

# TEST REPORT

Report No. : B105LT0211

Report Date : 2016/7/21

CUSTOMER : Microlite Ind. Co., Ltd

ADDRESS : 12F-1, Number 288, Fu-shin N RD., Taipei, 10483 Taiwan

TEST LAB. : Automotive Lighting Testing & Photometric  
Calibration Lab.

TEST ITEM : Retro-reflection Test

TESTING CATEGORY : NON-REGULATION

PRODUCT : Microlite Reflective material

MODEL : Microlite

THIS REPORT CONSISTED OF 5 PAGES IN TOTAL WHICH INCLUDING 1 COVER PAGE.  
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THE TEST RESULT OF THIS REPORT APPLIED ONLY TO THE TESTED SUBJECT.



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Non-regulation

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Products Identification Information :

Product name : Microlite Reflective material

Product Type : Microlite

Product serial : #1

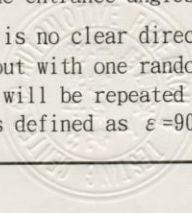
Product picture : See next page

Test Condition :

Under Room Temperature ( $23 \pm 5$ ) °C ; Humidity under 80 %

Test Standard and Procedure :

1. Follow ISO20471 (2013) Table4 Standard as reference standard.
2. Retro-reflective testing was to use the well-distributed light source (A) to illuminate the reflecting side and measure the reflective luminosity by a photometer. The observation angles and entrance angles were controlled and varied by the computer of Retro 2000. The testing distance is 30.48 m.
3. The testing sample was mounted at the normal operation position on the goniometer table and the sample's center aligned to the goniometer's rotation center. The tested area of the sample was 100mm×100mm. The testing side was faced to the light source and the center of the testing sample was overlapped of the rotation center of the goniometer. The goniometer was rotated during the test to change the entrance angles.
4. If there is no clear directional mark on the sample, the test will be carried out with one random direction defined as  $\varepsilon=0^\circ$  by CIE. Furthermore, the test will be repeated with another vertical direction, which was defined as  $\varepsilon=90^\circ$ , based on the test normal.

  
Wan-Liang Wang  
Signatory of Laboratory

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5. According to the regulations of ISO 20471:6.1, if the measurements of the two rotation angles ( $\epsilon=0^\circ$  and  $\epsilon=90^\circ$ ) at  $\alpha=12^\circ$  with  $\beta_1=5^\circ$  have the difference more than 15 %, it will be defined as orientation-sensitive. Orientation-sensitive material shall comply with the minimum requirements for the coefficient of retro-reflection at one of the two rotation angles and shall be not less than 75 % of the values at the other rotation angle.

Test Equipment :

LMT Goniometer system GO-H 1200 with Retro-2000 Retro-reflection measuring unit

Test Result :

See next page

Note :

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Test Result :

unit : cd/lx · m<sup>2</sup>

Observation angle ( $\alpha$ )	Entrance angle ( $\beta_1$ )	Measured		Required
		Horizontal ( $\varepsilon = 0^\circ$ )	Vertical ( $\varepsilon = 90^\circ$ )	Table4
12°	5°	554.0	552.0	330
	20°	546.0	552.0	290
	30°	525.0	515.0	180
	40°	403.0	364.0	65
20°	5°	396.0	397.0	250
	20°	397.0	398.0	200
	30°	382.0	375.0	170
	40°	304.0	282.0	60
1°	5°	18.1	17.4	25
	20°	19.6	19.6	15
	30°	23.6	25.5	12
	40°	29.1	29.5	10
1°30'	5°	23.9	24.3	10
	20°	23.4	22.5	7
	30°	21.3	19.6	5
	40°	16.7	15.7	4

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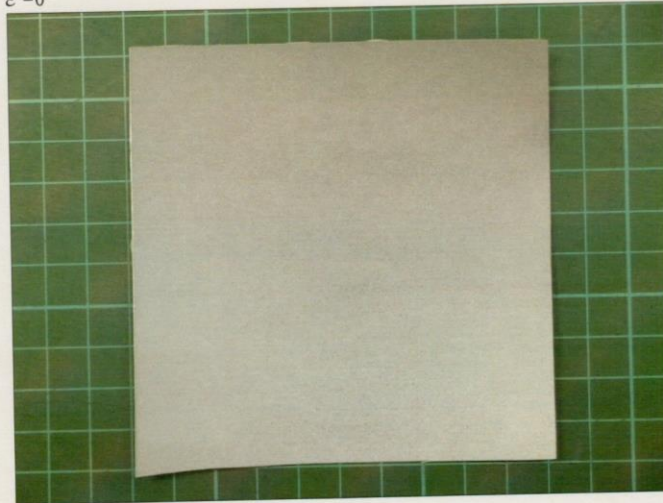
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Product Picture :

$\varepsilon = 0^\circ$



$\varepsilon = 90^\circ$

