NOTE: This Document is "Inactive"

(INACTIVE)
OHD L-27
METHOD OF TEST FOR
DETERMINING THE NIGHTTIME REFLECTANCE OF TRAFFIC PAINT

I. **SCOPE.** This test method is to be used to determine the nighttime reflectance of traffic paint under conditions of use in a performance test.

II. **APPARATUS.** The apparatus shall consist of the following:

A. **35 mm, Reflex Type, Camera,** with F2.8/135 mm telephoto lens.

B. **Electronic Flash Unit,** rated 80 watts/second.

C. **Color Film,** hi-speed Ektachrome, ASA-160, daylight type or equivalent.

D. **Camera Tripod,** adjustable for height.

E. **Slide Projector and Screen.**

F. **Photoelectric Cell,** ring type, 0.050 inch(1.27mm) in width and inside radius of 0.184 inch(4.67mm).

G. **Specific Intensity Meter,** graduated in hundredths, having an accuracy at 0.005% and repeatability of 0.001%.

H. **Variable Transformer,** capable of maintaining 110 volts ± 1 volt.

I. **Reflectance Standards,** reflective sheeting mounted on metal plates.

1. 3-M Silver for white traffic paint.

2. 3-M Yellow for yellow traffic paint.

J. **Roofing Nails.**

III. **PREPARATION FOR TEST.** Prior to test, a roofing nail shall be driven into the shoulder of the roadway six (6) inches (15cm) from the end of the traffic stripe or group of traffic stripes to be evaluated.

IV. **PROCEDURE.**

A. Assemble the camera, flash unit and tripod so that the camera lens is at an approximate height of 36 inches (91cm). Place the reflectance standard at a distance of 30 inches (76 cm) from the leading leg of the tripod and take a photograph.

B. Place the leading leg of the tripod on the roofing nail associated with the stripe to be photographed. Aim the camera at the nearest wheel path and take two photographs. Repeat for all stripes to be evaluated.

C. When all stripes have been photographed, repeat Section IV, A.

D. Develop film and make into slides; select one slide of each stripe for evaluation.

E. Setup slide projector and screen. Adjust voltage to 110 volts. Connect the Photocell to the specific intensity meter. Darken room. Place one of the standard slides in projector and place photocell against the screen directly over the image of the standard. Adjust the reading on the meter to 100% by changing the distance between the projector and screen. Place the other standard slide in the projector and take a reading. Adjust the setup to reflect an average between the standards. Record this as Standard Reading (R_o).

F. Place test slide in projector and take reading in wheel path. Repeat for all test slides.

G. Repeat the above step until three readings have been taken on each test slide.

V. **CALCULATIONS.** The reflectance (R) shall be calculated as follows:

$$R = \frac{A_s}{3\ R_o}\ x\ 100$$

Where:

R	=	Reflectance
A_s	=	Sum of the individual readings for each test slide
R_o	=	Standard Reading

Reflectance shall be reported as "percent of standard."

NOTE: It is intended that Section IV, A-C of the above Procedure be performed during the nighttime hours at least one hour after sundown.