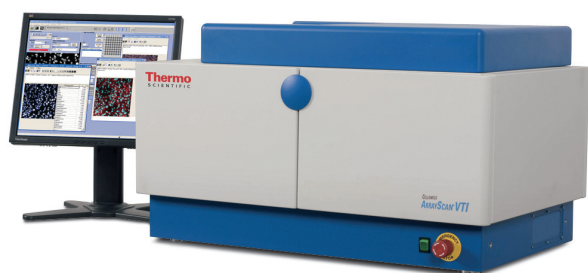


Thermo Scientific Cellomics LED Light Engine for the ArrayScan VTI

Innovative light source for improved speed and reliability

Built for speed and reliability, the Thermo Scientific Cellomics LED Light Engine for the Thermo Scientific ArrayScan VTI places next generation technology into the world's most productive high content reader. With 'solid state' five color excitation capability, the LED Light Engine reduces exposure times, data variability, and consumable expenses compared to traditional arc lamp technologies.



An Innovative Approach to Generating the Right Light

The Thermo Scientific Cellomics LED Light Engine for the ArrayScan™ VTI HCS Reader is a true revolution for image based screening. A hybrid technology combining ultra bright Light Emitting Diodes (LED's) with patented amplification and modulation technologies, the engine produces highly efficient light output with more than 90% of the power within a narrow band range. Built specifically for imaging in the blue (Hoechst/DAPI), green (FITC/GFP), orange red (TRITC), deep red (Texas Red) and far red (Cy5) ranges, the LED Light Engine is perfect for those who want even more robust, reproducible, and fast results from their High Content Platform.

System Compatibility with Outstanding Assay Performance

The LED Light Engine is completely compatible with all hardware modules and BioApplications using some combination of the five common wavelength areas. When compared to Arc Lamp technology, the LED Light Engine performs better in all common wavelengths with superior performance (Figure 1), especially in the red and far red regions of the spectrum. This can significantly reduce the overall scan times in highly multiplexed assays. Intensities per channel can be adjusted electronically if needed (Hoechst in Figure 2).

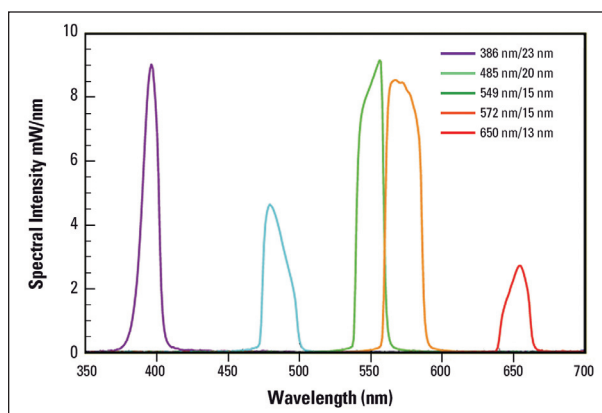


Figure 1: Five color spectral signatures of LED light engine for the ArrayScan VTI.

Comparison of Integration Times between LED Light Engine and Arc Lamp Technology on the ArrayScan VTI

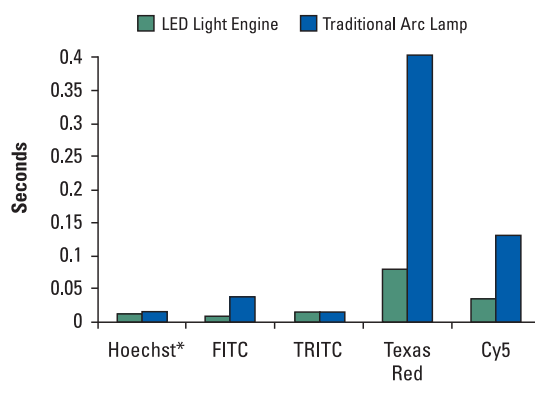


Figure 2: Biological plate label with 4 colors and equivalent exposure times when scanned on an ArrayScan VTI with a traditional arc lamp (blue) versus the new LED Light Engine (Green). Hoechst intensity for the LED system was reduced to 80% of full power so as to not saturate the camera.

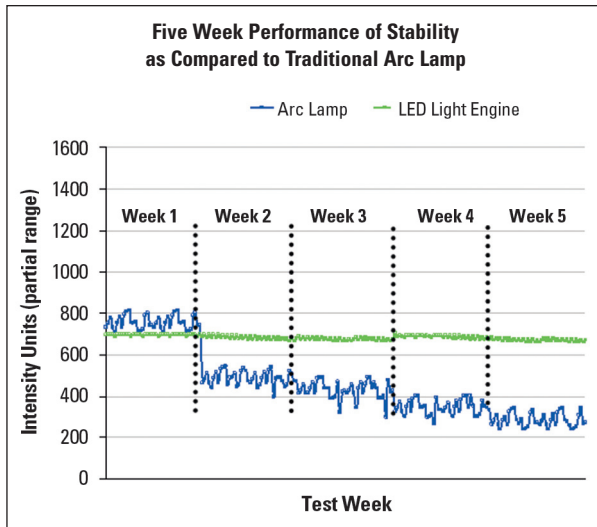


Figure 3: One well (F10) scanned on standard calibration plate scanned as fast as possible for 1 hour each week using Arc Lamp (blue) and LED (green). Fixed exposures used to give comparable intensities. Arc lamp with 1400 hours of on time.

Long Term Stability

Standard light source bulbs tend to fluctuate and lose their intensity over time. Typical bulb life is 2000 hours or less, depending on the bulb type. The LED Light Engine, with its patented technology is ultra stable over time and has a lifetime exceeding 10,000 hours. Remarkable longevity comes from the “instant on and off” nature of LED technology combined with fast electronic switching to control the timing of light generation. The result is consistent and efficient performance during scanning.

Ordering Information

Product Name	Catalog Number	Description
LED Light Engine Module for Thermo Scientific ArrayScan VTI HCS Readers	N01-0150	Five color, direct coupled, Light Emitting Diode (LED) light source designed for high performance and ultra reliability to excite fluorochromes that are blue (e.g. Hoechst), green (e.g. FITC, GFP), orange red (e.g. TRITC), deep red (e.g. Texas Red), and long red (e.g. Cy5). Note: This replaces the EXFO light source on the ArrayScan. Includes on-site installation and instrument validation. The P2K7 Upgrade is a prerequisite for the LED Light Engine for the ArrayScan VTI.

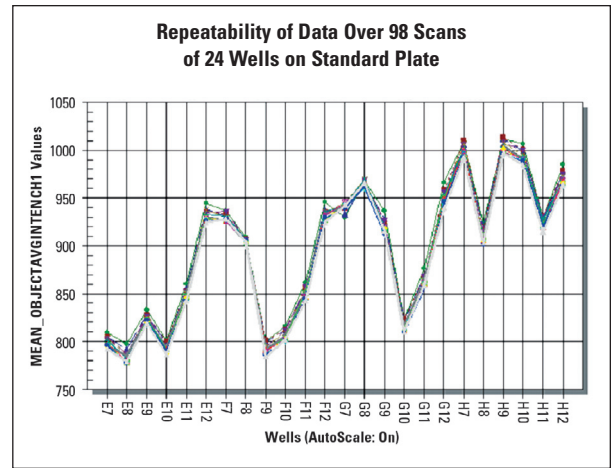


Figure 4: 98 scans of 24 wells on the standard plate demonstrating a total of 1.8% COV.

Repeatability and Speed

Successful high content screening relies on the repeatability of measurements, reliability of the assay equipment, and the speed required to image and analyze the data. The ArrayScan VTI with LED Light Engine reduces intensity fluctuations and optical component wear, eliminates moving parts, and reduces both integration and channel switching times. The result is increased “up time”, throughput and confidence in the data generated in your critical screens. With combined image acquisition and cell analysis scan speeds of under 4 minutes for a 2 color 96 well plate and under 12 minutes for a 384 well plate, the ArrayScan VTI is the fastest and most robust screening platform in its class.