



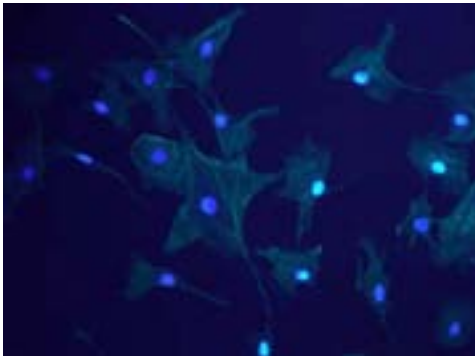
## 1.4 Megapixel CCD USB 2.0 Camera

High Resolution CCD Color or Monochrome  
Microscopy Camera for Quantitative Image Analysis

## Outline

Lumenera's INFINITY3-1U microscopy camera is designed for use in a wide variety of scientific and industrial applications requiring optimal color reproduction and extreme sensitivity.

With 1392x1040 resolution and on-board processing, these cameras deliver outstanding image quality and value for challenging low light applications such as fluorescence and NIR.



Uncompressed images in live streaming video and still-image capture are provided across a USB 2.0 digital interface. No framegrabber is required.

On-board memory buffering is included to guarantee image delivery to host computer. INFINITY3-1U model cameras are offered in both enclosed and OEM board-level form. Custom form factor (sizes) can be provided.

The INFINITY3-1U includes INFINITY ANALYZE software for advanced camera control, image processing, measuring and annotation, and INFINITY CAPTURE. Both color and monochrome product models are available.

All Lumenera products are supported by an experienced team of software developers and application engineers. We understand your imaging needs and are here to help you with your integration and development.

## Performance Features

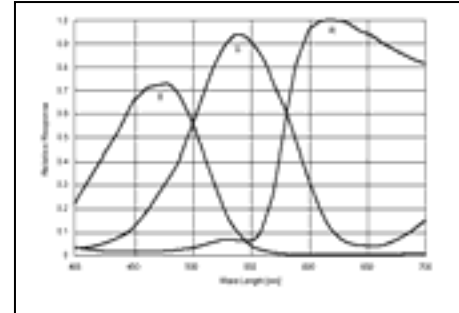
- ❑ **The low noise characteristic of the INFINITY3-1U progressive scan 1.4 megapixel CCD image sensor results in crisp color quality for the most demanding brightfield, phase contrast, and fluorescent applications including GFP, FISH, NIR, FRET, life science and geology**
- ❑ **High-speed USB 2.0 (480Mbits/sec) interface eliminates a framegrabber and facilitates ease of installation on both laptop and desktop computers**
- ❑ **Available in color or monochrome**
- ❑ **Full color sub-windowing allows for rapid focus and scanning of samples: 15 fps at full 1392x1040 resolution**
- ❑ **Select 8 & 12-bit pixel data modes**
- ❑ **The RGB data captured through each pixel contains 36-bits of color image information resulting in 4096 intensity values**
- ❑ **Camera control through an intuitive user TWAIN interface results in rapid image capture archiving and documentation for high throughput applications, demanding research environments and teaching facilities**
- ❑ **The INFINITY3-1U has a compact design equipped with a C-mount facilitating installation on all microscope configurations including upright, inverted and stereo**
- ❑ **Both custom design services and a Software Developer's Kit (SDK) are available to help with unique design requirements and software integration**
- ❑ **INFINITY3-1U cameras are software compatible with Windows 2K, Windows XP, Windows Vista and MAC OS 10.4 operating systems**
- ❑ **Full one (1) year warranty**

# Specifications

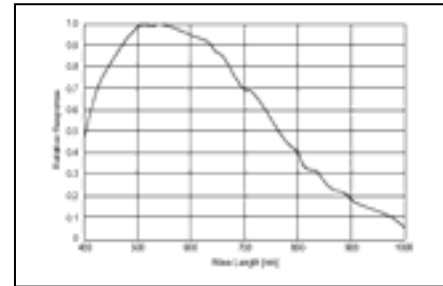
# INFINITY3-1U

## Camera Sensor

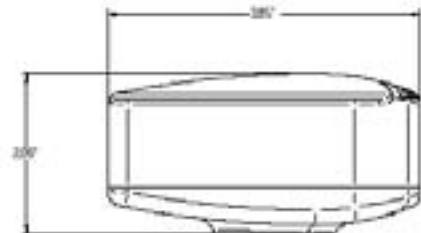
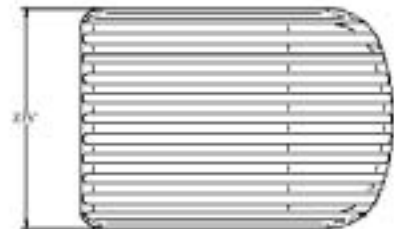
Image Sensor	<b>Sony ICX285 2/3" format, 1.4 megapixel color or monochrome progressive scan CCD sensor</b>
Effective Pixels	<b>1392 X 1040, 1.4 million pixels</b>
Frame Rate	<b>15 fps at 1392x1040, increased through binning and ROI</b>
Digital Output	<b>8 and 12-bit</b>
Dark Current (e-/s)	<b>2 electrons / pixel / s</b>
Pixel Size	<b>6.45µm X 6.45µm</b>
Full well capacity	<b>&gt;18,000 electrons</b>
Readout Noise	<b>8 e- rms</b>
Readout Frequency	<b>28.6 MHZ</b>
Power Requirement	<b>USB bus power, or external 5VDC - 500mA</b>
Power Consumption	<b>~2.5 watts</b>
Operating Temperature	<b>0° C to +50° C</b>
Operating Humidity	<b>5%-95%, Non-condensing</b>
Integration Time	<b>3.5µs to 60 seconds</b>
Shutter	<b>Global shutter</b>
Auto Exposure	<b>Automatic / Manual</b>
White Balance	<b>Automatic / Manual</b>
Gain	<b>Programmable / 1 to 10X</b>
Interface	<b>USB 2.0 high-speed interface for data transmission</b>
Dimensions (L x W x H)	<b>3.85 x 2.00 x 2.75 inches</b>
Lens Mount	<b>C-Mount lens adapter</b>
Binning Options	<b>2x2, 3x3, 4x4</b>



Color Response Curve



Mono Response Curve



## Applications

Fluorescent Microscopy  
Green Fluorescent Protein Applications  
Fluorescent In Situ Hybridization  
DNA Analysis  
Live Cell Imaging  
Brightfield, Darkfield, DIC/Phase techniques  
Near IR Applications  
Histology, Pathology and Cytology  
Forensic Analysis  
Semiconductor Inspection  
Metallurgical Microscopy  
Gel Documentation

## Ordering Information

INFINITY3-1UC - Color 1.4 MP CCD Camera  
INFINITY3-1UM - Monochrome 1.4 MP CCD Camera  
SDK - Software Developer's Kit and Accessories

**Full customization available  
to meet your exact needs!**