

Hyperfocal Distance Tables for Circle of Confusion Constant 0.019

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.)	16	14	12.5	11.2	10	8.94	7.94	7.05	6.28	5.65	5.15	4.36	4.06	3.56	3.17	2.86	2.6
Sharp at (ft.)	8.02	7.02	6.25	5.62	5.02	4.47	3.97	3.53	3.14	2.83	2.57	2.18	2.03	1.78	1.58	1.43	1.3

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.)	19.8	17.3	15.4	13.9	12.4	11	9.79	8.7	7.74	6.97	6.34	5.38	5	4.38	3.9	3.52	3.21
Sharp at (ft.)	9.9	8.67	7.71	6.94	6.2	5.51	4.9	4.35	3.87	3.49	3.17	2.69	2.5	2.19	1.95	1.76	1.6

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.)	28.5	24.9	22.2	20	17.8	15.9	14.1	12.5	11.1	10	9.12	7.73	7.18	6.3	5.6	5.05	4.6
Sharp at (ft.)	14.2	12.5	11.1	9.99	8.92	7.93	7.04	6.26	5.56	5.01	4.56	3.86	3.59	3.15	2.8	2.53	2.3

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.)	38.8	33.9	30.2	27.2	24.3	21.6	19.2	17	15.1	13.6	12.4	10.5	9.76	8.55	7.61	6.86	6.25
Sharp at (ft.)	19.4	17	15.1	13.6	12.1	10.8	9.58	8.51	7.57	6.81	6.2	5.25	4.88	4.28	3.81	3.43	3.12

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.)	60.6	53	47.1	42.4	37.9	33.7	29.9	26.6	23.6	21.3	19.3	16.4	15.2	13.3	11.9	10.7	9.73
Sharp at (ft.)	30.3	26.5	23.6	21.2	18.9	16.8	15	13.3	11.8	10.6	9.67	8.19	7.61	6.67	5.93	5.35	4.86

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.)	100	87.6	77.9	70.1	62.6	55.7	49.4	43.9	39	35.1	31.9	27	25.1	22	19.6	17.6	16
Sharp at (ft.)	50	43.8	38.9	35	31.3	27.8	24.7	21.9	19.5	17.6	16	13.5	12.6	11	9.79	8.82	8.02

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.)	149	131	116	105	93.5	83.1	73.8	65.5	58.2	52.4	47.7	40.4	37.5	32.8	29.2	26.3	23.9
Sharp at (ft.)	74.7	65.4	58.1	52.3	46.7	41.5	36.9	32.7	29.1	26.2	23.8	20.2	18.7	16.4	14.6	13.1	12

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.)	242	212	188	169	151	135	119	106	94.2	84.8	77.1	65.3	60.7	53.1	47.2	42.5	38.7
Sharp at (ft.)	121	106	94.1	84.7	75.7	67.3	59.7	53	47.1	42.4	38.6	32.7	30.3	26.6	23.6	21.3	19.3

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.)	357	312	278	250	223	198	176	156	139	125	114	96.2	89.4	78.3	69.6	62.7	57
Sharp at (ft.)	178	156	139	125	112	99.2	88	78.1	69.4	62.5	56.8	48.1	44.7	39.1	34.8	31.3	28.5

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.)	544	476	423	381	340	303	268	238	212	191	173	147	136	119	106	95.5	86.9
Sharp at (ft.)	272	238	212	191	170	151	134	119	106	95.4	86.7	73.4	68.2	59.7	53.1	47.8	43.4

Use these tables for the following cameras:

Canon: 10D, 20D, 20Da, 30D, 40D, D40, D60, Digital Rebel / 300D, Digital Rebel XT / 350D, Digital Rebel XTi / 400D

Kodak: DCS-720X