ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 23

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
0	**∞**	xx	0.19910	0.16111	**0**	**∞**	xx	0.65320	0.52858
0	**∞**	xx	0.19910	0.16111	**0**	**∞**	xx	0.65320	0.52858
1	**17.1**	xx	0.19861	0.16099	**1**	**56.2**	xx	0.65160	0.52818
2	**8.61**	xx	0.19812	0.16087	**2**	**28.2**	xx	0.65001	0.52778
3	**5.77**	xx	0.19765	0.16075	**3**	**18.9**	xx	0.64844	0.52738
4	**4.35**	xx	0.19717	0.16063	**4**	**14.3**	xx	0.64689	0.52699
5	**3.5**	x	0.19671	0.16051	**5**	**11.5**	x	0.64536	0.52660
6	2.94		0.19624	0.16039	6	9.63		0.64385	0.52621
7	2.53		0.19579	0.16027	7	8.3		0.64235	0.52583
8	2.23		0.19534	0.16016	8	7.3		0.64087	0.52545
9	1.99		0.19489	0.16004	9	6.53		0.63941	0.52507
10	**1.8**	x	0.19445	0.15993	**10**	**5.91**	x	0.63796	0.52470
11	1.65		0.19402	0.15981	11	5.4		0.63654	0.52432
12	1.52		0.19359	0.15970	12	4.98		0.63512	0.52395
13	1.41		0.19316	0.15959	13	4.62		0.63372	0.52359
14	1.31		0.19274	0.15948	14	4.31		0.63234	0.52322
15	**1.23**	x	0.19232	0.15937	**15**	**4.05**	x	0.63097	0.52286
16	1.16		0.19191	0.15926	16	3.82		0.62962	0.52250
17	1.1		0.19150	0.15915	17	3.61		0.62829	0.52215
18	1.04		0.19110	0.15904	18	3.43		0.62696	0.52180
19	.995		0.19070	0.15894	19	3.26		0.62566	0.52144
20	**.95**	x	0.19031	0.15883	**20**	**3.12**	x	0.62436	0.52110
21	.91		0.18992	0.15873	21	2.98		0.62308	0.52075
22	.873		0.18953	0.15862	22	2.86		0.62182	0.52041
23	.839		0.18915	0.15852	23	2.75		0.62056	0.52007
24	.809		0.18877	0.15841	24	2.65		0.61932	0.51973
25	**.78**	x	0.18840	0.15831	**25**	**2.56**	x	0.61810	0.51940
26	.754		0.18803	0.15821	26	2.47		0.61689	0.51906
27	.73		0.18766	0.15811	27	2.39		0.61568	0.51873
28	.707		0.18730	0.15801	28	2.32		0.61450	0.51841
29	.686		0.18694	0.15791	29	2.25		0.61332	0.51808
30	**.667**	x	0.18659	0.15781	**30**	**2.19**	x	0.61216	0.51776
31	.649		0.18624	0.15772	31	2.13		0.61101	0.51744
32	.632		0.18589	0.15762	32	2.07		0.60987	0.51712
33	.615		0.18554	0.15752	33	2.02		0.60874	0.51680
34	.6		0.18520	0.15743	34	1.97		0.60763	0.51649

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35	**.586**	x	0.18487	0.15733	**35**	**1.92**	x	0.60652	0.51618
36	.573		0.18453	0.15724	36	1.88		0.60543	0.51587
37	.56		0.18420	0.15714	37	1.84		0.60435	0.51556
38	.548		0.18388	0.15705	38	1.8		0.60327	0.51526
39	.536		0.18355	0.15696	39	1.76		0.60221	0.51496
40	**.525**	x	0.18324	0.15687	**40**	**1.72**	x	0.60116	0.51466
41	.515		0.18292	0.15678	41	1.69		0.60013	0.51436
42	.505		0.18260	0.15669	42	1.66		0.59910	0.51407
43	.496		0.18229	0.15660	43	1.63		0.59808	0.51377
44	.487		0.18199	0.15651	44	1.6		0.59707	0.51348
45	**.478**	x	0.18168	0.15642	**45**	**1.57**	x	0.59607	0.51319
46	.47		0.18138	0.15633	46	1.54		0.59508	0.51291
47	.462		0.18108	0.15625	47	1.52		0.59410	0.51262
48	.455		0.18079	0.15616	48	1.49		0.59313	0.51234
49	.448		0.18049	0.15608	49	1.47		0.59217	0.51206
50	**.441**	x	0.18020	0.15599	**50**	**1.45**	x	0.59122	0.51178
51	.434		0.17992	0.15591	51	1.42		0.59028	0.51150
52	.428		0.17963	0.15582	52	1.4		0.58935	0.51123
53	.421		0.17935	0.15574	53	1.38		0.58842	0.51096
54	.416		0.17907	0.15566	54	1.36		0.58751	0.51069
55	**.41**	x	0.17880	0.15558	**55**	**1.34**	x	0.58660	0.51042
56	.404		0.17852	0.15549	56	1.33		0.58570	0.51015
57	.399		0.17825	0.15541	57	1.31		0.58482	0.50989
58	.394		0.17798	0.15533	58	1.29		0.58393	0.50963
59	.389		0.17772	0.15525	59	1.28		0.58306	0.50936
60	**.384**	x	0.17745	0.15518	**60**	**1.26**	x	0.58220	0.50911
61	.38		0.17719	0.15510	61	1.25		0.58134	0.50885
62	.375		0.17693	0.15502	62	1.23		0.58049	0.50859
63	.371		0.17668	0.15494	63	1.22		0.57965	0.50834
64	.367		0.17642	0.15487	64	1.2		0.57882	0.50809
65	**.363**	x	0.17617	0.15479	**65**	**1.19**	x	0.57800	0.50784
66	.359		0.17592	0.15471	66	1.18		0.57718	0.50759
67	.355		0.17568	0.15464	67	1.16		0.57637	0.50735
68	.351		0.17543	0.15456	68	1.15		0.57557	0.50710
69	.348		0.17519	0.15449	69	1.14		0.57477	0.50686
70	**.344**	x	0.17495	0.15442	**70**	**1.13**	x	0.57398	0.50662

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71	.341		0.17471	0.15434	71	1.12		0.57320	0.50638
72	.337		0.17448	0.15427	72	1.11		0.57243	0.50614
73	.334		0.17424	0.15420	73	1.1		0.57166	0.50591
74	.331		0.17401	0.15413	74	1.09		0.57090	0.50568
75	**.328**	x	0.17378	0.15406	**75**	**1.08**	x	0.57015	0.50544
76	.325		0.17355	0.15399	76	1.07		0.56940	0.50521
77	.322		0.17333	0.15392	77	1.06		0.56867	0.50498
78	.319		0.17311	0.15385	78	1.05		0.56793	0.50476
79	.317		0.17288	0.15378	79	1.04		0.56721	0.50453
80	**.314**	x	0.17267	0.15371	**80**	**1.03**	x	0.56649	0.50431
81	.311		0.17245	0.15365	81	1.02		0.56577	0.50409
82	.309		0.17223	0.15358	82	1.01		0.56507	0.50387
83	.306		0.17202	0.15351	83	1.01		0.56436	0.50365
84	.304		0.17181	0.15345	84	.997		0.56367	0.50343
85	**.302**	x	0.17160	0.15338	**85**	**.99**	x	0.56298	0.50321
86	.299		0.17139	0.15331	86	.982		0.56230	0.50300
87	.297		0.17118	0.15325	87	.975		0.56162	0.50279
88	.295		0.17098	0.15319	88	.967		0.56095	0.50258
89	.293		0.17077	0.15312	89	.96		0.56028	0.50237
90	**.291**	x	0.17057	0.15306	**90**	**.954**	x	0.55962	0.50216
91	.289		0.17037	0.15300	91	.947		0.55897	0.50195
92	.287		0.17018	0.15293	92	.94		0.55832	0.50175
93	.285		0.16998	0.15287	93	.934		0.55768	0.50154
94	.283		0.16979	0.15281	94	.928		0.55704	0.50134
95	**.281**	x	0.16959	0.15275	**95**	**.922**	x	0.55641	0.50114
96	.279		0.16940	0.15269	96	.915		0.55578	0.50094
97	.277		0.16921	0.15263	97	.91		0.55516	0.50074
98	.275		0.16903	0.15257	98	.904		0.55455	0.50055
99	.274		0.16884	0.15251	99	.898		0.55394	0.50035
100	**.272**	x	0.16866	0.15245	**100**	**.893**	x	0.55333	0.50016
101	.27		0.16847	0.15239	101	.887		0.55273	0.49997
102	.269		0.16829	0.15233	102	.882		0.55214	0.49978
103	.267		0.16811	0.15227	103	.877		0.55155	0.49959
104	.266		0.16793	0.15222	104	.872		0.55096	0.49940
105	**.264**	x	0.16776	0.15216	**105**	**.867**	x	0.55038	0.49921
106	.263		0.16758	0.15210	106	.862		0.54980	0.49903

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107	.261		0.16741	0.15205	107	.857		0.54923	0.49885
108	.26		0.16723	0.15199	108	.852		0.54867	0.49866
109	.258		0.16706	0.15194	109	.848		0.54810	0.49848
110	**.257**	x	0.16689	0.15188	**110**	**.843**	x	0.54755	0.49830
111	.256		0.16672	0.15183	111	.839		0.54699	0.49812
112	.254		0.16656	0.15177	112	.834		0.54645	0.49795
113	.253		0.16639	0.15172	113	.83		0.54590	0.49777
114	.252		0.16623	0.15167	114	.826		0.54536	0.49760
115	**.25**	x	0.16606	0.15161	**115**	**.821**	x	0.54483	0.49742
116	.249		0.16590	0.15156	116	.817		0.54430	0.49725
117	.248		0.16574	0.15151	117	.813		0.54377	0.49708
118	.247		0.16558	0.15146	118	.809		0.54325	0.49691
119	.246		0.16543	0.15141	119	.806		0.54274	0.49674
120	**.244**	x	0.16527	0.15136	**120**	**.802**	x	0.54222	0.49658
121	.243		0.16511	0.15131	121	.798		0.54171	0.49641
122	.242		0.16496	0.15126	122	.794		0.54121	0.49624
123	.241		0.16481	0.15121	123	.791		0.54071	0.49608
124	.24		0.16466	0.15116	124	.787		0.54021	0.49592
125	**.239**	x	0.16451	0.15111	**125**	**.784**	x	0.53972	0.49576
126	.238		0.16436	0.15106	126	.78		0.53923	0.49560
127	.237		0.16421	0.15101	127	.777		0.53874	0.49544
128	.236		0.16406	0.15096	128	.774		0.53826	0.49528
129	.235		0.16392	0.15091	129	.77		0.53778	0.49513
130	**.234**	x	0.16377	0.15087	**130**	**.767**	x	0.53731	0.49497
131	.233		0.16363	0.15082	131	.764		0.53684	0.49482
132	.232		0.16349	0.15077	132	.761		0.53637	0.49466
133	.231		0.16335	0.15073	133	.758		0.53591	0.49451
134	.23		0.16321	0.15068	134	.755		0.53545	0.49436
135	**.229**	x	0.16307	0.15064	**135**	**.752**	x	0.53500	0.49421
136	.228		0.16293	0.15059	136	.749		0.53455	0.49406
137	.227		0.16279	0.15055	137	.746		0.53410	0.49392
138	.226		0.16266	0.15050	138	.743		0.53365	0.49377
139	.226		0.16252	0.15046	139	.74		0.53321	0.49363
140	**.225**	x	0.16239	0.15041	**140**	**.737**	x	0.53277	0.49348
141	.224		0.16226	0.15037	141	.735		0.53234	0.49334
142	.223		0.16213	0.15033	142	.732		0.53191	0.49320

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143	.222		0.16200	0.15028	143	.729		0.53148	0.49306
144	.222		0.16187	0.15024	144	.727		0.53106	0.49292
145	**.221**	x	0.16174	0.15020	**145**	**.724**	x	0.53064	0.49278
146	.22		0.16161	0.15016	146	.722		0.53022	0.49264
147	.219		0.16148	0.15012	147	.719		0.52980	0.49250
148	.218		0.16136	0.15007	148	.717		0.52939	0.49237
149	.218		0.16123	0.15003	149	.714		0.52898	0.49223
150	**.217**	x	0.16111	0.14999	**150**	**.712**	x	0.52858	0.49210
151	.216		0.16099	0.14995	151	.71		0.52818	0.49197
152	.216		0.16087	0.14991	152	.707		0.52778	0.49184
153	.215		0.16075	0.14987	153	.705		0.52738	0.49171
154	.214		0.16063	0.14983	154	.703		0.52699	0.49158
155	**.214**	x	0.16051	0.14979	**155**	**.701**	x	0.52660	0.49145
156	.213		0.16039	0.14975	156	.698		0.52621	0.49132
157	.212		0.16027	0.14972	157	.696		0.52583	0.49119
158	.212		0.16016	0.14968	158	.694		0.52545	0.49107
159	.211		0.16004	0.14964	159	.692		0.52507	0.49094
160	**.21**	x	0.15993	0.14960	**160**	**.69**	x	0.52470	0.49082
161	.21		0.15981	0.14956	161	.688		0.52432	0.49070
162	.209		0.15970	0.14953	162	.686		0.52395	0.49057
163	.208		0.15959	0.14949	163	.684		0.52359	0.49045
164	.208		0.15948	0.14945	164	.682		0.52322	0.49033
165	**.207**	x	0.15937	0.14942	**165**	**.68**	x	0.52286	0.49021
166	.207		0.15926	0.14938	166	.678		0.52250	0.49010
167	.206		0.15915	0.14935	167	.676		0.52215	0.48998
168	.205		0.15904	0.14931	168	.674		0.52180	0.48986
169	.205		0.15894	0.14928	169	.672		0.52144	0.48975
170	**.204**	x	0.15883	0.14924	**170**	**.67**	x	0.52110	0.48963
171	.204		0.15873	0.14921	171	.669		0.52075	0.48952
172	.203		0.15862	0.14917	172	.667		0.52041	0.48941
173	.203		0.15852	0.14914	173	.665		0.52007	0.48930
174	.202		0.15841	0.14910	174	.663		0.51973	0.48918
175	**.202**	x	0.15831	0.14907	**175**	**.662**	x	0.51940	0.48907
176	.201		0.15821	0.14904	176	.66		0.51906	0.48897
177	.201		0.15811	0.14900	177	.658		0.51873	0.48886
178	.2		0.15801	0.14897	178	.656		0.51841	0.48875

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179	.2		0.15791	0.14894	179	.655		0.51808	0.48864
180	**.199**	x	0.15781	0.14891	**180**	**.653**	x	0.51776	0.48854
181	.199		0.15772	0.14887	181	.652		0.51744	0.48843
182	.198		0.15762	0.14884	182	.65		0.51712	0.48833
183	.198		0.15752	0.14881	183	.648		0.51680	0.48822
184	.197		0.15743	0.14878	184	.647		0.51649	0.48812
185	**.197**	x	0.15733	0.14875	**185**	**.645**	x	0.51618	0.48802
186	.196		0.15724	0.14872	186	.644		0.51587	0.48792
187	.196		0.15714	0.14869	187	.642		0.51556	0.48782
188	.195		0.15705	0.14866	188	.641		0.51526	0.48772
189	.195		0.15696	0.14863	189	.639		0.51496	0.48762
190	**.194**	x	0.15687	0.14860	**190**	**.638**	x	0.51466	0.48752
191	.194		0.15678	0.14857	191	.637		0.51436	0.48743
192	.194		0.15669	0.14854	192	.635		0.51407	0.48733
193	.193		0.15660	0.14851	193	.634		0.51377	0.48724
194	.193		0.15651	0.14848	194	.632		0.51348	0.48714
195	**.192**	x	0.15642	0.14845	**195**	**.631**	x	0.51319	0.48705
196	.192		0.15633	0.14842	196	.63		0.51291	0.48696
197	.192		0.15625	0.14840	197	.628		0.51262	0.48686
198	.191		0.15616	0.14837	198	.627		0.51234	0.48677
199	.191		0.15608	0.14834	199	.626		0.51206	0.48668
200	**.19**	x	0.15599	0.14831	**200**	**.624**	x	0.51178	0.48659
201	.19		0.15591	0.14829	201	.623		0.51150	0.48650
202	.19		0.15582	0.14826	202	.622		0.51123	0.48641
203	.189		0.15574	0.14823	203	.621		0.51096	0.48633
204	.189		0.15566	0.14821	204	.619		0.51069	0.48624
205	**.188**	x	0.15558	0.14818	**205**	**.618**	x	0.51042	0.48615
206	.188		0.15549	0.14815	206	.617		0.51015	0.48607
207	.188		0.15541	0.14813	207	.616		0.50989	0.48598
208	.187		0.15533	0.14810	208	.614		0.50963	0.48590
209	.187		0.15525	0.14808	209	.613		0.50936	0.48582
210	**.187**	x	0.15518	0.14805	**210**	**.612**	x	0.50911	0.48573
211	.186		0.15510	0.14803	211	.611		0.50885	0.48565
212	.186		0.15502	0.14800	212	.61		0.50859	0.48557
213	.186		0.15494	0.14798	213	.609		0.50834	0.48549
214	.185		0.15487	0.14795	214	.608		0.50809	0.48541

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ALPA OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 23

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
215	**.185**	x	0.15479	0.14793	**215**	**.607**	x	0.50784	0.48533
216	.185		0.15471	0.14791	216	.605		0.50759	0.48525
217	.184		0.15464	0.14788	217	.604		0.50735	0.48518
218	.184		0.15456	0.14786	218	.603		0.50710	0.48510
219	.184		0.15449	0.14784	219	.602		0.50686	0.48502
220	**.183**	x	0.15442	0.14781	**220**	**.601**	x	0.50662	0.48495
221	.183		0.15434	0.14779	221	.6		0.50638	0.48487
222	.183		0.15427	0.14777	222	.599		0.50614	0.48480
223	.182		0.15420	0.14774	223	.598		0.50591	0.48472
224	.182		0.15413	0.14772	224	.597		0.50568	0.48465
225	**.182**	x	0.15406	0.14770	**225**	**.596**	x	0.50544	0.48458
226	.181		0.15399	0.14768	226	.595		0.50521	0.48451
227	.181		0.15392	0.14766	227	.594		0.50498	0.48444
228	.181		0.15385	0.14763	228	.593		0.50476	0.48437
229	.18		0.15378	0.14761	229	.592		0.50453	0.48430
230	**.18**	x	0.15371	0.14759	**230**	**.591**	x	0.50431	0.48423
231	.18		0.15365	0.14757	231	.59		0.50409	0.48416
232	.18		0.15358	0.14755	232	.589		0.50387	0.48409
233	.179		0.15351	0.14753	233	.588		0.50365	0.48402
234	.179		0.15345	0.14751	234	.588		0.50343	0.48396
235	**.179**	x	0.15338	0.14749	**235**	**.587**	x	0.50321	0.48389
236	.179		0.15331	0.14747	236	.586		0.50300	0.48383
237	.178		0.15325	0.14745	237	.585		0.50279	0.48376
238	.178		0.15319	0.14743	238	.584		0.50258	0.48370
239	.178		0.15312	0.14741	239	.583		0.50237	0.48363
240	**.177**	x	0.15306	0.14739	**240**	**.582**	x	0.50216	0.48357
241	.177		0.15300	0.14737	241	.581		0.50195	0.48351
242	.177		0.15293	0.14736	242	.58		0.50175	0.48345
243	.177		0.15287	0.14734	243	.58		0.50154	0.48339
244	.176		0.15281	0.14732	244	.579		0.50134	0.48333
245	**.176**	x	0.15275	0.14730	**245**	**.578**	x	0.50114	0.48327
246	.176		0.15269	0.14728	246	.577		0.50094	0.48321
247	.176		0.15263	0.14726	247	.576		0.50074	0.48315
248	.175		0.15257	0.14725	248	.576		0.50055	0.48309
249	.175		0.15251	0.14723	249	.575		0.50035	0.48303
250	**.175**	x	0.15245	0.14721	**250**	**.574**	x	0.50016	0.48298

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ALPA OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 23

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
251	.175		0.15239	0.14719	251	.573		0.49997	0.48292
252	.174		0.15233	0.14718	252	.572		0.49978	0.48286
253	.174		0.15227	0.14716	253	.572		0.49959	0.48281
254	.174		0.15222	0.14714	254	.571		0.49940	0.48275
255	**.174**	x	0.15216	0.14713	**255**	**.57**	x	0.49921	0.48270
256	.174		0.15210	0.14711	256	.569		0.49903	0.48265
257	.173		0.15205	0.14709	257	.569		0.49885	0.48259
258	.173		0.15199	0.14708	258	.568		0.49866	0.48254
259	.173		0.15194	0.14706	259	.567		0.49848	0.48249
260	**.173**	x	0.15188	0.14705	**260**	**.566**	x	0.49830	0.48244
261	.172		0.15183	0.14703	261	.566		0.49812	0.48239
262	.172		0.15177	0.14702	262	.565		0.49795	0.48234
263	.172		0.15172	0.14700	263	.564		0.49777	0.48229
264	.172		0.15167	0.14699	264	.564		0.49760	0.48224
265	**.172**	x	0.15161	0.14697	**265**	**.563**	x	0.49742	0.48219
266	.171		0.15156	0.14696	266	.562		0.49725	0.48214
267	.171		0.15151	0.14694	267	.562		0.49708	0.48209
268	.171		0.15146	0.14693	268	.561		0.49691	0.48205
269	.171		0.15141	0.14691	269	.56		0.49674	0.48200
270	**.171**	x	0.15136	0.14690	**270**	**.56**	x	0.49658	0.48195

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 28

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
0	**∞**	xx	0.26129	0.20359	**0**	**∞**	xx	0.85726	0.66794
1	**24.9**	xx	0.26056	0.20339	**1**	**81.9**	xx	0.85487	0.66730
2	**12.5**	xx	0.25984	0.20320	**2**	**41.1**	xx	0.85250	0.66667
3	**8.39**	xx	0.25913	0.20301	**3**	**27.5**	xx	0.85017	0.66604
4	**6.33**	xx	0.25843	0.20282	**4**	**20.8**	xx	0.84786	0.66542
5	**5.08**	x	0.25773	0.20263	**5**	**16.7**	x	0.84557	0.66480
6	4.26		0.25704	0.20244	6	14		0.84331	0.66418
7	3.66		0.25636	0.20226	7	12		0.84108	0.66357
8	3.22		0.25569	0.20207	8	10.6		0.83887	0.66297
9	2.88		0.25502	0.20189	9	9.44		0.83669	0.66237
10	**2.6**	x	0.25436	0.20171	**10**	**8.53**	x	0.83453	0.66177
11	2.38		0.25371	0.20153	11	7.79		0.83239	0.66117
12	2.19		0.25307	0.20135	12	7.18		0.83028	0.66059
13	2.03		0.25243	0.20117	13	6.65		0.82819	0.66000
14	1.89		0.25180	0.20099	14	6.21		0.82613	0.65942
15	**1.77**	x	0.25118	0.20082	**15**	**5.82**	x	0.82408	0.65884
16	1.67		0.25056	0.20064	16	5.48		0.82206	0.65827
17	1.58		0.24995	0.20047	17	5.18		0.82006	0.65770
18	1.5		0.24935	0.20029	18	4.91		0.81808	0.65713
19	1.42		0.24875	0.20012	19	4.67		0.81612	0.65657
20	**1.36**	x	0.24816	0.19995	**20**	**4.46**	x	0.81419	0.65602
21	1.3		0.24758	0.19978	21	4.27		0.81227	0.65546
22	1.25		0.24700	0.19962	22	4.09		0.81037	0.65491
23	1.2		0.24643	0.19945	23	3.93		0.80849	0.65437
24	1.15		0.24586	0.19929	24	3.78		0.80664	0.65382
25	**1.11**	x	0.24530	0.19912	**25**	**3.65**	x	0.80480	0.65328
26	1.07		0.24475	0.19896	26	3.52		0.80298	0.65275
27	1.04		0.24420	0.19880	27	3.41		0.80118	0.65222
28	1.01		0.24366	0.19863	28	3.3		0.79939	0.65169
29	.975		0.24312	0.19847	29	3.2		0.79763	0.65116
30	**.946**	x	0.24258	0.19832	**30**	**3.1**	x	0.79588	0.65064
31	.919		0.24206	0.19816	31	3.02		0.79415	0.65013
32	.894		0.24154	0.19800	32	2.93		0.79244	0.64961
33	.871		0.24102	0.19785	33	2.86		0.79075	0.64910
34	.849		0.24051	0.19769	34	2.78		0.78907	0.64859
35	**.828**	x	0.24000	0.19754	**35**	**2.72**	x	0.78741	0.64809

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 28

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
36	.808		0.23950	0.19739	36	2.65		0.78576	0.64759
37	.79		0.23900	0.19723	37	2.59		0.78413	0.64709
38	.772		0.23851	0.19708	38	2.53		0.78252	0.64660
39	.755		0.23803	0.19693	39	2.48		0.78092	0.64611
40	**.739**	x	0.23754	0.19679	**40**	**2.43**	x	0.77934	0.64562
41	.724		0.23707	0.19664	41	2.38		0.77778	0.64514
42	.71		0.23659	0.19649	42	2.33		0.77622	0.64466
43	.696		0.23612	0.19635	43	2.28		0.77469	0.64418
44	.683		0.23566	0.19620	44	2.24		0.77317	0.64370
45	**.671**	x	0.23520	0.19606	**45**	**2.2**	x	0.77166	0.64323
46	.659		0.23475	0.19591	46	2.16		0.77017	0.64276
47	.647		0.23430	0.19577	47	2.12		0.76869	0.64230
48	.636		0.23385	0.19563	48	2.09		0.76722	0.64184
49	.626		0.23341	0.19549	49	2.05		0.76577	0.64138
50	**.616**	x	0.23297	0.19535	**50**	**2.02**	x	0.76433	0.64092
51	.606		0.23254	0.19521	51	1.99		0.76291	0.64047
52	.597		0.23211	0.19508	52	1.96		0.76150	0.64002
53	.588		0.23168	0.19494	53	1.93		0.76010	0.63957
54	.579		0.23126	0.19481	54	1.9		0.75872	0.63912
55	**.571**	x	0.23084	0.19467	**55**	**1.87**	x	0.75735	0.63868
56	.563		0.23042	0.19454	56	1.85		0.75599	0.63824
57	.555		0.23001	0.19440	57	1.82		0.75464	0.63781
58	.547		0.22961	0.19427	58	1.8		0.75330	0.63737
59	.54		0.22920	0.19414	59	1.77		0.75198	0.63694
60	**.533**	x	0.22880	0.19401	**60**	**1.75**	x	0.75067	0.63652
61	.526		0.22841	0.19388	61	1.73		0.74937	0.63609
62	.52		0.22802	0.19375	62	1.71		0.74808	0.63567
63	.514		0.22763	0.19362	63	1.69		0.74681	0.63525
64	.507		0.22724	0.19350	64	1.66		0.74554	0.63483
65	**.502**	x	0.22686	0.19337	**65**	**1.65**	x	0.74429	0.63442
66	.496		0.22648	0.19325	66	1.63		0.74305	0.63401
67	.49		0.22611	0.19312	67	1.61		0.74182	0.63360
68	.485		0.22573	0.19300	68	1.59		0.74059	0.63319
69	.48		0.22536	0.19287	69	1.57		0.73938	0.63279
70	**.474**	x	0.22500	0.19275	**70**	**1.56**	x	0.73819	0.63239
71	.469		0.22464	0.19263	71	1.54		0.73700	0.63199

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ALPA OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 28

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
72	.465		0.22428	0.19251	72	1.52		0.73582	0.63159
73	.46		0.22392	0.19239	73	1.51		0.73465	0.63120
74	.455		0.22357	0.19227	74	1.49		0.73349	0.63081
75	**.451**	x	0.22322	0.19215	**75**	**1.48**	x	0.73234	0.63042
76	.447		0.22287	0.19203	76	1.47		0.73120	0.63003
77	.442		0.22253	0.19192	77	1.45		0.73007	0.62965
78	.438		0.22219	0.19180	78	1.44		0.72896	0.62927
79	.434		0.22185	0.19169	79	1.42		0.72785	0.62889
80	**.43**	x	0.22151	0.19157	**80**	**1.41**	x	0.72675	0.62851
81	.427		0.22118	0.19146	81	1.4		0.72565	0.62814
82	.423		0.22085	0.19134	82	1.39		0.72457	0.62777
83	.419		0.22052	0.19123	83	1.38		0.72350	0.62740
84	.416		0.22020	0.19112	84	1.36		0.72244	0.62703
85	**.412**	x	0.21988	0.19101	**85**	**1.35**	x	0.72138	0.62667
86	.409		0.21956	0.19090	86	1.34		0.72033	0.62630
87	.406		0.21924	0.19079	87	1.33		0.71930	0.62594
88	.402		0.21893	0.19068	88	1.32		0.71827	0.62559
89	.399		0.21862	0.19057	89	1.31		0.71725	0.62523
90	**.396**	x	0.21831	0.19046	**90**	**1.3**	x	0.71623	0.62488
91	.393		0.21800	0.19036	91	1.29		0.71523	0.62453
92	.39		0.21770	0.19025	92	1.28		0.71423	0.62418
93	.387		0.21740	0.19014	93	1.27		0.71325	0.62383
94	.385		0.21710	0.19004	94	1.26		0.71227	0.62348
95	**.382**	x	0.21680	0.18993	**95**	**1.25**	x	0.71129	0.62314
96	.379		0.21651	0.18983	96	1.24		0.71033	0.62280
97	.377		0.21622	0.18973	97	1.24		0.70937	0.62246
98	.374		0.21593	0.18962	98	1.23		0.70843	0.62213
99	.371		0.21564	0.18952	99	1.22		0.70748	0.62179
100	**.369**	x	0.21536	0.18942	**100**	**1.21**	x	0.70655	0.62146
101	.367		0.21507	0.18932	101	1.2		0.70563	0.62113
102	.364		0.21479	0.18922	102	1.19		0.70471	0.62080
103	.362		0.21452	0.18912	103	1.19		0.70380	0.62047
104	.36		0.21424	0.18902	104	1.18		0.70289	0.62015
105	**.357**	x	0.21397	0.18892	**105**	**1.17**	x	0.70199	0.61983
106	.355		0.21370	0.18883	106	1.17		0.70110	0.61951
107	.353		0.21343	0.18873	107	1.16		0.70022	0.61919

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ALPA OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 28

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
108	.351		0.21316	0.18863	108	1.15		0.69934	0.61887
109	.349		0.21290	0.18854	109	1.14		0.69847	0.61856
110	**.347**	x	0.21263	0.18844	**110**	**1.14**	x	0.69761	0.61825
111	.345		0.21237	0.18835	111	1.13		0.69676	0.61794
112	.343		0.21211	0.18825	112	1.12		0.69591	0.61763
113	.341		0.21186	0.18816	113	1.12		0.69506	0.61732
114	.339		0.21160	0.18807	114	1.11		0.69423	0.61702
115	**.337**	x	0.21135	0.18797	**115**	**1.11**	x	0.69340	0.61671
116	.335		0.21110	0.18788	116	1.1		0.69257	0.61641
117	.333		0.21085	0.18779	117	1.09		0.69176	0.61611
118	.332		0.21060	0.18770	118	1.09		0.69095	0.61582
119	.33		0.21035	0.18761	119	1.08		0.69014	0.61552
120	**.328**	x	0.21011	0.18752	**120**	**1.08**	x	0.68934	0.61523
121	.327		0.20987	0.18743	121	1.07		0.68855	0.61493
122	.325		0.20963	0.18734	122	1.07		0.68776	0.61464
123	.323		0.20939	0.18726	123	1.06		0.68698	0.61436
124	.322		0.20916	0.18717	124	1.06		0.68621	0.61407
125	**.32**	x	0.20892	0.18708	**125**	**1.05**	x	0.68544	0.61378
126	.319		0.20869	0.18699	126	1.05		0.68467	0.61350
127	.317		0.20846	0.18691	127	1.04		0.68392	0.61322
128	.316		0.20823	0.18682	128	1.04		0.68316	0.61294
129	.314		0.20800	0.18674	129	1.03		0.68242	0.61266
130	**.313**	x	0.20777	0.18665	**130**	**1.03**	x	0.68168	0.61238
131	.311		0.20755	0.18657	131	1.02		0.68094	0.61211
132	.31		0.20733	0.18649	132	1.02		0.68021	0.61184
133	.308		0.20711	0.18640	133	1.01		0.67948	0.61156
134	.307		0.20689	0.18632	134	1.01		0.67876	0.61129
135	**.306**	x	0.20667	0.18624	**135**	**1**	x	0.67805	0.61103
136	.304		0.20645	0.18616	136	.999		0.67734	0.61076
137	.303		0.20624	0.18608	137	.995		0.67664	0.61049
138	.302		0.20603	0.18600	138	.99		0.67594	0.61023
139	.301		0.20581	0.18592	139	.986		0.67524	0.60997
140	**.299**	x	0.20560	0.18584	**140**	**.982**	x	0.67456	0.60971
141	.298		0.20540	0.18576	141	.978		0.67387	0.60945
142	.297		0.20519	0.18568	142	.974		0.67319	0.60919
143	.296		0.20498	0.18560	143	.97		0.67252	0.60894

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 28

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
144	.295		0.20478	0.18553	144	.966		0.67185	0.60868
145	**.293**	x	0.20458	0.18545	**145**	**.963**	x	0.67119	0.60843
146	.292		0.20438	0.18537	146	.959		0.67053	0.60818
147	.291		0.20418	0.18530	147	.955		0.66987	0.60793
148	.29		0.20398	0.18522	148	.952		0.66922	0.60768
149	.289		0.20378	0.18515	149	.948		0.66858	0.60744
150	**.288**	x	0.20359	0.18507	**150**	**.944**	x	0.66794	0.60719
151	.287		0.20339	0.18500	151	.941		0.66730	0.60695
152	.286		0.20320	0.18492	152	.938		0.66667	0.60671
153	.285		0.20301	0.18485	153	.934		0.66604	0.60647
154	.284		0.20282	0.18478	154	.931		0.66542	0.60623
155	**.283**	x	0.20263	0.18471	**155**	**.928**	x	0.66480	0.60599
156	.282		0.20244	0.18463	156	.924		0.66418	0.60575
157	.281		0.20226	0.18456	157	.921		0.66357	0.60552
158	.28		0.20207	0.18449	158	.918		0.66297	0.60528
159	.279		0.20189	0.18442	159	.915		0.66237	0.60505
160	**.278**	x	0.20171	0.18435	**160**	**.912**	x	0.66177	0.60482
161	.277		0.20153	0.18428	161	.909		0.66117	0.60459
162	.276		0.20135	0.18421	162	.906		0.66059	0.60436
163	.275		0.20117	0.18414	163	.903		0.66000	0.60414
164	.274		0.20099	0.18407	164	.9		0.65942	0.60391
165	**.273**	x	0.20082	0.18400	**165**	**.897**	x	0.65884	0.60369
166	.272		0.20064	0.18394	166	.894		0.65827	0.60347
167	.272		0.20047	0.18387	167	.891		0.65770	0.60325
168	.271		0.20029	0.18380	168	.888		0.65713	0.60303
169	.27		0.20012	0.18374	169	.886		0.65657	0.60281
170	**.269**	x	0.19995	0.18367	**170**	**.883**	x	0.65602	0.60259
171	.268		0.19978	0.18360	171	.88		0.65546	0.60237
172	.267		0.19962	0.18354	172	.877		0.65491	0.60216
173	.267		0.19945	0.18347	173	.875		0.65437	0.60195
174	.266		0.19929	0.18341	174	.872		0.65382	0.60173
175	**.265**	x	0.19912	0.18334	**175**	**.87**	x	0.65328	0.60152
176	.264		0.19896	0.18328	176	.867		0.65275	0.60131
177	.264		0.19880	0.18322	177	.865		0.65222	0.60111
178	.263		0.19863	0.18315	178	.862		0.65169	0.60090
179	.262		0.19847	0.18309	179	.86		0.65116	0.60069

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ALPA OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 28

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
180	**.261**	x	0.19832	0.18303	**180**	**.857**	x	0.65064	0.60049
181	.261		0.19816	0.18297	181	.855		0.65013	0.60029
182	.26		0.19800	0.18291	182	.853		0.64961	0.60008
183	.259		0.19785	0.18284	183	.85		0.64910	0.59988
184	.258		0.19769	0.18278	184	.848		0.64859	0.59968
185	**.258**	x	0.19754	0.18272	**185**	**.846**	x	0.64809	0.59948
186	.257		0.19739	0.18266	186	.843		0.64759	0.59929
187	.256		0.19723	0.18260	187	.841		0.64709	0.59909
188	.256		0.19708	0.18254	188	.839		0.64660	0.59890
189	.255		0.19693	0.18248	189	.837		0.64611	0.59870
190	**.254**	x	0.19679	0.18243	**190**	**.835**	x	0.64562	0.59851
191	.254		0.19664	0.18237	191	.832		0.64514	0.59832
192	.253		0.19649	0.18231	192	.83		0.64466	0.59813
193	.252		0.19635	0.18225	193	.828		0.64418	0.59794
194	.252		0.19620	0.18219	194	.826		0.64370	0.59775
195	**.251**	x	0.19606	0.18214	**195**	**.824**	x	0.64323	0.59757
196	.251		0.19591	0.18208	196	.822		0.64276	0.59738
197	.25		0.19577	0.18203	197	.82		0.64230	0.59720
198	.249		0.19563	0.18197	198	.818		0.64184	0.59701
199	.249		0.19549	0.18191	199	.816		0.64138	0.59683
200	**.248**	x	0.19535	0.18186	**200**	**.814**	x	0.64092	0.59665
201	.248		0.19521	0.18180	201	.812		0.64047	0.59647
202	.247		0.19508	0.18175	202	.81		0.64002	0.59629
203	.246		0.19494	0.18169	203	.808		0.63957	0.59611
204	.246		0.19481	0.18164	204	.807		0.63912	0.59593
205	**.245**	x	0.19467	0.18159	**205**	**.805**	x	0.63868	0.59576
206	.245		0.19454	0.18153	206	.803		0.63824	0.59558
207	.244		0.19440	0.18148	207	.801		0.63781	0.59541
208	.244		0.19427	0.18143	208	.799		0.63737	0.59524
209	.243		0.19414	0.18138	209	.798		0.63694	0.59507
210	**.243**	x	0.19401	0.18132	**210**	**.796**	x	0.63652	0.59490
211	.242		0.19388	0.18127	211	.794		0.63609	0.59473
212	.242		0.19375	0.18122	212	.792		0.63567	0.59456
213	.241		0.19362	0.18117	213	.791		0.63525	0.59439
214	.241		0.19350	0.18112	214	.789		0.63483	0.59422
215	**.24**	x	0.19337	0.18107	**215**	**.787**	x	0.63442	0.59406

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 28

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
216	.24		0.19325	0.18102	216	.786		0.63401	0.59389
217	.239		0.19312	0.18097	217	.784		0.63360	0.59373
218	.239		0.19300	0.18092	218	.783		0.63319	0.59357
219	.238		0.19287	0.18087	219	.781		0.63279	0.59341
220	**.238**	x	0.19275	0.18082	**220**	**.779**	x	0.63239	0.59325
221	.237		0.19263	0.18077	221	.778		0.63199	0.59309
222	.237		0.19251	0.18072	222	.776		0.63159	0.59293
223	.236		0.19239	0.18068	223	.775		0.63120	0.59277
224	.236		0.19227	0.18063	224	.773		0.63081	0.59261
225	**.235**	x	0.19215	0.18058	**225**	**.772**	x	0.63042	0.59246
226	.235		0.19203	0.18053	226	.77		0.63003	0.59230
227	.234		0.19192	0.18049	227	.769		0.62965	0.59215
228	.234		0.19180	0.18044	228	.767		0.62927	0.59200
229	.233		0.19169	0.18039	229	.766		0.62889	0.59185
230	**.233**	x	0.19157	0.18035	**230**	**.764**	x	0.62851	0.59169
231	.233		0.19146	0.18030	231	.763		0.62814	0.59154
232	.232		0.19134	0.18026	232	.761		0.62777	0.59140
233	.232		0.19123	0.18021	233	.76		0.62740	0.59125
234	.231		0.19112	0.18017	234	.759		0.62703	0.59110
235	**.231**	x	0.19101	0.18012	**235**	**.757**	x	0.62667	0.59095
236	.23		0.19090	0.18008	236	.756		0.62630	0.59081
237	.23		0.19079	0.18003	237	.755		0.62594	0.59066
238	.23		0.19068	0.17999	238	.753		0.62559	0.59052
239	.229		0.19057	0.17995	239	.752		0.62523	0.59038
240	**.229**	x	0.19046	0.17990	**240**	**.751**	x	0.62488	0.59024
241	.228		0.19036	0.17986	241	.749		0.62453	0.59009
242	.228		0.19025	0.17982	242	.748		0.62418	0.58995
243	.228		0.19014	0.17978	243	.747		0.62383	0.58982
244	.227		0.19004	0.17973	244	.746		0.62348	0.58968
245	**.227**	x	0.18993	0.17969	**245**	**.744**	x	0.62314	0.58954
246	.226		0.18983	0.17965	246	.743		0.62280	0.58940
247	.226		0.18973	0.17961	247	.742		0.62246	0.58927
248	.226		0.18962	0.17957	248	.741		0.62213	0.58913
249	.225		0.18952	0.17953	249	.739		0.62179	0.58900
250	**.225**	x	0.18942	0.17949	**250**	**.738**	x	0.62146	0.58887
251	.225		0.18932	0.17945	251	.737		0.62113	0.58873

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ALPA OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 28

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
252	.224		0.18922	0.17941	252	.736		0.62080	0.58860
253	.224		0.18912	0.17937	253	.735		0.62047	0.58847
254	.224		0.18902	0.17933	254	.733		0.62015	0.58834
255	**.223**	x	0.18892	0.17929	**255**	**.732**	x	0.61983	0.58821
256	.223		0.18883	0.17925	256	.731		0.61951	0.58808
257	.223		0.18873	0.17921	257	.73		0.61919	0.58796
258	.222		0.18863	0.17917	258	.729		0.61887	0.58783
259	.222		0.18854	0.17913	259	.728		0.61856	0.58770
260	**.222**	x	0.18844	0.17909	**260**	**.727**	x	0.61825	0.58758
261	.221		0.18835	0.17906	261	.726		0.61794	0.58745
262	.221		0.18825	0.17902	262	.725		0.61763	0.58733
263	.221		0.18816	0.17898	263	.723		0.61732	0.58721
264	.22		0.18807	0.17894	264	.722		0.61702	0.58709
265	**.22**	x	0.18797	0.17891	**265**	**.721**	x	0.61671	0.58696
266	.22		0.18788	0.17887	266	.72		0.61641	0.58684
267	.219		0.18779	0.17883	267	.719		0.61611	0.58672
268	.219		0.18770	0.17880	268	.718		0.61582	0.58661
269	.219		0.18761	0.17876	269	.717		0.61552	0.58649
270	**.218**	x	0.18752	0.17873	**270**	**.716**	x	0.61523	0.58637

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 32

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
0	**∞**	xx	0.31705	0.23910	**0**	**∞**	xx	1.04019	0.78445
1	**33**	xx	0.31608	0.23883	**1**	**108**	xx	1.03700	0.78357
2	**16.6**	xx	0.31511	0.23857	**2**	**54.3**	xx	1.03383	0.78270
3	**11.1**	xx	0.31416	0.23830	**3**	**36.3**	xx	1.03071	0.78184
4	**8.34**	xx	0.31322	0.23804	**4**	**27.4**	xx	1.02762	0.78098
5	**6.7**	x	0.31229	0.23778	**5**	**22**	x	1.02456	0.78012
6	5.6		0.31136	0.23752	6	18.4		1.02154	0.77928
7	4.82		0.31045	0.23727	7	15.8		1.01855	0.77843
8	4.23		0.30955	0.23701	8	13.9		1.01559	0.77760
9	3.78		0.30866	0.23676	9	12.4		1.01267	0.77677
10	**3.41**	x	0.30778	0.23651	**10**	**11.2**	x	1.00978	0.77594
11	3.12		0.30691	0.23626	11	10.2		1.00692	0.77512
12	2.87		0.30605	0.23601	12	9.4		1.00409	0.77430
13	2.66		0.30519	0.23576	13	8.71		1.00129	0.77350
14	2.48		0.30435	0.23552	14	8.12		0.99852	0.77269
15	**2.32**	x	0.30351	0.23527	**15**	**7.61**	x	0.99578	0.77189
16	2.18		0.30269	0.23503	16	7.16		0.99307	0.77110
17	2.06		0.30187	0.23479	17	6.76		0.99039	0.77031
18	1.95		0.30106	0.23455	18	6.41		0.98773	0.76953
19	1.86		0.30026	0.23431	19	6.1		0.98511	0.76875
20	**1.77**	x	0.29947	0.23408	**20**	**5.81**	x	0.98251	0.76798
21	1.69		0.29869	0.23385	21	5.56		0.97994	0.76721
22	1.62		0.29791	0.23361	22	5.32		0.97739	0.76645
23	1.56		0.29714	0.23338	23	5.11		0.97487	0.76569
24	1.5		0.29638	0.23315	24	4.91		0.97238	0.76494
25	**1.44**	x	0.29563	0.23292	**25**	**4.74**	x	0.96991	0.76419
26	1.39		0.29489	0.23270	26	4.57		0.96747	0.76344
27	1.35		0.29415	0.23247	27	4.42		0.96505	0.76270
28	1.3		0.29342	0.23225	28	4.27		0.96266	0.76197
29	1.26		0.29270	0.23203	29	4.14		0.96029	0.76124
30	**1.22**	x	0.29198	0.23181	**30**	**4.02**	x	0.95794	0.76052
31	1.19		0.29127	0.23159	31	3.9		0.95562	0.75980
32	1.16		0.29057	0.23137	32	3.79		0.95332	0.75908
33	1.13		0.28988	0.23115	33	3.69		0.95104	0.75837
34	1.1		0.28919	0.23094	34	3.6		0.94879	0.75767
35	**1.07**	x	0.28851	0.23072	**35**	**3.5**	x	0.94656	0.75696

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Rodenstock ALPA HR Alpagon - ALP 32

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
36	1.04		0.28784	0.23051	36	3.42		0.94434	0.75627
37	1.02		0.28717	0.23030	37	3.34		0.94215	0.75557
38	.994		0.28651	0.23009	38	3.26		0.93999	0.75488
39	.972		0.28585	0.22988	39	3.19		0.93784	0.75420
40	**.951**	x	0.28520	0.22967	**40**	**3.12**	x	0.93571	0.75352
41	.931		0.28456	0.22947	41	3.05		0.93360	0.75284
42	.912		0.28393	0.22926	42	2.99		0.93152	0.75217
43	.894		0.28330	0.22906	43	2.93		0.92945	0.75151
44	.877		0.28267	0.22886	44	2.88		0.92740	0.75084
45	**.86**	x	0.28205	0.22866	**45**	**2.82**	x	0.92537	0.75018
46	.844		0.28144	0.22846	46	2.77		0.92336	0.74953
47	.829		0.28083	0.22826	47	2.72		0.92137	0.74888
48	.815		0.28023	0.22806	48	2.67		0.91940	0.74823
49	.801		0.27964	0.22786	49	2.63		0.91744	0.74759
50	**.787**	x	0.27905	0.22767	**50**	**2.58**	x	0.91551	0.74695
51	.774		0.27846	0.22748	51	2.54		0.91359	0.74631
52	.762		0.27788	0.22728	52	2.5		0.91168	0.74568
53	.75		0.27731	0.22709	53	2.46		0.90980	0.74506
54	.739		0.27674	0.22690	54	2.42		0.90793	0.74443
55	**.728**	x	0.27617	0.22671	**55**	**2.39**	x	0.90608	0.74381
56	.717		0.27561	0.22653	56	2.35		0.90425	0.74320
57	.707		0.27506	0.22634	57	2.32		0.90243	0.74258
58	.697		0.27451	0.22615	58	2.29		0.90063	0.74198
59	.687		0.27397	0.22597	59	2.25		0.89884	0.74137
60	**.678**	x	0.27343	0.22579	**60**	**2.22**	x	0.89708	0.74077
61	.669		0.27289	0.22560	61	2.2		0.89532	0.74017
62	.66		0.27236	0.22542	62	2.17		0.89358	0.73958
63	.652		0.27184	0.22524	63	2.14		0.89186	0.73899
64	.644		0.27132	0.22507	64	2.11		0.89015	0.73840
65	**.636**	x	0.27080	0.22489	**65**	**2.09**	x	0.88846	0.73782
66	.628		0.27029	0.22471	66	2.06		0.88678	0.73724
67	.621		0.26978	0.22454	67	2.04		0.88511	0.73666
68	.614		0.26928	0.22436	68	2.01		0.88346	0.73609
69	.607		0.26878	0.22419	69	1.99		0.88183	0.73552
70	**.6**	x	0.26829	0.22401	**70**	**1.97**	x	0.88021	0.73496
71	.594		0.26780	0.22384	71	1.95		0.87860	0.73439

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 32

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
72	.587		0.26731	0.22367	72	1.93		0.87700	0.73383
73	.581		0.26683	0.22350	73	1.91		0.87542	0.73328
74	.575		0.26635	0.22333	74	1.89		0.87386	0.73273
75	**.569**	x	0.26588	0.22317	**75**	**1.87**	x	0.87230	0.73218
76	.563		0.26541	0.22300	76	1.85		0.87076	0.73163
77	.558		0.26494	0.22284	77	1.83		0.86923	0.73109
78	.552		0.26448	0.22267	78	1.81		0.86772	0.73055
79	.547		0.26402	0.22251	79	1.79		0.86621	0.73001
80	**.542**	x	0.26357	0.22234	**80**	**1.78**	x	0.86472	0.72948
81	.537		0.26312	0.22218	81	1.76		0.86324	0.72895
82	.532		0.26267	0.22202	82	1.75		0.86178	0.72842
83	.527		0.26223	0.22186	83	1.73		0.86032	0.72790
84	.522		0.26179	0.22170	84	1.71		0.85888	0.72738
85	**.518**	x	0.26135	0.22155	**85**	**1.7**	x	0.85745	0.72686
86	.513		0.26092	0.22139	86	1.68		0.85603	0.72634
87	.509		0.26049	0.22123	87	1.67		0.85462	0.72583
88	.505		0.26006	0.22108	88	1.66		0.85322	0.72532
89	.501		0.25964	0.22092	89	1.64		0.85184	0.72482
90	**.497**	x	0.25922	0.22077	**90**	**1.63**	x	0.85046	0.72431
91	.493		0.25881	0.22062	91	1.62		0.84910	0.72381
92	.489		0.25839	0.22047	92	1.6		0.84775	0.72332
93	.485		0.25798	0.22032	93	1.59		0.84640	0.72282
94	.481		0.25758	0.22017	94	1.58		0.84507	0.72233
95	**.477**	x	0.25718	0.22002	**95**	**1.57**	x	0.84375	0.72184
96	.474		0.25678	0.21987	96	1.55		0.84244	0.72136
97	.47		0.25638	0.21972	97	1.54		0.84114	0.72087
98	.467		0.25599	0.21958	98	1.53		0.83985	0.72039
99	.464		0.25560	0.21943	99	1.52		0.83857	0.71991
100	**.46**	x	0.25521	0.21929	**100**	**1.51**	x	0.83730	0.71944
101	.457		0.25483	0.21914	101	1.5		0.83604	0.71897
102	.454		0.25444	0.21900	102	1.49		0.83479	0.71850
103	.451		0.25407	0.21886	103	1.48		0.83355	0.71803
104	.448		0.25369	0.21871	104	1.47		0.83232	0.71757
105	**.445**	x	0.25332	0.21857	**105**	**1.46**	x	0.83109	0.71711
106	.442		0.25295	0.21843	106	1.45		0.82988	0.71665
107	.439		0.25258	0.21829	107	1.44		0.82868	0.71619

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ALPA OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 32

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
108	.436		0.25222	0.21816	108	1.43		0.82748	0.71574
109	.434		0.25186	0.21802	109	1.42		0.82630	0.71529
110	**.431**	x	0.25150	0.21788	**110**	**1.41**	x	0.82512	0.71484
111	.428		0.25114	0.21775	111	1.4		0.82395	0.71439
112	.426		0.25079	0.21761	112	1.4		0.82280	0.71395
113	.423		0.25044	0.21748	113	1.39		0.82164	0.71351
114	.421		0.25009	0.21734	114	1.38		0.82050	0.71307
115	**.418**	x	0.24974	0.21721	**115**	**1.37**	x	0.81937	0.71263
116	.416		0.24940	0.21708	116	1.36		0.81825	0.71220
117	.413		0.24906	0.21695	117	1.36		0.81713	0.71177
118	.411		0.24872	0.21682	118	1.35		0.81602	0.71134
119	.409		0.24839	0.21669	119	1.34		0.81492	0.71091
120	**.406**	x	0.24805	0.21656	**120**	**1.33**	x	0.81383	0.71049
121	.404		0.24772	0.21643	121	1.33		0.81274	0.71007
122	.402		0.24740	0.21630	122	1.32		0.81167	0.70965
123	.4		0.24707	0.21617	123	1.31		0.81060	0.70923
124	.398		0.24675	0.21605	124	1.3		0.80954	0.70881
125	**.396**	x	0.24643	0.21592	**125**	**1.3**	x	0.80849	0.70840
126	.393		0.24611	0.21580	126	1.29		0.80744	0.70799
127	.391		0.24579	0.21567	127	1.28		0.80640	0.70758
128	.389		0.24548	0.21555	128	1.28		0.80537	0.70718
129	.387		0.24517	0.21543	129	1.27		0.80435	0.70678
130	**.386**	x	0.24486	0.21530	**130**	**1.27**	x	0.80333	0.70637
131	.384		0.24455	0.21518	131	1.26		0.80233	0.70598
132	.382		0.24424	0.21506	132	1.25		0.80132	0.70558
133	.38		0.24394	0.21494	133	1.25		0.80033	0.70518
134	.378		0.24364	0.21482	134	1.24		0.79934	0.70479
135	**.376**	x	0.24334	0.21470	**135**	**1.23**	x	0.79836	0.70440
136	.375		0.24304	0.21458	136	1.23		0.79739	0.70401
137	.373		0.24275	0.21447	137	1.22		0.79642	0.70363
138	.371		0.24246	0.21435	138	1.22		0.79546	0.70324
139	.37		0.24217	0.21423	139	1.21		0.79451	0.70286
140	**.368**	x	0.24188	0.21412	**140**	**1.21**	x	0.79356	0.70248
141	.366		0.24159	0.21400	141	1.2		0.79262	0.70211
142	.365		0.24131	0.21389	142	1.2		0.79169	0.70173
143	.363		0.24102	0.21377	143	1.19		0.79076	0.70136

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Rodenstock ALPA HR Alpagon - ALP 32

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
144	.361		0.24074	0.21366	144	1.19		0.78984	0.70099
145	**.36**	x	0.24047	0.21355	**145**	**1.18**	x	0.78893	0.70062
146	.358		0.24019	0.21344	146	1.18		0.78802	0.70025
147	.357		0.23991	0.21332	147	1.17		0.78712	0.69988
148	.355		0.23964	0.21321	148	1.17		0.78622	0.69952
149	.354		0.23937	0.21310	149	1.16		0.78533	0.69916
150	**.353**	x	0.23910	0.21299	**150**	**1.16**	x	0.78445	0.69880
151	.351		0.23883	0.21289	151	1.15		0.78357	0.69844
152	.35		0.23857	0.21278	152	1.15		0.78270	0.69809
153	.348		0.23830	0.21267	153	1.14		0.78184	0.69773
154	.347		0.23804	0.21256	154	1.14		0.78098	0.69738
155	**.346**	x	0.23778	0.21246	**155**	**1.13**	x	0.78012	0.69703
156	.344		0.23752	0.21235	156	1.13		0.77928	0.69668
157	.343		0.23727	0.21224	157	1.13		0.77843	0.69634
158	.342		0.23701	0.21214	158	1.12		0.77760	0.69599
159	.34		0.23676	0.21203	159	1.12		0.77677	0.69565
160	**.339**	x	0.23651	0.21193	**160**	**1.11**	x	0.77594	0.69531
161	.338		0.23626	0.21183	161	1.11		0.77512	0.69497
162	.337		0.23601	0.21173	162	1.1		0.77430	0.69464
163	.336		0.23576	0.21162	163	1.1		0.77350	0.69430
164	.334		0.23552	0.21152	164	1.1		0.77269	0.69397
165	**.333**	x	0.23527	0.21142	**165**	**1.09**	x	0.77189	0.69364
166	.332		0.23503	0.21132	166	1.09		0.77110	0.69331
167	.331		0.23479	0.21122	167	1.09		0.77031	0.69298
168	.33		0.23455	0.21112	168	1.08		0.76953	0.69265
169	.329		0.23431	0.21102	169	1.08		0.76875	0.69233
170	**.327**	x	0.23408	0.21092	**170**	**1.07**	x	0.76798	0.69201
171	.326		0.23385	0.21083	171	1.07		0.76721	0.69169
172	.325		0.23361	0.21073	172	1.07		0.76645	0.69137
173	.324		0.23338	0.21063	173	1.06		0.76569	0.69105
174	.323		0.23315	0.21054	174	1.06		0.76494	0.69073
175	**.322**	x	0.23292	0.21044	**175**	**1.06**	x	0.76419	0.69042
176	.321		0.23270	0.21034	176	1.05		0.76344	0.69011
177	.32		0.23247	0.21025	177	1.05		0.76270	0.68980
178	.319		0.23225	0.21016	178	1.05		0.76197	0.68949
179	.318		0.23203	0.21006	179	1.04		0.76124	0.68918

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Rodenstock ALPA HR Alpagon - ALP 32

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
180	**.317**	x	0.23181	0.20997	**180**	**1.04**	x	0.76052	0.68887
181	.316		0.23159	0.20988	181	1.04		0.75980	0.68857
182	.315		0.23137	0.20978	182	1.03		0.75908	0.68827
183	.314		0.23115	0.20969	183	1.03		0.75837	0.68797
184	.313		0.23094	0.20960	184	1.03		0.75767	0.68767
185	**.312**	x	0.23072	0.20951	**185**	**1.02**	x	0.75696	0.68737
186	.311		0.23051	0.20942	186	1.02		0.75627	0.68707
187	.31		0.23030	0.20933	187	1.02		0.75557	0.68678
188	.31		0.23009	0.20924	188	1.02		0.75488	0.68649
189	.309		0.22988	0.20915	189	1.01		0.75420	0.68619
190	**.308**	x	0.22967	0.20906	**190**	**1.01**	x	0.75352	0.68590
191	.307		0.22947	0.20898	191	1.01		0.75284	0.68562
192	.306		0.22926	0.20889	192	1		0.75217	0.68533
193	.305		0.22906	0.20880	193	1		0.75151	0.68504
194	.304		0.22886	0.20871	194	.999		0.75084	0.68476
195	**.304**	x	0.22866	0.20863	**195**	**.996**	x	0.75018	0.68448
196	.303		0.22846	0.20854	196	.993		0.74953	0.68420
197	.302		0.22826	0.20846	197	.99		0.74888	0.68392
198	.301		0.22806	0.20837	198	.988		0.74823	0.68364
199	.3		0.22786	0.20829	199	.985		0.74759	0.68336
200	**.299**	x	0.22767	0.20820	**200**	**.983**	x	0.74695	0.68309
201	.299		0.22748	0.20812	201	.98		0.74631	0.68281
202	.298		0.22728	0.20804	202	.977		0.74568	0.68254
203	.297		0.22709	0.20796	203	.975		0.74506	0.68227
204	.296		0.22690	0.20787	204	.972		0.74443	0.68200
205	**.296**	x	0.22671	0.20779	**205**	**.97**	x	0.74381	0.68173
206	.295		0.22653	0.20771	206	.967		0.74320	0.68147
207	.294		0.22634	0.20763	207	.965		0.74258	0.68120
208	.293		0.22615	0.20755	208	.963		0.74198	0.68094
209	.293		0.22597	0.20747	209	.96		0.74137	0.68068
210	**.292**	x	0.22579	0.20739	**210**	**.958**	x	0.74077	0.68041
211	.291		0.22560	0.20731	211	.956		0.74017	0.68016
212	.291		0.22542	0.20723	212	.953		0.73958	0.67990
213	.29		0.22524	0.20715	213	.951		0.73899	0.67964
214	.289		0.22507	0.20708	214	.949		0.73840	0.67938
215	**.289**	x	0.22489	0.20700	**215**	**.947**	x	0.73782	0.67913

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Rodenstock ALPA HR Alpagon - ALP 32

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
216	.288		0.22471	0.20692	216	.944		0.73724	0.67888
217	.287		0.22454	0.20685	217	.942		0.73666	0.67863
218	.287		0.22436	0.20677	218	.94		0.73609	0.67838
219	.286		0.22419	0.20669	219	.938		0.73552	0.67813
220	**.285**	x	0.22401	0.20662	**220**	**.936**	x	0.73496	0.67788
221	.285		0.22384	0.20654	221	.934		0.73439	0.67763
222	.284		0.22367	0.20647	222	.932		0.73383	0.67739
223	.283		0.22350	0.20639	223	.929		0.73328	0.67714
224	.283		0.22333	0.20632	224	.927		0.73273	0.67690
225	**.282**	x	0.22317	0.20625	**225**	**.925**	x	0.73218	0.67666
226	.281		0.22300	0.20617	226	.923		0.73163	0.67642
227	.281		0.22284	0.20610	227	.921		0.73109	0.67618
228	.28		0.22267	0.20603	228	.919		0.73055	0.67595
229	.28		0.22251	0.20596	229	.917		0.73001	0.67571
230	**.279**	x	0.22234	0.20588	**230**	**.916**	x	0.72948	0.67547
231	.278		0.22218	0.20581	231	.914		0.72895	0.67524
232	.278		0.22202	0.20574	232	.912		0.72842	0.67501
233	.277		0.22186	0.20567	233	.91		0.72790	0.67478
234	.277		0.22170	0.20560	234	.908		0.72738	0.67455
235	**.276**	x	0.22155	0.20553	**235**	**.906**	x	0.72686	0.67432
236	.276		0.22139	0.20546	236	.904		0.72634	0.67409
237	.275		0.22123	0.20539	237	.902		0.72583	0.67386
238	.275		0.22108	0.20533	238	.901		0.72532	0.67364
239	.274		0.22092	0.20526	239	.899		0.72482	0.67341
240	**.273**	x	0.22077	0.20519	**240**	**.897**	x	0.72431	0.67319
241	.273		0.22062	0.20512	241	.895		0.72381	0.67297
242	.272		0.22047	0.20505	242	.894		0.72332	0.67275
243	.272		0.22032	0.20499	243	.892		0.72282	0.67253
244	.271		0.22017	0.20492	244	.89		0.72233	0.67231
245	**.271**	x	0.22002	0.20485	**245**	**.888**	x	0.72184	0.67209
246	.27		0.21987	0.20479	246	.887		0.72136	0.67188
247	.27		0.21972	0.20472	247	.885		0.72087	0.67166
248	.269		0.21958	0.20466	248	.883		0.72039	0.67145
249	.269		0.21943	0.20459	249	.882		0.71991	0.67124
250	**.268**	x	0.21929	0.20453	**250**	**.88**	x	0.71944	0.67103
251	.268		0.21914	0.20446	251	.879		0.71897	0.67082

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** H +6/17 = theoretical distance using the respecitve hub of thehelical plus macro tube of the corresponding dimension (in mm) at a given degree setting - Please check if distance is achievable in reality as the ca might be within the optical system!

ALPA OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 32

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
252	.267		0.21900	0.20440	252	.877		0.71850	0.67061
253	.267		0.21886	0.20434	253	.875		0.71803	0.67040
254	.266		0.21871	0.20427	254	.874		0.71757	0.67019
255	**.266**	x	0.21857	0.20421	**255**	**.872**	x	0.71711	0.66998
256	.265		0.21843	0.20415	256	.871		0.71665	0.66978
257	.265		0.21829	0.20409	257	.869		0.71619	0.66958
258	.264		0.21816	0.20402	258	.868		0.71574	0.66937
259	.264		0.21802	0.20396	259	.866		0.71529	0.66917
260	**.264**	x	0.21788	0.20390	**260**	**.865**	x	0.71484	0.66897
261	.263		0.21775	0.20384	261	.863		0.71439	0.66877
262	.263		0.21761	0.20378	262	.862		0.71395	0.66857
263	.262		0.21748	0.20372	263	.86		0.71351	0.66837
264	.262		0.21734	0.20366	264	.859		0.71307	0.66818
265	**.261**	x	0.21721	0.20360	**265**	**.857**	x	0.71263	0.66798
266	.261		0.21708	0.20354	266	.856		0.71220	0.66779
267	.26		0.21695	0.20348	267	.855		0.71177	0.66759
268	.26		0.21682	0.20342	268	.853		0.71134	0.66740
269	.26		0.21669	0.20337	269	.852		0.71091	0.66721
270	**.259**	x	0.21656	0.20331	**270**	**.85**	x	0.71049	0.66702

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ALPA® OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 35

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
0	**∞**	xx	0.31748	0.22392	**0**	**∞**	xx	1.04160	0.73464
1	**39.1**	xx	0.31632	0.22359	**1**	**128**	xx	1.03778	0.73357
2	**19.6**	xx	0.31516	0.22327	**2**	**64.3**	xx	1.03400	0.73252
3	**13.1**	xx	0.31403	0.22295	**3**	**43**	xx	1.03027	0.73147
4	**9.85**	xx	0.31290	0.22263	**4**	**32.3**	xx	1.02658	0.73043
5	**7.9**	x	0.31179	0.22232	**5**	**25.9**	x	1.02292	0.72939
6	6.6		0.31069	0.22200	6	21.7		1.01931	0.72836
7	5.67		0.30960	0.22169	7	18.6		1.01574	0.72734
8	4.97		0.30852	0.22138	8	16.3		1.01221	0.72633
9	4.43		0.30746	0.22108	9	14.5		1.00871	0.72532
10	**4**	x	0.30640	0.22077	**10**	**13.1**	x	1.00525	0.72432
11	3.64		0.30536	0.22047	11	12		1.00183	0.72332
12	3.35		0.30433	0.22017	12	11		0.99845	0.72233
13	3.1		0.30331	0.21987	13	10.2		0.99511	0.72135
14	2.88		0.30230	0.21957	14	9.46		0.99180	0.72037
15	**2.7**	x	0.30130	0.21927	**15**	**8.85**	x	0.98852	0.71940
16	2.53		0.30031	0.21898	16	8.32		0.98528	0.71844
17	2.39		0.29934	0.21869	17	7.85		0.98207	0.71748
18	2.26		0.29837	0.21840	18	7.43		0.97890	0.71653
19	2.15		0.29741	0.21811	19	7.05		0.97576	0.71559
20	**2.05**	x	0.29646	0.21782	**20**	**6.72**	x	0.97265	0.71465
21	1.95		0.29553	0.21754	21	6.41		0.96957	0.71372
22	1.87		0.29460	0.21726	22	6.13		0.96653	0.71279
23	1.79		0.29368	0.21698	23	5.88		0.96351	0.71187
24	1.72		0.29277	0.21670	24	5.65		0.96053	0.71095
25	**1.66**	x	0.29187	0.21642	**25**	**5.44**	x	0.95758	0.71004
26	1.6		0.29098	0.21615	26	5.24		0.95466	0.70914
27	1.54		0.29010	0.21587	27	5.06		0.95176	0.70824
28	1.49		0.28922	0.21560	28	4.89		0.94890	0.70735
29	1.44		0.28836	0.21533	29	4.73		0.94606	0.70646
30	**1.4**	x	0.28750	0.21506	**30**	**4.58**	x	0.94325	0.70558
31	1.35		0.28666	0.21479	31	4.44		0.94047	0.70470
32	1.32		0.28582	0.21453	32	4.32		0.93772	0.70383
33	1.28		0.28499	0.21426	33	4.19		0.93499	0.70297
34	1.24		0.28416	0.21400	34	4.08		0.93229	0.70211
35	**1.21**	x	0.28335	0.21374	**35**	**3.97**	x	0.92962	0.70125

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ALPA® OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 35

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
36	1.18		0.28254	0.21348	36	3.87		0.92697	0.70040
37	1.15		0.28174	0.21323	37	3.78		0.92435	0.69956
38	1.12		0.28095	0.21297	38	3.68		0.92175	0.69872
39	1.1		0.28017	0.21272	39	3.6		0.91918	0.69789
40	**1.07**	x	0.27939	0.21246	**40**	**3.52**	x	0.91663	0.69706
41	1.05		0.27862	0.21221	41	3.44		0.91410	0.69624
42	1.03		0.27786	0.21196	42	3.36		0.91160	0.69542
43	1		0.27710	0.21172	43	3.29		0.90913	0.69460
44	.983		0.27635	0.21147	44	3.23		0.90667	0.69379
45	**.964**	x	0.27561	0.21122	**45**	**3.16**	x	0.90424	0.69299
46	.945		0.27488	0.21098	46	3.1		0.90183	0.69219
47	.927		0.27415	0.21074	47	3.04		0.89945	0.69140
48	.909		0.27343	0.21050	48	2.98		0.89708	0.69061
49	.893		0.27272	0.21026	49	2.93		0.89474	0.68982
50	**.877**	x	0.27201	0.21002	**50**	**2.88**	x	0.89242	0.68904
51	.862		0.27131	0.20978	51	2.83		0.89011	0.68827
52	.847		0.27061	0.20955	52	2.78		0.88783	0.68750
53	.833		0.26992	0.20932	53	2.73		0.88557	0.68673
54	.819		0.26924	0.20908	54	2.69		0.88334	0.68597
55	**.806**	x	0.26856	0.20885	**55**	**2.64**	x	0.88112	0.68521
56	.793		0.26789	0.20862	56	2.6		0.87892	0.68446
57	.781		0.26723	0.20840	57	2.56		0.87674	0.68371
58	.77		0.26657	0.20817	58	2.52		0.87458	0.68297
59	.758		0.26592	0.20794	59	2.49		0.87243	0.68223
60	**.747**	x	0.26527	0.20772	**60**	**2.45**	x	0.87031	0.68150
61	.737		0.26463	0.20750	61	2.42		0.86821	0.68077
62	.726		0.26399	0.20728	62	2.38		0.86612	0.68004
63	.716		0.26336	0.20706	63	2.35		0.86405	0.67932
64	.707		0.26274	0.20684	64	2.32		0.86200	0.67860
65	**.697**	x	0.26212	0.20662	**65**	**2.29**	x	0.85997	0.67789
66	.688		0.26150	0.20640	66	2.26		0.85795	0.67718
67	.679		0.26089	0.20619	67	2.23		0.85595	0.67647
68	.671		0.26029	0.20598	68	2.2		0.85397	0.67577
69	.663		0.25969	0.20576	69	2.17		0.85201	0.67508
70	**.655**	x	0.25910	0.20555	**70**	**2.15**	x	0.85006	0.67438
71	.647		0.25851	0.20534	71	2.12		0.84813	0.67369

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ALPA OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 35

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
72	.639		0.25793	0.20513	72	2.1		0.84621	0.67301
73	.632		0.25735	0.20493	73	2.07		0.84432	0.67233
74	.625		0.25677	0.20472	74	2.05		0.84243	0.67165
75	**.618**	x	0.25620	0.20451	**75**	**2.03**	x	0.84056	0.67098
76	.611		0.25564	0.20431	76	2		0.83871	0.67031
77	.604		0.25508	0.20411	77	1.98		0.83688	0.66964
78	.598		0.25452	0.20391	78	1.96		0.83505	0.66898
79	.591		0.25397	0.20370	79	1.94		0.83325	0.66832
80	**.585**	x	0.25343	0.20351	**80**	**1.92**	x	0.83145	0.66767
81	.579		0.25289	0.20331	81	1.9		0.82968	0.66702
82	.573		0.25235	0.20311	82	1.88		0.82791	0.66637
83	.568		0.25181	0.20291	83	1.86		0.82616	0.66573
84	.562		0.25129	0.20272	84	1.84		0.82443	0.66509
85	**.557**	x	0.25076	0.20252	**85**	**1.83**	x	0.82271	0.66445
86	.551		0.25024	0.20233	86	1.81		0.82100	0.66382
87	.546		0.24972	0.20214	87	1.79		0.81931	0.66319
88	.541		0.24921	0.20195	88	1.78		0.81763	0.66256
89	.536		0.24870	0.20176	89	1.76		0.81596	0.66194
90	**.531**	x	0.24820	0.20157	**90**	**1.74**	x	0.81431	0.66132
91	.527		0.24770	0.20138	91	1.73		0.81267	0.66071
92	.522		0.24720	0.20120	92	1.71		0.81104	0.66010
93	.517		0.24671	0.20101	93	1.7		0.80942	0.65949
94	.513		0.24622	0.20083	94	1.68		0.80782	0.65889
95	**.509**	x	0.24574	0.20065	**95**	**1.67**	x	0.80623	0.65828
96	.504		0.24526	0.20046	96	1.65		0.80465	0.65769
97	.5		0.24478	0.20028	97	1.64		0.80309	0.65709
98	.496		0.24431	0.20010	98	1.63		0.80153	0.65650
99	.492		0.24384	0.19992	99	1.61		0.79999	0.65591
100	**.488**	x	0.24337	0.19974	**100**	**1.6**	x	0.79846	0.65533
101	.484		0.24291	0.19957	101	1.59		0.79694	0.65475
102	.481		0.24245	0.19939	102	1.58		0.79544	0.65417
103	.477		0.24199	0.19922	103	1.57		0.79394	0.65359
104	.473		0.24154	0.19904	104	1.55		0.79246	0.65302
105	**.47**	x	0.24109	0.19887	**105**	**1.54**	x	0.79098	0.65245
106	.466		0.24065	0.19869	106	1.53		0.78952	0.65189
107	.463		0.24020	0.19852	107	1.52		0.78807	0.65132

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ALPA OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 35

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
108	.46		0.23977	0.19835	108	1.51		0.78663	0.65076
109	.456		0.23933	0.19818	109	1.5		0.78520	0.65021
110	**.453**	x	0.23890	0.19801	**110**	**1.49**	x	0.78378	0.64965
111	.45		0.23847	0.19785	111	1.48		0.78238	0.64910
112	.447		0.23804	0.19768	112	1.47		0.78098	0.64855
113	.444		0.23762	0.19751	113	1.46		0.77959	0.64801
114	.441		0.23720	0.19735	114	1.45		0.77821	0.64747
115	**.438**	x	0.23678	0.19718	**115**	**1.44**	x	0.77685	0.64693
116	.435		0.23637	0.19702	116	1.43		0.77549	0.64639
117	.432		0.23596	0.19686	117	1.42		0.77414	0.64586
118	.429		0.23555	0.19670	118	1.41		0.77281	0.64533
119	.427		0.23515	0.19654	119	1.4		0.77148	0.64480
120	**.424**	x	0.23474	0.19638	**120**	**1.39**	x	0.77016	0.64428
121	.421		0.23435	0.19622	121	1.38		0.76885	0.64376
122	.419		0.23395	0.19606	122	1.37		0.76755	0.64324
123	.416		0.23356	0.19590	123	1.37		0.76626	0.64272
124	.414		0.23317	0.19575	124	1.36		0.76498	0.64221
125	**.411**	x	0.23278	0.19559	**125**	**1.35**	x	0.76371	0.64170
126	.409		0.23239	0.19544	126	1.34		0.76245	0.64119
127	.406		0.23201	0.19528	127	1.33		0.76119	0.64069
128	.404		0.23163	0.19513	128	1.32		0.75995	0.64018
129	.402		0.23126	0.19498	129	1.32		0.75871	0.63968
130	**.399**	x	0.23088	0.19482	**130**	**1.31**	x	0.75748	0.63919
131	.397		0.23051	0.19467	131	1.3		0.75626	0.63869
132	.395		0.23014	0.19452	132	1.3		0.75505	0.63820
133	.393		0.22977	0.19437	133	1.29		0.75385	0.63771
134	.39		0.22941	0.19423	134	1.28		0.75266	0.63722
135	**.388**	x	0.22905	0.19408	**135**	**1.27**	x	0.75147	0.63674
136	.386		0.22869	0.19393	136	1.27		0.75030	0.63626
137	.384		0.22833	0.19379	137	1.26		0.74913	0.63578
138	.382		0.22798	0.19364	138	1.25		0.74797	0.63530
139	.38		0.22763	0.19350	139	1.25		0.74681	0.63483
140	**.378**	x	0.22728	0.19335	**140**	**1.24**	x	0.74567	0.63436
141	.376		0.22693	0.19321	141	1.23		0.74453	0.63389
142	.374		0.22659	0.19307	142	1.23		0.74340	0.63342
143	.372		0.22625	0.19293	143	1.22		0.74228	0.63296

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ALPA® OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 35

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
144	.37		0.22591	0.19278	144	1.22		0.74117	0.63250
145	**.369**	x	0.22557	0.19264	**145**	**1.21**	x	0.74006	0.63204
146	.367		0.22523	0.19251	146	1.2		0.73896	0.63158
147	.365		0.22490	0.19237	147	1.2		0.73787	0.63112
148	.363		0.22457	0.19223	148	1.19		0.73678	0.63067
149	.362		0.22424	0.19209	149	1.19		0.73571	0.63022
150	**.36**	x	0.22392	0.19196	**150**	**1.18**	x	0.73464	0.62977
151	.358		0.22359	0.19182	151	1.18		0.73357	0.62933
152	.356		0.22327	0.19168	152	1.17		0.73252	0.62889
153	.355		0.22295	0.19155	153	1.16		0.73147	0.62845
154	.353		0.22263	0.19142	154	1.16		0.73043	0.62801
155	**.352**	x	0.22232	0.19128	**155**	**1.15**	x	0.72939	0.62757
156	.35		0.22200	0.19115	156	1.15		0.72836	0.62714
157	.348		0.22169	0.19102	157	1.14		0.72734	0.62671
158	.347		0.22138	0.19089	158	1.14		0.72633	0.62628
159	.345		0.22108	0.19076	159	1.13		0.72532	0.62585
160	**.344**	x	0.22077	0.19063	**160**	**1.13**	x	0.72432	0.62542
161	.342		0.22047	0.19050	161	1.12		0.72332	0.62500
162	.341		0.22017	0.19037	162	1.12		0.72233	0.62458
163	.34		0.21987	0.19024	163	1.11		0.72135	0.62416
164	.338		0.21957	0.19012	164	1.11		0.72037	0.62375
165	**.337**	x	0.21927	0.18999	**165**	**1.1**	x	0.71940	0.62333
166	.335		0.21898	0.18987	166	1.1		0.71844	0.62292
167	.334		0.21869	0.18974	167	1.1		0.71748	0.62251
168	.333		0.21840	0.18962	168	1.09		0.71653	0.62210
169	.331		0.21811	0.18949	169	1.09		0.71559	0.62169
170	**.33**	x	0.21782	0.18937	**170**	**1.08**	x	0.71465	0.62129
171	.329		0.21754	0.18925	171	1.08		0.71372	0.62089
172	.327		0.21726	0.18913	172	1.07		0.71279	0.62049
173	.326		0.21698	0.18900	173	1.07		0.71187	0.62009
174	.325		0.21670	0.18888	174	1.07		0.71095	0.61970
175	**.324**	x	0.21642	0.18876	**175**	**1.06**	x	0.71004	0.61930
176	.322		0.21615	0.18864	176	1.06		0.70914	0.61891
177	.321		0.21587	0.18852	177	1.05		0.70824	0.61852
178	.32		0.21560	0.18841	178	1.05		0.70735	0.61813
179	.319		0.21533	0.18829	179	1.05		0.70646	0.61775

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** H +6/17 = theoretical distance using the respecitve hub of thehelical plus macro tube of the corresponding dimension (in mm) at a given degree setting - Please check if distance is achievable in reality as the ca might be within the optical system!

ALPA OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 35

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
180	**.317**	x	0.21506	0.18817	**180**	**1.04**	x	0.70558	0.61736
181	.316		0.21479	0.18806	181	1.04		0.70470	0.61698
182	.315		0.21453	0.18794	182	1.03		0.70383	0.61660
183	.314		0.21426	0.18782	183	1.03		0.70297	0.61622
184	.313		0.21400	0.18771	184	1.03		0.70211	0.61585
185	**.312**	x	0.21374	0.18760	**185**	**1.02**	x	0.70125	0.61547
186	.311		0.21348	0.18748	186	1.02		0.70040	0.61510
187	.31		0.21323	0.18737	187	1.02		0.69956	0.61473
188	.309		0.21297	0.18726	188	1.01		0.69872	0.61436
189	.307		0.21272	0.18714	189	1.01		0.69789	0.61399
190	**.306**	x	0.21246	0.18703	**190**	**1.01**	x	0.69706	0.61363
191	.305		0.21221	0.18692	191	1		0.69624	0.61326
192	.304		0.21196	0.18681	192	.998		0.69542	0.61290
193	.303		0.21172	0.18670	193	.995		0.69460	0.61254
194	.302		0.21147	0.18659	194	.992		0.69379	0.61218
195	**.301**	x	0.21122	0.18649	**195**	**.989**	x	0.69299	0.61183
196	.3		0.21098	0.18638	196	.985		0.69219	0.61147
197	.299		0.21074	0.18627	197	.982		0.69140	0.61112
198	.298		0.21050	0.18616	198	.979		0.69061	0.61077
199	.297		0.21026	0.18606	199	.976		0.68982	0.61042
200	**.296**	x	0.21002	0.18595	**200**	**.973**	x	0.68904	0.61007
201	.296		0.20978	0.18585	201	.97		0.68827	0.60973
202	.295		0.20955	0.18574	202	.967		0.68750	0.60938
203	.294		0.20932	0.18564	203	.964		0.68673	0.60904
204	.293		0.20908	0.18553	204	.961		0.68597	0.60870
205	**.292**	x	0.20885	0.18543	**205**	**.958**	x	0.68521	0.60836
206	.291		0.20862	0.18533	206	.955		0.68446	0.60803
207	.29		0.20840	0.18522	207	.952		0.68371	0.60769
208	.289		0.20817	0.18512	208	.949		0.68297	0.60736
209	.288		0.20794	0.18502	209	.946		0.68223	0.60702
210	**.288**	x	0.20772	0.18492	**210**	**.943**	x	0.68150	0.60669
211	.287		0.20750	0.18482	211	.94		0.68077	0.60636
212	.286		0.20728	0.18472	212	.938		0.68004	0.60604
213	.285		0.20706	0.18462	213	.935		0.67932	0.60571
214	.284		0.20684	0.18452	214	.932		0.67860	0.60539
215	**.283**	x	0.20662	0.18442	**215**	**.93**	x	0.67789	0.60507

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ALPA® OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 35

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
216	.283		0.20640	0.18433	216	.927		0.67718	0.60474
217	.282		0.20619	0.18423	217	.924		0.67647	0.60442
218	.281		0.20598	0.18413	218	.922		0.67577	0.60411
219	.28		0.20576	0.18404	219	.919		0.67508	0.60379
220	**.279**	x	0.20555	0.18394	**220**	**.917**	x	0.67438	0.60348
221	.279		0.20534	0.18384	221	.914		0.67369	0.60316
222	.278		0.20513	0.18375	222	.912		0.67301	0.60285
223	.277		0.20493	0.18365	223	.909		0.67233	0.60254
224	.276		0.20472	0.18356	224	.907		0.67165	0.60223
225	**.276**	x	0.20451	0.18347	**225**	**.904**	x	0.67098	0.60193
226	.275		0.20431	0.18337	226	.902		0.67031	0.60162
227	.274		0.20411	0.18328	227	.899		0.66964	0.60132
228	.273		0.20391	0.18319	228	.897		0.66898	0.60101
229	.273		0.20370	0.18310	229	.895		0.66832	0.60071
230	**.272**	x	0.20351	0.18301	**230**	**.892**	x	0.66767	0.60041
231	.271		0.20331	0.18291	231	.89		0.66702	0.60011
232	.271		0.20311	0.18282	232	.888		0.66637	0.59982
233	.27		0.20291	0.18273	233	.886		0.66573	0.59952
234	.269		0.20272	0.18264	234	.883		0.66509	0.59923
235	**.269**	x	0.20252	0.18256	**235**	**.881**	x	0.66445	0.59893
236	.268		0.20233	0.18247	236	.879		0.66382	0.59864
237	.267		0.20214	0.18238	237	.877		0.66319	0.59835
238	.267		0.20195	0.18229	238	.875		0.66256	0.59807
239	.266		0.20176	0.18220	239	.872		0.66194	0.59778
240	**.265**	x	0.20157	0.18212	**240**	**.87**	x	0.66132	0.59749
241	.265		0.20138	0.18203	241	.868		0.66071	0.59721
242	.264		0.20120	0.18194	242	.866		0.66010	0.59693
243	.263		0.20101	0.18186	243	.864		0.65949	0.59665
244	.263		0.20083	0.18177	244	.862		0.65889	0.59637
245	**.262**	x	0.20065	0.18169	**245**	**.86**	x	0.65828	0.59609
246	.262		0.20046	0.18160	246	.858		0.65769	0.59581
247	.261		0.20028	0.18152	247	.856		0.65709	0.59553
248	.26		0.20010	0.18143	248	.854		0.65650	0.59526
249	.26		0.19992	0.18135	249	.852		0.65591	0.59499
250	**.259**	x	0.19974	0.18127	**250**	**.85**	x	0.65533	0.59471
251	.259		0.19957	0.18119	251	.848		0.65475	0.59444

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ALPA OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 35

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
252	.258		0.19939	0.18110	252	.846		0.65417	0.59417
253	.257		0.19922	0.18102	253	.844		0.65359	0.59391
254	.257		0.19904	0.18094	254	.842		0.65302	0.59364
255	**.256**	x	0.19887	0.18086	**255**	**.841**	x	0.65245	0.59337
256	.256		0.19869	0.18078	256	.839		0.65189	0.59311
257	.255		0.19852	0.18070	257	.837		0.65132	0.59285
258	.255		0.19835	0.18062	258	.835		0.65076	0.59258
259	.254		0.19818	0.18054	259	.833		0.65021	0.59232
260	**.253**	x	0.19801	0.18046	**260**	**.831**	x	0.64965	0.59207
261	.253		0.19785	0.18038	261	.83		0.64910	0.59181
262	.252		0.19768	0.18030	262	.828		0.64855	0.59155
263	.252		0.19751	0.18023	263	.826		0.64801	0.59130
264	.251		0.19735	0.18015	264	.824		0.64747	0.59104
265	**.251**	x	0.19718	0.18007	**265**	**.823**	x	0.64693	0.59079
266	.25		0.19702	0.18000	266	.821		0.64639	0.59054
267	.25		0.19686	0.17992	267	.819		0.64586	0.59029
268	.249		0.19670	0.17984	268	.818		0.64533	0.59004
269	.249		0.19654	0.17977	269	.816		0.64480	0.58979
270	**.248**	x	0.19638	0.17969	**270**	**.814**	x	0.64428	0.58954

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ALPA OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 35

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
0	∞	xx	0.31923	0.23063	0	∞	xx	1.04734	0.75666
1	37.2	xx	0.31813	0.23032	1	122	xx	1.04372	0.75566
2	18.6	xx	0.31703	0.23002	2	61.2	xx	1.04014	0.75466
3	12.5	xx	0.31595	0.22972	3	40.9	xx	1.03660	0.75367
4	9.37	xx	0.31489	0.22942	4	30.8	xx	1.03309	0.75269
5	7.52	x	0.31383	0.22912	5	24.7	x	1.02963	0.75171
6	6.29		0.31279	0.22882	6	20.6		1.02621	0.75074
7	5.4		0.31176	0.22853	7	17.7		1.02282	0.74977
8	4.74		0.31073	0.22824	8	15.6		1.01947	0.74881
9	4.23		0.30972	0.22795	9	13.9		1.01616	0.74786
10	3.81	x	0.30873	0.22766	10	12.5	x	1.01288	0.74692
11	3.48		0.30774	0.22737	11	11.4		1.00964	0.74598
12	3.2		0.30676	0.22709	12	10.5		1.00643	0.74504
13	2.96		0.30579	0.22681	13	9.71		1.00326	0.74412
14	2.76		0.30484	0.22653	14	9.04		1.00012	0.74319
15	2.58	x	0.30389	0.22625	15	8.46	x	0.99702	0.74228
16	2.42		0.30295	0.22597	16	7.95		0.99394	0.74137
17	2.29		0.30203	0.22569	17	7.51		0.99090	0.74047
18	2.17		0.30111	0.22542	18	7.11		0.98789	0.73957
19	2.06		0.30020	0.22515	19	6.75		0.98492	0.73868
20	1.96	x	0.29931	0.22488	20	6.43	x	0.98197	0.73779
21	1.87		0.29842	0.22461	21	6.15		0.97906	0.73691
22	1.79		0.29754	0.22434	22	5.88		0.97617	0.73604
23	1.72		0.29667	0.22408	23	5.64		0.97331	0.73517
24	1.65		0.29580	0.22382	24	5.42		0.97049	0.73430
25	1.59	x	0.29495	0.22355	25	5.22	x	0.96769	0.73344
26	1.53		0.29411	0.22329	26	5.03		0.96492	0.73259
27	1.48		0.29327	0.22304	27	4.86		0.96218	0.73174
28	1.43		0.29244	0.22278	28	4.7		0.95946	0.73090
29	1.39		0.29162	0.22252	29	4.55		0.95677	0.73006
30	1.34	x	0.29081	0.22227	30	4.41	x	0.95411	0.72923
31	1.3		0.29001	0.22202	31	4.28		0.95148	0.72841
32	1.27		0.28921	0.22177	32	4.16		0.94887	0.72759
33	1.23		0.28843	0.22152	33	4.04		0.94628	0.72677
34	1.2		0.28765	0.22127	34	3.93		0.94373	0.72596
35	1.17	x	0.28688	0.22103	35	3.83	x	0.94119	0.72515

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ALPA OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 35

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
36	1.14		0.28611	0.22078	36	3.73		0.93868	0.72435
37	1.11		0.28535	0.22054	37	3.64		0.93620	0.72356
38	1.08		0.28460	0.22030	38	3.56		0.93374	0.72276
39	1.06		0.28386	0.22006	39	3.47		0.93130	0.72198
40	**1.04**	x	0.28312	0.21982	**40**	**3.4**	x	0.92888	0.72120
41	1.01		0.28239	0.21958	41	3.32		0.92649	0.72042
42	.991		0.28167	0.21935	42	3.25		0.92412	0.71965
43	.971		0.28096	0.21912	43	3.18		0.92178	0.71888
44	.951		0.28025	0.21888	44	3.12		0.91945	0.71812
45	**.932**	x	0.27955	0.21865	**45**	**3.06**	x	0.91715	0.71736
46	.915		0.27885	0.21842	46	3		0.91486	0.71661
47	.898		0.27816	0.21819	47	2.94		0.91260	0.71586
48	.881		0.27748	0.21797	48	2.89		0.91036	0.71512
49	.865		0.27680	0.21774	49	2.84		0.90814	0.71438
50	**.85**	x	0.27613	0.21752	**50**	**2.79**	x	0.90594	0.71364
51	.836		0.27547	0.21730	51	2.74		0.90376	0.71291
52	.822		0.27481	0.21707	52	2.7		0.90160	0.71218
53	.808		0.27416	0.21685	53	2.65		0.89946	0.71146
54	.796		0.27351	0.21664	54	2.61		0.89734	0.71075
55	**.783**	x	0.27287	0.21642	**55**	**2.57**	x	0.89524	0.71003
56	.771		0.27223	0.21620	56	2.53		0.89316	0.70932
57	.759		0.27161	0.21599	57	2.49		0.89109	0.70862
58	.748		0.27098	0.21577	58	2.46		0.88905	0.70792
59	.738		0.27036	0.21556	59	2.42		0.88702	0.70722
60	**.727**	x	0.26975	0.21535	**60**	**2.39**	x	0.88501	0.70653
61	.717		0.26914	0.21514	61	2.35		0.88301	0.70584
62	.707		0.26854	0.21493	62	2.32		0.88104	0.70516
63	.698		0.26794	0.21472	63	2.29		0.87908	0.70448
64	.689		0.26735	0.21452	64	2.26		0.87714	0.70380
65	**.68**	x	0.26677	0.21431	**65**	**2.23**	x	0.87521	0.70313
66	.671		0.26618	0.21411	66	2.2		0.87331	0.70246
67	.663		0.26561	0.21391	67	2.17		0.87141	0.70180
68	.655		0.26504	0.21371	68	2.15		0.86954	0.70114
69	.647		0.26447	0.21351	69	2.12		0.86768	0.70048
70	**.639**	x	0.26391	0.21331	**70**	**2.1**	x	0.86583	0.69983
71	.632		0.26335	0.21311	71	2.07		0.86400	0.69918

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ALPA OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 35

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
72	.625		0.26280	0.21291	72	2.05		0.86219	0.69853
73	.617		0.26225	0.21272	73	2.03		0.86039	0.69789
74	.611		0.26170	0.21252	74	2		0.85861	0.69726
75	**.604**	x	0.26117	0.21233	**75**	**1.98**	x	0.85684	0.69662
76	.598		0.26063	0.21214	76	1.96		0.85509	0.69599
77	.591		0.26010	0.21195	77	1.94		0.85335	0.69536
78	.585		0.25958	0.21176	78	1.92		0.85163	0.69474
79	.579		0.25905	0.21157	79	1.9		0.84991	0.69412
80	**.573**	x	0.25854	0.21138	**80**	**1.88**	x	0.84822	0.69351
81	.568		0.25802	0.21119	81	1.86		0.84654	0.69289
82	.562		0.25752	0.21101	82	1.84		0.84487	0.69229
83	.557		0.25701	0.21082	83	1.83		0.84321	0.69168
84	.551		0.25651	0.21064	84	1.81		0.84157	0.69108
85	**.546**	x	0.25601	0.21046	**85**	**1.79**	x	0.83994	0.69048
86	.541		0.25552	0.21028	86	1.78		0.83832	0.68988
87	.536		0.25503	0.21010	87	1.76		0.83672	0.68929
88	.531		0.25455	0.20992	88	1.74		0.83513	0.68870
89	.527		0.25407	0.20974	89	1.73		0.83355	0.68812
90	**.522**	x	0.25359	0.20956	**90**	**1.71**	x	0.83199	0.68754
91	.518		0.25312	0.20939	91	1.7		0.83044	0.68696
92	.513		0.25265	0.20921	92	1.68		0.82890	0.68638
93	.509		0.25218	0.20904	93	1.67		0.82737	0.68581
94	.505		0.25172	0.20886	94	1.66		0.82585	0.68524
95	**.501**	x	0.25126	0.20869	**95**	**1.64**	x	0.82435	0.68468
96	.497		0.25081	0.20852	96	1.63		0.82285	0.68412
97	.493		0.25035	0.20835	97	1.62		0.82137	0.68356
98	.489		0.24991	0.20818	98	1.6		0.81990	0.68300
99	.485		0.24946	0.20801	99	1.59		0.81844	0.68245
100	**.481**	x	0.24902	0.20784	**100**	**1.58**	x	0.81700	0.68190
101	.478		0.24858	0.20768	101	1.57		0.81556	0.68135
102	.474		0.24815	0.20751	102	1.56		0.81414	0.68081
103	.471		0.24772	0.20735	103	1.54		0.81272	0.68027
104	.467		0.24729	0.20718	104	1.53		0.81132	0.67973
105	**.464**	x	0.24687	0.20702	**105**	**1.52**	x	0.80992	0.67919
106	.461		0.24644	0.20686	106	1.51		0.80854	0.67866
107	.457		0.24603	0.20670	107	1.5		0.80717	0.67813

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 35

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
108	.454		0.24561	0.20653	108	1.49		0.80581	0.67761
109	.451		0.24520	0.20638	109	1.48		0.80446	0.67708
110	**.448**	x	0.24479	0.20622	**110**	**1.47**	x	0.80311	0.67656
111	.445		0.24438	0.20606	111	1.46		0.80178	0.67605
112	.442		0.24398	0.20590	112	1.45		0.80046	0.67553
113	.439		0.24358	0.20575	113	1.44		0.79915	0.67502
114	.436		0.24318	0.20559	114	1.43		0.79785	0.67451
115	**.433**	x	0.24279	0.20544	**115**	**1.42**	x	0.79655	0.67401
116	.431		0.24240	0.20528	116	1.41		0.79527	0.67350
117	.428		0.24201	0.20513	117	1.4		0.79400	0.67300
118	.425		0.24162	0.20498	118	1.4		0.79273	0.67250
119	.423		0.24124	0.20483	119	1.39		0.79148	0.67201
120	**.42**	x	0.24086	0.20468	**120**	**1.38**	x	0.79023	0.67152
121	.418		0.24049	0.20453	121	1.37		0.78899	0.67103
122	.415		0.24011	0.20438	122	1.36		0.78776	0.67054
123	.413		0.23974	0.20423	123	1.35		0.78655	0.67005
124	.41		0.23937	0.20409	124	1.35		0.78533	0.66957
125	**.408**	x	0.23900	0.20394	**125**	**1.34**	x	0.78413	0.66909
126	.406		0.23864	0.20379	126	1.33		0.78294	0.66862
127	.403		0.23828	0.20365	127	1.32		0.78175	0.66814
128	.401		0.23792	0.20351	128	1.32		0.78058	0.66767
129	.399		0.23756	0.20336	129	1.31		0.77941	0.66720
130	**.397**	x	0.23721	0.20322	**130**	**1.3**	x	0.77825	0.66674
131	.395		0.23686	0.20308	131	1.29		0.77710	0.66627
132	.393		0.23651	0.20294	132	1.29		0.77595	0.66581
133	.39		0.23616	0.20280	133	1.28		0.77482	0.66535
134	.388		0.23582	0.20266	134	1.27		0.77369	0.66489
135	**.386**	x	0.23548	0.20252	**135**	**1.27**	x	0.77257	0.66444
136	.384		0.23514	0.20238	136	1.26		0.77146	0.66399
137	.382		0.23480	0.20225	137	1.25		0.77035	0.66354
138	.381		0.23447	0.20211	138	1.25		0.76925	0.66309
139	.379		0.23414	0.20197	139	1.24		0.76816	0.66265
140	**.377**	x	0.23381	0.20184	**140**	**1.24**	x	0.76708	0.66220
141	.375		0.23348	0.20171	141	1.23		0.76601	0.66176
142	.373		0.23315	0.20157	142	1.22		0.76494	0.66133
143	.371		0.23283	0.20144	143	1.22		0.76388	0.66089

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 35

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
144	.37		0.23251	0.20131	144	1.21		0.76283	0.66046
145	**.368**	x	0.23219	0.20118	**145**	**1.21**	x	0.76178	0.66003
146	.366		0.23188	0.20105	146	1.2		0.76074	0.65960
147	.364		0.23156	0.20092	147	1.2		0.75971	0.65917
148	.363		0.23125	0.20079	148	1.19		0.75869	0.65875
149	.361		0.23094	0.20066	149	1.18		0.75767	0.65833
150	**.359**	x	0.23063	0.20053	**150**	**1.18**	x	0.75666	0.65791
151	.358		0.23032	0.20040	151	1.17		0.75566	0.65749
152	.356		0.23002	0.20028	152	1.17		0.75466	0.65707
153	.355		0.22972	0.20015	153	1.16		0.75367	0.65666
154	.353		0.22942	0.20003	154	1.16		0.75269	0.65625
155	**.352**	x	0.22912	0.19990	**155**	**1.15**	x	0.75171	0.65584
156	.35		0.22882	0.19978	156	1.15		0.75074	0.65544
157	.349		0.22853	0.19965	157	1.14		0.74977	0.65503
158	.347		0.22824	0.19953	158	1.14		0.74881	0.65463
159	.346		0.22795	0.19941	159	1.13		0.74786	0.65423
160	**.344**	x	0.22766	0.19929	**160**	**1.13**	x	0.74692	0.65383
161	.343		0.22737	0.19917	161	1.12		0.74598	0.65343
162	.342		0.22709	0.19905	162	1.12		0.74504	0.65304
163	.34		0.22681	0.19893	163	1.12		0.74412	0.65265
164	.339		0.22653	0.19881	164	1.11		0.74319	0.65226
165	**.337**	x	0.22625	0.19869	**165**	**1.11**	x	0.74228	0.65187
166	.336		0.22597	0.19857	166	1.1		0.74137	0.65148
167	.335		0.22569	0.19846	167	1.1		0.74047	0.65110
168	.334		0.22542	0.19834	168	1.09		0.73957	0.65072
169	.332		0.22515	0.19822	169	1.09		0.73868	0.65034
170	**.331**	x	0.22488	0.19811	**170**	**1.09**	x	0.73779	0.64996
171	.33		0.22461	0.19799	171	1.08		0.73691	0.64958
172	.329		0.22434	0.19788	172	1.08		0.73604	0.64921
173	.327		0.22408	0.19777	173	1.07		0.73517	0.64884
174	.326		0.22382	0.19765	174	1.07		0.73430	0.64847
175	**.325**	x	0.22355	0.19754	**175**	**1.07**	x	0.73344	0.64810
176	.324		0.22329	0.19743	176	1.06		0.73259	0.64773
177	.323		0.22304	0.19732	177	1.06		0.73174	0.64737
178	.321		0.22278	0.19721	178	1.05		0.73090	0.64701
179	.32		0.22252	0.19710	179	1.05		0.73006	0.64664

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 35

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
180	**.319**	x	0.22227	0.19699	**180**	**1.05**	x	0.72923	0.64629
181	.318		0.22202	0.19688	181	1.04		0.72841	0.64593
182	.317		0.22177	0.19677	182	1.04		0.72759	0.64557
183	.316		0.22152	0.19666	183	1.04		0.72677	0.64522
184	.315		0.22127	0.19656	184	1.03		0.72596	0.64487
185	**.314**	x	0.22103	0.19645	**185**	**1.03**	x	0.72515	0.64452
186	.313		0.22078	0.19634	186	1.03		0.72435	0.64417
187	.312		0.22054	0.19624	187	1.02		0.72356	0.64382
188	.311		0.22030	0.19613	188	1.02		0.72276	0.64348
189	.31		0.22006	0.19603	189	1.02		0.72198	0.64313
190	**.309**	x	0.21982	0.19592	**190**	**1.01**	x	0.72120	0.64279
191	.308		0.21958	0.19582	191	1.01		0.72042	0.64245
192	.307		0.21935	0.19572	192	1.01		0.71965	0.64212
193	.306		0.21912	0.19561	193	1		0.71888	0.64178
194	.305		0.21888	0.19551	194	1		0.71812	0.64145
195	**.304**	x	0.21865	0.19541	**195**	**.997**	x	0.71736	0.64111
196	.303		0.21842	0.19531	196	.994		0.71661	0.64078
197	.302		0.21819	0.19521	197	.991		0.71586	0.64045
198	.301		0.21797	0.19511	198	.988		0.71512	0.64013
199	.3		0.21774	0.19501	199	.985		0.71438	0.63980
200	**.299**	x	0.21752	0.19491	**200**	**.982**	x	0.71364	0.63947
201	.298		0.21730	0.19481	201	.979		0.71291	0.63915
202	.298		0.21707	0.19472	202	.976		0.71218	0.63883
203	.297		0.21685	0.19462	203	.973		0.71146	0.63851
204	.296		0.21664	0.19452	204	.97		0.71075	0.63819
205	**.295**	x	0.21642	0.19442	**205**	**.968**	x	0.71003	0.63788
206	.294		0.21620	0.19433	206	.965		0.70932	0.63756
207	.293		0.21599	0.19423	207	.962		0.70862	0.63725
208	.292		0.21577	0.19414	208	.959		0.70792	0.63694
209	.292		0.21556	0.19404	209	.957		0.70722	0.63663
210	**.291**	x	0.21535	0.19395	**210**	**.954**	x	0.70653	0.63632
211	.29		0.21514	0.19386	211	.951		0.70584	0.63601
212	.289		0.21493	0.19376	212	.949		0.70516	0.63571
213	.288		0.21472	0.19367	213	.946		0.70448	0.63540
214	.288		0.21452	0.19358	214	.944		0.70380	0.63510
215	**.287**	x	0.21431	0.19349	**215**	**.941**	x	0.70313	0.63480

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 35

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
216	.286		0.21411	0.19340	216	.939		0.70246	0.63450
217	.285		0.21391	0.19331	217	.936		0.70180	0.63420
218	.285		0.21371	0.19321	218	.934		0.70114	0.63391
219	.284		0.21351	0.19312	219	.931		0.70048	0.63361
220	**.283**	x	0.21331	0.19304	**220**	**.929**	x	0.69983	0.63332
221	.282		0.21311	0.19295	221	.926		0.69918	0.63303
222	.282		0.21291	0.19286	222	.924		0.69853	0.63274
223	.281		0.21272	0.19277	223	.922		0.69789	0.63245
224	.28		0.21252	0.19268	224	.919		0.69726	0.63216
225	**.28**	x	0.21233	0.19260	**225**	**.917**	x	0.69662	0.63187
226	.279		0.21214	0.19251	226	.915		0.69599	0.63159
227	.278		0.21195	0.19242	227	.913		0.69536	0.63131
228	.277		0.21176	0.19234	228	.91		0.69474	0.63102
229	.277		0.21157	0.19225	229	.908		0.69412	0.63074
230	**.276**	x	0.21138	0.19217	**230**	**.906**	x	0.69351	0.63046
231	.275		0.21119	0.19208	231	.904		0.69289	0.63019
232	.275		0.21101	0.19200	232	.902		0.69229	0.62991
233	.274		0.21082	0.19191	233	.899		0.69168	0.62963
234	.274		0.21064	0.19183	234	.897		0.69108	0.62936
235	**.273**	x	0.21046	0.19175	**235**	**.895**	x	0.69048	0.62909
236	.272		0.21028	0.19166	236	.893		0.68988	0.62882
237	.272		0.21010	0.19158	237	.891		0.68929	0.62855
238	.271		0.20992	0.19150	238	.889		0.68870	0.62828
239	.27		0.20974	0.19142	239	.887		0.68812	0.62801
240	**.27**	x	0.20956	0.19134	**240**	**.885**	x	0.68754	0.62775
241	.269		0.20939	0.19126	241	.883		0.68696	0.62748
242	.269		0.20921	0.19118	242	.881		0.68638	0.62722
243	.268		0.20904	0.19110	243	.879		0.68581	0.62696
244	.267		0.20886	0.19102	244	.877		0.68524	0.62670
245	**.267**	x	0.20869	0.19094	**245**	**.875**	x	0.68468	0.62644
246	.266		0.20852	0.19086	246	.873		0.68412	0.62618
247	.266		0.20835	0.19078	247	.871		0.68356	0.62592
248	.265		0.20818	0.19070	248	.87		0.68300	0.62567
249	.264		0.20801	0.19063	249	.868		0.68245	0.62542
250	**.264**	x	0.20784	0.19055	**250**	**.866**	x	0.68190	0.62516
251	.263		0.20768	0.19047	251	.864		0.68135	0.62491

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ALPA OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 35

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
252	.263		0.20751	0.19040	252	.862		0.68081	0.62466
253	.262		0.20735	0.19032	253	.86		0.68027	0.62441
254	.262		0.20718	0.19025	254	.859		0.67973	0.62416
255	**.261**	x	0.20702	0.19017	**255**	**.857**	x	0.67919	0.62392
256	.261		0.20686	0.19010	256	.855		0.67866	0.62367
257	.26		0.20670	0.19002	257	.853		0.67813	0.62343
258	.26		0.20653	0.18995	258	.852		0.67761	0.62319
259	.259		0.20638	0.18987	259	.85		0.67708	0.62294
260	**.259**	x	0.20622	0.18980	**260**	**.848**	x	0.67656	0.62270
261	.258		0.20606	0.18973	261	.847		0.67605	0.62246
262	.258		0.20590	0.18965	262	.845		0.67553	0.62223
263	.257		0.20575	0.18958	263	.843		0.67502	0.62199
264	.257		0.20559	0.18951	264	.842		0.67451	0.62175
265	**.256**	x	0.20544	0.18944	**265**	**.84**	x	0.67401	0.62152
266	.256		0.20528	0.18937	266	.838		0.67350	0.62128
267	.255		0.20513	0.18930	267	.837		0.67300	0.62105
268	.255		0.20498	0.18923	268	.835		0.67250	0.62082
269	.254		0.20483	0.18916	269	.834		0.67201	0.62059
270	**.254**	x	0.20468	0.18909	**270**	**.832**	x	0.67152	0.62036

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ALPA OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 40

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
0	**∞**	xx	0.42689	0.29921	**0**	**∞**	xx	1.40057	0.98166
1	**52.7**	xx	0.42531	0.29876	**1**	**173**	xx	1.39539	0.98019
2	**26.4**	xx	0.42375	0.29832	**2**	**86.6**	xx	1.39026	0.97873
3	**17.6**	xx	0.42221	0.29788	**3**	**57.9**	xx	1.38520	0.97728
4	**13.3**	xx	0.42068	0.29744	**4**	**43.5**	xx	1.38019	0.97584
5	**10.6**	x	0.41917	0.29700	**5**	**34.9**	x	1.37523	0.97441
6	8.89		0.41768	0.29657	6	29.2		1.37033	0.97299
7	7.64		0.41620	0.29614	7	25.1		1.36549	0.97158
8	6.7		0.41474	0.29571	8	22		1.36069	0.97017
9	5.97		0.41329	0.29528	9	19.6		1.35595	0.96878
10	**5.38**	x	0.41186	0.29486	**10**	**17.7**	x	1.35126	0.96739
11	4.91		0.41045	0.29444	11	16.1		1.34662	0.96601
12	4.51		0.40905	0.29402	12	14.8		1.34203	0.96464
13	4.17		0.40767	0.29361	13	13.7		1.33748	0.96328
14	3.88		0.40630	0.29320	14	12.7		1.33299	0.96193
15	**3.63**	x	0.40494	0.29279	**15**	**11.9**	x	1.32854	0.96059
16	3.41		0.40360	0.29238	16	11.2		1.32414	0.95925
17	3.22		0.40227	0.29198	17	10.6		1.31979	0.95793
18	3.05		0.40096	0.29157	18	10		1.31548	0.95661
19	2.9		0.39966	0.29118	19	9.5		1.31121	0.95530
20	**2.76**	x	0.39837	0.29078	**20**	**9.04**	x	1.30699	0.95400
21	2.63		0.39710	0.29038	21	8.63		1.30281	0.95270
22	2.52		0.39584	0.28999	22	8.26		1.29867	0.95142
23	2.41		0.39459	0.28960	23	7.92		1.29458	0.95014
24	2.32		0.39335	0.28922	24	7.61		1.29053	0.94887
25	**2.23**	x	0.39213	0.28883	**25**	**7.32**	x	1.28651	0.94761
26	2.15		0.39092	0.28845	26	7.06		1.28254	0.94635
27	2.08		0.38972	0.28807	27	6.81		1.27861	0.94511
28	2.01		0.38853	0.28769	28	6.58		1.27471	0.94387
29	1.94		0.38736	0.28732	29	6.37		1.27086	0.94263
30	**1.88**	x	0.38619	0.28694	**30**	**6.17**	x	1.26704	0.94141
31	1.82		0.38504	0.28657	31	5.99		1.26326	0.94019
32	1.77		0.38390	0.28620	32	5.81		1.25951	0.93898
33	1.72		0.38277	0.28584	33	5.65		1.25580	0.93778
34	1.68		0.38165	0.28547	34	5.5		1.25213	0.93659
35	**1.63**	x	0.38054	0.28511	**35**	**5.35**	x	1.24849	0.93540

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 40

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
36	1.59		0.37944	0.28475	36	5.22		1.24489	0.93422
37	1.55		0.37836	0.28439	37	5.09		1.24132	0.93304
38	1.51		0.37728	0.28404	38	4.96		1.23779	0.93188
39	1.48		0.37621	0.28368	39	4.85		1.23429	0.93072
40	**1.44**	x	0.37515	0.28333	**40**	**4.74**	x	1.23082	0.92956
41	1.41		0.37411	0.28298	41	4.63		1.22738	0.92842
42	1.38		0.37307	0.28263	42	4.53		1.22398	0.92728
43	1.35		0.37204	0.28229	43	4.44		1.22061	0.92614
44	1.32		0.37102	0.28195	44	4.35		1.21726	0.92502
45	**1.3**	x	0.37001	0.28160	**45**	**4.26**	x	1.21395	0.92390
46	1.27		0.36901	0.28126	46	4.18		1.21067	0.92278
47	1.25		0.36802	0.28093	47	4.1		1.20742	0.92168
48	1.23		0.36704	0.28059	48	4.02		1.20420	0.92058
49	1.2		0.36607	0.28026	49	3.95		1.20101	0.91948
50	**1.18**	x	0.36510	0.27993	**50**	**3.88**	x	1.19784	0.91840
51	1.16		0.36415	0.27960	51	3.81		1.19471	0.91731
52	1.14		0.36320	0.27927	52	3.74		1.19160	0.91624
53	1.12		0.36226	0.27894	53	3.68		1.18852	0.91517
54	1.1		0.36133	0.27862	54	3.62		1.18547	0.91411
55	**1.09**	x	0.36041	0.27830	**55**	**3.56**	x	1.18244	0.91305
56	1.07		0.35950	0.27798	56	3.51		1.17945	0.91200
57	1.05		0.35859	0.27766	57	3.45		1.17647	0.91096
58	1.04		0.35769	0.27734	58	3.4		1.17353	0.90992
59	1.02		0.35680	0.27703	59	3.35		1.17061	0.90888
60	**1.01**	x	0.35592	0.27671	**60**	**3.3**	x	1.16771	0.90786
61	.992		0.35504	0.27640	61	3.26		1.16484	0.90684
62	.979		0.35418	0.27609	62	3.21		1.16199	0.90582
63	.965		0.35332	0.27579	63	3.17		1.15917	0.90481
64	.952		0.35246	0.27548	64	3.12		1.15637	0.90381
65	**.94**	x	0.35162	0.27518	**65**	**3.08**	x	1.15360	0.90281
66	.927		0.35078	0.27487	66	3.04		1.15085	0.90182
67	.915		0.34995	0.27457	67	3		1.14812	0.90083
68	.904		0.34912	0.27427	68	2.97		1.14541	0.89985
69	.893		0.34830	0.27398	69	2.93		1.14273	0.89887
70	**.882**	x	0.34749	0.27368	**70**	**2.89**	x	1.14007	0.89790
71	.871		0.34669	0.27339	71	2.86		1.13743	0.89693

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ALPA OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 40

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
72	.861		0.34589	0.27309	72	2.83		1.13482	0.89597
73	.851		0.34510	0.27280	73	2.79		1.13222	0.89502
74	.841		0.34432	0.27251	74	2.76		1.12965	0.89407
75	**.832**	x	0.34354	0.27223	**75**	**2.73**	x	1.12710	0.89313
76	.823		0.34277	0.27194	76	2.7		1.12457	0.89219
77	.814		0.34200	0.27165	77	2.67		1.12206	0.89125
78	.805		0.34124	0.27137	78	2.64		1.11957	0.89033
79	.797		0.34049	0.27109	79	2.61		1.11710	0.88940
80	**.788**	x	0.33974	0.27081	**80**	**2.59**	x	1.11465	0.88848
81	.78		0.33900	0.27053	81	2.56		1.11221	0.88757
82	.772		0.33827	0.27025	82	2.53		1.10980	0.88666
83	.765		0.33754	0.26998	83	2.51		1.10741	0.88576
84	.757		0.33682	0.26970	84	2.48		1.10504	0.88486
85	**.75**	x	0.33610	0.26943	**85**	**2.46**	x	1.10268	0.88396
86	.743		0.33539	0.26916	86	2.44		1.10035	0.88307
87	.736		0.33468	0.26889	87	2.41		1.09803	0.88219
88	.729		0.33398	0.26862	88	2.39		1.09573	0.88131
89	.722		0.33328	0.26836	89	2.37		1.09345	0.88044
90	**.716**	x	0.33259	0.26809	**90**	**2.35**	x	1.09118	0.87957
91	.709		0.33191	0.26783	91	2.33		1.08894	0.87870
92	.703		0.33123	0.26757	92	2.31		1.08671	0.87784
93	.697		0.33055	0.26730	93	2.29		1.08449	0.87698
94	.691		0.32988	0.26704	94	2.27		1.08230	0.87613
95	**.685**	x	0.32922	0.26679	**95**	**2.25**	x	1.08012	0.87528
96	.68		0.32856	0.26653	96	2.23		1.07796	0.87444
97	.674		0.32791	0.26627	97	2.21		1.07581	0.87360
98	.668		0.32726	0.26602	98	2.19		1.07368	0.87277
99	.663		0.32662	0.26577	99	2.18		1.07157	0.87194
100	**.658**	x	0.32598	0.26552	**100**	**2.16**	x	1.06947	0.87111
101	.653		0.32534	0.26527	101	2.14		1.06739	0.87029
102	.648		0.32471	0.26502	102	2.12		1.06533	0.86948
103	.643		0.32409	0.26477	103	2.11		1.06328	0.86866
104	.638		0.32347	0.26452	104	2.09		1.06124	0.86786
105	**.633**	x	0.32285	0.26428	**105**	**2.08**	x	1.05922	0.86705
106	.628		0.32224	0.26403	106	2.06		1.05721	0.86625
107	.624		0.32163	0.26379	107	2.05		1.05522	0.86546

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Rodenstock ALPA HR Alpagon - ALP 40

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
108	.619		0.32103	0.26355	108	2.03		1.05325	0.86467
109	.615		0.32043	0.26331	109	2.02		1.05129	0.86388
110	**.61**	x	0.31984	0.26307	**110**	**2**	x	1.04934	0.86310
111	.606		0.31925	0.26283	111	1.99		1.04740	0.86232
112	.602		0.31866	0.26260	112	1.97		1.04549	0.86154
113	.598		0.31808	0.26236	113	1.96		1.04358	0.86077
114	.594		0.31751	0.26213	114	1.95		1.04169	0.86000
115	**.59**	x	0.31693	0.26190	**115**	**1.93**	x	1.03981	0.85924
116	.586		0.31637	0.26167	116	1.92		1.03795	0.85848
117	.582		0.31580	0.26144	117	1.91		1.03609	0.85773
118	.578		0.31524	0.26121	118	1.9		1.03426	0.85698
119	.574		0.31468	0.26098	119	1.88		1.03243	0.85623
120	**.571**	x	0.31413	0.26075	**120**	**1.87**	x	1.03062	0.85548
121	.567		0.31358	0.26053	121	1.86		1.02882	0.85474
122	.564		0.31304	0.26030	122	1.85		1.02703	0.85401
123	.56		0.31250	0.26008	123	1.84		1.02526	0.85328
124	.557		0.31196	0.25986	124	1.83		1.02349	0.85255
125	**.553**	x	0.31143	0.25964	**125**	**1.82**	x	1.02174	0.85182
126	.55		0.31090	0.25942	126	1.81		1.02001	0.85110
127	.547		0.31037	0.25920	127	1.79		1.01828	0.85038
128	.544		0.30985	0.25898	128	1.78		1.01657	0.84967
129	.541		0.30933	0.25876	129	1.77		1.01487	0.84896
130	**.537**	x	0.30882	0.25855	**130**	**1.76**	x	1.01318	0.84825
131	.534		0.30830	0.25833	131	1.75		1.01150	0.84755
132	.531		0.30780	0.25812	132	1.74		1.00983	0.84685
133	.528		0.30729	0.25791	133	1.73		1.00817	0.84615
134	.526		0.30679	0.25770	134	1.72		1.00653	0.84546
135	**.523**	x	0.30629	0.25749	**135**	**1.71**	x	1.00490	0.84477
136	.52		0.30580	0.25728	136	1.71		1.00327	0.84408
137	.517		0.30531	0.25707	137	1.7		1.00166	0.84340
138	.514		0.30482	0.25686	138	1.69		1.00006	0.84272
139	.512		0.30433	0.25665	139	1.68		0.99847	0.84204
140	**.509**	x	0.30385	0.25645	**140**	**1.67**	x	0.99689	0.84137
141	.506		0.30337	0.25625	141	1.66		0.99532	0.84070
142	.504		0.30290	0.25604	142	1.65		0.99376	0.84003
143	.501		0.30243	0.25584	143	1.64		0.99222	0.83937

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Rodenstock ALPA HR Alpagon - ALP 40

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
144	.499		0.30196	0.25564	144	1.64		0.99068	0.83871
145	**.496**	x	0.30149	0.25544	**145**	**1.63**	x	0.98915	0.83806
146	.494		0.30103	0.25524	146	1.62		0.98763	0.83740
147	.491		0.30057	0.25504	147	1.61		0.98613	0.83675
148	.489		0.30011	0.25485	148	1.6		0.98463	0.83611
149	.487		0.29966	0.25465	149	1.6		0.98314	0.83546
150	**.484**	x	0.29921	0.25445	**150**	**1.59**	x	0.98166	0.83482
151	.482		0.29876	0.25426	151	1.58		0.98019	0.83419
152	.48		0.29832	0.25407	152	1.57		0.97873	0.83355
153	.478		0.29788	0.25387	153	1.57		0.97728	0.83292
154	.475		0.29744	0.25368	154	1.56		0.97584	0.83229
155	**.473**	x	0.29700	0.25349	**155**	**1.55**	x	0.97441	0.83167
156	.471		0.29657	0.25330	156	1.55		0.97299	0.83104
157	.469		0.29614	0.25311	157	1.54		0.97158	0.83043
158	.467		0.29571	0.25293	158	1.53		0.97017	0.82981
159	.465		0.29528	0.25274	159	1.52		0.96878	0.82920
160	**.463**	x	0.29486	0.25255	**160**	**1.52**	x	0.96739	0.82859
161	.461		0.29444	0.25237	161	1.51		0.96601	0.82798
162	.459		0.29402	0.25218	162	1.51		0.96464	0.82738
163	.457		0.29361	0.25200	163	1.5		0.96328	0.82677
164	.455		0.29320	0.25182	164	1.49		0.96193	0.82618
165	**.453**	x	0.29279	0.25164	**165**	**1.49**	x	0.96059	0.82558
166	.451		0.29238	0.25146	166	1.48		0.95925	0.82499
167	.449		0.29198	0.25128	167	1.47		0.95793	0.82440
168	.447		0.29157	0.25110	168	1.47		0.95661	0.82381
169	.446		0.29118	0.25092	169	1.46		0.95530	0.82323
170	**.444**	x	0.29078	0.25074	**170**	**1.46**	x	0.95400	0.82264
171	.442		0.29038	0.25057	171	1.45		0.95270	0.82207
172	.44		0.28999	0.25039	172	1.44		0.95142	0.82149
173	.438		0.28960	0.25022	173	1.44		0.95014	0.82092
174	.437		0.28922	0.25004	174	1.43		0.94887	0.82035
175	**.435**	x	0.28883	0.24987	**175**	**1.43**	x	0.94761	0.81978
176	.433		0.28845	0.24970	176	1.42		0.94635	0.81921
177	.432		0.28807	0.24952	177	1.42		0.94511	0.81865
178	.43		0.28769	0.24935	178	1.41		0.94387	0.81809
179	.428		0.28732	0.24918	179	1.41		0.94263	0.81753

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Rodenstock ALPA HR Alpagon - ALP 40

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
180	**.427**	x	0.28694	0.24901	**180**	**1.4**	x	0.94141	0.81698
181	.425		0.28657	0.24885	181	1.4		0.94019	0.81643
182	.424		0.28620	0.24868	182	1.39		0.93898	0.81588
183	.422		0.28584	0.24851	183	1.39		0.93778	0.81533
184	.421		0.28547	0.24835	184	1.38		0.93659	0.81478
185	**.419**	x	0.28511	0.24818	**185**	**1.38**	x	0.93540	0.81424
186	.418		0.28475	0.24802	186	1.37		0.93422	0.81370
187	.416		0.28439	0.24785	187	1.37		0.93304	0.81317
188	.415		0.28404	0.24769	188	1.36		0.93188	0.81263
189	.413		0.28368	0.24753	189	1.36		0.93072	0.81210
190	**.412**	x	0.28333	0.24737	**190**	**1.35**	x	0.92956	0.81157
191	.41		0.28298	0.24721	191	1.35		0.92842	0.81104
192	.409		0.28263	0.24705	192	1.34		0.92728	0.81052
193	.408		0.28229	0.24689	193	1.34		0.92614	0.81000
194	.406		0.28195	0.24673	194	1.33		0.92502	0.80948
195	**.405**	x	0.28160	0.24657	**195**	**1.33**	x	0.92390	0.80896
196	.404		0.28126	0.24641	196	1.32		0.92278	0.80845
197	.402		0.28093	0.24626	197	1.32		0.92168	0.80793
198	.401		0.28059	0.24610	198	1.32		0.92058	0.80742
199	.4		0.28026	0.24595	199	1.31		0.91948	0.80692
200	**.398**	x	0.27993	0.24579	**200**	**1.31**	x	0.91840	0.80641
201	.397		0.27960	0.24564	201	1.3		0.91731	0.80591
202	.396		0.27927	0.24549	202	1.3		0.91624	0.80541
203	.395		0.27894	0.24534	203	1.29		0.91517	0.80491
204	.393		0.27862	0.24518	204	1.29		0.91411	0.80441
205	**.392**	x	0.27830	0.24503	**205**	**1.29**	x	0.91305	0.80392
206	.391		0.27798	0.24488	206	1.28		0.91200	0.80343
207	.39		0.27766	0.24473	207	1.28		0.91096	0.80294
208	.389		0.27734	0.24459	208	1.27		0.90992	0.80245
209	.387		0.27703	0.24444	209	1.27		0.90888	0.80196
210	**.386**	x	0.27671	0.24429	**210**	**1.27**	x	0.90786	0.80148
211	.385		0.27640	0.24414	211	1.26		0.90684	0.80100
212	.384		0.27609	0.24400	212	1.26		0.90582	0.80052
213	.383		0.27579	0.24385	213	1.26		0.90481	0.80004
214	.382		0.27548	0.24371	214	1.25		0.90381	0.79957
215	**.381**	x	0.27518	0.24357	**215**	**1.25**	x	0.90281	0.79910

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 40

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
216	.379		0.27487	0.24342	216	1.24		0.90182	0.79863
217	.378		0.27457	0.24328	217	1.24		0.90083	0.79816
218	.377		0.27427	0.24314	218	1.24		0.89985	0.79770
219	.376		0.27398	0.24300	219	1.23		0.89887	0.79723
220	**.375**	x	0.27368	0.24286	**220**	**1.23**	x	0.89790	0.79677
221	.374		0.27339	0.24272	221	1.23		0.89693	0.79631
222	.373		0.27309	0.24258	222	1.22		0.89597	0.79585
223	.372		0.27280	0.24244	223	1.22		0.89502	0.79540
224	.371		0.27251	0.24230	224	1.22		0.89407	0.79494
225	**.37**	x	0.27223	0.24216	**225**	**1.21**	x	0.89313	0.79449
226	.369		0.27194	0.24202	226	1.21		0.89219	0.79404
227	.368		0.27165	0.24189	227	1.21		0.89125	0.79360
228	.367		0.27137	0.24175	228	1.2		0.89033	0.79315
229	.366		0.27109	0.24162	229	1.2		0.88940	0.79271
230	**.365**	x	0.27081	0.24148	**230**	**1.2**	x	0.88848	0.79227
231	.364		0.27053	0.24135	231	1.19		0.88757	0.79183
232	.363		0.27025	0.24122	232	1.19		0.88666	0.79139
233	.362		0.26998	0.24108	233	1.19		0.88576	0.79095
234	.361		0.26970	0.24095	234	1.19		0.88486	0.79052
235	**.36**	x	0.26943	0.24082	**235**	**1.18**	x	0.88396	0.79009
236	.359		0.26916	0.24069	236	1.18		0.88307	0.78966
237	.359		0.26889	0.24056	237	1.18		0.88219	0.78923
238	.358		0.26862	0.24043	238	1.17		0.88131	0.78881
239	.357		0.26836	0.24030	239	1.17		0.88044	0.78838
240	**.356**	x	0.26809	0.24017	**240**	**1.17**	x	0.87957	0.78796
241	.355		0.26783	0.24004	241	1.16		0.87870	0.78754
242	.354		0.26757	0.23991	242	1.16		0.87784	0.78712
243	.353		0.26730	0.23979	243	1.16		0.87698	0.78670
244	.352		0.26704	0.23966	244	1.16		0.87613	0.78629
245	**.352**	x	0.26679	0.23954	**245**	**1.15**	x	0.87528	0.78588
246	.351		0.26653	0.23941	246	1.15		0.87444	0.78547
247	.35		0.26627	0.23929	247	1.15		0.87360	0.78506
248	.349		0.26602	0.23916	248	1.15		0.87277	0.78465
249	.348		0.26577	0.23904	249	1.14		0.87194	0.78424
250	**.347**	x	0.26552	0.23891	**250**	**1.14**	x	0.87111	0.78384
251	.347		0.26527	0.23879	251	1.14		0.87029	0.78344

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ALPA OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 40

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
252	.346		0.26502	0.23867	252	1.13		0.86948	0.78304
253	.345		0.26477	0.23855	253	1.13		0.86866	0.78264
254	.344		0.26452	0.23843	254	1.13		0.86786	0.78224
255	**.344**	x	0.26428	0.23831	**255**	**1.13**	x	0.86705	0.78185
256	.343		0.26403	0.23819	256	1.12		0.86625	0.78145
257	.342		0.26379	0.23807	257	1.12		0.86546	0.78106
258	.341		0.26355	0.23795	258	1.12		0.86467	0.78067
259	.34		0.26331	0.23783	259	1.12		0.86388	0.78028
260	**.34**	x	0.26307	0.23771	**260**	**1.11**	x	0.86310	0.77990
261	.339		0.26283	0.23759	261	1.11		0.86232	0.77951
262	.338		0.26260	0.23748	262	1.11		0.86154	0.77913
263	.338		0.26236	0.23736	263	1.11		0.86077	0.77875
264	.337		0.26213	0.23725	264	1.11		0.86000	0.77837
265	**.336**	x	0.26190	0.23713	**265**	**1.1**	x	0.85924	0.77799
266	.335		0.26167	0.23702	266	1.1		0.85848	0.77761
267	.335		0.26144	0.23690	267	1.1		0.85773	0.77723
268	.334		0.26121	0.23679	268	1.1		0.85698	0.77686
269	.333		0.26098	0.23667	269	1.09		0.85623	0.77649
270	**.333**	x	0.26075	0.23656	**270**	**1.09**	x	0.85548	0.77612

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ALPA OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 45

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
0	**∞**	xx	0.47641	0.32110	**0**	**∞**	xx	1.56301	1.05349
1	**63.6**	xx	0.47449	0.32056	**1**	**209**	xx	1.55673	1.05169
2	**31.9**	xx	0.47260	0.32001	**2**	**105**	xx	1.55052	1.04991
3	**21.3**	xx	0.47073	0.31947	**3**	**69.8**	xx	1.54437	1.04813
4	**16**	xx	0.46887	0.31893	**4**	**52.5**	xx	1.53830	1.04637
5	**12.8**	x	0.46704	0.31840	**5**	**42**	x	1.53229	1.04462
6	10.7		0.46523	0.31787	6	35.1		1.52635	1.04288
7	9.19		0.46344	0.31734	7	30.1		1.52047	1.04115
8	8.05		0.46167	0.31682	8	26.4		1.51465	1.03943
9	7.17		0.45991	0.31630	9	23.5		1.50890	1.03772
10	**6.47**	x	0.45818	0.31578	**10**	**21.2**	x	1.50321	1.03602
11	5.89		0.45646	0.31527	11	19.3		1.49758	1.03433
12	5.41		0.45477	0.31475	12	17.7		1.49201	1.03266
13	5		0.45309	0.31425	13	16.4		1.48650	1.03099
14	4.65		0.45142	0.31374	14	15.3		1.48105	1.02934
15	**4.35**	x	0.44978	0.31324	**15**	**14.3**	x	1.47565	1.02769
16	4.09		0.44815	0.31274	16	13.4		1.47031	1.02605
17	3.85		0.44654	0.31225	17	12.6		1.46503	1.02443
18	3.65		0.44495	0.31175	18	12		1.45980	1.02281
19	3.46		0.44337	0.31126	19	11.3		1.45462	1.02121
20	**3.29**	x	0.44181	0.31078	**20**	**10.8**	x	1.44950	1.01961
21	3.14		0.44026	0.31029	21	10.3		1.44443	1.01803
22	3		0.43873	0.30981	22	9.86		1.43941	1.01645
23	2.88		0.43722	0.30934	23	9.44		1.43444	1.01488
24	2.76		0.43572	0.30886	24	9.07		1.42952	1.01333
25	**2.66**	x	0.43423	0.30839	**25**	**8.72**	x	1.42465	1.01178
26	2.56		0.43276	0.30792	26	8.4		1.41982	1.01024
27	2.47		0.43131	0.30746	27	8.1		1.41505	1.00871
28	2.39		0.42987	0.30699	28	7.83		1.41032	1.00719
29	2.31		0.42844	0.30653	29	7.57		1.40564	1.00568
30	**2.23**	x	0.42703	0.30607	**30**	**7.33**	x	1.40100	1.00418
31	2.17		0.42563	0.30562	31	7.11		1.39641	1.00268
32	2.1		0.42424	0.30517	32	6.9		1.39187	1.00120
33	2.04		0.42287	0.30472	33	6.7		1.38736	0.99972
34	1.99		0.42151	0.30427	34	6.52		1.38290	0.99826
35	**1.93**	x	0.42016	0.30382	**35**	**6.34**	x	1.37849	0.99680

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ALPA® OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 45

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
36	1.88		0.41883	0.30338	36	6.18		1.37411	0.99535
37	1.83		0.41751	0.30294	37	6.02		1.36978	0.99391
38	1.79		0.41620	0.30251	38	5.87		1.36548	0.99248
39	1.75		0.41490	0.30207	39	5.73		1.36123	0.99105
40	**1.71**	x	0.41362	0.30164	**40**	**5.6**	x	1.35702	0.98964
41	1.67		0.41235	0.30121	41	5.47		1.35284	0.98823
42	1.63		0.41109	0.30079	42	5.35		1.34871	0.98683
43	1.6		0.40984	0.30036	43	5.23		1.34461	0.98544
44	1.56		0.40860	0.29994	44	5.12		1.34055	0.98405
45	**1.53**	x	0.40737	0.29952	**45**	**5.02**	x	1.33653	0.98268
46	1.5		0.40616	0.29910	46	4.92		1.33254	0.98131
47	1.47		0.40495	0.29869	47	4.82		1.32859	0.97995
48	1.44		0.40376	0.29828	48	4.73		1.32468	0.97860
49	1.41		0.40258	0.29787	49	4.64		1.32080	0.97725
50	**1.39**	x	0.40141	0.29746	**50**	**4.56**	x	1.31695	0.97592
51	1.36		0.40025	0.29705	51	4.48		1.31314	0.97459
52	1.34		0.39909	0.29665	52	4.4		1.30936	0.97327
53	1.32		0.39795	0.29625	53	4.32		1.30562	0.97195
54	1.3		0.39682	0.29585	54	4.25		1.30191	0.97064
55	**1.27**	x	0.39570	0.29546	**55**	**4.18**	x	1.29823	0.96935
56	1.25		0.39459	0.29506	56	4.11		1.29459	0.96805
57	1.23		0.39349	0.29467	57	4.05		1.29097	0.96677
58	1.21		0.39240	0.29428	58	3.98		1.28739	0.96549
59	1.2		0.39131	0.29389	59	3.92		1.28384	0.96422
60	**1.18**	x	0.39024	0.29351	**60**	**3.86**	x	1.28031	0.96296
61	1.16		0.38918	0.29313	61	3.81		1.27682	0.96170
62	1.14		0.38812	0.29275	62	3.75		1.27336	0.96045
63	1.13		0.38707	0.29237	63	3.7		1.26993	0.95921
64	1.11		0.38604	0.29199	64	3.65		1.26653	0.95797
65	**1.1**	x	0.38501	0.29162	**65**	**3.6**	x	1.26315	0.95674
66	1.08		0.38399	0.29124	66	3.55		1.25981	0.95552
67	1.07		0.38298	0.29087	67	3.5		1.25649	0.95431
68	1.05		0.38197	0.29050	68	3.46		1.25320	0.95310
69	1.04		0.38098	0.29014	69	3.41		1.24993	0.95190
70	**1.03**	x	0.37999	0.28977	**70**	**3.37**	x	1.24670	0.95070
71	1.01		0.37902	0.28941	71	3.33		1.24349	0.94951

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ALPA OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 45

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
72	1		0.37804	0.28905	72	3.29		1.24030	0.94833
73	.99		0.37708	0.28869	73	3.25		1.23715	0.94715
74	.978		0.37613	0.28834	74	3.21		1.23402	0.94598
75	**.967**	x	0.37518	0.28798	**75**	**3.17**	x	1.23091	0.94482
76	.956		0.37424	0.28763	76	3.13		1.22783	0.94366
77	.945		0.37331	0.28728	77	3.1		1.22477	0.94251
78	.934		0.37239	0.28693	78	3.06		1.22174	0.94137
79	.924		0.37147	0.28658	79	3.03		1.21873	0.94023
80	**.914**	x	0.37056	0.28624	**80**	**3**	x	1.21575	0.93909
81	.904		0.36966	0.28589	81	2.97		1.21279	0.93797
82	.895		0.36876	0.28555	82	2.94		1.20985	0.93685
83	.885		0.36788	0.28521	83	2.9		1.20694	0.93573
84	.876		0.36699	0.28487	84	2.87		1.20405	0.93462
85	**.867**	x	0.36612	0.28454	**85**	**2.85**	x	1.20118	0.93352
86	.859		0.36525	0.28420	86	2.82		1.19834	0.93242
87	.85		0.36439	0.28387	87	2.79		1.19551	0.93133
88	.842		0.36354	0.28354	88	2.76		1.19271	0.93025
89	.834		0.36269	0.28321	89	2.74		1.18993	0.92917
90	**.826**	x	0.36185	0.28288	**90**	**2.71**	x	1.18718	0.92809
91	.818		0.36102	0.28256	91	2.68		1.18444	0.92702
92	.811		0.36019	0.28223	92	2.66		1.18172	0.92596
93	.803		0.35937	0.28191	93	2.64		1.17903	0.92490
94	.796		0.35855	0.28159	94	2.61		1.17635	0.92385
95	**.789**	x	0.35774	0.28127	**95**	**2.59**	x	1.17370	0.92281
96	.782		0.35694	0.28095	96	2.57		1.17106	0.92177
97	.775		0.35614	0.28064	97	2.54		1.16845	0.92073
98	.769		0.35535	0.28032	98	2.52		1.16585	0.91970
99	.762		0.35457	0.28001	99	2.5		1.16328	0.91867
100	**.756**	x	0.35379	0.27970	**100**	**2.48**	x	1.16072	0.91765
101	.75		0.35301	0.27939	101	2.46		1.15818	0.91664
102	.743		0.35225	0.27908	102	2.44		1.15566	0.91563
103	.737		0.35148	0.27878	103	2.42		1.15316	0.91463
104	.732		0.35073	0.27847	104	2.4		1.15068	0.91363
105	**.726**	x	0.34998	0.27817	**105**	**2.38**	x	1.14822	0.91263
106	.72		0.34923	0.27787	106	2.36		1.14577	0.91165
107	.715		0.34849	0.27757	107	2.34		1.14334	0.91066

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Rodenstock ALPA Apo Alpar - AAA 45

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
108	.709		0.34776	0.27727	108	2.33		1.14093	0.90968
109	.704		0.34703	0.27697	109	2.31		1.13854	0.90871
110	**.698**	x	0.34630	0.27668	**110**	**2.29**	x	1.13617	0.90774
111	.693		0.34558	0.27639	111	2.27		1.13381	0.90678
112	.688		0.34487	0.27609	112	2.26		1.13147	0.90582
113	.683		0.34416	0.27580	113	2.24		1.12914	0.90486
114	.678		0.34346	0.27551	114	2.23		1.12683	0.90391
115	**.674**	x	0.34276	0.27523	**115**	**2.21**	x	1.12454	0.90297
116	.669		0.34207	0.27494	116	2.19		1.12226	0.90203
117	.664		0.34138	0.27465	117	2.18		1.12000	0.90109
118	.66		0.34069	0.27437	118	2.16		1.11776	0.90016
119	.655		0.34001	0.27409	119	2.15		1.11553	0.89924
120	**.651**	x	0.33934	0.27381	**120**	**2.13**	x	1.11332	0.89832
121	.646		0.33867	0.27353	121	2.12		1.11112	0.89740
122	.642		0.33801	0.27325	122	2.11		1.10894	0.89649
123	.638		0.33734	0.27297	123	2.09		1.10677	0.89558
124	.634		0.33669	0.27270	124	2.08		1.10462	0.89468
125	**.63**	x	0.33604	0.27242	**125**	**2.07**	x	1.10249	0.89378
126	.626		0.33539	0.27215	126	2.05		1.10036	0.89288
127	.622		0.33475	0.27188	127	2.04		1.09826	0.89199
128	.618		0.33411	0.27161	128	2.03		1.09616	0.89111
129	.614		0.33348	0.27134	129	2.01		1.09408	0.89023
130	**.61**	x	0.33285	0.27107	**130**	**2**	x	1.09202	0.88935
131	.607		0.33222	0.27081	131	1.99		1.08997	0.88848
132	.603		0.33160	0.27054	132	1.98		1.08793	0.88761
133	.599		0.33098	0.27028	133	1.97		1.08591	0.88674
134	.596		0.33037	0.27002	134	1.96		1.08390	0.88588
135	**.592**	x	0.32976	0.26976	**135**	**1.94**	x	1.08190	0.88503
136	.589		0.32916	0.26950	136	1.93		1.07992	0.88417
137	.586		0.32856	0.26924	137	1.92		1.07795	0.88333
138	.582		0.32796	0.26898	138	1.91		1.07599	0.88248
139	.579		0.32737	0.26873	139	1.9		1.07405	0.88164
140	**.576**	x	0.32678	0.26847	**140**	**1.89**	x	1.07212	0.88081
141	.573		0.32620	0.26822	141	1.88		1.07020	0.87998
142	.57		0.32562	0.26796	142	1.87		1.06829	0.87915
143	.566		0.32504	0.26771	143	1.86		1.06640	0.87833

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ALPA® OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 45

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
144	.563		0.32447	0.26746	144	1.85		1.06452	0.87751
145	**.56**	x	0.32390	0.26722	**145**	**1.84**	x	1.06265	0.87669
146	.557		0.32333	0.26697	146	1.83		1.06080	0.87588
147	.554		0.32277	0.26672	147	1.82		1.05895	0.87507
148	.552		0.32221	0.26648	148	1.81		1.05712	0.87427
149	.549		0.32165	0.26623	149	1.8		1.05530	0.87347
150	**.546**	x	0.32110	0.26599	**150**	**1.79**	x	1.05349	0.87267
151	.543		0.32056	0.26575	151	1.78		1.05169	0.87188
152	.54		0.32001	0.26551	152	1.77		1.04991	0.87109
153	.538		0.31947	0.26527	153	1.76		1.04813	0.87030
154	.535		0.31893	0.26503	154	1.76		1.04637	0.86952
155	**.532**	x	0.31840	0.26479	**155**	**1.75**	x	1.04462	0.86874
156	.53		0.31787	0.26456	156	1.74		1.04288	0.86797
157	.527		0.31734	0.26432	157	1.73		1.04115	0.86720
158	.525		0.31682	0.26409	158	1.72		1.03943	0.86643
159	.522		0.31630	0.26386	159	1.71		1.03772	0.86567
160	**.52**	x	0.31578	0.26362	**160**	**1.71**	x	1.03602	0.86491
161	.517		0.31527	0.26339	161	1.7		1.03433	0.86415
162	.515		0.31475	0.26316	162	1.69		1.03266	0.86340
163	.513		0.31425	0.26294	163	1.68		1.03099	0.86265
164	.51		0.31374	0.26271	164	1.67		1.02934	0.86191
165	**.508**	x	0.31324	0.26248	**165**	**1.67**	x	1.02769	0.86116
166	.506		0.31274	0.26226	166	1.66		1.02605	0.86042
167	.503		0.31225	0.26203	167	1.65		1.02443	0.85969
168	.501		0.31175	0.26181	168	1.64		1.02281	0.85896
169	.499		0.31126	0.26159	169	1.64		1.02121	0.85823
170	**.497**	x	0.31078	0.26137	**170**	**1.63**	x	1.01961	0.85750
171	.495		0.31029	0.26115	171	1.62		1.01803	0.85678
172	.493		0.30981	0.26093	172	1.62		1.01645	0.85606
173	.49		0.30934	0.26071	173	1.61		1.01488	0.85535
174	.488		0.30886	0.26049	174	1.6		1.01333	0.85463
175	**.486**	x	0.30839	0.26028	**175**	**1.6**	x	1.01178	0.85392
176	.484		0.30792	0.26006	176	1.59		1.01024	0.85322
177	.482		0.30746	0.25985	177	1.58		1.00871	0.85252
178	.48		0.30699	0.25963	178	1.58		1.00719	0.85182
179	.478		0.30653	0.25942	179	1.57		1.00568	0.85112

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ALPA OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 45

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
180	**.476**	x	0.30607	0.25921	**180**	**1.56**	x	1.00418	0.85043
181	.474		0.30562	0.25900	181	1.56		1.00268	0.84974
182	.473		0.30517	0.25879	182	1.55		1.00120	0.84905
183	.471		0.30472	0.25858	183	1.54		0.99972	0.84837
184	.469		0.30427	0.25838	184	1.54		0.99826	0.84769
185	**.467**	x	0.30382	0.25817	**185**	**1.53**	x	0.99680	0.84701
186	.465		0.30338	0.25796	186	1.53		0.99535	0.84634
187	.463		0.30294	0.25776	187	1.52		0.99391	0.84566
188	.462		0.30251	0.25755	188	1.51		0.99248	0.84500
189	.46		0.30207	0.25735	189	1.51		0.99105	0.84433
190	**.458**	x	0.30164	0.25715	**190**	**1.5**	x	0.98964	0.84367
191	.456		0.30121	0.25695	191	1.5		0.98823	0.84301
192	.455		0.30079	0.25675	192	1.49		0.98683	0.84235
193	.453		0.30036	0.25655	193	1.49		0.98544	0.84170
194	.451		0.29994	0.25635	194	1.48		0.98405	0.84105
195	**.45**	x	0.29952	0.25615	**195**	**1.48**	x	0.98268	0.84040
196	.448		0.29910	0.25596	196	1.47		0.98131	0.83976
197	.447		0.29869	0.25576	197	1.47		0.97995	0.83911
198	.445		0.29828	0.25557	198	1.46		0.97860	0.83848
199	.443		0.29787	0.25537	199	1.45		0.97725	0.83784
200	**.442**	x	0.29746	0.25518	**200**	**1.45**	x	0.97592	0.83721
201	.44		0.29705	0.25499	201	1.44		0.97459	0.83657
202	.439		0.29665	0.25480	202	1.44		0.97327	0.83595
203	.437		0.29625	0.25461	203	1.43		0.97195	0.83532
204	.436		0.29585	0.25442	204	1.43		0.97064	0.83470
205	**.434**	x	0.29546	0.25423	**205**	**1.42**	x	0.96935	0.83408
206	.433		0.29506	0.25404	206	1.42		0.96805	0.83346
207	.431		0.29467	0.25385	207	1.42		0.96677	0.83285
208	.43		0.29428	0.25367	208	1.41		0.96549	0.83224
209	.428		0.29389	0.25348	209	1.41		0.96422	0.83163
210	**.427**	x	0.29351	0.25330	**210**	**1.4**	x	0.96296	0.83102
211	.426		0.29313	0.25311	211	1.4		0.96170	0.83042
212	.424		0.29275	0.25293	212	1.39		0.96045	0.82982
213	.423		0.29237	0.25275	213	1.39		0.95921	0.82922
214	.422		0.29199	0.25256	214	1.38		0.95797	0.82862
215	**.42**	x	0.29162	0.25238	**215**	**1.38**	x	0.95674	0.82803

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ALPA® OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 45

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
216	.419		0.29124	0.25220	216	1.37		0.95552	0.82744
217	.418		0.29087	0.25202	217	1.37		0.95431	0.82685
218	.416		0.29050	0.25185	218	1.37		0.95310	0.82627
219	.415		0.29014	0.25167	219	1.36		0.95190	0.82568
220	**.414**	x	0.28977	0.25149	**220**	**1.36**	x	0.95070	0.82510
221	.412		0.28941	0.25132	221	1.35		0.94951	0.82453
222	.411		0.28905	0.25114	222	1.35		0.94833	0.82395
223	.41		0.28869	0.25097	223	1.34		0.94715	0.82338
224	.409		0.28834	0.25079	224	1.34		0.94598	0.82281
225	**.407**	x	0.28798	0.25062	**225**	**1.34**	x	0.94482	0.82224
226	.406		0.28763	0.25045	226	1.33		0.94366	0.82167
227	.405		0.28728	0.25027	227	1.33		0.94251	0.82111
228	.404		0.28693	0.25010	228	1.32		0.94137	0.82055
229	.403		0.28658	0.24993	229	1.32		0.94023	0.81999
230	**.401**	x	0.28624	0.24976	**230**	**1.32**	x	0.93909	0.81944
231	.4		0.28589	0.24960	231	1.31		0.93797	0.81888
232	.399		0.28555	0.24943	232	1.31		0.93685	0.81833
233	.398		0.28521	0.24926	233	1.31		0.93573	0.81778
234	.397		0.28487	0.24909	234	1.3		0.93462	0.81723
235	**.396**	x	0.28454	0.24893	**235**	**1.3**	x	0.93352	0.81669
236	.395		0.28420	0.24876	236	1.29		0.93242	0.81615
237	.393		0.28387	0.24860	237	1.29		0.93133	0.81561
238	.392		0.28354	0.24843	238	1.29		0.93025	0.81507
239	.391		0.28321	0.24827	239	1.28		0.92917	0.81454
240	**.39**	x	0.28288	0.24811	**240**	**1.28**	x	0.92809	0.81400
241	.389		0.28256	0.24795	241	1.28		0.92702	0.81347
242	.388		0.28223	0.24779	242	1.27		0.92596	0.81295
243	.387		0.28191	0.24763	243	1.27		0.92490	0.81242
244	.386		0.28159	0.24747	244	1.27		0.92385	0.81190
245	**.385**	x	0.28127	0.24731	**245**	**1.26**	x	0.92281	0.81137
246	.384		0.28095	0.24715	246	1.26		0.92177	0.81085
247	.383		0.28064	0.24699	247	1.26		0.92073	0.81034
248	.382		0.28032	0.24683	248	1.25		0.91970	0.80982
249	.381		0.28001	0.24668	249	1.25		0.91867	0.80931
250	**.38**	x	0.27970	0.24652	**250**	**1.25**	x	0.91765	0.80880
251	.379		0.27939	0.24637	251	1.24		0.91664	0.80829

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ALPA OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 45

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
252	.378		0.27908	0.24621	252	1.24		0.91563	0.80778
253	.377		0.27878	0.24606	253	1.24		0.91463	0.80728
254	.376		0.27847	0.24591	254	1.23		0.91363	0.80678
255	**.375**	x	0.27817	0.24575	**255**	**1.23**	x	0.91263	0.80628
256	.374		0.27787	0.24560	256	1.23		0.91165	0.80578
257	.373		0.27757	0.24545	257	1.22		0.91066	0.80528
258	.372		0.27727	0.24530	258	1.22		0.90968	0.80479
259	.371		0.27697	0.24515	259	1.22		0.90871	0.80430
260	**.371**	x	0.27668	0.24500	**260**	**1.22**	x	0.90774	0.80381
261	.37		0.27639	0.24485	261	1.21		0.90678	0.80332
262	.369		0.27609	0.24470	262	1.21		0.90582	0.80283
263	.368		0.27580	0.24456	263	1.21		0.90486	0.80235
264	.367		0.27551	0.24441	264	1.2		0.90391	0.80187
265	**.366**	x	0.27523	0.24426	**265**	**1.2**	x	0.90297	0.80139
266	.365		0.27494	0.24412	266	1.2		0.90203	0.80091
267	.364		0.27465	0.24397	267	1.2		0.90109	0.80043
268	.364		0.27437	0.24383	268	1.19		0.90016	0.79996
269	.363		0.27409	0.24368	269	1.19		0.89924	0.79949
270	**.362**	x	0.27381	0.24354	**270**	**1.19**	x	0.89832	0.79902

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ALPA OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 50

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
0	**∞**	xx	0.59753	0.40019	**0**	**∞**	xx	1.96039	1.31297
1	**80.3**	xx	0.59510	0.39949	**1**	**263**	xx	1.95243	1.31067
2	**40.2**	xx	0.59270	0.39880	**2**	**132**	xx	1.94456	1.30839
3	**26.9**	xx	0.59033	0.39810	**3**	**88.1**	xx	1.93678	1.30612
4	**20.2**	xx	0.58798	0.39742	**4**	**66.2**	xx	1.92908	1.30386
5	**16.2**	x	0.58566	0.39673	**5**	**53.1**	x	1.92147	1.30162
6	13.5		0.58337	0.39606	6	44.3		1.91394	1.29940
7	11.6		0.58110	0.39538	7	38		1.90649	1.29719
8	10.2		0.57885	0.39471	8	33.3		1.89912	1.29499
9	9.05		0.57663	0.39405	9	29.7		1.89183	1.29280
10	**8.16**	x	0.57443	0.39338	**10**	**26.8**	x	1.88462	1.29063
11	7.43		0.57226	0.39273	11	24.4		1.87749	1.28847
12	6.82		0.57011	0.39207	12	22.4		1.87043	1.28633
13	6.31		0.56798	0.39142	13	20.7		1.86344	1.28420
14	5.87		0.56587	0.39078	14	19.3		1.85653	1.28208
15	**5.49**	x	0.56379	0.39014	**15**	**18**	x	1.84969	1.27997
16	5.15		0.56172	0.38950	16	16.9		1.84292	1.27788
17	4.86		0.55968	0.38886	17	15.9		1.83622	1.27580
18	4.6		0.55766	0.38823	18	15.1		1.82959	1.27373
19	4.36		0.55566	0.38761	19	14.3		1.82303	1.27168
20	**4.15**	x	0.55368	0.38698	**20**	**13.6**	x	1.81654	1.26963
21	3.96		0.55172	0.38637	21	13		1.81011	1.26760
22	3.79		0.54978	0.38575	22	12.4		1.80374	1.26558
23	3.63		0.54786	0.38514	23	11.9		1.79744	1.26358
24	3.49		0.54596	0.38453	24	11.4		1.79120	1.26158
25	**3.35**	x	0.54408	0.38393	**25**	**11**	x	1.78502	1.25960
26	3.23		0.54221	0.38333	26	10.6		1.77891	1.25763
27	3.11		0.54037	0.38273	27	10.2		1.77285	1.25567
28	3.01		0.53854	0.38214	28	9.87		1.76686	1.25372
29	2.91		0.53673	0.38155	29	9.55		1.76092	1.25179
30	**2.82**	x	0.53494	0.38096	**30**	**9.25**	x	1.75504	1.24986
31	2.73		0.53316	0.38038	31	8.96		1.74922	1.24795
32	2.65		0.53140	0.37980	32	8.7		1.74345	1.24605
33	2.58		0.52966	0.37922	33	8.45		1.73774	1.24416
34	2.5		0.52794	0.37865	34	8.22		1.73208	1.24228
35	**2.44**	x	0.52623	0.37808	**35**	**7.99**	x	1.72647	1.24041

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 50

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
36	2.37		0.52454	0.37751	36	7.79		1.72092	1.23855
37	2.31		0.52286	0.37695	37	7.59		1.71542	1.23670
38	2.26		0.52120	0.37639	38	7.4		1.70998	1.23486
39	2.2		0.51956	0.37583	39	7.22		1.70458	1.23304
40	**2.15**	x	0.51793	0.37528	**40**	**7.06**	x	1.69923	1.23122
41	2.1		0.51631	0.37473	41	6.9		1.69394	1.22942
42	2.06		0.51471	0.37418	42	6.74		1.68869	1.22762
43	2.01		0.51313	0.37363	43	6.6		1.68349	1.22584
44	1.97		0.51156	0.37309	44	6.46		1.67833	1.22406
45	**1.93**	x	0.51000	0.37256	**45**	**6.33**	x	1.67323	1.22230
46	1.89		0.50846	0.37202	46	6.2		1.66817	1.22054
47	1.85		0.50693	0.37149	47	6.08		1.66315	1.21880
48	1.82		0.50541	0.37096	48	5.96		1.65818	1.21706
49	1.78		0.50391	0.37043	49	5.85		1.65326	1.21533
50	**1.75**	x	0.50242	0.36991	**50**	**5.74**	x	1.64838	1.21362
51	1.72		0.50095	0.36939	51	5.64		1.64354	1.21191
52	1.69		0.49949	0.36887	52	5.54		1.63874	1.21022
53	1.66		0.49804	0.36836	53	5.45		1.63399	1.20853
54	1.63		0.49660	0.36785	54	5.35		1.62928	1.20685
55	**1.61**	x	0.49518	0.36734	**55**	**5.27**	x	1.62460	1.20518
56	1.58		0.49377	0.36683	56	5.18		1.61997	1.20352
57	1.55		0.49237	0.36633	57	5.1		1.61538	1.20187
58	1.53		0.49098	0.36583	58	5.02		1.61083	1.20023
59	1.51		0.48961	0.36533	59	4.94		1.60632	1.19860
60	**1.48**	x	0.48824	0.36484	**60**	**4.87**	x	1.60185	1.19697
61	1.46		0.48689	0.36435	61	4.8		1.59741	1.19536
62	1.44		0.48555	0.36386	62	4.73		1.59301	1.19375
63	1.42		0.48422	0.36337	63	4.66		1.58865	1.19216
64	1.4		0.48290	0.36289	64	4.59		1.58433	1.19057
65	**1.38**	x	0.48160	0.36240	**65**	**4.53**	x	1.58004	1.18899
66	1.36		0.48030	0.36193	66	4.47		1.57579	1.18742
67	1.34		0.47901	0.36145	67	4.41		1.57157	1.18586
68	1.33		0.47774	0.36097	68	4.35		1.56739	1.18430
69	1.31		0.47648	0.36050	69	4.3		1.56324	1.18275
70	**1.29**	x	0.47522	0.36004	**70**	**4.24**	x	1.55913	1.18122
71	1.28		0.47398	0.35957	71	4.19		1.55505	1.17969

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 50

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
72	1.26		0.47275	0.35911	72	4.14		1.55100	1.17817
73	1.25		0.47152	0.35864	73	4.09		1.54699	1.17665
74	1.23		0.47031	0.35819	74	4.04		1.54301	1.17515
75	**1.22**	x	0.46910	0.35773	**75**	**3.99**	x	1.53906	1.17365
76	1.2		0.46791	0.35727	76	3.95		1.53514	1.17216
77	1.19		0.46673	0.35682	77	3.9		1.53125	1.17068
78	1.18		0.46555	0.35637	78	3.86		1.52740	1.16921
79	1.16		0.46439	0.35593	79	3.82		1.52357	1.16774
80	**1.15**	x	0.46323	0.35548	**80**	**3.77**	x	1.51978	1.16628
81	1.14		0.46208	0.35504	81	3.73		1.51601	1.16483
82	1.13		0.46094	0.35460	82	3.7		1.51228	1.16339
83	1.11		0.45981	0.35416	83	3.66		1.50857	1.16195
84	1.1		0.45869	0.35373	84	3.62		1.50490	1.16052
85	**1.09**	x	0.45758	0.35329	**85**	**3.58**	x	1.50125	1.15910
86	1.08		0.45648	0.35286	86	3.55		1.49763	1.15769
87	1.07		0.45538	0.35244	87	3.51		1.49404	1.15628
88	1.06		0.45430	0.35201	88	3.48		1.49047	1.15489
89	1.05		0.45322	0.35159	89	3.44		1.48694	1.15349
90	**1.04**	x	0.45215	0.35116	**90**	**3.41**	x	1.48343	1.15211
91	1.03		0.45109	0.35074	91	3.38		1.47994	1.15073
92	1.02		0.45003	0.35033	92	3.35		1.47649	1.14936
93	1.01		0.44899	0.34991	93	3.32		1.47305	1.14800
94	1		0.44795	0.34950	94	3.29		1.46965	1.14664
95	**.993**	x	0.44692	0.34909	**95**	**3.26**	x	1.46627	1.14529
96	.984		0.44590	0.34868	96	3.23		1.46292	1.14395
97	.976		0.44488	0.34827	97	3.2		1.45959	1.14261
98	.967		0.44387	0.34786	98	3.17		1.45628	1.14129
99	.959		0.44288	0.34746	99	3.15		1.45300	1.13996
100	**.951**	x	0.44188	0.34706	**100**	**3.12**	x	1.44975	1.13865
101	.943		0.44090	0.34666	101	3.09		1.44652	1.13734
102	.935		0.43992	0.34626	102	3.07		1.44331	1.13604
103	.928		0.43895	0.34587	103	3.04		1.44012	1.13474
104	.92		0.43799	0.34548	104	3.02		1.43696	1.13345
105	**.913**	x	0.43703	0.34508	**105**	**3**	x	1.43382	1.13217
106	.906		0.43608	0.34470	106	2.97		1.43071	1.13089
107	.899		0.43514	0.34431	107	2.95		1.42761	1.12962

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 50

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
108	.892		0.43420	0.34392	108	2.93		1.42454	1.12836
109	.885		0.43327	0.34354	109	2.9		1.42149	1.12710
110	**.878**	x	0.43235	0.34316	**110**	**2.88**	x	1.41847	1.12585
111	.872		0.43143	0.34278	111	2.86		1.41546	1.12460
112	.866		0.43052	0.34240	112	2.84		1.41248	1.12336
113	.859		0.42962	0.34203	113	2.82		1.40951	1.12213
114	.853		0.42872	0.34165	114	2.8		1.40657	1.12090
115	**.847**	x	0.42783	0.34128	**115**	**2.78**	x	1.40365	1.11968
116	.841		0.42695	0.34091	116	2.76		1.40075	1.11847
117	.835		0.42607	0.34054	117	2.74		1.39787	1.11726
118	.829		0.42520	0.34017	118	2.72		1.39501	1.11605
119	.824		0.42433	0.33981	119	2.7		1.39217	1.11486
120	**.818**	x	0.42347	0.33944	**120**	**2.68**	x	1.38934	1.11366
121	.813		0.42262	0.33908	121	2.67		1.38654	1.11248
122	.807		0.42177	0.33872	122	2.65		1.38376	1.11130
123	.802		0.42093	0.33837	123	2.63		1.38100	1.11012
124	.797		0.42009	0.33801	124	2.61		1.37825	1.10895
125	**.792**	x	0.41926	0.33765	**125**	**2.6**	x	1.37553	1.10779
126	.787		0.41844	0.33730	126	2.58		1.37282	1.10663
127	.782		0.41762	0.33695	127	2.56		1.37013	1.10548
128	.777		0.41680	0.33660	128	2.55		1.36746	1.10434
129	.772		0.41599	0.33625	129	2.53		1.36481	1.10319
130	**.767**	x	0.41519	0.33591	**130**	**2.52**	x	1.36217	1.10206
131	.762		0.41439	0.33556	131	2.5		1.35955	1.10093
132	.758		0.41360	0.33522	132	2.49		1.35695	1.09980
133	.753		0.41281	0.33488	133	2.47		1.35437	1.09868
134	.749		0.41203	0.33454	134	2.46		1.35181	1.09757
135	**.744**	x	0.41125	0.33420	**135**	**2.44**	x	1.34926	1.09646
136	.74		0.41048	0.33386	136	2.43		1.34673	1.09536
137	.736		0.40972	0.33353	137	2.41		1.34421	1.09426
138	.732		0.40895	0.33320	138	2.4		1.34171	1.09316
139	.727		0.40820	0.33286	139	2.39		1.33923	1.09208
140	**.723**	x	0.40745	0.33253	**140**	**2.37**	x	1.33677	1.09099
141	.719		0.40670	0.33221	141	2.36		1.33432	1.08991
142	.715		0.40596	0.33188	142	2.35		1.33188	1.08884
143	.711		0.40522	0.33155	143	2.33		1.32946	1.08777

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Rodenstock ALPA HR Alpagon - ALP 50

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
144	.708		0.40449	0.33123	144	2.32		1.32706	1.08671
145	**.704**	x	0.40376	0.33091	**145**	**2.31**	x	1.32467	1.08565
146	.7		0.40304	0.33059	146	2.3		1.32230	1.08460
147	.696		0.40232	0.33027	147	2.28		1.31995	1.08355
148	.693		0.40161	0.32995	148	2.27		1.31760	1.08251
149	.689		0.40090	0.32963	149	2.26		1.31528	1.08147
150	**.686**	x	0.40019	0.32932	**150**	**2.25**	x	1.31297	1.08043
151	.682		0.39949	0.32900	151	2.24		1.31067	1.07941
152	.679		0.39880	0.32869	152	2.23		1.30839	1.07838
153	.675		0.39810	0.32838	153	2.22		1.30612	1.07736
154	.672		0.39742	0.32807	154	2.2		1.30386	1.07635
155	**.668**	x	0.39673	0.32776	**155**	**2.19**	x	1.30162	1.07534
156	.665		0.39606	0.32746	156	2.18		1.29940	1.07433
157	.662		0.39538	0.32715	157	2.17		1.29719	1.07333
158	.659		0.39471	0.32685	158	2.16		1.29499	1.07233
159	.656		0.39405	0.32654	159	2.15		1.29280	1.07134
160	**.653**	x	0.39338	0.32624	**160**	**2.14**	x	1.29063	1.07035
161	.649		0.39273	0.32594	161	2.13		1.28847	1.06937
162	.646		0.39207	0.32565	162	2.12		1.28633	1.06839
163	.643		0.39142	0.32535	163	2.11		1.28420	1.06741
164	.64		0.39078	0.32505	164	2.1		1.28208	1.06644
165	**.637**	x	0.39014	0.32476	**165**	**2.09**	x	1.27997	1.06548
166	.635		0.38950	0.32447	166	2.08		1.27788	1.06452
167	.632		0.38886	0.32417	167	2.07		1.27580	1.06356
168	.629		0.38823	0.32388	168	2.06		1.27373	1.06261
169	.626		0.38761	0.32359	169	2.05		1.27168	1.06166
170	**.623**	x	0.38698	0.32331	**170**	**2.05**	x	1.26963	1.06072
171	.621		0.38637	0.32302	171	2.04		1.26760	1.05978
172	.618		0.38575	0.32273	172	2.03		1.26558	1.05884
173	.615		0.38514	0.32245	173	2.02		1.26358	1.05791
174	.613		0.38453	0.32217	174	2.01		1.26158	1.05698
175	**.61**	x	0.38393	0.32189	**175**	**2**	x	1.25960	1.05606
176	.608		0.38333	0.32161	176	1.99		1.25763	1.05514
177	.605		0.38273	0.32133	177	1.98		1.25567	1.05422
178	.602		0.38214	0.32105	178	1.98		1.25372	1.05331
179	.6		0.38155	0.32077	179	1.97		1.25179	1.05240

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Rodenstock ALPA HR Alpagon - ALP 50

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
180	**.598**	x	0.38096	0.32050	**180**	**1.96**	x	1.24986	1.05150
181	.595		0.38038	0.32022	181	1.95		1.24795	1.05060
182	.593		0.37980	0.31995	182	1.94		1.24605	1.04971
183	.59		0.37922	0.31968	183	1.94		1.24416	1.04881
184	.588		0.37865	0.31941	184	1.93		1.24228	1.04793
185	**.586**	x	0.37808	0.31914	**185**	**1.92**	x	1.24041	1.04704
186	.583		0.37751	0.31887	186	1.91		1.23855	1.04616
187	.581		0.37695	0.31860	187	1.91		1.23670	1.04529
188	.579		0.37639	0.31834	188	1.9		1.23486	1.04441
189	.577		0.37583	0.31807	189	1.89		1.23304	1.04355
190	**.574**	x	0.37528	0.31781	**190**	**1.88**	x	1.23122	1.04268
191	.572		0.37473	0.31755	191	1.88		1.22942	1.04182
192	.57		0.37418	0.31729	192	1.87		1.22762	1.04096
193	.568		0.37363	0.31703	193	1.86		1.22584	1.04011
194	.566		0.37309	0.31677	194	1.86		1.22406	1.03926
195	**.564**	x	0.37256	0.31651	**195**	**1.85**	x	1.22230	1.03841
196	.562		0.37202	0.31625	196	1.84		1.22054	1.03757
197	.56		0.37149	0.31600	197	1.84		1.21880	1.03673
198	.558		0.37096	0.31574	198	1.83		1.21706	1.03590
199	.556		0.37043	0.31549	199	1.82		1.21533	1.03506
200	**.554**	x	0.36991	0.31524	**200**	**1.82**	x	1.21362	1.03424
201	.552		0.36939	0.31498	201	1.81		1.21191	1.03341
202	.55		0.36887	0.31473	202	1.8		1.21022	1.03259
203	.548		0.36836	0.31448	203	1.8		1.20853	1.03177
204	.546		0.36785	0.31424	204	1.79		1.20685	1.03096
205	**.544**	x	0.36734	0.31399	**205**	**1.79**	x	1.20518	1.03015
206	.542		0.36683	0.31374	206	1.78		1.20352	1.02934
207	.54		0.36633	0.31350	207	1.77		1.20187	1.02854
208	.539		0.36583	0.31325	208	1.77		1.20023	1.02774
209	.537		0.36533	0.31301	209	1.76		1.19860	1.02694
210	**.535**	x	0.36484	0.31277	**210**	**1.76**	x	1.19697	1.02615
211	.533		0.36435	0.31253	211	1.75		1.19536	1.02535
212	.531		0.36386	0.31229	212	1.74		1.19375	1.02457
213	.53		0.36337	0.31205	213	1.74		1.19216	1.02378
214	.528		0.36289	0.31181	214	1.73		1.19057	1.02300
215	**.526**	x	0.36240	0.31157	**215**	**1.73**	x	1.18899	1.02223

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Rodenstock ALPA HR Alpagon - ALP 50

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
216	.525		0.36193	0.31134	216	1.72		1.18742	1.02145
217	.523		0.36145	0.31110	217	1.72		1.18586	1.02068
218	.521		0.36097	0.31087	218	1.71		1.18430	1.01991
219	.52		0.36050	0.31064	219	1.7		1.18275	1.01915
220	**.518**	x	0.36004	0.31040	**220**	**1.7**	x	1.18122	1.01839
221	.516		0.35957	0.31017	221	1.69		1.17969	1.01763
222	.515		0.35911	0.30994	222	1.69		1.17817	1.01687
223	.513		0.35864	0.30971	223	1.68		1.17665	1.01612
224	.512		0.35819	0.30949	224	1.68		1.17515	1.01537
225	**.51**	x	0.35773	0.30926	**225**	**1.67**	x	1.17365	1.01463
226	.508		0.35727	0.30903	226	1.67		1.17216	1.01389
227	.507		0.35682	0.30881	227	1.66		1.17068	1.01315
228	.505		0.35637	0.30858	228	1.66		1.16921	1.01241
229	.504		0.35593	0.30836	229	1.65		1.16774	1.01168
230	**.502**	x	0.35548	0.30814	**230**	**1.65**	x	1.16628	1.01095
231	.501		0.35504	0.30791	231	1.64		1.16483	1.01022
232	.499		0.35460	0.30769	232	1.64		1.16339	1.00949
233	.498		0.35416	0.30747	233	1.63		1.16195	1.00877
234	.497		0.35373	0.30726	234	1.63		1.16052	1.00805
235	**.495**	x	0.35329	0.30704	**235**	**1.62**	x	1.15910	1.00734
236	.494		0.35286	0.30682	236	1.62		1.15769	1.00663
237	.492		0.35244	0.30660	237	1.62		1.15628	1.00592
238	.491		0.35201	0.30639	238	1.61		1.15489	1.00521
239	.49		0.35159	0.30617	239	1.61		1.15349	1.00451
240	**.488**	x	0.35116	0.30596	**240**	**1.6**	x	1.15211	1.00380
241	.487		0.35074	0.30575	241	1.6		1.15073	1.00311
242	.486		0.35033	0.30553	242	1.59		1.14936	1.00241
243	.484		0.34991	0.30532	243	1.59		1.14800	1.00172
244	.483		0.34950	0.30511	244	1.58		1.14664	1.00103
245	**.482**	x	0.34909	0.30490	**245**	**1.58**	x	1.14529	1.00034
246	.48		0.34868	0.30470	246	1.58		1.14395	0.99966
247	.479		0.34827	0.30449	247	1.57		1.14261	0.99898
248	.478		0.34786	0.30428	248	1.57		1.14129	0.99830
249	.476		0.34746	0.30407	249	1.56		1.13996	0.99762
250	**.475**	x	0.34706	0.30387	**250**	**1.56**	x	1.13865	0.99695
251	.474		0.34666	0.30366	251	1.56		1.13734	0.99628

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** H +6/17 = theoretical distance using the respecitve hub of thehelical plus macro tube of the corresponding dimension (in mm) at a given degree setting - Please check if distance is achievable in reality as the ca
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ALPA OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 50

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
252	.473		0.34626	0.30346	252	1.55		1.13604	0.99561
253	.472		0.34587	0.30326	253	1.55		1.13474	0.99494
254	.47		0.34548	0.30306	254	1.54		1.13345	0.99428
255	**.469**	x	0.34508	0.30286	**255**	**1.54**	x	1.13217	0.99362
256	.468		0.34470	0.30265	256	1.54		1.13089	0.99296
257	.467		0.34431	0.30246	257	1.53		1.12962	0.99231
258	.466		0.34392	0.30226	258	1.53		1.12836	0.99166
259	.464		0.34354	0.30206	259	1.52		1.12710	0.99101
260	**.463**	x	0.34316	0.30186	**260**	**1.52**	x	1.12585	0.99036
261	.462		0.34278	0.30166	261	1.52		1.12460	0.98971
262	.461		0.34240	0.30147	262	1.51		1.12336	0.98907
263	.46		0.34203	0.30127	263	1.51		1.12213	0.98843
264	.459		0.34165	0.30108	264	1.5		1.12090	0.98780
265	**.458**	x	0.34128	0.30089	**265**	**1.5**	x	1.11968	0.98716
266	.456		0.34091	0.30069	266	1.5		1.11847	0.98653
267	.455		0.34054	0.30050	267	1.49		1.11726	0.98590
268	.454		0.34017	0.30031	268	1.49		1.11605	0.98527
269	.453		0.33981	0.30012	269	1.49		1.11486	0.98465
270	**.452**	x	0.33944	0.29993	**270**	**1.48**	x	1.11366	0.98403

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ALPA® OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 55

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
0	**∞**	xx	0.68896	0.44782	**0**	**∞**	xx	2.26037	1.46924
1	**97.6**	xx	0.68600	0.44696	**1**	**320**	xx	2.25066	1.46642
2	**48.9**	xx	0.68308	0.44611	**2**	**160**	xx	2.24106	1.46362
3	**32.6**	xx	0.68018	0.44526	**3**	**107**	xx	2.23157	1.46084
4	**24.5**	xx	0.67732	0.44442	**4**	**80.4**	xx	2.22218	1.45807
5	**19.6**	x	0.67449	0.44358	**5**	**64.4**	x	2.21290	1.45532
6	16.4		0.67169	0.44275	6	53.8		2.20371	1.45259
7	14.1		0.66892	0.44192	7	46.1		2.19463	1.44987
8	12.3		0.66618	0.44110	8	40.4		2.18564	1.44718
9	11		0.66347	0.44028	9	36		2.17675	1.44450
10	**9.89**	x	0.66079	0.43947	**10**	**32.4**	x	2.16796	1.44183
11	9		0.65814	0.43866	11	29.5		2.15925	1.43918
12	8.26		0.65552	0.43786	12	27.1		2.15064	1.43655
13	7.64		0.65292	0.43706	13	25.1		2.14212	1.43393
14	7.1		0.65035	0.43627	14	23.3		2.13369	1.43133
15	**6.64**	x	0.64781	0.43548	**15**	**21.8**	x	2.12535	1.42875
16	6.23		0.64529	0.43470	16	20.5		2.11709	1.42618
17	5.88		0.64280	0.43392	17	19.3		2.10892	1.42362
18	5.56		0.64033	0.43315	18	18.2		2.10083	1.42108
19	5.27		0.63789	0.43238	19	17.3		2.09282	1.41856
20	**5.02**	x	0.63548	0.43161	**20**	**16.5**	x	2.08490	1.41605
21	4.78		0.63309	0.43085	21	15.7		2.07705	1.41356
22	4.57		0.63072	0.43010	22	15		2.06929	1.41108
23	4.38		0.62837	0.42935	23	14.4		2.06160	1.40861
24	4.2		0.62605	0.42860	24	13.8		2.05398	1.40616
25	**4.04**	x	0.62376	0.42786	**25**	**13.3**	x	2.04645	1.40373
26	3.89		0.62148	0.42712	26	12.8		2.03898	1.40131
27	3.75		0.61923	0.42639	27	12.3		2.03159	1.39890
28	3.62		0.61700	0.42566	28	11.9		2.02428	1.39651
29	3.5		0.61479	0.42493	29	11.5		2.01703	1.39413
30	**3.39**	x	0.61260	0.42421	**30**	**11.1**	x	2.00985	1.39177
31	3.29		0.61044	0.42349	31	10.8		2.00274	1.38941
32	3.19		0.60829	0.42278	32	10.5		1.99570	1.38708
33	3.1		0.60617	0.42207	33	10.2		1.98873	1.38475
34	3.01		0.60406	0.42137	34	9.87		1.98183	1.38244
35	**2.93**	x	0.60198	0.42067	**35**	**9.6**	x	1.97499	1.38014

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ALPA OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 55

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
36	2.85		0.59991	0.41997	36	9.35		1.96821	1.37786
37	2.78		0.59786	0.41928	37	9.11		1.96150	1.37559
38	2.71		0.59584	0.41859	38	8.88		1.95485	1.37333
39	2.64		0.59383	0.41791	39	8.67		1.94826	1.37108
40	**2.58**	x	0.59184	0.41723	**40**	**8.46**	x	1.94173	1.36885
41	2.52		0.58987	0.41655	41	8.27		1.93526	1.36663
42	2.46		0.58791	0.41588	42	8.08		1.92885	1.36442
43	2.41		0.58598	0.41521	43	7.91		1.92250	1.36223
44	2.36		0.58406	0.41454	44	7.74		1.91621	1.36004
45	**2.31**	x	0.58216	0.41388	**45**	**7.58**	x	1.90997	1.35787
46	2.26		0.58028	0.41322	46	7.42		1.90379	1.35572
47	2.22		0.57841	0.41257	47	7.27		1.89767	1.35357
48	2.17		0.57656	0.41192	48	7.13		1.89160	1.35143
49	2.13		0.57473	0.41127	49	7		1.88559	1.34931
50	**2.09**	x	0.57291	0.41063	**50**	**6.87**	x	1.87962	1.34720
51	2.05		0.57111	0.40999	51	6.74		1.87371	1.34510
52	2.02		0.56932	0.40935	52	6.62		1.86786	1.34301
53	1.98		0.56755	0.40872	53	6.5		1.86205	1.34094
54	1.95		0.56580	0.40809	54	6.39		1.85629	1.33887
55	**1.92**	x	0.56406	0.40746	**55**	**6.28**	x	1.85059	1.33682
56	1.88		0.56234	0.40684	56	6.18		1.84493	1.33478
57	1.85		0.56063	0.40622	57	6.08		1.83932	1.33274
58	1.82		0.55893	0.40560	58	5.98		1.83376	1.33072
59	1.8		0.55725	0.40499	59	5.89		1.82825	1.32871
60	**1.77**	x	0.55559	0.40438	**60**	**5.8**	x	1.82279	1.32672
61	1.74		0.55393	0.40378	61	5.71		1.81737	1.32473
62	1.72		0.55230	0.40317	62	5.63		1.81199	1.32275
63	1.69		0.55067	0.40258	63	5.55		1.80666	1.32078
64	1.67		0.54906	0.40198	64	5.47		1.80138	1.31883
65	**1.64**	x	0.54746	0.40139	**65**	**5.39**	x	1.79614	1.31688
66	1.62		0.54588	0.40080	66	5.32		1.79094	1.31495
67	1.6		0.54431	0.40021	67	5.24		1.78579	1.31302
68	1.58		0.54275	0.39963	68	5.17		1.78068	1.31111
69	1.56		0.54121	0.39905	69	5.11		1.77561	1.30921
70	**1.54**	x	0.53967	0.39847	**70**	**5.04**	x	1.77058	1.30731
71	1.52		0.53815	0.39789	71	4.98		1.76560	1.30543

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ALPA® OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 55

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
72	1.5		0.53665	0.39732	72	4.91		1.76065	1.30355
73	1.48		0.53515	0.39675	73	4.85		1.75574	1.30169
74	1.46		0.53367	0.39619	74	4.79		1.75088	1.29983
75	**1.44**	x	0.53220	0.39563	**75**	**4.74**	x	1.74605	1.29799
76	1.43		0.53074	0.39507	76	4.68		1.74126	1.29615
77	1.41		0.52929	0.39451	77	4.63		1.73651	1.29433
78	1.39		0.52785	0.39396	78	4.57		1.73179	1.29251
79	1.38		0.52643	0.39341	79	4.52		1.72712	1.29070
80	**1.36**	x	0.52501	0.39286	**80**	**4.47**	x	1.72248	1.28891
81	1.35		0.52361	0.39231	81	4.42		1.71787	1.28712
82	1.33		0.52222	0.39177	82	4.37		1.71331	1.28534
83	1.32		0.52084	0.39123	83	4.33		1.70878	1.28357
84	1.3		0.51946	0.39069	84	4.28		1.70428	1.28181
85	**1.29**	x	0.51810	0.39016	**85**	**4.24**	x	1.69982	1.28006
86	1.28		0.51676	0.38963	86	4.19		1.69539	1.27831
87	1.26		0.51542	0.38910	87	4.15		1.69100	1.27658
88	1.25		0.51409	0.38858	88	4.11		1.68664	1.27485
89	1.24		0.51277	0.38805	89	4.07		1.68231	1.27314
90	**1.23**	x	0.51146	0.38753	**90**	**4.03**	x	1.67802	1.27143
91	1.22		0.51016	0.38701	91	3.99		1.67376	1.26973
92	1.2		0.50887	0.38650	92	3.95		1.66953	1.26804
93	1.19		0.50759	0.38599	93	3.91		1.66533	1.26636
94	1.18		0.50632	0.38548	94	3.88		1.66117	1.26468
95	**1.17**	x	0.50506	0.38497	**95**	**3.84**	x	1.65703	1.26302
96	1.16		0.50381	0.38446	96	3.81		1.65293	1.26136
97	1.15		0.50257	0.38396	97	3.77		1.64885	1.25971
98	1.14		0.50134	0.38346	98	3.74		1.64481	1.25807
99	1.13		0.50011	0.38296	99	3.71		1.64080	1.25644
100	**1.12**	x	0.49890	0.38247	**100**	**3.67**	x	1.63681	1.25482
101	1.11		0.49769	0.38198	101	3.64		1.63286	1.25320
102	1.1		0.49650	0.38149	102	3.61		1.62893	1.25159
103	1.09		0.49531	0.38100	103	3.58		1.62503	1.24999
104	1.08		0.49413	0.38051	104	3.55		1.62116	1.24840
105	**1.07**	x	0.49296	0.38003	**105**	**3.52**	x	1.61732	1.24681
106	1.06		0.49180	0.37955	106	3.49		1.61351	1.24524
107	1.06		0.49064	0.37907	107	3.46		1.60972	1.24367

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ALPA OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 55

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
108	1.05		0.48950	0.37859	108	3.44		1.60596	1.24211
109	1.04		0.48836	0.37812	109	3.41		1.60223	1.24055
110	**1.03**	x	0.48723	0.37765	**110**	**3.38**	x	1.59852	1.23901
111	1.02		0.48611	0.37718	111	3.36		1.59484	1.23747
112	1.02		0.48499	0.37671	112	3.33		1.59119	1.23594
113	1.01		0.48389	0.37625	113	3.31		1.58756	1.23441
114	1		0.48279	0.37579	114	3.28		1.58396	1.23290
115	**.993**	x	0.48170	0.37533	**115**	**3.26**	x	1.58038	1.23139
116	.986		0.48062	0.37487	116	3.23		1.57683	1.22989
117	.978		0.47954	0.37441	117	3.21		1.57330	1.22839
118	.971		0.47847	0.37396	118	3.19		1.56980	1.22690
119	.965		0.47741	0.37351	119	3.16		1.56632	1.22542
120	**.958**	x	0.47636	0.37306	**120**	**3.14**	x	1.56286	1.22395
121	.951		0.47531	0.37261	121	3.12		1.55943	1.22248
122	.944		0.47428	0.37217	122	3.1		1.55602	1.22102
123	.938		0.47324	0.37173	123	3.08		1.55264	1.21957
124	.932		0.47222	0.37128	124	3.06		1.54927	1.21813
125	**.925**	x	0.47120	0.37085	**125**	**3.04**	x	1.54593	1.21669
126	.919		0.47019	0.37041	126	3.02		1.54262	1.21526
127	.913		0.46919	0.36998	127	3		1.53932	1.21383
128	.907		0.46819	0.36954	128	2.98		1.53605	1.21241
129	.901		0.46720	0.36911	129	2.96		1.53280	1.21100
130	**.896**	x	0.46621	0.36868	**130**	**2.94**	x	1.52957	1.20960
131	.89		0.46524	0.36826	131	2.92		1.52636	1.20820
132	.884		0.46426	0.36783	132	2.9		1.52318	1.20680
133	.879		0.46330	0.36741	133	2.88		1.52001	1.20542
134	.873		0.46234	0.36699	134	2.87		1.51687	1.20404
135	**.868**	x	0.46139	0.36657	**135**	**2.85**	x	1.51374	1.20267
136	.863		0.46044	0.36616	136	2.83		1.51064	1.20130
137	.857		0.45950	0.36574	137	2.81		1.50756	1.19994
138	.852		0.45857	0.36533	138	2.8		1.50449	1.19859
139	.847		0.45764	0.36492	139	2.78		1.50145	1.19724
140	**.842**	x	0.45672	0.36451	**140**	**2.76**	x	1.49843	1.19590
141	.837		0.45580	0.36410	141	2.75		1.49542	1.19456
142	.833		0.45490	0.36370	142	2.73		1.49244	1.19323
143	.828		0.45399	0.36329	143	2.72		1.48947	1.19191

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ALPA® OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 55

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
144	.823		0.45309	0.36289	144	2.7		1.48653	1.19059
145	**.819**	x	0.45220	0.36249	**145**	**2.69**	x	1.48360	1.18928
146	.814		0.45131	0.36210	146	2.67		1.48069	1.18798
147	.809		0.45043	0.36170	147	2.66		1.47780	1.18668
148	.805		0.44956	0.36131	148	2.64		1.47493	1.18539
149	.801		0.44869	0.36091	149	2.63		1.47207	1.18410
150	**.796**	x	0.44782	0.36052	**150**	**2.61**	x	1.46924	1.18282
151	.792		0.44696	0.36013	151	2.6		1.46642	1.18154
152	.788		0.44611	0.35975	152	2.58		1.46362	1.18027
153	.784		0.44526	0.35936	153	2.57		1.46084	1.17901
154	.78		0.44442	0.35898	154	2.56		1.45807	1.17775
155	**.775**	x	0.44358	0.35860	**155**	**2.54**	x	1.45532	1.17650
156	.771		0.44275	0.35822	156	2.53		1.45259	1.17525
157	.768		0.44192	0.35784	157	2.52		1.44987	1.17401
158	.764		0.44110	0.35746	158	2.51		1.44718	1.17277
159	.76		0.44028	0.35709	159	2.49		1.44450	1.17154
160	**.756**	x	0.43947	0.35671	**160**	**2.48**	x	1.44183	1.17031
161	.752		0.43866	0.35634	161	2.47		1.43918	1.16909
162	.749		0.43786	0.35597	162	2.46		1.43655	1.16788
163	.745		0.43706	0.35560	163	2.44		1.43393	1.16667
164	.741		0.43627	0.35523	164	2.43		1.43133	1.16547
165	**.738**	x	0.43548	0.35487	**165**	**2.42**	x	1.42875	1.16427
166	.734		0.43470	0.35451	166	2.41		1.42618	1.16308
167	.731		0.43392	0.35414	167	2.4		1.42362	1.16189
168	.727		0.43315	0.35378	168	2.39		1.42108	1.16071
169	.724		0.43238	0.35342	169	2.37		1.41856	1.15953
170	**.72**	x	0.43161	0.35307	**170**	**2.36**	x	1.41605	1.15836
171	.717		0.43085	0.35271	171	2.35		1.41356	1.15719
172	.714		0.43010	0.35236	172	2.34		1.41108	1.15603
173	.711		0.42935	0.35200	173	2.33		1.40861	1.15487
174	.707		0.42860	0.35165	174	2.32		1.40616	1.15372
175	**.704**	x	0.42786	0.35130	**175**	**2.31**	x	1.40373	1.15257
176	.701		0.42712	0.35096	176	2.3		1.40131	1.15143
177	.698		0.42639	0.35061	177	2.29		1.39890	1.15029
178	.695		0.42566	0.35026	178	2.28		1.39651	1.14916
179	.692		0.42493	0.34992	179	2.27		1.39413	1.14803

* The maximum turn of a helical depends on the brand/make. Nevertheless a distance scale "beyond" the maximum turn of the respective helical allows direct read-out of depth-of-field via the aperture scale figures in red/with marking "XX" and "X" are engraved on the HPF ring.
** H +6/17 = theoretical distance using the respecitve hub of thehelical plus macro tube of the corresponding dimension (in mm) at a given degree setting - Please check if distance is achievable in reality as the ca might be within the optical system!

ALPA OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 55

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
180	**.689**	x	0.42421	0.34958	**180**	**2.26**	x	1.39177	1.14691
181	.686		0.42349	0.34924	181	2.25		1.38941	1.14579
182	.683		0.42278	0.34890	182	2.24		1.38708	1.14468
183	.68		0.42207	0.34856	183	2.23		1.38475	1.14357
184	.677		0.42137	0.34822	184	2.22		1.38244	1.14247
185	**.674**	x	0.42067	0.34789	**185**	**2.21**	x	1.38014	1.14137
186	.672		0.41997	0.34756	186	2.2		1.37786	1.14027
187	.669		0.41928	0.34722	187	2.19		1.37559	1.13918
188	.666		0.41859	0.34689	188	2.19		1.37333	1.13810
189	.663		0.41791	0.34656	189	2.18		1.37108	1.13702
190	**.661**	x	0.41723	0.34624	**190**	**2.17**	x	1.36885	1.13594
191	.658		0.41655	0.34591	191	2.16		1.36663	1.13487
192	.656		0.41588	0.34558	192	2.15		1.36442	1.13381
193	.653		0.41521	0.34526	193	2.14		1.36223	1.13274
194	.65		0.41454	0.34494	194	2.13		1.36004	1.13169
195	**.648**	x	0.41388	0.34462	**195**	**2.13**	x	1.35787	1.13063
196	.645		0.41322	0.34430	196	2.12		1.35572	1.12959
197	.643		0.41257	0.34398	197	2.11		1.35357	1.12854
198	.64		0.41192	0.34366	198	2.1		1.35143	1.12750
199	.638		0.41127	0.34335	199	2.09		1.34931	1.12647
200	**.635**	x	0.41063	0.34303	**200**	**2.08**	x	1.34720	1.12543
201	.633		0.40999	0.34272	201	2.08		1.34510	1.12441
202	.631		0.40935	0.34241	202	2.07		1.34301	1.12338
203	.628		0.40872	0.34210	203	2.06		1.34094	1.12237
204	.626		0.40809	0.34179	204	2.05		1.33887	1.12135
205	**.624**	x	0.40746	0.34148	**205**	**2.05**	x	1.33682	1.12034
206	.621		0.40684	0.34117	206	2.04		1.33478	1.11934
207	.619		0.40622	0.34087	207	2.03		1.33274	1.11833
208	.617		0.40560	0.34056	208	2.02		1.33072	1.11734
209	.615		0.40499	0.34026	209	2.02		1.32871	1.11634
210	**.613**	x	0.40438	0.33996	**210**	**2.01**	x	1.32672	1.11535
211	.61		0.40378	0.33966	211	2		1.32473	1.11437
212	.608		0.40317	0.33936	212	2		1.32275	1.11339
213	.606		0.40258	0.33906	213	1.99		1.32078	1.11241
214	.604		0.40198	0.33877	214	1.98		1.31883	1.11144
215	**.602**	x	0.40139	0.33847	**215**	**1.97**	x	1.31688	1.11047

* The maximum turn of a helical depends on the brand/make. Nevertheless a distance scale "beyond" the maximum turn of the respective helical allows direct read-out of depth-of-field via the aperture scale
figures in red/with marking "XX" and "X" are engraved on the HPF ring.
** H +6/17 = theoretical distance using the respecitve hub of thehelical plus macro tube of the corresponding dimension (in mm) at a given degree setting - Please check if distance is achievable in reality as the ca
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ALPA® OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 55

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
216	.6		0.40080	0.33818	216	1.97		1.31495	1.10950
217	.598		0.40021	0.33788	217	1.96		1.31302	1.10854
218	.596		0.39963	0.33759	218	1.95		1.31111	1.10758
219	.594		0.39905	0.33730	219	1.95		1.30921	1.10663
220	**.592**	x	0.39847	0.33701	**220**	**1.94**	x	1.30731	1.10568
221	.59		0.39789	0.33672	221	1.94		1.30543	1.10473
222	.588		0.39732	0.33644	222	1.93		1.30355	1.10379
223	.586		0.39675	0.33615	223	1.92		1.30169	1.10285
224	.584		0.39619	0.33587	224	1.92		1.29983	1.10192
225	**.582**	x	0.39563	0.33558	**225**	**1.91**	x	1.29799	1.10099
226	.58		0.39507	0.33530	226	1.9		1.29615	1.10006
227	.578		0.39451	0.33502	227	1.9		1.29433	1.09914
228	.577		0.39396	0.33474	228	1.89		1.29251	1.09822
229	.575		0.39341	0.33446	229	1.89		1.29070	1.09730
230	**.573**	x	0.39286	0.33418	**230**	**1.88**	x	1.28891	1.09639
231	.571		0.39231	0.33390	231	1.87		1.28712	1.09548
232	.569		0.39177	0.33363	232	1.87		1.28534	1.09458
233	.568		0.39123	0.33335	233	1.86		1.28357	1.09368
234	.566		0.39069	0.33308	234	1.86		1.28181	1.09278
235	**.564**	x	0.39016	0.33281	**235**	**1.85**	x	1.28006	1.09189
236	.562		0.38963	0.33254	236	1.84		1.27831	1.09099
237	.561		0.38910	0.33226	237	1.84		1.27658	1.09011
238	.559		0.38858	0.33200	238	1.83		1.27485	1.08922
239	.557		0.38805	0.33173	239	1.83		1.27314	1.08834
240	**.556**	x	0.38753	0.33146	**240**	**1.82**	x	1.27143	1.08747
241	.554		0.38701	0.33119	241	1.82		1.26973	1.08659
242	.552		0.38650	0.33093	242	1.81		1.26804	1.08572
243	.551		0.38599	0.33066	243	1.81		1.26636	1.08486
244	.549		0.38548	0.33040	244	1.8		1.26468	1.08400
245	**.547**	x	0.38497	0.33014	**245**	**1.8**	x	1.26302	1.08314
246	.546		0.38446	0.32988	246	1.79		1.26136	1.08228
247	.544		0.38396	0.32962	247	1.79		1.25971	1.08143
248	.543		0.38346	0.32936	248	1.78		1.25807	1.08058
249	.541		0.38296	0.32910	249	1.78		1.25644	1.07973
250	**.54**	x	0.38247	0.32885	**250**	**1.77**	x	1.25482	1.07889
251	.538		0.38198	0.32859	251	1.77		1.25320	1.07805

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ALPA OF SWITZERLAND

Rodenstock ALPA Apo Alpar - AAA 55

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
252	.537		0.38149	0.32833	252	1.76		1.25159	1.07721
253	.535		0.38100	0.32808	253	1.76		1.24999	1.07638
254	.534		0.38051	0.32783	254	1.75		1.24840	1.07555
255	**.532**	x	0.38003	0.32758	**255**	**1.75**	x	1.24681	1.07472
256	.531		0.37955	0.32732	256	1.74		1.24524	1.07390
257	.529		0.37907	0.32707	257	1.74		1.24367	1.07308
258	.528		0.37859	0.32683	258	1.73		1.24211	1.07226
259	.526		0.37812	0.32658	259	1.73		1.24055	1.07145
260	**.525**	x	0.37765	0.32633	**260**	**1.72**	x	1.23901	1.07064
261	.524		0.37718	0.32608	261	1.72		1.23747	1.06983
262	.522		0.37671	0.32584	262	1.71		1.23594	1.06902
263	.521		0.37625	0.32559	263	1.71		1.23441	1.06822
264	.519		0.37579	0.32535	264	1.7		1.23290	1.06742
265	**.518**	x	0.37533	0.32511	**265**	**1.7**	x	1.23139	1.06663
266	.517		0.37487	0.32487	266	1.7		1.22989	1.06584
267	.515		0.37441	0.32463	267	1.69		1.22839	1.06505
268	.514		0.37396	0.32439	268	1.69		1.22690	1.06426
269	.513		0.37351	0.32415	269	1.68		1.22542	1.06348
270	**.511**	x	0.37306	0.32391	**270**	**1.68**	x	1.22395	1.06270

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ALPA® OF SWITZERLAND

Rodenstock HR Digaron-S - RDS 60

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
0	**∞**	xx	0.74735	0.47460	**0**	**∞**	xx	2.45194	1.55709
1	**110**	xx	0.74401	0.47363	**1**	**361**	xx	2.44097	1.55389
2	**55.1**	xx	0.74070	0.47266	**2**	**181**	xx	2.43013	1.55072
3	**36.8**	xx	0.73743	0.47170	**3**	**121**	xx	2.41940	1.54756
4	**27.6**	xx	0.73420	0.47074	**4**	**90.6**	xx	2.40879	1.54443
5	**22.1**	x	0.73100	0.46979	**5**	**72.6**	x	2.39830	1.54131
6	18.5		0.72784	0.46885	6	60.6		2.38792	1.53822
7	15.8		0.72471	0.46791	7	52		2.37766	1.53514
8	13.9		0.72161	0.46698	8	45.5		2.36750	1.53208
9	12.4		0.71855	0.46605	9	40.5		2.35746	1.52904
10	**11.1**	x	0.71552	0.46513	**10**	**36.5**	x	2.34752	1.52602
11	10.1		0.71253	0.46422	11	33.2		2.33768	1.52302
12	9.3		0.70956	0.46331	12	30.5		2.32795	1.52003
13	8.59		0.70662	0.46240	13	28.2		2.31832	1.51706
14	7.99		0.70372	0.46150	14	26.2		2.30879	1.51412
15	**7.46**	x	0.70085	0.46061	**15**	**24.5**	x	2.29937	1.51118
16	7.01		0.69800	0.45972	16	23		2.29003	1.50827
17	6.6		0.69519	0.45884	17	21.7		2.28080	1.50537
18	6.24		0.69240	0.45796	18	20.5		2.27165	1.50250
19	5.92		0.68964	0.45709	19	19.4		2.26261	1.49963
20	**5.63**	x	0.68691	0.45622	**20**	**18.5**	x	2.25365	1.49679
21	5.37		0.68421	0.45536	21	17.6		2.24478	1.49396
22	5.13		0.68153	0.45450	22	16.8		2.23600	1.49115
23	4.91		0.67888	0.45365	23	16.1		2.22731	1.48835
24	4.71		0.67626	0.45280	24	15.5		2.21871	1.48558
25	**4.53**	x	0.67367	0.45196	**25**	**14.9**	x	2.21019	1.48281
26	4.36		0.67109	0.45112	26	14.3		2.20175	1.48007
27	4.2		0.66855	0.45029	27	13.8		2.19340	1.47734
28	4.06		0.66603	0.44947	28	13.3		2.18513	1.47462
29	3.92		0.66353	0.44864	29	12.9		2.17694	1.47193
30	**3.8**	x	0.66106	0.44783	**30**	**12.5**	x	2.16882	1.46924
31	3.68		0.65861	0.44701	31	12.1		2.16079	1.46658
32	3.57		0.65618	0.44620	32	11.7		2.15283	1.46392
33	3.46		0.65378	0.44540	33	11.4		2.14495	1.46129
34	3.37		0.65140	0.44460	34	11		2.13714	1.45867
35	**3.27**	x	0.64904	0.44381	**35**	**10.7**	x	2.12941	1.45606

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ALPA OF SWITZERLAND

Rodenstock HR Digaron-S - RDS 60

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
36	3.19		0.64671	0.44302	36	10.5		2.12175	1.45347
37	3.1		0.64440	0.44223	37	10.2		2.11416	1.45089
38	3.03		0.64210	0.44145	38	9.93		2.10664	1.44833
39	2.95		0.63983	0.44067	39	9.68		2.09919	1.44578
40	**2.88**	x	0.63758	0.43990	**40**	**9.45**	x	2.09181	1.44325
41	2.81		0.63535	0.43913	41	9.23		2.08450	1.44073
42	2.75		0.63315	0.43837	42	9.02		2.07725	1.43822
43	2.69		0.63096	0.43761	43	8.82		2.07007	1.43573
44	2.63		0.62879	0.43686	44	8.63		2.06296	1.43325
45	**2.58**	x	0.62664	0.43610	**45**	**8.45**	x	2.05591	1.43079
46	2.52		0.62451	0.43536	46	8.28		2.04892	1.42834
47	2.47		0.62240	0.43461	47	8.11		2.04199	1.42590
48	2.42		0.62031	0.43388	48	7.95		2.03513	1.42348
49	2.38		0.61823	0.43314	49	7.8		2.02833	1.42107
50	**2.33**	x	0.61618	0.43241	**50**	**7.65**	x	2.02159	1.41867
51	2.29		0.61414	0.43169	51	7.51		2.01491	1.41629
52	2.25		0.61212	0.43096	52	7.37		2.00828	1.41392
53	2.21		0.61012	0.43024	53	7.24		2.00172	1.41156
54	2.17		0.60814	0.42953	54	7.12		1.99521	1.40922
55	**2.13**	x	0.60617	0.42882	**55**	**6.99**	x	1.98875	1.40689
56	2.1		0.60422	0.42811	56	6.88		1.98236	1.40457
57	2.06		0.60229	0.42741	57	6.76		1.97601	1.40226
58	2.03		0.60037	0.42671	58	6.66		1.96973	1.39997
59	2		0.59847	0.42601	59	6.55		1.96349	1.39769
60	**1.97**	x	0.59659	0.42532	**60**	**6.45**	x	1.95731	1.39542
61	1.94		0.59472	0.42464	61	6.35		1.95118	1.39316
62	1.91		0.59287	0.42395	62	6.25		1.94510	1.39092
63	1.88		0.59103	0.42327	63	6.16		1.93907	1.38868
64	1.85		0.58921	0.42259	64	6.07		1.93310	1.38646
65	**1.82**	x	0.58740	0.42192	**65**	**5.99**	x	1.92717	1.38425
66	1.8		0.58561	0.42125	66	5.9		1.92129	1.38205
67	1.77		0.58383	0.42058	67	5.82		1.91546	1.37987
68	1.75		0.58207	0.41992	68	5.74		1.90968	1.37769
69	1.73		0.58032	0.41926	69	5.66		1.90395	1.37553
70	**1.7**	x	0.57859	0.41861	**70**	**5.59**	x	1.89826	1.37338
71	1.68		0.57687	0.41795	71	5.52		1.89262	1.37124

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ALPA OF SWITZERLAND

Rodenstock HR Digaron-S - RDS 60

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
72	1.66		0.57516	0.41730	72	5.45		1.88702	1.36911
73	1.64		0.57347	0.41666	73	5.38		1.88147	1.36699
74	1.62		0.57179	0.41602	74	5.31		1.87597	1.36488
75	**1.6**	x	0.57013	0.41538	**75**	**5.25**	x	1.87050	1.36279
76	1.58		0.56848	0.41474	76	5.18		1.86509	1.36070
77	1.56		0.56684	0.41411	77	5.12		1.85971	1.35863
78	1.54		0.56521	0.41348	78	5.06		1.85438	1.35657
79	1.53		0.56360	0.41286	79	5		1.84909	1.35451
80	**1.51**	x	0.56200	0.41223	**80**	**4.95**	x	1.84384	1.35247
81	1.49		0.56041	0.41161	81	4.89		1.83863	1.35044
82	1.47		0.55884	0.41100	82	4.84		1.83346	1.34842
83	1.46		0.55728	0.41038	83	4.78		1.82833	1.34640
84	1.44		0.55573	0.40977	84	4.73		1.82325	1.34440
85	**1.43**	x	0.55419	0.40917	**85**	**4.68**	x	1.81820	1.34241
86	1.41		0.55266	0.40856	86	4.63		1.81319	1.34043
87	1.4		0.55114	0.40796	87	4.58		1.80822	1.33846
88	1.38		0.54964	0.40737	88	4.54		1.80328	1.33650
89	1.37		0.54815	0.40677	89	4.49		1.79839	1.33455
90	**1.36**	x	0.54667	0.40618	**90**	**4.45**	x	1.79353	1.33261
91	1.34		0.54520	0.40559	91	4.4		1.78870	1.33068
92	1.33		0.54374	0.40500	92	4.36		1.78392	1.32875
93	1.32		0.54229	0.40442	93	4.32		1.77917	1.32684
94	1.3		0.54085	0.40384	94	4.28		1.77445	1.32494
95	**1.29**	x	0.53943	0.40326	**95**	**4.24**	x	1.76977	1.32305
96	1.28		0.53801	0.40269	96	4.2		1.76513	1.32116
97	1.27		0.53661	0.40212	97	4.16		1.76052	1.31929
98	1.26		0.53521	0.40155	98	4.12		1.75594	1.31742
99	1.24		0.53383	0.40098	99	4.08		1.75140	1.31557
100	**1.23**	x	0.53245	0.40042	**100**	**4.05**	x	1.74689	1.31372
101	1.22		0.53109	0.39986	101	4.01		1.74241	1.31188
102	1.21		0.52973	0.39930	102	3.98		1.73797	1.31005
103	1.2		0.52839	0.39875	103	3.94		1.73355	1.30823
104	1.19		0.52705	0.39820	104	3.91		1.72917	1.30642
105	**1.18**	x	0.52573	0.39765	**105**	**3.88**	x	1.72482	1.30462
106	1.17		0.52441	0.39710	106	3.84		1.72051	1.30283
107	1.16		0.52310	0.39656	107	3.81		1.71622	1.30104

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ALPA® OF SWITZERLAND

Rodenstock HR Digaron-S - RDS 60

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
108	1.15		0.52181	0.39602	108	3.78		1.71196	1.29927
109	1.14		0.52052	0.39548	109	3.75		1.70774	1.29750
110	**1.13**	x	0.51924	0.39494	**110**	**3.72**	x	1.70354	1.29574
111	1.12		0.51797	0.39441	111	3.69		1.69937	1.29399
112	1.12		0.51671	0.39388	112	3.66		1.69524	1.29225
113	1.11		0.51546	0.39335	113	3.63		1.69113	1.29052
114	1.1		0.51421	0.39282	114	3.61		1.68705	1.28879
115	**1.09**	x	0.51298	0.39230	**115**	**3.58**	x	1.68300	1.28707
116	1.08		0.51175	0.39178	116	3.55		1.67897	1.28536
117	1.07		0.51053	0.39126	117	3.52		1.67498	1.28366
118	1.07		0.50932	0.39074	118	3.5		1.67101	1.28197
119	1.06		0.50812	0.39023	119	3.47		1.66707	1.28029
120	**1.05**	x	0.50693	0.38972	**120**	**3.45**	x	1.66316	1.27861
121	1.04		0.50575	0.38921	121	3.42		1.65927	1.27694
122	1.04		0.50457	0.38871	122	3.4		1.65541	1.27528
123	1.03		0.50340	0.38820	123	3.37		1.65158	1.27363
124	1.02		0.50224	0.38770	124	3.35		1.64777	1.27198
125	**1.01**	x	0.50109	0.38720	**125**	**3.33**	x	1.64398	1.27034
126	1.01		0.49994	0.38670	126	3.31		1.64023	1.26871
127	1		0.49880	0.38621	127	3.28		1.63650	1.26709
128	.994		0.49767	0.38572	128	3.26		1.63279	1.26548
129	.987		0.49655	0.38523	129	3.24		1.62911	1.26387
130	**.981**	x	0.49544	0.38474	**130**	**3.22**	x	1.62545	1.26227
131	.974		0.49433	0.38425	131	3.2		1.62182	1.26068
132	.968		0.49323	0.38377	132	3.18		1.61821	1.25909
133	.962		0.49214	0.38329	133	3.16		1.61462	1.25752
134	.956		0.49105	0.38281	134	3.14		1.61106	1.25595
135	**.95**	x	0.48997	0.38234	**135**	**3.12**	x	1.60752	1.25438
136	.944		0.48890	0.38186	136	3.1		1.60400	1.25283
137	.938		0.48784	0.38139	137	3.08		1.60051	1.25128
138	.932		0.48678	0.38092	138	3.06		1.59704	1.24974
139	.926		0.48573	0.38045	139	3.04		1.59359	1.24820
140	**.921**	x	0.48468	0.37999	**140**	**3.02**	x	1.59017	1.24667
141	.915		0.48365	0.37952	141	3		1.58676	1.24515
142	.91		0.48261	0.37906	142	2.98		1.58338	1.24364
143	.904		0.48159	0.37860	143	2.97		1.58002	1.24213

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ALPA® OF SWITZERLAND

Rodenstock HR Digaron-S - RDS 60

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
144	.899		0.48057	0.37814	144	2.95		1.57668	1.24063
145	**.894**	x	0.47956	0.37769	**145**	**2.93**	x	1.57336	1.23914
146	.889		0.47856	0.37724	146	2.92		1.57007	1.23765
147	.883		0.47756	0.37679	147	2.9		1.56679	1.23617
148	.878		0.47657	0.37634	148	2.88		1.56354	1.23470
149	.873		0.47558	0.37589	149	2.87		1.56030	1.23323
150	**.869**	x	0.47460	0.37544	**150**	**2.85**	x	1.55709	1.23177
151	.864		0.47363	0.37500	151	2.83		1.55389	1.23032
152	.859		0.47266	0.37456	152	2.82		1.55072	1.22887
153	.854		0.47170	0.37412	153	2.8		1.54756	1.22743
154	.85		0.47074	0.37368	154	2.79		1.54443	1.22600
155	**.845**	x	0.46979	0.37325	**155**	**2.77**	x	1.54131	1.22457
156	.841		0.46885	0.37281	156	2.76		1.53822	1.22315
157	.836		0.46791	0.37238	157	2.74		1.53514	1.22173
158	.832		0.46698	0.37195	158	2.73		1.53208	1.22032
159	.827		0.46605	0.37153	159	2.71		1.52904	1.21892
160	**.823**	x	0.46513	0.37110	**160**	**2.7**	x	1.52602	1.21752
161	.819		0.46422	0.37068	161	2.69		1.52302	1.21613
162	.815		0.46331	0.37026	162	2.67		1.52003	1.21475
163	.811		0.46240	0.36983	163	2.66		1.51706	1.21337
164	.806		0.46150	0.36942	164	2.65		1.51412	1.21200
165	**.802**	x	0.46061	0.36900	**165**	**2.63**	x	1.51118	1.21063
166	.798		0.45972	0.36859	166	2.62		1.50827	1.20927
167	.794		0.45884	0.36817	167	2.61		1.50537	1.20792
168	.791		0.45796	0.36776	168	2.59		1.50250	1.20657
169	.787		0.45709	0.36735	169	2.58		1.49963	1.20522
170	**.783**	x	0.45622	0.36694	**170**	**2.57**	x	1.49679	1.20389
171	.779		0.45536	0.36654	171	2.56		1.49396	1.20256
172	.776		0.45450	0.36614	172	2.54		1.49115	1.20123
173	.772		0.45365	0.36573	173	2.53		1.48835	1.19991
174	.768		0.45280	0.36533	174	2.52		1.48558	1.19860
175	**.765**	x	0.45196	0.36493	**175**	**2.51**	x	1.48281	1.19729
176	.761		0.45112	0.36454	176	2.5		1.48007	1.19599
177	.758		0.45029	0.36414	177	2.49		1.47734	1.19469
178	.754		0.44947	0.36375	178	2.47		1.47462	1.19340
179	.751		0.44864	0.36336	179	2.46		1.47193	1.19211

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ALPA OF SWITZERLAND

Rodenstock HR Digaron-S - RDS 60

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
180	**.747**	x	0.44783	0.36296	**180**	**2.45**	x	1.46924	1.19083
181	.744		0.44701	0.36258	181	2.44		1.46658	1.18955
182	.741		0.44620	0.36219	182	2.43		1.46392	1.18828
183	.737		0.44540	0.36180	183	2.42		1.46129	1.18702
184	.734		0.44460	0.36142	184	2.41		1.45867	1.18576
185	**.731**	x	0.44381	0.36104	**185**	**2.4**	x	1.45606	1.18451
186	.728		0.44302	0.36066	186	2.39		1.45347	1.18326
187	.725		0.44223	0.36028	187	2.38		1.45089	1.18201
188	.722		0.44145	0.35990	188	2.37		1.44833	1.18078
189	.719		0.44067	0.35953	189	2.36		1.44578	1.17954
190	**.716**	x	0.43990	0.35915	**190**	**2.35**	x	1.44325	1.17832
191	.713		0.43913	0.35878	191	2.34		1.44073	1.17709
192	.71		0.43837	0.35841	192	2.33		1.43822	1.17588
193	.707		0.43761	0.35804	193	2.32		1.43573	1.17466
194	.704		0.43686	0.35767	194	2.31		1.43325	1.17346
195	**.701**	x	0.43610	0.35730	**195**	**2.3**	x	1.43079	1.17225
196	.698		0.43536	0.35694	196	2.29		1.42834	1.17106
197	.695		0.43461	0.35657	197	2.28		1.42590	1.16986
198	.692		0.43388	0.35621	198	2.27		1.42348	1.16868
199	.69		0.43314	0.35585	199	2.26		1.42107	1.16749
200	**.687**	x	0.43241	0.35549	**200**	**2.25**	x	1.41867	1.16632
201	.684		0.43169	0.35514	201	2.24		1.41629	1.16514
202	.682		0.43096	0.35478	202	2.24		1.41392	1.16398
203	.679		0.43024	0.35443	203	2.23		1.41156	1.16281
204	.676		0.42953	0.35407	204	2.22		1.40922	1.16165
205	**.674**	x	0.42882	0.35372	**205**	**2.21**	x	1.40689	1.16050
206	.671		0.42811	0.35337	206	2.2		1.40457	1.15935
207	.669		0.42741	0.35302	207	2.19		1.40226	1.15821
208	.666		0.42671	0.35267	208	2.19		1.39997	1.15707
209	.664		0.42601	0.35233	209	2.18		1.39769	1.15593
210	**.661**	x	0.42532	0.35198	**210**	**2.17**	x	1.39542	1.15480
211	.659		0.42464	0.35164	211	2.16		1.39316	1.15368
212	.656		0.42395	0.35130	212	2.15		1.39092	1.15255
213	.654		0.42327	0.35096	213	2.14		1.38868	1.15144
214	.651		0.42259	0.35062	214	2.14		1.38646	1.15033
215	**.649**	x	0.42192	0.35028	**215**	**2.13**	x	1.38425	1.14922

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Rodenstock HR Digaron-S - RDS 60

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
216	.647		0.42125	0.34995	216	2.12		1.38205	1.14811
217	.644		0.42058	0.34961	217	2.11		1.37987	1.14702
218	.642		0.41992	0.34928	218	2.11		1.37769	1.14592
219	.64		0.41926	0.34894	219	2.1		1.37553	1.14483
220	**.638**	x	0.41861	0.34861	**220**	**2.09**	x	1.37338	1.14374
221	.635		0.41795	0.34828	221	2.08		1.37124	1.14266
222	.633		0.41730	0.34796	222	2.08		1.36911	1.14159
223	.631		0.41666	0.34763	223	2.07		1.36699	1.14051
224	.629		0.41602	0.34730	224	2.06		1.36488	1.13945
225	**.627**	x	0.41538	0.34698	**225**	**2.06**	x	1.36279	1.13838
226	.625		0.41474	0.34666	226	2.05		1.36070	1.13732
227	.622		0.41411	0.34633	227	2.04		1.35863	1.13627
228	.62		0.41348	0.34601	228	2.04		1.35657	1.13521
229	.618		0.41286	0.34569	229	2.03		1.35451	1.13417
230	**.616**	x	0.41223	0.34538	**230**	**2.02**	x	1.35247	1.13312
231	.614		0.41161	0.34506	231	2.01		1.35044	1.13208
232	.612		0.41100	0.34474	232	2.01		1.34842	1.13105
233	.61		0.41038	0.34443	233	2		1.34640	1.13002
234	.608		0.40977	0.34412	234	2		1.34440	1.12899
235	**.606**	x	0.40917	0.34380	**235**	**1.99**	x	1.34241	1.12797
236	.604		0.40856	0.34349	236	1.98		1.34043	1.12695
237	.602		0.40796	0.34318	237	1.98		1.33846	1.12593
238	.6		0.40737	0.34288	238	1.97		1.33650	1.12492
239	.598		0.40677	0.34257	239	1.96		1.33455	1.12391
240	**.597**	x	0.40618	0.34226	**240**	**1.96**	x	1.33261	1.12291
241	.595		0.40559	0.34196	241	1.95		1.33068	1.12191
242	.593		0.40500	0.34166	242	1.95		1.32875	1.12092
243	.591		0.40442	0.34135	243	1.94		1.32684	1.11992
244	.589		0.40384	0.34105	244	1.93		1.32494	1.11894
245	**.587**	x	0.40326	0.34075	**245**	**1.93**	x	1.32305	1.11795
246	.586		0.40269	0.34045	246	1.92		1.32116	1.11697
247	.584		0.40212	0.34016	247	1.92		1.31929	1.11600
248	.582		0.40155	0.33986	248	1.91		1.31742	1.11502
249	.58		0.40098	0.33956	249	1.9		1.31557	1.11405
250	**.579**	x	0.40042	0.33927	**250**	**1.9**	x	1.31372	1.11309
251	.577		0.39986	0.33898	251	1.89		1.31188	1.11213

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Rodenstock HR Digaron-S - RDS 60

Rodenstock Wide Angle Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
252	.575		0.39930	0.33868	252	1.89		1.31005	1.11117
253	.573		0.39875	0.33839	253	1.88		1.30823	1.11022
254	.572		0.39820	0.33810	254	1.88		1.30642	1.10927
255	**.57**	x	0.39765	0.33782	**255**	**1.87**	x	1.30462	1.10832
256	.568		0.39710	0.33753	256	1.87		1.30283	1.10738
257	.567		0.39656	0.33724	257	1.86		1.30104	1.10644
258	.565		0.39602	0.33696	258	1.85		1.29927	1.10550
259	.564		0.39548	0.33667	259	1.85		1.29750	1.10457
260	**.562**	x	0.39494	0.33639	**260**	**1.84**	x	1.29574	1.10364
261	.56		0.39441	0.33611	261	1.84		1.29399	1.10271
262	.559		0.39388	0.33583	262	1.83		1.29225	1.10179
263	.557		0.39335	0.33555	263	1.83		1.29052	1.10087
264	.556		0.39282	0.33527	264	1.82		1.28879	1.09996
265	**.554**	x	0.39230	0.33499	**265**	**1.82**	x	1.28707	1.09905
266	.553		0.39178	0.33471	266	1.81		1.28536	1.09814
267	.551		0.39126	0.33444	267	1.81		1.28366	1.09723
268	.55		0.39074	0.33416	268	1.8		1.28197	1.09633
269	.548		0.39023	0.33389	269	1.8		1.28029	1.09543
270	**.547**	x	0.38972	0.33362	**270**	**1.79**	x	1.27861	1.09454

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 70

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
0	**∞**	xx	0.98460	0.61838	**0**	**∞**	xx	3.23030	2.02882
1	**147**	xx	0.98012	0.61707	**1**	**483**	xx	3.21561	2.02451
2	**73.7**	xx	0.97569	0.61577	**2**	**242**	xx	3.20108	2.02024
3	**49.2**	xx	0.97131	0.61447	**3**	**161**	xx	3.18671	2.01598
4	**36.9**	xx	0.96698	0.61318	**4**	**121**	xx	3.17249	2.01176
5	**29.6**	x	0.96269	0.61190	**5**	**97**	x	3.15844	2.00755
6	24.7		0.95845	0.61063	6	80.9		3.14453	2.00338
7	21.2		0.95426	0.60937	7	69.4		3.13077	1.99923
8	18.5		0.95011	0.60811	8	60.8		3.11716	1.99510
9	16.5		0.94601	0.60686	9	54.1		3.10370	1.99100
10	**14.9**	x	0.94195	0.60562	**10**	**48.8**	x	3.09038	1.98693
11	13.5		0.93793	0.60438	11	44.4		3.07720	1.98288
12	12.4		0.93396	0.60315	12	40.7		3.06416	1.97885
13	11.5		0.93002	0.60193	13	37.6		3.05125	1.97485
14	10.7		0.92613	0.60072	14	35		3.03848	1.97087
15	**9.96**	x	0.92228	0.59952	**15**	**32.7**	x	3.02584	1.96692
16	9.35		0.91846	0.59832	16	30.7		3.01333	1.96299
17	8.81		0.91469	0.59713	17	28.9		3.00095	1.95908
18	8.33		0.91095	0.59594	18	27.3		2.98870	1.95520
19	7.9		0.90726	0.59477	19	25.9		2.97656	1.95133
20	**7.51**	x	0.90360	0.59360	**20**	**24.6**	x	2.96456	1.94750
21	7.16		0.89997	0.59243	21	23.5		2.95267	1.94368
22	6.84		0.89639	0.59128	22	22.5		2.94090	1.93989
23	6.55		0.89283	0.59013	23	21.5		2.92925	1.93611
24	6.29		0.88932	0.58898	24	20.6		2.91771	1.93236
25	**6.04**	x	0.88584	0.58785	**25**	**19.8**	x	2.90629	1.92863
26	5.82		0.88239	0.58672	26	19.1		2.89498	1.92493
27	5.61		0.87897	0.58559	27	18.4		2.88378	1.92124
28	5.41		0.87559	0.58448	28	17.8		2.87268	1.91758
29	5.23		0.87225	0.58337	29	17.2		2.86170	1.91394
30	**5.06**	x	0.86893	0.58226	**30**	**16.6**	x	2.85082	1.91031
31	4.9		0.86565	0.58117	31	16.1		2.84005	1.90671
32	4.76		0.86239	0.58007	32	15.6		2.82937	1.90313
33	4.62		0.85917	0.57899	33	15.1		2.81880	1.89957
34	4.49		0.85598	0.57791	34	14.7		2.80833	1.89603
35	**4.36**	x	0.85282	0.57684	**35**	**14.3**	x	2.79796	1.89251

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 70

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
36	4.25		0.84969	0.57577	36	13.9		2.78768	1.88901
37	4.14		0.84658	0.57471	37	13.6		2.77750	1.88553
38	4.03		0.84351	0.57365	38	13.2		2.76742	1.88206
39	3.93		0.84046	0.57260	39	12.9		2.75742	1.87862
40	**3.84**	x	0.83745	0.57156	**40**	**12.6**	x	2.74752	1.87520
41	3.75		0.83446	0.57052	41	12.3		2.73771	1.87179
42	3.66		0.83149	0.56949	42	12		2.72799	1.86841
43	3.58		0.82856	0.56847	43	11.8		2.71836	1.86504
44	3.5		0.82565	0.56744	44	11.5		2.70881	1.86170
45	**3.43**	x	0.82276	0.56643	**45**	**11.3**	x	2.69935	1.85837
46	3.36		0.81991	0.56542	46	11		2.68998	1.85506
47	3.29		0.81707	0.56442	47	10.8		2.68069	1.85176
48	3.23		0.81427	0.56342	48	10.6		2.67148	1.84849
49	3.16		0.81148	0.56243	49	10.4		2.66235	1.84523
50	**3.1**	x	0.80873	0.56144	**50**	**10.2**	x	2.65330	1.84199
51	3.05		0.80599	0.56046	51	9.99		2.64434	1.83877
52	2.99		0.80328	0.55948	52	9.81		2.63545	1.83556
53	2.94		0.80060	0.55851	53	9.64		2.62663	1.83238
54	2.89		0.79794	0.55754	54	9.47		2.61790	1.82921
55	**2.84**	x	0.79530	0.55658	**55**	**9.31**	x	2.60924	1.82605
56	2.79		0.79268	0.55563	56	9.15		2.60065	1.82292
57	2.74		0.79008	0.55467	57	9		2.59214	1.81980
58	2.7		0.78751	0.55373	58	8.85		2.58370	1.81670
59	2.66		0.78496	0.55279	59	8.71		2.57533	1.81361
60	**2.61**	x	0.78243	0.55185	**60**	**8.58**	x	2.56703	1.81054
61	2.57		0.77992	0.55092	61	8.44		2.55880	1.80749
62	2.53		0.77743	0.55000	62	8.32		2.55064	1.80445
63	2.5		0.77497	0.54908	63	8.19		2.54255	1.80143
64	2.46		0.77252	0.54816	64	8.07		2.53452	1.79842
65	**2.43**	x	0.77010	0.54725	**65**	**7.96**	x	2.52656	1.79543
66	2.39		0.76769	0.54634	66	7.85		2.51867	1.79246
67	2.36		0.76531	0.54544	67	7.74		2.51084	1.78950
68	2.33		0.76294	0.54454	68	7.63		2.50308	1.78656
69	2.29		0.76059	0.54365	69	7.53		2.49538	1.78363
70	**2.26**	x	0.75826	0.54276	**70**	**7.43**	x	2.48774	1.78072
71	2.23		0.75595	0.54188	71	7.33		2.48016	1.77782

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 70

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
72	2.21		0.75366	0.54100	72	7.24		2.47265	1.77494
73	2.18		0.75139	0.54013	73	7.15		2.46519	1.77207
74	2.15		0.74914	0.53926	74	7.06		2.45780	1.76922
75	**2.12**	x	0.74690	0.53839	**75**	**6.97**	x	2.45046	1.76638
76	2.1		0.74468	0.53753	76	6.89		2.44318	1.76356
77	2.07		0.74248	0.53668	77	6.8		2.43596	1.76075
78	2.05		0.74030	0.53582	78	6.72		2.42880	1.75795
79	2.03		0.73813	0.53498	79	6.64		2.42169	1.75517
80	**2**	x	0.73598	0.53413	**80**	**6.57**	x	2.41464	1.75241
81	1.98		0.73385	0.53329	81	6.49		2.40764	1.74965
82	1.96		0.73173	0.53246	82	6.42		2.40070	1.74691
83	1.94		0.72963	0.53163	83	6.35		2.39381	1.74419
84	1.91		0.72755	0.53080	84	6.28		2.38697	1.74148
85	**1.89**	x	0.72548	0.52998	**85**	**6.21**	x	2.38018	1.73878
86	1.87		0.72343	0.52916	86	6.15		2.37345	1.73610
87	1.85		0.72139	0.52835	87	6.08		2.36677	1.73343
88	1.84		0.71937	0.52754	88	6.02		2.36014	1.73077
89	1.82		0.71737	0.52673	89	5.96		2.35356	1.72812
90	**1.8**	x	0.71537	0.52593	**90**	**5.9**	x	2.34703	1.72549
91	1.78		0.71340	0.52513	91	5.84		2.34055	1.72287
92	1.76		0.71144	0.52434	92	5.78		2.33411	1.72027
93	1.75		0.70949	0.52355	93	5.73		2.32773	1.71768
94	1.73		0.70756	0.52276	94	5.67		2.32139	1.71510
95	**1.71**	x	0.70564	0.52198	**95**	**5.62**	x	2.31510	1.71253
96	1.7		0.70374	0.52120	96	5.57		2.30885	1.70998
97	1.68		0.70185	0.52043	97	5.51		2.30266	1.70743
98	1.67		0.69997	0.51965	98	5.46		2.29650	1.70490
99	1.65		0.69811	0.51889	99	5.41		2.29039	1.70239
100	**1.64**	x	0.69626	0.51812	**100**	**5.37**	x	2.28433	1.69988
101	1.62		0.69443	0.51736	101	5.32		2.27831	1.69739
102	1.61		0.69261	0.51661	102	5.27		2.27233	1.69491
103	1.59		0.69080	0.51586	103	5.22		2.26640	1.69244
104	1.58		0.68900	0.51511	104	5.18		2.26051	1.68998
105	**1.57**	x	0.68722	0.51436	**105**	**5.14**	x	2.25466	1.68754
106	1.55		0.68545	0.51362	106	5.09		2.24885	1.68510
107	1.54		0.68369	0.51288	107	5.05		2.24308	1.68268

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Rodenstock ALPA HR Alpagon - ALP 70

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
108	1.53		0.68195	0.51215	108	5.01		2.23736	1.68027
109	1.51		0.68021	0.51142	109	4.97		2.23167	1.67787
110	**1.5**	x	0.67849	0.51069	**110**	**4.93**	x	2.22603	1.67548
111	1.49		0.67678	0.50996	111	4.89		2.22042	1.67311
112	1.48		0.67509	0.50924	112	4.85		2.21486	1.67074
113	1.47		0.67340	0.50853	113	4.81		2.20933	1.66839
114	1.46		0.67173	0.50781	114	4.77		2.20384	1.66605
115	**1.44**	x	0.67007	0.50710	**115**	**4.74**	x	2.19839	1.66372
116	1.43		0.66842	0.50639	116	4.7		2.19297	1.66139
117	1.42		0.66678	0.50569	117	4.67		2.18760	1.65908
118	1.41		0.66515	0.50499	118	4.63		2.18226	1.65679
119	1.4		0.66354	0.50429	119	4.6		2.17695	1.65450
120	**1.39**	x	0.66193	0.50360	**120**	**4.56**	x	2.17169	1.65222
121	1.38		0.66034	0.50291	121	4.53		2.16645	1.64995
122	1.37		0.65875	0.50222	122	4.5		2.16126	1.64770
123	1.36		0.65718	0.50153	123	4.47		2.15610	1.64545
124	1.35		0.65562	0.50085	124	4.43		2.15097	1.64321
125	**1.34**	x	0.65406	0.50017	**125**	**4.4**	x	2.14588	1.64099
126	1.33		0.65252	0.49950	126	4.37		2.14082	1.63877
127	1.32		0.65099	0.49883	127	4.34		2.13580	1.63657
128	1.31		0.64947	0.49816	128	4.31		2.13081	1.63437
129	1.31		0.64796	0.49749	129	4.28		2.12585	1.63219
130	**1.3**	x	0.64646	0.49683	**130**	**4.26**	x	2.12092	1.63001
131	1.29		0.64497	0.49617	131	4.23		2.11603	1.62785
132	1.28		0.64348	0.49551	132	4.2		2.11117	1.62569
133	1.27		0.64201	0.49486	133	4.17		2.10634	1.62355
134	1.26		0.64055	0.49421	134	4.15		2.10154	1.62141
135	**1.26**	x	0.63910	0.49356	**135**	**4.12**	x	2.09677	1.61929
136	1.25		0.63765	0.49291	136	4.09		2.09204	1.61717
137	1.24		0.63622	0.49227	137	4.07		2.08733	1.61507
138	1.23		0.63479	0.49163	138	4.04		2.08266	1.61297
139	1.22		0.63338	0.49100	139	4.02		2.07801	1.61088
140	**1.22**	x	0.63197	0.49036	**140**	**3.99**	x	2.07340	1.60880
141	1.21		0.63057	0.48973	141	3.97		2.06881	1.60673
142	1.2		0.62919	0.48910	142	3.94		2.06426	1.60467
143	1.19		0.62781	0.48848	143	3.92		2.05973	1.60262

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Rodenstock ALPA HR Alpagon - ALP 70

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
144	1.19		0.62643	0.48786	144	3.9		2.05523	1.60058
145	**1.18**	x	0.62507	0.48724	**145**	**3.87**	x	2.05076	1.59855
146	1.17		0.62372	0.48662	146	3.85		2.04632	1.59652
147	1.17		0.62237	0.48601	147	3.83		2.04190	1.59451
148	1.16		0.62103	0.48539	148	3.81		2.03751	1.59250
149	1.15		0.61971	0.48479	149	3.78		2.03315	1.59051
150	**1.15**	x	0.61838	0.48418	**150**	**3.76**	x	2.02882	1.58852
151	1.14		0.61707	0.48358	151	3.74		2.02451	1.58654
152	1.13		0.61577	0.48298	152	3.72		2.02024	1.58457
153	1.13		0.61447	0.48238	153	3.7		2.01598	1.58260
154	1.12		0.61318	0.48178	154	3.68		2.01176	1.58065
155	**1.12**	x	0.61190	0.48119	**155**	**3.66**	x	2.00755	1.57871
156	1.11		0.61063	0.48060	156	3.64		2.00338	1.57677
157	1.1		0.60937	0.48001	157	3.62		1.99923	1.57484
158	1.1		0.60811	0.47943	158	3.6		1.99510	1.57292
159	1.09		0.60686	0.47884	159	3.58		1.99100	1.57101
160	**1.09**	x	0.60562	0.47826	**160**	**3.56**	x	1.98693	1.56911
161	1.08		0.60438	0.47769	161	3.54		1.98288	1.56721
162	1.07		0.60315	0.47711	162	3.53		1.97885	1.56532
163	1.07		0.60193	0.47654	163	3.51		1.97485	1.56344
164	1.06		0.60072	0.47597	164	3.49		1.97087	1.56157
165	**1.06**	x	0.59952	0.47540	**165**	**3.47**	x	1.96692	1.55971
166	1.05		0.59832	0.47483	166	3.45		1.96299	1.55786
167	1.05		0.59713	0.47427	167	3.44		1.95908	1.55601
168	1.04		0.59594	0.47371	168	3.42		1.95520	1.55417
169	1.04		0.59477	0.47315	169	3.4		1.95133	1.55234
170	**1.03**	x	0.59360	0.47260	**170**	**3.39**	x	1.94750	1.55051
171	1.03		0.59243	0.47204	171	3.37		1.94368	1.54870
172	1.02		0.59128	0.47149	172	3.35		1.93989	1.54689
173	1.02		0.59013	0.47094	173	3.34		1.93611	1.54509
174	1.01		0.58898	0.47040	174	3.32		1.93236	1.54330
175	**1.01**	x	0.58785	0.46985	**175**	**3.31**	x	1.92863	1.54151
176	1		0.58672	0.46931	176	3.29		1.92493	1.53973
177	.998		0.58559	0.46877	177	3.28		1.92124	1.53796
178	.994		0.58448	0.46823	178	3.26		1.91758	1.53620
179	.989		0.58337	0.46770	179	3.25		1.91394	1.53444

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figures in red/with marking "XX" and "X" are engraved on the HPF ring.
** H +6/17 = theoretical distance using the respecitve hub of thehelical plus macro tube of the corresponding dimension (in mm) at a given degree setting - Please check if distance is achievable in reality as the ca
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ALPA OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 70

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
180	**.985**	x	0.58226	0.46717	**180**	**3.23**	x	1.91031	1.53269
181	.98		0.58117	0.46663	181	3.22		1.90671	1.53095
182	.976		0.58007	0.46611	182	3.2		1.90313	1.52922
183	.971		0.57899	0.46558	183	3.19		1.89957	1.52749
184	.967		0.57791	0.46506	184	3.17		1.89603	1.52577
185	**.963**	x	0.57684	0.46453	**185**	**3.16**	x	1.89251	1.52406
186	.958		0.57577	0.46401	186	3.14		1.88901	1.52235
187	.954		0.57471	0.46350	187	3.13		1.88553	1.52066
188	.95		0.57365	0.46298	188	3.12		1.88206	1.51896
189	.946		0.57260	0.46247	189	3.1		1.87862	1.51728
190	**.942**	x	0.57156	0.46196	**190**	**3.09**	x	1.87520	1.51560
191	.938		0.57052	0.46145	191	3.08		1.87179	1.51393
192	.934		0.56949	0.46094	192	3.06		1.86841	1.51227
193	.93		0.56847	0.46043	193	3.05		1.86504	1.51061
194	.926		0.56744	0.45993	194	3.04		1.86170	1.50896
195	**.922**	x	0.56643	0.45943	**195**	**3.03**	x	1.85837	1.50732
196	.918		0.56542	0.45893	196	3.01		1.85506	1.50568
197	.915		0.56442	0.45843	197	3		1.85176	1.50405
198	.911		0.56342	0.45794	198	2.99		1.84849	1.50242
199	.907		0.56243	0.45745	199	2.98		1.84523	1.50081
200	**.904**	x	0.56144	0.45696	**200**	**2.96**	x	1.84199	1.49920
201	.9		0.56046	0.45647	201	2.95		1.83877	1.49759
202	.896		0.55948	0.45598	202	2.94		1.83556	1.49599
203	.893		0.55851	0.45549	203	2.93		1.83238	1.49440
204	.889		0.55754	0.45501	204	2.92		1.82921	1.49282
205	**.886**	x	0.55658	0.45453	**205**	**2.91**	x	1.82605	1.49124
206	.882		0.55563	0.45405	206	2.89		1.82292	1.48967
207	.879		0.55467	0.45357	207	2.88		1.81980	1.48810
208	.876		0.55373	0.45310	208	2.87		1.81670	1.48654
209	.872		0.55279	0.45262	209	2.86		1.81361	1.48499
210	**.869**	x	0.55185	0.45215	**210**	**2.85**	x	1.81054	1.48344
211	.866		0.55092	0.45168	211	2.84		1.80749	1.48190
212	.862		0.55000	0.45121	212	2.83		1.80445	1.48036
213	.859		0.54908	0.45075	213	2.82		1.80143	1.47883
214	.856		0.54816	0.45028	214	2.81		1.79842	1.47731
215	**.853**	x	0.54725	0.44982	**215**	**2.8**	x	1.79543	1.47579

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 70

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
216	.85		0.54634	0.44936	216	2.79		1.79246	1.47428
217	.847		0.54544	0.44890	217	2.78		1.78950	1.47278
218	.844		0.54454	0.44844	218	2.77		1.78656	1.47128
219	.84		0.54365	0.44799	219	2.76		1.78363	1.46978
220	**.837**	x	0.54276	0.44754	**220**	**2.75**	x	1.78072	1.46829
221	.834		0.54188	0.44708	221	2.74		1.77782	1.46681
222	.831		0.54100	0.44663	222	2.73		1.77494	1.46534
223	.829		0.54013	0.44619	223	2.72		1.77207	1.46387
224	.826		0.53926	0.44574	224	2.71		1.76922	1.46240
225	**.823**	x	0.53839	0.44529	**225**	**2.7**	x	1.76638	1.46094
226	.82		0.53753	0.44485	226	2.69		1.76356	1.45949
227	.817		0.53668	0.44441	227	2.68		1.76075	1.45804
228	.814		0.53582	0.44397	228	2.67		1.75795	1.45660
229	.811		0.53498	0.44353	229	2.66		1.75517	1.45516
230	**.809**	x	0.53413	0.44310	**230**	**2.65**	x	1.75241	1.45373
231	.806		0.53329	0.44266	231	2.64		1.74965	1.45230
232	.803		0.53246	0.44223	232	2.64		1.74691	1.45088
233	.801		0.53163	0.44180	233	2.63		1.74419	1.44947
234	.798		0.53080	0.44137	234	2.62		1.74148	1.44806
235	**.795**	x	0.52998	0.44094	**235**	**2.61**	x	1.73878	1.44665
236	.793		0.52916	0.44051	236	2.6		1.73610	1.44526
237	.79		0.52835	0.44009	237	2.59		1.73343	1.44386
238	.788		0.52754	0.43967	238	2.58		1.73077	1.44247
239	.785		0.52673	0.43924	239	2.58		1.72812	1.44109
240	**.782**	x	0.52593	0.43882	**240**	**2.57**	x	1.72549	1.43971
241	.78		0.52513	0.43841	241	2.56		1.72287	1.43834
242	.777		0.52434	0.43799	242	2.55		1.72027	1.43697
243	.775		0.52355	0.43757	243	2.54		1.71768	1.43561
244	.773		0.52276	0.43716	244	2.53		1.71510	1.43425
245	**.77**	x	0.52198	0.43675	**245**	**2.53**	x	1.71253	1.43290
246	.768		0.52120	0.43634	246	2.52		1.70998	1.43156
247	.765		0.52043	0.43593	247	2.51		1.70743	1.43021
248	.763		0.51965	0.43552	248	2.5		1.70490	1.42888
249	.761		0.51889	0.43512	249	2.5		1.70239	1.42755
250	**.758**	x	0.51812	0.43471	**250**	**2.49**	x	1.69988	1.42622
251	.756		0.51736	0.43431	251	2.48		1.69739	1.42490

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ALPA OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 70

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
252	.754		0.51661	0.43391	252	2.47		1.69491	1.42358
253	.751		0.51586	0.43351	253	2.47		1.69244	1.42227
254	.749		0.51511	0.43311	254	2.46		1.68998	1.42096
255	**.747**	x	0.51436	0.43271	**255**	**2.45**	x	1.68754	1.41966
256	.745		0.51362	0.43232	256	2.44		1.68510	1.41836
257	.742		0.51288	0.43192	257	2.44		1.68268	1.41707
258	.74		0.51215	0.43153	258	2.43		1.68027	1.41578
259	.738		0.51142	0.43114	259	2.42		1.67787	1.41450
260	**.736**	x	0.51069	0.43075	**260**	**2.41**	x	1.67548	1.41322
261	.734		0.50996	0.43036	261	2.41		1.67311	1.41195
262	.732		0.50924	0.42997	262	2.4		1.67074	1.41068
263	.73		0.50853	0.42959	263	2.39		1.66839	1.40941
264	.728		0.50781	0.42920	264	2.39		1.66605	1.40815
265	**.725**	x	0.50710	0.42882	**265**	**2.38**	x	1.66372	1.40690
266	.723		0.50639	0.42844	266	2.37		1.66139	1.40565
267	.721		0.50569	0.42806	267	2.37		1.65908	1.40440
268	.719		0.50499	0.42768	268	2.36		1.65679	1.40316
269	.717		0.50429	0.42731	269	2.35		1.65450	1.40192
270	**.715**	x	0.50360	0.42693	**270**	**2.35**	x	1.65222	1.40069

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ALPA® OF SWITZERLAND

Rodenstock HR Digaron-W - RDW 90

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
0	**∞**	xx	1.55091	0.94527	**0**	**∞**	xx	5.08828	3.10127
1	**242**	xx	1.54352	0.94309	**1**	**794**	xx	5.06404	3.09412
2	**121**	xx	1.53621	0.94092	**2**	**397**	xx	5.04007	3.08701
3	**80.8**	xx	1.52898	0.93877	**3**	**265**	xx	5.01635	3.07994
4	**60.7**	xx	1.52184	0.93663	**4**	**199**	xx	4.99290	3.07292
5	**48.6**	x	1.51477	0.93450	**5**	**159**	x	4.96971	3.06594
6	40.5		1.50777	0.93238	6	133		4.94676	3.05900
7	34.7		1.50085	0.93028	7	114		4.92406	3.05210
8	30.4		1.49401	0.92819	8	99.8		4.90160	3.04525
9	27.1		1.48724	0.92611	9	88.8		4.87938	3.03843
10	**24.4**	x	1.48054	0.92405	**10**	**80**	x	4.85740	3.03166
11	22.2		1.47391	0.92200	11	72.8		4.83565	3.02492
12	20.4		1.46735	0.91996	12	66.8		4.81412	3.01823
13	18.8		1.46085	0.91793	13	61.7		4.79282	3.01158
14	17.5		1.45443	0.91591	14	57.3		4.77174	3.00496
15	**16.3**	x	1.44807	0.91391	**15**	**53.6**	x	4.75088	2.99839
16	15.3		1.44178	0.91192	16	50.2		4.73023	2.99185
17	14.4		1.43555	0.90994	17	47.3		4.70980	2.98535
18	13.6		1.42938	0.90797	18	44.7		4.68957	2.97889
19	12.9		1.42328	0.90601	19	42.4		4.66954	2.97247
20	**12.3**	x	1.41723	0.90406	**20**	**40.3**	x	4.64972	2.96608
21	11.7		1.41125	0.90213	21	38.4		4.63009	2.95973
22	11.2		1.40533	0.90020	22	36.7		4.61066	2.95342
23	10.7		1.39947	0.89829	23	35.2		4.59142	2.94715
24	10.3		1.39366	0.89639	24	33.7		4.57238	2.94091
25	**9.87**	x	1.38791	0.89450	**25**	**32.4**	x	4.55351	2.93470
26	9.5		1.38222	0.89262	26	31.2		4.53484	2.92854
27	9.16		1.37658	0.89075	27	30		4.51634	2.92240
28	8.84		1.37100	0.88889	28	29		4.49802	2.91631
29	8.54		1.36547	0.88704	29	28		4.47988	2.91024
30	**8.26**	x	1.35999	0.88520	**30**	**27.1**	x	4.46192	2.90421
31	8		1.35457	0.88338	31	26.3		4.44412	2.89822
32	7.76		1.34920	0.88156	32	25.5		4.42650	2.89226
33	7.53		1.34387	0.87975	33	24.7		4.40904	2.88633
34	7.31		1.33860	0.87796	34	24		4.39174	2.88043
35	**7.11**	x	1.33338	0.87617	**35**	**23.3**	x	4.37461	2.87457

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ALPA® OF SWITZERLAND

Rodenstock HR Digaron-W - RDW 90

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
36	6.92		1.32821	0.87439	36	22.7		4.35763	2.86874
37	6.74		1.32308	0.87263	37	22.1		4.34082	2.86294
38	6.57		1.31800	0.87087	38	21.5		4.32416	2.85718
39	6.4		1.31297	0.86912	39	21		4.30765	2.85145
40	**6.25**	x	1.30799	0.86738	**40**	**20.5**	x	4.29129	2.84575
41	6.1		1.30305	0.86565	41	20		4.27508	2.84008
42	5.96		1.29815	0.86394	42	19.6		4.25902	2.83444
43	5.83		1.29330	0.86223	43	19.1		4.24311	2.82883
44	5.7		1.28849	0.86053	44	18.7		4.22733	2.82325
45	**5.58**	x	1.28373	0.85884	**45**	**18.3**	x	4.21170	2.81770
46	5.46		1.27900	0.85715	46	17.9		4.19621	2.81219
47	5.35		1.27432	0.85548	47	17.5		4.18085	2.80670
48	5.24		1.26969	0.85382	48	17.2		4.16563	2.80124
49	5.14		1.26509	0.85216	49	16.9		4.15055	2.79581
50	**5.04**	x	1.26053	0.85052	**50**	**16.5**	x	4.13560	2.79041
51	4.94		1.25601	0.84888	51	16.2		4.12077	2.78504
52	4.85		1.25153	0.84725	52	15.9		4.10608	2.77970
53	4.77		1.24709	0.84563	53	15.6		4.09151	2.77439
54	4.68		1.24269	0.84402	54	15.4		4.07707	2.76910
55	**4.6**	x	1.23833	0.84242	**55**	**15.1**	x	4.06275	2.76385
56	4.52		1.23400	0.84083	56	14.8		4.04856	2.75862
57	4.45		1.22971	0.83924	57	14.6		4.03448	2.75342
58	4.37		1.22546	0.83766	58	14.3		4.02053	2.74824
59	4.3		1.22124	0.83610	59	14.1		4.00669	2.74309
60	**4.23**	x	1.21706	0.83453	**60**	**13.9**	x	3.99297	2.73797
61	4.17		1.21291	0.83298	61	13.7		3.97936	2.73288
62	4.1		1.20880	0.83144	62	13.5		3.96587	2.72781
63	4.04		1.20472	0.82990	63	13.3		3.95248	2.72277
64	3.98		1.20067	0.82837	64	13.1		3.93921	2.71776
65	**3.92**	x	1.19666	0.82685	**65**	**12.9**	x	3.92605	2.71277
66	3.87		1.19268	0.82534	66	12.7		3.91300	2.70781
67	3.81		1.18874	0.82384	67	12.5		3.90005	2.70287
68	3.76		1.18482	0.82234	68	12.3		3.88721	2.69796
69	3.71		1.18094	0.82085	69	12.2		3.87447	2.69307
70	**3.66**	x	1.17709	0.81937	**70**	**12**	x	3.86183	2.68821
71	3.61		1.17327	0.81789	71	11.8		3.84930	2.68338

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ALPA® OF SWITZERLAND

Rodenstock HR Digaron-W - RDW 90

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
72	3.56		1.16948	0.81643	72	11.7		3.83687	2.67856
73	3.52		1.16572	0.81497	73	11.5		3.82453	2.67378
74	3.47		1.16199	0.81351	74	11.4		3.81230	2.66901
75	**3.43**	x	1.15829	0.81207	**75**	**11.2**	x	3.80016	2.66427
76	3.39		1.15462	0.81063	76	11.1		3.78811	2.65956
77	3.34		1.15098	0.80920	77	11		3.77616	2.65487
78	3.3		1.14736	0.80778	78	10.8		3.76431	2.65020
79	3.27		1.14378	0.80636	79	10.7		3.75255	2.64555
80	**3.23**	x	1.14022	0.80496	**80**	**10.6**	x	3.74087	2.64093
81	3.19		1.13669	0.80355	81	10.5		3.72929	2.63633
82	3.15		1.13319	0.80216	82	10.3		3.71780	2.63176
83	3.12		1.12971	0.80077	83	10.2		3.70640	2.62720
84	3.08		1.12626	0.79939	84	10.1		3.69508	2.62267
85	**3.05**	x	1.12284	0.79802	**85**	**10**	x	3.68385	2.61816
86	3.02		1.11944	0.79665	86	9.9		3.67270	2.61368
87	2.98		1.11607	0.79529	87	9.79		3.66164	2.60921
88	2.95		1.11272	0.79393	88	9.69		3.65066	2.60477
89	2.92		1.10940	0.79259	89	9.58		3.63977	2.60035
90	**2.89**	x	1.10611	0.79125	**90**	**9.49**	x	3.62895	2.59595
91	2.86		1.10283	0.78991	91	9.39		3.61822	2.59158
92	2.83		1.09959	0.78858	92	9.29		3.60757	2.58722
93	2.8		1.09636	0.78726	93	9.2		3.59699	2.58288
94	2.78		1.09316	0.78595	94	9.11		3.58650	2.57857
95	**2.75**	x	1.08999	0.78464	**95**	**9.02**	x	3.57608	2.57428
96	2.72		1.08684	0.78334	96	8.94		3.56573	2.57000
97	2.7		1.08371	0.78204	97	8.85		3.55547	2.56575
98	2.67		1.08060	0.78075	98	8.77		3.54527	2.56152
99	2.65		1.07751	0.77947	99	8.69		3.53515	2.55731
100	**2.62**	x	1.07445	0.77819	**100**	**8.61**	x	3.52511	2.55312
101	2.6		1.07141	0.77692	101	8.53		3.51513	2.54895
102	2.58		1.06839	0.77565	102	8.45		3.50523	2.54479
103	2.55		1.06540	0.77439	103	8.37		3.49540	2.54066
104	2.53		1.06242	0.77314	104	8.3		3.48564	2.53655
105	**2.51**	x	1.05947	0.77189	**105**	**8.23**	x	3.47595	2.53246
106	2.49		1.05653	0.77065	106	8.16		3.46632	2.52838
107	2.47		1.05362	0.76942	107	8.09		3.45677	2.52433

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ALPA® OF SWITZERLAND

Rodenstock HR Digaron-W - RDW 90

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
108	2.44		1.05073	0.76819	108	8.02		3.44728	2.52029
109	2.42		1.04786	0.76696	109	7.95		3.43785	2.51628
110	**2.4**	x	1.04501	0.76574	**110**	**7.89**	x	3.42850	2.51228
111	2.38		1.04217	0.76453	111	7.82		3.41921	2.50830
112	2.36		1.03936	0.76332	112	7.76		3.40998	2.50434
113	2.35		1.03657	0.76212	113	7.69		3.40082	2.50040
114	2.33		1.03379	0.76092	114	7.63		3.39172	2.49647
115	**2.31**	x	1.03104	0.75973	**115**	**7.57**	x	3.38268	2.49257
116	2.29		1.02830	0.75855	116	7.51		3.37370	2.48868
117	2.27		1.02559	0.75737	117	7.45		3.36479	2.48481
118	2.25		1.02289	0.75620	118	7.4		3.35593	2.48096
119	2.24		1.02021	0.75503	119	7.34		3.34714	2.47712
120	**2.22**	x	1.01754	0.75386	**120**	**7.29**	x	3.33840	2.47330
121	2.2		1.01490	0.75271	121	7.23		3.32973	2.46950
122	2.19		1.01227	0.75155	122	7.18		3.32111	2.46572
123	2.17		1.00966	0.75040	123	7.12		3.31255	2.46196
124	2.16		1.00707	0.74926	124	7.07		3.30404	2.45821
125	**2.14**	x	1.00450	0.74812	**125**	**7.02**	x	3.29560	2.45448
126	2.12		1.00194	0.74699	126	6.97		3.28720	2.45076
127	2.11		0.99940	0.74587	127	6.92		3.27887	2.44707
128	2.09		0.99688	0.74474	128	6.87		3.27059	2.44338
129	2.08		0.99437	0.74363	129	6.83		3.26236	2.43972
130	**2.07**	x	0.99188	0.74251	**130**	**6.78**	x	3.25419	2.43607
131	2.05		0.98940	0.74141	131	6.73		3.24607	2.43244
132	2.04		0.98694	0.74031	132	6.69		3.23800	2.42882
133	2.02		0.98450	0.73921	133	6.64		3.22999	2.42523
134	2.01		0.98207	0.73812	134	6.6		3.22202	2.42164
135	**2**	x	0.97966	0.73703	**135**	**6.55**	x	3.21411	2.41807
136	1.98		0.97727	0.73595	136	6.51		3.20625	2.41452
137	1.97		0.97489	0.73487	137	6.47		3.19844	2.41099
138	1.96		0.97252	0.73380	138	6.43		3.19068	2.40747
139	1.95		0.97017	0.73273	139	6.38		3.18297	2.40396
140	**1.93**	x	0.96783	0.73166	**140**	**6.34**	x	3.17531	2.40047
141	1.92		0.96551	0.73060	141	6.3		3.16769	2.39700
142	1.91		0.96321	0.72955	142	6.26		3.16013	2.39354
143	1.9		0.96092	0.72850	143	6.22		3.15261	2.39009

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ALPA® OF SWITZERLAND

Rodenstock HR Digaron-W - RDW 90

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
144	1.89		0.95864	0.72745	144	6.19		3.14514	2.38666
145	**1.87**	x	0.95637	0.72641	**145**	**6.15**	x	3.13771	2.38325
146	1.86		0.95413	0.72538	146	6.11		3.13033	2.37985
147	1.85		0.95189	0.72435	147	6.07		3.12300	2.37646
148	1.84		0.94967	0.72332	148	6.04		3.11571	2.37309
149	1.83		0.94746	0.72230	149	6		3.10847	2.36974
150	**1.82**	x	0.94527	0.72128	**150**	**5.97**	x	3.10127	2.36640
151	1.81		0.94309	0.72026	151	5.93		3.09412	2.36307
152	1.8		0.94092	0.71925	152	5.9		3.08701	2.35976
153	1.79		0.93877	0.71825	153	5.86		3.07994	2.35646
154	1.78		0.93663	0.71725	154	5.83		3.07292	2.35318
155	**1.77**	x	0.93450	0.71625	**155**	**5.8**	x	3.06594	2.34991
156	1.76		0.93238	0.71526	156	5.76		3.05900	2.34665
157	1.75		0.93028	0.71427	157	5.73		3.05210	2.34341
158	1.74		0.92819	0.71329	158	5.7		3.04525	2.34018
159	1.73		0.92611	0.71231	159	5.67		3.03843	2.33696
160	**1.72**	x	0.92405	0.71133	**160**	**5.64**	x	3.03166	2.33376
161	1.71		0.92200	0.71036	161	5.61		3.02492	2.33057
162	1.7		0.91996	0.70939	162	5.58		3.01823	2.32740
163	1.69		0.91793	0.70843	163	5.55		3.01158	2.32424
164	1.68		0.91591	0.70747	164	5.52		3.00496	2.32109
165	**1.67**	x	0.91391	0.70651	**165**	**5.49**	x	2.99839	2.31795
166	1.66		0.91192	0.70556	166	5.46		2.99185	2.31483
167	1.66		0.90994	0.70461	167	5.43		2.98535	2.31172
168	1.65		0.90797	0.70367	168	5.4		2.97889	2.30863
169	1.64		0.90601	0.70273	169	5.37		2.97247	2.30554
170	**1.63**	x	0.90406	0.70179	**170**	**5.35**	x	2.96608	2.30247
171	1.62		0.90213	0.70086	171	5.32		2.95973	2.29941
172	1.61		0.90020	0.69993	172	5.29		2.95342	2.29637
173	1.61		0.89829	0.69901	173	5.27		2.94715	2.29334
174	1.6		0.89639	0.69809	174	5.24		2.94091	2.29032
175	**1.59**	x	0.89450	0.69717	**175**	**5.21**	x	2.93470	2.28731
176	1.58		0.89262	0.69626	176	5.19		2.92854	2.28431
177	1.57		0.89075	0.69535	177	5.16		2.92240	2.28133
178	1.57		0.88889	0.69444	178	5.14		2.91631	2.27836
179	1.56		0.88704	0.69354	179	5.11		2.91024	2.27540

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ALPA® OF SWITZERLAND

Rodenstock HR Digaron-W - RDW 90

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
180	**1.55**	x	0.88520	0.69264	**180**	**5.09**	x	2.90421	2.27245
181	1.54		0.88338	0.69175	181	5.06		2.89822	2.26952
182	1.54		0.88156	0.69086	182	5.04		2.89226	2.26660
183	1.53		0.87975	0.68997	183	5.02		2.88633	2.26369
184	1.52		0.87796	0.68909	184	4.99		2.88043	2.26079
185	**1.51**	x	0.87617	0.68821	**185**	**4.97**	x	2.87457	2.25790
186	1.51		0.87439	0.68733	186	4.95		2.86874	2.25502
187	1.5		0.87263	0.68646	187	4.92		2.86294	2.25216
188	1.49		0.87087	0.68559	188	4.9		2.85718	2.24930
189	1.49		0.86912	0.68472	189	4.88		2.85145	2.24646
190	**1.48**	x	0.86738	0.68386	**190**	**4.86**	x	2.84575	2.24363
191	1.47		0.86565	0.68300	191	4.84		2.84008	2.24081
192	1.47		0.86394	0.68214	192	4.81		2.83444	2.23801
193	1.46		0.86223	0.68129	193	4.79		2.82883	2.23521
194	1.45		0.86053	0.68044	194	4.77		2.82325	2.23242
195	**1.45**	x	0.85884	0.67960	**195**	**4.75**	x	2.81770	2.22965
196	1.44		0.85715	0.67875	196	4.73		2.81219	2.22689
197	1.44		0.85548	0.67792	197	4.71		2.80670	2.22413
198	1.43		0.85382	0.67708	198	4.69		2.80124	2.22139
199	1.42		0.85216	0.67625	199	4.67		2.79581	2.21866
200	**1.42**	x	0.85052	0.67542	**200**	**4.65**	x	2.79041	2.21594
201	1.41		0.84888	0.67459	201	4.63		2.78504	2.21323
202	1.41		0.84725	0.67377	202	4.61		2.77970	2.21053
203	1.4		0.84563	0.67295	203	4.59		2.77439	2.20784
204	1.39		0.84402	0.67213	204	4.57		2.76910	2.20516
205	**1.39**	x	0.84242	0.67132	**205**	**4.55**	x	2.76385	2.20250
206	1.38		0.84083	0.67051	206	4.53		2.75862	2.19984
207	1.38		0.83924	0.66970	207	4.52		2.75342	2.19719
208	1.37		0.83766	0.66890	208	4.5		2.74824	2.19456
209	1.37		0.83610	0.66810	209	4.48		2.74309	2.19193
210	**1.36**	x	0.83453	0.66730	**210**	**4.46**	x	2.73797	2.18931
211	1.35		0.83298	0.66651	211	4.44		2.73288	2.18671
212	1.35		0.83144	0.66572	212	4.43		2.72781	2.18411
213	1.34		0.82990	0.66493	213	4.41		2.72277	2.18152
214	1.34		0.82837	0.66414	214	4.39		2.71776	2.17895
215	**1.33**	x	0.82685	0.66336	**215**	**4.37**	x	2.71277	2.17638

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Rodenstock HR Digaron-W - RDW 90

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
216	1.33		0.82534	0.66258	216	4.36		2.70781	2.17382
217	1.32		0.82384	0.66181	217	4.34		2.70287	2.17128
218	1.32		0.82234	0.66103	218	4.32		2.69796	2.16874
219	1.31		0.82085	0.66026	219	4.31		2.69307	2.16621
220	**1.31**	x	0.81937	0.65949	**220**	**4.29**	x	2.68821	2.16369
221	1.3		0.81789	0.65873	221	4.28		2.68338	2.16119
222	1.3		0.81643	0.65797	222	4.26		2.67856	2.15869
223	1.29		0.81497	0.65721	223	4.24		2.67378	2.15620
224	1.29		0.81351	0.65645	224	4.23		2.66901	2.15372
225	**1.28**	x	0.81207	0.65570	**225**	**4.21**	x	2.66427	2.15125
226	1.28		0.81063	0.65495	226	4.2		2.65956	2.14878
227	1.27		0.80920	0.65420	227	4.18		2.65487	2.14633
228	1.27		0.80778	0.65346	228	4.17		2.65020	2.14389
229	1.27		0.80636	0.65272	229	4.15		2.64555	2.14146
230	**1.26**	x	0.80496	0.65198	**230**	**4.14**	x	2.64093	2.13903
231	1.26		0.80355	0.65124	231	4.12		2.63633	2.13661
232	1.25		0.80216	0.65051	232	4.11		2.63176	2.13421
233	1.25		0.80077	0.64978	233	4.09		2.62720	2.13181
234	1.24		0.79939	0.64905	234	4.08		2.62267	2.12942
235	**1.24**	x	0.79802	0.64832	**235**	**4.06**	x	2.61816	2.12704
236	1.23		0.79665	0.64760	236	4.05		2.61368	2.12467
237	1.23		0.79529	0.64688	237	4.03		2.60921	2.12231
238	1.23		0.79393	0.64616	238	4.02		2.60477	2.11995
239	1.22		0.79259	0.64545	239	4.01		2.60035	2.11761
240	**1.22**	x	0.79125	0.64473	**240**	**3.99**	x	2.59595	2.11527
241	1.21		0.78991	0.64402	241	3.98		2.59158	2.11294
242	1.21		0.78858	0.64332	242	3.97		2.58722	2.11062
243	1.2		0.78726	0.64261	243	3.95		2.58288	2.10831
244	1.2		0.78595	0.64191	244	3.94		2.57857	2.10601
245	**1.2**	x	0.78464	0.64121	**245**	**3.93**	x	2.57428	2.10371
246	1.19		0.78334	0.64052	246	3.91		2.57000	2.10143
247	1.19		0.78204	0.63982	247	3.9		2.56575	2.09915
248	1.18		0.78075	0.63913	248	3.89		2.56152	2.09688
249	1.18		0.77947	0.63844	249	3.87		2.55731	2.09462
250	**1.18**	x	0.77819	0.63775	**250**	**3.86**	x	2.55312	2.09237
251	1.17		0.77692	0.63707	251	3.85		2.54895	2.09012

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ALPA OF SWITZERLAND

Rodenstock HR Digaron-W - RDW 90

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
252	1.17		0.77565	0.63639	252	3.84		2.54479	2.08788
253	1.17		0.77439	0.63571	253	3.82		2.54066	2.08566
254	1.16		0.77314	0.63503	254	3.81		2.53655	2.08343
255	**1.16**	x	0.77189	0.63436	**255**	**3.8**	x	2.53246	2.08122
256	1.15		0.77065	0.63368	256	3.79		2.52838	2.07902
257	1.15		0.76942	0.63301	257	3.78		2.52433	2.07682
258	1.15		0.76819	0.63235	258	3.76		2.52029	2.07463
259	1.14		0.76696	0.63168	259	3.75		2.51628	2.07245
260	**1.14**	x	0.76574	0.63102	**260**	**3.74**	x	2.51228	2.07028
261	1.14		0.76453	0.63036	261	3.73		2.50830	2.06811
262	1.13		0.76332	0.62970	262	3.72		2.50434	2.06595
263	1.13		0.76212	0.62905	263	3.71		2.50040	2.06380
264	1.13		0.76092	0.62839	264	3.7		2.49647	2.06166
265	**1.12**	x	0.75973	0.62774	**265**	**3.68**	x	2.49257	2.05952
266	1.12		0.75855	0.62709	266	3.67		2.48868	2.05739
267	1.12		0.75737	0.62645	267	3.66		2.48481	2.05527
268	1.11		0.75620	0.62580	268	3.65		2.48096	2.05316
269	1.11		0.75503	0.62516	269	3.64		2.47712	2.05106
270	**1.11**	x	0.75386	0.62452	**270**	**3.63**	x	2.47330	2.04896

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 90

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
0	**∞**	xx	1.56870	0.96006	**0**	**∞**	xx	5.14665	3.14982
1	**243**	xx	1.56127	0.95787	**1**	**798**	xx	5.12229	3.14263
2	**122**	xx	1.55393	0.95569	**2**	**399**	xx	5.09820	3.13548
3	**81.2**	xx	1.54667	0.95353	**3**	**266**	xx	5.07437	3.12838
4	**61**	xx	1.53949	0.95138	**4**	**200**	xx	5.05081	3.12132
5	**48.8**	x	1.53238	0.94924	**5**	**160**	x	5.02749	3.11430
6	40.7		1.52535	0.94711	6	134		5.00443	3.10733
7	34.9		1.51840	0.94500	7	115		4.98162	3.10040
8	30.6		1.51152	0.94290	8	100		4.95905	3.09351
9	27.2		1.50471	0.94081	9	89.3		4.93673	3.08666
10	**24.5**	x	1.49798	0.93874	**10**	**80.4**	x	4.91463	3.07985
11	22.3		1.49132	0.93668	11	73.2		4.89278	3.07309
12	20.5		1.48473	0.93463	12	67.1		4.87115	3.06636
13	18.9		1.47820	0.93259	13	62		4.84974	3.05967
14	17.6		1.47174	0.93056	14	57.6		4.82856	3.05302
15	**16.4**	x	1.46535	0.92855	**15**	**53.8**	x	4.80759	3.04642
16	15.4		1.45903	0.92655	16	50.5		4.78684	3.03985
17	14.5		1.45277	0.92455	17	47.6		4.76630	3.03332
18	13.7		1.44657	0.92258	18	45		4.74597	3.02682
19	13		1.44044	0.92061	19	42.7		4.72585	3.02037
20	**12.4**	x	1.43437	0.91865	**20**	**40.6**	x	4.70593	3.01395
21	11.8		1.42836	0.91671	21	38.7		4.68620	3.00757
22	11.3		1.42240	0.91477	22	36.9		4.66668	3.00123
23	10.8		1.41651	0.91285	23	35.4		4.64735	2.99492
24	10.3		1.41068	0.91094	24	33.9		4.62820	2.98865
25	**9.93**	x	1.40490	0.90904	**25**	**32.6**	x	4.60925	2.98242
26	9.56		1.39918	0.90715	26	31.4		4.59048	2.97622
27	9.21		1.39351	0.90527	27	30.2		4.57189	2.97005
28	8.89		1.38790	0.90340	28	29.2		4.55349	2.96392
29	8.59		1.38235	0.90155	29	28.2		4.53526	2.95783
30	**8.31**	x	1.37684	0.89970	**30**	**27.3**	x	4.51720	2.95177
31	8.05		1.37139	0.89786	31	26.4		4.49932	2.94575
32	7.81		1.36599	0.89604	32	25.6		4.48160	2.93976
33	7.58		1.36065	0.89422	33	24.9		4.46406	2.93380
34	7.36		1.35535	0.89242	34	24.1		4.44668	2.92787
35	**7.16**	x	1.35010	0.89062	**35**	**23.5**	x	4.42946	2.92198

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 90

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
36	6.96		1.34490	0.88883	36	22.8		4.41240	2.91612
37	6.78		1.33975	0.88706	37	22.2		4.39550	2.91030
38	6.61		1.33465	0.88529	38	21.7		4.37876	2.90450
39	6.44		1.32959	0.88354	39	21.1		4.36217	2.89874
40	**6.29**	x	1.32458	0.88179	**40**	**20.6**	x	4.34573	2.89301
41	6.14		1.31961	0.88005	41	20.1		4.32944	2.88731
42	6		1.31469	0.87833	42	19.7		4.31330	2.88165
43	5.87		1.30982	0.87661	43	19.2		4.29731	2.87601
44	5.74		1.30499	0.87490	44	18.8		4.28146	2.87040
45	**5.61**	x	1.30020	0.87320	**45**	**18.4**	x	4.26575	2.86483
46	5.5		1.29545	0.87151	46	18		4.25018	2.85928
47	5.38		1.29075	0.86983	47	17.7		4.23475	2.85377
48	5.28		1.28609	0.86816	48	17.3		4.21945	2.84828
49	5.17		1.28147	0.86649	49	17		4.20429	2.84283
50	**5.07**	x	1.27689	0.86484	**50**	**16.6**	x	4.18927	2.83740
51	4.98		1.27235	0.86320	51	16.3		4.17437	2.83201
52	4.89		1.26785	0.86156	52	16		4.15960	2.82664
53	4.8		1.26339	0.85993	53	15.7		4.14496	2.82130
54	4.71		1.25896	0.85831	54	15.5		4.13045	2.81599
55	**4.63**	x	1.25458	0.85670	**55**	**15.2**	x	4.11606	2.81070
56	4.55		1.25023	0.85510	56	14.9		4.10180	2.80545
57	4.48		1.24592	0.85351	57	14.7		4.08765	2.80022
58	4.4		1.24164	0.85192	58	14.4		4.07363	2.79502
59	4.33		1.23740	0.85035	59	14.2		4.05972	2.78985
60	**4.26**	x	1.23320	0.84878	**60**	**14**	x	4.04593	2.78470
61	4.2		1.22903	0.84722	61	13.8		4.03226	2.77958
62	4.13		1.22490	0.84566	62	13.6		4.01870	2.77449
63	4.07		1.22080	0.84412	63	13.4		4.00525	2.76942
64	4.01		1.21673	0.84258	64	13.2		3.99191	2.76439
65	**3.95**	x	1.21270	0.84106	**65**	**13**	x	3.97869	2.75937
66	3.9		1.20870	0.83954	66	12.8		3.96557	2.75438
67	3.84		1.20474	0.83802	67	12.6		3.95256	2.74942
68	3.79		1.20081	0.83652	68	12.4		3.93965	2.74449
69	3.74		1.19690	0.83502	69	12.3		3.92685	2.73958
70	**3.69**	x	1.19303	0.83353	**70**	**12.1**	x	3.91415	2.73469
71	3.64		1.18919	0.83205	71	11.9		3.90156	2.72983

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 90

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
72	3.59		1.18539	0.83058	72	11.8		3.88906	2.72499
73	3.54		1.18161	0.82911	73	11.6		3.87667	2.72018
74	3.5		1.17786	0.82765	74	11.5		3.86437	2.71539
75	**3.46**	x	1.17414	0.82620	**75**	**11.3**	x	3.85217	2.71063
76	3.41		1.17045	0.82476	76	11.2		3.84007	2.70589
77	3.37		1.16679	0.82332	77	11.1		3.82806	2.70118
78	3.33		1.16316	0.82189	78	10.9		3.81614	2.69648
79	3.29		1.15956	0.82047	79	10.8		3.80432	2.69182
80	**3.25**	x	1.15598	0.81905	**80**	**10.7**	x	3.79259	2.68717
81	3.22		1.15243	0.81764	81	10.5		3.78095	2.68255
82	3.18		1.14891	0.81624	82	10.4		3.76940	2.67795
83	3.14		1.14542	0.81484	83	10.3		3.75794	2.67337
84	3.11		1.14195	0.81346	84	10.2		3.74657	2.66882
85	**3.07**	x	1.13851	0.81208	**85**	**10.1**	x	3.73528	2.66429
86	3.04		1.13510	0.81070	86	9.98		3.72408	2.65978
87	3.01		1.13171	0.80933	87	9.87		3.71297	2.65529
88	2.98		1.12835	0.80797	88	9.77		3.70193	2.65083
89	2.95		1.12501	0.80662	89	9.67		3.69099	2.64639
90	**2.92**	x	1.12170	0.80527	**90**	**9.57**	x	3.68012	2.64197
91	2.89		1.11841	0.80393	91	9.47		3.66933	2.63757
92	2.86		1.11515	0.80260	92	9.37		3.65863	2.63319
93	2.83		1.11191	0.80127	93	9.28		3.64800	2.62883
94	2.8		1.10869	0.79995	94	9.19		3.63745	2.62450
95	**2.77**	x	1.10550	0.79863	**95**	**9.1**	x	3.62698	2.62018
96	2.75		1.10233	0.79732	96	9.01		3.61658	2.61589
97	2.72		1.09919	0.79602	97	8.93		3.60627	2.61161
98	2.7		1.09607	0.79472	98	8.84		3.59602	2.60736
99	2.67		1.09297	0.79343	99	8.76		3.58585	2.60313
100	**2.65**	x	1.08989	0.79215	**100**	**8.68**	x	3.57576	2.59892
101	2.62		1.08684	0.79087	101	8.6		3.56573	2.59472
102	2.6		1.08380	0.78960	102	8.53		3.55578	2.59055
103	2.58		1.08079	0.78833	103	8.45		3.54590	2.58640
104	2.55		1.07780	0.78707	104	8.38		3.53609	2.58227
105	**2.53**	x	1.07483	0.78582	**105**	**8.3**	x	3.52635	2.57815
106	2.51		1.07188	0.78457	106	8.23		3.51668	2.57406
107	2.49		1.06896	0.78333	107	8.16		3.50708	2.56998

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 90

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
108	2.47		1.06605	0.78209	108	8.09		3.49754	2.56593
109	2.45		1.06316	0.78086	109	8.02		3.48807	2.56189
110	**2.43**	x	1.06030	0.77964	**110**	**7.96**	x	3.47867	2.55787
111	2.41		1.05745	0.77842	111	7.89		3.46933	2.55387
112	2.39		1.05463	0.77721	112	7.83		3.46006	2.54989
113	2.37		1.05182	0.77600	113	7.77		3.45085	2.54593
114	2.35		1.04903	0.77480	114	7.7		3.44170	2.54199
115	**2.33**	x	1.04626	0.77360	**115**	**7.64**	x	3.43262	2.53806
116	2.31		1.04351	0.77241	116	7.58		3.42360	2.53415
117	2.29		1.04078	0.77122	117	7.52		3.41464	2.53026
118	2.28		1.03807	0.77004	118	7.47		3.40574	2.52639
119	2.26		1.03538	0.76887	119	7.41		3.39690	2.52254
120	**2.24**	x	1.03270	0.76770	**120**	**7.35**	x	3.38812	2.51870
121	2.22		1.03004	0.76654	121	7.3		3.37940	2.51488
122	2.21		1.02740	0.76538	122	7.25		3.37074	2.51108
123	2.19		1.02478	0.76422	123	7.19		3.36214	2.50730
124	2.18		1.02218	0.76308	124	7.14		3.35359	2.50353
125	**2.16**	x	1.01959	0.76193	**125**	**7.09**	x	3.34510	2.49978
126	2.15		1.01702	0.76079	126	7.04		3.33667	2.49605
127	2.13		1.01446	0.75966	127	6.99		3.32829	2.49233
128	2.12		1.01193	0.75853	128	6.94		3.31997	2.48863
129	2.1		1.00941	0.75741	129	6.89		3.31171	2.48495
130	**2.09**	x	1.00690	0.75629	**130**	**6.84**	x	3.30349	2.48128
131	2.07		1.00442	0.75518	131	6.8		3.29533	2.47763
132	2.06		1.00195	0.75407	132	6.75		3.28722	2.47400
133	2.04		0.99949	0.75297	133	6.71		3.27917	2.47038
134	2.03		0.99705	0.75187	134	6.66		3.27117	2.46678
135	**2.02**	x	0.99463	0.75078	**135**	**6.62**	x	3.26322	2.46319
136	2		0.99222	0.74969	136	6.57		3.25532	2.45962
137	1.99		0.98983	0.74861	137	6.53		3.24747	2.45607
138	1.98		0.98745	0.74753	138	6.49		3.23967	2.45253
139	1.97		0.98509	0.74646	139	6.45		3.23192	2.44901
140	**1.95**	x	0.98274	0.74539	**140**	**6.41**	x	3.22422	2.44550
141	1.94		0.98041	0.74432	141	6.37		3.21657	2.44201
142	1.93		0.97809	0.74326	142	6.33		3.20896	2.43853
143	1.92		0.97579	0.74221	143	6.29		3.20141	2.43507

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Rodenstock ALPA HR Alpagon - ALP 90

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
144	1.91		0.97350	0.74116	144	6.25		3.19390	2.43162
145	**1.89**	x	0.97123	0.74011	**145**	**6.21**	x	3.18644	2.42819
146	1.88		0.96897	0.73907	146	6.17		3.17902	2.42477
147	1.87		0.96672	0.73803	147	6.14		3.17165	2.42137
148	1.86		0.96449	0.73700	148	6.1		3.16433	2.41798
149	1.85		0.96227	0.73597	149	6.06		3.15705	2.41461
150	**1.84**	x	0.96006	0.73495	**150**	**6.03**	x	3.14982	2.41125
151	1.83		0.95787	0.73393	151	5.99		3.14263	2.40791
152	1.82		0.95569	0.73292	152	5.96		3.13548	2.40458
153	1.81		0.95353	0.73191	153	5.93		3.12838	2.40127
154	1.8		0.95138	0.73090	154	5.89		3.12132	2.39796
155	**1.79**	x	0.94924	0.72990	**155**	**5.86**	x	3.11430	2.39468
156	1.78		0.94711	0.72890	156	5.83		3.10733	2.39140
157	1.77		0.94500	0.72791	157	5.79		3.10040	2.38815
158	1.76		0.94290	0.72692	158	5.76		3.09351	2.38490
159	1.75		0.94081	0.72593	159	5.73		3.08666	2.38167
160	**1.74**	x	0.93874	0.72495	**160**	**5.7**	x	3.07985	2.37845
161	1.73		0.93668	0.72398	161	5.67		3.07309	2.37525
162	1.72		0.93463	0.72300	162	5.64		3.06636	2.37206
163	1.71		0.93259	0.72203	163	5.61		3.05967	2.36888
164	1.7		0.93056	0.72107	164	5.58		3.05302	2.36571
165	**1.69**	x	0.92855	0.72011	**165**	**5.55**	x	3.04642	2.36256
166	1.68		0.92655	0.71915	166	5.52		3.03985	2.35942
167	1.67		0.92455	0.71820	167	5.49		3.03332	2.35630
168	1.66		0.92258	0.71725	168	5.46		3.02682	2.35319
169	1.66		0.92061	0.71631	169	5.43		3.02037	2.35009
170	**1.65**	x	0.91865	0.71537	**170**	**5.41**	x	3.01395	2.34700
171	1.64		0.91671	0.71443	171	5.38		3.00757	2.34393
172	1.63		0.91477	0.71350	172	5.35		3.00123	2.34087
173	1.62		0.91285	0.71257	173	5.33		2.99492	2.33782
174	1.62		0.91094	0.71164	174	5.3		2.98865	2.33479
175	**1.61**	x	0.90904	0.71072	**175**	**5.27**	x	2.98242	2.33176
176	1.6		0.90715	0.70980	176	5.25		2.97622	2.32875
177	1.59		0.90527	0.70889	177	5.22		2.97005	2.32575
178	1.58		0.90340	0.70798	178	5.2		2.96392	2.32277
179	1.58		0.90155	0.70707	179	5.17		2.95783	2.31979

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Rodenstock ALPA HR Alpagon - ALP 90

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
180	**1.57**	x	0.89970	0.70617	**180**	**5.15**	x	2.95177	2.31683
181	1.56		0.89786	0.70527	181	5.12		2.94575	2.31388
182	1.55		0.89604	0.70438	182	5.1		2.93976	2.31095
183	1.55		0.89422	0.70348	183	5.07		2.93380	2.30802
184	1.54		0.89242	0.70260	184	5.05		2.92787	2.30510
185	**1.53**	x	0.89062	0.70171	**185**	**5.03**	x	2.92198	2.30220
186	1.53		0.88883	0.70083	186	5		2.91612	2.29931
187	1.52		0.88706	0.69995	187	4.98		2.91030	2.29643
188	1.51		0.88529	0.69908	188	4.96		2.90450	2.29357
189	1.5		0.88354	0.69821	189	4.94		2.89874	2.29071
190	**1.5**	x	0.88179	0.69734	**190**	**4.91**	x	2.89301	2.28786
191	1.49		0.88005	0.69648	191	4.89		2.88731	2.28503
192	1.48		0.87833	0.69562	192	4.87		2.88165	2.28221
193	1.48		0.87661	0.69476	193	4.85		2.87601	2.27940
194	1.47		0.87490	0.69391	194	4.83		2.87040	2.27660
195	**1.47**	x	0.87320	0.69306	**195**	**4.81**	x	2.86483	2.27381
196	1.46		0.87151	0.69221	196	4.79		2.85928	2.27103
197	1.45		0.86983	0.69137	197	4.77		2.85377	2.26827
198	1.45		0.86816	0.69053	198	4.75		2.84828	2.26551
199	1.44		0.86649	0.68969	199	4.73		2.84283	2.26276
200	**1.43**	x	0.86484	0.68886	**200**	**4.71**	x	2.83740	2.26003
201	1.43		0.86320	0.68803	201	4.69		2.83201	2.25731
202	1.42		0.86156	0.68720	202	4.67		2.82664	2.25459
203	1.42		0.85993	0.68638	203	4.65		2.82130	2.25189
204	1.41		0.85831	0.68556	204	4.63		2.81599	2.24920
205	**1.4**	x	0.85670	0.68474	**205**	**4.61**	x	2.81070	2.24652
206	1.4		0.85510	0.68392	206	4.59		2.80545	2.24385
207	1.39		0.85351	0.68311	207	4.57		2.80022	2.24119
208	1.39		0.85192	0.68231	208	4.55		2.79502	2.23854
209	1.38		0.85035	0.68150	209	4.54		2.78985	2.23590
210	**1.38**	x	0.84878	0.68070	**210**	**4.52**	x	2.78470	2.23327
211	1.37		0.84722	0.67990	211	4.5		2.77958	2.23065
212	1.37		0.84566	0.67911	212	4.48		2.77449	2.22804
213	1.36		0.84412	0.67831	213	4.46		2.76942	2.22544
214	1.36		0.84258	0.67752	214	4.45		2.76439	2.22285
215	**1.35**	x	0.84106	0.67674	**215**	**4.43**	x	2.75937	2.22027

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figures in red/with marking "XX" and "X" are engraved on the HPF ring.
** H +6/17 = theoretical distance using the respecitve hub of thehelical plus macro tube of the corresponding dimension (in mm) at a given degree setting - Please check if distance is achievable in reality as the ca
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ALPA® OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 90

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
216	1.34		0.83954	0.67595	216	4.41		2.75438	2.21770
217	1.34		0.83802	0.67517	217	4.4		2.74942	2.21514
218	1.33		0.83652	0.67440	218	4.38		2.74449	2.21259
219	1.33		0.83502	0.67362	219	4.36		2.73958	2.21005
220	**1.32**	x	0.83353	0.67285	**220**	**4.35**	x	2.73469	2.20752
221	1.32		0.83205	0.67208	221	4.33		2.72983	2.20500
222	1.31		0.83058	0.67132	222	4.31		2.72499	2.20248
223	1.31		0.82911	0.67055	223	4.3		2.72018	2.19998
224	1.3		0.82765	0.66979	224	4.28		2.71539	2.19749
225	**1.3**	x	0.82620	0.66904	**225**	**4.27**	x	2.71063	2.19501
226	1.3		0.82476	0.66828	226	4.25		2.70589	2.19253
227	1.29		0.82332	0.66753	227	4.23		2.70118	2.19007
228	1.29		0.82189	0.66678	228	4.22		2.69648	2.18761
229	1.28		0.82047	0.66604	229	4.2		2.69182	2.18516
230	**1.28**	x	0.81905	0.66530	**230**	**4.19**	x	2.68717	2.18273
231	1.27		0.81764	0.66456	231	4.17		2.68255	2.18030
232	1.27		0.81624	0.66382	232	4.16		2.67795	2.17788
233	1.26		0.81484	0.66308	233	4.14		2.67337	2.17547
234	1.26		0.81346	0.66235	234	4.13		2.66882	2.17307
235	**1.25**	x	0.81208	0.66162	**235**	**4.12**	x	2.66429	2.17068
236	1.25		0.81070	0.66090	236	4.1		2.65978	2.16829
237	1.25		0.80933	0.66017	237	4.09		2.65529	2.16592
238	1.24		0.80797	0.65945	238	4.07		2.65083	2.16355
239	1.24		0.80662	0.65873	239	4.06		2.64639	2.16119
240	**1.23**	x	0.80527	0.65802	**240**	**4.05**	x	2.64197	2.15884
241	1.23		0.80393	0.65730	241	4.03		2.63757	2.15650
242	1.22		0.80260	0.65659	242	4.02		2.63319	2.15417
243	1.22		0.80127	0.65588	243	4.01		2.62883	2.15185
244	1.22		0.79995	0.65518	244	3.99		2.62450	2.14954
245	**1.21**	x	0.79863	0.65448	**245**	**3.98**	x	2.62018	2.14723
246	1.21		0.79732	0.65378	246	3.97		2.61589	2.14493
247	1.2		0.79602	0.65308	247	3.95		2.61161	2.14264
248	1.2		0.79472	0.65238	248	3.94		2.60736	2.14036
249	1.2		0.79343	0.65169	249	3.93		2.60313	2.13809
250	**1.19**	x	0.79215	0.65100	**250**	**3.91**	x	2.59892	2.13582
251	1.19		0.79087	0.65031	251	3.9		2.59472	2.13357

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ALPA OF SWITZERLAND

Rodenstock ALPA HR Alpagon - ALP 90

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
252	1.19		0.78960	0.64963	252	3.89		2.59055	2.13132
253	1.18		0.78833	0.64894	253	3.88		2.58640	2.12908
254	1.18		0.78707	0.64826	254	3.86		2.58227	2.12685
255	**1.17**	x	0.78582	0.64758	**255**	**3.85**	x	2.57815	2.12462
256	1.17		0.78457	0.64691	256	3.84		2.57406	2.12241
257	1.17		0.78333	0.64624	257	3.83		2.56998	2.12020
258	1.16		0.78209	0.64557	258	3.82		2.56593	2.11800
259	1.16		0.78086	0.64490	259	3.8		2.56189	2.11580
260	**1.16**	x	0.77964	0.64423	**260**	**3.79**	x	2.55787	2.11362
261	1.15		0.77842	0.64357	261	3.78		2.55387	2.11144
262	1.15		0.77721	0.64291	262	3.77		2.54989	2.10927
263	1.15		0.77600	0.64225	263	3.76		2.54593	2.10711
264	1.14		0.77480	0.64159	264	3.75		2.54199	2.10496
265	**1.14**	x	0.77360	0.64094	**265**	**3.74**	x	2.53806	2.10281
266	1.14		0.77241	0.64028	266	3.72		2.53415	2.10067
267	1.13		0.77122	0.63964	267	3.71		2.53026	2.09854
268	1.13		0.77004	0.63899	268	3.7		2.52639	2.09642
269	1.13		0.76887	0.63834	269	3.69		2.52254	2.09430
270	**1.12**	x	0.76770	0.63770	**270**	**3.68**	x	2.51870	2.09219

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ALPA® OF SWITZERLAND

Rodenstock HR Digaron-S - RDS 100

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
0	**∞**	xx	1.87956	1.12578	**0**	**∞**	xx	6.16655	3.69349
1	**301**	xx	1.87037	1.12306	**1**	**986**	xx	6.13640	3.68458
2	**150**	xx	1.86129	1.12036	**2**	**494**	xx	6.10658	3.67571
3	**100**	xx	1.85230	1.11767	**3**	**329**	xx	6.07709	3.66691
4	**75.3**	xx	1.84341	1.11500	**4**	**247**	xx	6.04793	3.65815
5	**60.3**	x	1.83461	1.11235	**5**	**198**	x	6.01907	3.64945
6	50.3		1.82591	1.10972	6	165		5.99053	3.64080
7	43.1		1.81731	1.10710	7	142		5.96230	3.63220
8	37.8		1.80880	1.10449	8	124		5.93437	3.62366
9	33.6		1.80037	1.10190	9	110		5.90673	3.61516
10	**30.3**	x	1.79204	1.09933	**10**	**99.3**	x	5.87939	3.60672
11	27.5		1.78379	1.09677	11	90.3		5.85233	3.59833
12	25.2		1.77563	1.09423	12	82.8		5.82556	3.58998
13	23.3		1.76756	1.09170	13	76.5		5.79907	3.58169
14	21.7		1.75956	1.08919	14	71.1		5.77285	3.57344
15	**20.2**	x	1.75165	1.08669	**15**	**66.4**	x	5.74690	3.56525
16	19		1.74383	1.08420	16	62.3		5.72121	3.55710
17	17.9		1.73608	1.08173	17	58.7		5.69579	3.54900
18	16.9		1.72841	1.07928	18	55.4		5.67063	3.54094
19	16		1.72081	1.07684	19	52.6		5.64572	3.53293
20	**15.2**	x	1.71330	1.07441	**20**	**50**	x	5.62106	3.52497
21	14.5		1.70586	1.07200	21	47.6		5.59664	3.51706
22	13.9		1.69849	1.06960	22	45.5		5.57247	3.50919
23	13.3		1.69119	1.06722	23	43.5		5.54854	3.50136
24	12.7		1.68397	1.06484	24	41.7		5.52484	3.49358
25	**12.2**	x	1.67682	1.06249	**25**	**40.1**	x	5.50138	3.48585
26	11.8		1.66974	1.06014	26	38.6		5.47814	3.47816
27	11.3		1.66273	1.05781	27	37.2		5.45513	3.47051
28	10.9		1.65578	1.05549	28	35.9		5.43235	3.46291
29	10.6		1.64890	1.05319	29	34.7		5.40978	3.45534
30	**10.2**	x	1.64209	1.05090	**30**	**33.5**	x	5.38743	3.44783
31	9.9		1.63534	1.04862	31	32.5		5.36529	3.44035
32	9.6		1.62866	1.04635	32	31.5		5.34336	3.43291
33	9.31		1.62204	1.04410	33	30.5		5.32164	3.42552
34	9.04		1.61548	1.04186	34	29.7		5.30012	3.41817
35	**8.79**	x	1.60898	1.03963	**35**	**28.8**	x	5.27880	3.41086

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ALPA® OF SWITZERLAND

Rodenstock HR Digaron-S - RDS 100

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
36	8.55		1.60254	1.03741	36	28.1		5.25768	3.40359
37	8.33		1.59616	1.03521	37	27.3		5.23676	3.39636
38	8.11		1.58985	1.03302	38	26.6		5.21603	3.38917
39	7.91		1.58359	1.03084	39	26		5.19549	3.38202
40	**7.72**	x	1.57738	1.02867	**40**	**25.3**	x	5.17514	3.37491
41	7.53		1.57124	1.02652	41	24.7		5.15497	3.36784
42	7.36		1.56514	1.02437	42	24.1		5.13499	3.36080
43	7.19		1.55911	1.02224	43	23.6		5.11518	3.35381
44	7.03		1.55313	1.02012	44	23.1		5.09556	3.34685
45	**6.88**	x	1.54720	1.01801	**45**	**22.6**	x	5.07611	3.33993
46	6.74		1.54132	1.01591	46	22.1		5.05683	3.33305
47	6.6		1.53550	1.01383	47	21.7		5.03772	3.32620
48	6.47		1.52973	1.01175	48	21.2		5.01878	3.31939
49	6.34		1.52400	1.00969	49	20.8		5.00001	3.31262
50	**6.22**	x	1.51833	1.00763	**50**	**20.4**	x	4.98141	3.30589
51	6.1		1.51271	1.00559	51	20		4.96296	3.29919
52	5.98		1.50714	1.00356	52	19.6		4.94467	3.29252
53	5.88		1.50161	1.00154	53	19.3		4.92655	3.28589
54	5.77		1.49613	0.99953	54	18.9		4.90857	3.27930
55	**5.67**	x	1.49070	0.99753	**55**	**18.6**	x	4.89076	3.27274
56	5.57		1.48532	0.99554	56	18.3		4.87309	3.26622
57	5.48		1.47998	0.99356	57	18		4.85557	3.25973
58	5.39		1.47469	0.99160	58	17.7		4.83821	3.25327
59	5.3		1.46944	0.98964	59	17.4		4.82098	3.24685
60	**5.21**	x	1.46423	0.98769	**60**	**17.1**	x	4.80391	3.24046
61	5.13		1.45907	0.98575	61	16.8		4.78697	3.23410
62	5.05		1.45395	0.98383	62	16.6		4.77018	3.22778
63	4.98		1.44887	0.98191	63	16.3		4.75352	3.22149
64	4.9		1.44384	0.98000	64	16.1		4.73701	3.21523
65	**4.83**	x	1.43885	0.97811	**65**	**15.8**	x	4.72062	3.20901
66	4.76		1.43389	0.97622	66	15.6		4.70438	3.20282
67	4.69		1.42898	0.97434	67	15.4		4.68826	3.19665
68	4.63		1.42411	0.97247	68	15.2		4.67228	3.19053
69	4.56		1.41928	0.97061	69	15		4.65642	3.18443
70	**4.5**	x	1.41448	0.96876	**70**	**14.8**	x	4.64070	3.17836
71	4.44		1.40973	0.96692	71	14.6		4.62509	3.17232

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ALPA® OF SWITZERLAND

Rodenstock HR Digaron-S - RDS 100

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
72	4.38		1.40501	0.96509	72	14.4		4.60962	3.16632
73	4.32		1.40033	0.96327	73	14.2		4.59427	3.16034
74	4.27		1.39569	0.96146	74	14		4.57903	3.15439
75	**4.21**	x	1.39108	0.95966	**75**	**13.8**	x	4.56392	3.14848
76	4.16		1.38651	0.95786	76	13.6		4.54893	3.14259
77	4.11		1.38198	0.95608	77	13.5		4.53406	3.13674
78	4.06		1.37748	0.95430	78	13.3		4.51930	3.13091
79	4.01		1.37302	0.95253	79	13.2		4.50465	3.12511
80	**3.96**	x	1.36859	0.95078	**80**	**13**	x	4.49012	3.11934
81	3.92		1.36420	0.94903	81	12.8		4.47571	3.11360
82	3.87		1.35983	0.94728	82	12.7		4.46140	3.10789
83	3.83		1.35551	0.94555	83	12.6		4.44720	3.10220
84	3.78		1.35121	0.94383	84	12.4		4.43311	3.09655
85	**3.74**	x	1.34695	0.94211	**85**	**12.3**	x	4.41913	3.09092
86	3.7		1.34272	0.94040	86	12.1		4.40525	3.08532
87	3.66		1.33852	0.93871	87	12		4.39148	3.07974
88	3.62		1.33436	0.93702	88	11.9		4.37782	3.07420
89	3.58		1.33022	0.93533	89	11.8		4.36425	3.06868
90	**3.55**	x	1.32612	0.93366	**90**	**11.6**	x	4.35079	3.06319
91	3.51		1.32205	0.93199	91	11.5		4.33742	3.05772
92	3.47		1.31800	0.93034	92	11.4		4.32416	3.05228
93	3.44		1.31399	0.92869	93	11.3		4.31099	3.04687
94	3.4		1.31001	0.92704	94	11.2		4.29792	3.04148
95	**3.37**	x	1.30605	0.92541	**95**	**11.1**	x	4.28495	3.03612
96	3.34		1.30213	0.92378	96	10.9		4.27207	3.03078
97	3.31		1.29823	0.92216	97	10.8		4.25928	3.02547
98	3.27		1.29436	0.92055	98	10.7		4.24659	3.02019
99	3.24		1.29052	0.91895	99	10.6		4.23399	3.01493
100	**3.21**	x	1.28671	0.91735	**100**	**10.5**	x	4.22148	3.00969
101	3.18		1.28292	0.91577	101	10.4		4.20906	3.00448
102	3.15		1.27916	0.91419	102	10.3		4.19673	2.99930
103	3.12		1.27543	0.91261	103	10.3		4.18448	2.99414
104	3.1		1.27173	0.91105	104	10.2		4.17233	2.98900
105	**3.07**	x	1.26805	0.90949	**105**	**10.1**	x	4.16026	2.98389
106	3.04		1.26439	0.90794	106	9.98		4.14827	2.97880
107	3.02		1.26077	0.90639	107	9.9		4.13637	2.97373

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ALPA® OF SWITZERLAND

Rodenstock HR Digaron-S - RDS 100

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
108	2.99		1.25716	0.90486	108	9.81		4.12455	2.96869
109	2.96		1.25359	0.90333	109	9.73		4.11282	2.96368
110	**2.94**	x	1.25004	0.90181	**110**	**9.64**	x	4.10117	2.95868
111	2.91		1.24651	0.90029	111	9.56		4.08959	2.95371
112	2.89		1.24301	0.89878	112	9.48		4.07810	2.94876
113	2.87		1.23953	0.89728	113	9.41		4.06669	2.94384
114	2.84		1.23607	0.89579	114	9.33		4.05535	2.93893
115	**2.82**	x	1.23264	0.89430	**115**	**9.26**	x	4.04410	2.93405
116	2.8		1.22923	0.89282	116	9.18		4.03291	2.92920
117	2.78		1.22585	0.89135	117	9.11		4.02181	2.92436
118	2.75		1.22249	0.88988	118	9.04		4.01078	2.91955
119	2.73		1.21915	0.88842	119	8.97		3.99983	2.91476
120	**2.71**	x	1.21583	0.88696	**120**	**8.9**	x	3.98895	2.90999
121	2.69		1.21254	0.88552	121	8.83		3.97814	2.90524
122	2.67		1.20926	0.88408	122	8.76		3.96740	2.90051
123	2.65		1.20601	0.88264	123	8.7		3.95674	2.89581
124	2.63		1.20279	0.88121	124	8.63		3.94615	2.89112
125	**2.61**	x	1.19958	0.87979	**125**	**8.57**	x	3.93562	2.88646
126	2.59		1.19639	0.87838	126	8.51		3.92517	2.88182
127	2.57		1.19323	0.87697	127	8.45		3.91478	2.87720
128	2.56		1.19008	0.87557	128	8.39		3.90447	2.87259
129	2.54		1.18696	0.87417	129	8.33		3.89422	2.86801
130	**2.52**	x	1.18385	0.87278	**130**	**8.27**	x	3.88404	2.86346
131	2.5		1.18077	0.87140	131	8.21		3.87392	2.85892
132	2.48		1.17771	0.87002	132	8.15		3.86387	2.85440
133	2.47		1.17466	0.86865	133	8.1		3.85388	2.84990
134	2.45		1.17164	0.86728	134	8.04		3.84396	2.84542
135	**2.43**	x	1.16864	0.86592	**135**	**7.99**	x	3.83411	2.84096
136	2.42		1.16565	0.86457	136	7.93		3.82431	2.83652
137	2.4		1.16268	0.86322	137	7.88		3.81458	2.83210
138	2.39		1.15974	0.86188	138	7.83		3.80491	2.82770
139	2.37		1.15681	0.86055	139	7.78		3.79530	2.82331
140	**2.36**	x	1.15390	0.85922	**140**	**7.73**	x	3.78575	2.81895
141	2.34		1.15101	0.85789	141	7.68		3.77626	2.81461
142	2.33		1.14813	0.85657	142	7.63		3.76684	2.81028
143	2.31		1.14528	0.85526	143	7.58		3.75747	2.80598

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ALPA® OF SWITZERLAND

Rodenstock HR Digaron-S - RDS 100

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
144	2.3		1.14244	0.85395	144	7.53		3.74816	2.80169
145	**2.28**	x	1.13962	0.85265	**145**	**7.48**	x	3.73890	2.79742
146	2.27		1.13682	0.85136	146	7.44		3.72971	2.79317
147	2.25		1.13403	0.85007	147	7.39		3.72057	2.78894
148	2.24		1.13126	0.84878	148	7.35		3.71149	2.78472
149	2.23		1.12851	0.84750	149	7.3		3.70246	2.78052
150	**2.21**	x	1.12578	0.84623	**150**	**7.26**	x	3.69349	2.77635
151	2.2		1.12306	0.84496	151	7.22		3.68458	2.77219
152	2.19		1.12036	0.84370	152	7.17		3.67571	2.76804
153	2.17		1.11767	0.84244	153	7.13		3.66691	2.76392
154	2.16		1.11500	0.84119	154	7.09		3.65815	2.75981
155	**2.15**	x	1.11235	0.83994	**155**	**7.05**	x	3.64945	2.75572
156	2.14		1.10972	0.83870	156	7.01		3.64080	2.75165
157	2.12		1.10710	0.83747	157	6.97		3.63220	2.74759
158	2.11		1.10449	0.83623	158	6.93		3.62366	2.74355
159	2.1		1.10190	0.83501	159	6.89		3.61516	2.73953
160	**2.09**	x	1.09933	0.83379	**160**	**6.85**	x	3.60672	2.73553
161	2.08		1.09677	0.83257	161	6.81		3.59833	2.73154
162	2.06		1.09423	0.83136	162	6.77		3.58998	2.72757
163	2.05		1.09170	0.83016	163	6.74		3.58169	2.72361
164	2.04		1.08919	0.82896	164	6.7		3.57344	2.71967
165	**2.03**	x	1.08669	0.82776	**165**	**6.66**	x	3.56525	2.71575
166	2.02		1.08420	0.82657	166	6.63		3.55710	2.71184
167	2.01		1.08173	0.82538	167	6.59		3.54900	2.70795
168	2		1.07928	0.82420	168	6.56		3.54094	2.70408
169	1.99		1.07684	0.82303	169	6.52		3.53293	2.70022
170	**1.98**	x	1.07441	0.82186	**170**	**6.49**	x	3.52497	2.69638
171	1.97		1.07200	0.82069	171	6.45		3.51706	2.69256
172	1.96		1.06960	0.81953	172	6.42		3.50919	2.68874
173	1.95		1.06722	0.81837	173	6.39		3.50136	2.68495
174	1.94		1.06484	0.81722	174	6.35		3.49358	2.68117
175	**1.93**	x	1.06249	0.81607	**175**	**6.32**	x	3.48585	2.67741
176	1.92		1.06014	0.81493	176	6.29		3.47816	2.67366
177	1.91		1.05781	0.81379	177	6.26		3.47051	2.66992
178	1.9		1.05549	0.81266	178	6.23		3.46291	2.66621
179	1.89		1.05319	0.81153	179	6.2		3.45534	2.66250

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ALPA® OF SWITZERLAND

Rodenstock HR Digaron-S - RDS 100

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
180	**1.88**	x	1.05090	0.81041	**180**	**6.17**	x	3.44783	2.65882
181	1.87		1.04862	0.80929	181	6.14		3.44035	2.65514
182	1.86		1.04635	0.80817	182	6.11		3.43291	2.65148
183	1.85		1.04410	0.80706	183	6.08		3.42552	2.64784
184	1.84		1.04186	0.80596	184	6.05		3.41817	2.64421
185	**1.83**	x	1.03963	0.80485	**185**	**6.02**	x	3.41086	2.64059
186	1.83		1.03741	0.80376	186	5.99		3.40359	2.63699
187	1.82		1.03521	0.80266	187	5.96		3.39636	2.63341
188	1.81		1.03302	0.80157	188	5.93		3.38917	2.62984
189	1.8		1.03084	0.80049	189	5.91		3.38202	2.62628
190	**1.79**	x	1.02867	0.79941	**190**	**5.88**	x	3.37491	2.62274
191	1.78		1.02652	0.79833	191	5.85		3.36784	2.61921
192	1.78		1.02437	0.79726	192	5.83		3.36080	2.61569
193	1.77		1.02224	0.79620	193	5.8		3.35381	2.61219
194	1.76		1.02012	0.79513	194	5.77		3.34685	2.60870
195	**1.75**	x	1.01801	0.79407	**195**	**5.75**	x	3.33993	2.60523
196	1.74		1.01591	0.79302	196	5.72		3.33305	2.60177
197	1.74		1.01383	0.79197	197	5.7		3.32620	2.59832
198	1.73		1.01175	0.79092	198	5.67		3.31939	2.59489
199	1.72		1.00969	0.78988	199	5.65		3.31262	2.59147
200	**1.71**	x	1.00763	0.78884	**200**	**5.62**	x	3.30589	2.58806
201	1.71		1.00559	0.78781	201	5.6		3.29919	2.58467
202	1.7		1.00356	0.78678	202	5.57		3.29252	2.58129
203	1.69		1.00154	0.78575	203	5.55		3.28589	2.57792
204	1.68		0.99953	0.78473	204	5.52		3.27930	2.57456
205	**1.68**	x	0.99753	0.78371	**205**	**5.5**	x	3.27274	2.57122
206	1.67		0.99554	0.78269	206	5.48		3.26622	2.56789
207	1.66		0.99356	0.78168	207	5.46		3.25973	2.56458
208	1.66		0.99160	0.78068	208	5.43		3.25327	2.56128
209	1.65		0.98964	0.77967	209	5.41		3.24685	2.55799
210	**1.64**	x	0.98769	0.77867	**210**	**5.39**	x	3.24046	2.55471
211	1.64		0.98575	0.77768	211	5.37		3.23410	2.55144
212	1.63		0.98383	0.77669	212	5.34		3.22778	2.54819
213	1.62		0.98191	0.77570	213	5.32		3.22149	2.54495
214	1.62		0.98000	0.77472	214	5.3		3.21523	2.54172
215	**1.61**	x	0.97811	0.77374	**215**	**5.28**	x	3.20901	2.53851

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ALPA® OF SWITZERLAND

Rodenstock HR Digaron-S - RDS 100

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
216	1.6		0.97622	0.77276	216	5.26		3.20282	2.53530
217	1.6		0.97434	0.77179	217	5.24		3.19665	2.53211
218	1.59		0.97247	0.77082	218	5.22		3.19053	2.52893
219	1.58		0.97061	0.76985	219	5.2		3.18443	2.52576
220	**1.58**	x	0.96876	0.76889	**220**	**5.18**	x	3.17836	2.52261
221	1.57		0.96692	0.76793	221	5.15		3.17232	2.51946
222	1.57		0.96509	0.76698	222	5.13		3.16632	2.51633
223	1.56		0.96327	0.76603	223	5.12		3.16034	2.51321
224	1.55		0.96146	0.76508	224	5.1		3.15439	2.51010
225	**1.55**	x	0.95966	0.76414	**225**	**5.08**	x	3.14848	2.50701
226	1.54		0.95786	0.76320	226	5.06		3.14259	2.50392
227	1.54		0.95608	0.76226	227	5.04		3.13674	2.50085
228	1.53		0.95430	0.76132	228	5.02		3.13091	2.49779
229	1.52		0.95253	0.76039	229	5		3.12511	2.49473
230	**1.52**	x	0.95078	0.75947	**230**	**4.98**	x	3.11934	2.49169
231	1.51		0.94903	0.75855	231	4.96		3.11360	2.48867
232	1.51		0.94728	0.75763	232	4.94		3.10789	2.48565
233	1.5		0.94555	0.75671	233	4.93		3.10220	2.48264
234	1.5		0.94383	0.75580	234	4.91		3.09655	2.47965
235	**1.49**	x	0.94211	0.75489	**235**	**4.89**	x	3.09092	2.47666
236	1.49		0.94040	0.75398	236	4.87		3.08532	2.47369
237	1.48		0.93871	0.75308	237	4.86		3.07974	2.47073
238	1.47		0.93702	0.75218	238	4.84		3.07420	2.46777
239	1.47		0.93533	0.75128	239	4.82		3.06868	2.46483
240	**1.46**	x	0.93366	0.75039	**240**	**4.8**	x	3.06319	2.46190
241	1.46		0.93199	0.74950	241	4.79		3.05772	2.45898
242	1.45		0.93034	0.74861	242	4.77		3.05228	2.45608
243	1.45		0.92869	0.74773	243	4.75		3.04687	2.45318
244	1.44		0.92704	0.74685	244	4.74		3.04148	2.45029
245	**1.44**	x	0.92541	0.74597	**245**	**4.72**	x	3.03612	2.44741
246	1.43		0.92378	0.74510	246	4.7		3.03078	2.44454
247	1.43		0.92216	0.74423	247	4.69		3.02547	2.44169
248	1.42		0.92055	0.74336	248	4.67		3.02019	2.43884
249	1.42		0.91895	0.74249	249	4.66		3.01493	2.43600
250	**1.41**	x	0.91735	0.74163	**250**	**4.64**	x	3.00969	2.43318
251	1.41		0.91577	0.74077	251	4.63		3.00448	2.43036

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ALPA OF SWITZERLAND

Rodenstock HR Digaron-S - RDS 100

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
252	1.41		0.91419	0.73992	252	4.61		2.99930	2.42756
253	1.4		0.91261	0.73907	253	4.59		2.99414	2.42476
254	1.4		0.91105	0.73822	254	4.58		2.98900	2.42197
255	**1.39**	x	0.90949	0.73737	**255**	**4.56**	x	2.98389	2.41920
256	1.39		0.90794	0.73653	256	4.55		2.97880	2.41643
257	1.38		0.90639	0.73569	257	4.53		2.97373	2.41367
258	1.38		0.90486	0.73485	258	4.52		2.96869	2.41093
259	1.37		0.90333	0.73402	259	4.5		2.96368	2.40819
260	**1.37**	x	0.90181	0.73319	**260**	**4.49**	x	2.95868	2.40546
261	1.36		0.90029	0.73236	261	4.48		2.95371	2.40275
262	1.36		0.89878	0.73153	262	4.46		2.94876	2.40004
263	1.36		0.89728	0.73071	263	4.45		2.94384	2.39734
264	1.35		0.89579	0.72989	264	4.43		2.93893	2.39465
265	**1.35**	x	0.89430	0.72907	**265**	**4.42**	x	2.93405	2.39197
266	1.34		0.89282	0.72826	266	4.41		2.92920	2.38930
267	1.34		0.89135	0.72745	267	4.39		2.92436	2.38664
268	1.33		0.88988	0.72664	268	4.38		2.91955	2.38398
269	1.33		0.88842	0.72583	269	4.36		2.91476	2.38134
270	**1.33**	x	0.88696	0.72503	**270**	**4.35**	x	2.90999	2.37871

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might be within the optical system!

ALPA OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 180

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
0	**∞**	xx	5.73038	3.29310	**0**	**∞**	xx	18.80047	10.80412
1	**967**	xx	5.70073	3.28427	**1**	**3174**	xx	18.70319	10.77518
2	**484**	xx	5.67141	3.27551	**2**	**1588**	xx	18.60698	10.74641
3	**323**	xx	5.64240	3.26679	**3**	**1059**	xx	18.51182	10.71782
4	**242**	xx	5.61371	3.25813	**4**	**794**	xx	18.41769	10.68940
5	**194**	x	5.58533	3.24952	**5**	**636**	x	18.32458	10.66115
6	162		5.55726	3.24096	6	530		18.23248	10.63307
7	139		5.52949	3.23245	7	454		18.14136	10.60516
8	121		5.50201	3.22400	8	398		18.05122	10.57741
9	108		5.47483	3.21559	9	354		17.96202	10.54983
10	**97.1**	x	5.44793	3.20723	**10**	**318**	x	17.87377	10.52241
11	88.3		5.42131	3.19892	11	290		17.78645	10.49515
12	80.9		5.39497	3.19066	12	266		17.70003	10.46805
13	74.7		5.36890	3.18245	13	245		17.61451	10.44111
14	69.4		5.34311	3.17429	14	228		17.52987	10.41433
15	**64.8**	x	5.31757	3.16617	**15**	**213**	x	17.44611	10.38770
16	60.8		5.29230	3.15810	16	199		17.36320	10.36123
17	57.2		5.26729	3.15008	17	188		17.28113	10.33491
18	54.1		5.24253	3.14211	18	177		17.19989	10.30874
19	51.3		5.21801	3.13418	19	168		17.11947	10.28273
20	**48.7**	x	5.19375	3.12629	**20**	**160**	x	17.03985	10.25686
21	46.4		5.16972	3.11845	21	152		16.96103	10.23114
22	44.3		5.14594	3.11066	22	145		16.88299	10.20557
23	42.4		5.12238	3.10291	23	139		16.80572	10.18014
24	40.6		5.09906	3.09520	24	133		16.72921	10.15486
25	**39**	x	5.07597	3.08754	**25**	**128**	x	16.65344	10.12972
26	37.6		5.05310	3.07992	26	123		16.57841	10.10472
27	36.2		5.03045	3.07234	27	119		16.50411	10.07986
28	34.9		5.00802	3.06481	28	114		16.43053	10.05515
29	33.7		4.98581	3.05732	29	111		16.35764	10.03057
30	**32.6**	x	4.96381	3.04987	**30**	**107**	x	16.28546	10.00612
31	31.6		4.94201	3.04246	31	104		16.21396	9.98182
32	30.6		4.92043	3.03509	32	100		16.14313	9.95765
33	29.7		4.89904	3.02776	33	97.3		16.07297	9.93361
34	28.8		4.87786	3.02048	34	94.5		16.00347	9.90970
35	**28**	x	4.85687	3.01323	**35**	**91.8**	x	15.93461	9.88593

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 180

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
36	27.2		4.83608	3.00603	36	89.3		15.86640	9.86229
37	26.5		4.81548	2.99886	37	86.9		15.79881	9.83878
38	25.8		4.79507	2.99173	38	84.7		15.73185	9.81539
39	25.2		4.77484	2.98464	39	82.5		15.66549	9.79213
40	**24.5**	x	4.75480	2.97759	**40**	**80.5**	x	15.59974	9.76900
41	23.9		4.73494	2.97058	41	78.5		15.53459	9.74600
42	23.4		4.71526	2.96361	42	76.7		15.47003	9.72311
43	22.8		4.69576	2.95667	43	74.9		15.40604	9.70036
44	22.3		4.67643	2.94977	44	73.3		15.34263	9.67772
45	**21.8**	x	4.65728	2.94291	**45**	**71.7**	x	15.27978	9.65520
46	21.4		4.63829	2.93608	46	70.1		15.21749	9.63281
47	20.9		4.61947	2.92929	47	68.7		15.15575	9.61053
48	20.5		4.60082	2.92254	48	67.3		15.09455	9.58838
49	20.1		4.58233	2.91582	49	65.9		15.03389	9.56634
50	**19.7**	x	4.56400	2.90914	**50**	**64.6**	x	14.97375	9.54442
51	19.3		4.54583	2.90249	51	63.4		14.91414	9.52261
52	19		4.52782	2.89588	52	62.2		14.85504	9.50092
53	18.6		4.50996	2.88930	53	61		14.79645	9.47934
54	18.3		4.49225	2.88276	54	59.9		14.73836	9.45787
55	**17.9**	x	4.47470	2.87625	**55**	**58.9**	x	14.68077	9.43652
56	17.6		4.45729	2.86978	56	57.8		14.62367	9.41528
57	17.3		4.44004	2.86334	57	56.8		14.56704	9.39415
58	17		4.42292	2.85693	58	55.9		14.51090	9.37312
59	16.7		4.40595	2.85055	59	54.9		14.45523	9.35221
60	**16.5**	x	4.38913	2.84421	**60**	**54**	x	14.40002	9.33140
61	16.2		4.37244	2.83790	61	53.2		14.34527	9.31070
62	16		4.35589	2.83163	62	52.3		14.29097	9.29011
63	15.7		4.33948	2.82538	63	51.5		14.23712	9.26962
64	15.5		4.32320	2.81917	64	50.7		14.18372	9.24924
65	**15.2**	x	4.30705	2.81299	**65**	**50**	x	14.13075	9.22896
66	15		4.29104	2.80684	66	49.2		14.07821	9.20879
67	14.8		4.27515	2.80072	67	48.5		14.02610	9.18871
68	14.6		4.25940	2.79463	68	47.8		13.97441	9.16874
69	14.4		4.24377	2.78858	69	47.1		13.92313	9.14887
70	**14.2**	x	4.22827	2.78255	**70**	**46.5**	x	13.87227	9.12910
71	14		4.21289	2.77655	71	45.9		13.82181	9.10942

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 180

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
72	13.8		4.19763	2.77059	72	45.2		13.77176	9.08985
73	13.6		4.18250	2.76465	73	44.6		13.72210	9.07037
74	13.4		4.16748	2.75874	74	44		13.67283	9.05099
75	**13.2**	x	4.15258	2.75287	**75**	**43.5**	x	13.62395	9.03171
76	13.1		4.13780	2.74702	76	42.9		13.57545	9.01252
77	12.9		4.12313	2.74120	77	42.4		13.52733	8.99343
78	12.8		4.10858	2.73541	78	41.8		13.47959	8.97443
79	12.6		4.09414	2.72964	79	41.3		13.43221	8.95552
80	**12.4**	x	4.07981	2.72391	**80**	**40.8**	x	13.38520	8.93671
81	12.3		4.06559	2.71820	81	40.3		13.33855	8.91799
82	12.1		4.05148	2.71253	82	39.9		13.29226	8.89936
83	12		4.03748	2.70687	83	39.4		13.24632	8.88082
84	11.9		4.02358	2.70125	84	38.9		13.20073	8.86237
85	**11.7**	x	4.00979	2.69566	**85**	**38.5**	x	13.15548	8.84402
86	11.6		3.99610	2.69009	86	38.1		13.11058	8.82574
87	11.5		3.98252	2.68455	87	37.6		13.06601	8.80756
88	11.3		3.96904	2.67903	88	37.2		13.02178	8.78947
89	11.2		3.95566	2.67354	89	36.8		12.97787	8.77146
90	**11.1**	x	3.94237	2.66808	**90**	**36.4**	x	12.93429	8.75354
91	11		3.92919	2.66264	91	36		12.89104	8.73570
92	10.9		3.91610	2.65723	92	35.7		12.84810	8.71795
93	10.8		3.90311	2.65185	93	35.3		12.80548	8.70029
94	10.6		3.89021	2.64649	94	34.9		12.76317	8.68270
95	**10.5**	x	3.87741	2.64115	**95**	**34.6**	x	12.72117	8.66521
96	10.4		3.86470	2.63585	96	34.2		12.67947	8.64779
97	10.3		3.85209	2.63056	97	33.9		12.63808	8.63045
98	10.2		3.83956	2.62530	98	33.5		12.59698	8.61320
99	10.1		3.82712	2.62007	99	33.2		12.55618	8.59603
100	**10**	x	3.81478	2.61486	**100**	**32.9**	x	12.51567	8.57894
101	9.93		3.80252	2.60968	101	32.6		12.47545	8.56193
102	9.84		3.79035	2.60451	102	32.3		12.43552	8.54499
103	9.74		3.77826	2.59938	103	32		12.39587	8.52814
104	9.65		3.76626	2.59426	104	31.7		12.35650	8.51136
105	**9.57**	x	3.75435	2.58917	**105**	**31.4**	x	12.31740	8.49467
106	9.48		3.74251	2.58411	106	31.1		12.27859	8.47805
107	9.39		3.73076	2.57907	107	30.8		12.24004	8.46150

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ALPA® OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 180

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
108	9.31		3.71910	2.57405	108	30.5		12.20176	8.44503
109	9.23		3.70751	2.56905	109	30.3		12.16375	8.42864
110	**9.15**	x	3.69600	2.56408	**110**	**30**	x	12.12599	8.41232
111	9.07		3.68458	2.55913	111	29.8		12.08850	8.39608
112	8.99		3.67323	2.55420	112	29.5		12.05127	8.37991
113	8.91		3.66196	2.54929	113	29.2		12.01429	8.36381
114	8.84		3.65076	2.54441	114	29		11.97757	8.34779
115	**8.77**	x	3.63964	2.53955	**115**	**28.8**	x	11.94109	8.33184
116	8.69		3.62860	2.53471	116	28.5		11.90486	8.31596
117	8.62		3.61763	2.52989	117	28.3		11.86888	8.30016
118	8.55		3.60674	2.52509	118	28.1		11.83314	8.28442
119	8.48		3.59592	2.52032	119	27.8		11.79763	8.26876
120	**8.41**	x	3.58517	2.51556	**120**	**27.6**	x	11.76237	8.25316
121	8.35		3.57449	2.51083	121	27.4		11.72734	8.23764
122	8.28		3.56389	2.50612	122	27.2		11.69254	8.22218
123	8.22		3.55335	2.50143	123	27		11.65798	8.20679
124	8.16		3.54288	2.49676	124	26.8		11.62364	8.19147
125	**8.09**	x	3.53249	2.49211	**125**	**26.6**	x	11.58953	8.17622
126	8.03		3.52216	2.48748	126	26.3		11.55564	8.16104
127	7.97		3.51190	2.48288	127	26.2		11.52197	8.14592
128	7.91		3.50170	2.47829	128	26		11.48852	8.13087
129	7.85		3.49157	2.47372	129	25.8		11.45529	8.11589
130	**7.8**	x	3.48151	2.46917	**130**	**25.6**	x	11.42227	8.10097
131	7.74		3.47151	2.46465	131	25.4		11.38947	8.08611
132	7.68		3.46158	2.46014	132	25.2		11.35688	8.07132
133	7.63		3.45171	2.45565	133	25		11.32450	8.05660
134	7.57		3.44190	2.45118	134	24.8		11.29232	8.04194
135	**7.52**	x	3.43216	2.44673	**135**	**24.7**	x	11.26035	8.02734
136	7.47		3.42247	2.44230	136	24.5		11.22858	8.01281
137	7.42		3.41285	2.43789	137	24.3		11.19702	7.99834
138	7.36		3.40329	2.43350	138	24.2		11.16565	7.98393
139	7.31		3.39379	2.42913	139	24		11.13448	7.96958
140	**7.26**	x	3.38435	2.42477	**140**	**23.8**	x	11.10350	7.95530
141	7.22		3.37497	2.42044	141	23.7		11.07272	7.94107
142	7.17		3.36564	2.41612	142	23.5		11.04213	7.92691
143	7.12		3.35638	2.41182	143	23.4		11.01174	7.91280

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ALPA OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 180

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
144	7.07		3.34717	2.40754	144	23.2		10.98152	7.89876
145	**7.03**	x	3.33802	2.40328	**145**	**23.1**	x	10.95150	7.88478
146	6.98		3.32892	2.39904	146	22.9		10.92166	7.87085
147	6.94		3.31988	2.39481	147	22.8		10.89201	7.85699
148	6.89		3.31090	2.39060	148	22.6		10.86253	7.84318
149	6.85		3.30197	2.38641	149	22.5		10.83324	7.82943
150	**6.8**	x	3.29310	2.38224	**150**	**22.3**	x	10.80412	7.81574
151	6.76		3.28427	2.37808	151	22.2		10.77518	7.80211
152	6.72		3.27551	2.37394	152	22		10.74641	7.78853
153	6.68		3.26679	2.36982	153	21.9		10.71782	7.77501
154	6.64		3.25813	2.36572	154	21.8		10.68940	7.76155
155	**6.6**	x	3.24952	2.36163	**155**	**21.6**	x	10.66115	7.74814
156	6.56		3.24096	2.35756	156	21.5		10.63307	7.73479
157	6.52		3.23245	2.35351	157	21.4		10.60516	7.72149
158	6.48		3.22400	2.34947	158	21.3		10.57741	7.70825
159	6.44		3.21559	2.34545	159	21.1		10.54983	7.69506
160	**6.4**	x	3.20723	2.34145	**160**	**21**	x	10.52241	7.68193
161	6.36		3.19892	2.33746	161	20.9		10.49515	7.66885
162	6.33		3.19066	2.33349	162	20.8		10.46805	7.65582
163	6.29		3.18245	2.32954	163	20.6		10.44111	7.64285
164	6.25		3.17429	2.32560	164	20.5		10.41433	7.62993
165	**6.22**	x	3.16617	2.32168	**165**	**20.4**	x	10.38770	7.61706
166	6.18		3.15810	2.31777	166	20.3		10.36123	7.60425
167	6.15		3.15008	2.31388	167	20.2		10.33491	7.59148
168	6.11		3.14211	2.31001	168	20.1		10.30874	7.57877
169	6.08		3.13418	2.30615	169	19.9		10.28273	7.56611
170	**6.05**	x	3.12629	2.30231	**170**	**19.8**	x	10.25686	7.55351
171	6.01		3.11845	2.29848	171	19.7		10.23114	7.54095
172	5.98		3.11066	2.29467	172	19.6		10.20557	7.52844
173	5.95		3.10291	2.29087	173	19.5		10.18014	7.51599
174	5.92		3.09520	2.28709	174	19.4		10.15486	7.50358
175	**5.88**	x	3.08754	2.28332	**175**	**19.3**	x	10.12972	7.49122
176	5.85		3.07992	2.27957	176	19.2		10.10472	7.47891
177	5.82		3.07234	2.27584	177	19.1		10.07986	7.46665
178	5.79		3.06481	2.27211	178	19		10.05515	7.45444
179	5.76		3.05732	2.26841	179	18.9		10.03057	7.44228

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Rodenstock ALPA HR ALPAR - ALP 180

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
180	**5.73**	x	3.04987	2.26471	**180**	**18.8**	x	10.00612	7.43017
181	5.7		3.04246	2.26104	181	18.7		9.98182	7.41810
182	5.67		3.03509	2.25737	182	18.6		9.95765	7.40608
183	5.64		3.02776	2.25373	183	18.5		9.93361	7.39411
184	5.61		3.02048	2.25009	184	18.4		9.90970	7.38219
185	**5.59**	x	3.01323	2.24647	**185**	**18.3**	x	9.88593	7.37031
186	5.56		3.00603	2.24286	186	18.2		9.86229	7.35848
187	5.53		2.99886	2.23927	187	18.1		9.83878	7.34669
188	5.5		2.99173	2.23569	188	18.1		9.81539	7.33495
189	5.47		2.98464	2.23213	189	18		9.79213	7.32326
190	**5.45**	x	2.97759	2.22858	**190**	**17.9**	x	9.76900	7.31161
191	5.42		2.97058	2.22504	191	17.8		9.74600	7.30001
192	5.39		2.96361	2.22152	192	17.7		9.72311	7.28845
193	5.37		2.95667	2.21801	193	17.6		9.70036	7.27694
194	5.34		2.94977	2.21452	194	17.5		9.67772	7.26547
195	**5.32**	x	2.94291	2.21103	**195**	**17.4**	x	9.65520	7.25405
196	5.29		2.93608	2.20756	196	17.4		9.63281	7.24266
197	5.27		2.92929	2.20411	197	17.3		9.61053	7.23133
198	5.24		2.92254	2.20067	198	17.2		9.58838	7.22003
199	5.22		2.91582	2.19724	199	17.1		9.56634	7.20878
200	**5.19**	x	2.90914	2.19382	**200**	**17**	x	9.54442	7.19757
201	5.17		2.90249	2.19042	201	17		9.52261	7.18641
202	5.15		2.89588	2.18703	202	16.9		9.50092	7.17529
203	5.12		2.88930	2.18365	203	16.8		9.47934	7.16420
204	5.1		2.88276	2.18028	204	16.7		9.45787	7.15317
205	**5.08**	x	2.87625	2.17693	**205**	**16.7**	x	9.43652	7.14217
206	5.05		2.86978	2.17359	206	16.6		9.41528	7.13121
207	5.03		2.86334	2.17027	207	16.5		9.39415	7.12030
208	5.01		2.85693	2.16695	208	16.4		9.37312	7.10942
209	4.99		2.85055	2.16365	209	16.4		9.35221	7.09859
210	**4.96**	x	2.84421	2.16036	**210**	**16.3**	x	9.33140	7.08780
211	4.94		2.83790	2.15708	211	16.2		9.31070	7.07705
212	4.92		2.83163	2.15382	212	16.1		9.29011	7.06634
213	4.9		2.82538	2.15057	213	16.1		9.26962	7.05566
214	4.88		2.81917	2.14733	214	16		9.24924	7.04503
215	**4.86**	x	2.81299	2.14410	**215**	**15.9**	x	9.22896	7.03444

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Rodenstock ALPA HR ALPAR - ALP 180

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
216	4.84		2.80684	2.14088	216	15.9		9.20879	7.02388
217	4.82		2.80072	2.13767	217	15.8		9.18871	7.01337
218	4.8		2.79463	2.13448	218	15.7		9.16874	7.00289
219	4.77		2.78858	2.13130	219	15.7		9.14887	6.99246
220	**4.75**	x	2.78255	2.12813	**220**	**15.6**	x	9.12910	6.98206
221	4.73		2.77655	2.12497	221	15.5		9.10942	6.97170
222	4.72		2.77059	2.12183	222	15.5		9.08985	6.96137
223	4.7		2.76465	2.11869	223	15.4		9.07037	6.95109
224	4.68		2.75874	2.11557	224	15.3		9.05099	6.94084
225	**4.66**	x	2.75287	2.11246	**225**	**15.3**	x	9.03171	6.93063
226	4.64		2.74702	2.10935	226	15.2		9.01252	6.92046
227	4.62		2.74120	2.10627	227	15.2		8.99343	6.91032
228	4.6		2.73541	2.10319	228	15.1		8.97443	6.90022
229	4.58		2.72964	2.10012	229	15		8.95552	6.89016
230	**4.56**	x	2.72391	2.09706	**230**	**15**	x	8.93671	6.88013
231	4.55		2.71820	2.09402	231	14.9		8.91799	6.87014
232	4.53		2.71253	2.09098	232	14.9		8.89936	6.86018
233	4.51		2.70687	2.08796	233	14.8		8.88082	6.85026
234	4.49		2.70125	2.08495	234	14.7		8.86237	6.84038
235	**4.47**	x	2.69566	2.08195	**235**	**14.7**	x	8.84402	6.83053
236	4.46		2.69009	2.07896	236	14.6		8.82574	6.82072
237	4.44		2.68455	2.07598	237	14.6		8.80756	6.81094
238	4.42		2.67903	2.07301	238	14.5		8.78947	6.80120
239	4.41		2.67354	2.07005	239	14.5		8.77146	6.79149
240	**4.39**	x	2.66808	2.06710	**240**	**14.4**	x	8.75354	6.78182
241	4.37		2.66264	2.06416	241	14.3		8.73570	6.77218
242	4.36		2.65723	2.06123	242	14.3		8.71795	6.76257
243	4.34		2.65185	2.05831	243	14.2		8.70029	6.75300
244	4.32		2.64649	2.05541	244	14.2		8.68270	6.74346
245	**4.31**	x	2.64115	2.05251	**245**	**14.1**	x	8.66521	6.73396
246	4.29		2.63585	2.04962	246	14.1		8.64779	6.72449
247	4.28		2.63056	2.04675	247	14		8.63045	6.71505
248	4.26		2.62530	2.04388	248	14		8.61320	6.70564
249	4.24		2.62007	2.04102	249	13.9		8.59603	6.69627
250	**4.23**	x	2.61486	2.03818	**250**	**13.9**	x	8.57894	6.68693
251	4.21		2.60968	2.03534	251	13.8		8.56193	6.67762

* The maximum turn of a helical depends on the brand/make. Nevertheless a distance scale "beyond" the maximum turn of the respective helical allows direct read-out of depth-of-field via the aperture scale figures in red/with marking "XX" and "X" are engraved on the HPF ring.
** H +6/17 = theoretical distance using the respecitve hub of thehelical plus macro tube of the corresponding dimension (in mm) at a given degree setting - Please check if distance is achievable in reality as the ca might be within the optical system!

ALPA OF SWITZERLAND

Rodenstock ALPA HR ALPAR - ALP 180

Rodenstock Standard Copal 0
Hub in mm per degree: 0.03333

Degrees*	Meter		H +6**	H +17**	Degrees*	Feet		H +6**	H +17**
252	4.2		2.60451	2.03251	252	13.8		8.54499	6.66835
253	4.18		2.59938	2.02970	253	13.7		8.52814	6.65911
254	4.17		2.59426	2.02689	254	13.7		8.51136	6.64990
255	**4.15**	x	2.58917	2.02409	**255**	**13.6**	x	8.49467	6.64072
256	4.14		2.58411	2.02130	256	13.6		8.47805	6.63157
257	4.12		2.57907	2.01852	257	13.5		8.46150	6.62246
258	4.11		2.57405	2.01576	258	13.5		8.44503	6.61337
259	4.09		2.56905	2.01300	259	13.4		8.42864	6.60432
260	**4.08**	x	2.56408	2.01025	**260**	**13.4**	x	8.41232	6.59530
261	4.07		2.55913	2.00751	261	13.3		8.39608	6.58631
262	4.05		2.55420	2.00478	262	13.3		8.37991	6.57735
263	4.04		2.54929	2.00205	263	13.2		8.36381	6.56842
264	4.02		2.54441	1.99934	264	13.2		8.34779	6.55952
265	**4.01**	x	2.53955	1.99664	**265**	**13.2**	x	8.33184	6.55065
266	4		2.53471	1.99394	266	13.1		8.31596	6.54181
267	3.98		2.52989	1.99126	267	13.1		8.30016	6.53301
268	3.97		2.52509	1.98858	268	13		8.28442	6.52423
269	3.96		2.52032	1.98592	269	13		8.26876	6.51548
270	**3.94**	x	2.51556	1.98326	**270**	**12.9**	x	8.25316	6.50676

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