



Technical Report Preprint

J964

This report is scheduled to appear in the 1967 SAE Handbook.

Published June 1966.

SOCIETY OF AUTOMOTIVE ENGINEERS, INC.,
485 Lexington Avenue, New York, New York 10017

TEST PROCEDURE FOR DETERMINING REFLECTIVITY OF REAR VIEW MIRRORS - SAE J964

SAE Recommended Practice

Report of Body Engineering Committee approved June 1966.

1. SCOPE

This test procedure is intended for use in measuring the reflectance of rear view mirrors.

2. APPARATUS

2.1 The apparatus shall consist of an incandescent light source, a specimen holder, a photoreceptor, an indicating meter, and a means for negating the effects of extraneous light.

2.2 Characteristic of Light Source and Photoreceptor - The light source shall consist of an incandescent tungsten filament lamp operating at a nominal color temperature of 2854 K (CIE Illuminant A), and associated optics to provide a near collimated light beam. A voltage stabilizer is recommended for maintaining a fixed lamp voltage during instrument operation. The photoelectric receptor shall have a spectral response proportional to the luminosity function of the standard CIE observer. Any other combination of illuminant-filters-receptor which gives the overall equivalent

of illuminant A and average visual response may be used.

2.3 Geometric Conditions - The angle of the incident beam (θ_i) shall not exceed 30 deg from the perpendicular to the test surface, and the axis of the receptor shall make an angle (θ_r) with this perpendicular equal to that of the incident beam (Fig. 1). The incident beam upon arrival to the test surface shall have a diameter of 0.75 in. or larger, and shall not exceed the sample test area. The reflected beam, upon arrival at the photoreceptor, shall not be larger than the photosensitive area and shall not cover less than 50% of such area, and should strike that area of the photoreceptor used for calibration.

2.4 Receptor-Indicator Unit - The photoreceptor output as read on the indicating meter shall be a linear function of the light intensity on the photosensitive area of the receptor. Means (such as, a back-bias circuit with controls) shall be provided by which the meter can be adjusted to read zero. Further, means (electrical and/or optical) shall be provided for calibration adjustments. Such means shall not affect the linearity or the spectral characteristics of the instrument.

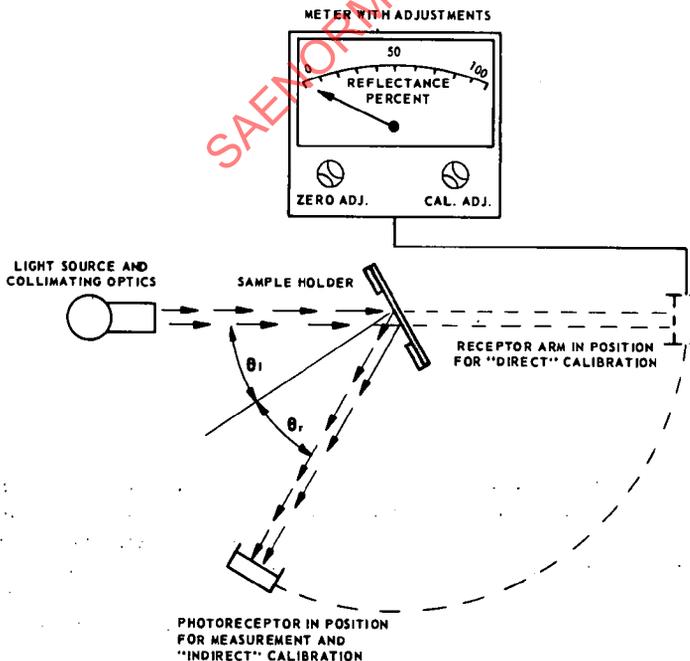


Fig. 1 - Generalized reflectometer showing geometries for the two calibration methods