

Lumenera's INFINITY2-1R Camera Chosen for Optimization of a Reflected Light LED Fluorescence Illuminator

LED fluorescence microscopy for automated scanning of Hep2 Antinuclear Antibody (ANA) samples

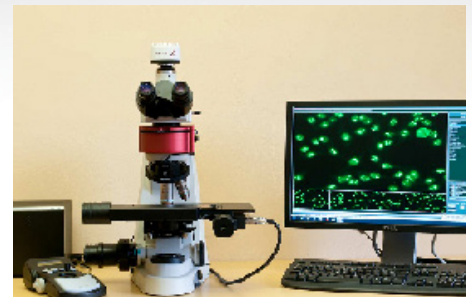
Lumenera Provides Imaging Solution for Automated Scanning System of Hep-2 Antinuclear Antibody (ANA) Samples

Fraen, high precision manufacturer of innovative products for various industries in the areas of Aerospace, Automotive, Commercial Instruments, Electronics, Marine, Medical, Scientific Instruments, Optics and Optical Components, was approached by a prominent diagnostics company with a proposition for a joint instrumental development effort. Fraen had already been working on design and innovation in fluorescence microscopy by means of Light Emitting Diodes (LEDs) and accepted the request to optimize a reflected light LED fluorescence illuminator for an automated scanning system. This project would also require an advanced imaging component capable of producing high quality images in challenging light conditions.

In fluorescence microscopy, Light Emitting Diodes (LEDs) offer a compelling advantage to traditional light sources. Immunofluorescence assays for autoantibody detection require the optimization of the light source and light path in order to provide accurate clinical diagnosis and proper treatment.

INFINITY2-1C Provides the Advanced Thermal Management and High Dynamic Range Needed for Fluorescence

FLUOLED® 1CFW: 1 Colour Filter Wheel reflected light illuminator for an automated scanning system of Hep-2 Antinuclear Antibody (ANA) samples. This system allows the technologist to quickly scan images to identify ANA negative patient samples, which are the majority of samples that most laboratories have to interpret. The clarity and quality of the positive images is also enhanced by the FLUOLED fluorescence illuminator, leading



FLUOLED® 1CFW for Blue FITC Excitation on Image Navigator by Immuno Concepts.
Digital camera: Lumenera INFINITY2-1RC. Microscope: Nikon E50i.

Highlights

- Fraen was approached by a prominent diagnostics company to optimize a reflected light LED fluorescence illuminator for an automated scanning system.
- The system required a high performance imaging component to provide the clear accurate color reproduction needed for fluorescence.
- Lumenera's INFINITY2-1RC, a 1.4 megapixel CCD scientific USB 2.0 camera was selected.
- The result is a highly efficient optical solution meeting the exact design specifications required for ease of use with a variety of microscope brands.



to accurate identification of the fluorescent staining, which allows for the correct treatment of the patient.

The system required a high performance imaging component to provide the clear, accurate color reproduction needed for fluorescence. Lumenera's INFINITY2-1RC, a 1.4 megapixel CCD scientific USB 2.0 camera. This scientific camera offers incredibly low dark current noise combined with a very high dynamic range and 14-bit output for quantitative and low-light applications. Advanced thermal management allows for long exposure times of several minutes without the need for a cooled camera.

System Provides a Highly Efficient Optical Solution Design

The result is a highly efficient optical solution meeting the exact design specifications required for ease of use with a variety of microscope brands.

FLUOLED® 1CFW (1 Colour Filter Wheel) reflected light illuminator represents a fast and reliable solution for fluorescence microscopy using light emitting diodes (LEDs) as a source for excitation. Different from other LED devices for fluorescence microscopy, FLUOLED® 1CFW includes a complete reflected light illuminator.

FLUOLED® 1CFW product benefits:

- 30,000 hours light source lifetime, allowing for many years of operation and cost savings
- No need for special alignment procedure
- No warm-up time required for the light source
- Additional LED sources and filter sets can be added to the system at any time
- High quality imaging component designed for fluorescence applications

The use of a high power, solid-state (LED) source enabled superior performance, significantly increased light source lifetime, and reduced initial operating costs. The end result was clear, accurate color images and a reduction in maintenance and heat production.



Lumenera's INFINITY2-1RC

About Lumenera

Lumenera Corporation, a division of Roper Technologies, headquartered in Ottawa, Canada, is a leading developer and manufacturer of high performance digital cameras and custom imaging solutions. Lumenera cameras are used worldwide in a diverse range of industrial, scientific and security applications.

Lumenera solutions provide unique combinations of speed, resolution and sensitivity in order to satisfy the most demanding digital imaging requirements. Lumenera customers achieve the benefit of superior price to performance ratios and faster time to market with the company's commitment to high quality, cost effective product solutions.

For further information about Lumenera, please visit www.lumenera.com or call 613-736-4077. To receive Lumenera press releases as they are issued, contact us at marketing@lumenera.com.

