

## Continuously Variable filter set for the range 385 nm to 1000 nm

This filter set consist of 6 filter, a continuously variable long wave pass filters, a continuously variable short wave pass filters and 4 homogeneous blocking filters for various wavelength regions. CVLWP 383-1000 (LF104550) can be combined with CVSWP 386-1005 (LF104555) to make a continuously variable bandpass filter for the range 385 nm to 1000 nm.

### Filter set specifications

$\lambda_{\text{center}}$	tuning range	Minium bandwidth	Maximum bandwidth	Out of band Blocking	Product numbers
389 – 990 nm		10 nm	75 nm	OD4	LF104555, LF104550

Detailed data for the 6 filters in this set are given below.

### CVLWP 383-1000 (LF104550)

Continuously variable long-wavelength-pass filter with  $\lambda_{50\%}$  travelling from  $\leq 383$  nm to  $\geq 1000$  nm within  $\leq 105$  nm.

#### Broad-band average transmittance

$T_{\text{avg}}$	$\lambda_{50\%}$	Interval start	Interval end
$\geq 90\%$	383 nm – 450 nm	$\lambda_{50\%} + 4$ nm	$\lambda_{50\%} + 80$ nm
$\geq 94\%$	450 nm – 1000 nm	$\lambda_{50\%} + 4$ nm	$\lambda_{50\%} + 80$ nm

#### Broad-band minimum transmittance

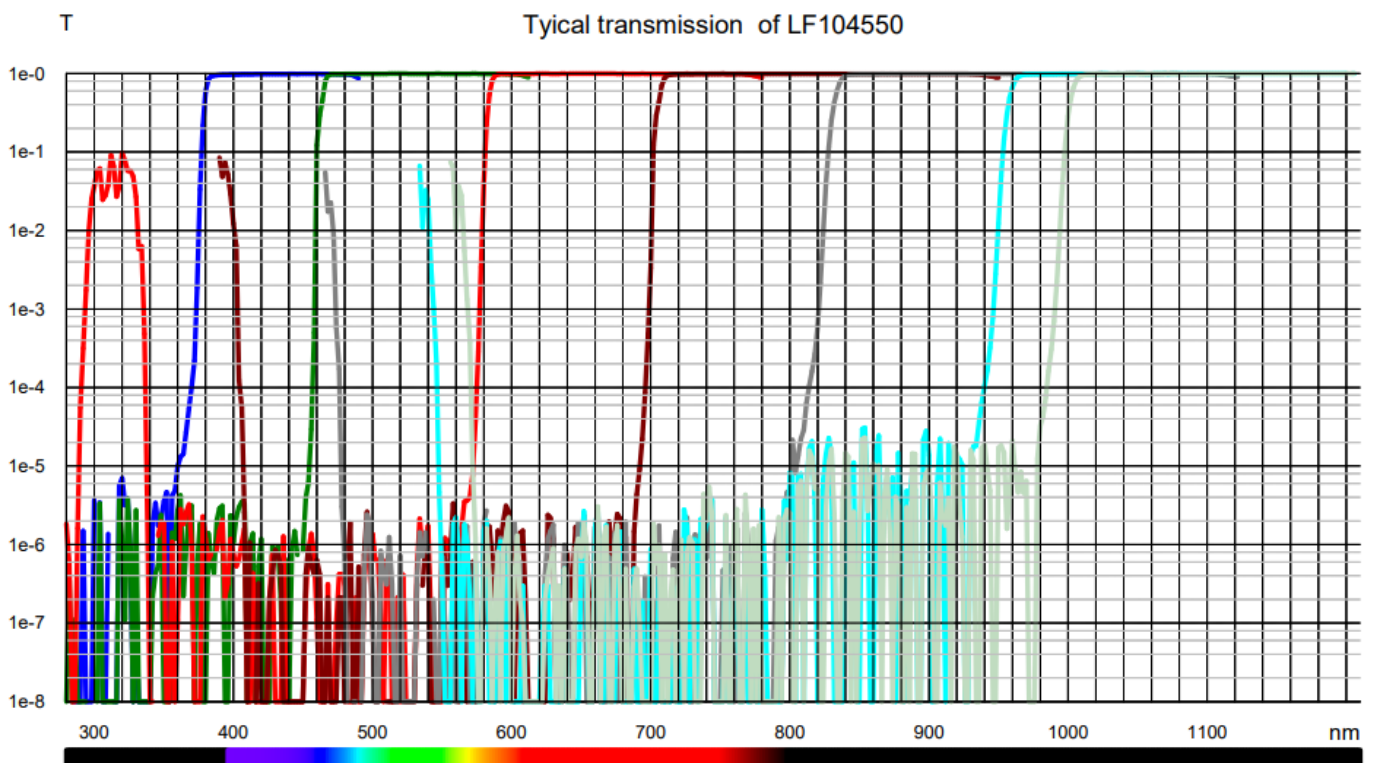
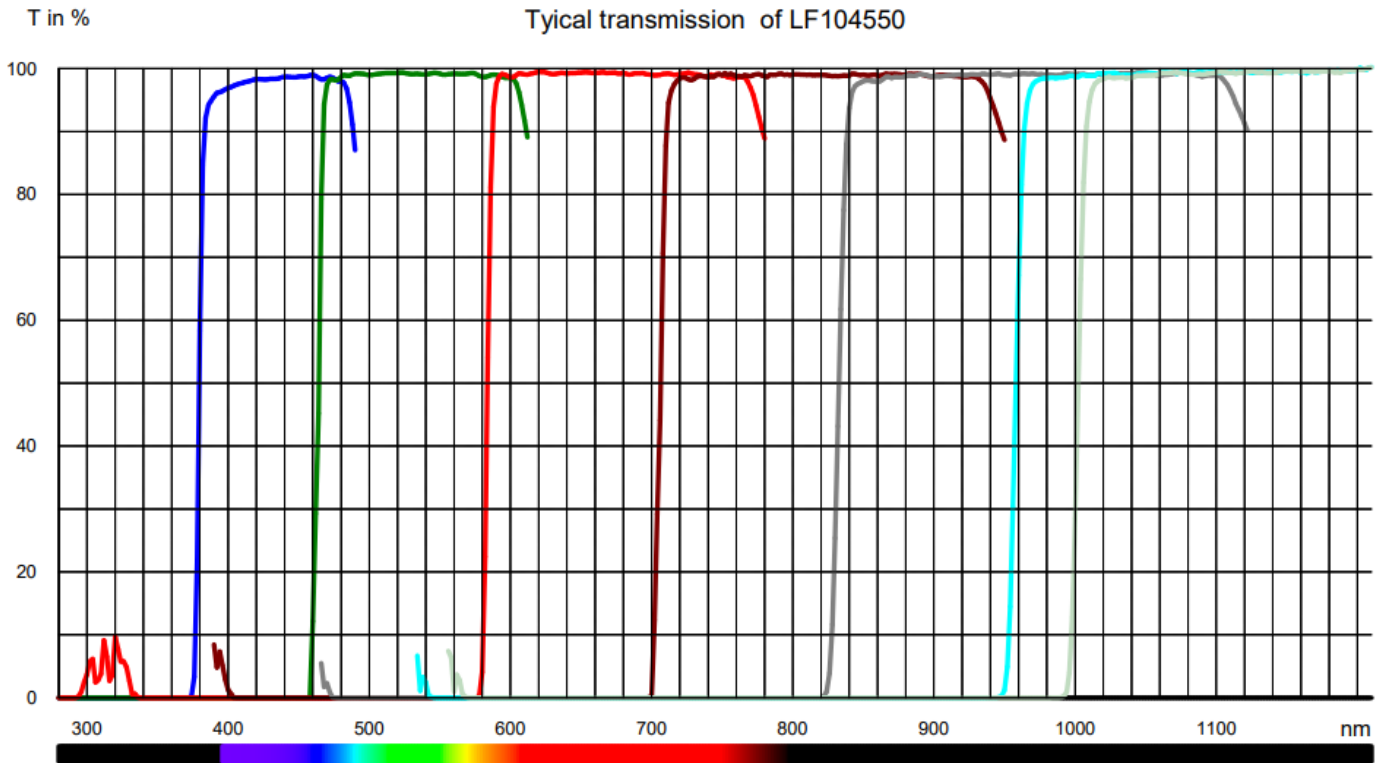
$T_{\text{min}}$	$\lambda_{50\%}$	Interval start	Interval end
$\geq 89\%$	383 nm – 650 nm	$\lambda_{50\%} + 4$ nm	$\lambda_{50\%} + 80$ nm
$\geq 82\%$	650 nm – 1000 nm	$\lambda_{50\%} + 4$ nm	$\lambda_{50\%} + 80$ nm or 1050 nm (whichever is smallest)

#### Near-edge minimum transmittance

$T_{\text{min}}$	$\lambda_{50\%}$	Interval start	Interval end
$\geq 80\%$	383 nm – 400 nm	$1.005 * \lambda_{50\%}$	$1.02 * \lambda_{50\%}$
$\geq 83\%$	400 nm – 450 nm	$1.005 * \lambda_{50\%}$	$1.02 * \lambda_{50\%}$
$\geq 78\%$	450 nm – 650 nm	$1.005 * \lambda_{50\%}$	$1.02 * \lambda_{50\%}$
$\geq 75\%$	650 nm – 1000 nm	$1.005 * \lambda_{50\%}$	$1.02 * \lambda_{50\%}$

#### Broad-band blocking (maximum transmittance)

$T_{\text{max}}$	$\lambda_{50\%}$	Interval start	Interval end
$\leq 0.01\%$	383 – 1000 nm	$0.6 * \lambda_{50\%}$ or 300 nm (whichever is longer)	$0.975 * \lambda_{50\%} - 6$ nm
$\leq 1\%$	383 – 1000 nm	$0.6 * \lambda_{50\%}$ or 300 nm (whichever is longer)	$0.985 * \lambda_{50\%} - 3$ nm
$\leq 10\%$	383 – 1000 nm	$0.6 * \lambda_{50\%}$ or 300 nm (whichever is longer)	$0.99 * \lambda_{50\%} - 3$ nm



## CVSWP 386 – 1005 nm (LF104555)

Continuously variable short-wavelength-pass filter with  $\lambda_{50\%}$  travelling from  $\leq 386$  nm to  $\geq 1005$  nm within  $\leq 105$  nm

### Broad-band average transmittance

$T_{avg}$	$\lambda_{50\%}$	Interval start	Interval end
$\geq 85\%$	386 nm – 400 nm	$\lambda_{50\%} - 80$ nm or 382 nm (whichever is longest)	$\lambda_{50\%} - 4$ nm
$\geq 89\%$	400 nm – 450 nm	$\lambda_{50\%} - 80$ nm or 382 nm (whichever is longest)	$\lambda_{50\%} - 4$ nm
$\geq 85\%$	450 nm – 1005 nm	$\lambda_{50\%} - 80$ nm or 382 nm (whichever is longest)	$\lambda_{50\%} - 4$ nm

### Broad-band minimum transmittance

$T_{min}$	$\lambda_{50\%}$	Interval start	Interval end
$\geq 83\%$	386 nm – 450 nm	$\lambda_{50\%} - 80$ nm or 382 nm (whichever is longest)	$\lambda_{50\%} - 4$ nm
$\geq 86.6\%$	450 nm – 1005 nm	$\lambda_{50\%} - 80$ nm or 382 nm (whichever is longest)	$\lambda_{50\%} - 4$ nm

### Near-edge minimum transmittance

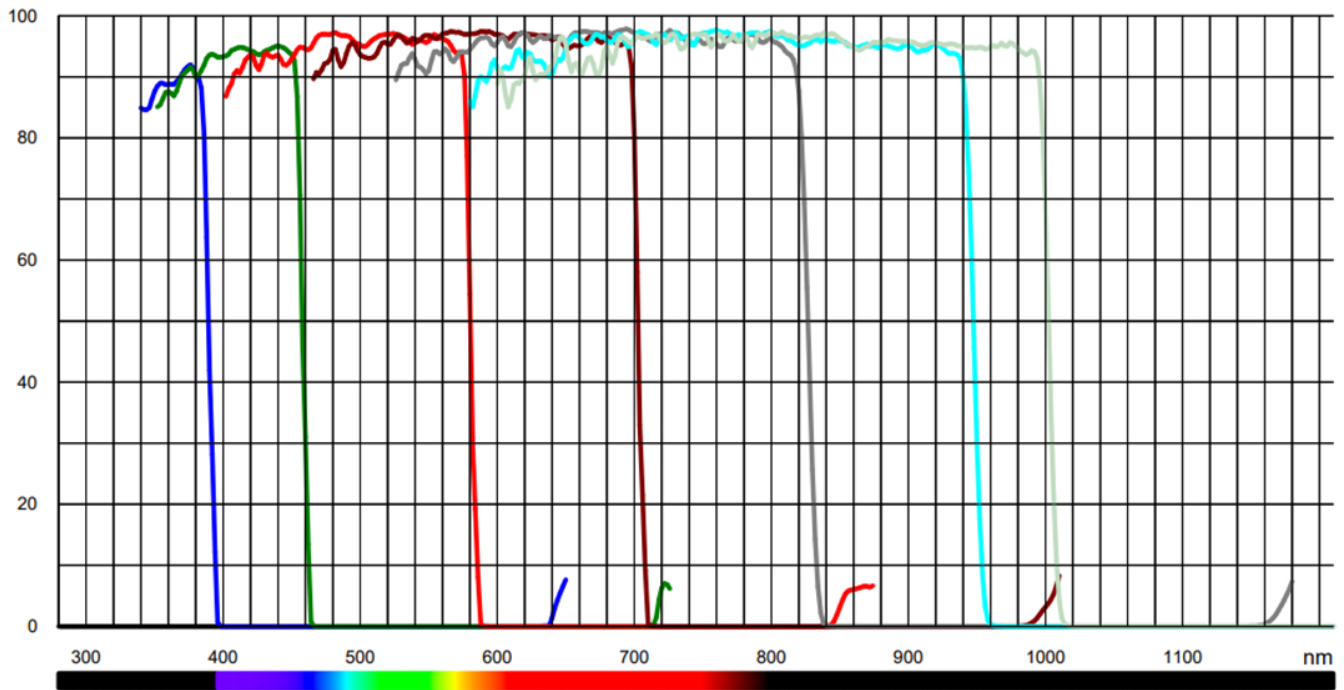
$T_{min}$	$\lambda_{50\%}$	Interval start	Interval end
$\geq 75\%$	386 nm – 400 nm	$0.98 * \lambda_{50\%}$	$0.995 * \lambda_{50\%}$
$\geq 79\%$	400 nm – 450 nm	$0.98 * \lambda_{50\%}$	$0.995 * \lambda_{50\%}$
$\geq 83\%$	450 nm – 1005 nm	$0.98 * \lambda_{50\%}$	$0.995 * \lambda_{50\%}$

### Broad-band blocking (maximum transmittance)

$T_{max}$	$\lambda_{50\%}$	Interval start	Interval end
$\leq 0.01\%$	386 nm – 1005 nm	$1.025 * \lambda_{50\%} + 3$ nm	$1.109 * \lambda_{50\%} + 176$ nm or 1065 nm (whichever is shortest)
$\leq 1\%$	386 nm – 1005 nm	$1.015 * \lambda_{50\%} + 3$ nm	$1.109 * \lambda_{50\%} + 176$ nm or 1065 nm (whichever is shortest)
$\leq 10\%$	386 nm – 1005 nm	$1.010 * \lambda_{50\%} + 3$ nm	$1.109 * \lambda_{50\%} + 176$ nm or 1065 nm (whichever is shortest)

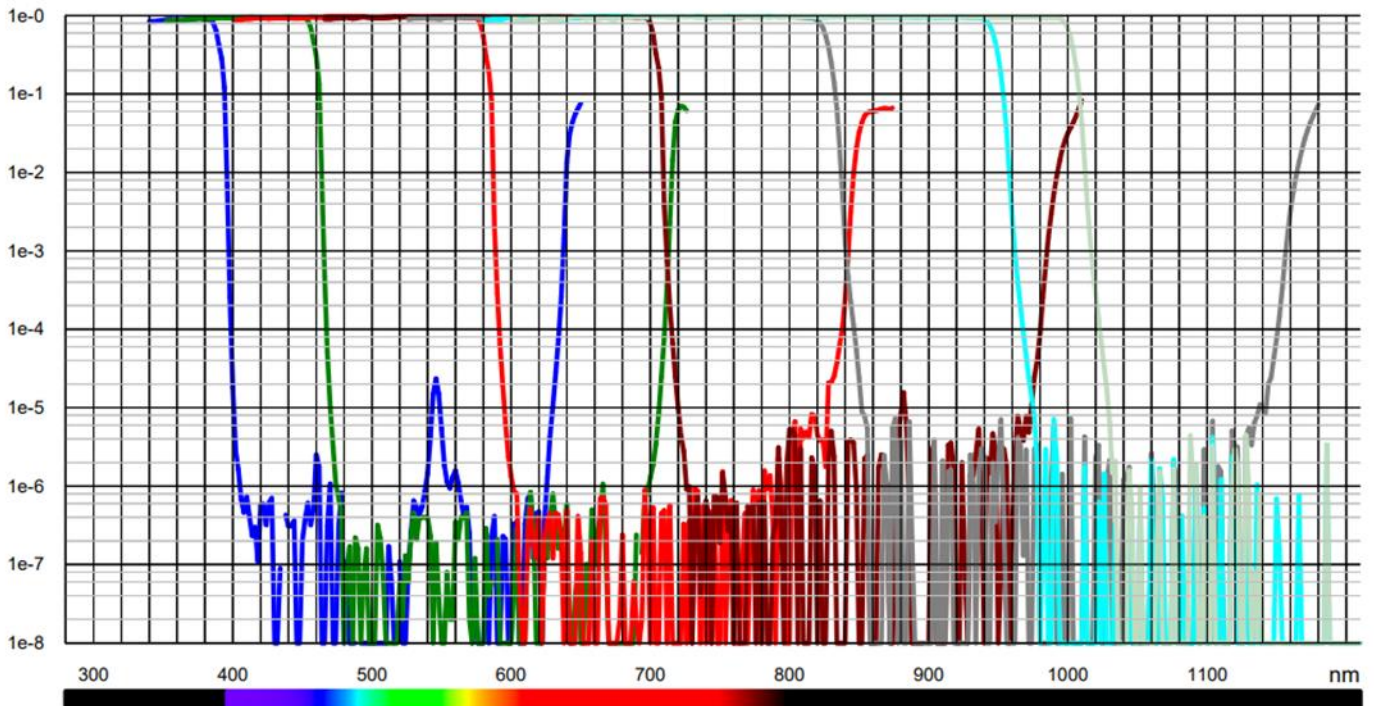
T in %

Typical transmission of LF104555



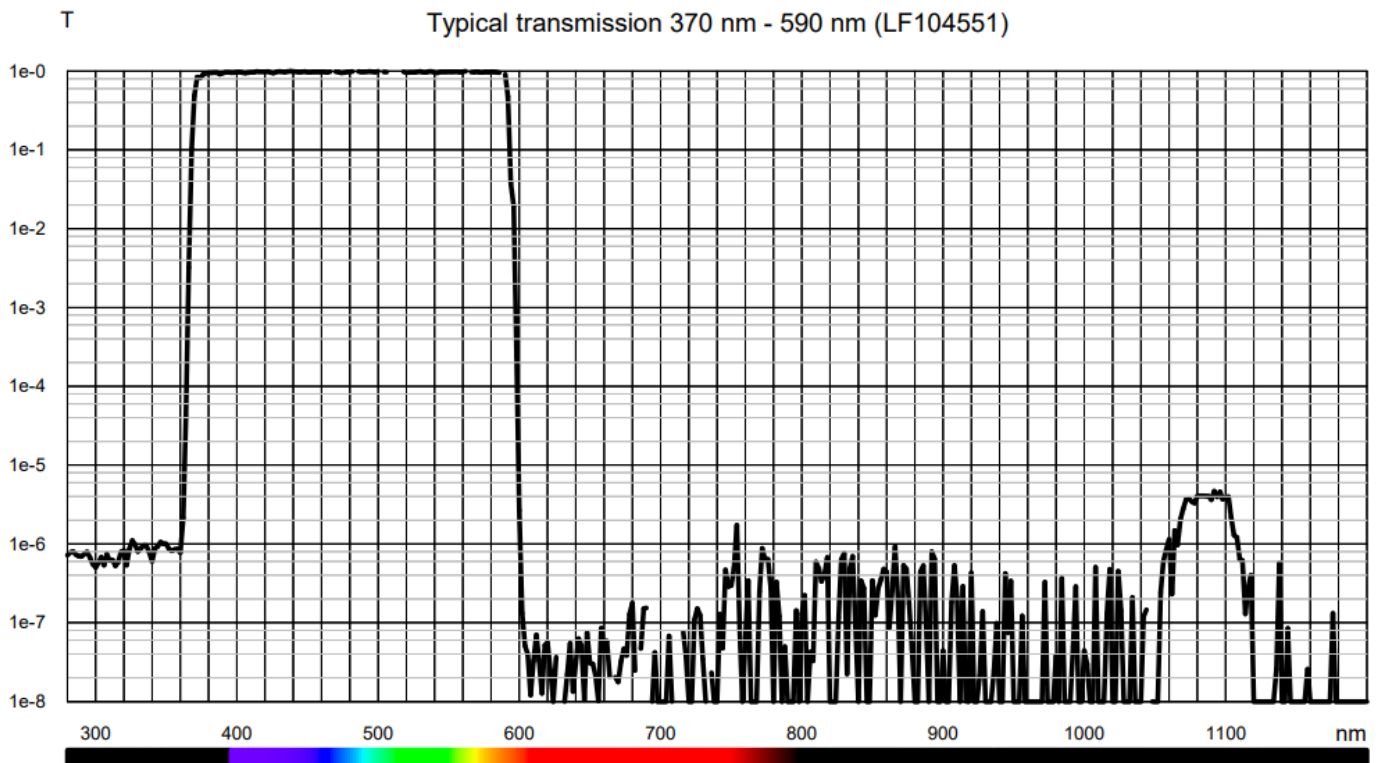
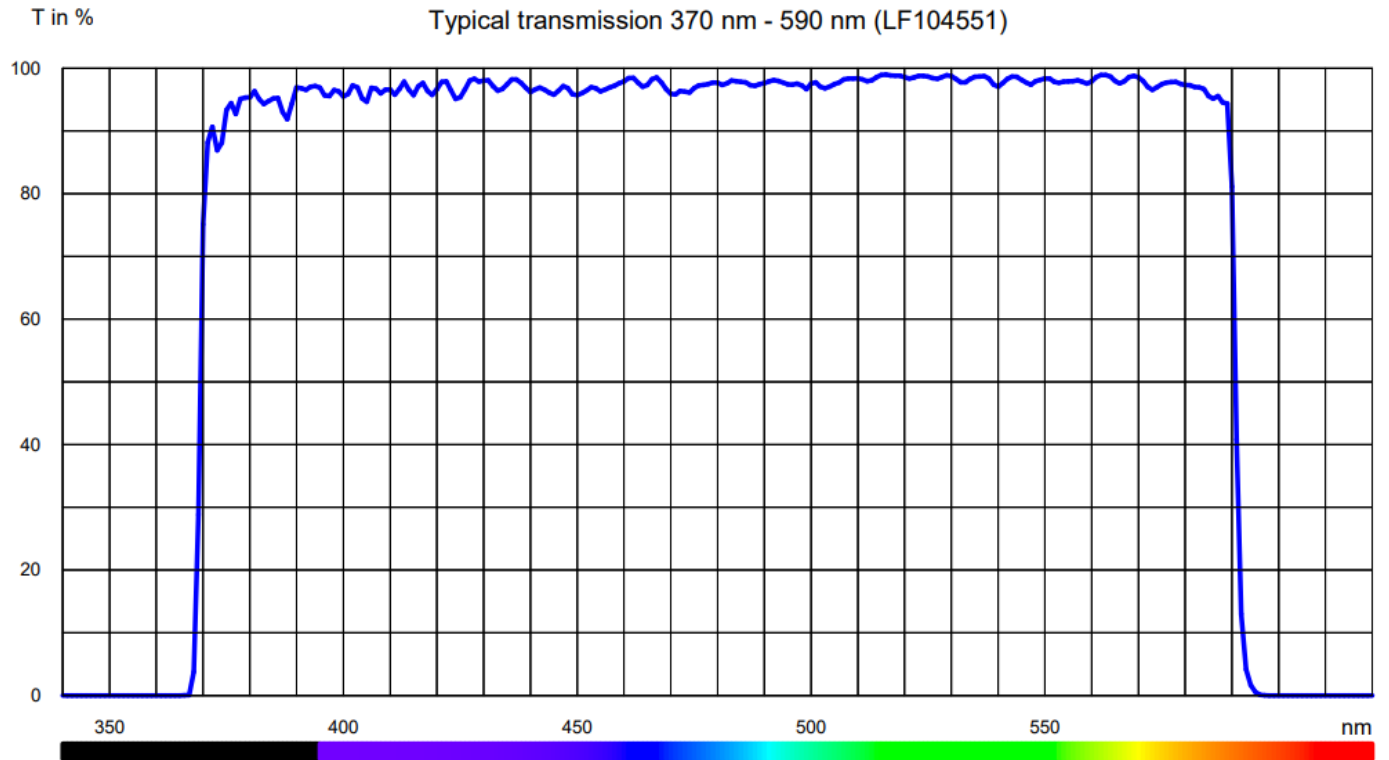
T

Typical transmission of LF104555



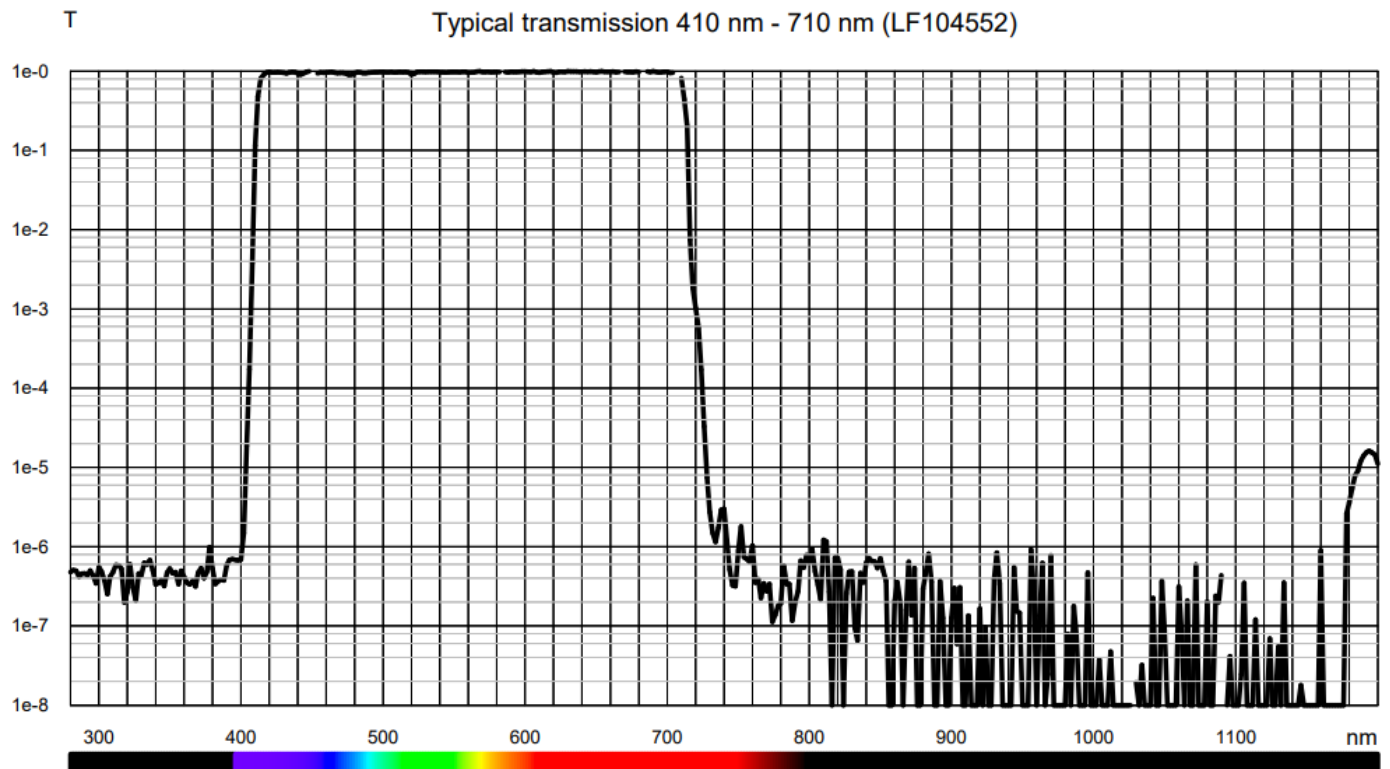
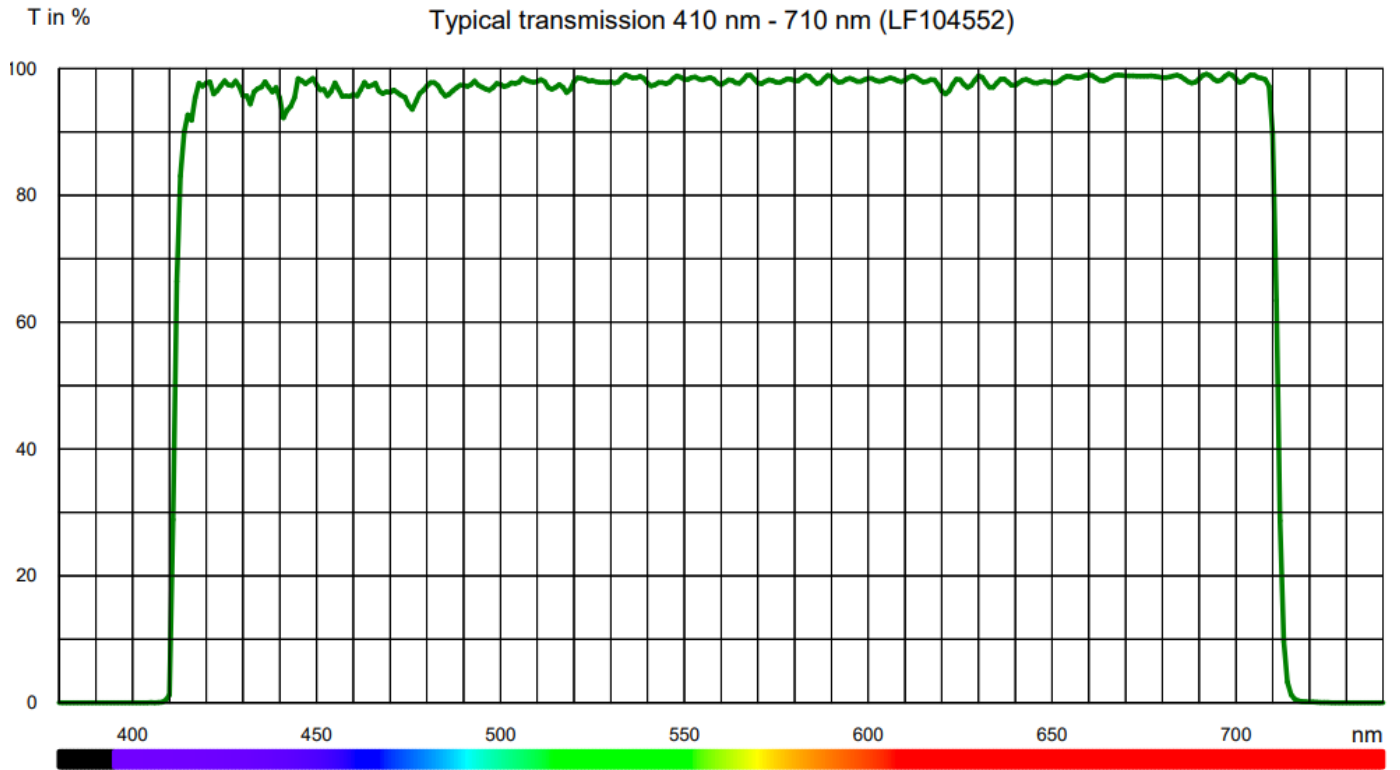
## BP480/220 (LF104551)

Bandpass filter with transmission from 370 nm – 590 nm.



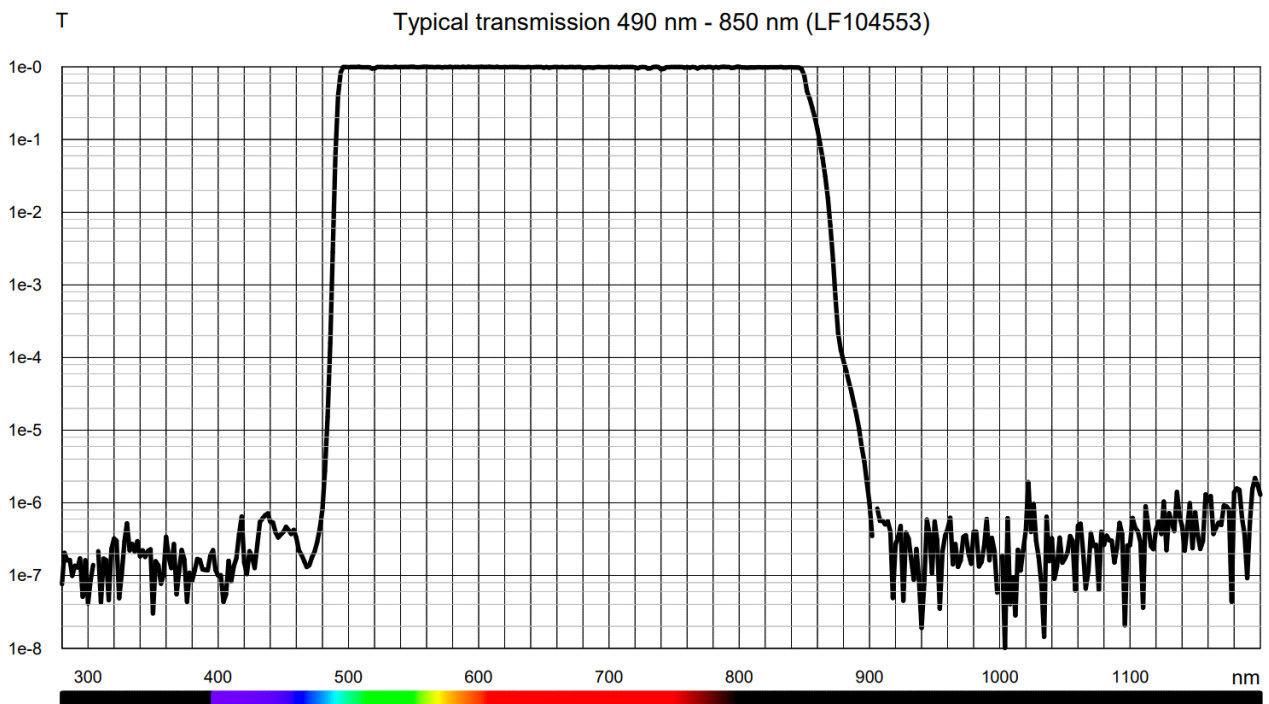
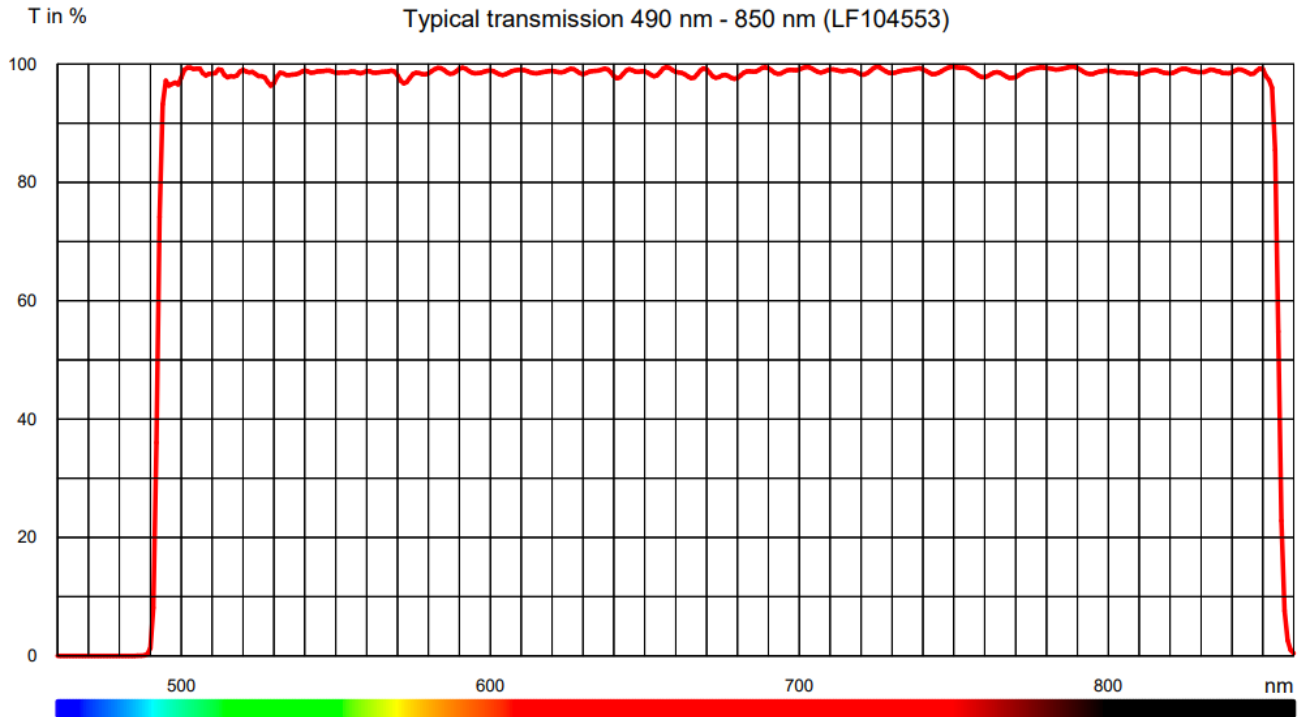
## BP558/295 (LF104552)

Bandpass filter with transmission from 410 nm – 710 nm.



### BP670/360 (LF104553)

Bandpass filter with transmission from 490 nm – 850 nm.



# BP827/425 (LF104554)

Bandpass filter with transmission from 615 nm – 1040 nm.

