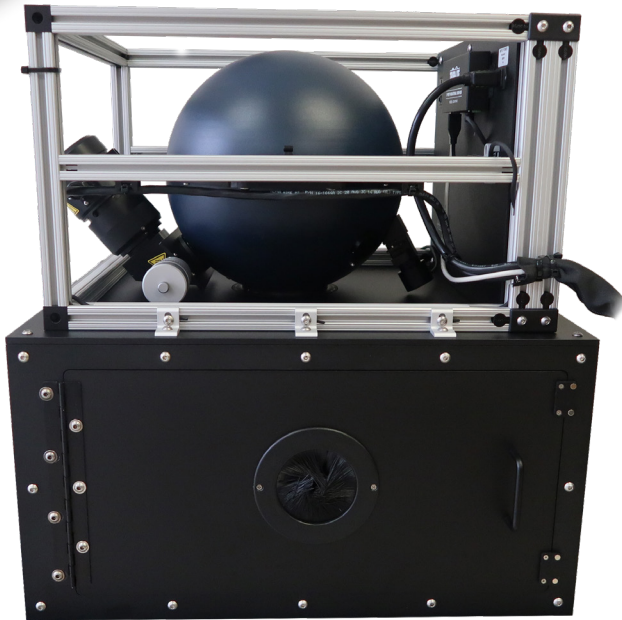
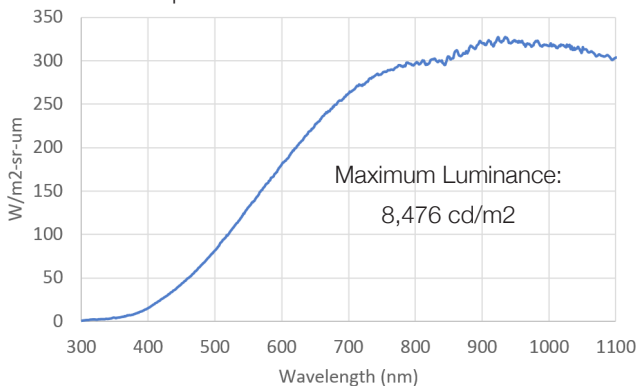


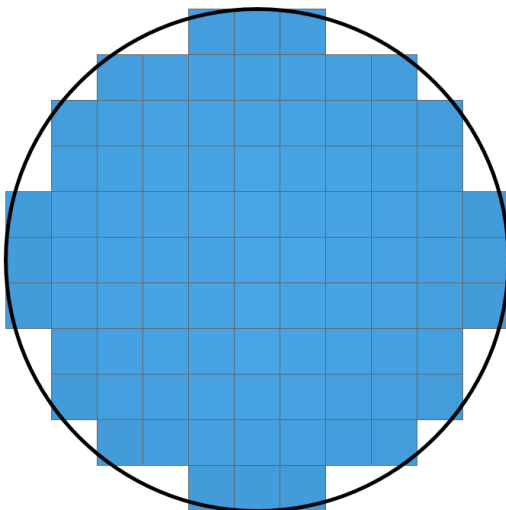
Light-Tight Lux Meter Calibration Source



Spectral Radiance in the Visible



Spatial Uniformity - 99.3%



Technical Challenge

Lux meters must be calibrated before they are used in order to ensure they are giving the right results. However, in many tests, there is background light present. Any amount of background light can reach the sensor and affect the calibration data. Labsphere was asked for a uniform calibration source that could prevent background radiation from affecting their calibrations.

Labsphere's Solution

A standard Labsphere HELIOS V-Family system met the spectral requirements from the client due to excellent dynamic range with a single light source. Labsphere essentially rotated the sphere and cage to face downwards into a custom-built, sealed black box, where the client's lux meter would be tested.

- External halogen lamp with 90° turning mirror
- Manual attenuator for fine-tuned adjustment of the lamp's luminance
- Calibrated silicon detector for accurate measurement of luminance
 - Filter selectors with shutter slide, pinhole slide, and photopic filter options
- Custom light-tight black box enclosure
 - Lux meter mounting platform with adjustable height
 - Gasketed, magnetic access door
 - Brushed grommet feed-through to allow the lux meter's cable to exit the box without stray light entering
- HELIOSense software for control and monitoring of the system

The door opens to reveal a platform with a slot and locking clamps designed to hold the client's lux meter in place. Two small L-handles turn to unlock the platform, which then easily slides upwards to the testing position. The L-handles lock the platform in place, and with the door closed, testing may begin.

Benefits

- The black box prevents any background radiation from reaching the sensor during testing, maximizing the accuracy of the calibration.
- With 99.3% spatial and 99.3% angular uniformity, accurate results are guaranteed on every test.
- Strong communication with Labsphere allowed the client to receive a system that matched their in-house components.
- Component control and live data collection and visualization made easy with Labsphere's HELIOSense software.
- Full calibration reports were provided, including spectral radiance, luminance, uniformity and color temperature.