仕様書コード:

(F)174ARSC

Book of the construction plan

File name:

1. 74 ARSC Finish

Seiko Epson Co., Ltd.

Set-up book revision, revised, footwear history table

System revision Number	Date of revision	What is revised?	Reason for revision Implementation date	Approval	Review	Drafting
Enacted	2008/12/12	Specifications	- Specification planning code: by SL08034	Kato	Kato	Kaga

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1. Overview

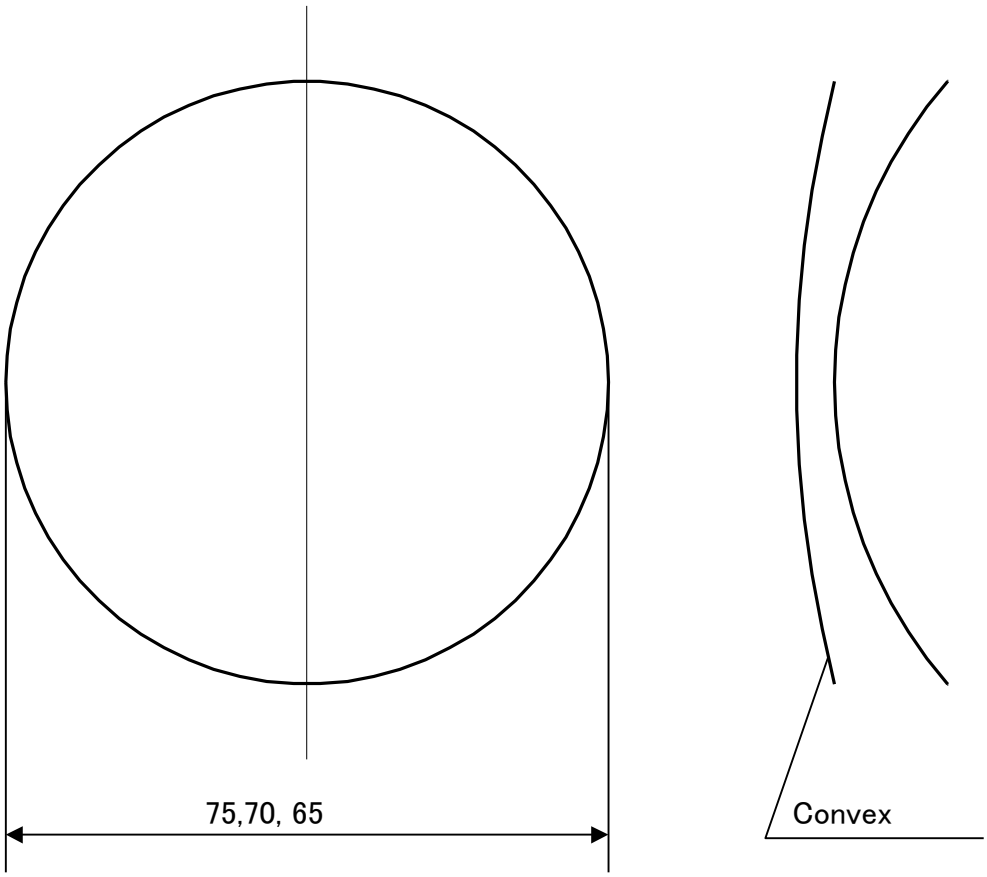
1.1. Type

1. 74ARSC Polymerization Finish Lens

1.2. Types of base resins and lenses

Lens	Type: Single
Focus Ren's Substance Name:IU-174	
Refractive	index: 1. 735 (number)
Surface	reflectance: 7.
2% (single-sided)	Abbe number: 34
Specific	gravity: 1. 47 (number)

1.3. Appearance shape



2. Quality standards

2.1. Optical requirements

2.1.1. Refractive power of the lens (rear vertex refractive index)

When measuring the spherical refractive power of a spherical lens, the tolerance and the tolerance of spherical ability to the display value are 1-1-1 Table by 1-1-1 Dioptri(D)

Absolute value of the display value s of spherical	Tolerance a1 for the display value of refraction	Spherica l
0. 00 or more 2. 00 or less	+0. 06 (number)	0. Within 06
2. Over 00 3. 00 or less	+0. 09 (number)	0. Within 06
3. Over 00 6. 00 or less	+0. 12 (number)	0. Within 06
6. Over 00 9. 00 or less	+0. 12 (number)	Within 1% of the display value

When measuring the spherical refractive power and astigmatism refractive power of the astigmatism lens, the tolerance for the display value is according to Table 1-1-2.

Table 1-1-2 Dioptri (D)

Absolute value of the display value S of spherical refractive power	Tolerance a1 for the display value of spherical refractive power	Tolerance b for display value C of astigmatism refractive power				
		0. 00 or more 0. 75 or less	0. Over 75 2. 00 or less	2. Over 00 4. 00 or less	4. Over 00 6. 00 or less	6. More than 00 things
0. 00 or more 1. 00 or less	+0. 06 (number)	+0. 06 (number)	+0. 09 (number)	+0. 09 (number)	+0. 12 (number)	+0. 25 (number)
1. Over 00 3. 00 or less	+0. 09 (number)	+0. 09 (number)	+0. 09 (number)	+0. 09 (number)	+0. 12 (number)	+0. 25 (number)
3. Over 00 6. 00 or less	+0. 12 (number)	+0. 12 (number)	+0. 12 (number)	+0. 12 (number)	+0. 18 (number)	+0. 25 (number)
6. Over 00 9. 00 or less	+0. 12 (number)	+0. 12 (number)	+0. 18 (number)	+0. 18 (number)	+0. 18 (number)	+0. 25 (number)
9. Over 00 12. 00 or less	+0. 18 (number)	+0. 12 (number)	+0. 18 (number)	+0. 18 (number)	+0. 25 (number)	+0. 25 (number)
12. Over 00 20. 00 or less	+0. 25 (number)	+0. 18 (number)	+0. 25 (number)	+0. 25 (number)	+0. 25 (number)	+0. 25 (number)
20. More than 00	+0. 37 (number)	+0. 25 (number)	+0. 25 (number)	+0. 25 (number)	+0. 37 (number)	+0. 37 (number)

Tolerance of the refractive power (S + C) of those who are not spherical refractive power of the two main meridian refractive power is according to Table 1-1-3.

Table 1-1-3 Dioptri (D)

Absolute value of the sum between the display value S of spherical refractive power and the display value C of astigmatism refractive power	Tolerance a2 for the sum of the display value S of spherical refractive power and the display value C of astigmatism refractive power
0. 00 or more 3. 00 or less	+0. 12 (number)
3. Over 00 6. 00 or less	+0. 12 (number)
6. Over 00 9. 00 or less	+0. 12 (number)
9. Over 00 12. 00 or less	+0. 18 (number)
12. Over 00 20. 00 or less	+0. 25 (number)
20. More than 00	+0. 37 (number)

2.1.2. Optical center position

When the position of the optical center is measured by the following method, the tolerance for the display value is 2-1 By. Table 2-1 Optical center position and prism refractive power tolerance

	Eccentric tolerance
Prism tolerance ()	Any direction (mm)

Note) When the test of the position and prism refractive power of the optical center, the tolerance of the prism refractive power at the prism measurement reference point, the prism component derived from the eccentric accepted in any direction in the above table (Prentiss law) and the prism tolerance Ru.

Prism measurement reference point is a geometric center.

2.2. Geometric requirements

2.2.1 Lens dimensions

The dimensions of the lens depend scan:

a) Nominal dimensions (dn): Lens diameter or diameter specified diameter specified diameter described in the design details document(mm)

b) Actual dimensions (de): Actual dimensions of the lens (mm)

c) Usable dimensions (du): Dimensions of optically usable regions (mm)

The dimensions of the specified lens, the tolerance for the display value is according to the following.

a) Actual dimensions de

Standard diameter products	
de −dn	mm (Reference:JIS standard is de−dn−1)
de −dn + 2	mm

b) Available dimensions du

du 'dn ' 2	mm

2.2.2 Thickness

The thickness of the lens measures the thickness in the normal direction at the measurement reference point of the front. The tolerance for nominal values shall be .15 mm. (Reference: JIS standard is .3mm)

2.3. Appearance and quality

Within the area of a diameter of 30 mm around the measurement reference point, there should be no defects that may harm the field of view inside or on the surface of the lens. Outside this region, fine independent defects and / or surface defects are acceptable.

2.4. Test method

2.4.1. Refractive power

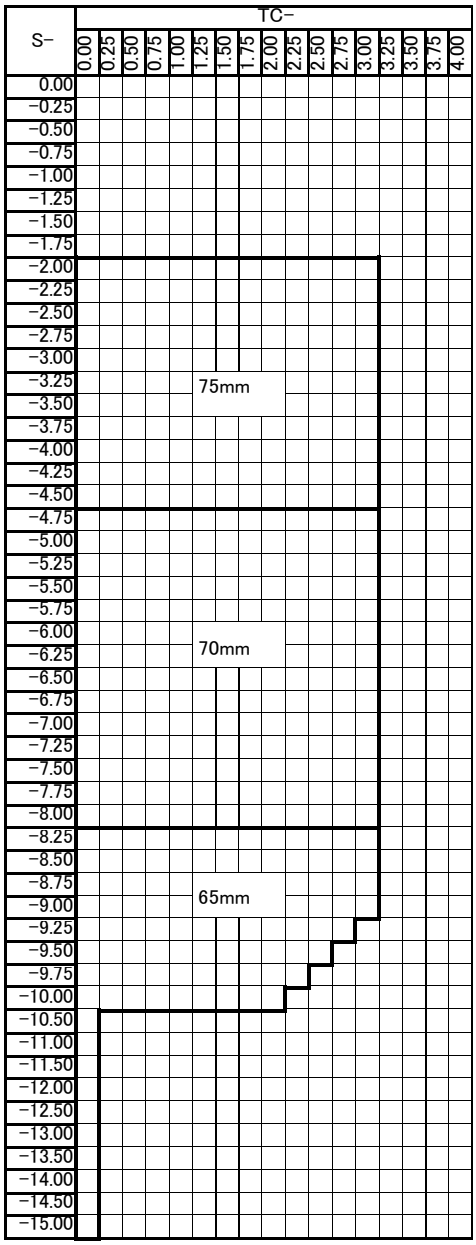
The rear surface of the test lens is applied to the lens of the lens meter, then the subsequent surface vertex refractive power is measured at the measurement reference point (geometric center).

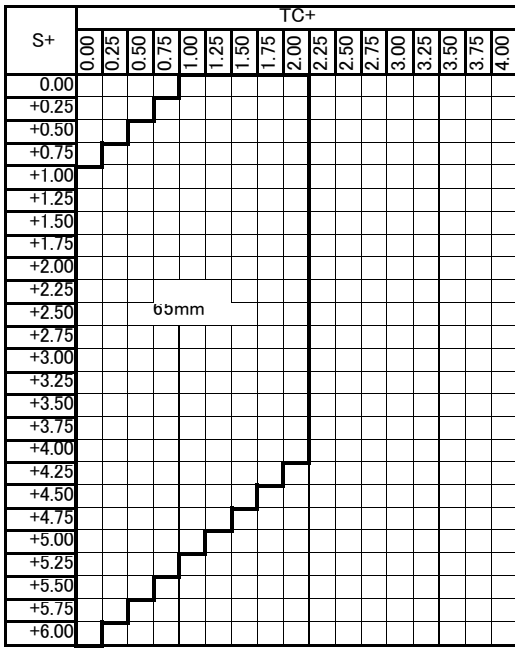
2.4.2. Optical center position and prism refractive power

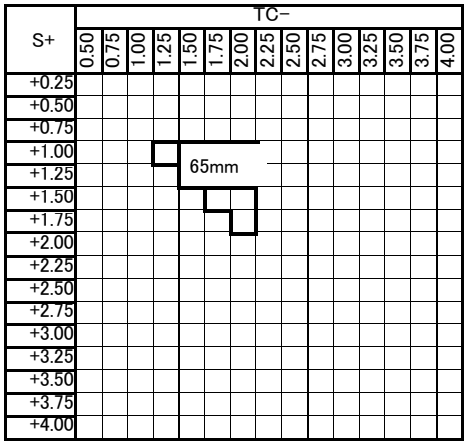
The rear surface of the test lens is applied to the lens of the lens meter, the prism refractive power is measured in the region around the prism measurement reference point allowed in Table 2-1.

3. Production range

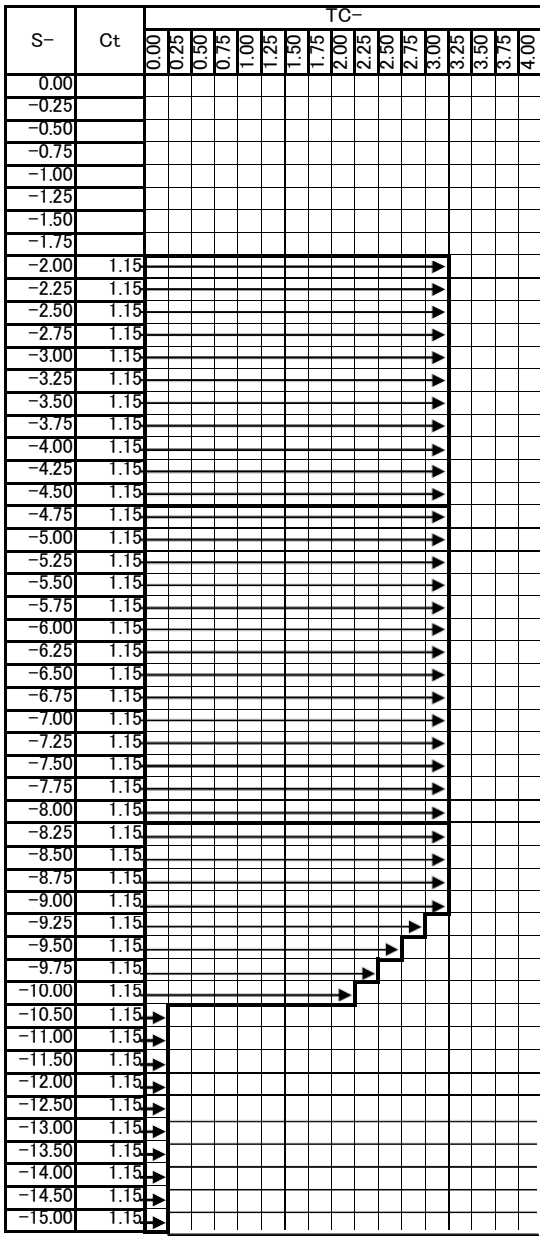
3.1. Production range and outer diameter

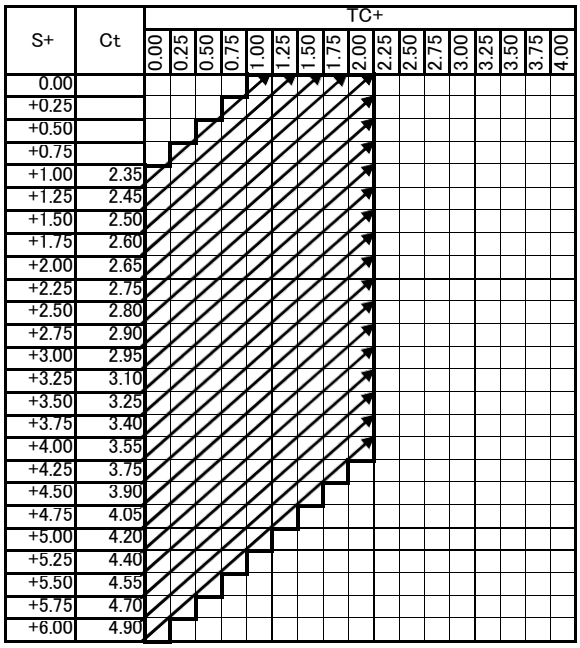


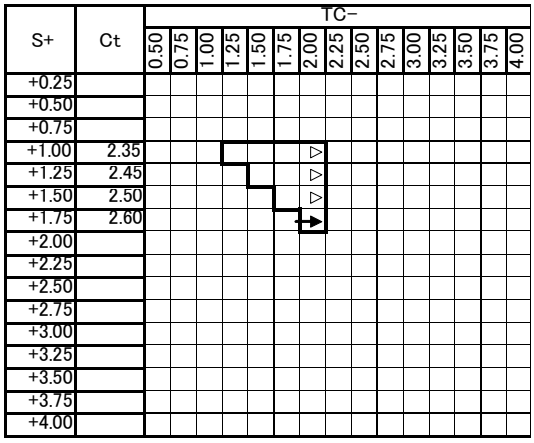




3.2. Center thickness







4. Design Details

4.1. Spherical range dimensions

Spherical count	Table Curve (Base Curve)				Back curve			Nominal Center Thickness (mm)	Center thickness (mm)	Koba thickness (mm)	Floor height (mm)	Volume ($cm^{3)}$	Weight (g)	Lens diameter (mm)
	Nominal Calf.	Correction Calf. (D)	Radius of curvature (mm)	Approximate radius (mm)	Back curve (D)	Radius of curvature (mm)	Approximate radius (mm)							
−2.00	2.50	2.496	294.49	273.09	4.50	163.33	163.33	1.0	1.15	2.93	5.51	9.07	13.34	75.0
−2.25	2.75	2.745	267.76	252.26	5.00	147.00	147.00	1.0	1.15	3.21	6.01	9.67	14.22	75.0
−2.50	2.50	2.496	294.49	273.09	5.00	147.00	147.00	1.0	1.15	3.43	6.01	10.16	14.94	75.0
−2.75	2.25	2.247	327.15	294.96	5.00	147.00	147.00	1.0	1.15	3.62	6.01	10.61	15.60	75.0
−3.00	2.00	1.997	367.99	323.95	5.00	147.00	147.00	1.0	1.15	3.84	6.01	11.10	16.32	75.0
−3.25	2.25	2.247	327.15	294.96	5.50	133.64	133.64	1.0	1.15	4.13	6.52	11.71	17.21	75.0
−3.50	2.00	1.997	367.99	323.95	5.50	133.64	133.64	1.0	1.15	4.34	6.52	12.20	17.93	75.0
−3.75	1.75	1.748	420.49	355.73	5.50	133.64	133.64	1.0	1.15	4.54	6.52	12.65	18.59	75.0
−4.00	1.50	1.499	490.49	397.49	5.50	133.64	133.64	1.0	1.15	4.75	6.52	13.13	19.29	75.0
−4.25	1.75	1.748	420.49	355.73	6.00	122.50	122.50	1.0	1.15	5.05	7.03	13.75	20.22	75.0
−4.50	1.50	1.499	490.49	397.49	6.00	122.50	122.50	1.0	1.15	5.26	7.03	14.23	20.92	75.0
−4.75	1.25	1.249	588.49	455.88	6.00	122.50	122.50	1.0	1.15	4.91	6.26	11.72	17.23	70.0
−5.00	1.00	0.999	735.49	526.67	6.00	122.50	122.50	1.0	1.15	5.09	6.26	12.09	17.77	70.0
−5.25	1.25	1.249	588.49	455.88	6.50	113.08	113.08	1.0	1.15	5.36	6.70	12.56	18.47	70.0
−5.50	1.00	0.999	735.49	526.67	6.50	113.08	113.08	1.0	1.15	5.54	6.70	12.92	19.00	70.0
−5.75	0.75	0.750	980.49	621.66	6.50	113.08	113.08	1.0	1.15	5.72	6.70	13.28	19.52	70.0
−6.00	0.50	0.500	1470.49	760.24	6.50	113.08	113.08	1.0	1.15	5.90	6.70	13.64	20.05	70.0
−6.25	1.25	1.249	588.49	467.95	7.50	98.00	98.00	1.0	1.15	6.30	7.61	14.29	21.01	70.0
−6.50	1.00	0.999	735.49	542.09	7.50	98.00	98.00	1.0	1.15	6.48	7.61	14.65	21.54	70.0
−6.75	0.75	0.750	980.49	645.97	7.50	98.00	98.00	1.0	1.15	6.66	7.61	15.02	22.08	70.0
−7.00	0.50	0.500	1470.49	794.71	7.50	98.00	98.00	1.0	1.15	6.84	7.61	15.37	22.60	70.0
−7.25	1.25	1.249	588.49	467.95	8.50	86.47	86.47	1.0	1.15	7.24	8.55	16.02	23.55	70.0
−7.50	1.00	0.999	735.49	542.09	8.50	86.47	86.47	1.0	1.15	7.42	8.55	16.38	24.08	70.0
−7.75	0.75	0.750	980.49	645.97	8.50	86.47	86.47	1.0	1.15	7.60	8.55	16.75	24.62	70.0
−8.00	0.50	0.500	1470.49	794.71	8.50	86.47	86.47	1.0	1.15	7.78	8.55	17.10	25.14	70.0
−8.25	1.25	1.249	588.49	503.83	9.50	77.37	77.37	1.0	1.15	7.26	8.31	13.82	20.31	65.0
−8.50	1.00	0.999	735.49	592.46	9.50	77.37	77.37	1.0	1.15	7.42	8.31	14.09	20.72	65.0
−8.75	0.75	0.750	980.49	713.43	9.50	77.37	77.37	1.0	1.15	7.57	8.31	14.36	21.11	65.0
−9.00	0.50	0.500	1470.49	946.55	9.50	77.37	77.37	1.0	1.15	7.75	8.31	14.67	21.57	65.0
−9.25	1.25	1.249	588.49	503.83	10.50	70.00	70.00	1.0	1.15	8.10	9.15	15.15	22.26	65.0
−9.50	1.00	0.999	735.49	592.46	10.50	70.00	70.00	1.0	1.15	8.26	9.15	15.42	22.67	65.0
−9.75	0.75	0.750	980.49	713.43	10.50	70.00	70.00	1.0	1.15	8.41	9.15	15.69	23.06	65.0
−10.00	0.50	0.500	1470.49	946.55	10.50	70.00	70.00	1.0	1.15	8.59	9.15	16.00	23.52	65.0
−10.50	1.00	0.999	735.49	646.82	11.50	63.91	63.91	1.0	1.15	9.21	10.03	16.88	24.81	65.0
−11.00	0.50	0.500	1470.49	1027.84	11.50	63.91	63.91	1.0	1.15	9.52	10.03	17.41	25.59	65.0
−11.50	1.00	0.999	735.49	646.82	12.50	58.80	58.80	1.0	1.15	10.13	10.95	18.28	26.87	65.0
−12.00	0.50	0.500	1470.49	1027.84	12.50	58.80	58.80	1.0	1.15	10.43	10.95	18.81	27.65	65.0
−12.50	1.00	0.999	735.49	735.49	13.50	54.44	54.44	1.0	1.15	11.20	11.91	19.84	29.17	65.0
−13.00	0.50	0.500	1470.49	1470.49	13.50	54.44	54.44	1.0	1.15	11.56	11.91	20.44	30.04	65.0
−13.50	1.00	0.999	735.49	735.49	14.50	50.69	50.69	1.0	1.15	12.22	12.94	21.34	31.37	65.0
−14.00	0.50	0.500	1470.49	1470.49	14.50	50.69	50.69	1.0	1.15	12.58	12.94	21.93	32.24	65.0
−14.50	1.00	0.999	735.49	735.49	15.50	47.42	47.42	1.0	1.15	13.32	14.04	22.90	33.66	65.0
−15.00	0.50	0.500	1470.49	1470.49	15.50	47.42	47.42	1.0	1.15	13.68	14.04	23.50	34.54	65.0

Note) The above table is calculated with a refractive index of 1.735.

Spherical count	Table Curve (Base Curve)				Back curve			Center thickness (mm)	Nominal Center Thickness (mm)	Kobathickness (mm)	Floor height (mm)	Volume (cm3)	Weight (g)	Lens diameter (mm)
	Nominal Calf	Correction Calf . (D)	Radius of curvature (mm)	Approximate radius (mm)	Back curve (D)	Radius of curvature (mm)	Approximate radius (mm)							
1.00	4.50	4.473	164.33	167.17	3.50	210.00	210.00	2.35	2.3	1.69	4.88	6.69	9.83	65.0
1.25	3.75	3.730	197.04	204.08	2.50	294.00	294.00	2.45	2.4	1.65	4.25	6.76	9.94	65.0
1.50	4.00	3.977	184.81	192.16	2.50	294.00	294.00	2.50	2.5	1.53	4.30	6.65	9.77	65.0
1.75	4.25	4.223	174.04	181.79	2.50	294.00	294.00	2.60	2.6	1.47	4.40	6.70	9.86	65.0
2.00	4.50	4.469	164.46	172.27	2.50	294.00	294.00	2.65	2.6	1.36	4.45	6.59	9.69	65.0
2.25	3.75	3.728	197.16	213.17	1.50	490.00	490.00	2.75	2.7	1.34	3.83	6.69	9.83	65.0
2.50	4.00	3.974	184.94	200.49	1.50	490.00	490.00	2.80	2.8	1.23	3.88	6.58	9.67	65.0
2.75	4.25	4.220	174.17	189.15	1.50	490.00	490.00	2.90	2.9	1.17	3.98	6.64	9.76	65.0
3.00	4.50	4.466	164.58	178.83	1.50	490.00	490.00	2.95	2.9	1.05	4.03	6.52	9.59	65.0
3.25	4.75	4.710	156.05	169.78	1.50	490.00	490.00	3.10	3.1	1.04	4.18	6.75	9.92	65.0
3.50	5.00	4.954	148.38	161.54	1.50	490.00	490.00	3.25	3.2	1.03	4.33	6.97	10.24	65.0
3.75	5.25	5.197	141.44	154.02	1.50	490.00	490.00	3.40	3.4	1.01	4.48	7.18	10.56	65.0
4.00	5.50	5.439	135.14	147.21	1.50	490.00	490.00	3.55	3.5	1.00	4.63	7.40	10.88	65.0
4.25	5.75	5.679	129.41	140.97	1.50	490.00	490.00	3.75	3.7	1.03	4.83	7.79	11.45	65.0
4.50	6.00	5.920	124.15	135.18	1.50	490.00	490.00	3.90	3.9	1.01	4.98	8.00	11.77	65.0
4.75	6.25	6.160	119.32	130.15	1.50	490.00	490.00	4.05	4.0	1.01	5.13	8.23	12.10	65.0
5.00	6.50	6.399	114.86	125.26	1.50	490.00	490.00	4.20	4.2	0.99	5.28	8.45	12.42	65.0
5.25	6.75	6.636	110.75	120.69	1.50	490.00	490.00	4.40	4.4	1.02	5.48	8.83	12.98	65.0
5.50	7.00	6.874	106.93	116.50	1.50	490.00	490.00	4.55	4.5	1.00	5.63	9.05	13.30	65.0
5.75	7.25	7.110	103.37	112.56	1.50	490.00	490.00	4.70	4.7	0.98	5.78	9.26	13.62	65.0
6.00	7.50	7.344	100.08	108.93	1.50	490.00	490.00	4.90	4.9	1.02	5.98	9.65	14.18	65.0

Note) The above table is calculated with a refractive index of 1.735.