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COLOR VISION Near-Eye Display VR/MR Test Solution
VR140(L)

• Imaging systems for XR class Near Eye Display (NED) measurements

Color Vision's new VR-140 series optical test solution features a unique optical design that simulates the field of view, size, position and focus of the human eye and is designed specifically for optical measurements of Near-Eye-Display (NED) VR/MR Class displays.

For NED near-eye display, when measuring its optical performance, it is necessary to make the incident pupil of the imaging measurement system be located in the NED device, so as to simulate the human eye observation head-mounted display and achieve the same viewing experience and measurement effect.

Different from the conventional lens whose aperture is located inside the lens, the VR-140 lens has the incident pupil located at the front of the lens, which avoids the wide field FOV of the NED device being blocked by the lens structure, and can achieve a FOV field of view of nearly 140 degrees!

Secondly, the 1-4mm switchable diaphragm can simulate the pupil scaling effect of the human eye pupil in different lighting environments to achieve different luminance observation ranges;

VR-140 offers two optical lens structures, straight and angled, the latter allowing users to simultaneously test the binocular observation effect of the NED device! At the same time, VR-140 supports the upgrade of electric focus control to achieve the measurement of different focus planes!

• Bionic human eye structure design

- ◇ Nearly 140°FOV wide field of view, simulating the large visual Angle of the human eye
- ◇ The incident pupil is located at the front of the lens to simulate the human eye
- ◇ 1-4mm diaphragm (pupil) can be switched to simulate different pupil effects of human eyes
- ◇ Folding Angle stealth design, can realize the NED equipment binocular test
- ◇ Electric focus to achieve the measurement of different focusing planes, simulating human eye focus

• Accuracy guarantee

- ✓ pixel per degree (PPD) reaches 70 pixels per degree
- ✓ 61 million or 100 million pixel high resolution measurement
- ✓ Even field and distortion correction ensure image quality

• Measurement Items

- ◇ Luminance, chroma uniformity
- ◇ FOV view Angle
- ◇ Distortion
- ◇ Color difference
- ◇ Contrast ratio
- ◇ Definition (MTF)
- ◇ Light leakage/ghost
- ◇ Binocular fusion/parallax

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- Specification

Specification	VR-140L Angle Type		VR-140 Straight Type	
FOV (H x V)	138° x 90°	138° x 128°	138° x 90°	138° x 128°
Image support chip	Full frame 36x24mm	Medium format 44x33mm	Full frame 36x24mm	Medium format 44x33mm
Resolution	61M	101M	61M	101M
Diaphragm	1、2、3、3.6、4mm （replaceable）		1、2、3、3.6、4mm （replaceable）	
Binocular simultaneous test	Support		Non-support	
Minimum pupil distance	60mm			
Electric focus	Support		Support	
Focusing distance	0.2m - ∞		0.2m - ∞	