



## WSDOT Test Method T 314

### *Method of Test for Photovolt Reflectance*

#### 1. SCOPE

- a. This method covers the determination of the 45-degree, 0-degree directional reflectance factor of nonfluorescent opaque specimens by means of a filter photometer.

#### 2. APPARATUS

- a. Photovoltmeter conforming to ASTM E 1347.
- b. Calibrated standard plaques.
- c. Black plastic film canister.
- d. Filters.

#### 3. PROCEDURE

##### a. Reflectometer Calibration

1. Warm up the reflectometer for 30 minutes before use.
2. Turn the REF control knob until neither LO nor HI lights are lit.
3. Place the black plastic film canister over the sensor unit opening, and turn the COARSE sensitivity control fully clockwise, and the FINE sensitivity control to its midrange (approximately five turns). Turn the ZERO knob until 00.00 appears on the PERCENT REFLECTANCE display.
4. Put the required filter into the sensor unit. Set the sensor unit on top of the appropriate standard plaque and turn the COARSE sensitivity knob until a value close to the standard appears in the display. The standard value is printed on the reverse side of the plaque. Then, using the FINE sensitivity knob, dial in the exact value of the standard plaque.

##### ii. Photovolt Model 577

1. Warm up the reflectometer for 30 minutes before use.
2. Select the appropriate filter channel by depressing the "G" button on the front panel.
3. Place the black plastic film canister over the sensor unit opening, depress the CHANGE button, the display will go blank.
4. Press the ZERO button, the display will read 0.0 ( $\pm 0.1$ )

5. Set the standard plaque on the search unit, depress the CHANGE button, the display will go blank again.
  6. Depress the STD button, the display will read 75.0. Using the buttons A, B, and G set the display digits to read the value printed on the back of the standard plaque.
  7. Depress the STD button again. The display will display the standard plaque value  $\pm 0.2\%$ .
- b. Reflectance Determination
1. Remove the sensor unit from the standard plaque and place it on the specimen to be measured.
  2. The PERCENT REFLECTANCE reading of the specimen will now appear in the display.
  3. When testing Curing Compounds, take three readings for each specimen in the “brightest” locations. When testing lane markers, move the unit to determine an average reading. Recheck the standard plaque reading and the zero reading between each sample measurement.
  4. REPORT
    - a. Report the average result of all readings for a sample to the nearest percent.