

NED™ M-Series and W-Series Production Benchtop Testers



The NED™ M-Series and W-Series production benchtop testers deliver the ideal all-in-one solution for high speed, high resolution, and high accuracy testing of near-eye displays. The M-Series features model M-80 providing an 80 degree Field-of-View (FOV) and the W-Series features model W150 providing a 150 degree Field-of-View (FOV). This platform equips device makers with automated accurate testing, measurements, and insight targeted for high resolution imaging over a wide FOV especially for high volume production environments. It features the only custom-designed auto focus lens in the market for high fidelity 3D spatial and spectral characterization of Virtual Reality, Augmented Reality, Mixed Reality and Heads-Up Displays (VR, AR, MR, and HUDs). The systems conform to the latest standards being developed by the ICDM committee of the SID and IEC.

Design Validation and Quality Assurance of AR, VR, MR, and Heads-Up Displays

All -in-one: High Speed, High Resolution, and High Color Accuracy

- 3-5 mm entrance pupil to emulate the human eye
- 0 to 4 diopters auto focus lens for AutoFocus control
- High sensitivity, high dynamic range for color and luminance measurements
- Optional fiber-coupled GS-1290 spectroradiometer for increased color accuracy
- Patented SLR viewing system with integrated LED measurement spot projector and autocollimator
- Dedicated, easy to use software with quick test results, plots and pass/fail analysis
- SDKs and support for easy integration into production lines

Original system calibration is performed in Gamma Scientific's NVLAP accredited laboratory (NVLAP Lab Code 200823-0) using NIST-traceable standards.

Measurement Parameters

Center Color and Luminance
Color Gamut Area
MTF and Contrast
FOFO or Sequential Contrast
Checkerboard Contrast
Color Uniformity
Luminance Uniformity
Field of View (FOV)
Geometric Distortion
Chromatic Aberration
Flicker
ANSI Contrast

Critical Enabling Design Features



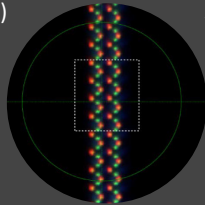
Auto Focus Lens
(0 to 4 Diopters focus range)



Emulates Human Eye
3-5 mm entrance pupil; 2° foveal measurement spot



Periscope Lens Design
to easily fit in device's qualified viewing space



High Resolution Mapping
at human eye resolution



Spectral Precision
High sensitivity, dynamic range spectroradiometer



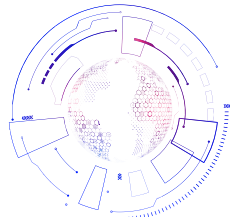
Complete Test Tool Device
characterization in a single measurement sequence

Key Application Areas

Ensuring repeatable and reproducible photometric and colorimetric measurement results



Virtual Reality



Heads-Up Displays



Augmented and Mixed Reality

Leveraging more than 40 years of expertise in field-deployed HUD measurement systems for US military aircraft including the F-16, F-18, B1B, C-17 and F-35, Gamma Scientific has unmatched depth of expertise in virtual image display measurement.

