

Ambient Contrast Ratio Measurement Capabilities

Labsphere engineers custom solutions for the purpose of measuring Ambient Contrast Ratio on LCD and other types of displays



Application-Specific Testing Solutions

Each system is designed to meet the customer's unique device testing needs using application-specific integrating sphere sizes and geometries, and a choice of light sources, variable attenuation, and cooling options.

Integrating Sphere Technology

Based on Labsphere's industry-leading integrating spheres, these systems provide accurate simulation of daylight, standard room lighting, and specific environment lighting for contrast measurements over a broad range of conditions.

20 inch System

This system utilizes a 20 inch integrating sphere with Xenon and Tungsten Halogen light sources. The sphere is used to measure the reflectance and transmittance of an LCD panel. The Correlated Color Temperature (CCT) for this system is adjustable from 3000K to 6000K to meet customers' specific testing needs.

- *Device under test (DUT) is placed inside the center of the integrating sphere for measurement
- *Designed to measure devices of 5 inch x 5 inch, rotated at any angle
- *Custom designed light trap reduces absorption
- *Includes variable attenuation for both Xenon and Quartz Tungsten Halogen light sources



12 inch System

This system utilizes a 12 inch integrating sphere with external lighting source for the purpose of measuring ambient contrast ratio on LCD and other displays. The sphere provides contrast measurement under various lighting conditions for the device under test (DUT).

- *Sphere samples 1 inch diagonal section of each DUT
- *DUT size can vary up to 27" inch diagonal
- *DUT is placed underneath the sphere for measurements
- *Ability to monitor system level luminance and visible spectrum
- *Ability to sample multiple reflectance angles at 8°, 30°, and 45°
- *Spectral monitoring of reflect light using spectrometer
- *Simulates daylight conditions (up to 200K lux light level), standard room lighting (Quartz Tungsten Halogen), and CFL
- *Each light source has variable attenuation
- *Cooling maintains temperature within 25°C \pm 5°C on sphere

