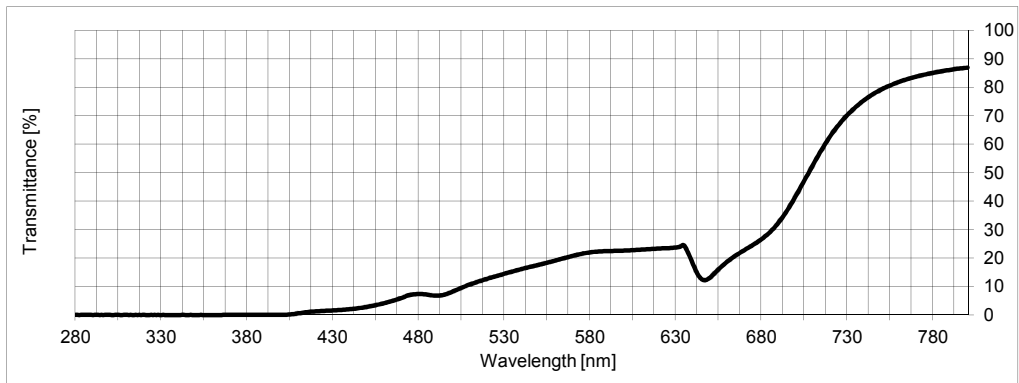


Wavelength [nm]	Transmission [%]
280	0,0
290	0,0
300	0,0
310	0,0
320	0,0
330	0,0
340	0,0
350	0,0
360	0,0
370	0,0
380	0,0
390	0,0
400	0,0
410	0,6
420	1,3
430	1,6
440	2,0
450	2,8
460	4,2
470	6,0
480	7,4
490	6,7
500	8,3
510	10,7
520	12,7
530	14,5
540	16,1
550	17,6
560	19,2
570	20,8
580	22,0
590	22,4
600	22,6
610	22,9
620	23,3
630	23,7
640	17,8
650	13,2
660	18,8
670	22,8
680	26,7
690	32,6
700	41,9
710	52,8
720	62,8
730	70,3
740	75,6
750	79,3
760	81,8
770	83,7
780	85,1
790	86,1
800	86,9

**European Standard****DIN EN 1836:2005+A1:2007 (D)****Pass**

Luminous transmittance (D65) τ_V:		17,4%	Filter category: 3		Limit value
UV (280 - 380nm)	τ_{SUV} :	0,0%	100% UV-Absorption	$\tau_{F(\lambda)} \max$ (280 - 315nm):	0,0% Pass 1,7%
UVA (315 - 380nm)	τ_{SUA} :	0,0%		$\tau_{F(\lambda)} \max$ (315 - 350nm):	0,0% Pass 8,7%
UVB (280 - 315nm)	τ_{SUB} :	0,0%		$\tau_{SUA \max}$ (315 - 380nm):	0,0% Pass 8,7%
blue light (380 - 500nm)	τ_{sb} :	3,5%		spectral transmittance (500-650nm) $\tau_{V \min}$:	8,3% Pass 3,5%
Signal transmittance:					
red	signal transmittance τ_{sig} :	22,0%		Recognition of signal light Q:	1,27 Pass 0,8
yellow	signal transmittance τ_{sig} :	21,0%		Recognition of signal light Q:	1,21 Pass 0,8
green	signal transmittance τ_{sig} :	15,1%		Recognition of signal light Q:	0,87 Pass 0,6
blue	signal transmittance τ_{sig} :	13,0%		Recognition of signal light Q:	0,75 Pass 0,4
transmission properties related to traffic signal recognition: Pass					

American Standard**ANSI Z80.3-2010****Fail**

Luminous transmittance (C) τ_V :		17,4%	primary function:	General Purpose lens or shield		shade:	medium to dark		
					Limit value		Limit value		
					normal use		high exposure		
UVA, mean Transmittance	(315 - 380nm) τ_{SUA} :	0,0%		Pass	17,4%	Pass	8,7%		
UVB, mean Transmittance	(280 - 315nm) τ_{SUB} :	0,0%		Pass	2,2%	Pass	0,2%		
blue light	(380 - 500nm) τ_{sb} :	3,5%		spectral transmittance (475-650nm) $\tau_{V \min}$:		6,7%	Pass	3,5%	
Signal transmittance:				Color Limits		x	y		
red	signal transmittance τ_{sig} :	21,1%	Pass	2°-Observer	D65	0,4356	0,4506	Fail	Please refer
yellow	signal transmittance τ_{sig} :	21,0%	Pass		Yellow	0,5832	0,4157	Pass	to sheet
green	signal transmittance τ_{sig} :	15,2%	Pass		Green	0,2813	0,5445	Pass	"Farbort"
transmission properties related to traffic signal recognition:								Fail	

Australian Standard**AS/NZS 1067:2003****Fail**

Luminous transmittance (D65) τ_V:		17,4%	Lens category: 3		Limit value
UV (280 - 380nm)	τ_{SUV} :	0,0%	100% UV-Absorption	$\tau_{F(\lambda)} \max$ (280 - 315nm):	0,0% Pass 0,9%
UVA (315 - 380nm)	τ_{SUA} :	0,0%		$\tau_{F(\lambda)} \max$ (315 - 350nm):	0,0% Pass 8,7%
UVB (280 - 315nm)	τ_{SUB} :	0,0%		$\tau_{SUA \max}$ (315 - 380nm):	0,0% Pass 8,7%
blue light (400 - 500nm)	τ_{sb} :	3,5%		spectral transmittance (450-650nm) $\tau_{V \min}$:	2,8% Fail 3,5%
Signal transmittance:					
red	signal transmittance τ_{sig} :	22,0%		Recognition of signal light Q:	1,27 Pass 0,8
yellow	signal transmittance τ_{sig} :	21,0%		Recognition of signal light Q:	1,21 Pass 0,8
green	signal transmittance τ_{sig} :	15,1%		Recognition of signal light Q:	0,87 Pass 0,6
blue	signal transmittance τ_{sig} :	13,0%		Recognition of signal light Q:	0,75 Pass 0,7

Demand on lenses for use by drivers at night according DIN EN ISO 14889:2009-07:

Fail**Testreport Sunglasses**

v = Pass

x = Fail

Quantity	
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Frame

color correctness	
surface / col.	
soldering	
adjustment	
nickel test	
form / dimension	

Lenses

color	
size / form	
opt. quality	
UV-index / vertex power	
polarisation	
decentration	
random test	
Sign	

released	
blocked	
separated	

Colorimetric Observer according DIN 5033**Standard illuminant A**

2° Observer	x = 0,5215	y = 0,4394	Y = 2,05
CIELAB 1976	L* = 50,64	a* = 7,53	b* = 42,47
HUNTER	L = 43,55	a = 2,14	b = 4,12
10° Observer	x = 0,5295	y = 0,4349	Y = 2,11
CIELAB 1976	L* = 50,19	a* = 8,78	b* = 43,94
HUNTER	L = 43,10	a = 2,58	b = 42,65

Standard illuminant C

2° Observer	x = 0,4367	y = 0,4444	Y = 1,76
CIELAB 1976	L* = 48,83	a* = 0,20	b* = 43,61
HUNTER	L = 13,27	a = 0,05	b = 7,18
10° Observer	x = 0,4466	y = 0,4408	Y = 1,85
CIELAB 1976	L* = 48,57	a* = 3,73	b* = 43,52
HUNTER	L = 40,70	a = 0,98	b = 73,60

Standard illuminant D65

2° Observer	x = 0,4356	y = 0,4506	Y = 1,83
CIELAB 1976	L* = 48,71	a* = 1,63	b* = 43,01
HUNTER	L = 41,67	a = 0,41	b = 6,99
10° Observer	x = 0,4460	y = 0,4465	Y = 1,92
CIELAB 1976	L* = 48,81	a* = 4,80	b* = 43,13
HUNTER	L = 40,69	a = 1,27	b = 71,86