

Applicant GUANGZHOU SOMTA OPTICAL TECHNOLOGY
CO., LTD
NO.12 YUCAI ROAD, SHILING TOWN,
GUANGZHOU CITY, 510860,
GUANGDONG CHINA

Issue Date: Aug 30, 2024

Attn Grace Xiao

SAMPLE DESCRIPTION AS DECLARED

Item Name	SPORTS SUNGLASSES
Item No./SKU No.	UY057
P. O. No./Reference No.	UY057, UY066, UY067, UY074, UY075, UY080, UY089, UY099
Quantity	6 STYLES
Manufacturer/Factory/Supplier	GUANGZHOU SOMTA OPTICAL TECHNOLOGY CO., LTD
Vendor	--
Buyer	GUANGZHOU USOM GLASSES CO., LTD
Country/Region of Origin	CHINA
Date Sample Received	JUL 24, 2024 & AUG 27, 2024
Testing Period	JUL 24, 2024 ~ AUG 30, 2024



For and on behalf of

Intertek Testing Services Shenzhen Ltd.

Rachel L. Guo
General Manager



CONCLUSION

Tested Sample	Standard/Testing Item	Result
Submitted samples	EN ISO 12312-1:2022 Eye and face protection - Sunglasses and related eyewear- Part 1: Sunglasses for general use	Pass
	Excluding:	
	- Clause 5.3.2.2 : Road use (including driving) in twilight or at night	
	- Clause 12.1 : Information to be supplied with each pair of sunglasses	
	- Clause 12.2 : Additional information	

Requirements for Sunglasses

Test standard: EN ISO 12312-1:2022 Eye and face protection - Sunglasses and related eyewear - Part 1: Sunglasses for general use.

Number of samples tested: Four (4) pairs of sunglasses per style, total six (6) styles.

Clause/Section	Requirement	Result	Assessment
4	Construction and materials		
4.1	Construction	Meet	P
4.2	Filter material and surface quality	Meet	P
4.3	Physiological compatibility	Note (2)	--
5	Transmittance		
5.2	Transmittance and filter categories	See Data	P
5.3	General transmittance requirements		
5.3.1	Uniformity of luminous transmittance	See Data	P
5.3.2	Requirements for road use and driving		
5.3.2.1	General		
5.3.2.1a	Spectral transmittance	See Data	P
5.3.2.1b	Detection of signal lights	See Data	P
5.3.2.2	Road use (including driving) in twilight or at night	--	NR
5.3.3	Wide-angle scatter	See Data	P
5.3.4	Additional transmittance requirements for specific filter types		
5.3.4.1	Photochromic filters	--	NA
5.3.4.2	Polarizing filters	--	NA
5.3.4.3	Gradient-tinted filters	--	NA
5.3.4.4	Electro-optical sunglare filter, electro-optical sunglass filter	--	NA
5.3.5	Claimed transmittance properties	--	NA
6	Refractive power		
6.1	Spherical and astigmatic power	See Data	P
6.2	Spatial deviation	--	NA
6.3	Prism imbalance (relative prism error)	See Data	P
7	Robustness		
7.1	Minimum robustness of filters	See Data	P
7.2	Frame deformation and retention of filters	See Data	P
7.3	Impact resistance of the filter, strength level 1 (optional specification)	--	NA



7.4	Increased endurance of sunglasses (optional specification)	--	NA
7.5	Resistance to perspiration (optional specification)	--	NA
7.6	Impact resistance of the filter, strength level 2 or 3 (optional specification)	--	NA
8	Resistance to solar radiation	See Data	P
9	Resistance to ignition	Meet	P
10	Resistance to abrasion (optional specification)	--	NA
11	Protective requirements		
11.1	Coverage area	Meet	P
11.2	Temporal protective requirements	--	NA
12	Information and labelling		
12.1	Information to be supplied with each pair of sunglasses	--	NR
12.2	Additional information	--	NR

Abbreviation: P = Pass, NR = Not Requested, NA = Not Applicable

Note:

(1)The submitted sunglasses were declared by applicant for adult use, and the reference head form was 1-M.

(2)Physiological compatibility

Sunglasses shall be designed and manufactured in such a way that when used under the conditions, they will not compromise the health or safety of the wearer. The risks posed by substances leaking or evaporating from the sunglasses that can come into prolonged contact with the wearer shall be reduced by the manufacturer to within the limit of any regulatory requirement. Special attention shall be given to substances which are allergenic, carcinogenic, mutagenic or toxic to reproduction.

Substances recommended for cleaning, maintenance or disinfection shall be known to be unlikely to have any adverse effect upon the wearer, when applied in accordance with the instructions given in the information to be supplied by the manufacturer.

Manufacturers/suppliers shall perform an appropriate risk analysis on potentially harmful substances contained in the sunglasses that, when the sunglasses are used under normal conditions, the health (and safety) of the wearer shall not be compromised.

(3)CE marking is not specified in EN ISO 12312-1: 2022 but per Regulation (EU) 2016/425, Article 16 & Article 17, the CE marking shall be affixed visibly, legibly and indelibly to the sunglasses frame. The format of this CE marking was given in Annex II of Regulation (EC) No 765/2008

It was found that the CE marking was provided on the sunglasses frame.

Test Data
5.2 Transmittance and filter categories

(1)

Transmittance and filter categories

	Left ocular (%)	Right ocular (%)	Filter category
380-780nm (Tv)	21.08	20.21	2
TSUVB , TSUVA			



	Left ocular (%)	Right ocular (%)
280-315nm (TSUVB)	0.00	0.00
315-380nm (TSUVA)	0.00	0.00

(2)

Transmittance and filter categories

	Left ocular (%)	Right ocular (%)	Filter category
380-780nm (Tv)	11.08	12.95	3

TSUVB , TSUVA

	Left ocular (%)	Right ocular (%)
280-315nm (TSUVB)	0.00	0.00
315-380nm (TSUVA)	0.00	0.00

(3)

Transmittance and filter categories

	Left ocular (%)	Right ocular (%)	Filter category
380-780nm (Tv)	9.46	9.53	3

TSUVB , TSUVA

	Left ocular (%)	Right ocular (%)
280-315nm (TSUVB)	0.00	0.00
315-380nm (TSUVA)	0.00	0.00

(4)

Transmittance and filter categories

	Left ocular (%)	Right ocular (%)	Filter category
380-780nm (Tv)	8.53	8.75	3

TSUVB , TSUVA

	Left ocular (%)	Right ocular (%)
280-315nm (TSUVB)	0.00	0.00
315-380nm (TSUVA)	0.00	0.00

(5)

Transmittance and filter categories

	Left ocular (%)	Right ocular (%)	Filter category
380-780nm (Tv)	21.39	20.76	2

TSUVB , TSUVA

	Left ocular (%)	Right ocular (%)
--	-----------------	------------------



280-315nm (TSUVB)	0.00	0.00
315-380nm (TSUVA)	0.00	0.00

(6)

Transmittance and filter categories

	Left ocular (%)	Right ocular (%)	Filter category
380-780nm (Tv)	10.60	10.15	3

TSUVB , TSUVA

	Left ocular (%)	Right ocular (%)
280-315nm (TSUVB)	0.00	0.00
315-380nm (TSUVA)	0.00	0.00

Tested Component(s):

(1) Sample A

(2) Sample B

(3) Sample C

(4) Sample D

(5) Sample E

(6) Sample F

5.3.1 Uniformity of luminous transmittance

(1)

Variation within filter [relative to higher value]

	Left ocular (%)	Right ocular (%)
Variation within filter [relative to higher value]	2.54	1.41

Difference between filters [relative to lighter filter]

	Result (%)
Difference between filters [relative to lighter filter]	4.13

(2)

Variation within filter [relative to higher value]

	Left ocular (%)	Right ocular (%)
Variation within filter [relative to higher value]	3.82	10.86

Difference between filters [relative to lighter filter]

	Result (%)
Difference between filters [relative to lighter filter]	14.44

(3)



Variation within filter [relative to higher value]

	Left ocular (%)	Right ocular (%)
Variation within filter [relative to higher value]	4.83	4.12

Difference between filters [relative to lighter filter]

	Result (%)
Difference between filters [relative to lighter filter]	0.73

(4)

Variation within filter [relative to higher value]

	Left ocular (%)	Right ocular (%)
Variation within filter [relative to higher value]	4.64	3.97

Difference between filters [relative to lighter filter]

	Result (%)
Difference between filters [relative to lighter filter]	2.51

(5)

Variation within filter [relative to higher value]

	Left ocular (%)	Right ocular (%)
Variation within filter [relative to higher value]	1.56	1.93

Difference between filters [relative to lighter filter]

	Result (%)
Difference between filters [relative to lighter filter]	2.95

(6)

Variation within filter [relative to higher value]

	Left ocular (%)	Right ocular (%)
Variation within filter [relative to higher value]	2.84	4.52

Difference between filters [relative to lighter filter]

	Result (%)
Difference between filters [relative to lighter filter]	4.25

Tested Component(s):

(1) Sample A

(2) Sample B

(3) Sample C

(4) Sample D

(5) Sample E

(6) Sample F

5.3.2.1a Spectral transmittance

(1)

	Left ocular (%)	Right ocular (%)
475-650nm	16.16	15.49

(2)

	Left ocular (%)	Right ocular (%)
475-650nm	6.66	6.60

(3)

	Left ocular (%)	Right ocular (%)
475-650nm	5.31	5.99

(4)

	Left ocular (%)	Right ocular (%)
475-650nm	7.96	7.82

(5)

	Left ocular (%)	Right ocular (%)
475-650nm	17.68	17.68

(6)

	Left ocular (%)	Right ocular (%)
475-650nm	4.07	4.08

Tested Component(s):

(1) Sample A

(2) Sample B

(3) Sample C

(4) Sample D

(5) Sample E

(6) Sample F

5.3.2.1b Detection of signal lights

(1)

	Left ocular	Right ocular
Red signal light	1.46	1.47

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Yellow signal light	1.16	1.16
Blue signal light	0.87	0.86
Green signal light	0.87	0.87

(2)

	Left ocular	Right ocular
Red signal light	1.06	0.85
Yellow signal light	0.81	0.73
Blue signal light	1.96	2.05
Green signal light	0.96	1.00

(3)

	Left ocular	Right ocular
Red signal light	0.90	1.00
Yellow signal light	0.85	0.87
Blue signal light	1.28	1.36
Green signal light	1.09	1.06

(4)

	Left ocular	Right ocular
Red signal light	1.20	1.19
Yellow signal light	1.04	1.04
Blue signal light	1.00	1.00
Green signal light	0.97	0.98

(5)

	Left ocular	Right ocular
Red signal light	1.00	1.00
Yellow signal light	0.98	0.98
Blue signal light	1.01	1.01
Green signal light	1.03	1.03

(6)

	Left ocular	Right ocular
Red signal light	1.88	1.90
Yellow signal light	1.25	1.27
Blue signal light	1.17	1.14
Green signal light	0.70	0.70

Tested Component(s):

(1) Sample A

(2) Sample B



(3) Sample C

(4) Sample D

(5) Sample E

(6) Sample F

5.3.3 Wide-angle scatter

(1)

	Left ocular (%)	Right ocular (%)
Wide angle scattering	0.23	0.27

(2)

	Left ocular (%)	Right ocular (%)
Wide angle scattering	1.43	1.40

(3)

	Left ocular (%)	Right ocular (%)
Wide angle scattering	0.74	0.77

(4)

	Left ocular (%)	Right ocular (%)
Wide angle scattering	0.79	0.82

(5)

	Left ocular (%)	Right ocular (%)
Wide angle scattering	0.87	0.92

(6)

	Left ocular (%)	Right ocular (%)
Wide angle scattering	0.22	0.25

Tested Component(s):

(1) Sample A

(2) Sample B

(3) Sample C

(4) Sample D

(5) Sample E

(6) Sample F

6.1 Spherical and astigmatic power

(1)



Spherical power, Astigmatic power

	Left ocular (m ⁻¹)	Right ocular (m ⁻¹)
Spherical power	-0.04	-0.05
Astigmatic power	0.00	0.00
Difference of spherical power between left and right filters		
		Result (m ⁻¹)
Difference of spherical power between left and right filters		0.01

(2)

Spherical power, Astigmatic power

	Left ocular (m ⁻¹)	Right ocular (m ⁻¹)
Spherical power	-0.04	-0.03
Astigmatic power	0.01	0.00
Difference of spherical power between left and right filters		
		Result (m ⁻¹)
Difference of spherical power between left and right filters		0.01

(3)

Spherical power, Astigmatic power

	Left ocular (m ⁻¹)	Right ocular (m ⁻¹)
Spherical power	-0.07	-0.08
Astigmatic power	0.01	0.01
Difference of spherical power between left and right filters		
		Result (m ⁻¹)
Difference of spherical power between left and right filters		0.01

(4)

Spherical power, Astigmatic power

	Left ocular (m ⁻¹)	Right ocular (m ⁻¹)
Spherical power	-0.04	-0.05
Astigmatic power	0.00	0.00
Difference of spherical power between left and right filters		
		Result (m ⁻¹)
Difference of spherical power between left and right filters		0.01

(5)

Spherical power, Astigmatic power



	Left ocular (m ⁻¹)	Right ocular (m ⁻¹)
Spherical power	-0.10	-0.09
Astigmatic power	0.00	0.00
Difference of spherical power between left and right filters		
		Result (m ⁻¹)
Difference of spherical power between left and right filters		0.01

(6)

Spherical power, Astigmatic power

	Left ocular (m ⁻¹)	Right ocular (m ⁻¹)
Spherical power	-0.08	-0.06
Astigmatic power	0.00	0.00
Difference of spherical power between left and right filters		
		Result (m ⁻¹)
Difference of spherical power between left and right filters		0.02

Tested Component(s):

(1) Sample A

(2) Sample B

(3) Sample C

(4) Sample D

(5) Sample E

(6) Sample F

6.3 Prism imbalance (relative prism error)

(1)

Horizontal

	Prismatic power difference (cm/m)
Base out	0.105
Base in	--

Vertical

	Prismatic power difference (cm/m)
Vertical	0.010

(2)

Horizontal

	Prismatic power difference (cm/m)
--	--------------------------------------



Base out	0.306
Base in	--
Vertical	
	Prismatic power difference (cm/m)
Vertical	0.021
(3)	
Horizontal	
	Prismatic power difference (cm/m)
Base out	0.346
Base in	--
Vertical	
	Prismatic power difference (cm/m)
Vertical	0.005
(4)	
Horizontal	
	Prismatic power difference (cm/m)
Base out	0.133
Base in	--
Vertical	
	Prismatic power difference (cm/m)
Vertical	0.002
(5)	
Horizontal	
	Prismatic power difference (cm/m)
Base out	0.365
Base in	--
Vertical	
	Prismatic power difference (cm/m)
Vertical	0.005
(6)	
Horizontal	
	Prismatic power difference (cm/m)
Base out	0.315
Base in	--



Vertical

	Prismatic power difference (cm/m)
--	--------------------------------------

Vertical	0.021
----------	-------

Tested Component(s):

(1) Sample A
(2) Sample B
(3) Sample C
(4) Sample D
(5) Sample E
(6) Sample F

7.1 Minimum robustness of filters

(1)

	Result
--	--------

Filter fracture	Not found
-----------------	-----------

Filter deformation	Not found
--------------------	-----------

(2)

	Result
--	--------

Filter fracture	Not found
-----------------	-----------

Filter deformation	Not found
--------------------	-----------

(3)

	Result
--	--------

Filter fracture	Not found
-----------------	-----------

Filter deformation	Not found
--------------------	-----------

(4)

	Result
--	--------

Filter fracture	Not found
-----------------	-----------

Filter deformation	Not found
--------------------	-----------

(5)

	Result
--	--------

Filter fracture	Not found
-----------------	-----------

Filter deformation	Not found
--------------------	-----------

(6)

	Result
--	--------

Filter fracture	Not found
-----------------	-----------

Filter deformation Not found

Tested Component(s):

(1) Sample A

(2) Sample B

(3) Sample C

(4) Sample D

(5) Sample E

(6) Sample F

7.2 Frame deformation and retention of filters

(1)

	Result
Frame fracture or crack at any point	Not found
Frame deformation (%)	0.14
Filter displace from the frame	Not found

(2)

	Result
Frame fracture or crack at any point	Not found
Frame deformation (%)	0.27
Filter displace from the frame	Not found

(3)

	Result
Frame fracture or crack at any point	Not found
Frame deformation (%)	0.36
Filter displace from the frame	Not found

(4)

	Result
Frame fracture or crack at any point	Not found
Frame deformation (%)	0.34
Filter displace from the frame	Not found

(5)

	Result
Frame fracture or crack at any point	Not found
Frame deformation (%)	0.20
Filter displace from the frame	Not found

(6)

	Result
Frame fracture or crack at any point	Not found
Frame deformation (%)	0.17
Filter displace from the frame	Not found
Tested Component(s):	
(1) Sample A	
(2) Sample B	
(3) Sample C	
(4) Sample D	
(5) Sample E	
(6) Sample F	

8 Resistance to solar radiation

(1)

Relative change in the luminous transmittance after irradiation

	Left ocular (%)	Right ocular (%)
Relative change in the luminous transmittance after irradiation	0.19	1.29

Wide angle scattering after irradiation

	Left ocular (%)	Right ocular (%)
Wide angle scattering after irradiation	0.83	0.92

UV transmittance after irradiation process

	Left ocular (%)	Right ocular (%)
280-315nm (TSUVB)	0.00	0.00
315-380nm (TSUVA)	0.00	0.00

(2)

Relative change in the luminous transmittance after irradiation

	Left ocular (%)	Right ocular (%)
Relative change in the luminous transmittance after irradiation	1.62	0.15

Wide angle scattering after irradiation

	Left ocular (%)	Right ocular (%)
Wide angle scattering after irradiation	0.36	0.47

UV transmittance after irradiation process

	Left ocular (%)	Right ocular (%)
--	-----------------	------------------

280-315nm (TSUVB)	0.00	0.00
315-380nm (TSUVA)	0.00	0.00

(3)

Relative change in the luminous transmittance after irradiation

	Left ocular (%)	Right ocular (%)
Relative change in the luminous transmittance after irradiation	1.80	0.73

Wide angle scattering after irradiation

	Left ocular (%)	Right ocular (%)
Wide angle scattering after irradiation	0.47	0.49

UV transmittance after irradiation process

	Left ocular (%)	Right ocular (%)
280-315nm (TSUVB)	0.00	0.00
315-380nm (TSUVA)	0.00	0.00

(4)

Relative change in the luminous transmittance after irradiation

	Left ocular (%)	Right ocular (%)
Relative change in the luminous transmittance after irradiation	4.45	-1.37

Wide angle scattering after irradiation

	Left ocular (%)	Right ocular (%)
Wide angle scattering after irradiation	0.13	0.16

UV transmittance after irradiation process

	Left ocular (%)	Right ocular (%)
280-315nm (TSUVB)	0.00	0.00
315-380nm (TSUVA)	0.00	0.00

(5)

Relative change in the luminous transmittance after irradiation

	Left ocular (%)	Right ocular (%)
Relative change in the luminous transmittance after irradiation	0.56	-0.10

Wide angle scattering after irradiation

	Left ocular (%)	Right ocular (%)
Wide angle scattering after irradiation	0.88	0.95

UV transmittance after irradiation process

	Left ocular (%)	Right ocular (%)
280-315nm (TSUVB)	0.00	0.00
315-380nm (TSUVA)	0.00	0.00

(6)

Relative change in the luminous transmittance after irradiation

	Left ocular (%)	Right ocular (%)
Relative change in the luminous transmittance after irradiation	1.23	2.07

Wide angle scattering after irradiation

	Left ocular (%)	Right ocular (%)
Wide angle scattering after irradiation	0.81	0.92

UV transmittance after irradiation process

	Left ocular (%)	Right ocular (%)
280-315nm (TSUVB)	0.00	0.00
315-380nm (TSUVA)	0.00	0.00

Tested Component(s):

- (1) Sample A
- (2) Sample B
- (3) Sample C
- (4) Sample D
- (5) Sample E
- (6) Sample F

End of Report

The statements of conformity reported have considered the decision rule agreed, namely that Intertek have taken account of measurement uncertainty as calculated by Intertek, and applied according to ILAC-G8/09:2019 (Non-binary acceptance based on guard band $w = U$) except designation from the customer, regulation or test specification. This decision rule only applies to the numeric test results. Full details of our agreed decision rules and the associated risk can be viewed: <https://www.intertek.com.cn/diypage/upload/SZ-AP15-HLS-QA.pdf>.

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