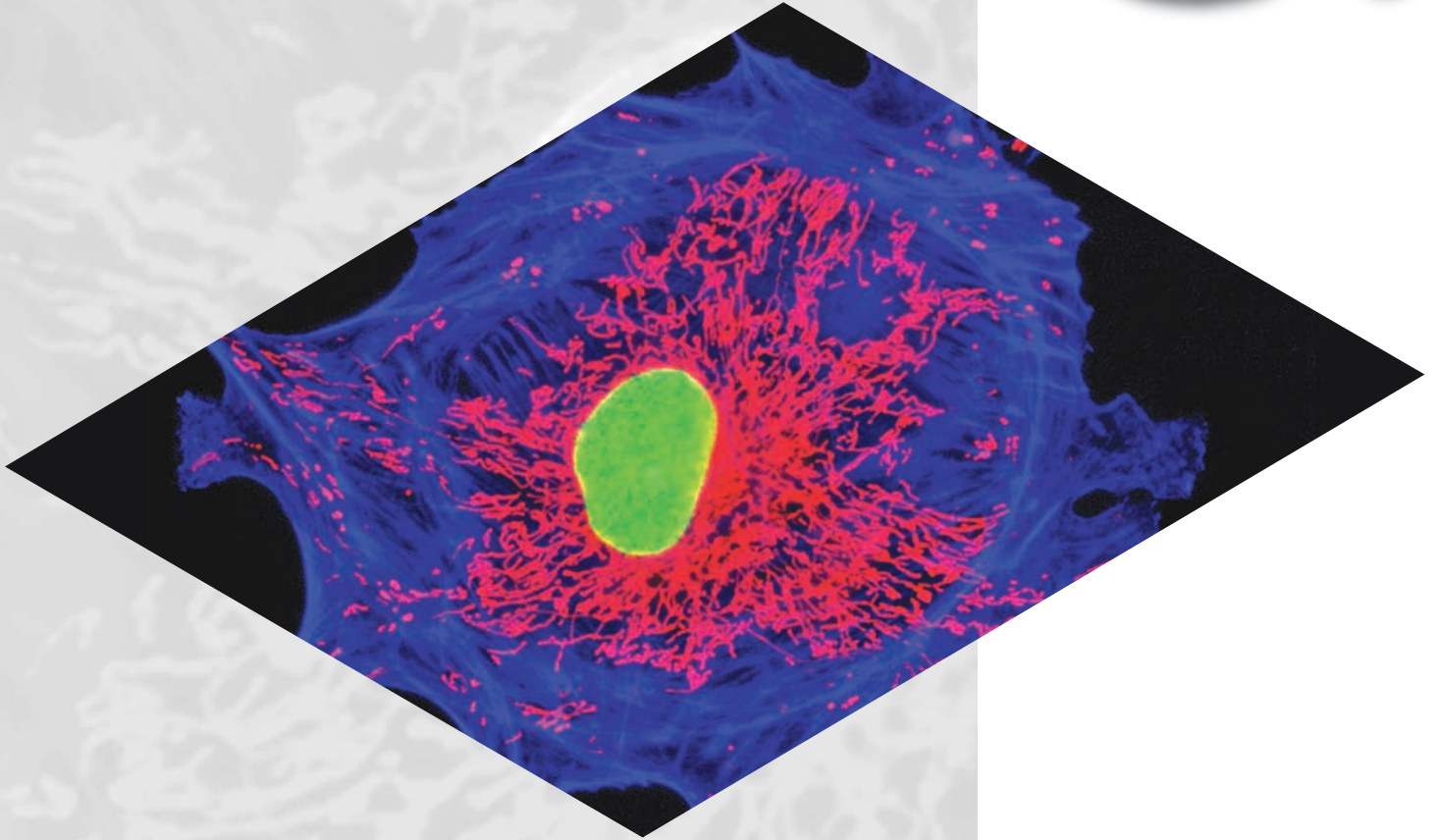


Lumen 200

PRIOR
Scientific

Advanced Fluorescence Illumination



Lumen 200: Superior Fluorescence Illumination

Lumen 200 is a high performance, cost effective system for fluorescence illumination designed and manufactured by Prior Scientific. Prior Scientific has been manufacturing illumination systems for fluorescence microscopy for over 20 years. This wealth of experience has been used to design the most powerful, cost effective and flexible fluorescence illumination system on the market. Fluorescence has never been so easy!

The Lumen system from Prior has the potential to revolutionize the way you illuminate your fluorescently labelled specimens. It replaces, short life, hard to set up mercury and xenon illuminators with a system that really is state of the art in all respects with significantly lower running costs.

An advanced metal halide lamp produces a spectral output that closely mirrors traditional mercury (HBO) style lamphouses with intensity peaks that have a larger bandwidth leading to improved excitation. Each lamp is good for up to 2000 hours, compared to a maximum of 300 hours with a typical HBO system.

Another major step forward is the way that the Lumen 200 series delivers the light to the specimen. By mounting the lamp away from direct mechanical contact with the microscope there is a marked reduction in heat transfer to the microscope making it more stable for long term experiments. The liquid light guide that links the lamphouse and microscope also homogenises the light meaning that bulb alignment is no longer critical and evenness of illumination is achieved without any user adjustments. Bulb changes, which already happen much less frequently, now take significantly less time to complete.

The Lumen 200PRO features an integrated motorized six position filter wheel for control of excitation wavelength and a variable aperture shutter for attenuation or shuttering of the light source.

Powerful 200W Illumination

A 200W metal-halide lamp gives a similar spectral output to more traditional (HBO) mercury vapour lamps with up to 20 times longer bulb life.

Long Life Lamp - Up to 2000 Hours

The metal-halide lamp is safe for use for up to 2000 hours. Sophisticated electronics mounted on every Lumen 200 lamp monitor the number of hours used and warn the user through both a visual and audible alarm, when lamp replacement is necessary.

Easy Lamp Replacement

Unlike mercury vapour lamps the lamps used in the Lumen 200 system require no precision arc alignment for them to provide bright and even illumination. Lamps are pre-centred, changes take only a few minutes.



Flexible Liquid Light Guide

A highly efficient two meter liquid light guide delivers full spectrum illumination. Coupling adapters are available for all research microscopes. These adapters are also fully compatible with the complete range of filter wheels and shutters from Prior.



Low Heat Transfer

By mounting the Lumen 200 remotely from the microscope stand, heat transfer is eliminated. This aids stability and helps reduce drift due to thermal expansion in long term experiments.

Stabilized Output

The Lumen 200 features a stabilized DC power supply to drive the lamp. With a greater than 99% @ at 27KHz uniformity in output, the Lumen provides an ideal light source for quantitative and comparative microscopy.



Shutters & Attenuation

The Lumen 200 features a manually operated shutter mechanism that can be partially closed to attenuate illumination intensity protecting valuable samples from photo-bleaching. The Lumen 200PRO includes a motorized light attenuator which can also function as a high speed shutter. Light intensity can be quickly and reliably set in 1% increments from 0-100%.

Lumen 200 Features

Features on the Lumen 200 model:

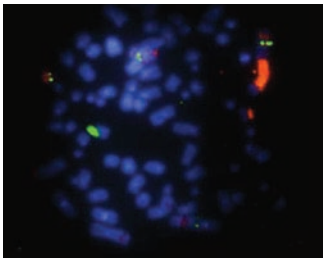
- 200W metal halide lamp
- Up to 2000 hours lamp life
- Fast and easy lamp changes
- No complex re-alignment required
- Reduced heat transfer giving greater stability
- Manual light attenuation
- Adapters for all research microscopes
- Higher output than traditional light sources
- Manual variable aperture shutter
- DC power supply ensures stable output

Additional features on the Lumen 200PRO model:

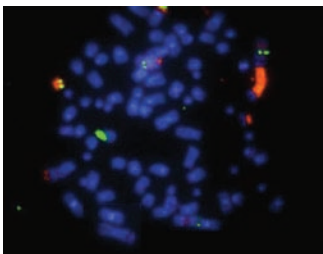
- Internal motorized six position filter wheel
- Fast selection of excitation wavelength
- No filter wheel vibration to blur images
- Computer controlled light attenuation & wavelength switching
- Driven by ProScan™II, OptiScan™II, and PriorPCI² controllers
- Motorized variable aperture shutter

Lumen 200 Performance Data

One of the common problems with the conventional fluorescence microscope light source is optimizing and maintaining its proper adjustment to provide even illumination over the whole field of view. Uneven illumination becomes much more of a problem when using digital imaging. This is because contrast stretching used to bring out the signals from the background also enhances uneven illumination across the image. Note how the chromosomes in the images taken using a conventional lamp become darker around the periphery of the image, the red signal on the left is nearly lost altogether.

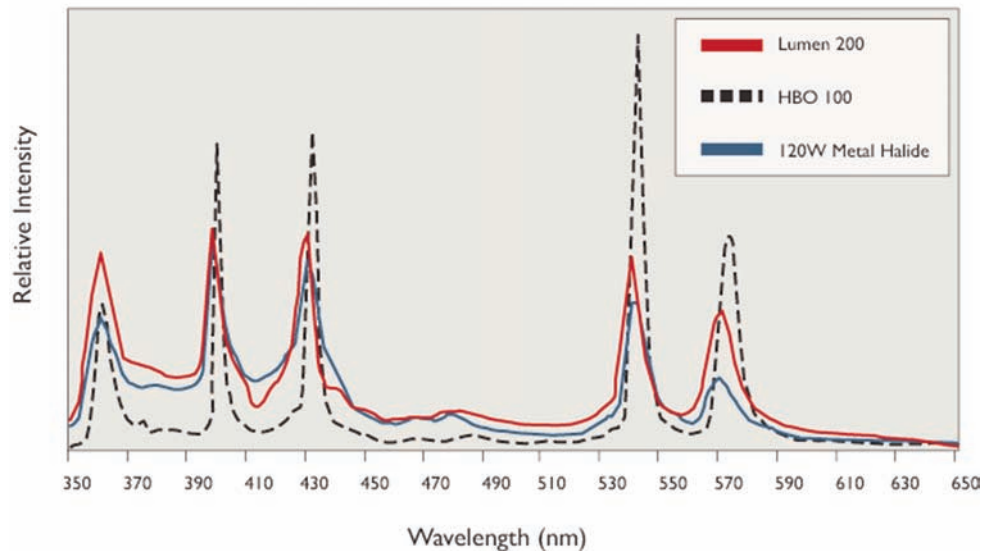


Sub optimal illumination with conventional lamp



Even illumination with Lumen 200

Lumen 200 Spectral Output



CERTIFICATE NO: FM 61600
STANDARD: BS EN ISO 9001:2000



ISO 9001:2000
FM 83854

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Specifications subject to change without notice.