

Hyperfocal Distance Tables for Circle of Confusion Constant 0.020

Note: Applicable cameras for these tables are listed below the tables.

18-mm focal length lens

F-stop	f/3.5	f/4	f/4.5	f/5	f/5.6	f/6.3	f/7.1	f/8	f/9	f/10	f/11	f/13	f/14	f/16	f/18	f/20	f/22
Focus at (ft.)	15.2	13.3	11.9	10.7	9.55	8.5	7.54	6.7	5.96	5.37	4.89	4.15	3.86	3.38	3.01	2.72	2.47
Sharp at (ft.)	7.62	6.67	5.94	5.34	4.78	4.25	3.77	3.35	2.98	2.69	2.45	2.07	1.93	1.69	1.51	1.36	1.24

20-mm focal length lens

F-stop	f/3.5	f/4	f/4.5	f/5	f/5.6	f/6.3	f/7.1	f/8	f/9	f/10	f/11	f/13	f/14	f/16	f/18	f/20	f/22
Focus at (ft.)	18.8	16.5	14.6	13.2	11.8	10.5	9.31	8.27	7.36	6.63	6.03	5.11	4.75	4.17	3.71	3.35	3.05
Sharp at (ft.)	9.41	8.23	7.32	6.59	5.89	5.24	4.65	4.13	3.68	3.31	3.02	2.56	2.38	2.08	1.86	1.67	1.52

24-mm focal length lens

F-stop	f/3.5	f/4	f/4.5	f/5	f/5.6	f/6.3	f/7.1	f/8	f/9	f/10	f/11	f/13	f/14	f/16	f/18	f/20	f/22
Focus at (ft.)	27.1	23.7	21.1	19	17	15.1	13.4	11.9	10.6	9.53	8.67	7.35	6.83	5.98	5.33	4.8	4.37
Sharp at (ft.)	13.5	11.9	10.5	9.49	8.48	7.54	6.69	5.94	5.29	4.76	4.33	3.67	3.41	2.99	2.66	2.4	2.19

28-mm focal length lens

F-stop	f/3.5	f/4	f/4.5	f/5	f/5.6	f/6.3	f/7.1	f/8	f/9	f/10	f/11	f/13	f/14	f/16	f/18	f/20	f/22
Focus at (ft.)	36.8	32.2	28.7	25.8	23.1	20.5	18.2	16.2	14.4	13	11.8	9.98	9.28	8.13	7.24	6.52	5.94
Sharp at (ft.)	18.4	16.1	14.3	12.9	11.5	10.3	9.1	8.08	7.19	6.48	5.89	4.99	4.64	4.06	3.62	3.26	2.97

35-mm focal length lens

F-stop	f/3.5	f/4	f/4.5	f/5	f/5.6	f/6.3	f/7.1	f/8	f/9	f/10	f/11	f/13	f/14	f/16	f/18	f/20	f/22
Focus at (ft.)	57.5	50.4	44.8	40.3	36	32	28.4	25.2	22.4	20.2	18.4	15.6	14.5	12.7	11.3	10.2	9.25
Sharp at (ft.)	28.8	25.2	22.4	20.2	18	16	14.2	12.6	11.2	10.1	9.19	7.79	7.23	6.34	5.64	5.08	4.62

45-mm focal length lens

F-stop	f/3.5	f/4	f/4.5	f/5	f/5.6	f/6.3	f/7.1	f/8	f/9	f/10	f/11	f/13	f/14	f/16	f/18	f/20	f/22
Focus at (ft.)	95.1	83.2	74	66.6	59.5	52.9	46.9	41.7	37.1	33.4	30.3	25.7	23.9	20.9	18.6	16.8	15.2
Sharp at (ft.)	47.5	41.6	37	33.3	29.7	26.4	23.5	20.8	18.5	16.7	15.2	12.9	11.9	10.5	9.3	8.38	7.62

55-mm focal length lens

F-stop	f/3.5	f/4	f/4.5	f/5	f/5.6	f/6.3	f/7.1	f/8	f/9	f/10	f/11	f/13	f/14	f/16	f/18	f/20	f/22
Focus at (ft.)	142	124	110	99.4	88.8	78.9	70.1	62.2	55.3	49.8	45.3	38.4	35.6	31.2	27.7	25	22.7
Sharp at (ft.)	71	62.1	55.2	49.7	44.4	39.5	35	31.1	27.7	24.9	22.6	19.2	17.8	15.6	13.9	12.5	11.4

70-mm focal length lens

F-stop	f/3.5	f/4	f/4.5	f/5	f/5.6	f/6.3	f/7.1	f/8	f/9	f/10	f/11	f/13	f/14	f/16	f/18	f/20	f/22
Focus at (ft.)	230	201	179	161	144	128	113	101	89.5	80.6	73.3	62.1	57.6	50.5	44.9	40.4	36.8
Sharp at (ft.)	115	101	89.4	80.5	71.9	63.9	56.7	50.4	44.8	40.3	36.7	31	28.8	25.2	22.4	20.2	18.4

85-mm focal length lens

F-stop	f/3.5	f/4	f/4.5	f/5	f/5.6	f/6.3	f/7.1	f/8	f/9	f/10	f/11	f/13	f/14	f/16	f/18	f/20	f/22
Focus at (ft.)	339	297	264	237	212	188	167	148	132	119	108	91.4	84.9	74.4	66.1	59.5	54.2
Sharp at (ft.)	169	148	132	119	106	94.2	83.6	74.2	66	59.4	54	45.7	42.5	37.2	33.1	29.8	27.1

105-mm focal length lens

F-stop	f/3.5	f/4	f/4.5	f/5	f/5.6	f/6.3	f/7.1	f/8	f/9	f/10	f/11	f/13	f/14	f/16	f/18	f/20	f/22
Focus at (ft.)	517	452	402	362	323	287	255	226	201	181	165	139	130	113	101	90.8	82.6
Sharp at (ft.)	259	226	201	181	162	144	128	113	101	90.6	82.4	69.7	64.8	56.7	50.4	45.4	41.3

Use these tables for the following cameras:

Fujifilm: FinePix S1 Pro, FinePix S2 Pro, FinePix S3 Pro, FinePix S3 Pro UVIR, FinePix S5 Pro

Konica Minolta: Maxxum 5D, Maxxum 7D

Nikon: D1H, D1X, D2H, D2Hs, D2X, D2Xs, D40, D40x, D50, D70, D70s, D80, D100, D200, D300

Pentax: ist D, ist DL, ist DL2, ist DS, ist DS2, K10D, K100D, D100D Super

Sony: Alpha DSLR-A100, Alpha DSLR-A700