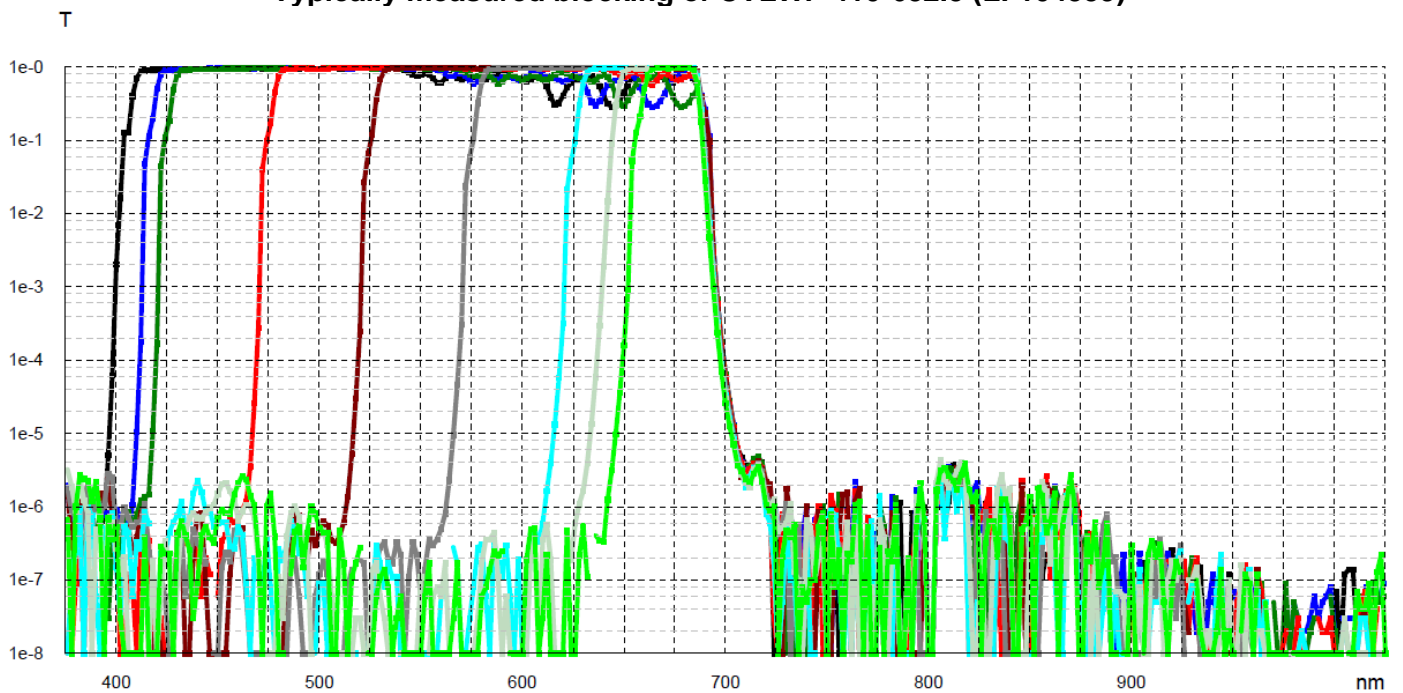
T_{max}	$\lambda_{50\%}$	Interval start	Interval end
$\leq 1\%$	410 nm – 652.5 nm	390 nm	$\lambda_{50\%} - 10$ nm

T_{max}	$\lambda_{50\%}$	Interval start	Interval end
$\leq 10\%$	410 nm – 652.5 nm	390 nm	$0.99 * \lambda_{50\%}$

Typically measured transmittance of CVLWP 410-652.5 (LF104559)



Typically measured blocking of CVLWP 410-652.5 (LF104559)



CVLWP 652.5-895 (LF104560)

Continuously variable long-wavelength-pass filter with $\lambda_{50\%}$ travelling from ≤ 652.5 nm to ≥ 895 nm within ≤ 66.6 mm.

Broad-band average transmittance

T_{avg}	$\lambda_{50\%}$	Interval start	Interval end
$\geq 92\%$	652.5 nm – 895 nm	$\lambda_{50\%} + 5$ nm	$1.2 * \lambda_{50\%} - 37$ nm or 920 nm (whichever is smallest)

Broad-band minimum transmittance

T_{min}	$\lambda_{50\%}$	Interval start	Interval end
$\geq 90\%$	652.5 nm – 895 nm	$1.01 * \lambda_{50\%}$	$1.2 * \lambda_{50\%} - 37$ nm or 920 nm (whichever is smallest)

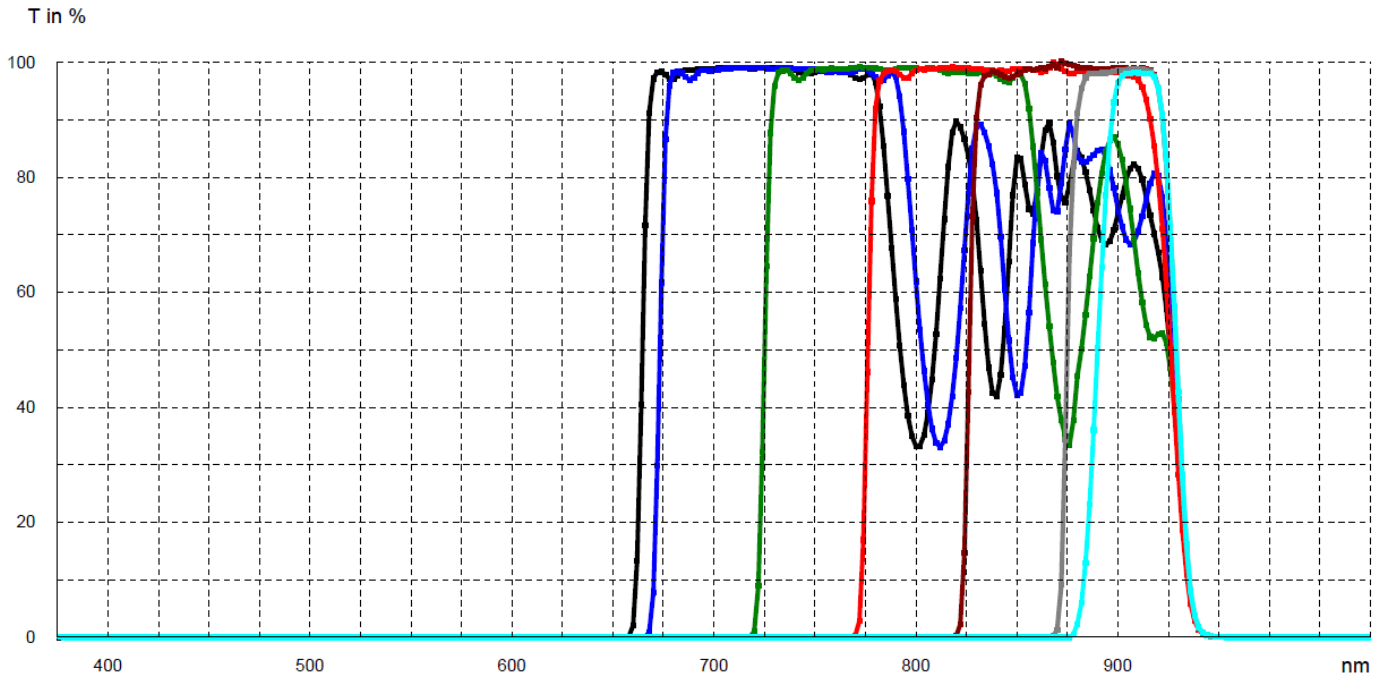
Broad-band blocking (maximum transmittance)

T_{max}	$\lambda_{50\%}$	Interval start	Interval end
$\leq 0.01\%$	652.5 nm – 895 nm	390 nm	$\lambda_{50\%} - 20$ nm
$\leq 0.01\%$	652.5 nm – 895 nm	975 nm	1025 nm

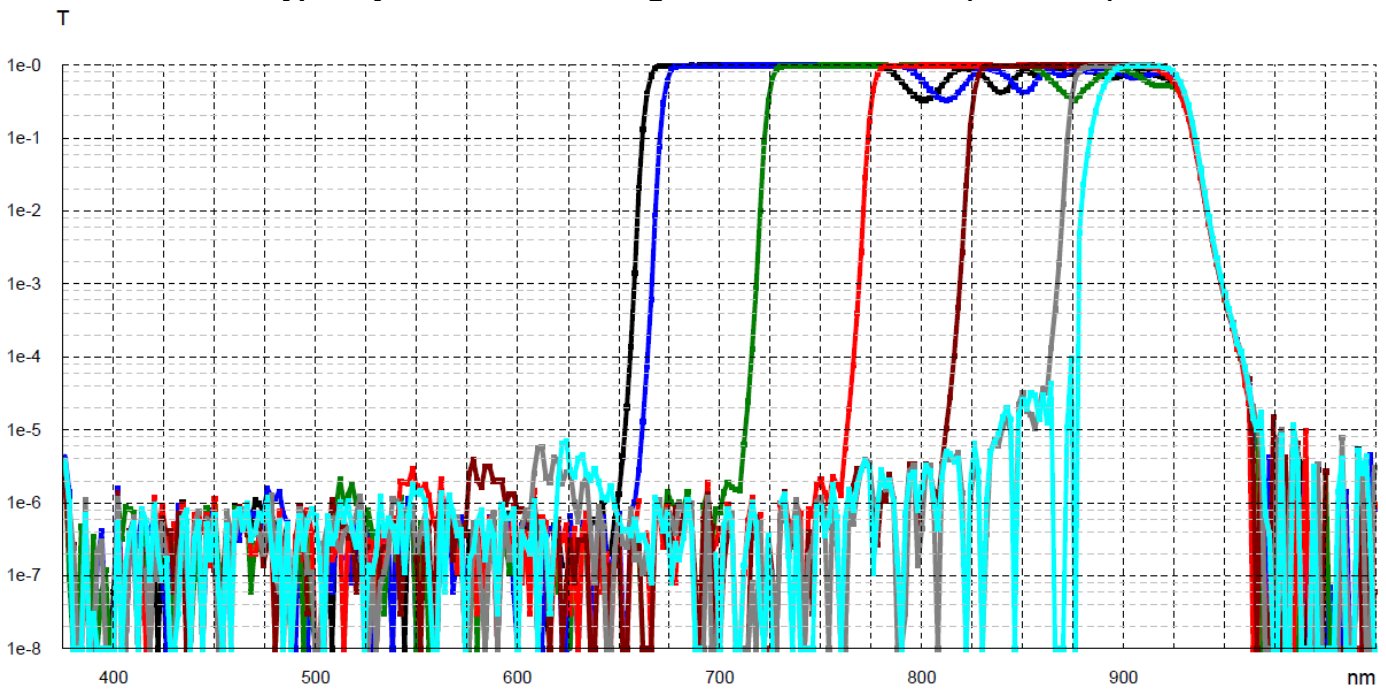
T_{max}	$\lambda_{50\%}$	Interval start	Interval end
$\leq 1\%$	652.5 nm – 895 nm	390 nm	$\lambda_{50\%} - 10$ nm

T_{max}	$\lambda_{50\%}$	Interval start	Interval end
$\leq 10\%$	652.5 nm – 895 nm	390 nm	$0.99 * \lambda_{50\%}$

Typically measured transmittance of CVLWP 652.5-895 (LF104560)



Typically measured blocking of CVLWP 652.5-895 (LF104560)



CVSWP 425-652.5 (LF104561)

Continuously variable short-wavelength-pass filter with $\lambda_{50\%}$ travelling from ≤ 425 nm to ≥ 652.5 nm within ≤ 66.6 nm

Broad-band average transmittance

T_{avg}	$\lambda_{50\%}$	Interval start	Interval end
$\geq 90\%$	425 nm – 652.5 nm	$0.5 * \lambda_{50\%} + 170$ nm	$\lambda_{50\%} - 5$ nm

Broad-band minimum transmittance

T_{min}	$\lambda_{50\%}$	Interval start	Interval end
$\geq 90\%$	425 nm – 652.5 nm	$0.5 * \lambda_{50\%} + 170$ nm	$0.99 * \lambda_{50\%}$

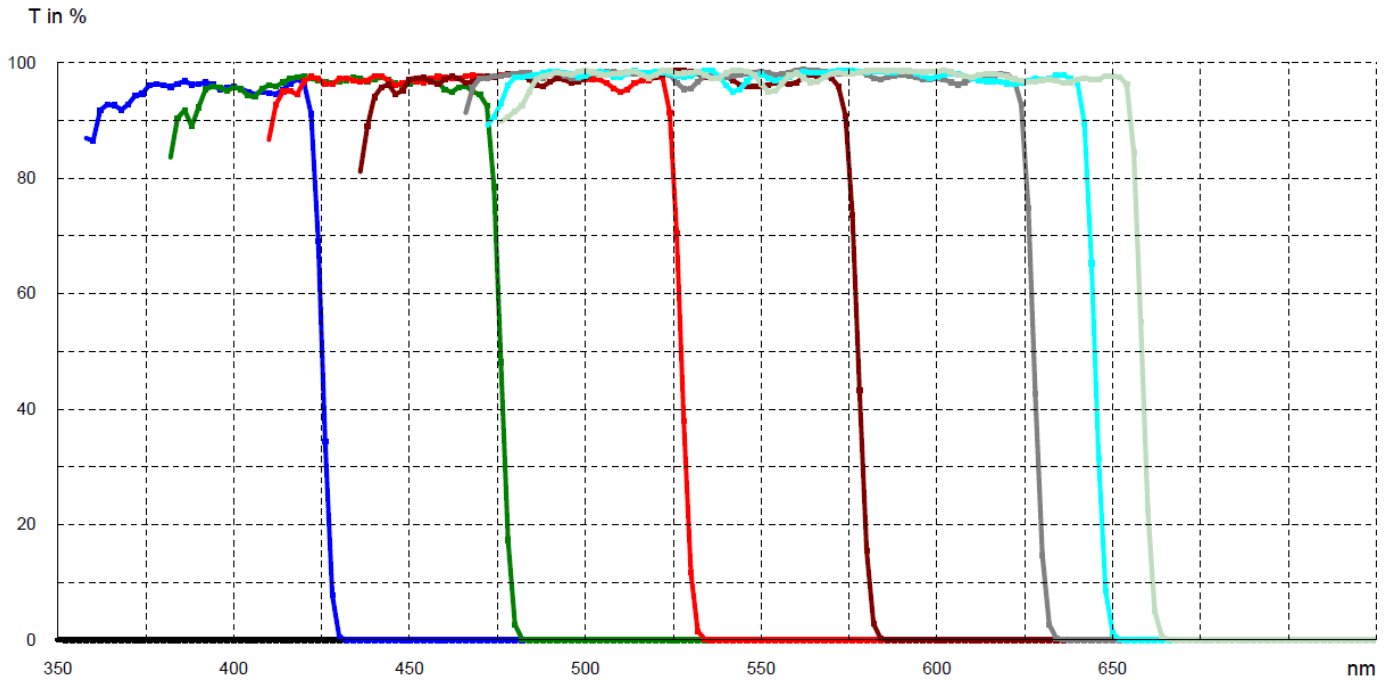
Broad-band blocking (maximum transmittance)

T_{max}	$\lambda_{50\%}$	Interval start	Interval end
$\leq 0.01\%$	425 nm – 652.5 nm	$\lambda_{50\%} + 20$ nm	718 nm

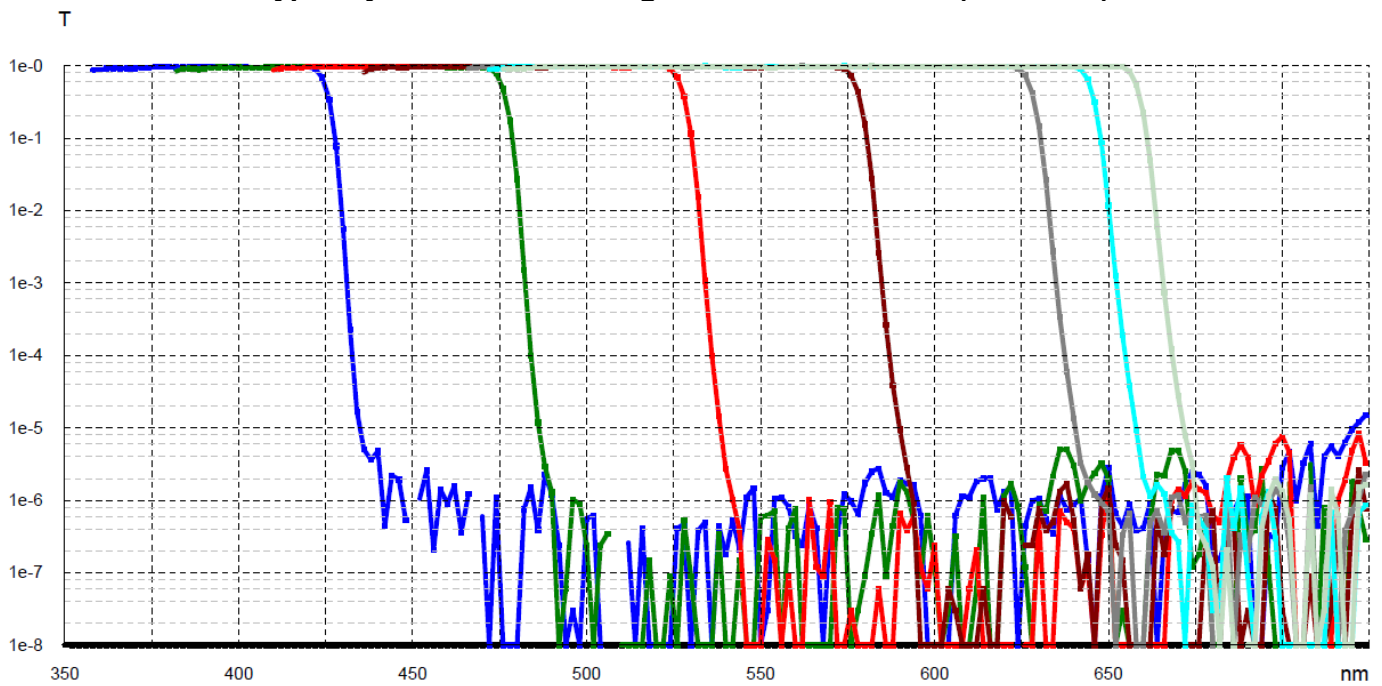
T_{max}	$\lambda_{50\%}$	Interval start	Interval end
$\leq 1\%$	425 nm – 652.5 nm	$\lambda_{50\%} + 10$ nm	718 nm

T_{max}	$\lambda_{50\%}$	Interval start	Interval end
$\leq 10\%$	425 nm – 652.5 nm	$1.02 * \lambda_{50\%}$	718 nm

Typically measured transmittance of CVSWP 425-652.5 (LF104561)



Typically measured blocking of CVSWP 425-652.5 (LF104561)



CVSWP 652.5-895 (LF104562)

Continuously variable short-wavelength-pass filter with $\lambda_{50\%}$ travelling from ≤ 652.5 nm to ≥ 895 nm within ≤ 66.6 mm

Broad-band average transmittance

T_{avg}	$\lambda_{50\%}$	Interval start	Interval end
$\geq 92\%$	652.5 nm – 895 nm	$0.75 * \lambda_{50\%} + 50$ nm	$\lambda_{50\%} - 5$ nm

Broad-band minimum transmittance

T_{min}	$\lambda_{50\%}$	Interval start	Interval end
$\geq 90\%$	652.5 nm – 895 nm	$0.75 * \lambda_{50\%} + 50$ nm	$0.99 * \lambda_{50\%}$

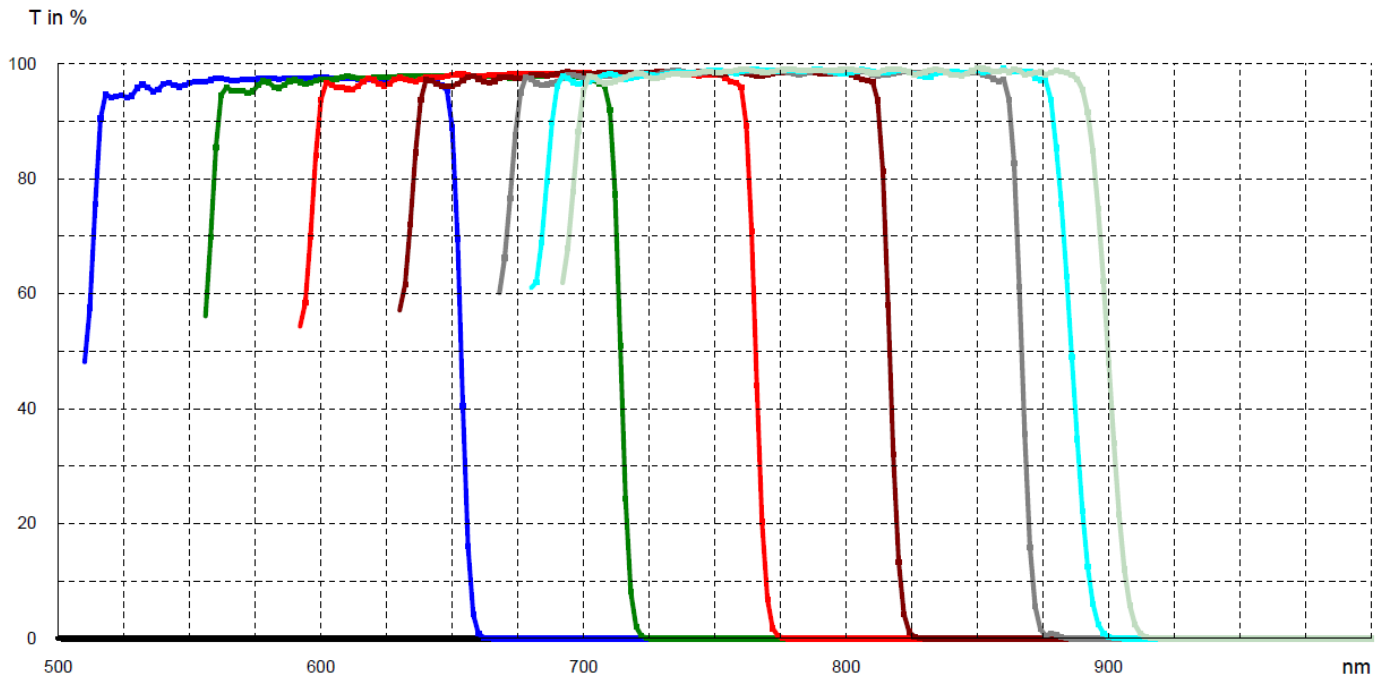
Broad-band blocking (maximum transmittance)

T_{max}	$\lambda_{50\%}$	Interval start	Interval end
$\leq 0.01\%$	652.5 nm – 895 nm	$\lambda_{50\%} + 20$ nm	975 nm

T_{max}	$\lambda_{50\%}$	Interval start	Interval end
$\leq 1\%$	652.5 nm – 895 nm	$\lambda_{50\%} + 10$ nm	975 nm

T_{max}	$\lambda_{50\%}$	Interval start	Interval end
$\leq 10\%$	652.5 nm – 895 nm	$1.02 * \lambda_{50\%}$	975 nm

Typically easured transmittance of CVSWP 652.5-895 (LF104562)



Typicallyeasured blocking of CVSWP 652.5-895 (LF104562)

