



# Amazing, precise, consistent color.

Achieving predictable color is a major challenge for any business. The EFI™ ES-2000, a color measurement device for calibration and profiling, solves this dilemma by enabling fast, precise and flexible color management that produces the highest color quality.

## **Versatile color management**

Color management is an essential component in handling today's complex digital imaging workflows. The ES-2000 delivers:

### **Precise and fast color calibration**

The flexible spectrophotometer is simple to install. It connects to Fiery® servers with just a USB cord, then quickly calibrates your output devices to consistently produce reliable color. The ES-2000 has improved emissive measurement for better temperature stability and higher brightness levels.

### **CMYK and RGB profiles for input and output devices**

The ES-2000 allows you to quickly and accurately measure color patches to create device profiles with Fiery Color Profiler Suite software. It offers UV-cut and non-UV-cut measurements in a single device, allowing you to profile all your media with one instrument.

### **Accurate spot color measurement**

The spectrophotometer produces precise spot colors by capturing them from a physical swatch and including them in the server's spot color library, so you can easily print the color you need fast.

### **Exact white point measurement**

The ES-2000 helps to accurately simulate color output by incorporating the exact paper white point in the color profiles available at the Fiery server.

## **Speed and precision**

The ES-2000 builds on the success of ES-1000 spectrophotometer to deliver increased accuracy, ease of use and an expanded professional-level feature set, including:

- Support for UV-cut or non-UV-cut measurements in a single device — you can now profile any paper with one instrument
- Positioning detection sensor for error-free patch scanning
- LEDs for better device-status feedback
- New diagnostics and self-correction features
- Easier self-maintenance to keep device working at top performance at all times



# EFI ES-2000 Spectrophotometer

## Spectral engine

- ES-2000 technology with built-in wavelengths check
- Spectral analyzer: Holographic diffraction grating with 128-pixel diode array
- Spectral Range: 380 – 730nm
- Physical sampling interval: 3.5nm
- Optical resolution: 10nm
- Spectral reporting: 380 – 730nm in 10nm steps
- Measurement Frequency in scanning mode: 200 measurements per second
- Inter-instrument agreement: 0.4  $\Delta E_{94}^*$  average, 1.0  $\Delta E_{94}^*$  max. (deviation from X-Rite manufacturing standard at a temperature of 73.4°F (23°C) on 12 BCRA tiles (D50, 2°))
- Short-term repeatability: 0.1  $\Delta E_{94}^*$  on white (D50, 2°, mean of 10 measurements every 3 seconds on white)

## Optics

- Measurement geometry: 45°/0° ring illumination optics, ISO 13655:2009
- Measurement aperture: 0.18" (4.5mm) diameter (effective measurement aperture during scanning is depending on the patch size and measurement speed)
- Illumination Spot Size: 0.14" (3.5mm)
- Light source: Gas filled tungsten (illuminant type A) and UV LED

## Reflective measurement

- Data Format: Spectral Reflectance (dimensionless)
- Measurement Conditions:
  - UV included – ISO 13655:2009 measurement condition M0
  - D50 – ISO 13655:2009 measurement condition M1
  - UV excluded Filter – ISO 13655:2009 measurement condition M2
- Calibration: Manual on external ceramic white reference
- Measurement Background: white, ISO 13655:2009; for measurements on backup board
- Maximum Media Thickness: 0.12" (3mm) on backup board
- Minimum Patch Size in Scanning Mode:
  - 0.28" x 0.39" (7 x 10mm) (width x height) with sensor ruler
  - 0.39" x 0.39" (10 x 10mm) (width x height) without sensor ruler

## Emissive measurement

- Data format: Spectral radiance (mW/nm/m²/sr); Luminance Y (cd/m²)
- Measurement range: 0.2 - 1200 cd/m² on a typical LCD-Monitor
- Short-term repeatability: x,y: +/- 0.002 typical (5000°K, 80 cd/m²)

## Operating conditions

- Temperature: 50°F (10°C) – 95°F (35°C)
- Humidity: 0% – 80% non-condensing

## Interface, dimensions and weight

- Interface: USB 1.1
- Power supply: Device powered by USB. No additional charger or battery required. USB 1.1 high power device

## Physical dimensions

- ES-2000 device: Length 6.1", width 2.6", height 2.6" (155mm x 66mm x 67mm)
- Ruler: Length 13.3", width 4.0" (337mm x 102mm)
- Backup Board: 14.0" x 10.4" (355mm x 265mm) folded or 14.0" x 15.7" (355mm x 400mm) unfolded
- Weight ES-2000 device: 8.6oz (245g)

## EFI fuels success.

We develop breakthrough technologies for the manufacturing of signage, packaging, textiles, ceramic tiles, and personalized documents, with a wide range of printers, inks, digital front ends, and a comprehensive business and production workflow suite that transforms and streamlines the entire production process, increasing your competitiveness and boosting productivity. Visit [www.efi.com](http://www.efi.com) or call 650-357-3500 for more information.



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