

UTON TEXTILE TECHNOLOGY CO., LTD.

NO.789 KENING ROAD, JIANGNING DISTRICT, NANJING CITY, JIANGSU PROVINCE, CHINA

THIS REPORT CANCELS AND SUPERSEDES THE TEST REPORT NO.SL52115296247501TX

DATE: 2021-08-20 ISSUED BY SGS (Shanghai)

UPDATED SAMPLE INFORMATION.

The following sample(s) was/were submitted and identified on behalf of the client as:

Sample Description : (A) Reflective material

Sample Color : (A) Bright Silver

Sample Size : 5CM

Fabric Reference Code : UT-LYR3

Style No. : UT--6510

Proposed Care Instruction : -

Test Performed : Selected test(s) as requested by applicant

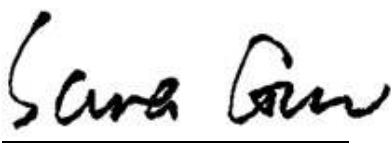
Sample Receiving Date : Aug 13, 2021

Testing Period : Aug 16, 2021 - Aug 20, 2021

Test Result(s) : Unless otherwise stated the results shown in this test report refer only to the sample(s) tested, for further details, please refer to the following page(s).

Signed for and on behalf of

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd Testing Center



Sara Guo (Account Executive)



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Test Result

Personal Protective Equipment - High-visibility clothing - Test methods and requirements

EN ISO 20471:2013+A1:2016

Clause 6.1 Retroreflection for Retroreflective Material

(EN ISO 20471:2013+A1: 2016 Clause 7.3)

Separate Performance Retroreflective Material

Entrance Angle	Observation Angle	Measured value (cd/(lx. m ²))		Orientation Sensitive	Minimum Requirement (cd/(lx. m ²))			Result (Pass/Fail)
		0°	90°		Orientation Sensitive		Non-Orientation Sensitive	
5°	12'	350	340	No	330	247.5	330	Pass
	20'	282	267	No	250	187.5	250	Pass
	1°	25.3	25.1	No	25	18.75	25	Pass
	1°30'	18.8	16.8	No	10	7.5	10	Pass
20°	12'	353	330	No	290	217.5	290	Pass
	20'	281	262	No	200	150	200	Pass
	1°	21.9	21.1	No	15	11.25	15	Pass
	1°30'	18.2	17.1	No	7	5.25	7	Pass
30°	12'	358	321	No	180	135	180	Pass
	20'	266	258	No	170	127.5	170	Pass
	1°	23.1	20.7	No	12	9	12	Pass
	1°30'	18.9	16.5	No	5	3.75	5	Pass
40°	12'	314	306	No	65	48.75	65	Pass
	20'	254	245	No	60	45	60	Pass
	1°	20.6	20.5	No	10	7.5	10	Pass
	1°30'	15.1	14.6	No	4	3	4	Pass

(#)Remark:

1. When measured at two rotation angles $\epsilon = 0^\circ$ and $\epsilon = 90^\circ$, materials having coefficients of retroreflection that differ by more than 15% are defined as orientation sensitive.
2. Orientation-sensitive material shall comply with the minimum requirements for the coefficient of retroreflection stated in Table 4 of EN ISO 20471 at one of the two rotation angles. The coefficient of retroreflection shall be not less than 75% of the values stated in Table 4 (Minimum coefficient of retroreflection for separate performance retroreflective material) at the other rotation angle.

Table 4 – Minimum coefficient of retroreflection in cd/(lx.m²) for separate performance retroreflective material

Observation angle	Entrance angle β_1 ($\beta_2 = 0$)			
	5°	20°	30°	40°
12'	330	290	180	65
20'	250	200	170	60
1°	25	15	12	10
1°30'	10	7	5	4



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Clause 6.2 Retroreflection after Washing

(Clause 7.3&7.5.2, ISO 6330:2012: Using horizontal axis, front-loading type machine; Procedure No.6N, Machine Wash At 60°C; with 2kg total dry mass (Type III (100% Polyester) Ballast+Specimen) and 'ECE(A)' detergent+ Sodium Perborate+ TAED, Line Dry)

After 25 washes

Separate Performance Retroreflective Material

Entrance Angle	Observation Angle	Measured value (cd/(lx. m ²))		Orientation Sensitive	Minimum Requirement (cd/(lx. m ²))		Result (Pass/Fail)
		0°	90°		Orientation Sensitive	Non-orientation Sensitive	
5°	12'	297	294	No	100	75	100
							Pass

Sample Photo



End of Report

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