POLATECHNO POLARIZERS

We,Polatechno,serve customers with a wide variety of optical film and its products.

Products Classification

- Polarizer Classification , Polarizer Construction
  - Code Name (I)
  - Code Name (II)
- Optical Performance of Polarizers
  - Iodine Type , Dyestuff Type , Color Type
- Optical Performance of Reflective Polarizers
- Optical Performance of Transflective Polarizers
- Optical Performance (Polarizing coefficiency & Transmittance)
  - General use polarizer
    - LN series(Optical Performance,Durability)
  - High Contrast Polarizer
    - KN series(Optical Performance,Durability)
  - Super High Contrast Polarizer
    - SKN series(Optical Performance,Durability)
  - Super High Contrast Thin Polarizer
    - UDN series(Optical Performance,Durability)
  - High Durable Polarizer
    - THC series(Optical Performance,Durability)
  - Super High Durable Polarizer
    - SHC series(Optical Performance,Durability)
  - Super High Durable High Contrast Polarizer
    - UHC series(Optical Performance,Durability)
  - Violet Polarizer
    - V series(Optical Performance,Durability)
  - Paper White polarizer
    - SKW series(Optical Performance,Durability)
  - Paper White Super High Durable High Contrast polarizer
    - SHC-2 series(Optical Performance,Durability)
- Additional Function
  - Reflective Polarizer
  - Transflective Polarizer
  - High-resolution Transflective,Reflective Polarizer FST,FSR series
  - Color Reflective,Transflective Polarizer
  - Anti-glare,Hard-coated Polarizer
  - AR/LR
  - Anti-light leakage Polarizer
  - Wide-Viewing Angle Polarizer
  - Elliptical Polarizer EP series
  - Front Scattering Film
- Polarizer Film for Projector

Polatechno Polarizer Feature

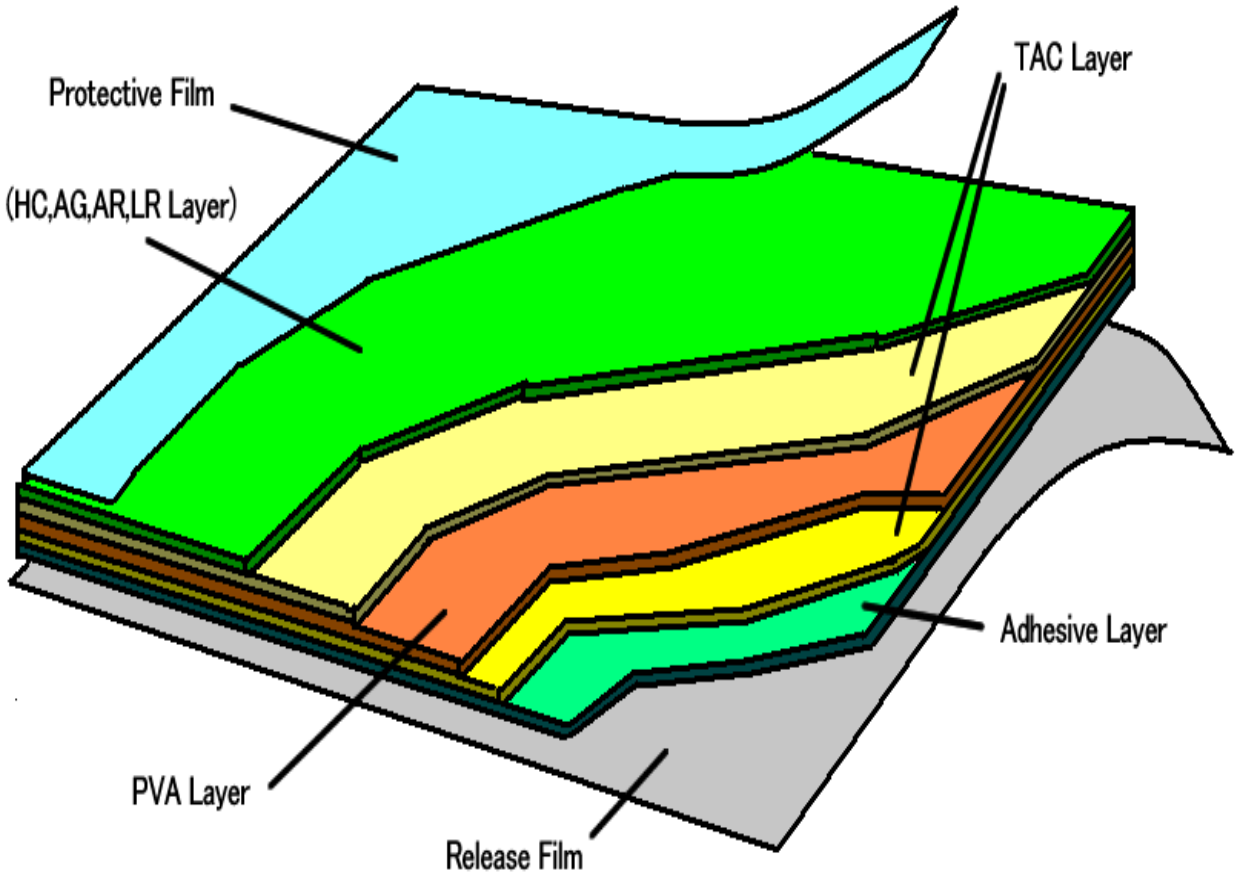
Iodine Type

General Purpose	LN
High Contrast	KN
Super High Contrast	SKN
Paper White	SKW
Super High Contrast Thin Substrate	UDN

Dyestuff Type

High Durabe	THC
Super High Durable & High Contrast	SHC-1
Super High Durable & Paper White	SHC-2
Super High Durable & Super High Contrast	UHC
Violet Polarizers	V
Color Polarizers	R,G,B Y,C,M

Polatechno Polarizer Basic Construction



Code Exposition (I)

Ex. LN-12 0 5 T Z-9

(1) (2) (3) (4) (5) (6)

(1) Type Classfication

LN	General Polarizer
KN	High Contrast Polarizer
SKN	Super High Contrast Polarizer
SKW	Paper White Polarizer
V(xx)	Violet polarizer *()Number indicate hue category
R,G,B Y,C,M	Color Polarizer

(2) Thickness

12	120 micron meter
18	180 micron meter

(3) UV Cut Function(at 380nm)

0	without UV Cut Function
1	less than 4%(Transmittance)
2	less than 1%(Transmittance)

(4) Transmittance

LN (single digit)	Others (double digit) Transmittance
4 : 38%	(Ex.) 43 :43%
5 : 43%	
6 : 48%	

(5) Function Classfication

T	Adhesive layer on one side
L	with Anti-Light-leakage Function
R	Alminum reflector with directivity
M	Alminum reflector without directivity
S1	Silver reflector
H,HN	Transflector

(6) Surface Function

Z	Anti-glare
HC	Hard-coated
AR	Anti-refrection
LRC	Low-refrection

* You can select any combination of (5) and (6).

Code Exposition (II)

Ex. SHC-1 25 5 Z-9

(1) (2) (3)(4)(5) (6)

(1) Type Classification

THC	High Durable
SHC	Super High durable High Contrast
UHC	Super High durable Super High Contrast

(2) Hue

1	Neutral Grey
2	Paper White

(3) Single Transmittance

15	THC…45% , SHC…44%
2	42%
25	40%
28	39%
3	38%

(4) UV Cut Function (at 380nm)

-	without UV Cut Function
U	less than 1% (Transmittance)

(5) Function Classification

-	Adhesive layer on one side
L	with Anti-Light-leakage Function
R	Alminum reflector with directivity
M	Alminum reflector without directivity

S1	Silver reflector
H	Transflector

(6) Surface Funtion

Z	Anti-glare
HC	Hard-coated
AR	Anti-reflection
LRC	Low-reflection

*You can select any combination of (5) and (6).

Optical Performance of Polarizer (Iodine Type)

Classification	Code Name	Optical Performance						
		Ys	Yc	Yp	Py	a*s	b*s	UV-cut
General Use	LN-1205T	43	0.8	36.3	98	-1.0	-1.4	-
	LN-1215T	43	0.8	36.3	98	-1.0	-1.4	less than 4%
	LN-1225T	43	0.8	36.3	8	-1.0	-1.4	less than 1%
	LN-1805T	43	0.8	36.3	98	-1.0	-1.4	-
	LN-1815T	43	0.8	36.3	98	-1.0	-1.4	less than 4%
	LN-1825T	43	0.8	36.3	98	-1.0	-1.4	less than 1%
High Contrast	KN-18240T	40	0.03	32.3	99.9	-1.8	3.5	less than 1%
	KN-18242T	42	0.1	34.5	99.70	-1.4	3.3	less than 1%
Super High Contrast	SKN-18242T	42	◆	35.2	99.997	-1.7	4.4	less than 1%
	SKN-18243T	43	◆	36.9	99.99	-1.5	4.0	less than 1%
	SKN-18244T	44	0.03	39.0	99.9	-1.4	3.6	less than 1%
Paper White	SKW-18245T	45	1.5	39.2	96.3	1.0	-4.5	less than 1%

* “ ◆ ” less than 0.01

* The above data are representative figures but not guaranted ones.

Optical Performance of Polarizer (Dyestuff Type)

Classification	Code Name	Optical Performance						
		Ys	Yc	Yp	Py	a*s	b*s	UV-cut
High Durable	THC-13U	38	0.04	29	99.9	-0.3	4.6	less than 1%
	THC-125U	40	0.15	32	99.5	-0.7	4.3	less than 1%
	THC-12U	42	0.8	34	97.5	-0.6	3.0	less than 1%
	THC-115U	45	4.0	36	90.0	-0.3	1.2	less than 1%
Super High Durable High Contrast	SHC-13U	38	◆	29.2	99.97	-0.8	5.0	less than 1%
	SHC-128U	39	0.02	30.8	99.9	-0.7	4.3	less than 1%
	SHC-125U	40	0.06	32.5	99.8	-0.7	4.1	less than 1%
	SHC-12U	42	0.4	35.5	99.0	-0.6	2.6	less than 1%
	SHC-115U	44	1.7	36.9	95.0	-0.4	0.9	less than 1%
Super High Durable Super High Contrast	UHC-128U	39	◆	31.0	99.99	-1.4	5.0	less than 1%
	UHC-125U	40	0.01	31.7	99.97	-1.4	4.7	less than 1%
	UHC-12U	42	0.05	33.9	99.8	-1.2	3.7	less than 1%
High Durable Paper White	SHC-23U	38	0.05	29.2	99.8	-0.9	0.9	less than 1%
	SHC-225U	40	0.2	31.20	99.5	-0.6	0.4	less than 1%
	SHC-215U	45	3.2	36.70	91.7	0.4	-5.2	less than 1%

* “ ◆ ” less than 0.01

* The above data are representative figures but not guaranted ones.

Optical Performance of Polarizer (Color Type)

Classification	Code Name	Optical Performance						
		Ys	Yc	Yp	Py	a*s	b*s	UV-cut
Violet Polarizer for hue compensation of STN	V-18245T	47	10.2	36.1	74.8	15.6	-23.7	less than 1%
	V2-18245T	47	11.5	34.4	70.6	13.5	-25.4	less than 1%
	V12-18245T	47	8.8	36.9	78.3	15.4	-22.7	less than 1%
	V22-18245T	47	8.9	36.4	77.9	12.6	-22.8	less than 1%
	V32-18245T	47	7.0	36.9	82.6	3.0	-16.5	less than 1%
	V36-18245T	47	10.2	34.9	73.9	23.3	-12.7	less than 1%
Color Polarizer	R-18255T	54	22.4	43.8	57.0	30.3	4.1	less than 1%
	G-18250T	52	18.8	36.3	56.4	-22.6	9.9	less than 1%
	G3-18260T	48	15.0	34.5	62.9	-21.2	19.5	less than 1%
	B-18255T	56	22.1	41.7	55.3	-5.8	-17.9	less than 1%
	B2-18265T	66	39.4	49.9	34.2	-11.6	-10.4	less than 1%
	Y1-18288T	87	75.9	77.2	9.5	-12.9	42.8	less than 1%
	YELLOW	84	70.1	73.6	15.6	-7.1	40.5	less than 1%
	CYAN	61	30.1	44.8	43.0	-11.4	-11.7	less than 1%
	MAGENTA	50	15.5	37.1	64.0	27.6	-11.9	less than 1%

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Reflective Data

Type	Classification	Code Name	Performance		
			Yr	a*r	b*r
IodineType	General Purpose	LN-1205M	35.0	-2.6	1.5
		T1-LN244-SR	39.6	-2.4	3.9
		LN-1805M	35.0	-2.6	1.5
		LN-1805R	35.0	-2.4	2.0
	Super High Contrast	T1-SKN843U-SR	41.0	-3.1	8.2
		T1-SKN844U-SR	42.1	-3.0	7.5
	Paper white	SKW-18245M	37.8	-1.5	-0.2
		T1-SKW845U-SR	43.0	-1.2	1.8
		SKW-18245M-YG	36.0	-6.5	15.5
Dyestuff Type	High Durable	THC-125M	30.6	-0.2	5.5
		THC-115M	35.2	-1.2	2.5
		THC-115R	35.2	-1.0	3.1
	Super High-Durable&High-Contrast	SHC-125M	30.5	-1.6	4.4
		SHC-125R	30.5	-1.3	4.0
		SHC-115M	35.5	-1.0	2.2
		SHC-115R	35.5	-0.8	2.1
	SuperHigh-Durable& Paper-White	SHC-225M	31.1	-2.1	0.9
		SHC-215M	35.5	-0.8	0.7
		T1-SH2844U-SR	39.9	-0.1	1.4

*The above data are representative figures but not guaranted ones.

Transflective Polarizer Data (Iodine Type)

Classification	Code Name	Performance					
		Yt	a*t	b*t	Yr	a*r	b*r
General Use	LN-1205HN-31	10.0	0.6	7.5	29.0	-2.7	2.0
	LN-1205HN-33	17.5	-1.3	10.3	24.0	-1.2	1.0
	LN-1205HN-3	6.1	-0.4	-1.8	27.1	-2.2	-1.0
	LN-1205HN-41	18.0	0.0	5.0	22.4	-3.0	-1.4
	LN-1205HN-93	4.3	0.0	5.7	29.1	-2.4	2.2
	T1-LN244-MH1	6.2	-1.0	-8.1	28.6	-2.4	3.6
	T1-LN244-MH2	2.9	-0.6	-7.1	32.5	-2.5	2.7
High Contrast	KN-18242H-31	8.8	0.8	9.0	25.3	-3.4	3.7
	KN-18242H-33	15.3	-0.2	12.6	23.3	-0.5	1.6
	KN-18242H-3	7.5	-0.5	6.8	27.4	-2.6	1.7
	KN-18242H-41	17.7	0.0	7.0	19.2	-3.2	0.4
	KN-18242H-93	4.3	0.0	7.7	28.4	-2.7	5.6
Super High Contrast	SKN-18243HN-31	9.5	0.8	9.6	28.1	-3.4	4.1
	SKN-18243HN-33	17.7	-1.2	11.2	24.8	-2.1	1.2
	SKN-18243HN-3	6.0	-0.2	4.3	27.3	-2.4	2.0
	SKN-18243HN-41	17.3	-0.1	8.0	21.5	-3.3	1.3
	SKN-18243HN-93	4.4	0.3	7.8	29.3	-2.8	5.7
	T1-SKN843-MH1	5.6	-1.4	-5.6	29.0	-2.4	6.6
	T1-SKN843-MH2	2.5	-1.0	5.2	33.1	-2.6	6.0
	SKN-18244HN-31	9.5	0.8	9.8	29.2	-3.1	4.0
	SKN-18244HN-33	17.7	-1.2	11.2	24.8	-2.1	1.2
	SKN-18244HN-3	6.0	-0.2	4.3	27.3	-2.5	2.1
	SKN-18244HN-41	19.5	0.0	7.8	21.0	-3.2	1.3
	SKN-18244HN-93	4.6	0.2	7.8	29.7	-2.4	5.4
	T1-SKN844-MH1	6.4	-1.3	-6.2	29	-2.5	6.3
	T1-SKN844-MH2	2.9	-0.9	-5.5	33.6	-2.8	5.7
Paper White	SKW-18245H-31	9.7	1.9	5.0	29.8	-1.3	-2.1
	SKW-18245H-33	18.3	0.6	5.1	24.8	-0.4	-4.5
	SKW-18245H-41	20.3	1.2	1.6	21.7	-1.2	-4.8
	SKW-18245H-93	5.2	1.2	2.6	32.3	-1.2	-0.6
	SKW-18245H-31-OR	7.5	3.7	29.2	20.5	4.1	38.7
	SKW-18245H-31-SR	8.2	8.8	3.6	22.2	14.3	-4.7
	SKW-18245H-31-YG	10.1	-0.9	11.6	28.9	-4.3	8.0
	T1-SKW845-MH1	6.4	0.9	-11.2	30.1	-1.6	1.9
	T1-SKW845-MH2	2.6	0.5	-8.5	34.0	-1.8	0.7

*The above data are representative figures but not guaranted ones.

Transflective Polarizer Data (Dyestuff Type)

Classification	Code Name	Performance					
		Yt	a*t	b*t	Yr	a*r	b*r
High Durable	THC-125UH-31	9.4	1.5	9.0	24.7	-1.8	3.3
	THC-125UH-33	16.3	-0.5	10.8	21.3	-1.1	1.2
	THC-125UH-3	5.3	0.3	4.1	23.9	-1.4	1.8
	THC-125UH-41	16.6	0.6	7.6	19.3	-1.9	1.2
	THC-125UH-5	7.0	1.2	8.2	23.0	-1.7	2.3
	THC-115UH-31	9.2	1.7	9.7	28.4	-1.8	2.9
	THC-115UH-33	16.4	-0.4	10.4	23.0	-0.9	0.8
	THC-115UH-41	21.0	0.2	7.9	20.0	-1.6	-0.3
	THC-115UH-5	8.2	0.7	7.1	25.8	-1.7	1.4
Super High Durable High Contrast	SHC-125UH-31	9.1	1.3	9.1	28.4	-2.0	3.4
	SHC-125UH-33	15.9	-0.3	11.3	20.8	-1.0	2.1
	SHC-125UH-3	7.3	0.0	7.0	23.2	-1.2	3.0
	SHC-125UH-41	19.1	1.0	7.8	17.8	-1.5	1.8
	SHC-115UH-31	11.3	1.6	8.4	28.1	-1.6	2.2
	SHC-115UH-33	19.0	-0.9	10.0	25.0	-1.0	-0.5
	SHC-115UH-3	5.8	0.0	3.7	25.7	-1.3	0.9
	SHC-115UH-41	19.2	0.8	6.5	22.2	-1.7	0.5
	T1-SHC844U-MH1	6.2	-1.1	-6.8	27.8	-1.4	5.0
	T1-SHC844U-MH2	2.8	-0.5	-6.1	32	-1.7	4.3
Super High Durable High Contrast Paper White	SHC-225UH-31	8.5	1.5	7.2	23.5	-1.6	-0.3
	SHC-225UH-33	16.2	-0.7	8.5	20.6	-1.4	-1.5
	SHC-225UH-41	15.9	0.5	5.6	18.8	-2.3	-1.5
	SHC-215UH-31	9.7	2.2	3.7	29.1	-0.6	-2.0
	SHC-215UH-33	18.6	0.5	4.2	24.6	0.4	-4.5
	SHC-215UH-41	18.1	1.8	1.9	21.6	-1.1	-3.2
	SHC-215UH-93	5.6	1.7	1.8	29.9	0.0	-2.6
	T1-SH2844U-MH1	6.5	1.4	-12.2	28.8	-0.4	0.7
	T1-SH2844U-MH2	2.2	1.3	-9.5	33.1	-0.3	0.3

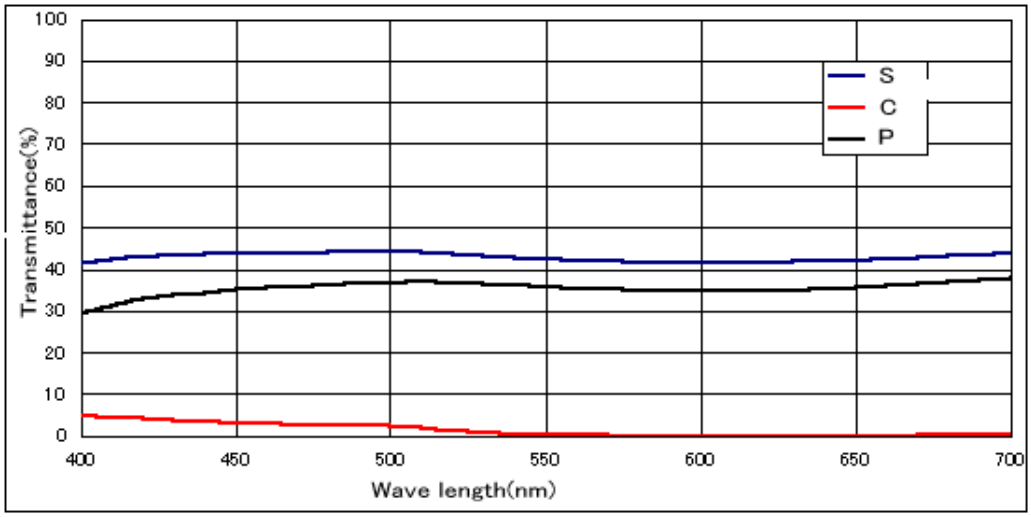
*The above data are representative figures but not guaranted ones.

General Iodine Polarizer

LN Series

Optical Performance

Typical Property		Y	L*	a*	b*
LN-1205T	Single	42.55	71.25	-0.81	-1.31
	Cross	0.65	5.64	5.50	-26.19
	Parallele	35.70	66.29	-1.99	0.87
	Polarizing co-efficiency	98.199			

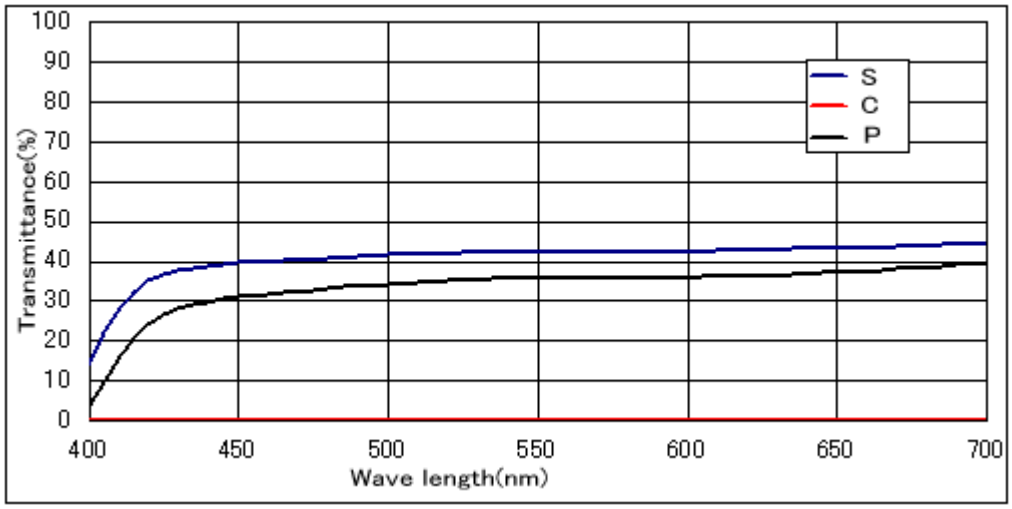


*: Measured data but not guaranteed.

High Contrast Iodine Polarizer

KN Series

Typical Property		Y	L*	a*	b*
KN-18242T	Single	41.91	70.81	-2.01	3.52
	Cross	0.02	0.23	0.13	-0.14
	Parallel	35.33	66.00	-3.44	6.12
	Polarizing co-efficiency	99.929			



*: Measured data but not guaranteed.

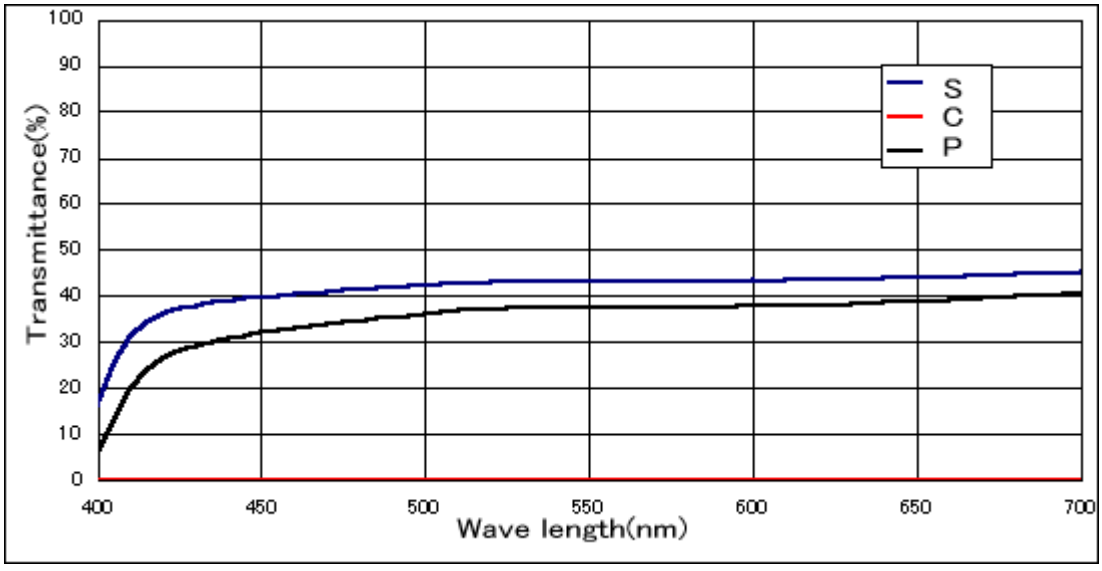
Super High Contrast Polarizer

SKN Series

Application : TFT-LCD forAutomotive and other super high contrast use.

Typical property		Y	L*	a*	b*
SKN-18243T	Single	43.15%	71.66	-1.53	4.04
	Cross	less than 0.01%	0.02	0.03	-0.14
	Parallel	37.41%	67.58	-2.56	7.15
	Polarizing efficiency	99.993%			

*: Measured data but not guaranteed.



Thin-Type Super high contrast Polarizer

UDN Series

* Thinner by 80micron than SKN series.
* Suitable for polarizer with reflector and transflector.
* Applicable to elliptical polarizer and circular polarizer.

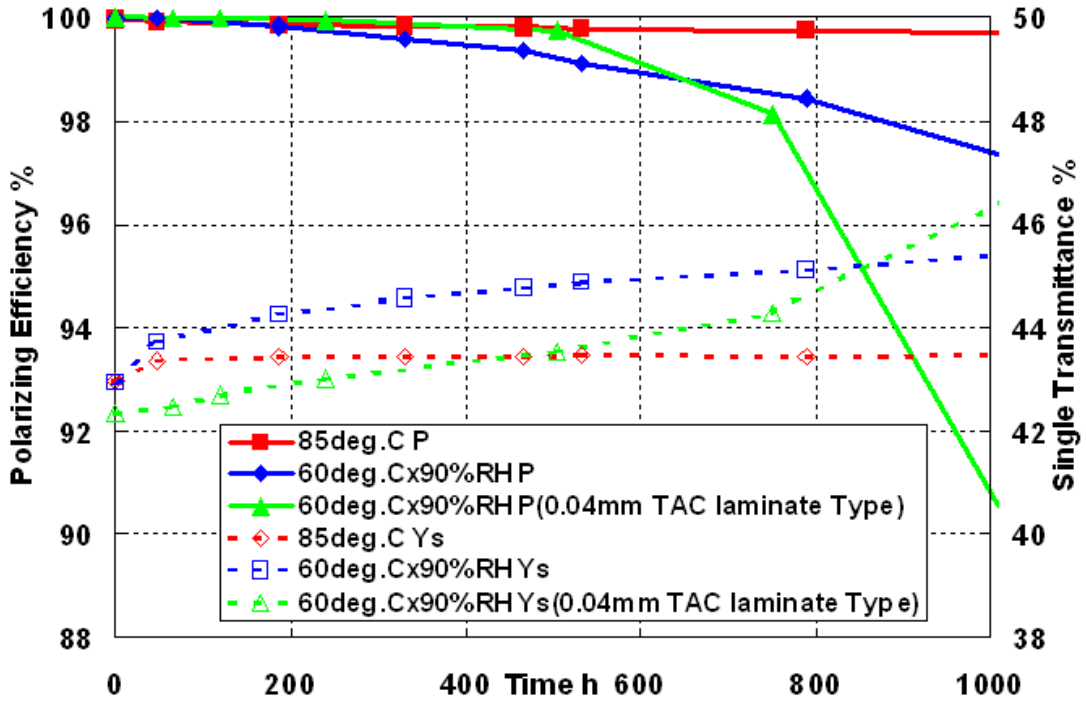
Optical Performance (Transmissive Type)

UDN-10143T

Typical property	Transmittance	L*	a*	b*
Single	42.98%	71.54	-1.54	4.13
Cross	0.01%	0.07	0.00	-0.11
Parallel	37.31%	67.51	-2.60	7.42
Polarizing coefficiency	99.979%			

*: Measured data but not guaranteed.

Durability



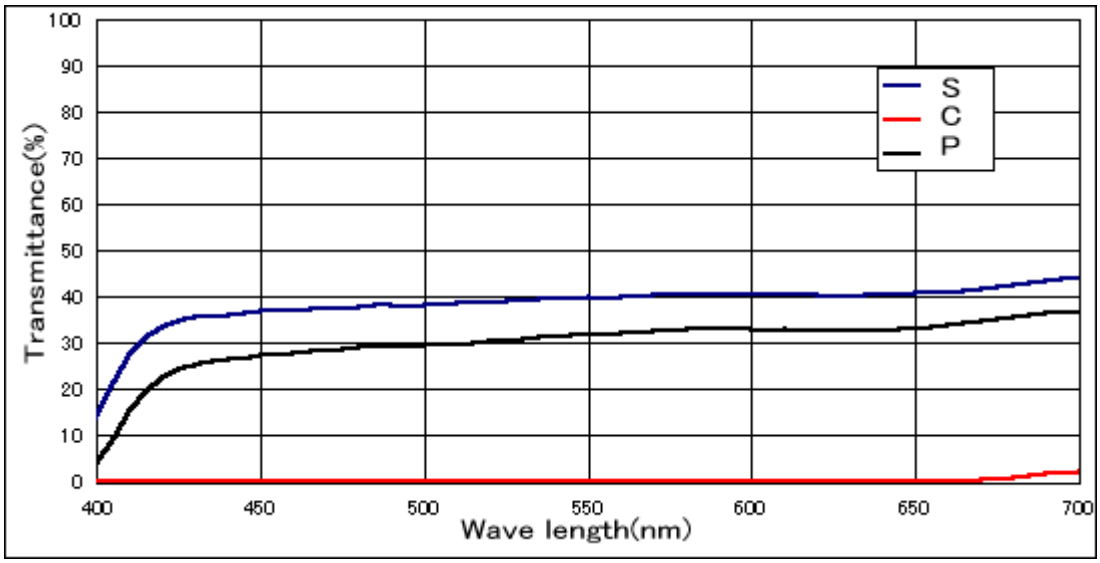
High durable Polarizer

THC Series

Application : Automotive,meter outside and other high durability use.

Typical property		Y	L*	a*	b*
THC-125U	Single	39.79	69.32	-0.55	4.35
	Cross	0.21	-1.27	-2.06	0.28
	Parallel	31.78	63.16	-0.85	7.64
	Polarizing efficiency	99.358			

*: Measured data but not guaranteed.



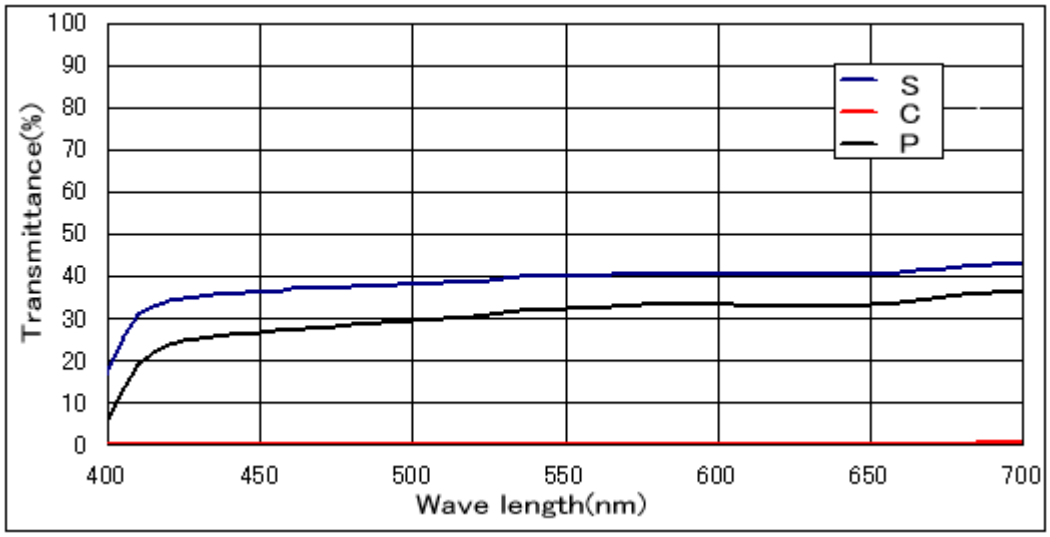
Super High durable High-contrast Polarizer

SHC Series

Application : TFT for Automotive,Projection systems and other super high durable use.

Typical property		Y	L*	a*	b*
SHC-125U	Single	39.81	69.34	-0.81	4.36
	Cross	0.05	0.49	-0.31	0.02
	Parallel	32.03	63.37	-1.30	7.87
	Polarizing efficiency	99.830			

*: Measured data but not guaranteed.



Super High Durable & Super High Contrast Polarizer

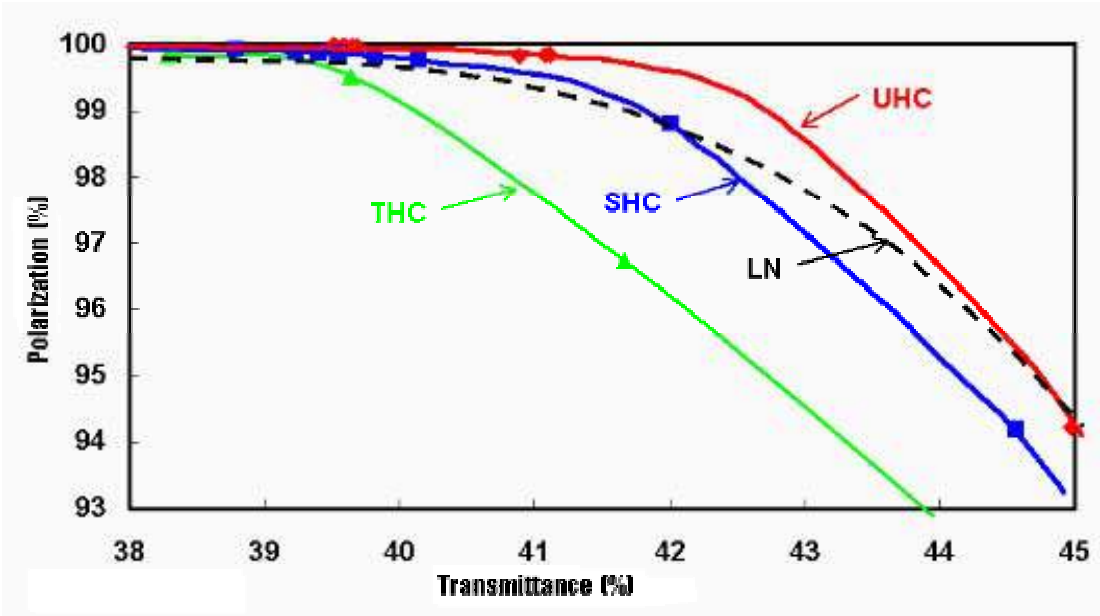
UHC Series

* Best optical performance and durability in dyestuff type polarizers.
* Suitable for LCDs of high durability and high quality.

Typical property	Single			Cross			Parallel			Polarizing coefficiency
	Y	a*	b*	Y	a*	b*	Y	a*	b*	
UHC-125U	39.68	-1.36	4.74	0.01	0.08	-0.23	31.72	-2.18	8.50	99.968
UHC-12U	41.11	-1.23	3.72	0.05	0.52	-1.47	33.93	-2.07	6.97	99.831

*: Measured data but not guaranteed.

Comparison with other series



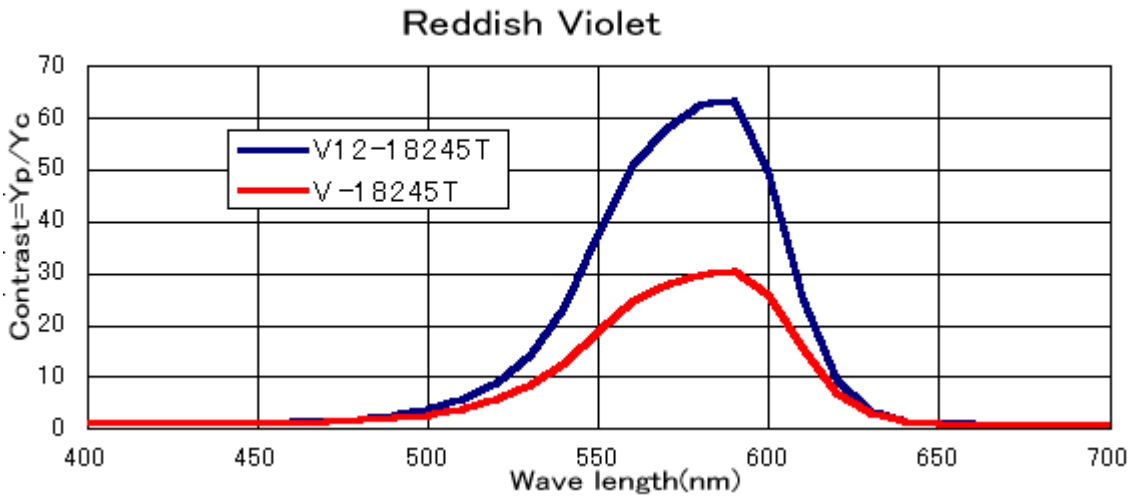
Violet Polarizer for STN color compensation

V series

* Optical Performance (Reddish Violet)

Reddish Violet	Single				Cross				Parallel				Polarizing coefficiency
	Y	L*	a*	b*	Y	L*	a*	b*	Y	L*	a*	b*	
V12-18245T	46.75	74.03	15.45	-21.54	8.16	34.31	63.49	-67.11	37.24	67.46	14.19	-16.97	80.033
V-18245T	47.31	74.39	15.59	-23.03	11.33	40.13	54.10	-62.88	36.31	36.31	66.76	-21.29	72.417

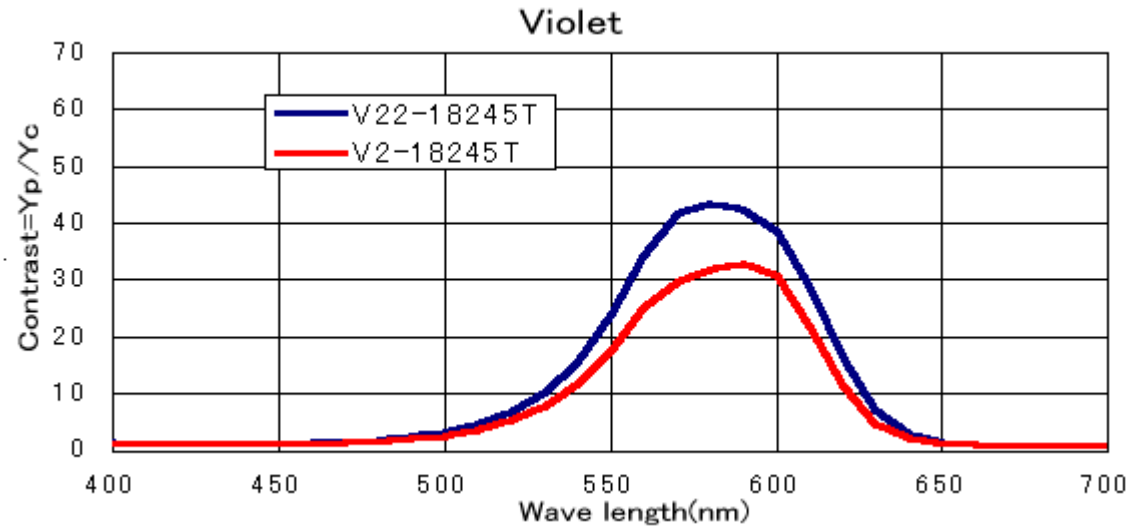
*: Measured data but not guaranteed.



● Optical Performance (Violet)

Violet	Singl				Cross				Parallel				Polarizing coefficiency
	Y	L*	a*	b*	Y	L*	a*	b*	Y	L*	a*	b*	
V22-18245T	46.49	73.86	12.85	-22.37	8.03	34.66	53.44	-67.79	36.82	66.84	12.74	-18.32	80.120
V2-18245T	46.69	73.99	13.62	-25.32	11.44	40.31	47.76	-64.98	34.08	65.02	16.14	-25.86	70.525

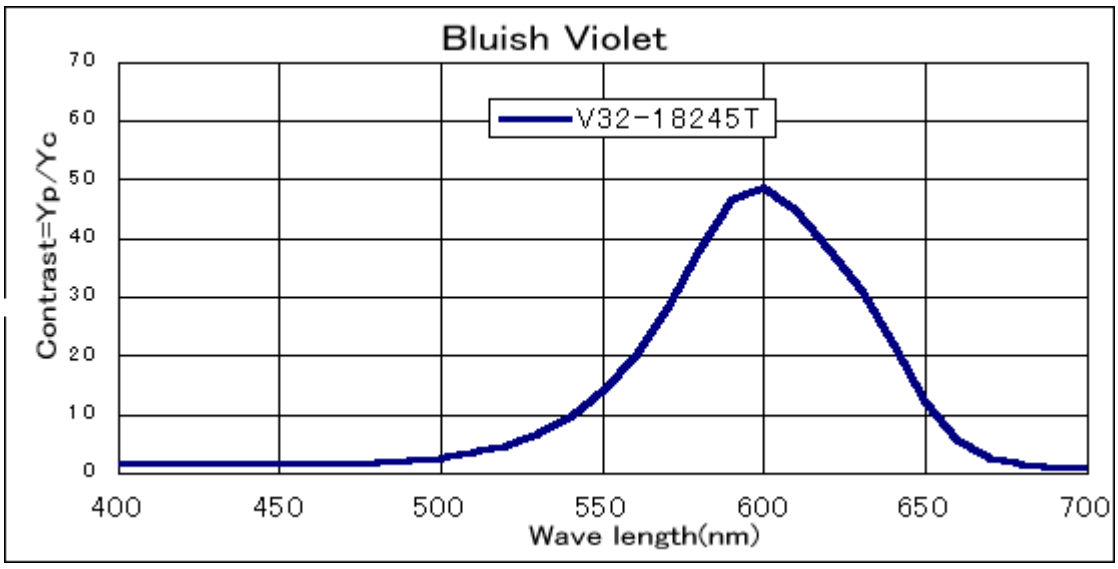
*: Measured data but not guaranteed.



* Optical Performance (Bluish Violet)

Bluish Violet	Single				Cross				Parallel				Polarizing coefficiency
	Y	L*	a*	b*	Y	L*	a*	b*	Y	L*	a*	b*	
V32-18245T	47.75	74.44	2.94	-15.65	8.30	35.39	15.09	-54.73	37.972	67.55	3.23	-8.91	80.077

*: Measured data but not guaranteed.



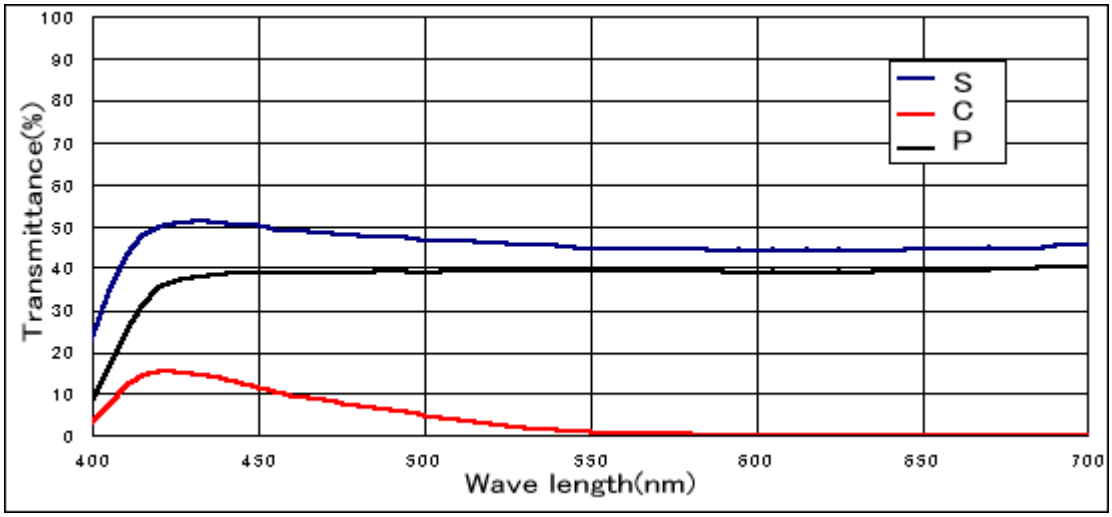
Paper White Polarizer

SKW Series

Application : Realization of paper-like White background color for reflective and transflective LCD.

Typical property		Y	L*	a*	b*
SKW-18245T	Single	45.26	73.06	0.96	-4.50
	Cross	1.50	12.59	23.49	-45.78
	Parallel	39.26	68.94	-0.90	1.22
	Polarizing efficiency	96.257			

*: Measured data but not guaranteed.



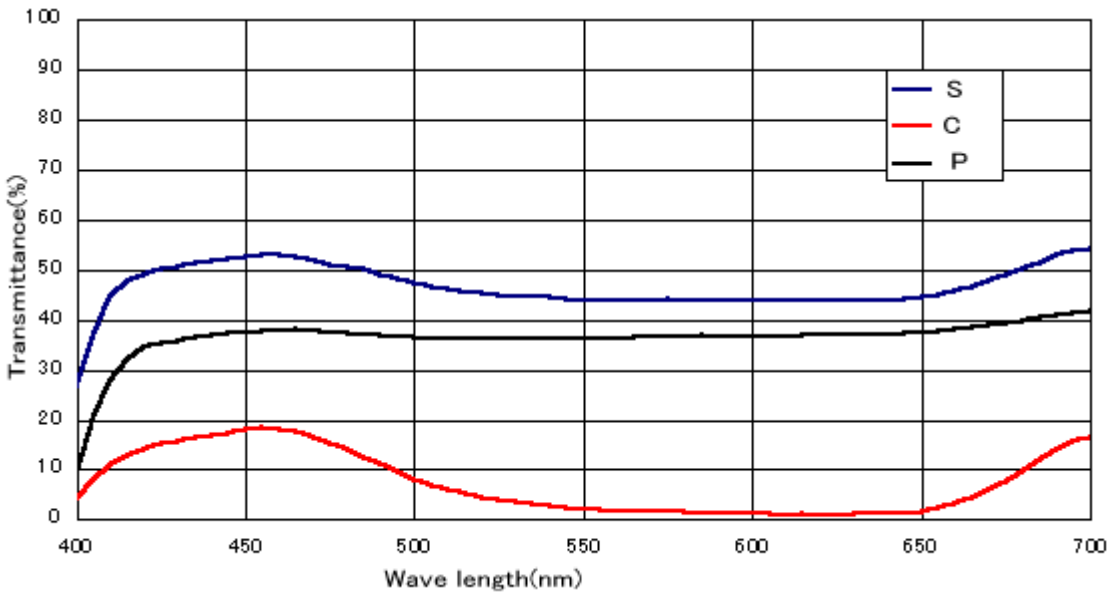
Super High Durable Paper White Polarizer

SHC-2 Series

•Application: TFT for Automotive and out-door use.
•Durability is similar to SHC-1 series.

Typical Property		Y	L*	a*	b*
SHC-215U	Single	44.91	72.83	1.97	-7.05
	Cross	3.45	21.75	18.32	-43.47
	Parallel	36.61	66.99	0.67	-0.47
	Polarizing Efficiency	90.994			

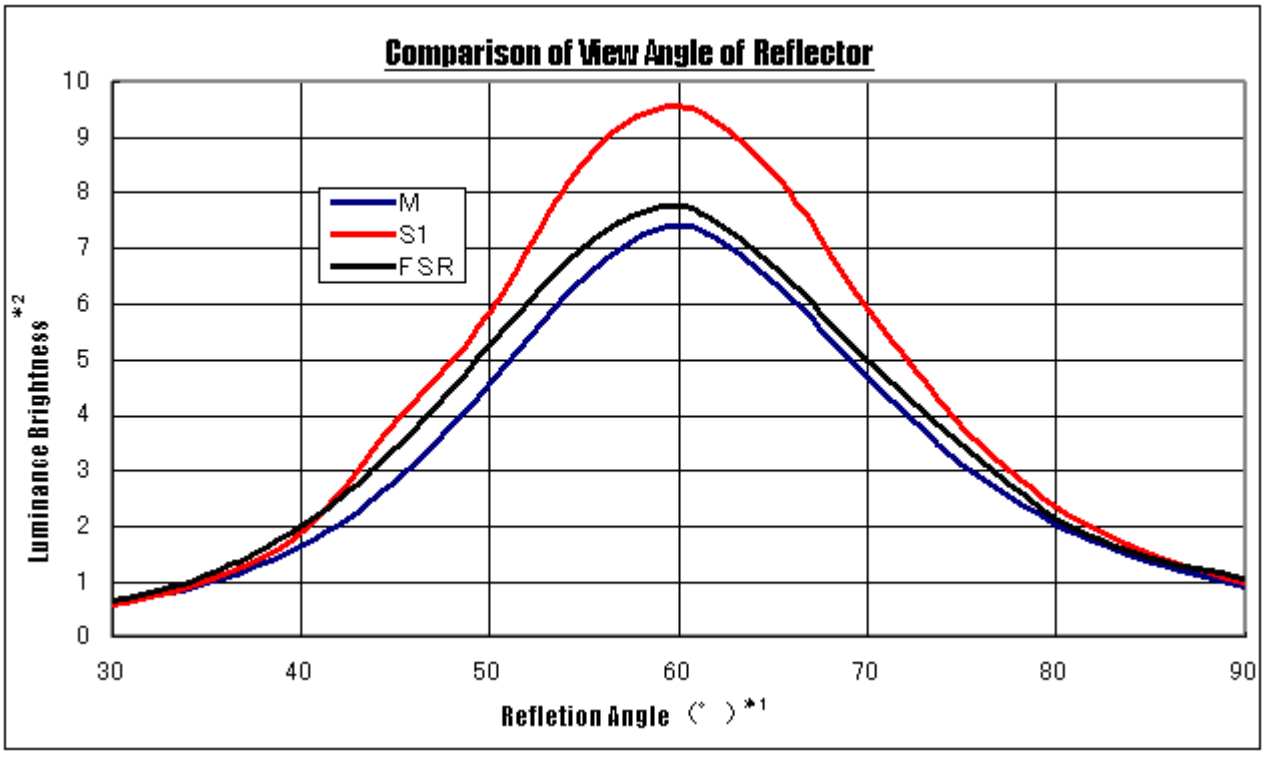
*: Measured data but not guaranteed.



Reflective Polarizer

FSR makes Background color more white.

	Reflectivity of Reflector	
R	83%	Alminum reflector with hair-line
M	83%	Alminum reflector without hair-line
S1	90%	Silver reflector
FSR	90%	Wide viewing angle white color silver reflector



*1 : Angle of Detector / Incident angle is 30 degree.

*2 : Barium sulfate used as the reference.

Transflective Polarizer

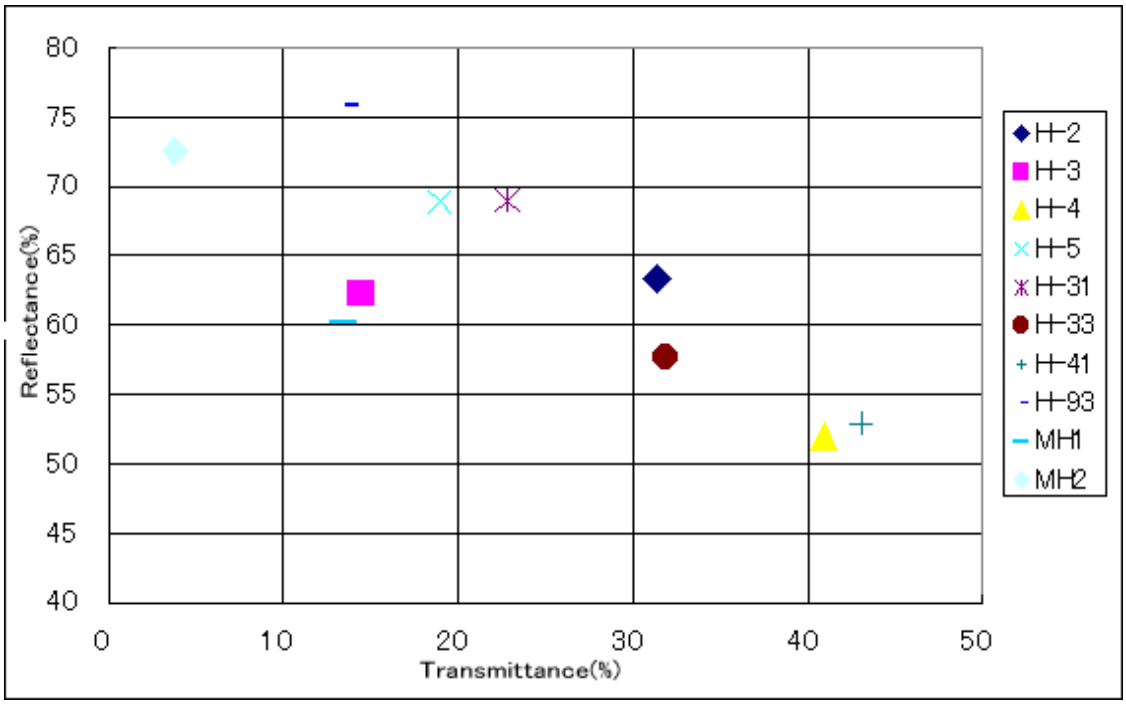
A variety of products with different transmittance,reflectance,hue,and color are available. FST is high brightness and high-resolution transflector successfully developed on an epoch-making idea.

(FST Series)

Optical Performance

	Transmittance			Reflectance			Note
	Y	a*	b*	Y	a*	b*	
H-3	14.48	0.74	0.75	62.28	-0.17	-6.53	High resolution , Hue compensation
H-31	22.82	1.79	8.53	68.98	-1.36	-1.85	Reflectivity importance
H-33	31.86	-0.10	12.46	57.69	-0.22	-5.01	High resolution,Transmittance importance
H-41	43.05	0.96	6.08	52.91	-1.37	-3.98	Transmittance importance
H-93	13.54	0.97	6.37	75.85	-0.80	-1.71	High resolution , Reflectance importance
MH1	14.01	-0.22	-11.04	60.55	-0.76	2.79	FST Series
MH2	3.80	0.16	-7.93	72.53	-0.82	0.36	FST Series

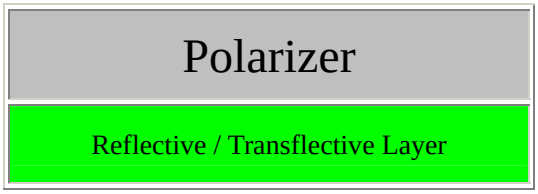
*: Measured data but not guaranteed.



Polarizer for High Resolution Reflective / Transflective LCDs

Good Point : FST/FSR Series realize wide-viewing angle and Paper-white background.
FST/FSR Series Polarizer have the original Scattering Function.

Basic Structure



Code Exposition

T1-SKW 8 45 U-MH1

1 2 3 4 5 6

1	Light Scatter		
2	Polarizer used		
3	Thickness of Used Polarizer	(2 :120fÊm , 8:180fÊm)	
4	transmittance of Used Polarizer	(45 : 45%)	
5	UV cut	U	: Transmittance under 1% at 380nm
		-	: no cutting
6	Reflective Layer	MH1	: High Transmittant Transflective Type

MH2 : High Reflectant Transflective Type
SR : Reflection Type

Optical Characteristics

T1-SKW845U-MH1

	Y	L*	a*	b*
Transmission	6.43	30.47	0.90	-11.19
Reflectance	30.07	61.71	-1.59	1.85

T1-SKW845U-MH2

	Y	L*	a*	b*
Transmittance	2.59	18.34	0.46	-8.49
Reflectance	34.04	65.00	-1.77	0.62

T1-SKW845U-SR

	Y	L*	a*	b*
Transmittance	42.98	71.54	-1.19	1.76
Reflectance	33.37	64.46	-1.10	1.11

*: Measured data but not guaranteed.

Color Reflective&Transflective

Good Point: Colored Reflective-Type & Transflective-Type Polarizer are successfully developed through our original dyestuff technology and coating technology. Vivid color in background(parallel),Pure Black (Cross)

*The above photo may not show the actual appearance.

model

SKW-18245H31-OR(Orange)

	Y	L*	a*	b*
Transmittance	7.47	32.86	3.65	29.24
Reflectance	20.46	52.36	4.08	38.66

SKW-18245H31-SR(Red)

	Y	L*	a*	b*

Transmittance	8.22	34.44	8.84	3.57
Reflectance	22.23	54.27	14.30	-4.69

SKW-18245H31-YG(Yellowish Green)

	Y	L*	a*	b*
Transmittance	10.07	37.96	-0.90	11.55
Reflectance	22.23	54.27	-4.29	8.04

SKW-18245H31-GB(Blue)

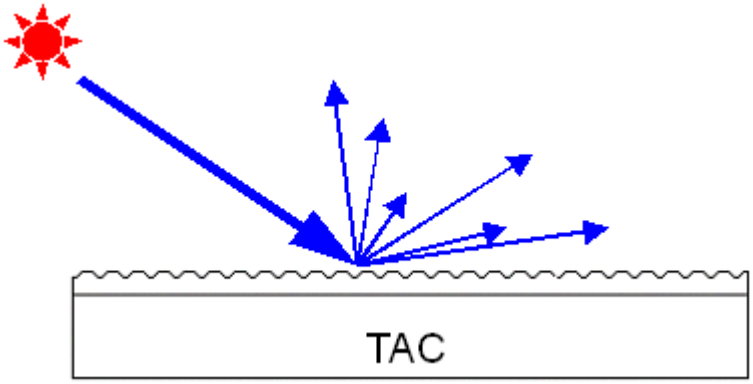
	Y	L*	a*	b*
Transmittance	8.72	35.44	-5.74	-1.33
Reflectance	23.30	55.37	-14.24	-9.77

*: Measured data but not guaranteed.

Anti-glare,Hard-coated

Antiglare: Reduce reflection by making surface uneven.

Hard Coat: Protect surface from scratches and dents.



			HC	Z-9	Z-5	Z-K1	Z-K2	Z-K3
Haze		-	-	11.9	6.6	5.5	27.4	10.7
60 ° Grossity		143.4	-	65.2	41.4	33.9	22.5	45.5
Image Visibility *1	0.05mm	-	-	1.7	1.5	6.1	13.3	14.7
	0.125mm	-	-	2.2	1.6	8.2	21.1	18.9
Hardness by pencil test		B	3H	3H	3H	3H	3H	3H
Scratch Resistance		Poor	Good	Good	Good	Good	Good	Good

*1 : Standard of transmissive image visibility. The larger number is good for the high resolution requirement.(JIS-K-7105)

* : Measured data but not guaranteed.

AR & LR

Function : Reduce reflectance and make image seen clearly.
Realize higher transmittance while keeping good polarizing efficiency.
Realize higher image quality by adopting anti-glare function together.

Plane Type

	Specular reflectance(%)	Scratch resistance	Finger print removability
HC	4.0	Good	Fair
AR	0.2	Good	Excellent
LRC	1.2	Good	Good

Anti-glare Type

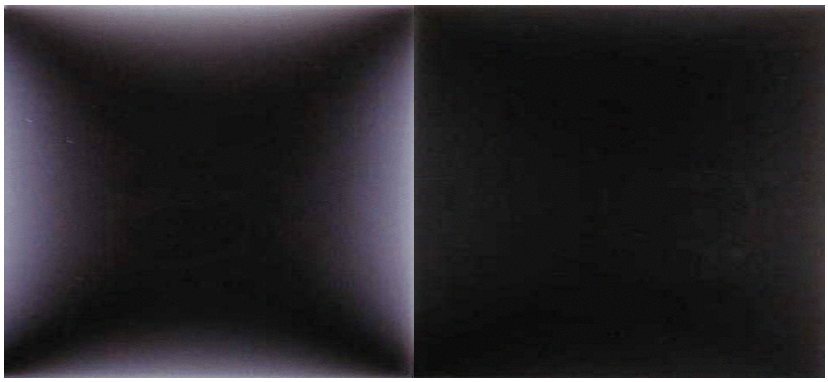
	Specular reflectance(%)	Scratch resistance	Finger print removability
Z-K3	2.5	Good	Fair
Z-K3AR	0.1	Good	Good
Z-K3LRC	0.7	Good	Good

*: Measured data but not guaranteed.

Anti-light leakage Type

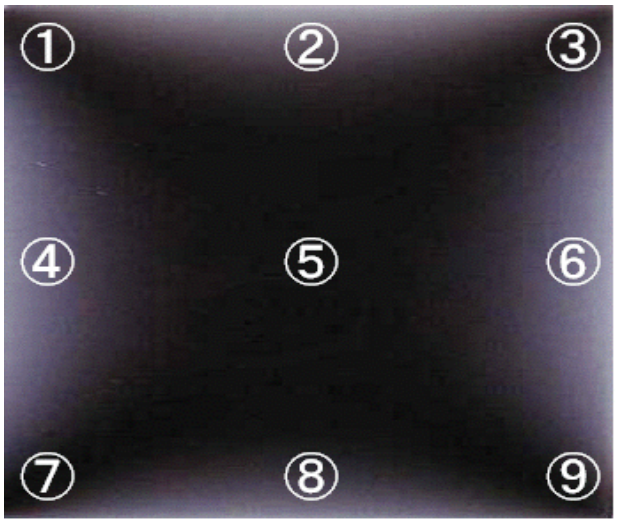
Good Point: Prevent Light-leakage without durability loss.
Application to SKN , SHC.

Competition of



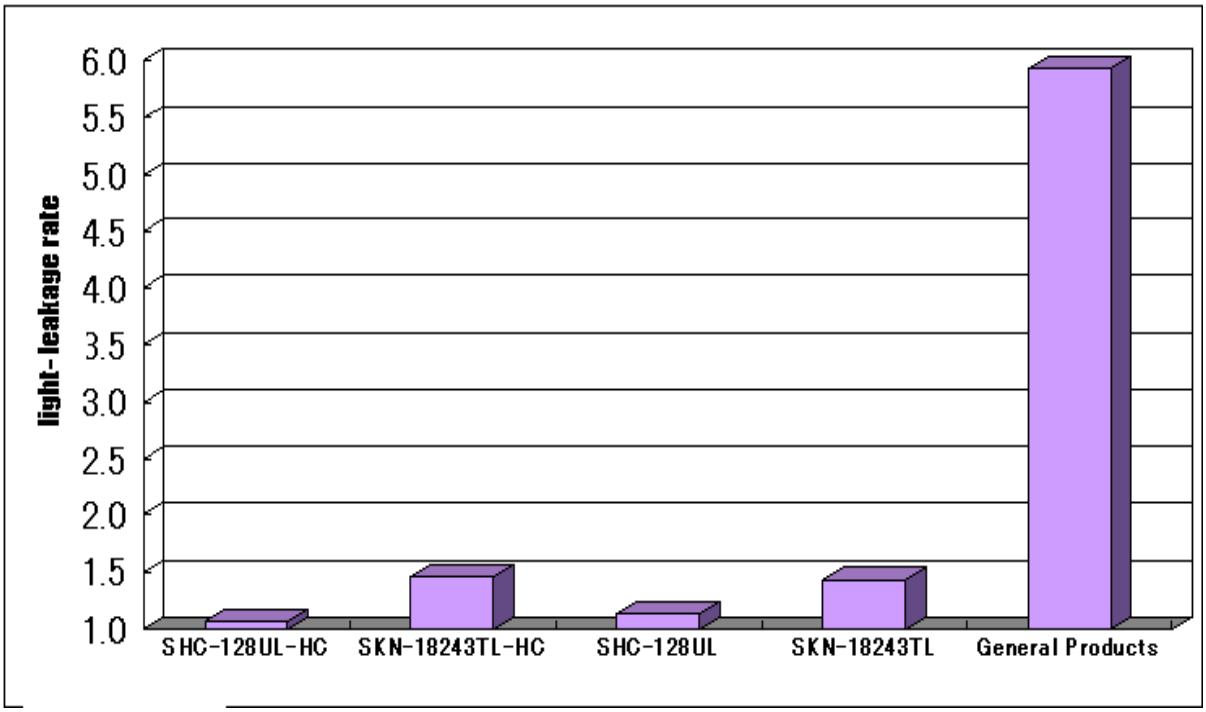
(Light-leaked Polarizer) (With Anti-light-leakage Function)

caluculation Method of Light-leakage ratio



Light-leakage ratio = Average Transmittance of 2,4,6,8 / Average Transmittance of 1,3,5,7,9

Light -leakage ratio



*: Measured data but not guaranteed.

Wide-Viewing Angle Type

•Unified Products with polarizer are available through our coating and Lamination technology.
•AG,AR and other surface function are applicable.
•Anti-light-leakage function is also applicable.

Durability

Polarizer	SHC-128W	SHC-128W-HC	SKN-18243W
90° C - DRY X 500hrs	-	-	OK
105° C X 1000hrs	OK	OK	-
60° C X 90% X 1000hrs	OK	OK	-
60° C X 90% X 500hrs	-	-	OK
65° C X 95% X 500hrs	OK	OK	-
Heat Shock* X 300cyc	OK	OK	OK
-40° C X 1000hrs	OK	OK	OK

* -30° C X 30min to 80° C X 30min

Code Name

Dyestuff Type Polarizer : SHC-128WZ-K1ARB

Iodine Type Polarizer : SKN-18243WL-HC

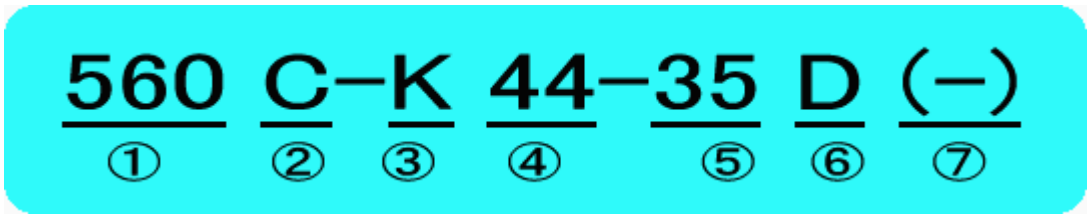
W :stands for Wide Viewing function.

elliptical Polarizer

EP Series

•EP series is good for hue compensation of STN-LCD.
•Available sheet size is 495*1000mm.
•Uniaxially stretched polycarbonate is used as retarder.

Code Exposition



	contents	Example
1	Retardation value	560=560nm
2	Retarder material	C = Polycarbonate
3	Polarizer Code	K=KN , L=LN , SH=SHC , SK=SKN
4	Transmittance of Polarizer	43=43% , 44=44%
5	Direction of Absorption axis	35=35°
6		U=Anti-clockwise , D=Clockwise
7	Direction of Retarder optical axis	(-)=parallel

Characteristics

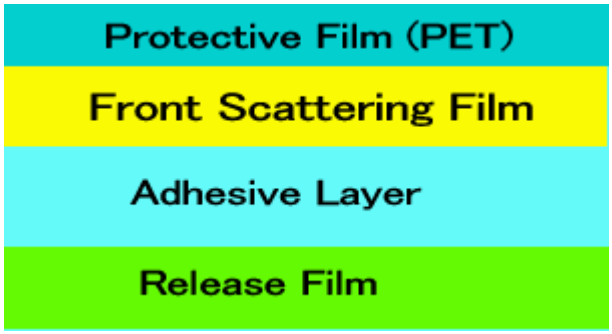
Item	Characteristics
Retardation value(nm)	560±10 , 570±10 , 580±10 , 600±10
Retardation difference in the area	less than 15nm
Durability	80° C X500hrs
	60° C X 90%RH X 500hrs

Front Scattering Film

FT-014 realize high light diffusion in Reflective-LCDs with a combination of mirror reflectiveelectrode.

FT-014 realize Paper-white background color by high diffusion efficiency.
High trannsmittance and High difussing efficiency realize improvement of contrast and vivid full color in reflective LCDs.

Basic Structure



Optical Characteristics

Transmittance(%)	L*	a*	b*	haze(%)
90.24	96.10	-0.59	0.48	82.87

*: Measured data but not guaranteed.

Polarizer for LCD-Projector

Code Exposition

PRW-28 1-HCAR

1 2 3 4

1	Light-Wave range	PRW : Red Channel
		PGW : Green Channel
		PBW : Blue Channel

2	Transmittance of cross position	25 : 0.1
		28 : 0.05
		29 : 0.03
		30 : under 0.01

3	Version	1 up

4	Surface treatment	HCAR : Anti-reflection