

Transmittance (T) units: %

λnm	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390
T	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
λnm	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590
T	0.05	0.08	0.11	0.14	0.14	0.19	0.25	0.26	0.24	0.21	0.20	0.20	0.20	0.22	0.23	0.24	0.23	0.20	0.18	0.18
λnm	600	610	620	630	640	650	660	670	680	690	700	710	720	730	740	750	760	770	780	790
T	0.19	0.22	0.25	0.27	0.29	0.32	0.37	0.46	0.64	0.94	1.30	1.69	2.04	2.33	2.57	2.77	2.94	3.09	3.21	3.31
λnm	800	810	820	830	840	850	860	870	880	890	900	910	920	930	940	950	960	970	980	990
T	3.40	3.48	3.54	3.58	3.61	3.62	3.62	3.60	3.58	3.54	3.50	3.46	3.41	3.35	3.31	3.26	3.21	3.17	3.13	3.09
λnm	1000	1010	1020	1030	1040	1050	1060	1070	1080	1090	1100	1120	1140	1160	1180	1200				
T	3.06	3.02	3.00	2.98	2.96	2.95	2.94	2.95	2.95	2.96	2.98	3.03	3.12	3.24	3.40	3.60				

Refractive Index/Absorption coefficient/Reflection coefficient

λnm	400	500	600	700	800	900	1000
n	1.531	1.520	1.514	1.511	1.508	1.507	1.506
K	7.4E-05	8.4E-05	1.0E-04	8.4E-05	7.3E-05	8.2E-05	9.5E-05
P	0.916	0.918	0.920	0.921	0.921	0.921	0.922

Classes of Bubbles and Inclusions

Bubble Class
3

Color Specification

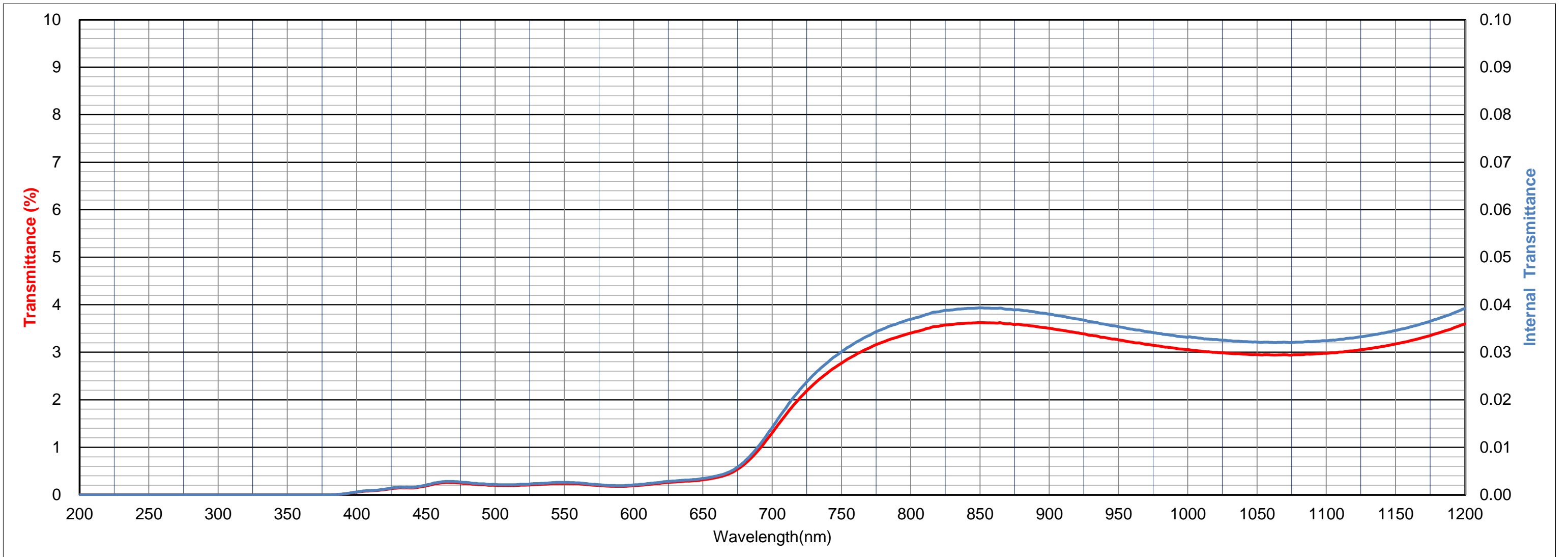
	x	y	Y	λ <sub>d</sub>	P <sub>e</sub>
A	-	-	-	-	-
C	-	-	-	-	-
D65	-	-	-	-	-

Properties

Chemical		Thermal				Mechanical		Others
D <sub>w</sub>	D <sub>A</sub>	T <sub>g</sub>	T <sub>s</sub>	α <sub>-30/70</sub>	α <sub>100/300</sub>	H <sub>K</sub>	F <sub>A</sub>	d
1	3	490	565	-	65	530	100	2.41

Tolerance of Transmittance (T)

Average Transmittance at 400nm-700nm	
Tav(%)	OD
0.3±0.05	2.5±0.1





HOYA CANDEO OPTRONICS CORPORATION

Thickness (2.9) mm

ND0.3

Transmittance (T) units: %

λnm	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390
τ	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
λnm	400	410	420	430	440	450	460	470	480	490	500	510	520	530	540	550	560	570	580	590
τ	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
λnm	600	610	620	630	640	650	660	670	680	690	700	710	720	730	740	750	760	770	780	790
τ	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.6	0.9	1.3	1.7	2.0	2.3	2.6	2.8	2.9	3.1	3.2	3.3
λnm	800	810	820	830	840	850	860	870	880	890	900	910	920	930	940	950	960	970	980	990
τ	3.4	3.5	3.5	3.6	3.6	3.6	3.6	3.6	3.6	3.5	3.5	3.5	3.4	3.4	3.3	3.3	3.2	3.2	3.1	3.1
λnm	1000	1010	1020	1030	1040	1050	1060	1070	1080	1090	1100	1110	1120	1130	1140	1150	1160	1170	1180	1190
τ	3.1	3.0	3.0	3.0	3.0	3.0	2.9	2.9	3.0	3.0	3.0	3.0	3.0	3.1	3.1	3.2	3.2	3.3	3.4	3.5
λnm	1200	1210	1220	1230	1240	1250	1260	1270	1280	1290	1300	1310	1320	1330	1340	1350	1360	1370	1380	1390
τ	3.6	3.7	3.9	4.0	4.2	4.3	4.5	4.7	4.9	5.2	5.4	5.6	5.9	6.5	6.9	7.0	7.3	7.4	7.5	7.6
λnm	1400	1410	1420	1430	1440	1450	1460	1470	1480	1490	1500	1510	1520	1530	1540	1550	1560	1570	1580	1590
τ	7.8	8.1	8.3	8.6	8.9	9.0	9.3	9.5	9.7	9.9	10.2	10.3	10.5	10.6	10.8	10.9	11.0	11.2	11.3	11.4
λnm	1600	1610	1620	1630	1640	1650	1660	1670	1680	1690	1700	1710	1720	1730	1740	1750	1760	1770	1780	1790
τ	11.5	11.6	11.7	11.8	11.8	11.8	11.9	11.9	11.9	11.9	12.0	12.0	12.0	12.1	12.1	12.1	12.2	12.2	12.3	12.3
λnm	1800	1810	1820	1830	1840	1850	1860	1870	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990
τ	12.4	12.5	12.6	12.7	12.8	12.9	13.0	13.2	13.3	13.4	13.6	13.8	13.9	14.1	14.3	14.5	14.6	14.8	15.0	15.2
λnm	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950
τ	15.4	16.4	17.5	18.3	19.1	20.2	21.5	22.5	22.8	23.4	23.8	24.0	24.1	24.3	24.4	24.6	24.8	24.8	24.9	24.7
λnm	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500	3550	3600	3650	3700	3750	3800	3850	3900	3950
τ	24.3	23.4	20.7	14.6	7.7	3.7	1.9	1.1	0.8	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8
λnm	4000	4050	4100	4150	4200	4250	4300	4350	4400	4450	4500	4550	4600	4650	4700	4750	4800	4850	4900	4950
τ	0.8	0.9	0.9	0.9	1.0	1.0	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.4	1.5	1.5	1.6	1.6	1.7	1.7
λnm	5000																			
τ	1.8																			

