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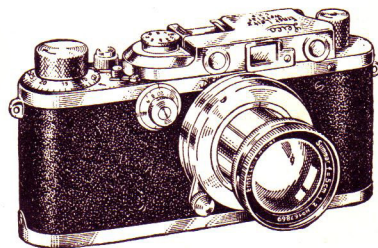
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Leitz

Lens Tables
for use with the
Leica Camera



No. 1370

G-7-52-ADV.

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304 Hudson Street

Explanatory comments concerning the Leica Depth of Focus Tables.

1. What is depth of focus?

Strictly speaking, an ideal photographic lens can give a critically sharp image of a single plane only, so far as the image formed in the plane of the film is concerned: this is the so-called "plane of focus", and its distance from the plane of the film represents the distance on which the lens is focused. Any point, on the other hand, which lies outside this plane of focus, will not be represented in the plane of the film as a point, but as a small "circle of confusion": the diameter of this circle of confusion is greater the greater the focal length of the lens, the larger the aperture of the lens, the further the point to be represented lies from the plane of focus and the nearer this plane is to the lens. But the human eye does not perceive an image to be unsharp so long as its departure from point-form delineation does not exceed certain limits. As a matter of experience it is found that the circle of confusion still appears as a sharp point if it is seen from a distance at which the angle of view which it subtends amounts to 2 minutes of arc at most. At a viewing distance of 25 cm., which may be regarded as normal for a print between half-plate or whole-plate in size this means that the highest permissible diameter of the circle of confusion is about $\frac{1}{6}$ mm. For a Leica negative of size 36×24 mm. this corresponds to a maximum permissible diameter of $\frac{1}{30}$ mm. for the circle of confusion: and our tables are therefore based on this figure. This value also corresponds with the average grain size which determines the permissible fineness of details which, it is required, should be resolved.

That depth of the object the points of which are represented on the Leica negative by circles of confusion not more than $\frac{1}{30}$ mm. in diameter is commonly known as the "depth of focus" — or, more strictly, "depth of field".

2. Loss of sharpness within the region of depth of focus.

Even though the eye does not detect the lack of sharpness in the diminishing sharpness within the limits of the region of depth of focus, it must still be emphasized that in accordance with the statements made above critical point-form definition can be expected only in the plane focused. For this reason great care should always be taken to place the focus as exactly as possible at the spot on which the greatest sharpness is required. In the case of distant landscapes, particularly, use should

not be made of the hyperfocal distances described below if the greatest sharpness is required in the far distance: in these cases focusing on the objects in the far distance will give better results.

Further, this assumed circle of confusion of $\frac{1}{30}$ mm. which forms the basis of these tables is derived on the supposition that the entire negative is viewed or enlarged. When small sections of the negative are greatly enlarged the depth of focus decreases accordingly, because the circle of confusion is enlarged at the same time: and for this further reason focusing should be carried out as exactly as possible.

If, as these comments make clear, the sharpness is not absolutely uniform within the region of depth of focus, it is also true conversely that outside this region the unsharpness only gradually increases. Thus the widely held idea that everything is equally sharp within these limits and completely unsharp outside these limits is mistaken. It is also necessary to point out, that by suitable correction of multiple component lenses, the transition from the region of sharpness to that of unsharpness can be so modified as to be as smooth as possible, thus increasing the sense of solidity within the picture: this has been achieved, notably, in the case of our 50 mm. F.2 Summar. On the other hand the corrections can be so carried out as to give an apparently increased depth of focus in the case of lenses of very large aperture and long focal length, when the depth of focus is necessarily small; this resource has been adopted with our 73 mm. F/1.9 Hektor. The effect depends on a slight diminution of the maximum sharpness in the plane of focus at full aperture, so that the differences in sharpness in the vicinity of the limits of the region of depth of focus are reduced, in comparison with the plane of focus. In the case of a lens giving a sharp image the definition in the plane of focus itself increases very rapidly, of course, with even a small amount of stopping down, which has also the effect of increasing the depth of focus; this applies to our 73 mm. F/1.9 Hektor. On the other hand, with so-called "soft-focus" lenses, which embody the same method of construction in a very much enhanced degree and do not give critical definition at any part of the image, the softness of definition remains even at moderate degrees of stopping down, and only at comparatively small apertures does it pass into sharp definition. With such lenses, used without stopping down to a small aperture, the diameter of the circle of confusion even for points of the object in the plane of focus represents an angle of view larger than 2 minutes of arc, so that a larger circle of confusion than one of diameter $\frac{1}{30}$ mm. must also be allowed in the Leica negative.

3. Depth of focus and focal length.

The dependence of the depth of focus on the lens aperture, the distance of the object and on the focal length is at once evident from the tables which follow. Moreover, every photographer knows that the depth of focus is increased by stopping down the lens. It may, however, be of advantage to point out the gain in depth of focus which follows from the use of lenses of small focal length. As has already been mentioned, the circle of confusion increases in diameter with increasing focal length, other things being equal. Conversely, this means that the depth of focus diminishes with increasing focal length. If the calculation of the depth of focus is based on the same diameter of the circle of confusion for lenses differing in focal length, a lens of 50 mm. focal length focused on near objects has sixteen times as great depth of focus as a lens of 200 mm. focal length at the same relative aperture. Moreover, the advantage in favour of the 50 mm. lens becomes still greater when the object to be taken is more distant and increases the more both lenses are reduced in aperture. If, for example, we compare the depths of focus of a 50 mm. Elmar and a 200 mm. Telyt at F/4.5 focused on 15 ft., the depth with the Elmar extends from 11 ft. 9 in. to 20 ft. 8 in. (i. e., over a depth of 8 ft. 11 in.), whereas that with the Telyt extends from 14 ft. 9 in. to 15 ft. 3 in. (i. e., 6 in.). The ratio under these circumstances is 16:1. At the aperture of F/9 and with the same focusing distance of 15 ft., the depth of focus with the Elmar extends from 9 ft. 8 in. to 33 ft. 3 in. (i. e., over 23 ft. 7 in.), and with the Telyt from 14 ft. 6 in. to 15 ft. 6 in. (i. e., over 1 ft.). In this case the 50 mm. lens shows twenty-three times the depth given by the 200 mm. lens. The comparison is similar when the lenses are used at F/4.5 and focused on 30 ft. The depth of focus of the Elmar then extends from 19 ft. 4 in. to 66 ft. (i. e., over a depth of 46 ft. 8 in.), that of the Telyt extends from 29 to 31 ft. (i. e., over a depth of 2 ft. only). The ratio here is roughly 24:1.

The reason why the same diameter of the circle of confusion is assumed in both cases is that both lenses, despite their very different focal lengths, are used for the same negative size 24x36 mm. But if one compares a 13x18 cm. enlargement from a Leica negative with a contact print from a 13x18 cm. plate, for example, the circle of confusion for the plate negative need not be assumed to be smaller than $5 \times \frac{1}{30} = \frac{1}{6}$ mm. But in this case too the advantage of the short-focus lens in giving much greater depth of focus still remains. If we again compare a 50 mm. Leica Elmar with a 250 mm. lens, which corresponds in focal length with the 13x18 cm. plate size, assuming a circle of confusion of diameter $\frac{1}{30}$ mm. for the Leica negative and $\frac{1}{6}$ mm. for the 13x18 cm. plate (half-plate), then the depth

of focus with the Leica, used at F/4.5 and focused on 15 ft., extends from 11 ft. 9 in. to 20 ft. 8 in. (i. e., over a depth of 8 ft. 11 in.), with the large plate camera the depth extends from 14 ft. 3 in. to 15 ft. 11 in. (i. e., over a depth of 1 ft. 8 in.) The half-plate camera has thus one-fifth the depth of focus of the Leica in this case. With the lenses similarly focused on 15 ft. but stopped down to F/9 the depth of focus with the Leica extends from 9 ft. 8 in. to 33 ft. 3 in. (i. e., over a depth of 23 ft. 7 in.), whereas with the large plate camera it extends from 13 ft. 6 in. to 16 ft. 10 in. (i. e., over a depth of 3 ft. 4 in.) In this case the ratio of the depths of focus is about 7:1.

Other comparisons are needless. Exact tests show that, at short distances and large lens apertures, the depth given by the short-focus lens, in comparison with the long-focus lens of the large camera, is as many times greater as its focal length is shorter. The advantage in favour of the short-focus lens increases as the focusing distance becomes greater and as the aperture of the two lenses is reduced.

This great advantage of the miniature camera proves of special value when it is desirable to obtain a uniformly sharp picture of an object having a great depth of planes. In this case the large camera must be stopped down far more than is necessary with the Leica, to obtain the same depth of focus. For example, it would be necessary to stop the 250 mm. lens of a 13x18 cm. (half-plate) camera down to F/32 in circumstances in which the aperture of F/6.3 would be adequate with the 50 mm. Leica-Elmar. Accordingly the exposure with the large camera would have to be twenty-five times as long as that with the Leica! Even with a 6x9 cm. camera with a 125 mm. lens it would be necessary to stop down to F/9, when the aperture F/3.5 would suffice with the 50 mm. Leica-Elmar: about six times the exposure would still be needed! Thus short snapshot exposures can be made in almost all cases with the Leica whereas large-size cameras call for time exposures.

4. Hyperfocal distance (Infinity near point).

As is evident from the tables, the region of depth of focus extends for a greater distance in the direction of "infinity" than towards the camera. When a lens is focused on such a distance that the depth of focus just reaches the far distance or "infinity", then the lens is focused on the infinity near point (hyperfocal distance). This adjustment of focus is always advisable when adequate sharpness from the far distance as far as possible into the foreground is desired, rather than extreme sharpness in the far distance. This hyperfocal distance (infinity near point) can be taken from the tables on pages 5-7.

Hyperfocal Distance

(Table of focusing distances giving the greatest possible depth of focus from the foreground to infinity for the interchangeable Leica lenses.)

Focal	28 mm.		35 mm.		50 mm.		
Aperture	Setting of lens on helical focusing scale	Extent of depth of focus	Setting of lens on helical focusing scale	Extent of depth of focus	Setting of lens on helical focusing scale	Extent of depth of focus	
1.5	—	∞ to	—	∞ to	177-5	88-8 ¹ / ₂	ft. & in.
2.0	—	—	—	—	133-0	66-6	ft. & in.
2.2 (2.5)	—	—	—	—	107-0	53-6	ft. & in.
3.2 (3.5)	—	—	34-0	17-0	77-0	38-6	ft. & in.
4.5	—	—	27-0	13-6	60-0	30-0	ft. & in.
6.3	12-0	6-0	20-0	10-0	42-0	21-0	ft. & in.
9	9-0	4-6	13-0	6-6	30-0	15-0	ft. & in.
12.5	6-0	3-0	10-0	5-0	22-0	11-0	ft. & in.
18	4-0	2-0	7-0	3-6	15-0	7-6	ft. & in.
25	3-0	1-6	—	—	—	—	

Example. Aperture: 6.3; lens, Elmar 50 mm. According to the table, the helical focusing mount is set to a distance of 42 ft. The resulting depth of focus then extends from 21 ft. to infinity.

Advantage. Were the lens set to "infinity" ∞ (instead of to 42 ft.), the depth of focus would have extended from "infinity" to 42 ft. whereas it here already begins at 21 ft.

Note. Further data as to the extent of depth of focus at the different settings of the lenses can be taken from the following pages. The computation of all these tables is based on a circle of confusion of 1/30 mm. diameter.

Hyperfocal Distance

(Table of focusing distances giving the greatest possible depth of focus from the foreground to infinity) for the interchangeable Leica lenses (continued).

Focal	75 mm.		90 mm.		105 mm.		
	Setting of lens on helical focusing scale	Extent of depth of focus	Setting of lens on helical focusing scale	Extent of depth of focus	Setting of lens on helical focusing scale	Extent of depth of focus	
		∞ to		∞ to		∞ to	
1.9	280-0	140-0	—	—	—	—	ft. & in.
2.2	240-0	120-0	—	—	—	—	ft. & in.
3.2	167-0	83-6	—	—	—	—	ft. & in.
4.5	118-0	59-0	177-0	88-6	—	—	ft. & in.
6.3	85-0	42-6	128-0	64-0	170-0	85-0	ft. & in.
9	60-0	30-0	88-0	44-0	122-0	61-0	ft. & in.
12.5	42-0	21-0	62-0	31-0	87-0	43-6	ft. & in.
18	30-0	15-0	44-0	22-0	60-0	30-0	ft. & in.
25	21-0	10-6	32-0	16-0	44-0	22-0	ft. & in.
36	—	—	22-0	11-0	30-0	15-0	ft. & in.

Example. Aperture: 6.3; lens, 90 mm. Elmar. According to the table, the helical focusing mount is set to a distance of 128 ft. The resulting depth of focus then extends from 64 ft. to infinity.

Note. The values in this table are rounded off. The deviations from the theoretical values, however, are so small as to be of no practical consequence, whilst on the other hand these approximations render the table much more convenient.

Hyperfocal Distance

(Table of focusing distances giving the greatest possible depth of focus from the foreground to infinity) for the interchangeable Leica lenses (continued).

Focal	135 mm.		200 mm.		400 mm.		
	Setting of lens on helical focusing scale	Extent of depth of focus	Setting of lens on helical focusing scale	Extent of depth of focus	Setting of lens on helical focusing scale	Extent of depth of focus	
		∞ to		∞ to		∞ to	
4.5(5)	400-0	200-0	875-0	437-6	3150-0	1575-0	ft. & in.
6.3	285-0	142-6	625-0	312-6	2500-0	1250-0	ft. & in.
9	200-0	100-0	440-0	220-0	1750-0	875-0	ft. & in.
12.5	145-0	72-6	315-0	157-6	1260-0	630-0	ft. & in.
18	100-0	50-0	220-0	110-0	875-0	437-6	ft. & in.
25	72-0	36-0	160-0	80-0	630-0	215-0	ft. & in.
36	50-0	25-0	110-0	55-0	437-0	218-6	ft. & in.

Example. Aperture 4.5; lens, 135 mm. Leitz Hektor. According to the table the helical focusing mount is set to a distance of 400 ft. The resulting depth of focus then extends from 200 ft. to infinity.

Note. It is repeated that the infinity near point (hyperfocal distance) should **not** be used when maximum sharpness is required in the far distance.

Brief Directions

for using the

Depths of Focus Tables

for the

interchangeable Leica lenses.

The figures on the left of the following groups relate to the setting of the lens stop.

The **green** figures in each group indicate the distance to which the lens is to be set on the helical focusing scale.

The corresponding figure above then gives the distance of the near limit and the figure below gives the distance of the further limit of the region of depth of focus.

All of the tables are computed on the assumption that the circle of confusion is of diameter $\frac{1}{30}$ mm.

Table of Focal Depths

for

28 mm. F/6.3 Leitz Hektor lens

	$2-8\frac{11}{16}$	$3-\frac{3}{16}$	$3-6\frac{5}{8}$	$4-\frac{5}{16}$	$4-5\frac{7}{16}$	$4-10\frac{1}{16}$	5-6	6-1	6-9	
F/6.3	$3\frac{1}{2}$	4	5	6	7	8	10	12	15	ft. & in.
	$4-10\frac{13}{16}$	5-11	8-5	11-9	16-4	23-1	54-6	592	∞	ft. & in.

	$2-5\frac{13}{16}$	$2-8\frac{3}{4}$	$3-1\frac{7}{8}$	$3-6\frac{3}{8}$	$3-10\frac{1}{4}$	$4-1\frac{11}{16}$	$4-7\frac{3}{8}$	5	5-5	
F/9	$3\frac{1}{2}$	4	5	6	7	8	10	12	15	ft. & in.
	5-11	7-6	12	23	38-2	120	∞	∞	∞	ft. & in.

	$2-2\frac{13}{16}$	$2-5\frac{1}{8}$	$2-9\frac{1}{8}$	$3-1\frac{1}{2}$	$3-3\frac{1}{8}$	$3-5\frac{13}{16}$	$3-9\frac{13}{16}$	$4-\frac{15}{16}$	$4-4\frac{1}{2}$	
F/12.5	$3\frac{1}{2}$	4	5	6	7	8	10	12	15	ft. & in.
	8-1	11-4	26-4	214	∞	∞	∞	∞	∞	ft. & in.

	$1-11\frac{1}{8}$	$2-\frac{13}{16}$	$2-3\frac{11}{16}$	2-6	$2-7\frac{7}{8}$	$2-9\frac{1}{2}$	3	$3-1\frac{7}{8}$	3-4	
F/18	$3\frac{1}{2}$	4	5	6	7	8	10	12	15	ft. & in.
	19-1	60	∞	∞	∞	∞	∞	∞	∞	ft. & in.

	$1-7\frac{11}{16}$	$1-8\frac{15}{16}$	$1-10\frac{7}{8}$	$2-\frac{7}{16}$	$2-1\frac{11}{16}$	$2-2\frac{3}{4}$	$2-4\frac{3}{16}$	$2-5\frac{1}{16}$	$2-6\frac{11}{16}$	
F/25	$3\frac{1}{2}$	4	5	6	7	8	10	12	15	ft. & in.
	∞	∞	∞	∞	∞	∞	∞	∞	∞	ft. & in.

Table of Focal Depths

for

28 mm. F/6.3 Leitz Hektor lens

(Continued)

F/6.3

7-7	8-8	9-10	10-11	12-3
20	30	50	100	∞
∞	∞	∞	∞	∞

ft. & in.
ft.
ft. & in.

F/9

6	6-8	7-4	7-11	8-7
20	30	50	100	∞
∞	∞	∞	∞	∞

ft. & in.
ft.
ft. & in.

F/12.5

4-8 ⁵ / ₈	5-1	5-6	5-10	6-2
20	30	50	100	∞
∞	∞	∞	∞	∞

ft. & in.
ft.
ft. & in.

F/18

3-6 ³ / ₈	3-9	3-11 ³ / ₈	4-1 ⁵ / ₁₆	4-3 ⁷ / ₁₆
20	30	50	100	∞
∞	∞	∞	∞	∞

ft. & in.
ft.
ft. & in.

F/25

2-8 ¹ / ₁₆	2-9 ⁹ / ₁₆	2-10 ⁷ / ₈	2-11 ¹⁵ / ₁₆	3-1
20	30	50	100	∞
∞	∞	∞	∞	∞

ft. & in.
ft.
ft. & in.

Table of Focal Depths

for

35 mm. F/3.5 Leitz Elmar lens

F/3.5

3-2	3-7	4-4	5-1	5-10	6-6	7-9	8-11	10-5
3.5	4	5	6	7	8	10	12	15
3-11	4-6	5-10	7-3	8-9	10-5	14-1	18-5	26-7

ft. & in.
ft.
ft. & in.

F/4.5

3-1	3-6	4-3	4-11	5-7	6-2	7-3	8-3	9-7
3.5	4	5	6	7	8	10	12	15
4	4-8	6-2	7-9	9-6	11-5	16	21-10	34

ft. & in.
ft.
ft. & in.

F/6.3

2-11	3-4	4	4-7	5-2	5-8	6-7	7-5	8-5
3.5	4	5	6	7	8	10	12	15
4-4	5-1	6-9	8-9	11-1	13-9	20-11	32	63

ft. & in.
ft.
ft. & in.

F/9

2-9	3-1	3-8	4-2	4-7	5	5-9	6-4	7-1
3.5	4	5	6	7	8	10	12	15
4-9	5-8	8	10-10	14-8	19-10	39	115	∞

ft. & in.
ft.
ft. & in.

F/12.5

2-7	2-10	3-4	3-8	4-1	4-4	4-11	5-4	5-10
3.5	4	5	6	7	8	10	12	15
5-6	6-10	10-5	15-10	25-6	47	∞	∞	∞

ft. & in.
ft.
ft. & in.

F/18

2-4	2-6	2-10	3-2	3-5	3-8	4	4-4	4-8
3.5	4	5	6	7	8	10	12	15
7-4	9-11	19-9	57-7	∞	∞	∞	∞	∞

ft. & in.
ft.
ft. & in.

Table of Focal Depths for 35 mm. F/3.5 Leitz Elmar lens

(Continued)

F/3.5	12-8	16	20-5	25-7	34-5	ft. & in. ft. ft. & in.
	20	30	50	100	∞	
	48	232	∞	∞	∞	

F/4.5	11-5	14-2	17-5	21-2	26-10	ft. & in. ft. ft. & in.
	20	30	50	100	∞	
	79	∞	∞	∞	∞	

F/6.3	9-9	11-8	13-10	16-1	19-2	ft. & in. ft. ft. & in.
	20	30	50	100	∞	
	∞	∞	∞	∞	∞	

F/9	8	9-3	10-7	11-10	13-5	ft. & in. ft. ft. & in.
	20	30	50	100	∞	
	∞	∞	∞	∞	∞	

F/12.5	6-6	7-4	8-1	8-10	9-8	ft. & in. ft. ft. & in.
	20	30	50	100	∞	
	∞	∞	∞	∞	∞	

F/18	5	5-6	5-11	6-3	6-8	ft. & in. ft. ft. & in.
	20	30	50	100	∞	
	∞	∞	∞	∞	∞	

Table of Focal Depths for 50 mm. Leitz Xenon, Summar, Hektor and Elmar lenses

F/1.5	3-5 ¹ / ₄	3-11	4-10 ³ / ₈	5-9 ⁵ / ₈	ft. & in. ft. ft. & in.
	3.5	4	5	6	
	3-6 ⁷ / ₈	4-1 ¹ / ₈	5-1 ³ / ₄	6-2 ¹ / ₂	

F/2 (F/2.2)	3-5	3-11	4-10	5-9	ft. & in. ft. ft. & in.
	3.5	4	5	6	
	3-7	4-1	5-2	6-3	

F/2.5	3-4 ¹ / ₂	3-10 ¹ / ₈	4-9 ¹ / ₈	5-8	ft. & in. ft. ft. & in.
	3.5	4	5	6	
	3-7 ⁹ / ₁₆	4-2	5-3 ³ / ₁₆	6-5	

F/3.5 (F/3.2)	3-4	3-9 ¹ / ₂	4-8	5-6	ft. & in. ft. ft. & in.
	3.5	4	5	6	
	3-8 ¹ / ₂	4-3	5-5	6-7	

F/4.5	3-3 ¹ / ₂	3-8 ³ / ₄	4-7	5-5	ft. & in. ft. ft. & in.
	3.5	4	5	6	
	3-9	4-4	5-6	6-9	

F/6.3	3-2 ¹ / ₂	3-7 ¹ / ₂	4-5	5-2	ft. & in. ft. ft. & in.
	3.5	4	5	6	
	3-10	4-5 ¹ / ₂	5-9	7-1	

F/9	3-1	3-6	4-3	4-11	ft. & in. ft. ft. & in.
	3.5	4	5	6	
	4-0	4-8	6-1	7-8	

F/12.5	3-0	3-4	4-0	4-7	ft. & in. ft. ft. & in.
	3.5	4	5	6	
	4-3	5-0	6-8	8-8	

F/18	2-9 ¹ / ₂	3-1	3-8	4-2	ft. & in. ft. ft. & in.
	3.5	4	5	6	
	4-8 ¹ / ₂	5-8	7-11	10-8	

Table of Focal Depths
for 50 mm. Leitz Xenon, Summar, Hektor
and Elmar lenses (Continued)

F/1.5	6-8 ^{3/4}	7-7 ^{7/8}	8-6 ^{3/4}	9-5 ^{5/8}	11-3	ft. & in.
	7	8	9	10	12	ft.
	7-3 ^{1/2}	8-4 ^{1/2}	9-5 ^{3/4}	10-7 ^{1/8}	12-10	ft. & in.
F/2 (F/2.2)	6-8	7-7	8-5	9-4	11-0	ft. & in.
	7	8	9	10	12	ft.
	7-5	8-6	9-8	10-10	13-2	ft. & in.
F/2.5	6-6	7-5	8-3	9-1	10-8	ft. & in.
	7	8	9	10	12	ft.
	7-7	8-9	9-11	11-2	13-8	ft. & in.
F/3.5 (F/3.2)	6-4	7-2	8-0	8-9	10-3	ft. & in.
	7	8	9	10	12	ft.
	7-9	9-0	10-4	11-8	14-6	ft. & in.
F/4.5	6-2	7-0	7-9	8-5	9-10	ft. & in.
	7	8	9	10	12	ft.
	8-0	9-4	10-9	12-3	15-5	ft. & in.
F/6.3	5-11	6-7	7-4	7-11	9-2	ft. & in.
	7	8	9	10	12	ft.
	8-6	10-1	11-8	13-5	17-4	ft. & in.
F/9	5-7	6-2	6-9	7-4	8-4	ft. & in.
	7	8	9	10	12	ft.
	9-5	11-4	13-5	15-9	21-5	ft. & in.
F/12.5	5-2	5-8	6-2	6-8	7-5	ft. & in.
	7	8	9	10	12	ft.
	10-10	13-6	16-7	20-4	30-9	ft. & in.
F/18	4-8	5-0	5-5	5-9	6-5	ft. & in.
	7	8	9	10	12	ft.
	14-4	19-3	26-4	37-3	98	ft. & in.

Table of Focal Depths
for 50 mm. Leitz Xenon, Summar, Hektor
and Elmar lenses (Continued)

F/1.5	13-10	18-0	25-8	39-0	64	177-5	ft. & in.
	15	20	30	50	100	∞	ft.
	16-5	22-6	36-1	69-7	229-1	∞	ft. & in.
F/2 (F/2.2)	13-6	17-0	24-6	36-4	57-11	133	ft. & in.
	15	20	30	50	100	∞	ft.
	16-11	28-6	38-9	80-0	∞	∞	ft. & in.
F/2.5	13	16-8	23	33-2	49-7	98	ft. & in.
	15	20	30	50	100	∞	ft.
	17-8	25-1	43-2	102	∞	∞	ft. & in.
F/3.5 (F/3.2)	12-4	15-7	21	29	41	70	ft. & in.
	15	20	30	50	100	∞	ft.
	19-1	28	50	∞	∞	∞	ft. & in.
F/4.5	11-9	14-8	19-4	26-2	35-5	55	ft. & in.
	15	20	30	50	100	∞	ft.
	20-8	31-7	66	∞	∞	∞	ft. & in.
F/6.3	10-10	13-3	17	22	28	39	ft. & in.
	15	20	30	50	100	∞	ft.
	24-4	41	129	∞	∞	∞	ft. & in.
F/9	9-8	11-7	14-4	17-8	21-6	27	ft. & in.
	15	20	30	50	100	∞	ft.
	33-3	75	∞	∞	∞	∞	ft. & in.
F/12.5	8-6	9-11	11-11	14-2	16-5	20	ft. & in.
	15	20	30	50	100	∞	ft.
	63	∞	∞	∞	∞	∞	ft. & in.
F/18	7-2	8-1	9-5	10-9	12	14	ft. & in.
	15	20	30	50	100	∞	ft.
	∞	∞	∞	∞	∞	∞	ft. & in.

Table of Focal Depths
for
73 mm. F/1.9 Leitz Hektor lens

F/1.9	3-5 $\frac{1}{2}$	3-11 $\frac{1}{3}$	4-11	5-10 $\frac{1}{2}$	6-10	7-9 $\frac{1}{3}$	ft. & in. ft.
	3.5	4	5	6	7	8	
	3-6 $\frac{1}{2}$	4-0 $\frac{3}{4}$	5-1 $\frac{1}{8}$	6-1 $\frac{2}{3}$	7-2 $\frac{1}{6}$	8-3	ft. & in.
F/2.2	3-5 $\frac{1}{2}$	3-11 $\frac{1}{4}$	4-10 $\frac{1}{4}$	5-10 $\frac{1}{4}$	6-9 $\frac{2}{3}$	7-9	ft. & in. ft.
	3.5	4	5	6	7	8	
	3-6 $\frac{1}{2}$	4-1	5-1 $\frac{1}{3}$	6-2	7-2 $\frac{1}{2}$	8-3 $\frac{1}{3}$	ft. & in.
F/3.2	3-5 $\frac{1}{6}$	3-11	4-10 $\frac{1}{3}$	5-9 $\frac{1}{2}$	6-8 $\frac{2}{3}$	7-7 $\frac{2}{3}$	ft. & in. ft.
	3.5	4	5	6	7	8	
	3-7	4-1 $\frac{1}{6}$	5-2	6-2 $\frac{3}{4}$	7-3 $\frac{3}{4}$	8-5	ft. & in.
F/4.5	3-4 $\frac{3}{6}$	3-10 $\frac{1}{2}$	4-9 $\frac{1}{3}$	5-8 $\frac{1}{2}$	6-7 $\frac{1}{3}$	7-6	ft. & in. ft.
	3.5	4	5	6	7	8	
	3-7 $\frac{1}{3}$	4-1 $\frac{3}{4}$	5-2 $\frac{2}{3}$	6-4	7-5 $\frac{1}{3}$	8-7	ft. & in.
F/6.3	3-4 $\frac{1}{3}$	3-10	4-8 $\frac{3}{4}$	5-7 $\frac{1}{3}$	6-5 $\frac{2}{3}$	7-3 $\frac{2}{3}$	ft. & in. ft.
	3.5	4	5	6	7	8	
	3-8	4-2 $\frac{1}{3}$	5-3 $\frac{3}{4}$	6-5 $\frac{1}{2}$	7-7 $\frac{1}{2}$	8-10	ft. & in.
F/9	3-3 $\frac{2}{3}$	3-9	4-7 $\frac{1}{3}$	5-5 $\frac{1}{2}$	6-3	7-1	ft. & in. ft.
	3.5	4	5	6	7	8	
	3-8 $\frac{2}{3}$	4-3 $\frac{1}{2}$	5-5 $\frac{1}{2}$	6-8	7-11	9-3	ft. & in.
F/12.5	3-3	3-8	4-6	5-3	6	6-9	ft. & in. ft.
	3.5	4	5	6	7	8	
	3-10 $\frac{1}{4}$	4-5	5-8	7	8-4 $\frac{1}{2}$	9-10	ft. & in.
F/18	3-1 $\frac{1}{2}$	3-6 $\frac{1}{3}$	4-3	5	5-8	6-4	ft. & in. ft.
	3.5	4	5	6	7	8	
	4	4-7 $\frac{1}{2}$	6	7-6	9-2	10-11	ft. & in.
F/25	3	3-4 $\frac{1}{2}$	4	4-8	5-3	5-10	ft. & in. ft.
	3.5	4	5	6	7	8	
	4-2 $\frac{1}{4}$	4-11	6-6	8-4	10-5	12-9	ft. & in.

Table of Focal Depths
for
73 mm. F/1.9 Leitz Hektor lens
(Continued)

F/1.9	8-8 $\frac{2}{3}$	9-8	11-6	14-3	18-8	27-1	ft. & in. ft.
	9	10	12	15	20	30	
	9-3 $\frac{2}{3}$	10-4 $\frac{1}{2}$	12-6 $\frac{1}{2}$	15-10	21-6	33-7	ft. & in.
F/2.2	8-8	9-7 $\frac{1}{4}$	11-5	14-1	18-5	26-8	ft. & in. ft.
	9	10	12	15	20	30	
	9-4 $\frac{1}{2}$	10-5 $\frac{1}{4}$	12-7 $\frac{1}{2}$	16	21-10	34-4	ft. & in.
F/3.2	8-6 $\frac{1}{2}$	9-5 $\frac{1}{4}$	11-2	13-9	17-10	25-5	ft. & in. ft.
	9	10	12	15	20	30	
	9-5 $\frac{1}{4}$	10-7 $\frac{2}{3}$	12-11	16-6	22-9	36-7	ft. & in.
F/4.5	8-4 $\frac{1}{2}$	9-3	10-11	13-4	17-2	23-11	ft. & in. ft.
	9	10	12	15	20	30	
	9-9	10-11	13-4	17-2	24-1	40-1	ft. & in.
F/6.3	8-2	8-11	10-6	12-9	16-2	22-2	ft. & in. ft.
	9	10	12	15	20	30	
	10-1	11-4	14	18-3	26-2	46-5	ft. & in.
F/9	7-10	8-7	10	12	15	19-11	ft. & in. ft.
	9	10	12	15	20	30	
	10-7	12	15	20-1	30-2	60-7	ft. & in.
F/12.5	7-5	8-1	9-4	11-1	13-8	17-8	ft. & in. ft.
	9	10	12	15	20	30	
	11-5	13-1	16-8	23-1	37-7	100-6	ft. & in.
F/18	6-11	7-6	8-7	10	11-11	14-11	ft. & in. ft.
	9	10	12	15	20	30	
	12-11	15-1	20-2	30-2	61-3	∞	ft. & in.
F/25	6-4	6-10	7-8	8-10	10-4	12-6	ft. & in. ft.
	9	10	12	15	20	30	
	15-6	18-9	27-4	50-3	308	∞	ft. & in.

Table of Focal Depths

for
73 mm. F/1.9 Leitz Hektor lens

(Continued)

F/1.9	35	42-5	59-3	73-9	98	281	ft. & in.
	40	50	75	100	150	∞	ft.
	46-7	60-9	102	155	321	∞	ft. & in.
F/2.2	34-3	41-4	57-1	70-6	92-1	239	ft. & in.
	40	50	75	100	150	∞	ft.
	48-1	63-3	109-5	172	404	∞	ft. & in.
F/3.2	32-3	38-6	51-9	62-7	79	167	ft. & in.
	40	50	75	100	150	∞	ft.
	52-7	71-4	136	249	∞	∞	ft. & in.
F/4.5	29-11	35-2	46	54-4	66-4	119	ft. & in.
	40	50	75	100	150	∞	ft.
	60-4	86-4	203	631	∞	∞	ft. & in.
F/6.3	27-2	31-2	39-10	45-11	54-2	84-10	ft. & in.
	40	50	75	100	150	∞	ft.
	75-8	122	645	∞	∞	∞	ft. & in.
F/9	23-11	27-2	33-2	37-3	42-5	59-5	ft. & in.
	40	50	75	100	150	∞	ft.
	122	315	∞	∞	∞	∞	ft. & in.
F/12.5	20-8	23-1	27-3	30	33-3	42-9	ft. & in.
	40	50	75	100	150	∞	ft.
	616	∞	∞	∞	∞	∞	ft. & in.
F/18	17-1	18-8	21-3	22-11	24-10	29-8	ft. & in.
	40	50	75	100	150	∞	ft.
	∞	∞	∞	∞	∞	∞	ft. & in.
F/25	13-11	15	16-8	17-8	18-9	21-5	ft. & in.
	40	50	75	100	150	∞	ft.
	∞	∞	∞	∞	∞	∞	ft. & in.

Table of Focal Depths

for
90 mm. F/4 Leitz Elmar lens

F/4.5	3-5 ¹ / ₄	3-11	4-10 ¹ / ₂	5-10	6-9	7-8	8-7	ft. & in.
	3.5	4	5	6	7	8	9	ft.
	3-6 ³ / ₄	4-1	5-1 ¹ / ₂	6-2	7-3	8-4	9-5	ft. & in.
F/6.3	3-5	3-10 ¹ / ₂	4-9 ³ / ₄	5-9	6-7 ² / ₃	7-6	8-5	ft. & in.
	3.5	4	5	6	7	8	9	ft.
	3-7 ¹ / ₄	4-1 ³ / ₄	5-2 ¹ / ₂	6-3 ¹ / ₂	7-5	8-7	9-8	ft. & in.
F/9	3-4 ¹ / ₂	3-10	4-8 ³ / ₄	5-7 ¹ / ₂	6-6	7-4	8-2	ft. & in.
	3.5	4	5	6	7	8	9	ft.
	3-7 ³ / ₄	4-2 ¹ / ₄	5-3 ¹ / ₂	6-5	7-7	8-10	10	ft. & in.
F/12.5	3-4	3-9 ¹ / ₄	4-7 ² / ₃	5-6	6-4	7-1	7-11	ft. & in.
	3.5	4	5	6	7	8	9	ft.
	3-8 ¹ / ₂	4-3	5-5	6-7 ¹ / ₂	7-10	9-2	10-6	ft. & in.
F/18	3-3	3-8	4-6	5-3 ¹ / ₂	6-1	6-9	7-6	ft. & in.
	3.5	4	5	6	7	8	9	ft.
	3-9 ² / ₃	4-5	5-7 ² / ₃	6-11	8-4	9-9	11-4	ft. & in.
F/25	3-2	3-6 ¹ / ₂	4-4	5-1	5-9	6-5	7	ft. & in.
	3.5	4	5	6	7	8	9	ft.
	3-11	4-7	5-11	7-5	9	10-8	12-6	ft. & in.
F/36	3	3-5	4-1	4-9	5-4	5-11	6-5	ft. & in.
	3.5	4	5	6	7	8	9	ft.
	4-2	4-11	6-6	8-3	10-3	12-6	15-2	ft. & in.

Table of Focal Depths

for
90 mm. F/4 Leitz Elmar lens

(Continued)

F/4.5	9-6	11-4	13-11	18-2	26-1	33-4	ft. & in.
	10	12	15	20	30	40	ft.
	10-6	12-9	16-3	22-3	35-4	50	ft. & in.

F/6.3	9-3	11	13-5	17-3	24-3	30-5	ft. & in.
	10	12	15	20	30	40	ft.
	10-10	13-3	17	23-9	39-4	58-7	ft. & in.

F/9	9	10-7	12-10	16-4	22-5	27-7	ft. & in.
	10	12	15	20	30	40	ft.
	11-3	13-11	18-1	25-10	45-4	73	ft. & in.

F/12.5	8-8	10-1	12-2	15-3	20-5	24-7	ft. & in.
	10	12	15	20	30	40	ft.
	11-10	14-9	19-7	29-2	56-8	107	ft. & in.

F/18	8-2	9-5	11-2	13-9	17-11	21	ft. & in.
	10	12	15	20	30	40	ft.
	12-11	16-6	22-8	36-6	93	∞	ft. & in.

F/25	7-7	8-9	10-2	12-3	15-5	17-9	ft. & in.
	10	12	15	20	30	40	ft.
	15-6	19-3	28-4	54	∞	∞	ft. & in.

F/36	6-11	7-9	8-11	10-6	12-9	14-3	ft. & in.
	10	12	15	20	30	40	ft.
	18-3	26-2	46-6	206	∞	∞	ft. & in.

Table of Focal Depths

for
90 mm. F/4 Leitz Elmar lens

(Continued)

F/4.5	40	54-6	66-7	85-7	120	199	ft. & in.
	50	75	100	150	300	∞	ft.
	66-9	121	200	∞	∞	∞	ft. & in.

F/6.3	35-10	47-1	55-10	68-8	89	127	ft. & in.
	50	75	100	150	300	∞	ft.
	82-8	184	∞	∞	∞	∞	ft. & in.

F/9	32	40-7	47	55-8	68-5	89	ft. & in.
	50	75	100	150	300	∞	ft.
	115	∞	∞	∞	∞	∞	ft. & in.

F/12.5	28	34-6	38-11	44-9	52-7	64	ft. & in.
	50	75	100	150	300	∞	ft.
	231	∞	∞	∞	∞	∞	ft. & in.

F/18	23-6	27-10	30-8	34-2	38-7	44	ft. & in.
	50	75	100	150	300	∞	ft.
	∞	∞	∞	∞	∞	∞	ft. & in.

F/25	19-6	22-5	24-2	26-4	28-10	31-11	ft. & in.
	50	75	100	150	300	∞	ft.
	∞	∞	∞	∞	∞	∞	ft. & in.

F/36	15-4	17-1	18-2	19-4	20-8	22-2	ft. & in.
	50	75	100	150	300	∞	ft.
	∞	∞	∞	∞	∞	∞	ft. & in.

Table of Focal Depths

for

105 mm. F/6.3 Leitz Elmar lens

F/6.3	6-9	7-8	8-7	9-5	11-3	13-10	17-9	25-7	ft. & in.
	7	8	9	10	12	15	20	30	ft.
	7-4	8-5	9-6	10-8	12-11	16-5	22-8	36-4	ft. & in.

F/9	6-8	7-6	8-5	9-3	10-11	13-4	17-2	24	ft. & in.
	7	8	9	10	12	15	20	30	ft.
	7-5	8-7	9-9	10-11	13-4	17-2	24	39-11	ft. & in.

F/12.5	6-6	7-4	8-2	9	10-7	12-10	16-3	22-4	ft. & in.
	7	8	9	10	12	15	20	30	ft.
	7-7	8-10	10-1	11-4	13-11	18-2	26	45-10	ft. & in.

F/18	6-3	7-1	7-10	8-7	10	12	15	20	ft. & in.
	7	8	9	10	12	15	20	30	ft.
	7-11	9-3	10-7	12	15	20	29-11	59-9	ft. & in.

F/25	6	6-9	7-6	8-2	9-5	11-2	13-8	17-9	ft. & in.
	7	8	9	10	12	15	20	30	ft.
	8-4	9-10	11-4	13	16-7	22-11	37-1	97-2	ft. & in.

F/36	5-8	6-4	6-11	7-6	8-7	10	12	15	ft. & in.
	7	8	9	10	12	15	20	30	ft.
	9-1	10-11	12-10	15	19-11	29-10	59-5	∞	ft. & in.

Table of Focal Depths

for

105 mm. F/6.3 Leitz Elmar lens

(Continued)

F/6.3	32-6	38-9	52-3	63-3	80-2	109-5	172	ft. & in.
	40	50	75	100	150	300	∞	ft.
	52-1	70-5	133	238	∞	∞	∞	ft. & in.

F/9	30	35-4	46-3	54-8	66-10	86	120-7	ft. & in.
	40	50	75	100	150	300	∞	ft.
	59-10	85-9	198	586	∞	∞	∞	ft. & in.

F/12.5	27-5	31-9	40-3	46-6	55	67-4	86-10	ft. & in.
	40	50	75	100	150	300	∞	ft.
	74-2	118	551	∞	∞	∞	∞	ft. & in.

F/18	24-1	27-4	33-5	37-7	43	50-2	60-3	ft. & in.
	40	50	75	100	150	300	∞	ft.
	119	294	∞	∞	∞	∞	∞	ft. & in.

F/25	20-10	23-3	28-10	30-3	33-8	37-11	43-5	ft. & in.
	40	50	75	100	150	300	∞	ft.
	510	∞	∞	∞	∞	∞	∞	ft. & in.

F/36	17-2	18-10	21-6	23-2	25-1	27-5	30-2	ft. & in.
	40	50	75	100	150	300	∞	ft.
	∞	∞	∞	∞	∞	∞	∞	ft. & in.

Table of Focal Depths

for

135 mm. F/4.5 Leitz Hektor lens

F/4.5	4-11 ¹ / ₄	5-10 ¹⁵ / ₁₆	6-10 ¹ / ₂	7-10 ¹ / ₈	8-9 ¹ / ₂	9-9	ft. & in. ft. ft. & in.
	5	6	7	8	9	10	
	5-0 ³ / ₄	6-1 ¹ / ₈	7-1 ¹ / ₂	8-2	9-2 ¹ / ₂	10-3	

F/6.3	4-11	5-10 ¹ / ₂	6-10	7-9 ¹ / ₂	8-8 ³ / ₄	9-8	ft. & in. ft. ft. & in.
	5	6	7	8	9	10	
	5-1 ¹ / ₁₆	6-1 ⁹ / ₁₆	7-2 ¹ / ₈	8-2 ³ / ₄	9-3 ¹ / ₂	10-4 ¹ / ₂	

F/9	4-10 ¹ / ₂	5-9 ¹⁵ / ₁₆	6-9 ¹ / ₈	7-8 ¹ / ₄	8-7 ¹ / ₄	9-6 ¹ / ₄	ft. & in. ft. ft. & in.
	5	6	7	8	9	10	
	5-1 ⁹ / ₁₆	6-2 ¹ / ₄	7-3 ¹ / ₁₆	8-4	9-5 ¹ / ₈	10-6 ¹ / ₂	

F/12.5	4-10	5-9 ¹ / ₈	6-8 ¹ / ₈	7-7	8-5 ¹ / ₂	9-4 ¹ / ₄	ft. & in. ft. ft. & in.
	5	6	7	8	9	10	
	5-2 ³ / ₁₆	6-3 ¹ / ₈	7-4 ¹ / ₄	8-5 ³ / ₄	9-7 ¹ / ₄	10-9	

F/18	4-9 ¹ / ₈	5-8	6-6 ¹ / ₂	7-5	8-3	9-1	ft. & in. ft. ft. & in.
	5	6	7	8	9	10	
	5-3 ³ / ₁₆	6-4 ¹ / ₂	7-6 ¹ / ₄	8-8 ¹ / ₂	9-10 ³ / ₄	11-11 ¹ / ₂	

F/25	4-8 ¹ / ₈	5-6 ¹ / ₂	6-4 ¹ / ₂	7-2 ¹ / ₄	8	8-9 ¹ / ₄	ft. & in. ft. ft. & in.
	5	6	7	8	9	10	
	5-4 ¹ / ₂	6-6 ³ / ₁₆	7-9 ¹ / ₁₆	9	10-3 ¹ / ₂	11-7 ¹ / ₂	

F/36	4-6 ³ / ₄	5-4 ¹ / ₃	6-1 ¹ / ₂	6-10 ³ / ₄	7-7 ¹ / ₂	8-4	ft. & in. ft. ft. & in.
	5	6	7	8	9	10	
	5-6 ¹¹ / ₁₆	6-10	8-1 ³ / ₄	9-6 ¹ / ₂	11	12-6	

Table of Focal Depths

for

135 mm. F/4.5 Leitz Hektor lens (Continued)

F/4.5	11-7 ³ / ₄	14-5 ¹ / ₂	19-1	28	36	44	ft. & in. ft. ft. & in.
	12	15	20	30	40	50	
	12-4 ¹ / ₂	15-7	21-1	32-6	44-6	57	

F/6.3	11-6 ¹ / ₈	14-3	18-8	27	35	42-6	ft. & in. ft. ft. & in.
	12	15	20	30	40	50	
	12-6 ¹ / ₄	15-10	21-6	33-6	46-6	61	

F/9	11-4	13-11	18-2	26	33	40	ft. & in. ft. ft. & in.
	12	15	20	30	40	50	
	12-9	16-3	22-3	35	50	67	

F/12.5	11-1	13-7	17-6	25	31	37	ft. & in. ft. ft. & in.
	12	15	20	30	40	50	
	13-1	16-9	23-3	38	55	77	

F/18	10-9	13	16-6	22-6	28-6	33	ft. & in. ft. ft. & in.
	12	15	20	30	40	50	
	13-8	17-5	25	43	67	100	

F/25	10-3	12-5	15-6	21	26	29	ft. & in. ft. ft. & in.
	12	15	20	30	40	50	
	14-5	19	28	51-6	90	165	

F/36	9-8	11-6	14	19	22	25	ft. & in. ft. ft. & in.
	12	15	20	30	40	50	
	15-10	21-5	33-6	75	203	∞	

Table of Focal Depths

for
135 mm. F/4.5 Leitz Hektor lens

(Continued)

F/4.5	52	63	80	109	171	399	ft. & in. ft. ft. & in.
	60	75	100	150	300	∞	
	71	92	133	241	∞	∞	

F/6.3	49-6	59	74	98	146	285	ft. & in. ft. ft. & in.
	60	75	100	150	300	∞	
	76	102	154	317	∞	∞	

F/9	46	54	67	86	120	199	ft. & in. ft. ft. & in.
	60	75	100	150	300	∞	
	86	120	201	∞	∞	∞	

F/12.5	42	49	59	73	97	143	ft. & in. ft. ft. & in.
	60	75	100	150	300	∞	
	103	157	330	∞	∞	∞	

F/18	37	43	50	60	75	99	ft. & in. ft. ft. & in.
	60	75	100	150	300	∞	
	151	303	∞	∞	∞	∞	

F/25	33	37	42	49	58	72	ft. & in. ft. ft. & in.
	60	75	100	150	300	∞	
	366	∞	∞	∞	∞	∞	

F/36	27	30	33	37	43	50	ft. & in. ft. ft. & in.
	60	75	100	150	300	∞	
	∞	∞	∞	∞	∞	∞	

Table of Focal Depths

for
200 mm. F/4.5 Leitz Telyt lens

F/4.5	11-10	14-9	16-8	19-7	21-6	24-4	26-2	29	30-10	ft. & in. ft. ft. & in.
	12	15	17	20	22	25	27	30	32	
	12-2	15-3	17-4	20-6	22-7	25-9	27-10	31	32-3	

F/6.3	11-9	14-8	16-7	19-5	21-3	24-1	25-11	28-8	30-5	ft. & in. ft. ft. & in.
	12	15	17	20	22	25	27	30	32	
	12-3	15-4	17-6	20-8	22-10	26-1	28-3	31-6	33-9	

F/9	11-8	14-6	16-4	19-2	21	23-8	25-5	28-1	29-10	ft. & in. ft. ft. & in.
	12	15	17	20	22	25	27	30	32	
	12-4	15-6	17-8	21	23-2	26-6	28-9	32-2	34-6	

F/12.5	11-7	14-4	16-2	18-10	20-7	23-2	24-10	27-5	29-1	ft. & in. ft. ft. & in.
	12	15	17	20	22	25	27	30	32	
	12-6	15-9	17-11	21-4	23-8	27-2	29-6	33-2	35-7	

F/18	11-5	14	15-9	18-4	20	22-5	24	26-5	28	ft. & in. ft. ft. & in.
	12	15	17	20	22	25	27	30	32	
	12-8	16-1	18-5	22	24-5	28-3	30-11	34-9	37-6	

F/25	11-2	13-8	15-4	17-9	19-4	21-7	23-1	25-3	26-7	ft. & in. ft. ft. & in.
	12	15	17	20	22	25	27	30	32	
	13	16-7	19-1	22-11	25-7	29-9	32-7	37-1	40-2	

F/36	10-10	13-2	14-9	16-11	18-4	20-4	21-8	23-7	24-9	ft. & in. ft. ft. & in.
	12	15	17	20	22	25	27	30	32	
	13-6	17-5	20-2	24-6	27-6	32-5	35-10	41-7	45-3	

Table of Focal Depths
for
200 mm. F/4.5 Leitz Telyt lens
(Continued)

F/4.5	33-8	35-5	38-3	40-1	42-10	44-7	47-4	49-1	51-9	ft. & in. ft. ft. & in.
	35	37	40	42	45	47	50	52	55	
	36-5	38-8	41-11	44-1	47-5	49-8	53	55-3	58-8	

F/6.3	33-2	34-11	37-7	39-4	42	43-9	46-4	48	50-7	ft. & in. ft. ft. & in.
	35	37	40	42	45	47	50	52	55	
	37-1	39-4	42-9	45	48-6	50-10	54-4	56-9	60-4	

F/9	32-5	34-1	36-8	38-4	40-10	42-5	44-10	46-6	48-10	ft. & in. ft. ft. & in.
	35	37	40	42	45	47	50	52	55	
	38-1	40-5	44	46-6	50-2	52-8	56-5	59	63	

F/12.5	31-6	33-1	35-6	37-1	39-5	40-11	43-2	44-8	46-10	ft. & in. ft. ft. & in.
	35	37	40	42	45	47	50	52	55	
	39-4	41-11	45-10	48-5	52-6	55-3	59-5	62-3	66-7	

F/18	30-2	31-8	33-10	35-3	37-4	38-8	40-8	42	43-11	ft. & in. ft. ft. & in.
	35	37	40	42	45	47	50	52	55	
	41-8	44-6	49	52	56-8	60	64-10	68-3	73-6	

F/25	28-8	30	31-11	33-2	35	36-3	38	39-1	40-9	ft. & in. ft. ft. & in.
	35	37	40	42	45	47	50	52	55	
	45	48-4	53-7	57-3	63-2	67	73-2	77-7	84-5	

F/36	26-6	27-8	29-3	30-4	32-2	32-10	34-4	35-3	36-7	ft. & in. ft. ft. & in.
	35	37	40	42	45	47	50	52	55	
	51-6	56	63-1	68-2	76-6	82-5	92	99-2	111	

Table of Focal Depths
for
200 mm. F/4.5 Leitz Telyt lens
(Continued)

F/4.5	56-2	61	65	73	82	90	109	128	146	ft. & in. ft. ft. & in.
	60	65	70	80	90	100	125	150	175	
	64-5	70	76	88	100	113	146	181	219	

F/6.3	54-9	58-11	63	71	79	86	104	121	137	ft. & in. ft. ft. & in.
	60	65	70	80	90	100	125	150	175	
	66-4	72-7	79	92	105	119	156	197	243	

F/9.0	52-9	56-7	60-4	67-8	74-8	81	97	112	125	ft. & in. ft. ft. & in.
	60	65	70	80	90	100	125	150	175	
	69-7	76-3	83-6	98	113	130	175	228	292	

F/12.5	50-5	54	57	64	70	76	90	102	113	ft. & in. ft. ft. & in.
	60	65	70	80	90	100	125	150	175	
	74	82	90	107	126	146	207	286	393	

F/18	47-1	50-1	52-10	58-7	63-9	69	80	89	97	ft. & in. ft. ft. & in.
	60	65	70	80	90	100	125	150	175	
	82-8	93	103	126	153	184	292	478	876	

F/25	43-6	46-1	48-6	53	57-4	62-2	70	77	83	ft. & in. ft. ft. & in.
	60	65	70	80	90	100	125	150	175	
	97	111	126	162	210	273	602	3063	∞	

F/36	38-9	40-9	42-8	46-2	49-4	52-3	58-4	63-3	67-4	ft. & in. ft. ft. & in.
	60	65	70	80	90	100	125	150	175	
	133	160	195	298	509	∞	∞	∞	∞	

Table of Focal Depths

for
200 mm. F/4.5 Leitz Telyt lens

(Continued)

F/4.5	163	194	223	275	318	389	467	874	ft. & in. ft. ft. & in.
	200	250	300	400	500	700	1000	∞	
	259	350	457	737	1167	∞	∞	∞	

F/6.3	151	178	203	244	278	330	385	625	ft. & in. ft. ft. & in.
	200	250	300	400	500	700	1000	∞	
	294	417	577	1111	∞	∞	∞	∞	

F/9	137	159	178	209	230	269	304	437	ft. & in. ft. ft. & in.
	200	250	300	400	500	700	1000	∞	
	368	536	1380	∞	∞	∞	∞	∞	

F/12.5	122	140	154	176	193	217	240	315	ft. & in. ft. ft. & in.
	200	250	300	400	500	700	1000	∞	
	546	1205	∞	∞	∞	∞	∞	∞	

F/18	105	117	127	142	152	167	180	219	ft. & in. ft. ft. & in.
	200	250	300	400	500	700	1000	∞	
	∞	∞	∞	∞	∞	∞	∞	∞	

F/25	88	97	100	114	120	129	136	158	ft. & in. ft. ft. & in.
	200	250	300	400	500	700	1000	∞	
	∞	∞	∞	∞	∞	∞	∞	∞	

F/36	70-8	76-1	80-2	86	89	95	99	103	ft. & in. ft. ft. & in.
	200	250	300	400	500	700	1000	∞	
	∞	∞	∞	∞	∞	∞	∞	∞	

Table of focal Depths

for
400 mm. F/5 Leitz Telyt lens

F/5	24-10	26-9	29-9	31-8	34-7	39-6	44-4	49-3	54-1	ft. & in. ft. ft. & in.
	25	27	30	32	35	40	45	50	55	
	25-2	27-3	30-3	32-4	35-5	40-6	45-8	50-10	56	

F/6.3	24-9	26-8	29-8	31-7	34-6	39-4	44-2	49	53-10	ft. & in. ft. ft. & in.
	25	27	30	32	35	40	45	50	55	
	25-3	27-4	30-4	32-5	35-6	40-8	45-10	51	56-3	

F/9	24-8	26-7	29-6	31-5	34-4	39-1	43-10	48-7	53-4	ft. & in. ft. ft. & in.
	25	27	30	32	35	40	45	50	55	
	25-4	27-5	30-6	32-7	35-9	40-11	46-2	51-6	56-9	

F/12.5	24-6	26-5	29-4	31-2	34-1	38-9	43-5	48-1	52-8	ft. & in. ft. ft. & in.
	25	27	30	32	35	40	45	50	55	
	25-6	27-7	30-9	32-10	36	41-4	46-8	52-1	57-6	

F/18	24-4	26-2	29	30-10	33-8	38-3	42-10	47-4	51-9	ft. & in. ft. ft. & in.
	25	27	30	32	35	40	45	50	55	
	25-9	27-10	31-1	33-3	36-6	41-11	47-5	53	58-8	

F/25	24-1	25-11	28-8	30-5	33-2	37-7	42	46-4	50-7	ft. & in. ft. ft. & in.
	25	27	30	32	35	40	45	50	55	
	26	28-3	31-6	33-9	37-1	42-9	48-6	54-4	63-3	

F/36	23-8	25-5	28-1	29-10	32-5	36-8	40-10	44-10	48-10	ft. & in. ft. ft. & in.
	25	27	30	32	35	40	45	50	55	
	26-6	28-9	32-3	34-6	38-1	44	50-2	56-5	62-11	

Table of focal Depths
for
400 mm. F/5 Leitz Telyt lens
(Continued)

F/5	58-11	63-8	68-6	73-3	78	82-9	87-6	92-3	96-11	ft. & in. ft. ft. & in.
	60	65	70	75	80	85	90	95	100	
	61-2	66-4	71-7	76-10	82-1	87-4	92-8	97-11	103	

F/6.3	58-7	63-4	68-1	72-10	77-6	82-2	86-10	91-6	96-2	ft. & in. ft. ft. & in.
	60	65	70	75	80	85	90	95	100	
	61-6	66-9	72	77-4	82-8	83	93-4	98-9	104	

F/9	58	62-8	67-4	71-11	76-6	81-1	85-7	90-1	94-7	ft. & in. ft. ft. & in.
	60	65	70	75	80	85	90	95	100	
	62-2	67-6	72-11	78-4	83-10	89-4	94-11	100	106	

F/12.5	57-3	61-10	66-4	70-9	75-3	79-8	84	88-4	92-8	ft. & in. ft. ft. & in.
	60	65	70	75	80	85	90	95	100	
	63	68-6	74-1	79-9	85-5	91-2	96-11	103	109	

F/18	56-2	60-6	64-10	69-1	73-4	77-6	81-7	85-8	89-9	ft. & in. ft. ft. & in.
	60	65	70	75	80	85	90	95	100	
	64-5	70-3	76-1	82	88-1	94-2	100	107	113	

F/25	54-9	58-11	63	67	71	74-11	78-9	82-7	86-4	ft. & in. ft. ft. & in.
	60	65	70	75	80	85	90	95	100	
	66-4	72-6	78-9	85-2	91-8	98-3	105	112	119	

F/36	52-9	56-7	60-4	64	67-8	71-2	74-8	78-1	81-5	ft. & in. ft. ft. & in.
	60	65	70	75	80	85	90	95	100	
	69-6	76-4	83-4	90-6	97-11	106	113	121	130	

Table of focal Depths
for
400 mm. F/5 Leitz Telyt lens
(Continued)

F/5	116	134	152	170	188	210	232	253	274	ft. & in. ft. ft. & in.
	120	140	160	180	200	225	250	275	300	
	125	147	169	191	214	242	272	301	332	

F/6.3	115	133	150	168	185	206	227	248	268	ft. & in. ft. ft. & in.
	120	140	160	180	200	225	250	275	300	
	126	148	171	194	217	247	278	309	341	

F/9	112	130	147	163	180	199	219	238	256	ft. & in. ft. ft. & in.
	120	140	160	180	200	225	250	275	300	
	129	152	176	201	226	258	292	326	362	

F/12.5	110	126	142	158	173	191	209	226	242	ft. & in. ft. ft. & in.
	120	140	160	180	200	225	250	275	300	
	133	158	183	210	238	274	312	352	394	

F/18	106	121	135	149	163	179	194	209	223	ft. & in. ft. ft. & in.
	120	140	160	180	200	225	250	275	300	
	139	167	196	227	259	303	350	401	457	

F/25	101	115	128	140	152	166	179	191	203	ft. & in. ft. ft. & in.
	120	140	160	180	200	225	250	275	300	
	148	180	215	252	293	350	415	488	573	

F/36	94-2	106	117	128	137	149	159	169	178	ft. & in. ft. ft. & in.
	120	140	160	180	200	225	250	275	300	
	165	206	252	306	368	463	583	741	955	

Table of focal Depths
for
400 mm. F/5 Leitz Telyt lens
(Continued)

F/5	315	355	432	606	759	1016	1223	3150	ft. & in.
	350	400	500	750	1000	1500	2000	∞	ft.
	384	458	594	984	1465	2864	∞	∞	ft. & in.

F/6.3	307	345	417	577	714	938	1111	2500	ft. & in.
	350	400	500	750	1000	1500	2000	∞	ft.
	407	476	625	1072	1667	3751	∞	∞	ft. & in.

F/9	292	326	389	525	636	808	933	1750	ft. & in.
	350	400	500	750	1000	1500	2000	∞	ft.
	438	519	700	1313	2334	∞	∞	∞	ft. & in.

F/12.5	274	304	358	470	558	685	773	1260	ft. & in.
	350	400	500	750	1000	1500	2000	∞	ft.
	485	586	829	1853	∞	∞	∞	∞	ft. & in.

F/18	250	275	318	404	467	553	609	875	ft. & in.
	350	400	500	750	1000	1500	2000	∞	ft.
	583	737	1167	∞	∞	∞	∞	∞	ft. & in.

F/25	225	245	279	342	387	444	479	630	ft. & in.
	350	400	500	750	1000	1500	2000	∞	ft.
	788	1096	2424	∞	∞	∞	∞	∞	ft. & in.

F/36	194	209	233	276	304	339	359	437	ft. & in.
	350	400	500	750	1000	1500	2000	∞	ft.
	1751	∞	∞	∞	∞	∞	∞	∞	ft. & in.

Leitz Supplementary
Front Lenses

for the Leica Camera

These supplementary front lenses are achromatic, and serve for photographing small animals, plants, objects of art, etc. as well as for copying writing, illustrations, documents, etc.

The front lenses screw lightly into the front of the lens mount of the 50 mm. F/3.5 Elmar lens. Focusing is carried out with the aid of the following table which, apart from the distance of the object, shows the degree of reduction obtainable, as well as the largest object which can be taken. When solid objects are to be taken, use should be made of the Table of Depth of Focus appended at the end of this booklet.

The No. 1 and 2 front lenses are suitable for snapshot use, and can be used with the lens even at full aperture. When the No. 3

front lens is used it is advisable to reduce the aperture at least as far as F/6.3.

Values for the full aperture of F/2 are not given in these depth of focus tables, as they are of no practical use.

Our Focomat enlarger can be used for copying books, written matter, pictures, etc., and permit easy and exact adjustment of the Leica camera. We supply for these enlargers special arms for carrying the Leica camera: further particulars are contained in our booklet "Copying apparatus for use in the conjunction with the Leica."

We would also refer at this point to the "Beooy" auxiliary device for use with the No. 2 and No. 3 front lenses: this is fully described in the booklet "Leitz Auxiliary Reproduction Devices for photographing small Objects with the Leica Camera." (See also page 48).

Focusing Table

for use with the 50 mm. Leitz Elmar or Summar
with the No. 1 Supplementary Front Lens

Setting of the helical focusing mount	Distance of the object from the back of the camera (plane of the film)*)	Resulting reduction in size	Permissible size of object
∞	39 ¹ / ₂ ins.	17.5x	16 ⁹ / ₁₆ x 24 ¹⁸ / ₁₆
100 ft.	38 ¹ / ₂ ins.	17.0x	16 ¹ / ₁₆ x 24 ¹ / ₈
50 ft.	37 ⁹ / ₁₆ ins.	16.5x	15 ⁵ / ₈ x 23 ⁷ / ₁₆
30 ft.	36 ⁵ / ₁₆ ins.	15.9x	15 ¹ / ₁₆ x 22 ⁹ / ₁₆
20 ft.	34 ¹⁵ / ₁₆ ins.	15.2x	14 ⁸ / ₈ x 21 ⁹ / ₁₆
15 ft.	33 ⁵ / ₈ ins.	14.6x	13 ³ / ₄ x 20 ¹¹ / ₁₆
12 ft.	32 ⁷ / ₁₆ ins.	14.0x	13 ³ / ₁₆ x 19 ³ / ₁₆
10 ft.	31 ⁵ / ₁₆ ins.	13.4x	12 ¹¹ / ₁₆ x 19
9 ft.	30 ⁹ / ₁₆ ins.	13.1 x	12 ⁵ / ₁₆ x 18 ¹ / ₂
8 ft.	29 ³ / ₄ ins.	12.6x	11 ¹⁵ / ₁₆ x 17 ¹⁵ / ₁₆
7 ft.	28 ³ / ₄ ins.	12.1 x	11 ¹ / ₂ x 17 ³ / ₁₆
6 ft.	27 ¹ / ₂ ins.	11.5 x	10 ⁷ / ₈ x 16 ⁵ / ₁₆
5 ft.	25 ⁷ / ₈ ins.	10.7 x	10 ¹ / ₈ x 15 ³ / ₁₆
4 ft.	23 ¹³ / ₁₆ ins.	9.7 x	9 ³ / ₁₆ x 13 ³ / ₄
3.5 ft.	22 ⁹ / ₁₆ ins.	9.1 x	8 ⁹ / ₁₆ x 12 ⁷ / ₈

*) When using the Leitz Summar, which is longer in its construction, these figures should be increased by 1 cm. (0.4")

Focusing Table

for use with the 50 mm. Leitz Elmar or Summar
with the No. 2. Supplementary Front Lens

Setting of the helical focusing mount	Distance of the object from the back of the camera (plane of the film)*)	Resulting reduction in size	Permissible size of object
∞	21 ⁹ / ₁₆ ins.	8.9 x	8 ⁷ / ₁₆ x 12 ⁵ / ₈
100 ft.	21 ¹ / ₄ ins.	8.8 x	8 ⁵ / ₁₆ x 12 ⁷ / ₁₆
50 ft.	21 ins.	8.6 x	8 ³ / ₁₆ x 12 ¹ / ₄
30 ft.	20 ¹¹ / ₁₆ ins.	8.5 x	8 x 12
20 ft.	20 ⁵ / ₁₆ ins.	8.3 x	7 ¹³ / ₁₆ x 11 ¹¹ / ₁₆
15 ft.	19 ⁷ / ₈ ins.	8.1 x	7 ⁵ / ₈ x 11 ⁷ / ₁₆
12 ft.	19 ¹ / ₂ ins.	7.9 x	7 ⁷ / ₁₆ x 11 ⁹ / ₁₆
10 ft.	19 ³ / ₁₆ ins.	7.7 x	7 ¹ / ₄ x 10 ⁷ / ₈
9 ft.	18 ¹⁵ / ₁₆ ins.	7.6 x	7 ¹ / ₈ x 10 ¹¹ / ₁₆
8 ft.	18 ⁵ / ₈ ins.	7.4 x	7 x 10 ¹ / ₂
7 ft.	18 ⁵ / ₁₆ ins.	7.2 x	6 ¹³ / ₁₆ x 10 ¹ / ₄
6 ft.	17 ⁷ / ₈ ins.	7.0 x	6 ⁵ / ₈ x 9 ¹⁵ / ₁₆
5 ft.	17 ¹ / ₄ ins.	6.7 x	6 ⁵ / ₁₆ x 9 ¹ / ₂
4 ft.	16 ⁷ / ₁₆ ins.	6.3 x	6 x 9
3.5 ft.	15 ¹⁵ / ₁₆ ins.	6.0 x	5 ⁵ / ₈ x 8 ¹ / ₂

*) When using the Leitz Summar, which is longer in its construction, these figures should be increased by 1 cm. (0.4").

Focusing Table

for use with the 50 mm. Leitz Elmar or Summar
with the No. 3. Supplementary Front Lens

Setting of the helical focusing mount	Distance of the object from the back of the camera (plane of the film)*)	Resulting reduction in size	Permissible size of object
∞	12 ¹ / ₄ ins.	4.5 x	4 ¹ / ₄ x 6 ⁵ / ₁₆
100 ft.	12 ³ / ₁₆ ins.	4.4 x	4 ³ / ₁₆ x 6 ⁵ / ₁₆
50 ft.	12 ¹ / ₈ ins.	4.4 x	4 ³ / ₁₆ x 6 ¹ / ₄
30 ft.	12 ¹ / ₁₆ ins.	4.3 x	4 ¹ / ₈ x 6 ³ / ₁₆
20 ft.	11 ¹⁵ / ₁₆ ins.	4.3 x	4 ¹ / ₁₆ x 6 ¹ / ₁₆
15 ft.	11 ⁷ / ₈ ins.	4.2 x	4 x 6
12 ft.	11 ³ / ₄ ins.	4.2 x	3 ¹⁵ / ₁₆ x 5 ¹⁵ / ₁₆
10 ft.	11 ¹¹ / ₁₆ ins.	4.1 x	3 ⁷ / ₈ x 5 ¹³ / ₁₆
9 ft.	11 ⁵ / ₈ ins.	4.1 x	3 ⁷ / ₈ x 5 ¹³ / ₁₆
8 ft.	11 ¹ / ₂ ins.	4.0 x	3 ¹³ / ₁₆ x 5 ³ / ₄
7 ft.	11 ⁷ / ₁₆ ins.	4.0 x	3 ³ / ₄ x 5 ⁵ / ₈
6 ft.	11 ⁵ / ₁₆ ins.	3.9 x	3 ¹¹ / ₁₆ x 5 ¹ / ₂
5 ft.	11 ¹ / ₈ ins.	3.8 x	3 ⁹ / ₁₆ x 5 ³ / ₈
4 ft.	10 ⁷ / ₈ ins.	3.6 x	3 ⁷ / ₁₆ x 5 ³ / ₁₆
3.5 ft.	10 ¹¹ / ₁₆ ins.	3.5 x	3 ³ / ₈ x 5

*) When using the Leitz Summar, which is longer in its construction, these figures should be increased by 1 cm. (0.4").

Brief Directions

for

Using the Depth of Focus Table

in conjunction with Front Lenses.

The figures on the left of the following groups relate to the setting of the lens aperture.

The **green** figures give the adjustment of the helical lens mount.

The **red** figures in any group indicate the corresponding distances of the object from the back of the camera (the plane of the film). The black figure above gives the near limit of the region of depth of focus, and the black figure below gives the further limit of this region in each case.

When the Leitz Summar lens, which is longer in its construction, is being used, all the red and black figures in these tables are to be increased by 1 cm. (0.4").

Table of Focal Depths
for 50 mm. Leitz Elmar or Leitz Summar lens
with No. 1 Supplementary Front Lens

	∞	100	50	30	20	15	12	feet
F/3.5	$37^{13}/_{16}$	$36^{7}/_8$	36	$34^{7}/_8$	$33^{5}/_8$	$32^{3}/_8$	$31^{1}/_4$	ins.
	$39^{1}/_2$	$38^{1}/_2$	$37^{9}/_{16}$	$36^{5}/_{16}$	$34^{15}/_{16}$	$33^{5}/_8$	$32^{7}/_{16}$	
	$41^{3}/_8$	$40^{1}/_4$	$39^{3}/_{16}$	$37^{7}/_8$	$36^{3}/_8$	$34^{15}/_{16}$	$33^{3}/_8$	
F/4.5	$37^{3}/_8$	$36^{7}/_{16}$	$35^{5}/_8$	$34^{1}/_2$	$33^{1}/_4$	$32^{1}/_{16}$	$30^{15}/_{16}$	ins.
	$39^{1}/_2$	$38^{1}/_2$	$37^{9}/_{16}$	$36^{5}/_{16}$	$34^{15}/_{16}$	$33^{5}/_8$	$32^{7}/_{16}$	
	$41^{7}/_8$	$40^{3}/_4$	$39^{11}/_{16}$	$38^{5}/_{16}$	$36^{3}/_4$	$35^{5}/_{16}$	34	
F/6.3	$36^{9}/_{16}$	$35^{11}/_{16}$	$34^{7}/_8$	$33^{13}/_{16}$	$32^{5}/_9$	$31^{1}/_2$	$30^{7}/_{16}$	ins.
	$39^{1}/_2$	$38^{1}/_2$	$37^{9}/_{16}$	$36^{5}/_{16}$	$34^{15}/_{16}$	$33^{5}/_8$	$32^{7}/_{16}$	
	$42^{15}/_{16}$	$41^{3}/_4$	$40^{7}/_8$	$39^{3}/_{16}$	$37^{7}/_{16}$	$36^{1}/_{16}$	$34^{11}/_{16}$	
F/9	$35^{7}/_{16}$	$34^{5}/_8$	$33^{7}/_8$	$32^{7}/_8$	$31^{11}/_{16}$	$30^{5}/_8$	$29^{3}/_8$	ins.
	$39^{1}/_2$	$38^{1}/_2$	$37^{9}/_{16}$	$36^{5}/_{16}$	$34^{15}/_{16}$	$33^{5}/_8$	$32^{7}/_{16}$	
	$44^{5}/_8$	$43^{7}/_{16}$	$42^{1}/_8$	$40^{5}/_8$	$38^{7}/_8$	$37^{1}/_4$	$35^{3}/_4$	
F/12.5	$34^{1}/_{16}$	$33^{3}/_{16}$	$32^{5}/_8$	$31^{11}/_{16}$	$30^{5}/_8$	$29^{3}/_8$	$28^{11}/_{16}$	ins.
	$39^{1}/_2$	$38^{1}/_2$	$37^{9}/_{16}$	$36^{5}/_{16}$	$34^{15}/_{16}$	$33^{5}/_8$	$32^{7}/_{16}$	
	47	$45^{9}/_{16}$	$44^{3}/_{16}$	$42^{9}/_{16}$	$40^{5}/_8$	$38^{7}/_8$	$37^{1}/_4$	
F/18	$32^{1}/_8$	$31^{1}/_2$	$30^{13}/_{16}$	30	$29^{1}/_{16}$	$28^{1}/_8$	$27^{3}/_{16}$	ins.
	$39^{1}/_2$	$38^{1}/_2$	$37^{9}/_{16}$	$36^{5}/_{16}$	$34^{15}/_{16}$	$33^{5}/_8$	$32^{7}/_{16}$	
	$51^{1}/_4$	$49^{9}/_{16}$	$47^{15}/_{16}$	46	$43^{3}/_4$	$41^{3}/_4$	$39^{7}/_8$	
Maximum object size	$16^{9}/_{16} \times 24^{13}/_{16}$	$16^{1}/_{16} \times 24^{1}/_8$	$15^{5}/_8 \times 23^{7}/_{16}$	$15^{5}/_{16} \times 22^{9}/_{16}$	$14^{3}/_8 \times 21^{9}/_{16}$	$13^{3}/_4 \times 20^{11}/_{16}$	$13^{3}/_{16} \times 19^{13}/_{16}$	

Table of Focal Depths

for 50 mm. Leitz Elmar or Leitz Summar lens
with No. 1 Supplementary Front Lens

(Continued)

	10	9	8	7	6	5	4	3.5	feet
F/3.5	30 ¹ / ₄	29 ³ / ₁₆	28 ³ / ₄	27 ¹³ / ₁₆	26 ⁵ / ₈	25 ³ / ₁₆	23 ¹ / ₄	22	ins.
	31 ⁵ / ₁₆	30 ⁹ / ₁₆	29 ³ / ₄	28 ³ / ₄	27 ¹ / ₂	25 ⁷ / ₈	23 ¹³ / ₁₆	22 ⁹ / ₁₆	
	32 ⁷ / ₁₆	31 ¹¹ / ₁₆	30 ³ / ₄	29 ¹¹ / ₁₆	28 ³ / ₈	26 ¹¹ / ₁₆	24 ¹ / ₂	23 ¹ / ₈	
F/4.5	29 ¹⁵ / ₁₆	29 ³ / ₁₆	28 ¹ / ₂	27 ⁹ / ₁₆	26 ³ / ₈	24 ¹⁵ / ₁₆	23 ¹ / ₁₆	21 ⁷ / ₈	ins.
	31 ⁵ / ₁₆	30 ⁹ / ₁₆	29 ³ / ₄	28 ³ / ₄	27 ¹ / ₂	25 ⁷ / ₈	23 ¹³ / ₁₆	22 ⁹ / ₁₆	
	32 ³ / ₄	32	31 ¹ / ₁₆	29 ¹⁵ / ₁₆	28 ⁵ / ₈	26 ⁷ / ₈	24 ¹¹ / ₁₆	23 ³ / ₁₆	
F/6.3	29 ⁷ / ₁₆	28 ¹³ / ₁₆	28 ¹ / ₁₆	27 ¹ / ₈	26	24 ⁵ / ₈	22 ³ / ₄	21 ⁹ / ₁₆	ins.
	31 ⁵ / ₁₆	30 ⁹ / ₁₆	29 ³ / ₄	28 ³ / ₄	27 ¹ / ₂	25 ⁷ / ₈	23 ¹³ / ₁₆	22 ⁹ / ₁₆	
	33 ³ / ₈	32 ³ / ₈	31 ⁵ / ₈	30 ¹ / ₂	29 ¹ / ₁₆	27 ⁵ / ₁₆	25 ¹ / ₁₆	23 ⁵ / ₈	
F/9	28 ¹¹ / ₁₆	28 ¹ / ₁₆	27 ³ / ₈	26 ¹ / ₂	25 ⁷ / ₁₆	24 ¹ / ₁₆	22 ⁷ / ₁₆	21 ³ / ₁₆	ins.
	31 ⁵ / ₁₆	30 ⁷ / ₁₆	29 ³ / ₄	28 ³ / ₄	27 ¹ / ₂	25 ⁷ / ₈	23 ¹³ / ₁₆	22 ⁹ / ₁₆	
	34 ³ / ₈	33 ³ / ₁₆	32 ⁹ / ₁₆	31 ⁵ / ₁₆	29 ⁷ / ₈	28	25 ⁵ / ₈	24 ¹ / ₈	
F/12.5	27 ¹³ / ₁₆	27 ¹ / ₄	26 ⁷ / ₁₆	25 ³ / ₄	24 ³ / ₄	23 ⁷ / ₁₆	21 ³ / ₄	20 ¹¹ / ₁₆	ins.
	31 ⁵ / ₁₆	30 ⁹ / ₁₆	29 ³ / ₄	28 ³ / ₄	27 ¹ / ₂	25 ⁷ / ₈	23 ¹³ / ₁₆	22 ⁹ / ₁₆	
	35 ¹³ / ₁₆	34 ⁷ / ₈	33 ³ / ₄	32 ¹ / ₂	30 ⁷ / ₈	28 ⁷ / ₈	26 ¹ / ₈	24 ¹³ / ₁₆	
F/18	26 ¹ / ₂	26	25 ³ / ₈	24 ⁵ / ₈	23 ¹¹ / ₁₆	22 ¹ / ₂	20 ¹⁵ / ₁₆	19 ¹⁵ / ₁₆	ins.
	31 ⁵ / ₁₆	30 ⁹ / ₁₆	29 ³ / ₄	28 ³ / ₄	27 ¹ / ₂	25 ⁷ / ₈	23 ¹³ / ₁₆	22 ⁹ / ₁₆	
	38 ³ / ₁₆	37 ³ / ₁₆	35 ¹⁵ / ₁₆	34 ⁷ / ₁₆	32 ¹¹ / ₁₆	30 ⁷ / ₁₆	27 ¹¹ / ₁₆	25 ¹⁵ / ₁₆	
Maximum object size	12 ¹¹ / ₁₆ × 19	12 ⁵ / ₁₆ × 18 ¹ / ₂	11 ¹⁵ / ₁₆ × 17 ¹⁵ / ₁₆	11 ¹ / ₂ × 17 ³ / ₁₆	10 ⁷ / ₈ × 16 ⁵ / ₁₆	10 ¹ / ₈ × 15 ³ / ₁₆	9 ³ / ₁₆ × 13 ³ / ₄	8 ⁹ / ₁₆ × 12 ⁷ / ₈	

Table of Focal Depths

for 50 mm. Leitz Elmar or Leitz Summar lens
with No. 2 Supplementary Front Lens

	∞	100	50	30	20	15	12	feet
F/3.5	21	20 ³ / ₄	20 ¹ / ₂	20 ³ / ₁₆	19 ¹³ / ₁₆	19 ⁷ / ₁₆	19 ¹ / ₁₆	ins.
	21 ⁹ / ₁₆	21 ¹ / ₄	21	20 ¹¹ / ₁₆	20 ⁵ / ₁₆	19 ⁷ / ₈	19 ¹ / ₂	
	22 ¹ / ₈	21 ¹³ / ₁₆	21 ⁹ / ₁₆	21 ³ / ₁₆	20 ¹³ / ₁₆	20 ³ / ₈	20	
F/4.5	20 ⁷ / ₈	20 ⁵ / ₈	20 ³ / ₈	20 ¹ / ₁₆	19 ¹¹ / ₁₆	19 ⁵ / ₁₆	18 ¹⁵ / ₁₆	ins.
	21 ⁹ / ₁₆	21 ¹ / ₄	21	20 ¹¹ / ₁₆	20 ⁵ / ₁₆	19 ⁷ / ₈	19 ¹ / ₂	
	22 ⁵ / ₁₆	22	21 ³ / ₄	21 ³ / ₈	20 ¹⁵ / ₁₆	20 ¹ / ₂	20 ¹ / ₈	
F/6.3	20 ³ / ₁₆	20 ⁵ / ₁₆	20 ¹ / ₈	19 ¹³ / ₁₆	19 ⁷ / ₁₆	19 ¹ / ₁₆	18 ³ / ₄	ins.
	21 ⁹ / ₁₆	21 ¹ / ₄	21	20 ¹¹ / ₁₆	20 ⁵ / ₁₆	19 ⁷ / ₈	19 ¹ / ₂	
	22 ⁹ / ₁₆	22 ⁵ / ₁₆	22	21 ¹¹ / ₁₆	21 ³ / ₁₆	20 ¹³ / ₁₆	20 ³ / ₈	
F/9	20 ³ / ₁₆	19 ¹⁵ / ₁₆	19 ³ / ₄	19 ⁷ / ₁₆	19 ¹ / ₁₆	18 ³ / ₄	18 ⁷ / ₁₆	ins.
	21 ⁹ / ₁₆	21 ¹ / ₄	21	20 ¹¹ / ₁₆	20 ⁵ / ₁₆	19 ⁷ / ₈	19 ¹ / ₂	
	23 ¹ / ₁₆	22 ³ / ₄	22 ¹ / ₂	22 ¹ / ₈	21 ⁵ / ₈	21 ³ / ₁₆	20 ¹³ / ₁₆	
F/12.5	19 ¹¹ / ₁₆	19 ¹ / ₂	19 ¹ / ₄	19	18 ¹¹ / ₁₆	18 ⁵ / ₁₆	18	ins.
	21 ⁹ / ₁₆	21 ¹ / ₄	21	20 ¹¹ / ₁₆	20 ⁵ / ₁₆	19 ⁷ / ₈	19 ¹ / ₂	
	23 ³ / ₄	23 ³ / ₁₆	23 ¹ / ₈	22 ¹¹ / ₁₆	22 ¹ / ₄	21 ³ / ₄	21 ⁵ / ₁₆	
F/18	19	18 ¹³ / ₁₆	18 ³ / ₈	18 ⁵ / ₁₆	18	17 ¹¹ / ₁₆	17 ¹ / ₁₆	ins.
	21 ⁹ / ₁₆	21 ¹ / ₄	21	20 ¹¹ / ₁₆	20 ⁵ / ₁₆	19 ⁷ / ₈	19 ¹ / ₂	
	24 ⁷ / ₈	24 ¹ / ₂	24 ³ / ₁₆	24 ³ / ₄	23 ³ / ₁₆	22 ¹¹ / ₁₆	22 ³ / ₁₆	
Maximum object size	8 ⁷ / ₁₆ × 12 ⁵ / ₈	8 ⁵ / ₁₆ × 12 ⁷ / ₁₆	8 ³ / ₁₆ × 12 ¹ / ₄	8 × 12	7 ¹³ / ₁₆ × 11 ¹¹ / ₁₆	7 ⁵ / ₈ × 11 ⁷ / ₁₆	7 ¹ / ₁₆ × 11 ³ / ₁₆	

Table of Focal Depths

for 50 mm. Leitz Elmar or Leitz Summar lens
with No. 2 Supplementary Front Lens

(Continued)

	10	9	8	7	6	5	4	3.5	feet
F/3.5	18 ³ / ₄	18 ¹ / ₂	18 ¹ / ₄	17 ¹⁵ / ₁₆	17 ¹ / ₂	16 ¹⁵ / ₁₆	16 ¹ / ₈	15 ³ / ₈	ins.
	19 ³ / ₁₆	18 ¹⁵ / ₁₆	18 ⁵ / ₈	18 ³ / ₁₆	17 ⁷ / ₈	17 ¹ / ₄	16 ⁷ / ₁₆	15 ¹⁵ / ₁₆	
	19 ⁵ / ₈	19 ³ / ₈	19 ¹ / ₁₆	18 ¹¹ / ₁₆	18 ¹ / ₄	17 ⁵ / ₈	16 ¹³ / ₁₆	16 ¹ / ₄	
F/4.5	18 ³ / ₈	18 ³ / ₈	18 ¹ / ₈	17 ¹³ / ₁₆	17 ³ / ₈	16 ¹³ / ₁₆	16 ¹ / ₁₆	15 ⁹ / ₁₆	ins.
	19 ³ / ₁₆	18 ¹⁵ / ₁₆	19 ⁵ / ₈	18 ⁵ / ₁₆	17 ⁷ / ₈	17 ¹ / ₄	16 ⁷ / ₁₆	15 ¹⁵ / ₁₆	
	19 ³ / ₄	19 ¹ / ₂	19 ³ / ₁₆	18 ¹³ / ₁₆	18 ³ / ₈	17 ³ / ₄	16 ⁷ / ₈	16 ⁵ / ₁₆	
F/6.3	18 ³ / ₈	18 ³ / ₁₆	17 ¹⁵ / ₁₆	17 ³ / ₈	17 ³ / ₁₆	16 ⁵ / ₈	15 ¹ / ₈	15 ³ / ₈	ins.
	19 ³ / ₁₆	18 ¹⁵ / ₁₆	18 ⁵ / ₈	18 ¹ / ₁₆	17 ⁷ / ₈	17 ¹ / ₄	16 ⁷ / ₁₆	15 ¹⁵ / ₁₆	
	20	19 ³ / ₄	19 ⁷ / ₁₆	19 ¹ / ₁₆	18 ⁹ / ₁₆	17 ¹⁵ / ₁₆	17 ¹ / ₁₆	16 ¹ / ₂	
F/9	18 ¹ / ₈	17 ⁷ / ₈	17 ⁵ / ₈	17 ⁵ / ₁₆	16 ¹⁵ / ₁₆	16 ³ / ₈	15 ¹¹ / ₁₆	15 ³ / ₁₆	ins.
	19 ³ / ₁₆	18 ¹⁵ / ₁₆	18 ⁵ / ₈	18 ⁵ / ₁₆	17 ⁷ / ₈	17 ¹ / ₄	16 ⁷ / ₁₆	15 ¹⁵ / ₁₆	
	20 ³ / ₈	20 ¹ / ₈	19 ¹³ / ₁₆	19 ³ / ₈	18 ⁷ / ₈	18 ¹ / ₄	17 ⁵ / ₁₆	16 ³ / ₄	
F/12.5	17 ¹¹ / ₁₆	17 ¹ / ₂	17 ¹ / ₄	16 ¹⁵ / ₁₆	16 ⁹ / ₁₆	16 ¹ / ₁₆	15 ³ / ₈	14 ⁷ / ₈	ins.
	19 ³ / ₁₆	18 ¹⁵ / ₁₆	18 ⁵ / ₈	18 ¹ / ₁₆	17 ⁷ / ₈	17 ¹ / ₄	16 ⁷ / ₁₆	15 ¹⁵ / ₁₆	
	20 ⁷ / ₈	20 ⁵ / ₈	20 ¹ / ₄	19 ⁷ / ₈	19 ⁵ / ₁₆	18 ³ / ₈	17 ¹¹ / ₁₆	17 ¹ / ₁₆	
F/18	17 ¹ / ₈	16 ¹⁵ / ₁₆	16 ³ / ₄	16 ⁷ / ₁₆	16 ¹ / ₁₆	15 ³ / ₈	14 ¹⁵ / ₁₆	14 ¹ / ₂	ins.
	19 ³ / ₁₆	18 ¹⁵ / ₁₆	18 ⁵ / ₈	18 ⁵ / ₁₆	17 ⁷ / ₈	17 ¹ / ₄	16 ⁷ / ₁₆	15 ¹⁵ / ₁₆	
	21 ³ / ₄	21 ⁷ / ₁₆	21 ¹ / ₁₆	20 ³ / ₈	20 ¹ / ₁₆	19 ⁵ / ₁₆	18 ³ / ₁₆	17 ¹¹ / ₁₆	
Maximum object size	7 ¹ / ₄ x 10 ⁷ / ₈	7 ¹ / ₈ x 10 ¹¹ / ₁₆	7 x 10 ¹ / ₂	6 ⁵ / ₁₆ x 10 ¹ / ₄	6 ⁵ / ₈ x 9 ⁵ / ₁₆	6 ⁵ / ₁₆ x 9 ¹ / ₂	6 x 9	5 ⁵ / ₈ x 8 ¹ / ₂	

Table of Focal Depths

for 50 mm. Leitz Elmar or Leitz Summar lens
with No. 3 Supplementary Front Lens

	∞	100	50	30	20	15	12	feet
F/3.5	12 ² / ₁₆	12	11 ¹⁵ / ₁₆	11 ⁷ / ₈	11 ³ / ₄	11 ¹¹ / ₁₆	11 ⁹ / ₁₆	ins.
	12 ¹ / ₄	12 ³ / ₁₆	12 ¹ / ₈	12 ¹ / ₁₆	11 ¹⁵ / ₁₆	11 ⁷ / ₈	11 ³ / ₄	
	12 ¹ / ₂	12 ⁷ / ₁₆	12 ³ / ₈	12 ¹ / ₄	12 ⁹ / ₁₆	12 ¹ / ₁₆	11 ¹⁵ / ₁₆	
F/4.5	12	11 ¹⁵ / ₁₆	11 ⁷ / ₈	11 ¹³ / ₁₆	11 ¹¹ / ₁₆	11 ⁵ / ₈	11 ¹ / ₂	ins.
	12 ¹ / ₄	12 ³ / ₁₆	12 ¹ / ₈	12 ¹ / ₁₆	11 ¹⁵ / ₁₆	11 ⁷ / ₈	11 ³ / ₄	
	12 ⁹ / ₁₆	12 ¹ / ₂	12 ⁷ / ₁₆	12 ⁵ / ₁₆	12 ³ / ₁₆	12 ¹ / ₈	12	
F/6.3	11 ¹⁵ / ₁₆	11 ⁷ / ₈	11 ¹³ / ₁₆	11 ³ / ₄	11 ⁵ / ₈	11 ⁹ / ₁₆	11 ⁷ / ₁₆	ins.
	12 ¹ / ₄	12 ³ / ₁₆	12 ¹ / ₈	12 ¹ / ₁₆	11 ¹⁵ / ₁₆	11 ⁷ / ₈	11 ³ / ₄	
	12 ¹¹ / ₁₆	12 ⁹ / ₁₆	12 ¹ / ₂	12 ⁷ / ₁₆	12 ⁵ / ₁₆	12 ¹ / ₄	12 ¹ / ₈	
F/9	11 ³ / ₄	11 ¹¹ / ₁₆	11 ⁵ / ₈	11 ⁹ / ₁₆	11 ⁷ / ₁₆	11 ³ / ₈	11 ¹ / ₄	ins.
	12 ¹ / ₄	12 ³ / ₁₆	12 ¹ / ₈	12 ¹ / ₁₆	11 ¹⁵ / ₁₆	11 ⁷ / ₈	11 ³ / ₄	
	12 ¹³ / ₁₆	12 ³ / ₄	12 ¹¹ / ₁₆	12 ⁵ / ₈	12 ¹ / ₂	12 ³ / ₈	12 ¹ / ₄	
F/12.5	11 ⁹ / ₁₆	11 ¹ / ₂	11 ⁷ / ₁₆	11 ³ / ₈	11 ³ / ₁₆	11 ³ / ₁₆	11 ¹ / ₈	ins.
	12 ¹ / ₄	12 ³ / ₁₆	12 ¹ / ₈	12 ¹ / ₁₆	11 ¹⁵ / ₁₆	11 ⁷ / ₈	11 ³ / ₄	
	13 ¹ / ₁₆	13	12 ¹⁵ / ₁₆	12 ¹³ / ₁₆	12 ¹¹ / ₁₆	12 ⁹ / ₁₆	12 ¹ / ₂	
F/18	11 ³ / ₁₆	11 ¹ / ₄	11 ³ / ₁₆	11 ¹ / ₈	11 ¹ / ₁₆	10 ¹⁵ / ₁₆	10 ⁷ / ₈	ins.
	12 ¹ / ₄	12 ³ / ₁₆	12 ¹ / ₈	12 ¹ / ₁₆	11 ¹⁵ / ₁₆	11 ⁷ / ₈	11 ³ / ₄	
	13 ⁷ / ₁₆	13 ³ / ₈	13 ¹ / ₄	13 ³ / ₁₆	13 ¹ / ₁₆	12 ¹⁵ / ₁₆	12 ¹³ / ₁₆	
Maximum object size	4 ¹ / ₄ x 6 ⁵ / ₁₆	4 ³ / ₁₆ x 6 ⁵ / ₁₆	4 ³ / ₁₆ x 6 ¹ / ₄	4 ¹ / ₈ x 6 ³ / ₁₆	4 ¹ / ₁₆ x 6 ¹ / ₁₆	4 x 6	3 ¹⁵ / ₁₆ x 5 ¹⁵ / ₁₆	

Table of Focal Depths

for 50 mm. Leitz Elmar or Leitz Summar lens
with No. 3 Supplementary Front Lens

(Continued)

	10	9	8	7	6	5	4	3.5	feet
F/3.5	11 ¹ / ₂	11 ⁷ / ₁₆	11 ⁵ / ₁₆	11 ¹ / ₄	11 ¹ / ₈	10 ¹⁵ / ₁₆	10 ¹¹ / ₁₆	10 ¹ / ₂	ins.
	11 ¹¹ / ₁₆	11 ⁵ / ₈	11 ¹ / ₂	11 ⁷ / ₁₆	11 ⁵ / ₁₆	11 ¹ / ₈	10 ⁷ / ₈	10 ¹¹ / ₁₆	
	11 ⁷ / ₈	11 ¹³ / ₁₆	11 ¹¹ / ₁₆	11 ⁵ / ₈	11 ¹ / ₂	11 ⁵ / ₁₆	11 ¹ / ₁₆	10 ⁷ / ₈	
F/4.5	11 ⁷ / ₁₆	11 ³ / ₈	11 ¹ / ₄	11 ³ / ₁₆	11 ¹ / ₁₆	10 ⁷ / ₈	10 ⁵ / ₈	10 ⁷ / ₁₆	ins.
	11 ¹¹ / ₁₆	11 ⁵ / ₈	11 ¹ / ₂	11 ⁷ / ₁₆	11 ⁵ / ₁₆	11 ¹ / ₈	10 ⁷ / ₈	10 ¹¹ / ₁₆	
	11 ¹⁵ / ₁₆	11 ⁷ / ₈	11 ³ / ₄	11 ¹¹ / ₁₆	11 ⁹ / ₁₆	11 ³ / ₈	11 ¹ / ₈	10 ¹⁵ / ₁₆	
F/6.3	11 ³ / ₈	11 ⁵ / ₁₆	11 ³ / ₁₆	11 ¹ / ₈	11	10 ¹³ / ₁₆	10 ⁹ / ₁₆	10 ³ / ₈	ins.
	11 ¹¹ / ₁₆	11 ⁵ / ₈	11 ¹ / ₂	11 ⁷ / ₁₆	11 ⁵ / ₁₆	11 ¹ / ₈	10 ⁷ / ₈	10 ¹¹ / ₁₆	
	12	11 ¹⁵ / ₁₆	11 ¹³ / ₁₆	11 ³ / ₄	11 ⁵ / ₈	11 ⁷ / ₁₆	11 ³ / ₁₆	11	
F/9	11 ³ / ₁₆	11 ¹ / ₈	11 ¹ / ₁₆	11	10 ⁷ / ₈	10 ¹¹ / ₁₆	10 ⁷ / ₁₆	10 ⁵ / ₁₆	ins.
	11 ¹¹ / ₁₆	11 ⁵ / ₈	11 ¹ / ₂	11 ⁷ / ₁₆	11 ⁵ / ₁₆	11 ¹ / ₈	10 ⁷ / ₈	10 ¹¹ / ₁₆	
	12 ³ / ₁₆	12 ¹ / ₈	12	11 ⁷ / ₈	11 ³ / ₄	11 ⁹ / ₁₆	11 ⁵ / ₁₆	11 ¹ / ₁₆	
F/12.5	11 ¹ / ₁₆	11	10 ¹⁵ / ₁₆	10 ¹³ / ₁₆	10 ¹¹ / ₁₆	10 ⁹ / ₁₆	10 ⁵ / ₁₆	10 ¹ / ₈	ins.
	11 ¹¹ / ₁₆	11 ⁵ / ₈	11 ¹ / ₂	11 ⁷ / ₁₆	11 ⁵ / ₁₆	11 ¹ / ₈	10 ⁷ / ₈	10 ¹¹ / ₁₆	
	12 ³ / ₈	12 ⁵ / ₁₆	12 ³ / ₁₆	12 ¹ / ₁₆	11 ¹⁵ / ₁₆	11 ³ / ₄	11 ⁷ / ₁₆	11 ¹ / ₄	
F/18	10 ³ / ₄	10 ¹¹ / ₁₆	10 ⁵ / ₈	10 ⁹ / ₁₆	10 ⁷ / ₁₆	10 ⁵ / ₁₆	10 ¹ / ₁₆	9 ¹⁵ / ₁₆	ins.
	11 ¹¹ / ₁₆	11 ⁵ / ₈	11 ¹ / ₂	11 ⁷ / ₁₆	11 ⁵ / ₁₆	11 ¹ / ₈	10 ⁷ / ₈	10 ¹¹ / ₁₆	
	12 ¹¹ / ₁₆	12 ⁵ / ₈	12 ¹ / ₂	12 ⁷ / ₁₆	12 ¹ / ₄	12 ¹ / ₁₆	11 ³ / ₄	11 ⁹ / ₁₆	
Maximum object size	3 ⁷ / ₈ x 5 ¹³ / ₁₆	3 ⁷ / ₈ x 5 ¹³ / ₁₆	3 ¹³ / ₁₆ x 5 ³ / ₄	3 ⁷ / ₄ x 5 ⁵ / ₈	3 ¹¹ / ₁₆ x 5 ¹ / ₂	3 ⁹ / ₁₆ x 5 ³ / ₈	3 ⁷ / ₁₆ x 5 ³ / ₁₆	3 ³ / ₈ x 5	

Table of Focal Depths

for the 50 mm. F/2 Leitz Summar and 50 mm.
and 35 mm. F/3.5 Leitz Elmar lenses

when using the auxiliary devices for photo-
graphing small objects.

Aperture	Range of depth of focus in inches, when reproducing at a ratio of:			
	1:1	1:1.5	1:2	1:3
6.3	1 ¹ / ₁₆	7 ⁷ / ₆₄	9 ⁹ / ₆₄	17 ¹⁷ / ₆₄
9	8 ⁸ / ₃₂	9 ⁹ / ₆₄	7 ⁷ / ₃₂	8 ⁸ / ₈
12.5	1 ¹ / ₈	7 ⁷ / ₃₂	9 ⁹ / ₃₂	17 ¹⁷ / ₃₂
18	8 ⁸ / ₁₆	9 ⁹ / ₃₂	27 ²⁷ / ₆₄	49 ⁴⁹ / ₆₄
Maximum object size	1 ⁵ / ₁₆ x 1 ⁷ / ₁₆	1 ⁷ / ₁₆ x 2 ¹ / ₈	1 ⁷ / ₈ x 2 ¹³ / ₁₆	2 ¹³ / ₁₆ x 4 ¹ / ₄

Although the 35 mm. lens, owing to its shorter focal length than the 50 mm. Elmar, naturally has a greater depth of focus, this fact does not affect the above table: if the same scale of reproduction is to be obtained with the 35 mm. lens as with the 50 mm., the distance of the object must be made correspondingly smaller, and owing to this fact the depth of focus of the two lenses will be equal in the above cases.

(For further particulars concerning the auxiliary reproduction devices, see special catalogue).

Table of Focal Depths

for 50 mm. F/3.5 Leitz Elmar and 50 mm.

F/2 Leitz Summar

in conjunction with supplementary front lenses
and the **"Beooy" setting device.**

Range of depth of focus in inches when using:

Aperture	Front lens No. 2 Helical mount at ∞ Intermediate rods & top mark on legs	Front lens No. 2 Helical mount at minimum distance*) Uppermost mark on legs	Front lens No. 3 Helical mount at ∞ Medium mark on legs	Front lens No. 3 Helical mount at minimum distance*) Bottom mark on legs
6.3	2-0	1 ¹ / ₁₆	⁸ / ₄	⁹ / ₁₆
9	2 ⁷ / ₈	1 ¹ / ₂	1 ¹ / ₁₆	¹⁸ / ₁₆
12.5	4-0	2 ¹ / ₁₆	1 ⁹ / ₁₆	1 ¹ / ₈
18	5 ¹⁸ / ₁₆	3 ¹ / ₁₆	2 ⁸ / ₁₇	1 ⁵ / ₈
Maximum object size	about 12 ⁵ / ₈ " × 8 ⁷ / ₁₆ "	about 8 ¹ / ₁₆ " × 5 ¹ / ₂ "	about 6 ¹ / ₄ " × 4 ¹ / ₄ "	about 4 ¹⁵ / ₁₆ " × 3 ⁵ / ₁₅ "

*) The focusing mount should be set below 3.5 right up to stop.

For further particulars concerning the "Beooy"
setting device see special catalogue.

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6. Summarcy . F/1.5, 85 " "
7. Elmar . . . F/4, 90 " "
8. Hektor . . . F/4.5, 135 " "
9. Telyt . . . F/4.5, 200 " "
10. Telyt . . . F/5, 400 " "