

**ALDOT-422-06**  
**METHOD FOR RETROREFLECTIVITY MEASUREMENT OF TRAFFIC**  
**MARKING MATERIALS**

**1. Scope**

**1.1** This method covers measurement of the retroreflectivity of traffic marking materials: thermoplastic, hot spray thermoplastic, preformed thermoplastic, preformed traffic tape, and traffic paint (waterborne and solvent based).

**2. Applicable Documents**

**2.1** Alabama Department of Transportation Standard Specifications

**2.2** ASTM E 1710, "Standard Specifications for Measurement of Retroreflective Pavement Marking Materials with CEN-Prescribed Geometry Using a Portable Retroreflectometer"

**2.3** ASTM D 6359, "Standard Specifications for Minimum Retroreflectivity of Newly Applied Pavement Marking Using Portable Hand-Operated Instruments"

**2.4** Form BMT-186, "Retroreflectivity, Color and Luminance Factor Report"

**3. Apparatus**

**3.1** Use an approved 30 meter geometry retroreflectometer meeting ASTM E 1710.

**4. Sampling**

**4.1** Evaluate all striping materials in an "as is" condition per ASTM D 6359.

**4.2** Location of measurements:

**4.2.1** Lot - The entire length of any one type and color of stripe.

**4.2.2** Sublot - A mile or any portion of a mile of stripe designated by the Engineer.

- 4.2.3** Test Section – A randomly selected one hundred foot section within each one half mile location.
  
- 4.3** The sample size shall be 5 measurements approximately twenty feet apart within each test section.
  - 4.3.1** The average of all ten measurements taken within the two test sections of each subplot shall be used in determining the acceptance and payment of each subplot of traffic stripe.
  
  - 4.3.2** Centerlines shall be measured in each direction for retroreflectivity values. Five measurements shall be taken in each direction for a total of 10 measurements within each test section. The average of all twenty measurements within two test sections of each subplot shall be used in determining the acceptance and payment of each subplot of centerline traffic stripe.
  
- 4.4** Pass / fail criteria are based on the Department’s specification for each type of traffic marking.

## **5. Procedure**

- 5.1** Retroreflectivity: Measure the retroreflectivity with an approved measuring device meeting the requirements of 3.1 per the written instructions of the manufacturer. Calibrate the instrument at the beginning of each day of use. Perform additional calibrations if the instrument is turned off, recharged, or if testing conditions change, e.g. substantial change in ambient temperature. Mark the location of measurements to allow subsequent measurements in the same location.

## **6. Reporting**

- 6.1** Record all data on form BMT-186 titled “Retroreflectivity, Color and Luminance Factor Report” to document the retroreflectivity of traffic marking materials.