

Test Method
MoDOT T80
MEASUREMENT OF RETROREFLECTIVITY
BY
HANDHELD RETROREFLECTOMETERS

1.0 Scope.

This method describes the procedure for retroreflectivity inspections of pavement markings using a handheld retroreflectometer.

2.0 Equipment

2.1 The apparatus shall consist of a handheld 30-meter geometry retroreflectometer, such as the Mirolux 30 retroreflectometer.

3.0 Procedure

3.1 Take the pavement marking measurements between seven and fourteen days after application. Waiting seven days ensures that all excess glass spheres have been removed, and completing the measurements by fourteen days allow retest of the pavement marking within 45 days if the handheld reflectometer measurements are challenged.

3.2 Take all measurements in the sampling areas in the direction of traffic flow, except on the centerline of two-lane roads, then take the required number of measurements in each direction. Measure both single and double lines, and apply the acceptance criteria for each line in both directions.

3.3 Because handheld retroreflectometers normally shoot a beam of light approximately 6-12 inches in front of the machine's lens, locate the lens approximately 6-12 inches from the flat area of the rumble stripe. When the light falls in the bottom of a rumble strip, the retroreflectivity readings are usually lower than the backside or top of the rumble area because of the change of light beam angle, and for that reason, take care to avoid taking readings in the bottom of the rumble strip.

4.0 Sampling

4.1 Solid Longitudinal Lines.

4.1.1 Road Lengths < 1000 Feet. Randomly select one 300-foot section of pavement marking for testing. Take measurements approximately every 15 feet along the pavement marking line. Take a total of 20 measurements.

4.1.2 1000 Feet < Road Lengths < One Mile. Break the roadway to be tested down into segments of equivalent lengths. Keep the segment lengths as close as possible to 1000 feet, but the segments may be as small as 500 feet, as would be the case when the total roadway length to be tested is only 1001 feet long. Within each segment, randomly select one 300-foot section of pavement marking for testing. Take measurements within the 300-foot sections of roadway approximately every 15 feet along the pavement marking line. Take a total sample size of 20 measurements for each section.

4.2 Intermittent Longitudinal Lines.

4.2.1 Road Lengths < 1000 Feet. Take two measurements on 10 random intermittent pavement markings, giving a total sample size of 20 measurements. Take measurements on each intermittent pavement marking at minimum 3 feet apart.

4.2.2 1000 Feet < Road Lengths < One Mile. Break the roadway to be tested down into segments of equivalent lengths. Keep the segment lengths as close as possible to 1000 feet, but the segments may be as small as 500 feet, as would be the case when the total roadway length to be tested is only 1001 feet long. Within each segment, randomly select one 300-foot section of pavement marking for testing. Within each 300-foot section, take two measurements on 10 random intermittent pavement markings, giving a total sample size of 20 measurements for each section. Take measurements on each intermittent pavement marking at minimum 3 feet apart.

4.3 Legends, Symbols, Pedestrian Crossing, Etc.