

# MicroLine CCD Camera

## ML4710 FI

The larger pixels of the front-illuminated CCD in the ML4710 provide deep dynamic range and gather more light for improved signal-to-noise.

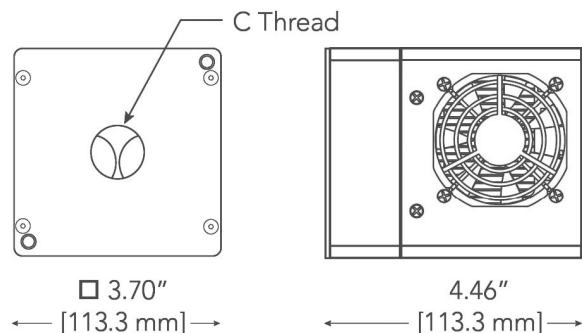
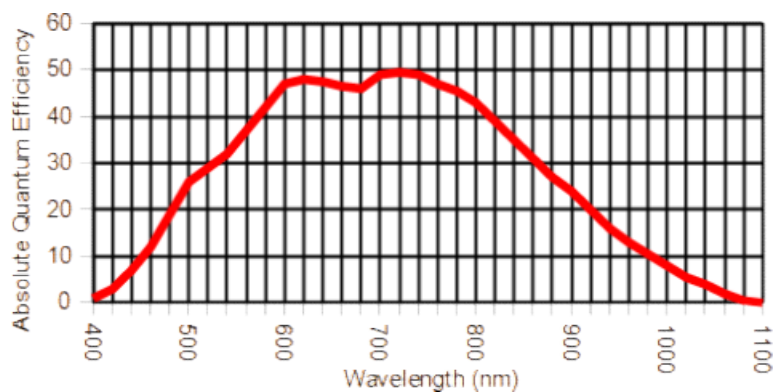
### Technical Data

|                                |                                             |
|--------------------------------|---------------------------------------------|
| <b>Sensor Type</b>             | Front Illuminated CCD                       |
| <b>Sensor</b>                  | e2v CCD47-10-1-354                          |
| <b>Active Pixels</b>           | 1024 x 1024                                 |
| <b>Pixel Size (microns)</b>    | 13 x 13 $\mu\text{m}$                       |
| <b>Imaging Area (Diagonal)</b> | 13.3 X 13.3 mm (18.8 mm)                    |
| <b>Full Well Capacity (e-)</b> | 100000 electrons                            |
| <b>Typical_Readout Noise</b>   | 10e- @ 700 kHz; 17e- @ 2 MHz                |
| <b>Dynamic Range</b>           | 79.7 dB                                     |
| <b>Anti-Blooming</b>           | None                                        |
| <b>Cooling Method</b>          | Air (Optional liquid)                       |
| <b>Max. Cooling (Air)</b>      | 60°C below ambient                          |
| <b>Temperature Stability</b>   | 0.1°C                                       |
| <b>Dark Current (typical)</b>  | 0.2 eps at -30C                             |
| <b>Interface</b>               | USB 2.0                                     |
| <b>Digitization Clock</b>      | 700 kHz and 2 MHz digitization              |
| <b>Data Bit Depth</b>          | 16 bit                                      |
| <b>Non-Linearity</b>           | <1%                                         |
| <b>Channels</b>                | 1                                           |
| <b>Shutter</b>                 | 25mm; Optional 45mm                         |
| <b>Lens Mount</b>              | Optional Nikon mount                        |
| <b>Subarray Readout</b>        | Standard                                    |
| <b>External Trigger In/Out</b> | Standard                                    |
| <b>SDK / Software</b>          | USB2 / FLIGrab                              |
| <b>Weight</b>                  | 2.8 lbs (1.2 kg)                            |
| <b>Environment</b>             | -30°C to 45°C   10% - 90% Relative Humidity |
| <b>Power</b>                   |                                             |

12V (100-240V AC to 12V DC power supply included). With TEC off: <1A.  
TEC at 100%: 4.4A. Shutter open: 4A pulse for 100msec. Shutter held open, add 0.22A.



### Absolute Quantum Efficiency



Finger Lakes Instrumentation  
FLIcamera.com  
USA 585-624-3760