

WILSONWERKS ARCHIVES

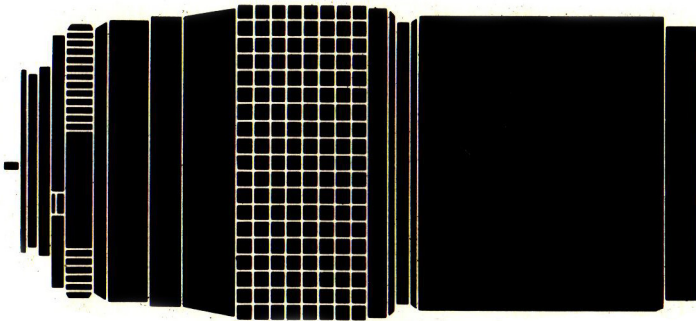
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MINOLTA MC ROKKOR-X LENSES

DEPTH-OF-FIELD CHART



LENS CARE

Never touch glass lens surface with the fingers.

Should a glass lens surface become dirty, gently whisk loose, dry matter off it with a bellows lens brush. If necessary, the glass surface may then be wiped gently with a circular motion from the center outward with a soft, clean cotton cloth or special photographic lens tissue.

Liquid lens cleaner should be used only when fingerprints or other matter cannot be removed with a dry cloth or lens tissue. *Never drop lens cleaning fluid directly on lens surfaces.* Instead, apply only one drop of fluid to the cloth or tissue and wipe the glass surface gently from center to edge.

The lens barrel and other metal parts may be wiped with a silicon-treated cloth.

For all other service and repairs, contact your authorized Minolta repair facility.

STORAGE

When not in use, glass surfaces should be protected by attaching front and rear caps and the lenses stored in their cases. Do not store lenses where temperature or humidity is high or near corrosive chemicals or gases.

If a lens is to be stored for an extended period, it is best to place it in its case in an airtight container (such as a heavy or double plastic bag) along with a small bag of a drying agent (such as silica gel).

Minolta Camera Co., Ltd., 30, 2-Chome, Azuchi-Machi, Higashi-Ku, Osaka 541, Japan
Minolta Corporation, 101 Williams Drive, Ramsey, New Jersey 07446, U.S.A.

DEPTH OF FIELD

When a lens is focused at a given subject point, there is a certain distance range behind and in front of that point within which the photographic image will appear acceptably sharp. This distance is known as "depth of field" and may vary from paper thin to extremely deep in accordance with three factors: Depth of field decreases the longer the focal length of the lens, the larger the lens opening used, and the closer the lens is focused. It increases the shorter the lens focal length, the smaller the lens opening used, and the farther from the camera the lens is focused.

With Minolta single-lens reflex cameras, effective depth of field may be visualized by pushing the depth-of-field preview button and viewing the subject through the finder with the lens stopped down to the aperture at which the picture is to be taken. It may also be determined approximately from the depth-of-field scale on the lens barrel. The tables in this booklet provide precise data on near and far limits of acceptable focus at marked apertures at all or all scale-marked distances on MC Rokkor-X Lenses of fixed focal length.

CHANGING MC ROKKOR-X LENSES

To Remove from Camera

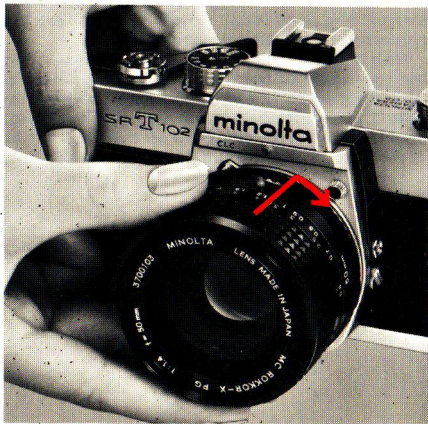
While pushing lens-release button on camera, turn lens counterclockwise as far as it will go; then lift lens bayonet out of mount.

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To Install Lens on Camera

Align red dot on lens barrel with red dot on camera lens-mount flange; insert lens bayonet into mount; and turn lens clockwise until it locks in place with a click.



16mm F2.8 MC FISHEYE ROKKOR-X LENS In METERS

3

Dist. (m) \ F No.	2.8	4	5.6	8	11	16	22
∞	∞ 2.85	∞ 2.04	∞ 1.46	∞ 1.06	∞ 0.77	∞ 0.57	∞ 0.42
2	6.26 1.21	71.2 1.05	∞ 0.89	∞ 0.73	∞ 0.59	∞ 0.47	∞ 0.37
1	1.45 0.77	1.80 0.71	2.77 0.63	12.8 0.55	∞ 0.48	∞ 0.40	∞ 0.33
0.7	0.88 0.59	0.98 0.55	1.19 0.51	1.73 0.46	5.20 0.41	∞ 0.35	∞ 0.30
0.5	0.57 0.45	0.61 0.43	0.68 0.40	0.81 0.37	1.11 0.34	2.66 0.31	∞ 0.27
0.4	0.44 0.37	0.46 0.36	0.49 0.34	0.55 0.32	0.66 0.30	0.96 0.27	3.07 0.25
0.3	0.318 0.284	0.327 0.278	0.340 0.270	0.361 0.260	0.397 0.248	0.468 0.233	0.642 0.215

16mm F2.8 MC FISHEYE ROKKOR-X LENS In FEET

F No Dist. (ft)	2.8	4	5.6	8	11	16	22
∞	9' 4 $\frac{1}{8}$ "	6' 8 $\frac{1}{4}$ "	4' 9 $\frac{1}{2}$ "	3' 5 $\frac{1}{2}$ "	2' 6 $\frac{1}{4}$ "	1' 10"	1' 4 $\frac{5}{8}$ "
6	15' 8" 3' 9 $\frac{3}{8}$ "	50' 8" 3' 3 $\frac{1}{2}$ "	2' 9 $\frac{1}{2}$ "	2' 3 $\frac{3}{8}$ "	1' 11"	1' 6 $\frac{1}{8}$ "	1' 2 $\frac{3}{8}$ "
3	4' 1 $\frac{7}{8}$ " 2' 4 $\frac{3}{8}$ "	5' 2' 2 $\frac{1}{4}$ "	7' 3 $\frac{3}{8}$ " 2'	17' 6" 1' 8 $\frac{7}{8}$ "	1' 6"	1' 3 $\frac{1}{4}$ "	1' 3 $\frac{1}{4}$ "
2	2' 4 $\frac{3}{4}$ " 1' 8 $\frac{5}{8}$ "	2' 7 $\frac{1}{2}$ " 1' 7 $\frac{5}{8}$ "	3' 5 $\frac{5}{8}$ " 1' 6 $\frac{3}{4}$ "	4' 1' 4 $\frac{3}{4}$ "	7' 2 $\frac{1}{2}$ " 1' 3"	1' 1 $\frac{1}{8}$ "	11 $\frac{3}{8}$ "
1.5	1' 8 $\frac{1}{4}$ " 1' 4 $\frac{1}{4}$ "	1' 9 $\frac{3}{8}$ " 1' 3 $\frac{5}{8}$ "	1' 11 $\frac{3}{8}$ " 1' 2 $\frac{7}{8}$ "	2' 3" 1' 1 $\frac{7}{8}$ "	2' 11" 1' 3 $\frac{1}{4}$ "	5' 2" 11 $\frac{1}{2}$ "	10 $\frac{1}{4}$ "
1.25	1' 4 $\frac{3}{8}$ " 1' 1 $\frac{1}{8}$ "	1' 5" 1' 1 $\frac{1}{2}$ "	1' 6 $\frac{1}{8}$ " 1' 7 $\frac{1}{8}$ "	1' 8" 1' 1 $\frac{1}{4}$ "	2' 11 $\frac{3}{8}$ "	2' 8 $\frac{1}{2}$ " 10 $\frac{1}{2}$ "	6' 4 $\frac{3}{4}$ " 9 $\frac{1}{2}$ "
1	1' 3 $\frac{3}{4}$ " 11 $\frac{3}{8}$ "	1' 1" 11 $\frac{1}{8}$ "	1' 1" 10 $\frac{3}{4}$ "	1' 2 $\frac{1}{2}$ " 10 $\frac{3}{8}$ "	1' 4" 9 $\frac{1}{8}$ "	1' 7" 9 $\frac{1}{4}$ "	2' 2 $\frac{1}{2}$ " 8 $\frac{1}{2}$ "

21mm F2.8 MC W ROKKOR-X LENS
In METERS

Dist. (m) \ F No.	2.8	4	5.6	8	11	16
∞	∞ 4.98	∞ 3.60	∞ 2.57	∞ 1.83	∞ 1.82	∞ 0.95
5	∞ 2.53	∞ 2.13	∞ 1.73	∞ 1.37	∞ 1.07	∞ 0.82
2	3.23 1.46	4.27 1.32	8.28 1.16	∞ 1.00	∞ 0.83	∞ 0.68
1	1.21 0.85	1.32 0.81	1.53 0.75	1.99 0.68	3.49 0.61	∞ 0.51
0.7	0.79 0.63	0.83 0.61	0.90 0.58	1.03 0.54	1.30 0.49	2.10 0.44
0.5	0.54 0.47	0.56 0.46	0.58 0.44	0.63 0.42	0.71 0.39	0.87 0.36
0.4	0.42 0.38	0.43 0.37	0.45 0.36	0.47 0.35	0.51 0.34	0.58 0.32
0.25	0.26 0.25	0.26 0.24	0.26 0.24	0.27 0.24	0.28 0.23	0.29 0.22

21mm F2.8 MC W ROKKOR-X LENS
In FEET

6

Dist. (ft) \ F No	2.8	4	5.6	8	11	16
∞	16' 3" [∞]	11' 9" [∞]	8' 4 ⁷ / ₈ " [∞]	6' 1 ¹ / ₈ " [∞]	4' 3 ⁷ / ₈ " [∞]	3' 1 ³ / ₈ " [∞]
6	9' 2" 4' 5 ³ / ₄ "	11' 7" 4' 1 ¹ / ₈ "	19' 2" 3' 7 ¹ / ₈ "	363' 3' 1 ⁵ / ₈ "	∞ 2' 7 ⁵ / ₈ "	∞ 2' 2"
3	3' 6 ⁵ / ₈ " 2' 7 ¹ / ₈ "	3' 10 ¹ / ₈ " 2' 5 ⁵ / ₈ "	4' 4 ³ / ₈ " 2' 3 ⁵ / ₈ "	5' 5 ¹ / ₈ " 2' 1 ³ / ₈ "	8' 4 ³ / ₈ " 1' 10 ³ / ₄ "	41' 4" 1' 7 ⁷ / ₈ "
2	2' 2 ¹ / ₂ " 1' 9 ⁷ / ₈ "	2' 3 ⁵ / ₈ " 1' 9 ¹ / ₄ "	2' 5 ¹ / ₂ " 1' 8 ¹ / ₄ "	2' 8 ³ / ₄ " 1' 7 ¹ / ₈ "	3' 3 ¹ / ₈ " 1' 5 ³ / ₄ "	4' 6 ¹ / ₈ " 1' 4 ¹ / ₈ "
1.5	1' 7 ¹ / ₈ " 1' 4 ⁷ / ₈ "	1' 7 ³ / ₄ " 1' 4 ¹ / ₂ "	1' 8 ¹ / ₂ " 1' 4"	1' 9 ⁷ / ₈ " 1' 3 ³ / ₈ "	2' 1 ¹ / ₄ " 1' 2 ¹ / ₂ "	2' 4 ³ / ₄ " 1' 1 ¹ / ₂ "
1.25	1' 3 ³ / ₄ " 1' 2 ¹ / ₄ "	1' 4 ¹ / ₈ " 1' 2 ¹ / ₈ "	1' 4 ¹ / ₂ " 1' 1 ⁵ / ₈ "	1' 5 ³ / ₈ " 1' 1 ¹ / ₄ "	1' 6 ⁵ / ₈ " 1' 5 ¹ / ₈ "	1' 8 ⁷ / ₈ " 11 ¹ / ₈ "
1	1' 3 ³ / ₈ " 11 ¹ / ₂ "	1' 1 ¹ / ₂ " 11 ³ / ₈ "	1' 3 ¹ / ₄ " 11 ¹ / ₄ "	1' 1 ¹ / ₄ " 11"	1' 1 ⁷ / ₈ " 10 ⁵ / ₈ "	1' 2 ⁷ / ₈ " 10 ¹ / ₈ "

**24mm F2.8 MC W ROKKOR-X LENS
In METERS**

7

Dist. (m) \ F No.	2.8	4	5.6	8	11	16
∞	∞ 6.4	∞ 4.5	∞ 3.3	∞ 2.3	∞ 1.7	∞ 1.2
5.0	21.52 2.85	∞ 2.41	∞ 2.00	∞ 1.60	∞ 1.29	∞ 0.97
2.0	2.83 1.55	3.46 1.42	4.92 1.27	13.72 1.10	∞ 0.95	∞ 0.77
1.0	1.16 0.88	1.24 0.84	1.38 0.79	1.66 0.73	2.22 0.66	5.33 0.58
0.7	0.77 0.64	0.80 0.62	0.85 0.60	0.95 0.56	1.09 0.52	1.49 0.47
0.5	0.53 0.47	0.55 0.46	0.57 0.45	0.60 0.43	0.65 0.41	0.76 0.38
0.4	0.42 0.38	0.43 0.38	0.44 0.37	0.46 0.36	0.48 0.34	0.54 0.32
0.3	0.31 0.29	0.31 0.29	0.32 0.28	0.33 0.28	0.34 0.27	0.36 0.26

24mm F2.8 MC W ROKKOR-X LENS In FEET

8

Dist. (ft) \ F No.	2.8	4	5.6	8	11	16
∞	∞ 21' 2"	∞ 14' 10"	∞ 10' 8"	∞ 7' 6"	∞ 5' 6"	∞ 3' 10"
6	8' 2 $\frac{3}{16}$ " 4' 9 $\frac{9}{16}$ "	9' 8 $\frac{1}{16}$ " 4' 4 $\frac{3}{8}$ "	13' 1 $\frac{1}{8}$ " 3' 11 $\frac{5}{16}$ "	26' 9" 3' 5 $\frac{3}{8}$ "	∞ 2' 11 $\frac{1}{8}$ "	∞ 2' 5 $\frac{7}{16}$ "
3	3' 5" 2' 8 $\frac{1}{16}$ "	3' 7 $\frac{1}{16}$ " 2' 6 $\frac{1}{16}$ "	3' 11 $\frac{1}{8}$ " 2' 5"	4' 8" 2' 2 $\frac{3}{16}$ "	5' 11 $\frac{5}{16}$ " 2' 9 $\frac{9}{16}$ "	11' 2 $\frac{1}{4}$ " 1' 9 $\frac{9}{16}$ "
2	2' 1 $\frac{5}{16}$ " 1' 10 $\frac{5}{16}$ "	2' 2 $\frac{7}{8}$ " 1' 9 $\frac{11}{16}$ "	2' 4 $\frac{1}{4}$ " 1' 8 $\frac{7}{8}$ "	2' 6 $\frac{1}{16}$ " 1' 7 $\frac{13}{16}$ "	2' 10 $\frac{3}{8}$ " 1' 6 $\frac{5}{8}$ "	3' 7 $\frac{3}{8}$ " 1' 5"
1.5	1' 6 $\frac{5}{16}$ " 1' 5 $\frac{1}{8}$ "	1' 7 $\frac{3}{8}$ " 1' 4 $\frac{3}{4}$ "	1' 8 $\frac{1}{16}$ " 1' 4 $\frac{5}{16}$ "	1' 9 $\frac{1}{8}$ " 1' 3 $\frac{1}{16}$ "	1' 10 $\frac{1}{16}$ " 1' 3"	2' 1 $\frac{7}{8}$ " 1' 2"
1.25	1' 3 $\frac{9}{16}$ " 1' 2 $\frac{3}{8}$ "	1' 3 $\frac{7}{8}$ " 1' 2 $\frac{3}{16}$ "	1' 4 $\frac{1}{4}$ " 1' 1 $\frac{7}{8}$ "	1' 4 $\frac{15}{16}$ " 1' 1 $\frac{1}{2}$ "	1' 5 $\frac{1}{16}$ " 1' 1"	1' 7 $\frac{9}{16}$ " 1' 5 $\frac{5}{16}$ "
1.0	1' 5 $\frac{1}{8}$ " 11 $\frac{5}{8}$ "	1' 1 $\frac{1}{2}$ " 11 $\frac{1}{2}$ "	1' 1 $\frac{1}{16}$ " 11 $\frac{3}{8}$ "	1' 1" 11 $\frac{1}{8}$ "	1' 1 $\frac{1}{2}$ " 10 $\frac{3}{16}$ "	1' 2 $\frac{3}{8}$ " 10 $\frac{3}{8}$ "

**28mm F2.5 AND F3.5 MC W ROKKOR-X LENSES
In METERS**

Dist. (m) \ F No.	2.5	3.5	4	5.6	8	11	16
∞	∞ 9.45	∞ 6.78	∞ 6.07	∞ 4.31	∞ 3.07	∞ 2.19	∞ 1.57
5	10.4 3.31	18.5 2.94	27.0 2.78	∞ 2.35	∞ 1.94	∞ 1.56	∞ 1.22
3	4.32 2.31	5.35 2.13	5.75 2.04	9.37 1.81	90.8 1.56	∞ 1.30	∞ 1.06
2	2.49 1.67	2.78 1.57	2.90 1.53	3.58 1.40	5.36 1.25	18.9 1.08	∞ 0.92
1.5	1.75 1.31	1.89 1.25	1.94 1.23	2.21 1.14	2.76 1.04	4.31 0.93	22.6 0.81
1.2	1.35 1.08	1.43 1.04	1.46 1.02	1.60 0.97	1.86 0.90	2.43 0.81	4.37 0.72
1.0	1.10 0.92	1.15 0.89	1.17 0.88	1.25 0.84	1.40 0.78	1.69 0.72	2.42 0.65
0.8	0.86 0.75	0.89 0.74	0.90 0.73	0.95 0.70	1.03 0.66	1.17 0.62	1.45 0.57
0.6	0.63 0.57	0.65 0.56	0.65 0.56	0.67 0.54	0.71 0.52	0.77 0.50	0.87 0.47
0.5	0.52 0.48	0.53 0.47	0.53 0.47	0.55 0.46	0.57 0.45	0.60 0.43	0.66 0.41

28mm F2.5 AND F3.5 MC W ROKKOR-X LENSES In FEET

Dist. (ft) \ F No.	2.5	3.5	4	5.6	8	11	16
∞	31' [∞]	22' 3" [∞]	19' 11" [∞]	14' 2" [∞]	10' 1" [∞]	7' 2" [∞]	5' 2" [∞]
20	55' 1" 12' 3"	188' 10' 8"	10' [∞] 1"	8' [∞] 4 ³ / ₄ "	6' [∞] 9 ³ / ₄ "	5' [∞] 4 ⁵ / ₈ "	4' [∞] 2"
10	14' 6" 7' 7 ⁷ / ₈ "	17' 9" 6' 11 ⁷ / ₈ "	19' 6" 6' 9 ¹ / ₄ "	32' 5" 6'	5' [∞] 1 ³ / ₄ "	4' [∞] 3 ⁵ / ₈ "	3' [∞] 6 ¹ / ₈ "
7	8' 11" 5' 9 ³ / ₈ "	10' 5' 4 ⁷ / ₈ "	10' 6" 5' 3 ¹ / ₄ "	13' 3 ¹ / ₄ " 4' 9 ¹ / ₂ "	21' 4" 4' 3"	171' 3' 8"	3' [∞] 1"
5	5' 10" 4' 4 ³ / ₈ "	6' 3 ³ / ₄ " 4' 1 ³ / ₄ "	6' 6" 5'	7' 5 ⁵ / ₈ " 3' 9 ¹ / ₂ "	9' 4 ¹ / ₄ " 3' 5 ⁵ / ₈ "	14' 10" 3' 7 ¹ / ₈ "	101' 2' 7"
4	4' 6 ¹ / ₈ " 3' 7 ¹ / ₈ "	4' 9 ³ / ₈ " 3' 5 ³ / ₈ "	4' 10 ¹ / ₂ " 3' 4 ³ / ₄ "	5' 4 ³ / ₈ " 3' 2 ³ / ₈ "	6' 3 ¹ / ₄ " 3'	8' 3 ¹ / ₈ " 2' 8 ¹ / ₄ "	15' 4" 2' 4 ¹ / ₂ "
3	3' 3 ¹ / ₄ " 2' 9 ¹ / ₄ "	3' 4 ³ / ₄ " 2' 8 ¹ / ₄ "	3' 5 ¹ / ₄ " 2' 7 ¹ / ₈ "	3' 8" 2' 6 ¹ / ₂ "	4' 1 ¹ / ₂ " 2' 4 ³ / ₄ "	4' 9" 2' 2 ⁵ / ₈ "	6' 4 ¹ / ₄ " 2' 1 ¹ / ₈ "
2.5	2' 8 ¹ / ₈ " 2' 4 ¹ / ₈ "	2' 9 ¹ / ₄ " 2' 3 ¹ / ₂ "	2' 9 ³ / ₈ " 2' 3 ¹ / ₄ "	2' 11 ¹ / ₈ " 2' 2 ¹ / ₄ "	3' 1 ¹ / ₈ " 2' 1"	3' 6 ¹ / ₂ " 1' 11"	4' 3 ¹ / ₈ " 1' 9 ¹ / ₂ "
2	2' 1 ¹ / ₄ " 1' 11"	2' 1" 1' 10 ³ / ₈ "	2' 2" 1' 10 ¹ / ₄ "	2' 3" 1' 9 ⁵ / ₈ "	2' 4 ³ / ₈ " 1' 8 ³ / ₄ "	2' 6" 1' 7 ³ / ₄ "	2' 11 ¹ / ₈ " 1' 6 ¹ / ₂ "
1.5	1' 6" 1' 5 ³ / ₈ "	1' 6 ³ / ₄ " 1' 5 ¹ / ₄ "	1' 7" 1' 5 ¹ / ₈ "	1' 7 ³ / ₈ " 1' 4 ³ / ₄ "	1' 8 ¹ / ₈ " 1' 4 ¹ / ₄ "	1' 9 ¹ / ₈ " 1' 3 ¹ / ₄ "	1' 11" 1' 3"

35mm F1.8 AND F2.8 MC W ROKKOR-X LENSES In METERS

Dist. (m) \ F No	1.8	2.8	4	5.6	8	11	16
∞	∞ 20	∞ 13.1	∞ 9.25	∞ 6.56	∞ 4.66	∞ 3.32	∞ 2.36
5	6.60 4.03	7.98 3.65	10.6 3.28	20.1 2.88	∞ 2.45	∞ 2.03	∞ 1.64
3	3.50 2.63	3.84 2.47	4.35 2.30	5.36 2.10	8.01 1.87	27.2 1.62	∞ 1.36
2	2.20 1.83	2.33 1.75	2.50 1.67	2.80 1.56	3.36 1.43	4.71 1.29	11.2 1.13
1.5	1.61 1.41	1.67 1.36	1.76 1.31	1.89 1.25	2.13 1.17	2.58 1.07	3.73 0.96
1.2	1.27 1.14	1.30 1.11	1.35 1.08	1.43 1.04	1.56 0.98	1.78 0.91	2.24 0.83
1	1.04 0.96	1.07 0.94	1.10 0.92	1.15 0.89	1.23 0.85	1.36 0.80	1.60 0.74
0.8	0.83 0.78	0.84 0.76	0.86 0.75	0.89 0.73	0.93 0.70	1.00 0.67	1.12 0.63
0.6	0.61 0.59	0.62 0.58	0.63 0.57	0.64 0.56	0.66 0.55	0.70 0.53	0.75 0.51
0.5	0.51 0.49	0.51 0.49	0.52 0.48	0.53 0.47	0.54 0.47	0.56 0.45	0.59 0.44
0.4	0.41 0.40	0.41 0.39	0.41 0.39	0.42 0.39	0.42 0.38	0.43 0.37	0.45 0.36
0.3	0.30 0.30	0.30 0.30	0.31 0.29	0.31 0.29	0.31 0.29	0.31 0.29	0.32 0.28

35mm F1.8 AND F2.8 MC W ROKKOR-X LENSES In FEET

12

F No. Dist. (ft)	1.8	2.8	4	5.6	8	11	16
∞	∞ 65' 9"	∞ 42' 10"	∞ 30' 4"	∞ 21' 6"	∞ 15' 3"	∞ 10' 11"	∞ 7' 9"
20	28' 6" 15' 5"	36' 11" 13' 9"	57' 2" 12' 2"	256' 10' 6"	∞ 8' 10"	∞ 7' 2"	∞ 5' 8 $\frac{3}{8}$ "
10	11' 8" 8' 8 $\frac{3}{4}$ "	12' 10" 8' 2 $\frac{1}{4}$ "	14' 7" 7' 7 $\frac{1}{2}$ "	18' 1" 6' 11"	27' 6" 6' 2 $\frac{1}{8}$ "	105' 5' 4 $\frac{1}{4}$ "	∞ 4' 6"
7	7' 9 $\frac{1}{4}$ " 7' 4 $\frac{3}{8}$ "	8' 3 $\frac{1}{8}$ " 6' 1"	8' 11" 5' 9 $\frac{1}{4}$ "	10' 1" 5' 4 $\frac{1}{2}$ "	12' 4 $\frac{1}{2}$ " 4' 11"	18' 4" 4' 4 $\frac{3}{4}$ "	58' 11" 3' 9 $\frac{3}{4}$ "
5	5' 4 $\frac{3}{8}$ " 4' 8 $\frac{1}{8}$ "	5' 7" 4' 6 $\frac{1}{4}$ "	5' 10" 4' 4 $\frac{1}{4}$ "	6' 4 $\frac{1}{8}$ " 4' 1 $\frac{3}{4}$ "	7' 1 $\frac{3}{4}$ " 3' 11"	8' 8 $\frac{3}{4}$ " 3' 6 $\frac{1}{2}$ "	12' 9" 3' 2"
4	4' 2" 3' 9 $\frac{1}{2}$ "	4' 4 $\frac{1}{4}$ " 3' 3 $\frac{3}{8}$ "	4' 6 $\frac{1}{4}$ " 3' 7"	4' 9 $\frac{3}{8}$ " 3' 5 $\frac{1}{4}$ "	5' 2 $\frac{1}{2}$ " 3' 3 $\frac{1}{8}$ "	6' 3' $\frac{3}{8}$ "	7' 7" 2' 9 $\frac{1}{8}$ "
3	3' 1 $\frac{3}{8}$ " 2' 11"	3' 2 $\frac{1}{4}$ " 2' 10"	3' 3 $\frac{1}{4}$ " 2' 9 $\frac{1}{4}$ "	3' 4 $\frac{3}{4}$ " 2' 8 $\frac{1}{4}$ "	3' 7 $\frac{1}{8}$ " 2' 7"	3' 11" 2' 5 $\frac{1}{4}$ "	4' 6 $\frac{1}{4}$ " 2' 3 $\frac{1}{4}$ "
2.5	2' 6" 2' 5 $\frac{1}{8}$ "	2' 7 $\frac{1}{2}$ " 2' 4"	2' 8 $\frac{1}{8}$ " 2' 4 $\frac{1}{8}$ "	2' 9 $\frac{1}{8}$ " 2' 3 $\frac{3}{8}$ "	2' 11" 2' 2 $\frac{1}{2}$ "	4' 2' 1 $\frac{3}{8}$ "	3' 5" 1' 11"
2	2' $\frac{1}{2}$ " 1' 11"	2' 1' 11"	2' 1 $\frac{1}{4}$ " 1' 11"	2' 1 $\frac{3}{4}$ " 1' 10"	2' 2" 1' 9"	2' 3" 1' 9 $\frac{1}{8}$ "	2' 6" 1' 8 $\frac{1}{8}$ "
1.5	1' 6 $\frac{1}{4}$ " 1' 5"	1' 6 $\frac{3}{8}$ " 1' 5 $\frac{1}{2}$ "	1' 6 $\frac{1}{2}$ " 1' 5 $\frac{3}{8}$ "	1' 6 $\frac{3}{4}$ " 1' 5 $\frac{1}{8}$ "	1' 7 $\frac{1}{4}$ " 1' 4 $\frac{3}{4}$ "	1' 7 $\frac{3}{8}$ " 1' 4 $\frac{1}{2}$ "	1' 8 $\frac{3}{4}$ " 1' 4"
1.25	1' 3 $\frac{1}{8}$ " 1' 2 $\frac{7}{8}$ "	1' 3 $\frac{1}{4}$ " 1' 2 $\frac{3}{4}$ "	1' 3 $\frac{3}{8}$ " 1' 2 $\frac{5}{8}$ "	1' 3 $\frac{1}{2}$ " 1' 2 $\frac{1}{2}$ "	1' 3 $\frac{3}{4}$ " 1' 2 $\frac{1}{4}$ "	1' 4 $\frac{1}{8}$ " 1' 2"	1' 4 $\frac{1}{2}$ " 1' 1 $\frac{3}{4}$ "
1.0	1' 11 $\frac{7}{8}$ "	1' $\frac{1}{8}$ " 11 $\frac{7}{8}$ "	1' $\frac{1}{8}$ " 11 $\frac{3}{4}$ "	1' $\frac{1}{4}$ " 11 $\frac{3}{4}$ "	1' $\frac{3}{8}$ " 11 $\frac{5}{8}$ "	1' $\frac{1}{2}$ " 11 $\frac{1}{2}$ "	1' $\frac{3}{4}$ " 11 $\frac{1}{4}$ "

50mm F1,4 MC ROKKOR-X LENS In METERS

F No. Dist. (m)	1.4	2	2.8	4	5.6	8	11	16
∞	∞ 57.9	∞ 40.5	∞ 29.6	∞ 20.3	∞ 14.5	∞ 10.2	∞ 7.4	∞ 5.1
10	12.1 8.5	13.2 8.0	15.2 7.5	19.6 6.7	31.7 5.9	481.7 5.1	∞ 4.3	∞ 3.4
5	5.5 4.6	5.7 4.5	6.0 4.3	6.6 4.0	7.6 3.7	9.7 3.4	15.0 3.0	168.2 2.6
3	3.16 2.86	3.23 2.80	3.33 2.73	3.50 2.63	3.75 2.51	4.20 2.34	4.94 2.16	7.01 1.92
2	2.07 1.94	2.10 1.91	2.14 1.88	2.20 1.83	2.30 1.77	2.46 1.69	2.69 1.60	3.19 1.46
1.5	1.54 1.47	1.55 1.45	1.58 1.43	1.61 1.41	1.66 1.37	1.74 1.32	1.85 1.27	2.06 1.18
1.2	1.22 1.18	1.23 1.17	1.25 1.16	1.27 1.14	1.30 1.12	1.34 1.09	1.41 1.05	1.53 0.99
1.0	1.02 0.99	1.02 0.98	1.03 0.98	1.05 0.96	1.06 0.94	1.10 0.92	1.14 0.90	1.21 0.85
0.9	0.91 0.89	0.92 0.88	0.92 0.88	0.94 0.87	0.95 0.85	0.98 0.84	1.01 0.82	1.06 0.78
0.8	0.81 0.79	0.81 0.79	0.82 0.78	0.83 0.77	0.84 0.77	0.86 0.75	0.88 0.73	0.92 0.71
0.7	0.71 0.69	0.71 0.69	0.71 0.69	0.72 0.68	0.73 0.67	0.74 0.66	0.76 0.65	0.79 0.63
0.6	0.61 0.60	0.61 0.59	0.61 0.59	0.61 0.59	0.62 0.58	0.63 0.57	0.64 0.56	0.66 0.55
0.5	0.51 0.50	0.51 0.50	0.51 0.49	0.51 0.49	0.51 0.49	0.52 0.48	0.53 0.48	0.54 0.47

50mm F1.4 MC ROKKOR-X LENS In FEET

14

F No. Dist. (ft)	1.4	2	2.8	4	5.6	8	11	16
∞	∞ 189' 10"	∞ 132' 11"	∞ 95'	∞ 66' 6"	∞ 47' 7"	∞ 33' 4"	∞ 24' 3"	∞ 16' 9"
30	35' 7" 25' 11"	38' 7" 24' 6"	43' 7" 22' 10"	54' 2" 20' 9"	80' 1" 18' 6"	283' 11" 15' 11"	∞ 13' 6"	∞ 16' 10"
15	16' 3" 13' 11"	16' 10" 13' 6"	17' 9" 13'	19' 3" 12' 4"	21' 8" 11' 6"	26' 10" 10' 5"	38' 2" 9' 4"	130' 6" 8'
10	10' 6 ³ / ₈ " 9' 6 ³ / ₁₆ "	10' 9 ⁵ / ₁₆ " 9' 3 ⁷ / ₈ "	11' 1 ¹ / ₂ " 9' 1 ¹⁵ / ₁₆ "	11' 8 ¹ / ₄ " 8' 8 ⁷ / ₈ "	12' 6 ⁷ / ₁₆ " 8' 3 ¹³ / ₁₆ "	14' 7 ¹⁵ / ₁₆ " 7' 9 ³ / ₁₆ "	16' 7 ⁵ / ₈ " 7' 2"	23' 10 ¹³ / ₁₆ " 6' 4 ¹ / ₄ "
7	7' 3" 6' 9 ¹ / ₈ "	7' 4 ³ / ₈ " 6' 8"	7' 6 ¹ / ₄ " 6' 6 ¹ / ₂ "	7' 9 ¹ / ₄ " 6' 4 ³ / ₈ "	8' 1 ³ / ₁₆ " 6' 1 ³ / ₄ "	8' 8 ¹³ / ₁₆ " 5' 10 ¹ / ₈ "	9' 7 ¹ / ₁₆ " 5' 6 ¹ / ₁₆ "	11' 7 ⁷ / ₈ " 5' 1 ¹ / ₄ "
5	5' 1 ⁷ / ₁₆ " 4' 10 ⁹ / ₁₆ "	5' 2 ¹ / ₈ " 4' 10"	5' 3" 4' 9 ³ / ₁₆ "	5' 4 ⁷ / ₁₆ " 4' 8 ¹ / ₈ "	5' 6 ³ / ₈ " 4' 6 ¹ / ₁₆ "	5' 9 ⁵ / ₈ " 4' 4 ¹ / ₁₆ "	6' 2 ¹ / ₈ " 4' 2 ⁷ / ₁₆ "	6' 11 ¹ / ₂ " 3' 11 ¹ / ₁₆ "
4	4' 7 ⁷ / ₈ " 3' 11 ¹ / ₁₆ "	4' 1 ⁵ / ₁₆ " 3' 10 ¹¹ / ₁₆ "	4' 1 ⁷ / ₈ " 3' 10 ¹ / ₄ "	4' 2 ¹¹ / ₁₆ " 3' 9 ¹ / ₂ "	4' 3 ⁷ / ₈ " 3' 8 ³ / ₈ "	4' 5 ¹³ / ₁₆ " 3' 7 ⁷ / ₁₆ "	4' 8 ³ / ₈ " 3' 5 ¹³ / ₁₆ "	5' 1 ⁵ / ₁₆ " 3' 3 ¹ / ₂ "
3.5	3' 6 ¹¹ / ₁₆ " 3' 5 ⁵ / ₁₆ "	3' 6 ⁵ / ₁₆ " 3' 5"	3' 7 ³ / ₈ " 3' 4 ⁵ / ₈ "	3' 8" 3' 4 ¹ / ₈ "	3' 8 ³ / ₈ " 3' 3 ⁷ / ₁₆ "	3' 10 ⁵ / ₁₆ " 3' 2 ¹ / ₁₆ "	4' 1 ¹ / ₈ " 3' 1 ¹ / ₄ "	4' 3 ⁵ / ₈ " 2' 11 ¹ / ₁₆ "
3	3' 7 ⁷ / ₁₆ " 2' 11 ¹ / ₂ "	3' 1 ¹¹ / ₁₆ " 2' 11 ⁵ / ₁₆ "	3' 1" 2' 11"	3' 1 ⁷ / ₁₆ " 2' 10 ⁵ / ₈ "	3' 2 ¹ / ₁₆ " 2' 10 ¹ / ₈ "	3' 3" 2' 9 ³ / ₈ "	3' 4 ⁵ / ₁₆ " 2' 8 ¹ / ₂ "	3' 6 ⁵ / ₈ " 2' 7 ¹ / ₈ "
2.5	2' 6 ⁵ / ₁₆ " 2' 5 ⁵ / ₈ "	2' 6 ⁷ / ₁₆ " 2' 5 ¹ / ₂ "	2' 6 ⁵ / ₈ " 2' 5 ³ / ₁₆ "	2' 6 ¹⁵ / ₁₆ " 2' 5 ¹ / ₁₆ "	2' 7 ³ / ₈ " 2' 4 ¹ / ₁₆ "	2' 8" 2' 4 ³ / ₁₆ "	2' 8 ³ / ₁₆ " 2' 3 ³ / ₈ "	2' 10 ⁵ / ₁₆ " 2' 2 ⁵ / ₈ "
2	2' 3 ³ / ₁₆ " 1' 11 ³ / ₄ "	2' 1 ¹ / ₄ " 1' 11 ¹¹ / ₁₆ "	2' 3 ³ / ₈ " 1' 11 ⁹ / ₁₆ "	2' 9 ⁹ / ₁₆ " 1' 11 ⁷ / ₁₆ "	2' 1 ¹³ / ₁₆ " 1' 11 ³ / ₁₆ "	2' 1 ³ / ₈ " 1' 10 ¹ / ₈ "	2' 1 ⁵ / ₈ " 1' 10 ¹ / ₂ "	2' 2 ¹ / ₂ " 1' 9 ¹ / ₈ "
1.75	1' 9 ¹ / ₈ " 1' 8 ¹³ / ₁₆ "	1' 9 ³ / ₁₆ " 1' 8 ³ / ₄ "	1' 9 ¹ / ₄ " 1' 8 ¹¹ / ₁₆ "	1' 9 ³ / ₈ " 1' 8 ⁹ / ₁₆ "	1' 9 ⁹ / ₁₆ " 1' 8 ³ / ₈ "	1' 9 ³ / ₁₆ " 1' 8 ³ / ₁₆ "	1' 10 ¹³ / ₁₆ " 1' 7 ⁷ / ₈ "	1' 10 ¹³ / ₁₆ " 1' 7 ¹ / ₁₆ "

50mm F1.7 MC ROKKOR-X LENS In METERS

F No. Dist. (m)	1.7	2.8	4	5.6	8	11	16
∞	∞ 47.3	∞ 28.7	∞ 20.1	∞ 14.4	∞ 10.1	∞ 7.3	∞ 5.1
10	12.6 8.3	15.2 7.4	19.7 6.7	32.2 5.9	708.5 5.1	∞ 4.3	∞ 3.4
5	5.6 4.5	6.0 4.3	6.6 4.0	7.6 3.7	9.7 3.4	15.1 3.0	209.5 2.6
3	3.19 2.83	3.33 2.73	3.50 2.63	3.75 2.50	4.20 2.34	4.95 2.16	7.05 1.92
2	2.08 1.92	2.14 1.88	2.20 1.83	2.30 1.77	2.46 1.69	2.69 1.60	3.19 1.46
1.5	1.54 1.46	1.57 1.43	1.61 1.41	1.66 1.37	1.74 1.32	1.85 1.27	2.06 1.18
1.2	1.23 1.17	1.25 1.16	1.27 1.14	1.30 1.12	1.34 1.09	1.40 1.05	1.52 0.99
1	1.02 0.98	1.03 0.97	1.04 0.96	1.06 0.94	1.09 0.92	1.13 0.90	1.21 0.86
0.9	0.91 0.89	0.92 0.88	0.94 0.87	0.95 0.85	0.97 0.84	1.00 0.82	1.06 0.78
0.8	0.81 0.79	0.82 0.78	0.83 0.77	0.84 0.77	0.86 0.75	0.88 0.73	0.92 0.71
0.7	0.71 0.69	0.71 0.69	0.72 0.68	0.73 0.67	0.74 0.66	0.76 0.65	0.79 0.63
0.6	0.61 0.59	0.61 0.59	0.61 0.59	0.62 0.58	0.63 0.57	0.64 0.56	0.66 0.55
0.5	0.50 0.50	0.51 0.49	0.51 0.49	0.51 0.49	0.52 0.48	0.53 0.48	0.54 0.47

50mm F1.7 MC ROKKOR-X LENS In FEET

16

Dist. (ft) \ F No.	1.7	2.8	4	5.6	8	11	16
∞	155' 3" [∞]	94' 4" [∞]	66' 1" [∞]	47' 3" [∞]	33' 1" [∞]	24' 1" [∞]	16' 7" [∞]
30	37' 1" 25' 2"	43' 9" 22' 10"	54' 6" 20' 9"	80' 11" 18' 5"	300' 11" 15' 10"	13' 6" [∞]	10' 10" [∞]
15	16' 7" 13' 9"	17' 9" 13'	19' 3" 12' 4"	21' 9" 11' 6"	26' 11" 10' 5"	38' 6" 9' 4"	136' 7" 8'
10	10' 7 ³ / ₁₆ " 9' 5"	11' 1 ¹ / ₂ " 9' 1 ¹⁵ / ₁₆ "	11' 8 ⁵ / ₁₆ " 8' 8 ¹³ / ₁₆ "	12' 6 ⁹ / ₁₆ " 8' 3 ¹³ / ₁₆ "	14' 1 ³ / ₁₆ " 7' 9 ¹ / ₈ "	16' 8 ¹ / ₈ " 7' 1 ¹⁵ / ₁₆ "	24' 7 ⁷ / ₁₆ " 6' 4 ³ / ₁₆ "
7	7' 3 ¹ / ₁₆ " 6' 8 ⁹ / ₁₆ "	7' 6 ¹ / ₄ " 6' 6 ¹ / ₂ "	7' 9 ¹ / ₄ " 6' 4 ³ / ₈ "	8' 1 ⁹ / ₁₆ " 6' 1 ³ / ₄ "	8' 8 ³ / ₈ " 5' 10 ¹ / ₈ "	9' 7 ³ / ₄ " 5' 6 ¹ / ₁₆ "	11' 8 ¹ / ₁₆ " 5' 1 ¹ / ₄ "
5	5' 1 ³ / ₄ " 4' 10 ¹ / ₄ "	5' 3" 4' 9 ³ / ₁₆ "	5' 4 ⁷ / ₁₆ " 4' 8 ¹ / ₈ "	5' 6 ³ / ₈ " 4' 6 ¹ / ₁₆ "	5' 9 ⁵ / ₈ " 4' 4 ³ / ₄ "	6' 2 ¹ / ₁₆ " 4' 2 ⁷ / ₁₆ "	6' 11 ¹ / ₁₆ " 3' 11 ¹ / ₈ "
4	4' 1 ¹ / ₈ " 3' 10 ⁷ / ₈ "	4' 1 ⁷ / ₈ " 3' 10 ¹ / ₄ "	4' 2 ¹ / ₁₆ " 3' 9 ¹ / ₂ "	4' 3 ⁷ / ₈ " 3' 8 ⁵ / ₈ "	4' 5 ³ / ₄ " 3' 7 ⁵ / ₁₆ "	4' 8 ³ / ₁₆ " 3' 5 ¹ / ₁₆ "	5' 1 ¹ / ₄ " 3' 3 ¹ / ₁₆ "
3.5	3' 6 ¹ / ₁₆ " 3' 5 ³ / ₁₆ "	3' 7 ³ / ₈ " 3' 4 ¹ / ₁₆ "	3' 8" 3' 4 ¹ / ₈ "	3' 8 ¹ / ₈ " 3' 8 ⁷ / ₁₆ "	3' 10 ¹ / ₄ " 3' 2 ⁷ / ₁₆ "	4' 1 ¹ / ₈ " 3' 1 ¹ / ₄ "	4' 3 ⁹ / ₁₆ " 2' 11 ¹ / ₂ "
3	3' 9 ⁹ / ₁₆ " 2' 11 ³ / ₈ "	3' 1 ¹⁵ / ₁₆ " 2' 11"	3' 1 ⁷ / ₁₆ " 2' 10 ⁵ / ₈ "	3' 2" 2' 10 ¹ / ₈ "	3' 3" 2' 9 ³ / ₈ "	3' 4 ¹ / ₄ " 2' 8 ⁹ / ₁₆ "	3' 6 ⁹ / ₁₆ " 2' 7 ³ / ₁₆ "
2.5	2' 6 ³ / ₈ " 2' 5 ⁹ / ₁₆ "	2' 6 ⁵ / ₈ " 2' 5 ⁹ / ₁₆ "	2' 6 ¹⁵ / ₁₆ " 2' 5 ¹ / ₁₆ "	2' 7 ⁵ / ₁₆ " 2' 4 ³ / ₄ "	2' 7 ¹⁵ / ₁₆ " 2' 4 ¹ / ₄ "	2' 8 ³ / ₄ " 2' 3 ³ / ₈ "	2' 10 ¹ / ₄ " 2' 2 ¹ / ₁₆ "
2	2' 3 ³ / ₁₆ " 1' 11 ⁷ / ₄ "	2' 3 ³ / ₈ " 1' 11 ³ / ₁₆ "	2' 9 ⁹ / ₁₆ " 1' 11 ³ / ₁₆ "	2' 3 ⁴ / ₁₆ " 1' 11 ³ / ₁₆ "	2' 1 ¹ / ₈ " 1' 10 ⁷ / ₈ "	2' 1 ⁵ / ₈ " 1' 10 ⁷ / ₁₆ "	2' 2 ¹ / ₁₆ " 1' 9 ¹ / ₁₆ "
1.75	1' 9 ¹ / ₈ " 1' 8 ³ / ₁₆ "	1' 9 ¹ / ₄ " 1' 8 ¹ / ₁₆ "	1' 9 ³ / ₈ " 1' 8 ⁹ / ₁₆ "	1' 9 ⁹ / ₁₆ " 1' 8 ⁷ / ₁₆ "	1' 9 ¹³ / ₁₆ " 1' 8 ³ / ₁₆ "	1' 10 ³ / ₁₆ " 1' 7 ¹⁵ / ₁₆ "	1' 10 ³ / ₄ " 1' 7 ¹ / ₁₆ "

58mm F1.2 MC ROKKOR-X LENS In METERS

F No. Dist. (m)	1.2	1.4	2	2.8	4	5.6	8	11	16
∞	∞ 86.0	∞ 74.2	∞ 53.8	∞ 38.0	∞ 26.9	∞ 19.1	∞ 13.5	∞ 9.6	∞ 6.8
10	11.3 9.0	11.5 8.8	12.2 8.5	13.5 8.0	15.8 7.3	20.8 6.6	37.7 5.8	∞ 4.9	∞ 4.1
5	5.3 4.7	5.4 4.7	5.5 4.6	5.7 4.4	6.1 4.2	6.7 4.0	7.8 3.7	10.2 3.3	18.1 2.9
3	3.10 2.90	3.12 2.89	3.17 2.85	3.24 2.79	3.36 2.71	3.53 2.61	3.81 2.48	4.29 2.31	5.22 2.11
2	2.04 1.96	2.05 1.95	2.07 1.93	2.10 1.91	2.15 1.87	2.22 1.82	2.32 1.76	2.48 1.68	2.76 1.57
1.5	1.52 1.48	1.53 1.47	1.54 1.46	1.56 1.45	1.58 1.43	1.61 1.40	1.67 1.37	1.75 1.32	1.88 1.25
1.2	1.22 1.19	1.22 1.18	1.22 1.18	1.23 1.17	1.25 1.16	1.27 1.14	1.30 1.11	1.35 1.08	1.42 1.04
1	1.01 0.99	1.01 0.99	1.02 0.99	1.02 0.98	1.03 0.97	1.05 0.96	1.07 0.94	1.10 0.92	1.14 0.89
0.9	0.91 0.89	0.91 0.89	0.91 0.89	0.92 0.88	0.93 0.88	0.94 0.87	0.95 0.85	0.98 0.84	1.01 0.81
0.8	0.81 0.79	0.81 0.79	0.81 0.79	0.81 0.79	0.82 0.78	0.83 0.77	0.84 0.76	0.86 0.75	0.89 0.73
0.7	0.71 0.70	0.71 0.70	0.71 0.71	0.71 0.69	0.71 0.69	0.72 0.68	0.73 0.67	0.74 0.66	0.76 0.65
0.6	0.60 0.60	0.60 0.60	0.61 0.60	0.61 0.59	0.61 0.59	0.61 0.59	0.62 0.58	0.63 0.57	0.64 0.56

58mm F1.2 MC ROKKOR-X LENS In FEET

18

Dist. (ft) \ F No.	1.2	1.4	2	2.8	4	5.6	8	11	16
∞	[∞] 282'	[∞] 244'	[∞] 171'	[∞] 121'	[∞] 85'	[∞] 61'	[∞] 43'	[∞] 30'	[∞] 22'
30	33' 6" 27' 2"	34' 2" 26' 9"	36' 3" 25' 7"	39' 9" 24' 1"	45' 11" 22' 4"	59' 20' 2"	98' 17' 9"	[∞] 15' 2"	[∞] 12' 8"
15	15' 10" 14' 3"	15' 11" 14' 2"	16' 5" 13' 10"	17' 1" 13' 5"	18' 1" 12' 10"	19' 9" 12' 11"	22' 9" 11' 3"	29' 10' 2"	47' 7" 9'
10	10' 4" 9' 8 1/8"	10' 5" 9' 8"	10' 7" 9' 6"	10' 10" 9' 3"	11' 3" 9'	11' 10" 8' 8"	12' 11" 8' 2"	14' 8" 7' 7"	18' 2" 6' 11"
7	7' 2" 6' 1/8"	7' 2 1/4" 6' 10"	7' 3" 6' 9"	7' 5" 6' 8"	7' 7" 6' 6"	7' 10" 6' 4"	8' 3" 6' 1"	8' 11" 5' 9"	10' 1" 5' 5"
5	5' 7/8" 4' 11"	5' 1" 4' 11"	5' 2" 4' 10"	5' 2" 4' 10"	5' 3" 4' 9"	5' 5" 4' 8"	5' 7" 4' 6"	5' 10" 4' 4"	6' 4" 4' 2"
4	4' 1/2" 3' 11 3/8"	4' 1" 3' 11"	4' 1" 3' 11"	4' 1" 3' 11"	4' 2" 3' 10"	4' 3" 3' 9"	4' 4" 3' 8"	4' 6" 3' 7"	4' 9" 3' 5"
3.5	3' 6" 3' 5 1/2"	3' 6 1/2" 3' 5 1/2"	3' 6 3/4" 3' 5 1/4"	3' 7" 3' 4 3/4"	3' 7 1/2" 3' 4 1/2"	3' 8 1/4" 3' 4"	3' 9 1/4" 3' 3 3/4"	3' 10 3/4" 3' 2 1/4"	4' 3/4" 3' 3/4"
3	3' 1/4" 2' 11 5/8"	3' 1 1/2" 2' 11 3/4"	3' 1 1/2" 2' 11 1/2"	3' 3/4" 2' 11 1/4"	3' 1" 2' 10 3/4"	3' 1 1/2" 2' 10 1/2"	3' 2 1/4" 2' 10"	3' 3 1/4" 2' 9 1/4"	3' 4 3/4" 2' 8 1/4"
2.5	2' 6 1/8" 2' 5 3/4"	2' 6 1/4" 2' 5 3/4"	2' 6 1/2" 2' 5 3/4"	2' 5 1/2" 2' 5 1/2"	2' 6 3/4" 2' 5 1/4"	2' 7" 2' 5"	2' 7 1/2" 2' 4 3/4"	2' 8 1/4" 2' 4 1/4"	2' 9" 2' 3 1/2"
2.25	2' 3 1/8" 2' 2 7/8"	2' 3 1/4" 2' 2 3/4"	2' 3 1/4" 2' 2 3/4"	2' 3 1/2" 2' 2 3/4"	2' 3 1/2" 2' 2 1/2"	2' 3 3/4" 2' 2 1/4"	2' 4 1/4" 2' 2"	2' 4 3/4" 2' 1 1/2"	2' 5 1/2" 2' 1"
2	2' 1 1/8" 1' 11 7/8"	2' 1 1/4" 1' 11 3/4"	2' 1 1/4" 1' 11 3/4"	2' 1 1/4" 1' 11 3/4"	2' 1 1/2" 1' 11 3/4"	2' 1 3/4" 1' 11 1/2"	2' 1 3/4" 1' 11 1/4"	2' 1 1/4" 1' 10 3/4"	2' 1 3/4" 1' 10 1/2"

85mm F1.7 MC TELE ROKKOR-X LENS In METERS

F No. Dist. (m)	1.7	2.8	4	5.6	8	11	16	22
∞	∞ 125	∞ 75.0	∞ 53.0	∞ 37.5	∞ 26.6	∞ 18.8	∞ 13.3	∞ 9.43
20	23.8 17.3	27.2 15.8	31.9 14.6	42.5 13.1	79.6 11.5	∞ 9.74	∞ 8.04	∞ 6.46
10	10.9 9.27	11.5 8.85	12.3 8.44	13.5 7.93	15.9 7.31	21.0 6.58	38.8 5.76	∞ 4.91
5	5.20 4.82	5.34 4.70	5.50 4.59	5.73 4.43	6.10 4.24	6.72 3.99	7.85 3.68	10.3 3.32
3	3.07 2.93	3.12 2.89	3.17 2.85	3.24 2.79	3.35 2.72	3.53 2.61	3.80 2.48	4.28 2.32
2.5	2.55 2.46	2.58 2.43	2.61 2.40	2.66 2.36	2.74 2.30	2.85 2.23	3.02 2.13	3.31 2.01
2	2.03 1.97	2.05 1.95	2.07 1.94	2.10 1.91	2.14 1.87	2.21 1.83	2.31 1.76	2.47 1.68
1.7	1.72 1.68	1.73 1.67	1.75 1.65	1.77 1.64	1.80 1.61	1.85 1.58	1.91 1.53	2.02 1.47
1.5	1.52 1.48	1.53 1.47	1.54 1.46	1.55 1.45	1.58 1.43	1.61 1.40	1.66 1.37	1.74 1.32
1.3	1.31 1.29	1.32 1.28	1.33 1.27	1.34 1.26	1.36 1.25	1.38 1.23	1.42 1.20	1.47 1.17
1.2	1.21 1.19	1.22 1.18	1.22 1.18	1.23 1.17	1.25 1.16	1.27 1.14	1.30 1.12	1.34 1.09
1.1	1.11 1.09	1.11 1.09	1.12 1.08	1.13 1.07	1.14 1.06	1.15 1.05	1.18 1.03	1.21 1.01
1	1.01 0.99	1.01 0.99	1.01 0.99	1.02 0.98	1.03 0.97	1.04 0.96	1.06 0.95	1.09 0.92

85mm F1.7 MC TELE ROKKOR-X LENS In FEET

Dist. (ft) \ F No.	1.7	2.8	4	5.6	8	11	16	22
∞	409' [∞]	246' [∞]	174' [∞]	123' [∞]	87' 1" [∞]	61' 8" [∞]	43' 8" [∞]	30' 11" [∞]
30	32' 4" 28'	34' 1" 26' 10"	36' 1" 25' 8"	39' 5" 24' 3"	45' 4" 22' 5"	57' 6" 20' 4"	93' 18'	750' 15' 5"
20	21' 1" 19' 1"	21' 8" 18' 7"	22' 6" 18'	23' 9" 17' 4"	25' 9" 16' 5"	29' 2" 15' 3"	36' 1" 13' 10"	54' 4" 12' 4"
15	15' 7" 14' 6"	15' 11" 14' 2"	16' 4" 13' 10"	17' 1" 13' 5"	18' 1" 12' 11"	19' 7" 12' 2"	22' 5" 11' 4"	28' 2" 10' 3"
12	12' 4" 11' 8"	12' 7" 11' 6"	12' 10" 11' 3"	13' 3" 11'	13' 10" 10' 7"	14' 9" 10' 2"	16' 3" 9' 6 ³ / ₁₆ "	19' 8' 9 ¹ / ₂ "
10	10' 3" 9' 9 ⁵ / ₁₆ "	10' 5" 9' 7 ⁵ / ₈ "	10' 7" 9' 5 ⁷ / ₈ "	10' 10" 9' 3 ⁹ / ₁₆ "	11' 2" 9' 7 ¹ / ₁₆ "	11' 9" 8' 8 ¹ / ₄ "	12' 9" 8' 2 ⁵ / ₁₆ "	14' 4" 7' 8 ⁵ / ₁₆ "
8	8' 1 ¹ / ₁₆ " 7' 10 ³ / ₁₆ "	8' 2 ⁷ / ₈ " 7' 9 ³ / ₁₆ "	8' 4 ³ / ₈ " 7' 8 ³ / ₈ "	8' 6" 7' 6 ⁵ / ₈ "	8' 8 ³ / ₄ " 7' 4 ³ / ₁₆ "	9' 5 ⁵ / ₁₆ " 7' 1 ¹³ / ₁₆ "	9' 7 ³ / ₈ " 6' 10 ¹ / ₄ "	10' 6" 6' 5 ¹ / ₁₆ "
7	7' 1 ¹ / ₄ " 6' 10 ¹ / ₁₆ "	7' 2 ³ / ₁₆ " 6' 9 ⁷ / ₈ "	7' 3 ³ / ₈ " 6' 9 ¹ / ₁₆ "	7' 4 ¹ / ₂ " 6' 7 ⁷ / ₈ "	7' 6 ¹ / ₂ " 6' 6 ⁵ / ₁₆ "	7' 9 ³ / ₈ " 6' 4 ³ / ₁₆ "	8' 2 ¹ / ₄ " 6' 1 ¹ / ₁₆ "	8' 9 ³ / ₄ " 5' 9 ¹³ / ₁₆ "
6	6' 1 ⁵ / ₁₆ " 5' 11 ¹ / ₁₆ "	6' 1 ⁹ / ₁₆ " 5' 10 ⁷ / ₁₆ "	6' 2 ¹ / ₄ " 5' 9 ⁷ / ₈ "	6' 3 ³ / ₁₆ " 5' 9"	6' 4 ⁵ / ₈ " 5' 7 ⁷ / ₈ "	6' 6 ³ / ₄ " 5' 6 ⁵ / ₁₆ "	6' 10" 5' 4 ³ / ₁₆ "	7' 3" 5' 1 ¹ / ₂ "
5	5' 5 ⁵ / ₈ " 4' 11 ³ / ₈ "	5' 1" 4' 10 ¹⁵ / ₁₆ "	5' 1 ¹ / ₂ " 4' 10 ¹ / ₂ "	5' 2 ¹ / ₈ " 4' 9 ³ / ₁₆ "	5' 3 ¹ / ₁₆ " 4' 9 ³ / ₁₆ "	5' 4 ¹ / ₂ " 4' 8 ¹ / ₁₆ "	5' 6 ³ / ₁₆ " 4' 6 ³ / ₈ "	5' 9 ³ / ₄ " 4' 4 ¹¹ / ₁₆ "
4.5	4' 6 ¹ / ₂ " 4' 5 ¹ / ₂ "	4' 6 ¹³ / ₁₆ " 4' 5 ¹ / ₈ "	4' 7 ³ / ₁₆ " 4' 4 ¹³ / ₁₆ "	4' 7 ¹ / ₁₆ " 4' 4 ³ / ₈ "	4' 8 ⁷ / ₁₆ " 4' 3 ³ / ₄ "	4' 9 ¹ / ₂ " 4' 2 ⁷ / ₈ "	4' 11 ¹ / ₈ " 4' 1 ¹¹ / ₁₆ "	5' 1 ⁹ / ₁₆ " 4' 1 ¹ / ₈ "
4	4' 3 ³ / ₈ " 3' 11 ⁹ / ₁₆ "	4' 5 ⁵ / ₁₆ " 3' 11 ⁵ / ₁₆ "	4' 7 ⁷ / ₈ " 3' 11 ¹ / ₁₆ "	4' 1 ⁵ / ₁₆ " 3' 10 ³ / ₄ "	4' 1 ⁷ / ₈ " 3' 10 ¹ / ₄ "	4' 2 ¹ / ₁₆ " 3' 9 ⁹ / ₁₆ "	4' 3 ³ / ₈ " 3' 8 ⁵ / ₈ "	4' 5 ³ / ₄ " 3' 7 ³ / ₈ "
3.5	3' 6 ¹ / ₄ " 3' 5 ¹ / ₁₆ "	3' 6 ⁵ / ₁₆ " 3' 5 ¹ / ₂ "	3' 6 ⁵ / ₈ " 3' 5 ³ / ₁₆ "	3' 6 ¹⁵ / ₁₆ " 3' 5 ¹ / ₁₆ "	3' 7 ³ / ₈ " 3' 4 ¹ / ₁₆ "	3' 7 ¹⁵ / ₁₆ " 3' 4 ³ / ₁₆ "	3' 8 ³ / ₁₆ " 3' 3 ¹ / ₁₆ "	3' 10 ³ / ₁₆ " 3' 2 ¹ / ₂ "

100mm F2.5 MC TELE ROKKOR-X LENS
In METERS

Dist. (m) \ F No.	2.5	2.8	3.5	4	5.6	8	11	16	22
∞	∞ 120	∞ 106	∞ 85	∞ 75	∞ 53	∞ 38	∞ 27	∞ 19	∞ 13
20	24 17	25 17	26 16	27 16	32 15	42 13	79 12	∞ 9.8	∞ 8
10	10.9 9.3	11.0 9.2	11.3 9.0	11.5 8.9	12.2 8.5	13.5 8.0	15.8 7.3	20.8 6.6	38.1 5.8
7	7.4 6.6	7.5 6.6	7.6 6.5	7.7 6.4	8.0 6.2	8.5 6.0	9.4 5.6	10.9 5.2	14.3 4.7
5	5.2 4.81	5.2 4.78	5.3 4.73	5.3 4.70	5.5 4.49	5.7 4.44	6.1 4.25	6.7 4.00	7.8 3.69
4	4.13 3.88	4.15 3.86	4.18 3.83	4.21 3.81	4.30 3.74	4.44 3.64	4.65 3.51	4.99 3.34	5.57 3.13
3	3.07 2.93	3.08 2.93	3.10 2.91	3.11 2.90	3.16 2.85	3.23 2.80	3.34 2.72	3.51 2.62	3.78 2.49
2.5	2.55 2.45	2.55 2.45	2.57 2.44	2.58 2.43	2.61 2.40	2.66 2.36	2.73 2.31	2.84 2.24	3.01 2.14
2	2.03 1.97	2.03 1.97	2.04 1.96	2.05 1.96	2.07 1.94	2.10 1.91	2.14 1.88	2.20 1.83	2.30 1.77
1.7	1.72 1.68	1.72 1.68	1.73 1.67	1.73 1.67	1.75 1.66	1.77 1.64	1.80 1.61	1.84 1.58	1.90 1.54
1.5	1.52 1.48	1.52 1.48	1.52 1.48	1.52 1.48	1.54 1.47	1.55 1.45	1.57 1.43	1.60 1.41	1.65 1.37
1.3	1.31 1.29	1.31 1.29	1.32 1.28	1.32 1.28	1.33 1.28	1.34 1.27	1.35 1.25	1.37 1.23	1.41 1.21
1.2	1.21 1.19	1.21 1.19	1.21 1.19	1.21 1.19	1.22 1.18	1.23 1.17	1.24 1.16	1.26 1.15	1.29 1.12

100mm F2.5 MC TELE ROKKOR-X LENS In FEET

F No. Dist. (ft)	2.5	2.8	3.5	4	5.6	8	11	16	22
∞	∞ 394'	∞ 349'	∞ 280'	∞ 247'	∞ 174'	∞ 123'	∞ 87' 5"	∞ 61'10"	∞ 43'10"
50	57' 1" 44' 6"	58' 2" 43'10"	60' 8" 42' 7"	62' 6" 41' 8"	69' 8" 39'	83' 3" 35' 9"	115' 32'	251' 23'11"	∞ 23' 7"
30	32' 5" 27'11"	32' 9" 27' 8"	33' 6" 27' 2"	34' 26'10"	36' 25' 9"	39' 4" 24' 3"	45' 1" 22' 6"	57' 1" 20' 5"	91' 7" 18'
20	21' 19' 1"	21' 2" 18'11"	21' 6" 18' 9"	21' 8" 18' 7"	22' 6" 18'	23' 8" 17' 4"	25' 8" 16' 5"	29' 15' 3"	35' 9" 13'11"
15	15' 7" 14' 6"	15' 8" 14' 5"	15'10" 14' 3"	15'11" 14' 2"	16' 4" 13'11"	16'11" 13' 6"	17'11" 12'11"	19' 6" 12' 3"	22' 3" 11' 4"
12	12' 4" 11' 8"	12' 5" 11' 8"	12' 6" 11' 7"	12' 7" 11' 6"	12'10" 11' 3"	13' 2" 11'	13' 9" 10' 8"	14' 8" 10' 2"	16' 2" 9' 6 ⁷ / ₈ "
10	10' 3" 9' 9 ¹ / ₄ "	10' 3" 9' 8 ⁷ / ₈ "	10' 4" 9' 8 ¹ / ₄ "	10' 5" 9' 7 ⁵ / ₈ "	10' 7" 9' 6"	10'10" 9' 3 ³ / ₄ "	11' 2" 9' 5 ⁸ / ₈ "	11' 8" 8' 8 ⁵ / ₈ "	12' 8" 8' 3 ³ / ₈ "
8	8' 1 ³ / ₄ " 7'10 ¹ / ₄ "	8' 1 ⁷ / ₈ " 7'10 ¹ / ₈ "	8' 2 ¹ / ₂ " 7' 9 ⁵ / ₈ "	8' 2 ³ / ₄ " 7' 9 ¹ / ₄ "	8' 4 ¹ / ₈ " 7' 8 ¹ / ₄ "	8' 5 ³ / ₄ " 7' 6 ³ / ₄ "	8' 8 ¹ / ₂ " 7' 4 ³ / ₄ "	9' 1 ¹ / ₂ " 7' 2 ¹ / ₈ "	9' 6 ³ / ₈ " 6'10 ⁵ / ₈ "
7	7' 1 ¹ / ₄ " 6'10 ⁵ / ₈ "	7' 1 ³ / ₈ " 6'10 ¹ / ₂ "	7' 1 ⁷ / ₈ " 6'10 ¹ / ₄ "	7' 2 ¹ / ₈ " 6' 9 ¹ / ₈ "	7' 3" 6' 9 ¹ / ₈ "	7' 4 ¹ / ₄ " 6' 8"	7' 6 ¹ / ₄ " 6' 6 ¹ / ₂ "	7' 9 ¹ / ₈ " 6' 4 ³ / ₈ "	8' 1 ⁵ / ₈ " 6' 1 ¹ / ₄ "
6	6' 7 ⁷ / ₈ " 5'11 ¹ / ₈ "	6' 1 ¹ / ₈ " 5'10 ⁷ / ₈ "	6' 1 ¹ / ₄ " 5'10 ³ / ₄ "	6' 1 ¹ / ₂ " 5'10 ¹ / ₂ "	6' 2 ¹ / ₈ " 5' 9 ⁵ / ₈ "	6' 3 ¹ / ₈ " 5' 9 ¹ / ₈ "	6' 4 ³ / ₈ " 5' 8"	6' 6 ³ / ₈ " 5' 6 ¹ / ₂ "	6' 9 ¹ / ₂ " 5' 4 ¹ / ₂ "
5	5' 5 ⁵ / ₈ " 4'11 ³ / ₈ "	5' 5 ⁵ / ₈ " 4'11 ¹ / ₄ "	5' 7 ⁷ / ₈ " 4'11 ¹ / ₄ "	5' 1" 4'11"	5' 1 ³ / ₈ " 4'10 ⁵ / ₈ "	5' 2" 4'10 ¹ / ₈ "	5' 2 ⁷ / ₈ " 4' 9 ¹ / ₄ "	5' 4 ¹ / ₄ " 4' 8 ¹ / ₄ "	5' 6 ¹ / ₈ " 4' 6 ¹ / ₈ "
4.5	4' 6 ³ / ₈ " 4' 5 ¹ / ₂ "	4' 6 ¹ / ₂ " 4' 5 ³ / ₈ "	4' 6 ⁵ / ₈ " 4' 5 ³ / ₈ "	4' 6 ³ / ₄ " 4' 5 ¹ / ₄ "	4' 7 ¹ / ₈ " 4' 4 ⁷ / ₈ "	4' 7 ¹ / ₂ " 4' 4 ¹ / ₂ "	4' 8 ¹ / ₄ " 4' 3 ¹ / ₂ "	4' 9 ¹ / ₄ " 4' 3"	4'10 ³ / ₄ " 4' 1 ⁷ / ₈ "
4	4' 3 ³ / ₈ " 3'11 ⁵ / ₈ "	4' 3 ³ / ₈ " 3'11 ¹ / ₄ "	4' 1 ¹ / ₂ " 3'11 ¹ / ₂ "	4' 1 ¹ / ₂ " 3'11 ³ / ₈ "	4' 3 ⁴ / ₈ " 3'11 ¹ / ₈ "	4' 1 ¹ / ₈ " 3'10 ¹ / ₂ "	4' 1 ³ / ₄ " 3'10 ³ / ₈ "	4' 2 ¹ / ₂ " 3' 9 ¹ / ₄ "	4' 3 ⁵ / ₈ " 3' 8 ³ / ₄ "

135mm F2.8 AND F3.5 MC TELE ROKKOR-X LENSES In METERS

F No. Dist. (m)	2.8	3.5	4	5.6	8	11	16	22
∞	∞ 196	∞ 158	∞ 137	∞ 97	∞ 69	∞ 49	∞ 34	∞ 24
20	22.2 18.2	22.8 17.8	23.4 17.5	25.1 16.6	28.1 15.5	33.7 14.2	47.1 12.7	∞ 11.1
10	10.5 9.5	10.6 9.4	10.8 9.3	11.1 9.1	11.6 8.8	12.5 8.3	13.9 7.8	16.7 7.2
7	7.3 6.8	7.3 6.7	7.4 6.7	7.5 6.6	7.8 6.4	8.1 6.2	8.7 5.9	9.7 5.5
5	5.1 4.9	5.1 4.9	5.2 4.8	5.3 4.8	5.4 4.7	5.5 4.6	5.8 4.4	6.2 4.2
4	4.08 3.93	4.09 3.91	4.11 3.90	4.16 3.86	4.22 3.80	4.32 3.72	4.48 3.62	4.71 3.48
3	3.04 2.96	3.05 2.95	3.06 2.94	3.08 2.92	3.12 2.89	3.17 2.85	3.26 2.79	3.37 2.71
2.5	2.53 2.47	2.53 2.47	2.54 2.46	2.56 2.45	2.58 2.43	2.61 2.40	2.67 2.35	2.74 2.30
2	2.02 1.98	2.02 1.98	2.02 1.98	2.03 1.97	2.05 1.95	2.07 1.94	2.10 1.91	2.14 1.88
1.7	1.71 1.69	1.71 1.69	1.72 1.68	1.72 1.68	1.73 1.67	1.75 1.66	1.77 1.64	1.80 1.61
1.5	1.51 1.49	1.51 1.49	1.51 1.49	1.52 1.48	1.52 1.48	1.54 1.47	1.55 1.45	1.57 1.43

135mm F2.8 AND F3.5 MC TELE ROKKOR-X LENSES In FEET

24

F No. Dist. (ft)	2.8	3.5	4	5.6	8	11	16	22
∞	∞ 246'	∞ 518'	∞ 449'	∞ 318'	∞ 225'	∞ 159'	∞ 113'	∞ 80'
50	54' 1" 46' 6"	55' 2" 45' 9"	56' 1" 45' 1"	59' 1" 43' 4"	63' 11" 41' 1"	72' 3" 38' 3"	88' 8" 34' 11"	131' 31'
30	31' 5" 28' 9"	31' 9" 28' 5"	32' 1" 28' 2"	33' 1" 27' 6"	34' 5" 26' 7"	36' 8" 25' 5"	40' 5" 23' 11"	47' 2" 22' 1"
20	20' 7" 19' 5"	20' 9" 19' 4"	20' 11" 19' 2"	21' 3" 18' 11"	21' 10" 18' 6"	22' 8" 17' 11"	24' 17' 2"	26' 3" 16' 2"
15	15' 4" 14' 8"	15' 5" 14' 7"	15' 6" 14' 7"	15' 8" 14' 5"	16' 14' 2"	16' 5" 13' 10"	17' 1" 13' 4"	18' 2" 12' 10"
12	12' 2" 11' 10"	12' 3" 11' 9"	12' 4" 11' 9"	12' 5" 11' 7"	12' 7" 11' 5"	12' 11" 11' 3"	13' 3" 10' 11"	13' 11" 10' 7"
10	10' 2" 9' 10"	10' 2" 9' 10"	10' 2" 9' 9"	10' 3" 9' 8"	10' 5" 9' 7"	10' 7" 9' 5"	10' 10" 9' 3"	11' 3" 9' 1/4"
8	8' 1" 7' 11"	8' 1 1/4" 7' 10 3/4"	8' 1 3/8" 7' 10 3/8"	8' 2" 7' 10"	8' 3" 7' 9 1/4"	8' 4 1/4" 7' 8 1/8"	8' 6 1/8" 7' 6 5/8"	8' 9" 7' 4 1/2"
7	7' 3/4" 6' 11 1/4"	7' 1" 6' 11"	7' 1" 6' 11"	7' 1 5/8" 6' 10 1/2"	7' 2 1/8" 6' 9 7/8"	7' 3 1/8" 6' 9 1/8"	7' 4 1/2" 6' 8"	7' 6 5/8" 6' 6 3/8"
6	6' 1 1/2" 5' 11 1/2"	6' 3/4" 5' 11 1/4"	6' 3/4" 5' 11 3/4"	6' 1 1/4" 5' 11"	6' 1 1/2" 5' 10 1/2"	6' 2 1/4" 5' 10"	6' 3 1/4" 5' 9 1/8"	6' 4 5/8" 5' 8"
5	5' 3/8" 4' 11 5/8"	5' 1/2" 4' 11 1/2"	5' 1/2" 4' 11 1/2"	5' 5/8" 4' 11 3/8"	5' 1" 4' 11"	5' 1 3/8" 4' 10 5/8"	5' 2 1/8" 4' 10 1/8"	5' 3" 4' 9 3/8"

200mm F3.5 AND F4.5 MC TELE ROKKOR-X LENSES
In METERS

25

Dist. (m) \ F No.	3.5	4	4.5	5.6	8	11	16	22
∞	∞ 342	∞ 299	∞ 268	∞ 212	∞ 150	∞ 106	∞ 75	∞ 53
30	33 28	33 27	34 27	35 26	37 25	42 24	50 22	68 19
15	15.7 14.4	15.8 14.3	15.8 14.2	16.1 14.0	16.6 13.7	17.4 13.2	18.6 12.6	20.6 11.8
10	10.3 9.7	10.3 9.7	10.4 9.7	10.5 9.6	10.7 9.4	11.0 9.2	11.4 8.9	12.2 8.5
7	7.1 6.9	7.2 6.9	7.2 6.8	7.2 6.8	7.3 6.7	7.5 6.6	7.7 6.5	8.0 6.3
5	5.1 4.9	5.1 4.9	5.1 4.9	5.1 4.9	5.2 4.8	5.2 4.8	5.3 4.7	5.5 4.6
4	4.0 3.96	4.1 3.96	4.1 3.95	4.1 3.94	4.1 3.91	4.1 3.88	4.2 3.83	4.2 3.76
3	3.02 2.98	3.02 2.98	3.03 2.97	3.03 2.97	3.05 2.95	3.07 2.93	3.10 2.91	3.14 2.87
2.5	2.51 2.49	2.52 2.48	2.52 2.48	2.52 2.48	2.53 2.47	2.54 2.46	2.56 2.44	2.59 2.42

200mm F3.5 AND F4.5 MC TELE ROKKOR-X LENSES In FEET

26

F No. Dist. (ft)	3.5	4	4.5	5.6	8	11	16	22
∞	∞ 1122'	∞ 982'	∞ 884'	∞ 695'	∞ 491'	∞ 348'	∞ 246'	∞ 174'
100	110' 92'	111' 91'	112' 90'	116' 88'	125' 83'	139' 78'	167' 72'	231' 64'
50	52' 3" 47' 11"	52' 7" 47' 8"	52' 10" 47' 5"	53' 8" 46' 9"	55' 5" 45' 7"	58' 43' 11"	62' 2" 41' 10"	69' 2" 39' 3"
30	30' 9" 29' 3"	30' 11" 29' 2"	30' 11" 29' 1"	31' 3" 28' 10"	31' 10" 28' 5"	32' 8" 27' 9"	33' 10" 26' 11"	35' 9" 25' 10"
20	20' 4" 19' 8"	20' 4" 19' 8"	20' 4" 19' 7"	20' 6" 19' 6"	20' 9" 19' 4"	21' 1" 19'	21' 7" 18' 8"	22' 4" 18' 2"
15	15' 2" 14' 10"	15' 2" 14' 10"	15' 2" 14' 9"	15' 3" 14' 9"	15' 5" 14' 7"	15' 7" 14' 6"	15' 10" 14' 3"	16' 3" 14'
14	12' 1" 11' 11"	12' 1" 11' 11"	12' 1" 11' 10"	12' 2" 11' 10"	12' 3" 11' 9'	12' 4" 11' 8"	12' 6" 11' 6"	12' 9" 11' 4"
10	10' 1" 9' 11 1/4"	10' 1" 9' 11"	10' 1" 9' 10 7/8"	10' 1" 9' 10 5/8"	10' 2" 9' 10 1/4"	10' 3" 9' 9 3/8"	10' 4" 9' 8 1/4"	10' 6" 9' 6 3/4"
8	8' 1/2" 7' 11 1/2"	8' 1/2" 7' 11 3/8"	8' 5/8" 7' 11 3/8"	8' 3/4" 7' 11 1/4"	8' 1 1/8" 7' 10 7/8"	8' 1 1/2" 7' 10 3/8"	8' 2 3/8" 7' 9 3/4"	8' 3/4" 7' 8 3/8"

300mm F4.5 AND F5.6 MC TELE ROKKOR-X LENSES In METERS

F No. Dist. (m)	4.5	5.6	8	11	16	22
∞	∞ 607	∞ 483	∞ 341	∞ 242	∞ 171	∞ 121
50	54.4 46.3	55.6 45.4	58.4 43.8	62.7 41.6	70.1 38.9	84.2 35.6
30	31.5 28.6	31.9 28.3	32.8 27.7	34.1 26.8	36.1 25.7	39.4 24.2
20	20.6 19.4	20.8 19.3	21.2 19.0	21.7 18.6	22.5 18.0	23.7 17.3
15	15.3 14.7	15.4 14.6	15.6 14.4	15.9 14.2	16.3 13.9	16.9 13.5
10	10.1 9.86	10.2 9.82	10.3 9.75	10.4 9.65	10.5 9.51	10.8 9.32
8	8.09 7.91	8.12 7.89	8.16 7.84	8.23 7.78	8.33 7.69	8.48 7.57
7	7.07 6.93	7.08 6.92	7.12 6.88	7.17 6.84	7.25 6.77	7.35 6.68
6	6.05 5.95	6.06 5.94	6.09 5.92	6.12 5.88	6.17 5.84	6.25 5.77
5	5.03 4.97	5.04 4.96	5.06 4.95	5.08 4.92	5.11 4.89	5.16 4.85
4.5	4.52 4.48	4.53 4.47	4.54 4.46	4.56 4.44	4.59 4.41	4.63 4.38

300mm F4.5 AND F5.6 MC TELE ROKKOR-X LENSES In FEET

28

F No. Dist. (ft)	4.5	5.6	8	11	16	22
∞	∞ 1990'	∞ 1584'	∞ 1120'	∞ 793'	∞ 561'	∞ 397'
200	222' 182'	228' 178'	243' 170'	266' 160'	308' 148'	398' 134'
100	105' 95' 4"	106' 94' 3"	109' 92' 1"	114' 89' 3"	121' 85' 5"	132' 80' 7"
70	72' 5" 67' 9"	73' 1" 67' 2"	74' 5" 66' 1"	76' 5" 64' 7"	79' 6" 62' 7"	84' 3" 59' 11"
50	51' 2" 48' 10"	51' 6" 48' 7"	52' 2" 48'	53' 1" 47' 3"	54' 6" 46' 3"	56' 7" 44' 10"
40	40' 9" 39' 3"	40' 11" 39' 3"	41' 4" 38' 9"	41' 11" 38' 3"	42' 9" 37' 7"	44' 1" 36' 8"
30	30' 5" 29' 7"	30' 6" 29' 6"	30' 9" 29' 4"	31' 29' 1"	31' 6" 28' 8"	32' 1" 28' 2"
25	25' 3" 24' 9"	25' 4" 24' 8"	25' 6" 24' 6"	25' 8" 24' 4"	26' 24' 1"	26' 5" 23' 9"
20	20' 2" 19' 10"	20' 2" 19' 10"	20' 3" 19' 9"	20' 5" 19' 7"	20' 7" 19' 5"	20' 10" 19' 3"
17	17' 1" 16' 11"	17' 2" 16' 10"	17' 2" 16' 10"	17' 3" 16' 9"	17' 5" 16' 7"	17' 7" 16' 5"
15	15' 1" 14' 11"	15' 1" 14' 11"	15' 2" 14' 10"	15' 3" 14' 10"	15' 4" 14' 9"	15' 5" 14' 7"

50mm F3.5 MC MACRO ROKKOR-X LENS In METERS

F No. Dist. (m)	3.5	4	5.6	8	11	16	22
∞	30^{∞}	20^{∞}	14^{∞}	10^{∞}	7^{∞}	5^{∞}	3.6^{∞}
3	3.4 2.7	3.5 2.6	3.8 2.5	4.2 2.3	5.1 2.1	7.1 1.9	16.6 1.7
2	2.2 1.9	2.2 1.8	2.3 1.8	2.5 1.7	2.7 1.6	3.2 1.5	4.3 1.3
1.3	1.4 1.2	1.4 1.2	1.4 1.2	1.5 1.2	1.7 1.1	1.7 1.1	1.9 1.0
1	1.0 0.96	1.0 0.96	1.1 0.94	1.1 0.92	1.1 0.89	1.2 0.86	1.3 0.81
0.8	0.82 0.78	0.83 0.78	0.84 0.77	0.86 0.75	0.88 0.73	0.92 0.71	0.98 0.68
0.6	0.61 0.59	0.62 0.59	0.62 0.58	0.63 0.57	0.65 0.56	0.68 0.55	0.70 0.53
0.5	0.51 0.49	0.51 0.49	0.51 0.49	0.52 0.49	0.53 0.48	0.54 0.46	0.56 0.45
0.4	0.41 0.40	0.41 0.39	0.41 0.39	0.41 0.39	0.42 0.38	0.43 0.38	0.44 0.37
0.35	0.354 0.346	0.354 0.346	0.356 0.344	0.359 0.342	0.363 0.338	0.368 0.334	0.376 0.328
0.3	0.303 0.298	0.303 0.297	0.304 0.296	0.306 0.294	0.308 0.292	0.312 0.289	0.317 0.285
0.25	0.251 0.249	0.252 0.248	0.252 0.248	0.253 0.247	0.255 0.245	0.257 0.244	0.260 0.241
0.23	0.231 0.229	0.231 0.229	0.232 0.228	0.233 0.228	0.234 0.227	0.235 0.225	0.237 0.223

50mm F3.5 MC MACRO ROKKOR-X LENS

In FEET

30

Dist. (ft) \ F No.	3.5	4	5.6	8	11	16	22
∞	∞ 74' 12"	∞ 65' 7"	∞ 46' 5"	∞ 32' 11"	∞ 23' 4"	∞ 16' 6"	∞ 11' 9"
10	11' 6" 8' 10 1/2"	11' 8" 8' 8 3/8"	12' 7" 8' 3 5/8"	14' 2" 7' 9 1/8"	17' 1" 7' 1 1/4"	24' 3" 6' 4 1/4"	60' 5' 6 1/4"
6	6' 5 3/4" 5' 7 1/8"	6' 6 5/8" 5' 6 1/2"	6' 9 3/4" 5' 4 3/8"	7' 2 5/8" 5' 1 3/4"	7' 10 5/8" 4' 10 1/4"	9' 1 1/4" 4' 5"	11' 7" 4'
4	4' 2 3/8" 3' 9 7/8"	4' 2 3/4" 3' 9 5/8"	4' 3 7/8" 3' 8 3/8"	4' 5 3/4" 3' 7 3/8"	4' 8 5/8" 3' 5 3/4"	5' 1 1/4" 3' 3 5/8"	5' 9 1/4" 3' 1"
3	3' 1 1/4" 2' 10 7/8"	3' 1 1/4" 2' 10 3/4"	3' 2" 2' 10 1/4"	3' 3" 2' 9 1/2"	3' 4 3/8" 2' 8 1/2"	3' 6 5/8" 2' 7 1/4"	3' 10 1/4" 2' 5 5/8"
2.5	2' 6 3/4" 2' 5 1/4"	2' 6 7/8" 2' 5 1/4"	2' 7 3/8" 2' 4 3/4"	2' 8" 2' 4 1/4"	2' 8 7/8" 2' 3 5/8"	2' 10 1/4" 2' 2 3/4"	3' 3/8" 2' 1 5/8"
2	2' 1 1/2" 1' 11 1/2"	2' 5/8" 1' 11 3/8"	2' 7/8" 1' 11 1/4"	2' 1 1/4" 1' 10 7/8"	2' 1 7/8" 1' 10 3/8"	2' 2 3/4" 1' 9 3/8"	2' 4 1/4" 1' 9"
1.75	1' 9 3/8" 1' 8 5/8"	1' 9 3/8" 1' 8 5/8"	1' 9 5/8" 1' 8 3/8"	1' 9 7/8" 1' 8 1/4"	1' 10 3/8" 1' 7 7/8"	1' 11" 1' 7 3/8"	1' 11 7/8" 1' 6 3/4"
1.5	1' 6 1/4" 1' 5 3/4"	1' 6 1/4" 1' 5 3/4"	1' 6 3/8" 1' 5 5/8"	1' 6 5/8" 1' 5 3/8"	1' 6 7/8" 1' 5 1/4"	1' 7 3/8" 1' 4 7/8"	1' 8" 1' 4 3/8"
1.25	1' 3 1/8" 1' 2 7/8"	1' 3 1/8" 1' 2 7/8"	1' 3 1/4" 1' 2 3/4"	1' 3 3/8" 1' 2 5/8"	1' 3 5/8" 1' 2 1/2"	1' 3 7/8" 1' 2 1/4"	1' 4 1/4" 1' 2"
1	1' 11 7/8"	1' 11 7/8"	1' 1/8" 11 7/8"	1' 1/4" 11 3/4"	1' 1/4" 11 3/4"	1' 1/2" 11 5/8"	1' 5/8" 11 3/8"
10 (in.)	10" 10"	10" 10"	10 1/8" 9 7/8"	10 1/8" 9 7/8"	10 1/8" 9 7/8"	10 1/4" 9 3/4"	10 3/8" 9 5/8"
9 (in.)	9" 9"	9" 9"	9" 9"	9 1/8" 8 7/8"	9 1/8" 8 7/8"	9 1/8" 8 7/8"	9 1/4" 8 3/4"

100mm F3.5 MC MACOR ROKKOR-X LENS In METERS

F No. Dist. (m)	3.5	5.6	8	11	16	22
∞	∞ 85.8	∞ 53.1	∞ 37.6	∞ 26.6	∞ 18.8	∞ 13.4
10	11.3 8.98	12.2 8.46	13.5 7.95	15.8 7.33	20.8 6.60	38.1 5.79
5	5.29 4.74	5.49 4.59	5.72 4.44	6.08 4.25	6.69 4.00	7.78 3.70
3	3.10 2.91	3.16 2.85	3.23 2.80	3.34 2.72	3.51 2.62	3.78 2.49
2	2.04 1.96	2.07 1.94	2.10 1.91	2.14 1.88	2.20 1.83	2.30 1.77
1.5	1.52 1.48	1.53 1.47	1.55 1.45	1.57 1.43	1.60 1.41	1.65 1.38
1.2	1.21 1.19	1.22 1.18	1.23 1.17	1.24 1.16	1.26 1.14	1.29 1.12
1.0	1.01 0.991	1.01 0.987	1.02 0.982	1.03 0.974	1.04 0.964	1.06 0.950
0.9	0.906 0.894	0.910 0.890	0.915 0.886	0.921 0.880	0.930 0.872	0.943 0.861
0.8	0.805 0.795	0.808 0.792	0.811 0.789	0.816 0.785	0.822 0.779	0.832 0.771
0.7	0.703 0.697	0.705 0.695	0.708 0.693	0.711 0.690	0.715 0.685	0.722 0.679
0.6	0.602 0.598	0.603 0.597	0.605 0.595	0.607 0.593	0.610 0.591	0.614 0.587
0.5	0.501 0.499	0.502 0.498	0.503 0.497	0.504 0.496	0.505 0.495	0.507 0.493
0.45	0.451 0.449	0.451 0.449	0.452 0.448	0.452 0.448	0.453 0.447	0.455 0.446

100mm F3.5 MC MACOR ROKKOR-X LENS In FEET

F No. Dist. (ft)	3.5	5.6	8	11	16	22
∞	281' [∞]	174' [∞]	123' [∞]	87' 4" [∞]	61' 10" [∞]	43' 9" [∞]
30	33' 5" 27' 2"	36' 25' 8"	39' 3" 24' 3"	45' 1" 22' 6"	57' 1" 20' 4"	91' 7" 18'
15	15' 9" 14' 3"	16' 3" 13' 10"	16' 11" 13' 5"	17' 10" 12' 11"	19' 5" 12' 2"	22' 2" 11' 4"
10	10' 3" 9' 8 ¹ / ₄ "	10' 6" 9' 6 ¹ / ₁₆ "	10' 9" 9' 3 ³ / ₄ "	11' 1" 9' 1 ¹ / ₁₆ "	11' 8" 8' 8 ¹ / ₁₆ "	12' 7" 8' 3 ⁷ / ₁₆ "
7	7' 1 ¹³ / ₁₆ " 6' 10 ³ / ₁₆ "	7' 3" 6' 9 ¹ / ₈ "	7' 4 ⁵ / ₁₆ " 6' 8 ¹ / ₁₆ "	7' 6 ¹ / ₄ " 6' 6 ¹ / ₁₆ "	7' 9 ³ / ₁₆ " 6' 4 ¹ / ₂ "	8' 1 ⁵ / ₈ " 6' 1 ¹³ / ₁₆ "
5	5' 7 ⁷ / ₈ " 4' 11 ¹ / ₈ "	5' 1 ³ / ₈ " 4' 10 ⁵ / ₈ "	5' 2" 4' 10 ¹ / ₁₆ "	5' 2 ⁷ / ₈ " 4' 9 ³ / ₁₆ "	5' 4 ³ / ₁₆ " 4' 8 ³ / ₁₆ "	5' 6 ³ / ₁₆ " 4' 6 ⁷ / ₈ "
4	4' 1 ¹ / ₂ " 3' 11 ¹ / ₁₆ "	4' 1 ¹³ / ₁₆ " 3' 11 ¹ / ₈ "	4' 1 ³ / ₈ " 3' 10 ¹³ / ₁₆ "	4' 1 ¹ / ₁₆ " 3' 10 ³ / ₈ "	4' 2 ¹ / ₂ " 3' 9 ³ / ₄ "	4' 3 ⁵ / ₈ " 3' 8 ⁷ / ₈ "
3.5	3' 6 ³ / ₈ " 3' 5 ⁵ / ₈ "	3' 6 ⁹ / ₁₆ " 3' 5 ³ / ₈ "	3' 6 ⁷ / ₈ " 3' 5 ¹ / ₈ "	3' 7 ¹ / ₄ " 3' 4 ¹³ / ₁₆ "	3' 7 ¹³ / ₁₆ " 3' 4 ⁵ / ₁₆ "	3' 8 ⁹ / ₁₆ " 3' 3 ¹ / ₁₆ "
3	3' 1 ¹ / ₄ " 2' 11 ¹ / ₁₆ "	3' 3 ⁸ / ₁₆ " 2' 11 ⁹ / ₁₆ "	3' 1 ¹³ / ₁₆ " 2' 11 ³ / ₈ "	3' 1 ¹³ / ₁₆ " 2' 11 ¹ / ₈ "	3' 1 ³ / ₁₆ " 2' 10 ¹³ / ₁₆ "	3' 1 ³ / ₄ " 2' 10 ³ / ₈ "
2.5	2' 6 ¹ / ₈ " 2' 5 ¹³ / ₁₆ "	2' 6 ¹ / ₄ " 2' 5 ¹ / ₁₆ "	2' 6 ³ / ₈ " 2' 5 ⁵ / ₈ "	2' 6 ¹ / ₂ " 2' 5 ⁷ / ₁₆ "	2' 6 ³ / ₄ " 2' 5 ¹ / ₄ "	2' 7 ¹ / ₁₆ " 2' 4 ¹³ / ₁₆ "
2.25	2' 3 ¹ / ₁₆ " 2' 2 ⁷ / ₈ "	2' 3 ³ / ₁₆ " 2' 2 ³ / ₄ "	2' 3 ¹ / ₄ " 2' 2 ¹ / ₁₆ "	2' 3 ³ / ₈ " 2' 2 ⁹ / ₁₆ "	2' 3 ⁹ / ₁₆ " 2' 2 ⁷ / ₁₆ "	2' 3 ¹³ / ₁₆ " 2' 2 ³ / ₁₆ "
2	2' 1 ¹ / ₁₆ " 1' 11 ¹³ / ₈ "	2' 1 ⁸ / ₁₆ " 1' 11 ¹³ / ₁₆ "	2' 3 ¹ / ₁₆ " 1' 11 ³ / ₄ "	2' 1 ¹ / ₄ " 1' 11 ¹ / ₁₆ "	2' 3 ⁸ / ₁₆ " 1' 11 ⁹ / ₁₆ "	2' 9 ⁹ / ₁₆ " 1' 11 ⁷ / ₁₆ "

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