

Camera Nominal Marked Settings, and Calculated Precise Actual Values

for Shutter speed, f/stop, & ISO Values of Full, Third and Half stops

Shutter Speeds

$$= 2^{(\text{stop number} + \text{fraction})}$$

Stop Num	Precise Time	Precise 1/secs	Nominal Seconds
-15	0.0305176 ms	1/32768	1/32000 Full
-14.6667	0.0384497 ms	1/26008	1/25600 1/3
-14.5	0.0431584 ms	1/23170.5	1/24000 1/2
-14.3333	0.0484436 ms	1/20642.5	1/20000 2/3
-14	0.0610352 ms	1/16384	1/16000 Full
-13.6667	0.0768995 ms	1/13004	1/12800 1/3
-13.5	0.0863167 ms	1/11585.2	1/12000 1/2
-13.3333	0.0968873 ms	1/10321.3	1/10000 2/3
-13	0.12207 ms	1/8192	1/8000 Full
-12.6667	0.153799 ms	1/6501.99	1/6400 1/3
-12.5	0.172633 ms	1/5792.62	1/6000 1/2
-12.3333	0.193775 ms	1/5160.64	1/5000 2/3
-12	0.244141 ms	1/4096	1/4000 Full
-11.6667	0.307598 ms	1/3251	1/3200 1/3
-11.5	0.345267 ms	1/2896.31	1/3000 1/2
-11.3333	0.387549 ms	1/2580.32	1/2500 2/3
-11	0.488281 ms	1/2048	1/2000 Full
-10.6667	0.615196 ms	1/1625.5	1/1600 1/3
-10.5	0.690534 ms	1/1448.15	1/1500 1/2
-10.3333	0.775098 ms	1/1290.16	1/1250 2/3
-10	0.976563 ms	1/1024	1/1000 Full
-9.66667	1.23039 ms	1/812.749	1/800 1/3
-9.5	1.38107 ms	1/724.077	1/750 1/2
-9.33333	1.5502 ms	1/645.08	1/640 2/3
-9	1.95313 ms	1/512	1/500 Full
-8.66667	2.46078 ms	1/406.375	1/400 1/3
-8.5	2.76214 ms	1/362.039	1/350 1/2
-8.33333	3.10039 ms	1/322.54	1/320 2/3
-8	3.90625 ms	1/256	1/250 Full
-7.66667	4.92157 ms	1/203.187	1/200 1/3
-7.5	5.52427 ms	1/181.019	1/180 1/2
-7.33333	6.20079 ms	1/161.27	1/160 2/3
-7	7.8125 ms	1/128	1/125 Full
-6.66667	9.84313 ms	1/101.594	1/100 1/3
-6.5	11.0485 ms	1/90.5097	1/90 1/2
-6.33333	12.4016 ms	1/80.6349	1/80 2/3
-6	15.625 ms	1/64	1/60 Full
-5.66667	19.6863 ms	1/50.7968	1/50 1/3
-5.5	22.0971 ms	1/45.2548	1/45 1/2
-5.33333	24.8031 ms	1/40.3175	1/40 2/3
-5	31.25 ms	1/32	1/30 Full
-4.66667	39.3725 ms	1/25.3984	1/25 1/3
-4.5	44.1942 ms	1/22.6274	1/20 1/2
-4.33333	49.6063 ms	1/20.1587	1/20 2/3
-4	62.5 ms	1/16	1/15 Full
-3.66667	78.7451 ms	1/12.6992	1/13 1/3
-3.5	88.3883 ms	1/11.3137	1/10 1/2
-3.33333	99.2126 ms	1/10.0794	1/10 2/3
-3	125 ms	1/8	1/8 Full
-2.66667	157.49 ms	1/6.3496	1/6 1/3
-2.5	176.777 ms	1/5.65685	1/6 1/2
-2.33333	198.425 ms	1/5.03968	1/5 2/3
-2	250 ms	1/4	1/4 Full
-1.66667	314.98 ms	1/3.1748	1/3 1/3
-1.5	353.553 ms	1/2.82843	1/3 1/2
-1.33333	396.85 ms	1/2.51984	1/2.5 2/3
-1	500 ms	1/2	1/2 Full
-0.666667	629.961 ms	1/1.5874	1/1.6 1/3

F/stops

$$= \sqrt{2}^{(\text{stop number} + \text{fraction})}$$

Stop Num	Precise f/stop	Nominal f/stop
-2	0.5	0.5 Full
-1.66667	0.561231	0.56 1/3
-1.5	0.594604	0.6 1/2
-1.33333	0.629961	0.6 2/3
-1	0.707107	0.7 Full
-0.666667	0.793701	0.8 1/3
-0.5	0.840896	0.8 1/2
-0.333333	0.890899	0.9 2/3
0	1	1 Full
0.333333	1.12246	1.1 1/3
0.5	1.18921	1.2 1/2
0.666667	1.25992	1.2 2/3
1	1.41421	1.4 Full
1.33333	1.5874	1.6 1/3
1.5	1.68179	1.7 1/2
1.66667	1.7818	1.8 2/3
2	2	2 Full
2.33333	2.24492	2.2 1/3
2.5	2.37841	2.4 1/2
2.66667	2.51984	2.5 2/3
3	2.82843	2.8 Full
3.33333	3.1748	3.2 1/3
3.5	3.36359	3.3 1/2
3.66667	3.56359	3.5 2/3
4	4	4 Full
4.33333	4.48985	4.5 1/3
4.5	4.75683	4.8 1/2
4.66667	5.03968	5.0 2/3
5	5.65685	5.6 Full
5.33333	6.3496	6.3 1/3
5.5	6.72717	6.7 1/2
5.66667	7.12719	7.1 2/3
6	8	8 Full
6.33333	8.9797	9 1/3
6.5	9.51366	9.5 1/2
6.66667	10.0794	10 2/3
7	11.3137	11 Full
7.33333	12.6992	13 1/3
7.5	13.4543	13 1/2
7.66667	14.2544	14 2/3
8	16	16 Full
8.33333	17.9594	18 1/3
8.5	19.0273	19 1/2
8.66667	20.1587	20 2/3
9	22.6274	22 Full
9.33333	25.3984	25 1/3
9.5	26.9087	27 1/2
9.66667	28.5088	28 2/3
10	32	32 Full
10.3333	35.9188	36 1/3
10.5	38.0546	38 1/2
10.6667	40.3175	40 2/3
11	45.2548	45 Full
11.3333	50.7968	50 1/3
11.5	53.8174	55 1/2
11.6667	57.0175	60 2/3
12	64	64 Full
12.3333	71.8376	72 1/3

ISO

$$= 2^{(\text{stop number} + \text{fraction})}$$

Stop Num	Precise ISO	Nominal ISO
1.64386	3.125	3 Full
1.97719	3.93725	4 1/3
2.14386	4.41942	4 1/2
2.31052	4.96063	5 2/3
2.64386	6.25	6 Full
2.97719	7.87451	8 1/3
3.14386	8.83883	9 1/2
3.31052	9.92126	10 2/3
3.64386	12.5	12 Full
3.97719	15.749	16 1/3
4.14386	17.6777	18 1/2
4.31052	19.8425	20 2/3
4.64386	25	25 Full
4.97719	31.498	32 1/3
5.14386	35.3553	35 1/2
5.31052	39.685	40 2/3
5.64386	50	50 Full
5.97719	62.9961	64 1/3
6.14386	70.7107	70 1/2
6.31052	79.3701	80 2/3
6.64386	100	100 Full
6.97719	125.992	125 1/3
7.14386	141.421	140 1/2
7.31052	158.74	160 2/3
7.64386	200	200 Full
7.97719	251.984	250 1/3
8.14386	282.843	280 1/2
8.31052	317.48	320 2/3
8.64386	400	400 Full
8.97719	503.968	500 1/3
9.14386	565.685	560 1/2
9.31052	634.96	640 2/3
9.64386	800	800 Full
9.97719	1007.94	1000 1/3
10.1439	1131.37	1100 1/2
10.3105	1269.92	1250 2/3
10.6439	1600	1600 Full
10.9772	2015.87	2000 1/3
11.1439	2262.74	2200 1/2
11.3105	2539.84	2500 2/3
11.6439	3200	3200 Full
11.9772	4031.75	4000 1/3
12.1439	4525.48	4400 1/2
12.3105	5079.68	5000 2/3
12.6439	6400	6400 Full
12.9772	8063.49	8000 1/3
13.1439	9050.97	8800 1/2
13.3105	10159.4	10000 2/3
13.6439	12800	12500 Full
13.9772	16127	16000 1/3
14.1439	18101.9	17600 1/2
14.3105	20318.7	20000 2/3
14.6439	25600	25000 Full
14.9772	32254	32000 1/3
15.1439	36203.9	35200 1/2
15.3105	40637.5	40000 2/3
15.6439	51200	50000 Full
15.9772	64508	64000 1/3

-0.5	707.107 ms	1/1.41421	1/1.5	1/2	12.5	76.1093	76	1/2	16.1439	72407.7	70400	1/2
-0.333333	793.701 ms	1/1.25992	1/1.3	2/3	12.6667	80.6349	80	2/3	16.3105	81274.9	80000	2/3
0	1 sec		1	Full	13	90.5097	90	Full	16.6439	102400	100000	Full
0.333333	1.25992 sec		1.3	1/3	13.3333	101.594	100	1/3	16.9772	129016	125000	1/3
0.5	1.41421 sec		1.5	1/2	13.5	107.635	110	1/2	17.1439	144815	140800	1/2
0.666667	1.5874 sec		1.6	2/3	13.6667	114.035	115	2/3	17.3105	162550	160000	2/3
1	2 sec		2	Full	14	128	128	Full	17.6439	204800	200000	Full
1.33333	2.51984 sec		2.5	1/3	14.3333	143.675	144	1/3	17.9772	258032	250000	1/3
1.5	2.82843 sec		3	1/2	14.5	152.219	152	1/2	18.1439	289631	281600	1/2
1.66667	3.1748 sec		3	2/3	14.6667	161.27	160	2/3	18.3105	325100	320000	2/3
2	4 sec		4	Full	15	181.019	180	Full	18.6439	409600	400000	Full
2.33333	5.03968 sec		5	1/3	15.3333	203.187	200	1/3	18.9772	516064	500000	1/3
2.5	5.65685 sec		6	1/2	15.5	215.269	220	1/2	19.1439	579262	563200	1/2
2.66667	6.3496 sec		6	2/3	15.6667	228.07	230	2/3	19.3105	650199	640000	2/3
3	8 sec		8	Full	16	256	256	Full	19.6439	819200	800000	Full
3.33333	10.0794 sec		10	1/3	Stop	Precise	Nominal		19.9772	1032127	1000000	1/3
3.5	11.3137 sec		10	1/2	Num	f/stop	f/stop		20.1439	1158524	1126400	1/2
3.66667	12.6992 sec		13	2/3					20.3105	1300399	1250000	2/3
4	16 sec		15	Full					20.6439	1638400	1600000	Full
4.33333	20.1587 sec		20	1/3					20.9772	2064255	2000000	1/3
4.5	22.6274 sec		20	1/2					21.1439	2317048	2260000	1/2
4.66667	25.3984 sec		25	2/3					21.3105	2600798	2500000	2/3
5	32 sec		30	Full					21.6439	3276800	3200000	Full
Stop	Precise	Precise	Nominal						Stop	Precise	Nominal	
Num	Time	1/secs	Seconds						Num	ISO	ISO	

(A pin-hole camera might be f/90 to f/150)

There is also a f/stop chart of tenth stops on the [previous page](#).

Nikon D1 has 1/16000 sec (focal plane)
Fujifilm X... has 1/32000 sec (electronic)