



1719 21st Street Santa Monica, CA 90404

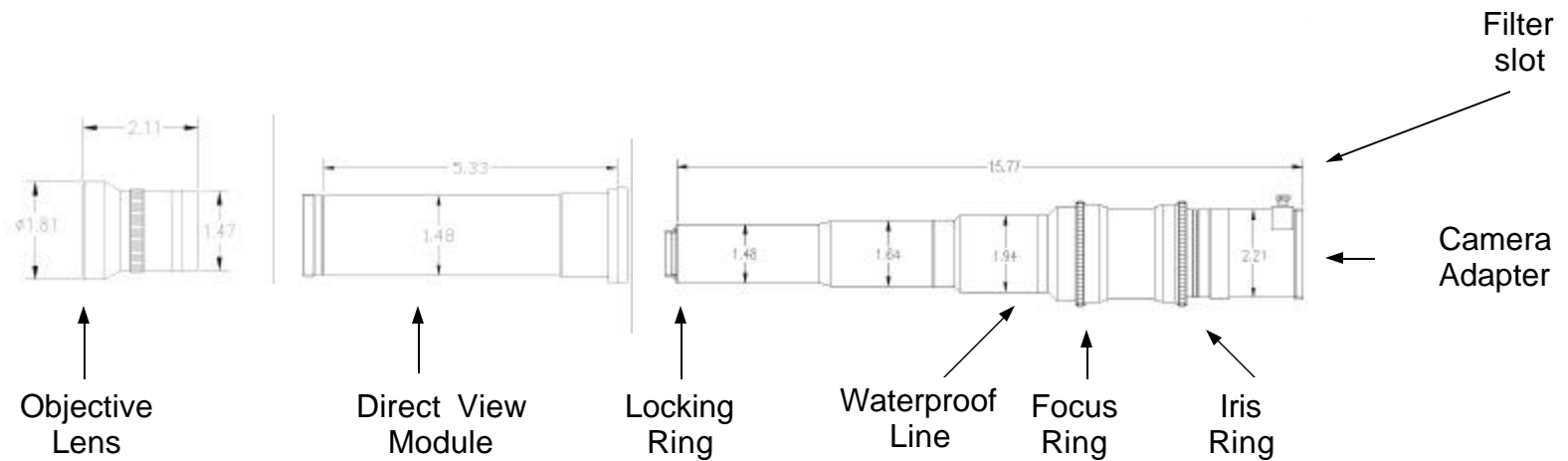
## 35mm Probe II Lens System Manual & Depth of Field Charts



For additional technical support  
Please Call InnoVision Optics at 310-453-4866  
[www.innovisionoptics.com](http://www.innovisionoptics.com)



## 35 Probe II Dimensions



# 35mm Probe II Objective Lens Coverage

Lens	Format @ Full Aperature	T-Stop @ Format Corner	Minimum Focus (from front glass)
9mm	TV Safe	T 32	1/4"
12mm	Academy	T 22	1/2"
16mm	Full	T 32	1 1/4"
20mm	Academy	T 22	2"
32mm	Full	T 22	5"
40mm	Academy	T 22	11"

### Tips and Techniques for Close Focus shim Use

Remove "O" Ring from Probe II focusing Relay

Mount Shim between Objective Lens and Relay

Lens is NOT WATERPROOF when Using Shims

Infinity Focus will be lost

Depth of field will become more narrow as a thicker shim is used

Only one shim should be used - Do not combine shims

Shims->	No Shim	10	20	30	40	50	75	100
9mm	Front Element	<b>Not Recommended</b>						
12mm	1/2"							
16mm	1 1/4"	7/8"	3/4"	5/8"	1/2"	3/8"	1/4"	1/8"
20mm	2"	1 3/8"	1 1/4"	1"	3/4"	1/2"	1/4"	1/8"
32mm	6"	4"	3 3/4"	3 1/4"	3"	2 1/2"	1 3/4"	1 1/2"

This minimum focus Data is Courtesy of Clairmont Camera. Please verify the minimum focus with your particular Camera / Lens / T Stop during camera prep if the absolute minimum focus is critical.

<b>35mm Probe II</b>	<b>LENS:</b>	<b>9 mm</b>
----------------------	--------------	-------------

Circle of Confusion: 0.001

T-Stop

Distance(in)	1	2	3	4	5	6	7	8	9	
<span style="color: blue;">5.6</span>	Near	0.957	1.836	2.646	3.394	4.088	4.733	5.334	5.896	6.422
	Far	1.047	2.196	3.463	4.869	6.435	8.192	10.178	12.438	15.036
<span style="color: blue;">8</span>	Near	0.940	1.774	2.519	3.188	3.792	4.341	4.841	5.299	5.720
	Far	1.068	2.292	3.709	5.368	7.338	9.714	12.636	16.318	21.101
<span style="color: blue;">11</span>	Near	0.919	1.702	2.376	2.962	3.477	3.933	4.339	4.703	5.032
	Far	1.096	2.425	4.070	6.158	8.898	12.650	18.102	26.748	42.559
<span style="color: blue;">16</span>	Near	0.887	1.594	2.170	2.649	3.054	3.400	3.700	3.961	4.192
	Far	1.146	2.684	4.857	8.159	13.782	25.492	64.859	INFINITY	INFINITY
<span style="color: blue;">22</span>	Near	0.851	1.481	1.966	2.352	2.665	2.925	3.144	3.331	3.492
	Far	1.212	3.079	6.325	13.374	40.369	INFINITY	INFINITY	INFINITY	INFINITY

T-Stop

Distance(in)	10	11	12	15	18	21	24	30	36	
<span style="color: blue;">5.6</span>	Near	6.915	7.379	7.816	8.987	9.984	10.843	11.591	12.831	13.816
	Far	18.052	21.596	25.820	45.325	91.308	331.632	INFINITY	INFINITY	INFINITY
<span style="color: blue;">8</span>	Near	6.108	6.467	6.800	7.670	8.384	8.982	9.489	10.304	10.929
	Far	27.563	36.779	50.984	339.310	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY
<span style="color: blue;">11</span>	Near	5.330	5.602	5.850	6.482	6.985	7.395	7.735	8.268	8.666
	Far	80.738	303.511	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY
<span style="color: blue;">16</span>	Near	4.397	4.580	4.744	5.152	5.465	5.712	5.913	6.220	6.443
	Far	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY
<span style="color: blue;">22</span>	Near	3.633	3.757	3.868	4.134	4.333	4.487	4.611	4.795	4.926
	Far	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY

**35mm Probe II****LENS: 12 mm**

Circle of Confusion: 0.001

T-Stop

Distance(in)	1	2	3	4	5	6	7	8	9	
5.6	Near	0.976	1.904	2.790	3.635	4.443	5.215	5.954	6.663	7.342
	Far	1.026	2.106	3.244	4.446	5.717	7.063	8.491	10.009	11.625
8	Near	0.965	1.866	2.709	3.498	4.240	4.938	5.596	6.217	6.805
	Far	1.037	2.154	3.361	4.669	6.092	7.644	9.344	11.216	13.286
11	Near	0.953	1.821	2.614	3.341	4.012	4.631	5.205	5.738	6.235
	Far	1.052	2.219	3.521	4.982	6.635	8.519	10.687	13.207	16.174
16	Near	0.933	1.749	2.469	3.109	3.681	4.195	4.661	5.084	5.471
	Far	1.077	2.335	3.822	5.608	7.793	10.528	14.050	18.756	25.364
22	Near	0.910	1.671	2.315	2.869	3.349	3.770	4.142	4.473	4.769
	Far	1.109	2.491	4.260	6.604	9.859	14.684	22.578	37.830	79.713

T-Stop

Distance(in)	10	11	12	15	18	21	24	30	36	
5.6	Near	7.994	8.621	9.223	10.898	12.400	13.754	14.980	17.117	18.915
	Far	13.349	15.193	17.169	24.052	32.823	44.386	60.324	121.304	371.993
8	Near	7.361	7.889	8.391	9.755	10.941	11.982	12.902	14.456	15.718
	Far	15.587	18.160	21.057	32.442	50.727	84.913	171.690	INFINITY	INFINITY
11	Near	6.699	7.133	7.541	8.624	9.538	10.320	10.995	12.104	12.977
	Far	19.717	24.023	29.368	57.525	159.426	INFINITY	INFINITY	INFINITY	INFINITY
16	Near	5.825	6.150	6.451	7.228	7.859	8.382	8.822	9.522	10.054
	Far	35.316	52.017	85.845	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY
22	Near	5.036	5.278	5.498	6.052	6.488	6.841	7.131	7.582	7.915
	Far	697.404	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY	INFINITY

**35mm Probe II****LENS: 16 mm**

Circle of Confusion: 0.001

T-Stop

Distance(in)	1	2	3	4	5	6	7	8	9	
5.6	Near	0.986	1.945	2.878	3.786	4.670	5.532	6.371	7.188	7.986
	Far	1.014	2.058	3.133	4.239	5.380	6.555	7.767	9.018	10.309
8	Near	0.980	1.922	2.829	3.701	4.542	5.353	6.134	6.889	7.618
	Far	1.021	2.084	3.193	4.351	5.561	6.826	8.150	9.538	10.995
11	Near	0.973	1.895	2.770	3.601	4.391	5.144	5.862	6.548	7.203
	Far	1.029	2.117	3.272	4.499	5.805	7.197	8.685	10.280	11.992
16	Near	0.961	1.851	2.676	3.444	4.161	4.831	5.459	6.049	6.604
	Far	1.042	2.175	3.413	4.769	6.263	7.915	9.753	11.810	14.127
22	Near	0.947	1.800	2.572	3.274	3.915	4.502	5.043	5.542	6.004
	Far	1.059	2.249	3.599	5.140	6.918	8.991	11.440	14.377	17.964

T-Stop

Distance(in)	10	11	12	15	18	21	24	30	36	
5.6	Near	8.763	9.522	10.262	12.379	14.354	16.199	17.928	21.076	23.872
	Far	11.643	13.021	14.447	19.028	24.130	29.845	36.293	52.028	73.180
8	Near	8.322	9.003	9.662	11.517	13.207	14.754	16.174	18.693	20.860
	Far	12.525	14.135	15.830	21.503	28.253	36.420	46.500	75.918	131.293
11	Near	7.830	8.430	9.005	10.595	12.008	13.273	14.412	16.379	18.018
	Far	13.835	15.826	17.982	25.677	35.927	50.258	71.711	178.202	17838.340
16	Near	7.126	7.620	8.087	9.347	10.430	11.371	12.197	13.577	14.684
	Far	16.757	19.768	23.250	37.959	65.647	137.051	743.955	INFINITY	INFINITY
22	Near	6.433	6.833	7.206	8.189	9.009	9.703	10.298	11.264	12.016
	Far	22.443	28.196	35.855	89.101	8919.170	INFINITY	INFINITY	INFINITY	INFINITY

<b>35mm Probe II</b>	<b>LENS: 20 mm</b>
----------------------	--------------------

Circle of Confusion: **0.001**

T-Stop

Distance(in)	1	2	3	4	5	6	7	8	9	
<b>5.6</b>	Near	0.991	1.965	2.921	3.861	4.784	5.692	6.584	7.461	8.323
	Far	1.009	2.037	3.084	4.150	5.236	6.344	7.472	8.623	9.796
<b>8</b>	Near	0.987	1.950	2.888	3.804	4.697	5.569	6.420	7.251	8.064
	Far	1.013	2.053	3.121	4.218	5.345	6.503	7.695	8.921	10.182
<b>11</b>	Near	0.983	1.931	2.848	3.735	4.593	5.423	6.227	7.006	7.761
	Far	1.018	2.074	3.169	4.306	5.487	6.715	7.993	9.323	10.710
<b>16</b>	Near	0.975	1.902	2.784	3.626	4.429	5.196	5.929	6.631	7.304
	Far	1.026	2.109	3.252	4.460	5.741	7.099	8.543	10.081	11.723
<b>22</b>	Near	0.966	1.867	2.711	3.503	4.247	4.947	5.607	6.231	6.822
	Far	1.037	2.153	3.357	4.662	6.078	7.623	9.313	11.171	13.223

T-Stop

Distance(in)	10	11	12	15	18	21	24	30	36	
<b>5.6</b>	Near	9.172	10.006	10.827	13.210	15.483	17.652	19.724	23.604	27.167
	Far	10.993	12.213	13.459	17.351	21.495	25.916	30.642	41.150	53.346
<b>8</b>	Near	8.857	9.633	10.391	12.568	14.607	16.523	18.325	21.628	24.582
	Far	11.481	12.820	14.198	18.600	23.445	28.805	34.766	48.947	67.229
<b>11</b>	Near	8.493	9.204	9.894	11.847	13.643	15.300	16.833	19.579	21.969
	Far	12.157	13.667	15.246	20.440	26.445	33.470	41.798	64.138	99.643
<b>16</b>	Near	7.949	8.568	9.163	10.814	12.291	13.619	14.821	16.909	18.662
	Far	13.478	15.360	17.383	24.474	33.614	45.845	63.051	132.856	507.259
<b>22</b>	Near	7.381	7.912	8.416	9.789	10.984	12.033	12.962	14.531	15.807
	Far	15.500	18.042	20.899	32.069	49.821	82.405	161.737	INFINITY	INFINITY



**35mm Probe II****LENS: 32 mm**

Circle of Confusion: 0.001

T-Stop

Distance(in)	1	2	3	4	5	6	7	8	9	
5.6	Near	0.996	1.986	2.969	3.944	4.913	5.876	6.831	7.780	8.723
	Far	1.004	2.014	3.032	4.057	5.090	6.130	7.177	8.232	9.295
8	Near	0.995	1.980	2.955	3.921	4.877	5.824	6.761	7.690	8.609
	Far	1.005	2.020	3.046	4.082	5.129	6.187	7.256	8.336	9.428
11	Near	0.993	1.973	2.939	3.892	4.833	5.760	6.676	7.580	8.472
	Far	1.007	2.028	3.064	4.114	5.179	6.260	7.357	8.470	9.599
16	Near	0.990	1.960	2.912	3.845	4.760	5.658	6.539	7.403	8.251
	Far	1.010	2.041	3.094	4.168	5.265	6.386	7.531	8.702	9.898
22	Near	0.986	1.946	2.880	3.790	4.676	5.539	6.381	7.201	8.002
	Far	1.014	2.057	3.130	4.235	5.372	6.544	7.752	8.998	10.283

T-Stop

Distance(in)	10	11	12	15	18	21	24	30	36	
5.6	Near	9.659	10.589	11.513	14.246	16.925	19.551	22.126	27.129	31.943
	Far	10.366	11.444	12.531	15.838	19.221	22.680	26.220	33.551	41.238
8	Near	9.520	10.422	11.316	13.946	16.503	18.990	21.410	26.060	30.471
	Far	10.531	11.646	12.773	16.227	19.796	23.486	27.303	35.344	43.980
11	Near	9.352	10.221	11.079	13.587	16.004	18.332	20.577	24.836	28.812
	Far	10.745	11.908	13.089	16.740	20.565	24.577	28.788	37.875	47.968
16	Near	9.084	9.902	10.705	13.030	15.235	17.331	19.325	23.034	26.414
	Far	11.121	12.372	13.651	17.672	21.990	26.639	31.660	43.006	56.506
22	Near	8.783	9.545	10.289	12.418	14.406	16.265	18.009	21.189	24.016
	Far	11.609	12.979	14.394	18.937	23.984	29.622	35.964	51.355	71.855

<b>35mm Probe II</b>	<b>LENS: 40 mm</b>
----------------------	--------------------

Circle of Confusion: **0.001**

	Distance(in)	1	2	3	4	5	6	7	8	9
T-Stop	<b>5.6</b> Near	0.998	1.991	2.980	3.964	4.944	5.920	6.891	7.858	8.821
	Far	1.002	2.009	3.020	4.036	5.057	6.082	7.112	8.147	9.187
	<b>8</b> Near	0.997	1.987	2.971	3.949	4.921	5.886	6.845	7.799	8.746
	Far	1.003	2.013	3.029	4.052	5.082	6.118	7.162	8.212	9.269
	<b>11</b> Near	0.996	1.982	2.961	3.930	4.892	5.844	6.789	7.726	8.655
	Far	1.004	2.018	3.040	4.072	5.113	6.164	7.224	8.294	9.374
	<b>16</b> Near	0.994	1.975	2.943	3.899	4.844	5.776	6.698	7.607	8.506
	Far	1.006	2.026	3.059	4.106	5.167	6.242	7.331	8.435	9.555
	<b>22</b> Near	0.991	1.965	2.922	3.863	4.788	5.697	6.591	7.470	8.335
	Far	1.009	2.036	3.082	4.147	5.232	6.337	7.463	8.611	9.781

	Distance(in)	10	11	12	15	18	21	24	30	36
T-Stop	<b>5.6</b> Near	9.779	10.733	11.683	14.509	17.297	20.049	22.766	28.097	33.294
	Far	10.231	11.280	12.334	15.526	18.763	22.045	25.375	32.180	39.185
	<b>8</b> Near	9.688	10.623	11.553	14.308	17.012	19.668	22.275	27.353	32.254
	Far	10.333	11.405	12.483	15.763	19.110	22.526	26.014	33.214	40.730
	<b>11</b> Near	9.575	10.488	11.394	14.064	16.669	19.211	21.691	26.477	31.043
	Far	10.464	11.564	12.675	16.069	19.562	23.157	26.859	34.605	42.841
	<b>16</b> Near	9.394	10.271	11.138	13.676	16.127	18.494	20.782	25.135	29.215
	Far	10.690	11.840	13.007	16.607	20.365	24.291	28.397	37.200	46.891
	<b>22</b> Near	9.185	10.022	10.845	13.238	15.522	17.702	19.787	23.694	27.286
	Far	10.973	12.189	13.430	17.302	21.420	25.808	30.492	40.879	52.891

## Prism Attachment Instructions

There is no light loss when using the Prism Attachment; therefore no Stop compensation is required.

The Probe II is **Not Waterproof** when used with the Prism Attachment

**35mm Probe II** The Prism Attachment will cover the following focal lengths when used on the Probe II: 16, 20, 32 & 40

The Prism Attachment will not cover the 9mm & 12mm Lenses.

Note: Some older couplers will be engraved “Coupler A” and “Coupler B”. Use the correct coupler with the Objective lenses shown below:

Coupler	35mm Probe II
A	16mm, 20mm, 40mm
B	32mm

### Installation Steps:

[www.innovisionoptics.com](http://www.innovisionoptics.com)

1. Unscrew protective housing from objective lens