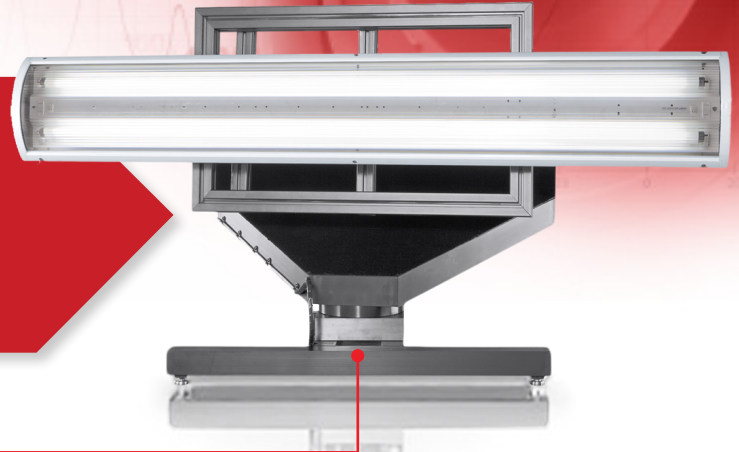


Large Light Source Performance Characterization

## PM-NFMS™



### Applications

- Large light source characterization: luminance, intensity, color vs. angle
- Intensity distribution measurement
- Creation of IES, EULUMDAT, and Radiant Source Model files for large sources

### Benefits

- Large light source characterization - including illumination distribution - is performed in a compact space
- Generates Radiant Source Models for full description of light source performance
- Collects more complete information than far-field measurement techniques

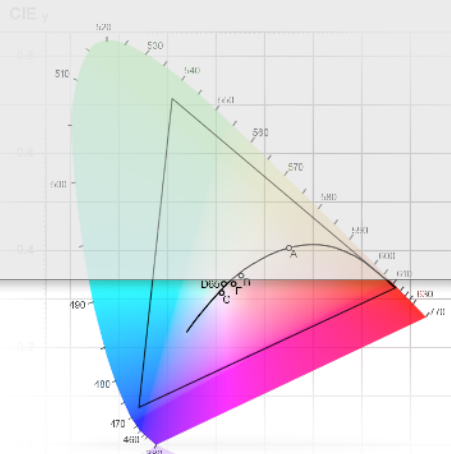
## Efficient luminance and illuminance characterization for large light sources

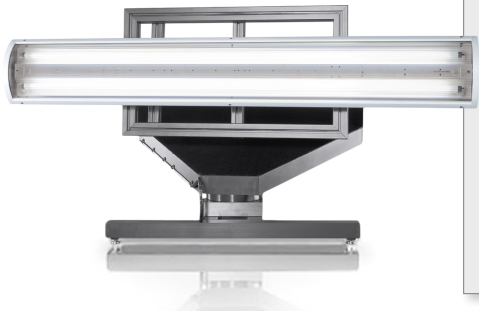
The PM-NFMS™ system performs brightness and color measurements as a function of viewing angle for large light sources. It provides accurate near-field luminance distribution data for developers of large light sources, for automotive, transportation, architectural, and other applications. Because the PM-NFMS™ system captures a complete near-field model of the light source, it provides much more comprehensive information—in a much smaller measurement space—than can be obtained from traditional spotmeter-based measurements.

The PM-NFMS™ system consists of a PM Series™ Imaging Colorimeter, a PM-NFMS™ two-axis goniometer for precisely adjusting the display's angular position relative to the imaging colorimeter, and PM-NFMS™ software that controls both the imaging colorimeter and the goniometer during the measurement sequence, allowing definition and execution of a complete measurement sequence with minimal effort. The measurement data is preserved as a set of display images as a Radiant Source™ Model (RSM). The RSM can be analyzed directly to understand light source performance, or Radiant Imaging's ProSource® software can be used to convert the RSM to a ray set for use in leading optical design software packages.

PM-NFMS™ system software supports light source performance analysis through an extensive variety of quantitative analyses, including isoplots, CIE color analyses and radar plots. In addition, the PM-NFMS™ software can be used to extrapolate a far-field illumination distribution from the measured near-field RSM.

Any PM Series™ Imaging Colorimeter can be selected for use in the PM-NFMS™ system; the ultimate selection will be a function of the dynamic range, measurement resolution, and field of view required. The PM-NFMS™ goniometer is available in two sizes to support varying light source sizes, ranging from small auto interior lamps to architectural lighting systems.





## Specifications\*

### Mechanical Specifications

	NFMS-0400	NFMS-0800
Maximum DUT size (WxH), mm**	500 x 380	865 x 535
Maximum DUT diagonal, mm**	630	1000
Overall system size (WxHxD), mm	795 x 675 x 660	1055 x 820 x 710
Operating footprint, mm	970 x 970	1400 x 1400
Maximum DUT load	5kg	25kg
Precision	0.25°	0.25°
Range of motion, upper axis	±90°	±90°
Range of motion, lower axis	±90°	±90°
Weight (approximate)	25kg	40kg

### Control and Analysis Software Specifications

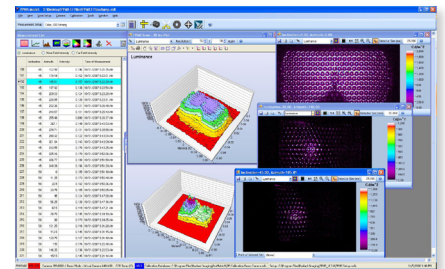
Measurement capabilities	Luminance, Luminous Intensity, CIE Chromaticity Coordinates (x,y), (u',v'), ΔE
PM-NFMS software function	Automated motion and image capture control Real-time, on-screen video display Gray scale and false color display Creation of Radiant Source Models On-screen alignment cursors IES output (using ProSource) EULUMDAT output (using ProSource)
Analysis, graphs and charts	Luminance cross-section Intensity cross-section 3-dimensional surface plot of luminance Isometric plot of luminance Angular distribution of luminous intensity Angular distribution of chromaticity coordinates Graph and image comparison for multiple captures

\* Specifications subject to change without notice

\*\* Larger, high aspect ratio, DUTs can be measured; contact Radiant ZEMAX for further information  
Applicable when using imaging colorimeter

## Key Features

- Full ±90° range of motion in two axes
- Laser alignment tool provided to minimize set-up error
- Two sizes of goniometer, with fully automated measurement control
- Compatible with any ProMetric® Imaging Colorimeter or Photometer
- Near-field to far-field extrapolation integrated into analysis software



## Measurement Capabilities

- Luminance
- Color (x,y) and (u',v')
- Tristimulus (X,Y,Z)
- Color difference (Δu'v')
- Intensity

## Data Representation

- Cross-section graphs
- Histograms
- 3-dimensional surface plot
- 2-dimensional isometric surface plot
- CIE color chart plot

## System Requirements

- 2.0 GHz or faster processor
- 1GB or greater RAM
- Windows® XP or Vista (32-bit)
- USB 2.0 interface