

# BrightLine<sup>®</sup> LED-based Filter Sets

## Product Data Sheet



Spectrally aligned to LED wavelengths



Compatible with popular LED light engines



Single-band and Multiband excitation interchangeability



Fully optimized for brightest signal and highest SNR ratio



Learn more at [www.semrock.com](http://www.semrock.com)

## BrightLine<sup>®</sup> LED-based Light Engine Filter Sets

LED-based light engines are leading the way for fluorescence imaging. However, the full potential of LED light engines remains to be realized in many imaging configurations because they are still being used with conventional filter sets designed for mercury or xenon arc lamps.

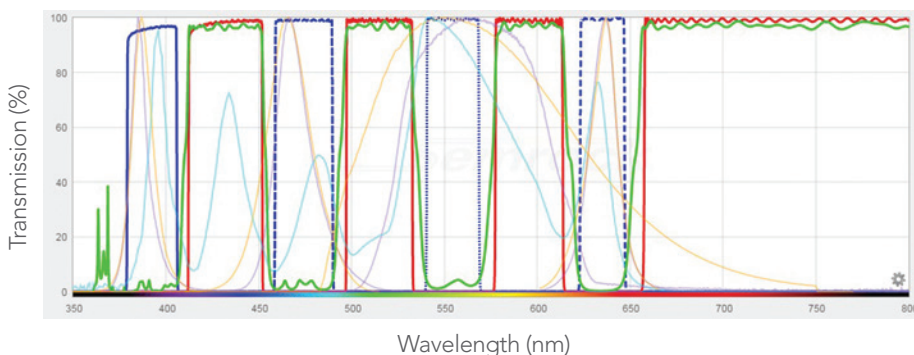
These legacy broadband light sources have a significantly different spectral signature and energy distribution compared to the newer LED sources. Therefore conventional filter sets may not provide optimal performance with the new LED sources. Semrock's LED-based light engine filter sets are aligned to the unique spectral peaks of the most popular LED-based light engines on the market today. These filter sets simultaneously deliver the brightest signal and the highest signal-to-noise ratio (contrast) available for imaging a range of fluorophores.



Semrock's LED-based light engine filter sets are also designed to use common excitation filters between single-band and corresponding multiband configurations, simplifying interchangeability when installing the excitation filters into the light engine. This not only provides seamless transition between single-band and multiband filter sets, but also provides significant cost savings.

See all sets at [www.semrock.com/LEDsets.aspx](http://www.semrock.com/LEDsets.aspx)

### LED Quad Pinkel Filter Set for DAPI, FITC, TRITC & Cy5: LED-DA/FI/TR/Cy5-4X-A



- CoolLED pE-4000 Universal Illumination System configured with 385, 470, 550, & 635
- Excelitas Technologies X-Cite<sup>®</sup> XLED1 Fixed Cell #2 configuration
- Lumencor SPECTRA X light engine<sup>®</sup>

To learn more visit us at [www.semrock.com/led-optimized-sets-intro.aspx](http://www.semrock.com/led-optimized-sets-intro.aspx)

### BrightLine® Single-band LED Filter Sets

Filter Set / Primary Fluorophores	Excitation (CWL/BW)	Emission (CWL/BW)	Dichroic (Edge)
LED-DAPI-A DAPI, Alexa Fluor® 405, BFP, Pacific Blue™	392/23	447/60	409 nm
LED-CFP-A CFP (ECFP), Cerulean, SYTOX Blue, TagCFP	438/24	483/32	458 nm
LED-FITC-A FITC (Fluorescein), GFP (EGFP), Cy2™, 5-FAM	474/27	525/45	495 nm
LED-YFP-A YFP (EYFP), Venus, Fluo-3, Rhodamine 123	509/22	544/24	526 nm
LED-TRITC-A TRITC, SpectrumOrange, dTomato, mTangerine	554/23	609/54	573 nm
LED-mCherry-A mCherry, TexasRed, mKate, mRFP1	578/21	641/75	596 nm
LED-Cy5-A Cy5™, Alexa Fluor® 647, APC	635/18	680/42	652 nm

### BrightLine® Multiband LED Filter Sets – single or multiband exciters, single or multiband emitters, and multiedge beamsplitter

Filter Set / Primary Fluorophores	Excitation (CWL/BW)	Emission (CWL/BW)	Dichroic (Edge)
LED-DA/FI/TR/Cy5-A (Full Multiband) Blue: DAPI, BFP, Alexa Fluor® 405 Green: FITC (Fluorescein), GFP (EGFP), Alexa Fluor® 488 Orange: TRITC, DsRed, dTomato, mRFP Red: Cy5™, APC, Alexa Fluor® 647	392/23 474/27 554/23 635/18	432/36 515/30 595/31 730/139	409 nm 493 nm 573 nm 652 nm
LED-DA/FI/TX-3X-A (Triple-band Pinkel Multiband) Blue: DAPI, BFP (EBFP), Alexa Fluor® 405 Green: FITC (Fluorescein), GFP (EGFP), Cy2™ Red: Texas Red, mCherry, 5-ROX	Ex1: 392/23 Ex2: 474/27 Ex3: 575/25	432/36 523/46 702/196	409 nm 493 nm 596 nm
LED-CFP/YFP/mCherry-3X-A (Triple-band Pinkel Multiband) Cyan: CFP (ECFP), Cerulean, SYTOX Blue, TagCFP Yellow: YFP (EYFP), Venus, Fluo-3, Rhodamine 123 Red: mCherry, TexasRed, mKate, mRFP1	Ex1: 438/24 Ex2: 509/22 Ex3: 578/21	475/22 543/22 702/197	459 nm 526 nm 596 nm
LED-DA/FI/TR/Cy5-4X-A (Quad-band Pinkel Multiband) Blue: DAPI, BFP (EBFP), Alexa Fluor® 405 Green: FITC (Fluorescein), GFP (EGFP), Alexa Fluor® 488 Orange: TRITC, DsRed, dTomato, mRFP Red: Cy5™, APC, Alexa Fluor® 647	Ex1: 392/23 Ex2: 474/27 Ex3: 554/23 Ex4: 635/18	432/36 515/30 595/31 730/139	409 nm 493 nm 573 nm 652 nm
LED-DA/FI/TX-3X3M-A (Triple-band Sedat Multiband) Blue: DAPI, BFP (EBFP), Alexa Fluor® 405 Green: FITC (Fluorescein), GFP (EGFP), Cy2™ Red: Texas Red, mCherry, 5-ROX	Ex1: 392/23 Ex2: 474/27 Ex3: 575/25	Em1: 433/24 Em2: 525/45 Em3: 641/75	409 nm 493 nm 596 nm
LED-CFP/YFP/mCherry-3X3M-A (Triple-band Sedat Multiband) Cyan: CFP (ECFP), Cerulean, SYTOX Blue, TagCFP Yellow: YFP (EYFP), Eosin, Fluo-3, Rhodamine 123 Red: mCherry, TexasRed, mKate, mRFP1	Ex1: 438/24 Ex2: 509/22 Ex3: 578/21	Em1: 482/25 Em2: 544/24 Em3: 641/75	459 nm 526 nm 596 nm
LED-DA/FI/TR/Cy5-4X4M-A (Quad-band Sedat Multiband) Blue: DAPI, BFP (EBFP), Alexa Fluor® 405 Green: FITC (Fluorescein), GFP (EGFP), Alexa Fluor® 488 Orange: TRITC, DsRed, dTomato, mRFP Red: Cy5™, APC, Alexa Fluor® 647	Ex1: 392/23 Ex2: 474/27 Ex3: 554/23 Ex4: 635/18	Em1: 433/24 Em2: 520/35 Em3: 600/37 Em4: 680/42	409 nm 493 nm 573 nm 652 nm

- › 10s to 100s of percent more signal per channel compared to filter sets designed for conventional light sources
- › Common single-band excitation filters across the family of LED sets simplifies switching between corresponding multiband and single-band sets by only needing to replace dichroic and emitter
- › Only filter sets in the market today that are spectrally aligned to popular LED-based light engines from CoolLED, Excelitas Technologies (X-Cite®), and Lumencor
- › Available in single-band, Full, Pinkel & Sedat multiband filter set configurations
- › Unravel the full potential of your LED-based light engines by experiencing optimized filtering from Semrock's LED filter sets



For ordering and technical support, please visit [www.semrock.com/LEDsets.aspx](http://www.semrock.com/LEDsets.aspx) or contact:

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