

## CVDichroic 360-860 (LF104556)

Continuously variable long-wavelength-pass filter with  $\lambda_{50\%}$  at AOI = 35° travelling from  $\leq 360$  nm to  $\geq 860$  nm within  $\leq 92.6$  mm.

A dielectrically coated dichroic is typically placed where the incident light is well-collimated. However, the CVDichroic 360-860 works for a divergent, point-like source for angles of incidence of 35° +/- 10°.

As for any other continuously variable filter, the CVDichroic 360-860 also works for a collimated beam.

### Near-edge average transmittance at 35°, unpolarized light

$T_{avg}$	$\lambda_{50\%}$	Interval start	Interval end
$\geq 87\%$	360 nm – 420 nm	$1.02 * \lambda_{50\%}$	$1.1 * \lambda_{50\%}$
$\geq 92\%$	420 nm – 860 nm	$1.02 * \lambda_{50\%}$	$1.1 * \lambda_{50\%}$

### Broad-band average transmittance at 35°, unpolarized light

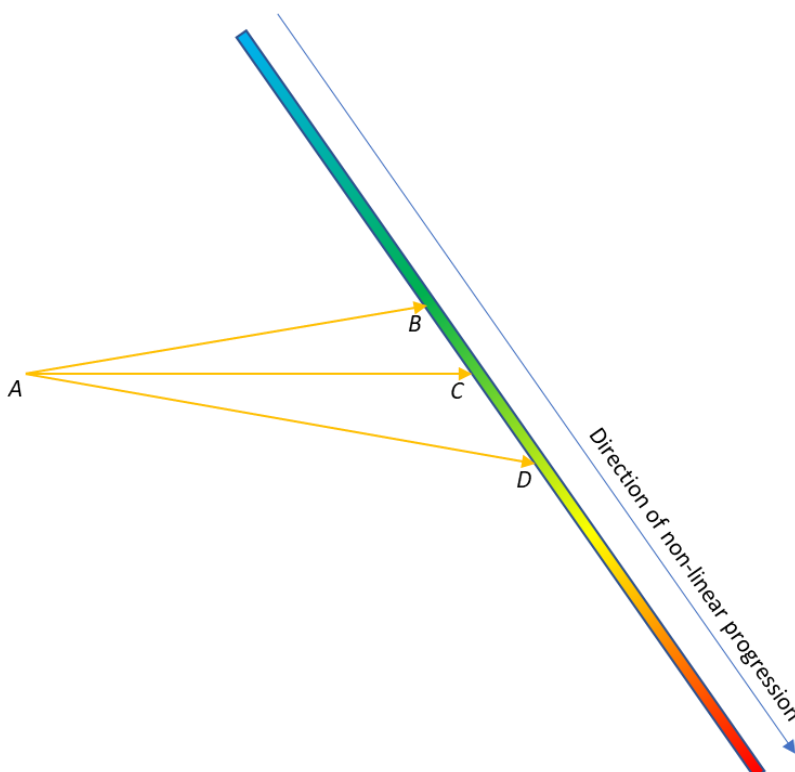
$T_{avg}$	$\lambda_{50\%}$	Interval start	Interval end
$\geq 90\%$	360 nm – 860 nm	$1.03 * \lambda_{50\%}$	$1.8 * \lambda_{50\%} - 80$ nm, or 900 nm (whichever is smallest)

### Broad-band minimum transmittance at 35°, unpolarized light

$T_{min}$	$\lambda_{50\%}$	Interval start	Interval end
$\geq 86\%$	360 nm – 545 nm	$1.03 * \lambda_{50\%}$	$1.45 * \lambda_{50\%}$
$\geq 88\%$	545 nm – 860 nm	$1.03 * \lambda_{50\%}$	$1.55 * \lambda_{50\%}$ , or 900 nm (whichever is smallest)

### Broad-band blocking (maximum transmittance) at 35°, unpolarized light

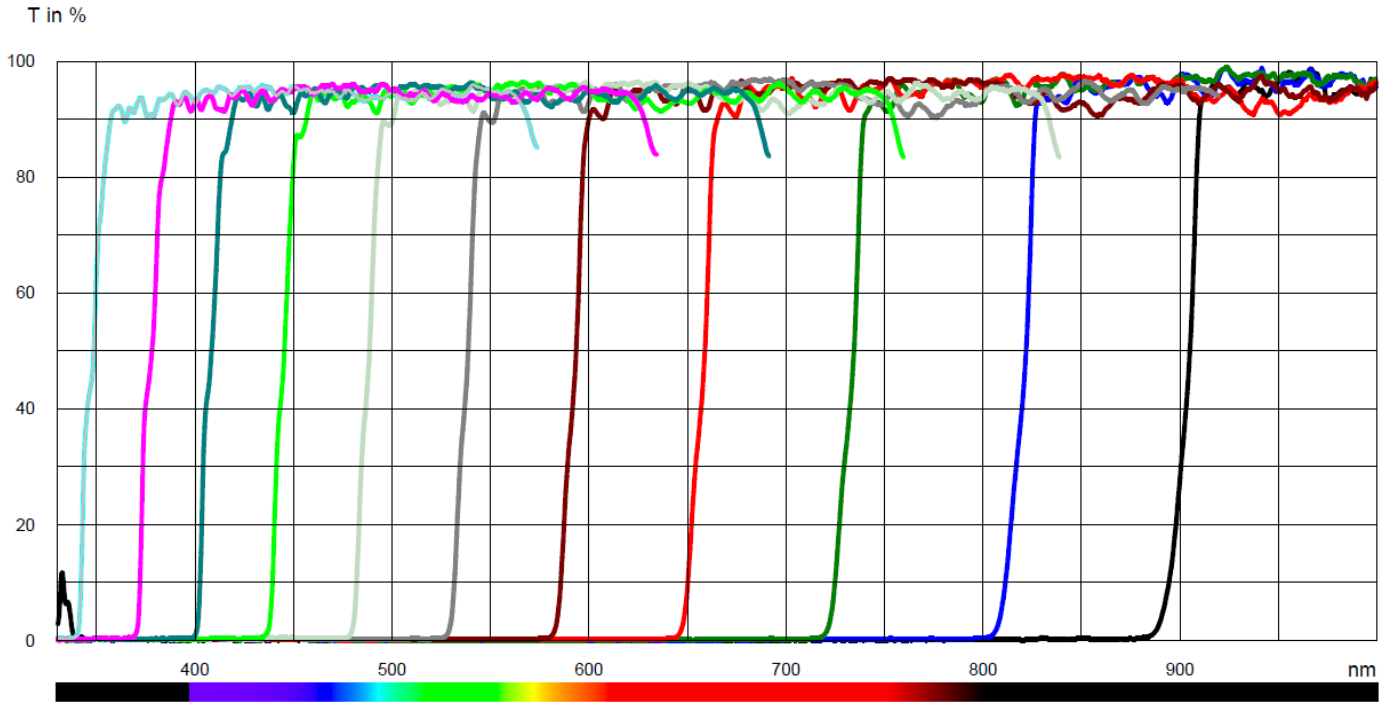
$T_{max}$	$\lambda_{50\%}$	Interval start	Interval end
$\leq 0.4\%$	360 nm – 860 nm	330 nm	$0.95 * \lambda_{50\%}$
$\leq 1\%$	360 nm – 860 nm	330 nm	$0.97 * \lambda_{50\%}$
$\leq 10\%$	360 nm – 860 nm	330 nm	$0.98 * \lambda_{50\%}$



### Use with divergent, point-like source

- The source is at A, the angle of incidence at C is 35°.
- The distance AC should be approximately 12 mm.
- Then, at B and D, the edge wavelength at 25° and 45°, respectively, will be very close to that at point C at 35° because the non-linear progression compensates for the coating's dependence on angle of incidence around 35°.
- By shifting the dichroic in its variable direction, the edge wavelength at 35° shifts from 360 nm to 860 nm.
- Out of the shown plane, angles are between -10° and +10°. Around 0°, the coating depends very little on angle of incidence.

Typically measured transmittance of CVDichroic 360-860 (LF104556) at 35°, unpolarized light



Typically measured blocking of CVDichroic 360-860 (LF104556) at 35°, unpolarized light

