

# Model 922 Handheld Sign Retroreflectometer

## PRODUCT SUMMARY

The RoadVista model 922 is a handheld sign retroreflectometer designed for use in the field. It is designed to measure the retroreflection ( $R_A$ ) of road signs and other materials.

Since a significant portion of the vehicles on the road in the USA are now SUV's and pickup trucks, ASTM has issued a new specification to require measurements to be performed at an observation angle of 0.5 degrees. The 922 is the perfect instrument for this addition. Utilizing the ASTM standard "annular" geometry, the 922 measures observation angles of 0.2 and 0.5 degrees *simultaneously*, with an entrance angle of -4 degrees. This patent-pending design allows you to know, with the press of a button, exactly how bright your sign will appear to most drivers. Plus, the annular geometry means you will not have to take an average of 2 measurements with prismatic-type materials, further simplifying the measurement process. A version is available with a standard 0.33 degree observation angle and +5 degree entrance angle to meet the European specifications.

The Model 922 comes standard with an internal global positioning system (GPS) and an internal barcode reader. The internal memory has the capacity to store more than 4500 measurements. Uploading the data to a computer is easy with the USB interface.

The sensitive light sensor meets ASTM E1709 and ASTM E2540 requirements with the CIE standard human eye response in conjunction with the CIE illuminant "A" lamp. Our world-class photometric filter fit is unmatched by the competition and allows extremely accurate measurements of other colors using the single white reference standard with no correction factors.

If field measurement is needed for high-mounted traffic signs, the Model 922-EPK extension pole kit with remote IrDA trigger is recommended.



## FEATURES

- *Measures all types of retroreflective materials with a single measurement*
- *Meets ASTM, CIE, BS, EN & DIN specifications*
- *Utilizes annular measurement geometry – no averaging of measurements on micro-prismatic material necessary*
- *Dual observation angles of 0.2° and 0.5° for simultaneous measurements*
- *European geometry also available*
- *World-class photopic-corrected detector and source "A"*
- *Requires only 1 reference standard without any correction factors*
- *Self-contained commercially available battery*
- *Digital liquid crystal touch-screen display*
- *Built-in WAAS-enabled GPS*
- *Built-in programmable barcode reader*
- *USB Computer Interface*
- *Built-in averaging*
- *Internal storage for approximately 4500 measurements*
- *Foam-lined carrying case*
- *Optional extension pole kit with IrDA remote control*



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## SPECIFICATIONS

| Geometry                            |                              |                                     |                              |  |                              |
|-------------------------------------|------------------------------|-------------------------------------|------------------------------|--|------------------------------|
| Model 922 (ASTM E1709 and E2540)    |                              | Model 922D (DIN 67520 & EN 12899-1) |                              | Model 922E (EN471 for safety clothing) |                              |
| Entrance Angle:                     | -4°                          | Entrance Angle:                     | +5°                          | Entrance Angle:                        | +5°                          |
| Observation Angle:                  | 0.2° and 0.5°                | Observation Angle:                  | 0.33°                        | Observation Angle:                     | 0.2° and 0.5°                |
| Light Source angular aperture       | 0.1°                         | Light Source angular aperture       | 0.1°                         | Light Source angular aperture          | 0.1°                         |
| Receiver angular aperture (annular) | 0.1°                         | Receiver angular aperture (annular) | 0.1°                         | Receiver angular aperture (annular)    | 0.1°                         |
| Field of Measurement                | 1 inch (25 mm) diameter spot | Field of Measurement                | 1 inch (25 mm) diameter spot | Field of Measurement                   | 1 inch (25 mm) diameter spot |

### Specifications (apply to all models)

|                               |  |
|-------------------------------|--|
| Detector Responsivity         | Photopic response in accordance with ASTM E1709 paragraph 6.4.2 and ASTM E2540 paragraph 6.4.2   |
| Range (cd/lx/m <sup>2</sup> ) | 0-2000   |
| Data Memory                   | > 4500 measurements  |
| Computer Interface            | USB  |
| GPS                           | 12-Channel WAAS Enabled for <3 meter position fix uncertainty  |
| Barcode Reader                | Programmable Symbologies Laser Scanner   |
| Power Supply                  | removeable 12 VDC, 2.4 Ah battery (DeWalt P/N DC9071)  |
| Charger                       | 110 VAC, 60 Hz (add -1 after model number)<br>12 VDC cigarette lighter (add -2 after model number)<br>220 VAC, 50 Hz (add -3 after model number) |
| Operating Temperature         | 0°C to 50°C (32°F to 122°F)  |
| Operating Humidity            | 0 to 95% non-condensing  |
| Length                        | Approx. 11.5 inches (290 mm)   |
| Width                         | Approx 4.5 inches (115 mm)   |
| Height                        | Approx 12.75 inches (325 mm) with battery  |
| Weight                        | Approx 5.9 lbs (2.7 kg) with battery   |



### Accessories

#### Standard Accessories

- Foam-lined Carrying Case
- Measurement Area Reducers
- Battery Charger
- Two (2) Batteries
- Calibration Standard
- Calibration Certificate
- Windows Software with Mapping



#### Optional Accessories

- Annual Calibration Service
- 922-EAA Adjustable Entrance Angle Attachment (allows the entrance angle to be adjusted from -40 to +40 degrees continuously)
- 922-EPK Extension Pole Kit with remote IrDA trigger

# ROADVISTA

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