

Choluteca, Honduras

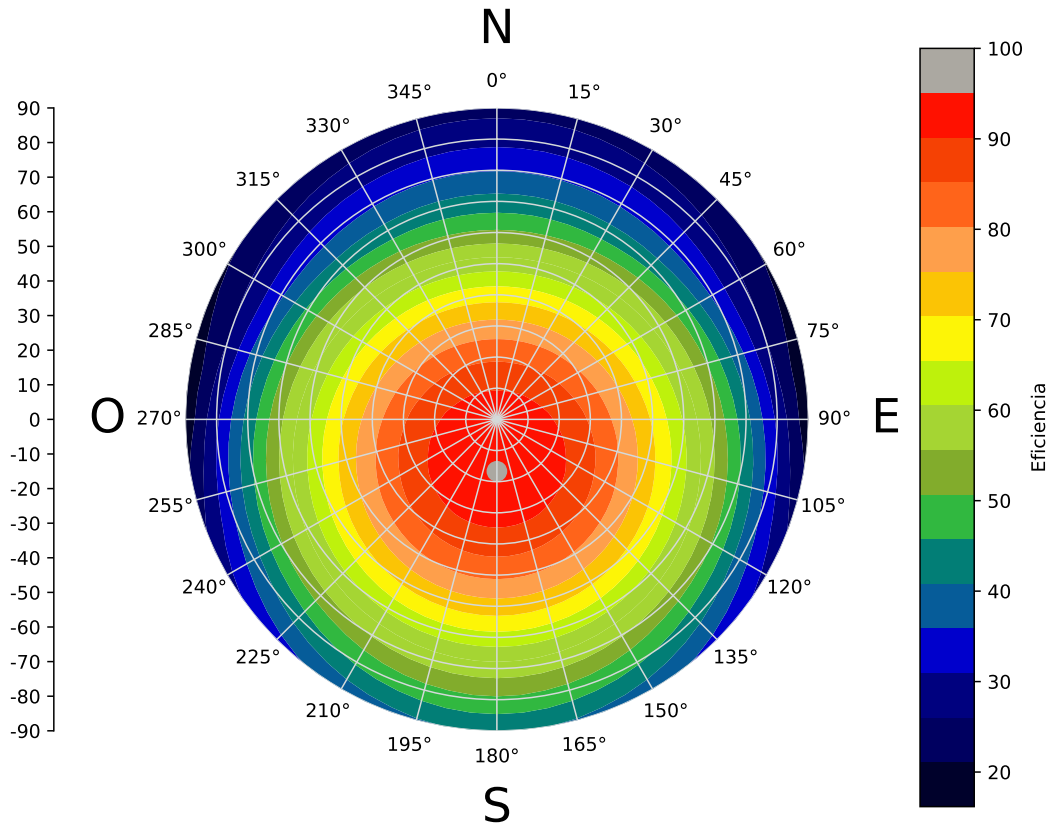


Tabla 1: Generalidades

Latitud	13.306249
Longitud	-87.195175
Modelo de declinación solar	Modelo de Cooper (1961)
Modelo de radiación promedio en superficies inclinadas	Modelo de Klein - Theilacker



Los datos fueron obtenidos de la National Aeronautics and Space Administration (NASA) Langley Research Center (LaRC) Prediction of Worldwide Energy Resource (POWER), Proyecto financiado a través del Programa de Ciencia/Tecnología Aplicada de la NASA.



Tabla 2: Promedios mensuales y anuales de irradiancia de onda corta (Γ), irradiancia UVA (β), índice de claridad de insolación del cielo (α), albedo (ρ), ángulo de declinación solar (δ) y ángulo de puesta del sol (θ).

	Γ	β	α	ρ	δ	θ
Enero	5.7405	12.8699	0.605	0.138	-20.8472	84.8282
Febrero	5.947	12.2333	0.6054	0.1312	-13.3253	86.7813
Marzo	6.4004	10.8402	0.6161	0.1448	-2.3892	89.4324
Abril	6.2206	10.351	0.6029	0.1471	9.4932	92.2738
Mayo	5.7886	9.798	0.577	0.1369	18.8058	94.6267
Junio	5.8667	10.1982	0.5837	0.1354	23.0771	95.7837
Julio	6.04	10.4361	0.5964	0.1332	21.1015	95.2407
Agosto	5.9839	10.3884	0.5965	0.1362	13.296	93.2131
Septiembre	5.728	10.2951	0.6013	0.1463	1.9936	90.4734
Octubre	5.6628	10.4354	0.5822	0.1314	-9.8485	87.6389
Noviembre	5.4078	9.4197	0.608	0.1303	-19.0505	85.3091
Diciembre	5.4204	9.3306	0.6376	0.1329	-23.0956	84.2112
Promedio	5.8033	9.9549	0.5975	0.1331	—	89.9844

Tabla 3: Azimut de 0°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	1.0122	0.9946	0.9756	0.9562	0.9433	0.9362	0.9389	0.9471	0.9654	0.9888	1.0067	1.017	0.9735
10	1.0268	0.992	0.9534	0.9146	0.8892	0.8753	0.8805	0.8962	0.9326	0.9802	1.016	1.0363	0.9494
15	1.0346	0.9833	0.9252	0.8671	0.8296	0.8091	0.8167	0.8395	0.8934	0.9657	1.0188	1.0489	0.9193
20	1.0358	0.9687	0.8911	0.8144	0.765	0.7379	0.7479	0.7774	0.8483	0.9452	1.0152	1.0547	0.8835
25	1.0301	0.9483	0.8514	0.7566	0.6959	0.6624	0.6747	0.7103	0.7975	0.9189	1.0051	1.0537	0.8421
30	1.0178	0.9222	0.8065	0.6943	0.6228	0.5832	0.5976	0.6387	0.7414	0.8871	0.9886	1.0458	0.7955
35	0.9988	0.8906	0.7566	0.6279	0.5462	0.5009	0.5172	0.5633	0.6806	0.85	0.9659	1.0312	0.7441
40	0.9733	0.8537	0.7022	0.5579	0.4669	0.4161	0.4341	0.4845	0.6153	0.8078	0.9371	1.0099	0.6882
45	0.9416	0.8119	0.6436	0.485	0.3853	0.3294	0.3491	0.403	0.5461	0.761	0.9025	0.982	0.6284
50	0.9038	0.7654	0.5813	0.4096	0.3022	0.2416	0.2627	0.3194	0.4736	0.7098	0.8623	0.9479	0.565
55	0.8603	0.7146	0.5158	0.3323	0.2182	0.1832	0.1779	0.2344	0.3984	0.6546	0.8168	0.9078	0.5012
60	0.8113	0.6599	0.4476	0.2537	0.1858	0.181	0.1758	0.1488	0.3208	0.5959	0.7664	0.8619	0.4507
65	0.7573	0.6018	0.3772	0.1746	0.1833	0.1786	0.1736	0.1192	0.2417	0.5341	0.7114	0.8106	0.4053
70	0.6986	0.5405	0.3051	0.1635	0.1806	0.1762	0.1713	0.1201	0.1615	0.4696	0.6523	0.7544	0.3662
75	0.6358	0.4767	0.2318	0.1625	0.1779	0.1736	0.169	0.1211	0.0953	0.4031	0.5895	0.6935	0.3275
80	0.5693	0.4108	0.1601	0.1615	0.1751	0.171	0.1665	0.1222	0.0987	0.3349	0.5235	0.6286	0.2935
85	0.4995	0.3433	0.159	0.1604	0.1723	0.1684	0.1641	0.1232	0.1022	0.2656	0.4548	0.5601	0.2644
90	0.4271	0.2747	0.1578	0.1594	0.1695	0.1658	0.1616	0.1242	0.1057	0.1891	0.384	0.4885	0.234



Tabla 4: Azimut de 5°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	1.0121	0.9946	0.9756	0.9564	0.9435	0.9364	0.9391	0.9473	0.9655	0.9888	1.0067	1.0169	0.9736
10	1.0266	0.9919	0.9535	0.9148	0.8895	0.8757	0.8809	0.8966	0.9328	0.9802	1.0159	1.0361	0.9495
15	1.0344	0.9833	0.9253	0.8675	0.8301	0.8096	0.8173	0.84	0.8937	0.9657	1.0186	1.0486	0.9195
20	1.0354	0.9686	0.8913	0.8148	0.7657	0.7387	0.7486	0.778	0.8487	0.9452	1.0149	1.0543	0.8837
25	1.0297	0.9482	0.8517	0.7572	0.6967	0.6634	0.6756	0.711	0.7979	0.9189	1.0047	1.0532	0.8423
30	1.0172	0.922	0.8068	0.695	0.6238	0.5844	0.5986	0.6396	0.742	0.8871	0.9882	1.0452	0.7958
35	0.9982	0.8904	0.7569	0.6287	0.5474	0.5022	0.5184	0.5643	0.6812	0.85	0.9654	1.0305	0.7445
40	0.9726	0.8535	0.7025	0.5589	0.4682	0.4175	0.4355	0.4857	0.616	0.8078	0.9366	1.009	0.6887
45	0.9408	0.8117	0.644	0.486	0.3867	0.331	0.3506	0.4043	0.5469	0.761	0.9019	0.9811	0.6288
50	0.903	0.7652	0.5817	0.4107	0.3037	0.2434	0.2644	0.3209	0.4745	0.7098	0.8616	0.9469	0.5655
55	0.8594	0.7144	0.5163	0.3335	0.2198	0.1832	0.1779	0.236	0.3993	0.6546	0.8161	0.9067	0.5014
60	0.8104	0.6597	0.4481	0.2551	0.1858	0.181	0.1758	0.1504	0.3219	0.5959	0.7657	0.8608	0.4509
65	0.7563	0.6015	0.3777	0.176	0.1833	0.1786	0.1736	0.1192	0.2429	0.5341	0.7106	0.8095	0.4053
70	0.6976	0.5403	0.3056	0.1635	0.1806	0.1762	0.1713	0.1201	0.1629	0.4696	0.6515	0.7532	0.366
75	0.6348	0.4765	0.2324	0.1625	0.1779	0.1736	0.169	0.1211	0.0953	0.403	0.5887	0.6923	0.3273
80	0.5682	0.4106	0.1603	0.1615	0.1751	0.171	0.1665	0.1222	0.099	0.3349	0.5227	0.6274	0.2933
85	0.4984	0.3431	0.159	0.1604	0.1723	0.1684	0.1641	0.1232	0.1024	0.2655	0.454	0.5589	0.2642
90	0.426	0.2745	0.1578	0.1594	0.1695	0.1658	0.1616	0.1242	0.1059	0.1891	0.3831	0.4872	0.2337

Tabla 5: Azimut de 10°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	1.0119	0.9945	0.9758	0.9567	0.944	0.937	0.9397	0.9477	0.9658	0.9888	1.0065	1.0165	0.9737
10	1.026	0.9918	0.9538	0.9156	0.8906	0.8769	0.882	0.8975	0.9333	0.9802	1.0154	1.0354	0.9499
15	1.0335	0.9831	0.9257	0.8686	0.8316	0.8114	0.8189	0.8414	0.8945	0.9656	1.018	1.0476	0.92
20	1.0343	0.9684	0.8918	0.8163	0.7677	0.741	0.7509	0.7799	0.8497	0.9451	1.014	1.053	0.8844
25	1.0283	0.9478	0.8524	0.759	0.6992	0.6663	0.6783	0.7134	0.7993	0.9189	1.0037	1.0516	0.8432
30	1.0156	0.9216	0.8076	0.6972	0.6268	0.5878	0.6019	0.6424	0.7436	0.8871	0.987	1.0433	0.7968
35	0.9963	0.8899	0.7579	0.6312	0.5508	0.5062	0.5222	0.5675	0.683	0.8499	0.964	1.0283	0.7456
40	0.9706	0.853	0.7036	0.5617	0.4721	0.422	0.4398	0.4893	0.6181	0.8078	0.935	1.0066	0.69
45	0.9386	0.8111	0.6452	0.4892	0.391	0.3359	0.3553	0.4083	0.5493	0.7609	0.9002	0.9785	0.6303
50	0.9005	0.7645	0.583	0.4142	0.3084	0.2487	0.2694	0.3252	0.4771	0.7097	0.8598	0.944	0.567
55	0.8568	0.7137	0.5176	0.3373	0.2248	0.1832	0.1828	0.2407	0.4022	0.6545	0.8141	0.9036	0.5026
60	0.8076	0.659	0.4495	0.2591	0.1858	0.181	0.1758	0.1553	0.325	0.5958	0.7635	0.8575	0.4512
65	0.7534	0.6007	0.3792	0.1802	0.1833	0.1786	0.1736	0.1192	0.2463	0.534	0.7084	0.806	0.4052
70	0.6947	0.5395	0.3072	0.1635	0.1806	0.1762	0.1713	0.1201	0.1664	0.4695	0.6492	0.7496	0.3657
75	0.6317	0.4757	0.2342	0.1625	0.1779	0.1736	0.169	0.1211	0.0953	0.403	0.5863	0.6887	0.3266
80	0.5651	0.4097	0.1605	0.1615	0.1751	0.171	0.1665	0.1222	0.0997	0.3348	0.5203	0.6236	0.2925
85	0.4953	0.3422	0.1592	0.1604	0.1723	0.1684	0.1641	0.1232	0.1031	0.2655	0.4516	0.5551	0.2634
90	0.4228	0.2736	0.158	0.1594	0.1695	0.1658	0.1616	0.1242	0.1065	0.1891	0.3807	0.4834	0.2329



Tabla 6: Azimut de 15°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	1.0114	0.9944	0.976	0.9573	0.9449	0.938	0.9406	0.9485	0.9662	0.9888	1.0061	1.016	0.974
10	1.0251	0.9916	0.9543	0.9168	0.8923	0.8789	0.8839	0.8991	0.9342	0.9802	1.0147	1.0343	0.9504
15	1.0322	0.9827	0.9265	0.8705	0.8342	0.8143	0.8217	0.8438	0.8958	0.9656	1.0169	1.046	0.9208
20	1.0325	0.9679	0.8928	0.8188	0.7711	0.7449	0.7546	0.783	0.8515	0.9451	1.0127	1.0509	0.8855
25	1.0261	0.9472	0.8535	0.7621	0.7034	0.6711	0.6829	0.7172	0.8015	0.9188	1.002	1.0489	0.8446
30	1.013	0.9209	0.809	0.7008	0.6317	0.5935	0.6073	0.647	0.7462	0.887	0.9849	1.0402	0.7985
35	0.9933	0.8891	0.7595	0.6354	0.5566	0.5127	0.5284	0.5728	0.686	0.8499	0.9617	1.0247	0.7475
40	0.9672	0.8521	0.7054	0.5664	0.4785	0.4293	0.4468	0.4952	0.6215	0.8077	0.9324	1.0026	0.6921
45	0.9348	0.8101	0.6471	0.4944	0.3981	0.344	0.363	0.4149	0.5531	0.7608	0.8973	0.974	0.6326
50	0.8965	0.7635	0.5851	0.4199	0.3161	0.2574	0.2778	0.3324	0.4813	0.7096	0.8567	0.9392	0.5696
55	0.8525	0.7126	0.5199	0.3434	0.233	0.1832	0.1917	0.2484	0.4068	0.6544	0.8108	0.8985	0.5046
60	0.8031	0.6578	0.4519	0.2656	0.1858	0.181	0.1758	0.1635	0.3299	0.5957	0.76	0.852	0.4518
65	0.7487	0.5995	0.3818	0.187	0.1833	0.1786	0.1736	0.1192	0.2514	0.5339	0.7047	0.8003	0.4052
70	0.6897	0.5382	0.31	0.1635	0.1806	0.1762	0.1713	0.1201	0.1718	0.4694	0.6454	0.7437	0.365
75	0.6266	0.4743	0.237	0.1625	0.1779	0.1736	0.169	0.1211	0.0953	0.4029	0.5824	0.6826	0.3254
80	0.5599	0.4084	0.1606	0.1615	0.1751	0.171	0.1665	0.1222	0.1004	0.3347	0.5163	0.6174	0.2912
85	0.49	0.3408	0.1594	0.1604	0.1723	0.1684	0.1641	0.1232	0.1038	0.2653	0.4475	0.5488	0.262
90	0.4175	0.2722	0.1582	0.1594	0.1695	0.1658	0.1616	0.1242	0.1071	0.1891	0.3766	0.4772	0.2315

Tabla 7: Azimut de 20°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	1.0108	0.9942	0.9764	0.9582	0.9461	0.9394	0.9419	0.9496	0.9668	0.9888	1.0056	1.0152	0.9744
10	1.0239	0.9912	0.9549	0.9185	0.8946	0.8816	0.8865	0.9012	0.9354	0.9802	1.0138	1.0328	0.9512
15	1.0303	0.9822	0.9275	0.873	0.8377	0.8184	0.8256	0.847	0.8976	0.9656	1.0155	1.0437	0.922
20	1.03	0.9672	0.8941	0.8222	0.7758	0.7503	0.7597	0.7873	0.8539	0.945	1.0107	1.0479	0.887
25	1.023	0.9464	0.8552	0.7663	0.7092	0.6778	0.6893	0.7226	0.8045	0.9187	0.9996	1.0452	0.8465
30	1.0093	0.92	0.8109	0.7058	0.6386	0.6014	0.6149	0.6533	0.7498	0.8869	0.9821	1.0358	0.8007
35	0.9891	0.888	0.7617	0.6412	0.5645	0.5218	0.5371	0.5801	0.6902	0.8498	0.9584	1.0196	0.7501
40	0.9625	0.8508	0.7078	0.573	0.4874	0.4396	0.4565	0.5035	0.6263	0.8076	0.9288	0.9969	0.6951
45	0.9297	0.8087	0.6498	0.5016	0.408	0.3553	0.3737	0.424	0.5584	0.7607	0.8933	0.9678	0.6359
50	0.8909	0.762	0.5881	0.4278	0.3268	0.2696	0.2894	0.3423	0.4872	0.7095	0.8523	0.9325	0.5732
55	0.8465	0.711	0.5231	0.3519	0.2444	0.1832	0.2041	0.259	0.413	0.6543	0.8061	0.8913	0.5073
60	0.7967	0.6561	0.4553	0.2746	0.1858	0.181	0.1758	0.1748	0.3365	0.5955	0.7551	0.8445	0.4526
65	0.742	0.5977	0.3854	0.1965	0.1833	0.1786	0.1736	0.1192	0.2583	0.5337	0.6996	0.7924	0.405
70	0.6828	0.5364	0.3138	0.1635	0.1806	0.1762	0.1713	0.1201	0.1789	0.4693	0.6401	0.7355	0.364
75	0.6195	0.4724	0.2409	0.1625	0.1779	0.1736	0.169	0.1211	0.0988	0.4027	0.577	0.6741	0.3241
80	0.5527	0.4065	0.1608	0.1615	0.1751	0.171	0.1665	0.1222	0.1011	0.3345	0.5107	0.6088	0.2893
85	0.4827	0.3389	0.1596	0.1604	0.1723	0.1684	0.1641	0.1232	0.1045	0.2652	0.4419	0.5401	0.2601
90	0.4102	0.2703	0.1584	0.1594	0.1695	0.1658	0.1616	0.1242	0.1078	0.1891	0.371	0.4684	0.2296



Tabla 8: Azimut de 25°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	1.0099	0.994	0.9768	0.9593	0.9476	0.9411	0.9436	0.951	0.9676	0.9888	1.005	1.0143	0.9749
10	1.0222	0.9908	0.9558	0.9207	0.8977	0.8851	0.8898	0.904	0.9369	0.9801	1.0125	1.0309	0.9522
15	1.0279	0.9816	0.9287	0.8763	0.8422	0.8236	0.8305	0.8511	0.9	0.9655	1.0136	1.0408	0.9235
20	1.0268	0.9664	0.8958	0.8265	0.7817	0.7572	0.7662	0.7928	0.857	0.9449	1.0083	1.0441	0.889
25	1.0191	0.9454	0.8572	0.7716	0.7166	0.6863	0.6973	0.7294	0.8083	0.9186	0.9965	1.0405	0.8489
30	1.0047	0.9187	0.8134	0.7122	0.6474	0.6115	0.6245	0.6614	0.7544	0.8868	0.9785	1.0302	0.8036
35	0.9838	0.8866	0.7645	0.6485	0.5746	0.5334	0.5481	0.5894	0.6956	0.8496	0.9543	1.0133	0.7535
40	0.9565	0.8493	0.711	0.5812	0.4988	0.4525	0.4689	0.514	0.6323	0.8074	0.9241	0.9898	0.6988
45	0.9231	0.807	0.6533	0.5108	0.4205	0.3696	0.3874	0.4356	0.5651	0.7605	0.8882	0.9599	0.6401
50	0.8837	0.7601	0.5918	0.4377	0.3403	0.2851	0.3042	0.3549	0.4944	0.7093	0.8468	0.924	0.5777
55	0.8388	0.709	0.5272	0.3626	0.2589	0.1997	0.2199	0.2725	0.4207	0.6541	0.8003	0.8822	0.5122
60	0.7886	0.654	0.4597	0.286	0.1858	0.181	0.1758	0.189	0.3447	0.5954	0.7489	0.8348	0.4536
65	0.7336	0.5955	0.39	0.2083	0.1833	0.1786	0.1736	0.1192	0.2668	0.5335	0.6931	0.7823	0.4048
70	0.6741	0.5341	0.3185	0.1635	0.1806	0.1762	0.1713	0.1201	0.1877	0.4691	0.6333	0.725	0.3628
75	0.6105	0.4701	0.2458	0.1625	0.1779	0.1736	0.169	0.1211	0.1079	0.4025	0.57	0.6634	0.3229
80	0.5435	0.404	0.161	0.1622	0.1751	0.171	0.1665	0.1222	0.1017	0.3343	0.5036	0.5979	0.2869
85	0.4734	0.3365	0.1598	0.1611	0.1723	0.1684	0.1641	0.1232	0.1051	0.265	0.4347	0.529	0.2577
90	0.4009	0.2678	0.1586	0.1598	0.1695	0.1658	0.1616	0.1242	0.1085	0.1891	0.3638	0.4573	0.2272

Tabla 9: Azimut de 30°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	1.009	0.9938	0.9773	0.9606	0.9494	0.9432	0.9455	0.9526	0.9685	0.9887	1.0042	1.0131	0.9755
10	1.0203	0.9903	0.9568	0.9233	0.9013	0.8892	0.8938	0.9073	0.9388	0.9801	1.011	1.0285	0.9534
15	1.025	0.9808	0.9303	0.8802	0.8477	0.8298	0.8365	0.8561	0.9028	0.9654	1.0114	1.0374	0.9253
20	1.023	0.9654	0.8978	0.8317	0.7889	0.7654	0.7741	0.7994	0.8607	0.9449	1.0053	1.0395	0.8913
25	1.0143	0.9441	0.8597	0.7781	0.7256	0.6965	0.7071	0.7376	0.813	0.9185	0.9929	1.0348	0.8518
30	0.999	0.9172	0.8163	0.7198	0.658	0.6236	0.636	0.6712	0.7599	0.8867	0.9742	1.0235	0.8071
35	0.9773	0.8849	0.7679	0.6574	0.5868	0.5473	0.5614	0.6006	0.7019	0.8495	0.9493	1.0056	0.7575
40	0.9493	0.8474	0.7148	0.5912	0.5124	0.4682	0.4838	0.5266	0.6395	0.8073	0.9186	0.9811	0.7033
45	0.9151	0.8049	0.6575	0.5218	0.4355	0.3868	0.4038	0.4495	0.573	0.7604	0.8821	0.9504	0.6451
50	0.8751	0.7578	0.5964	0.4497	0.3567	0.3038	0.322	0.37	0.5029	0.7091	0.8402	0.9137	0.5831
55	0.8296	0.7065	0.5321	0.3754	0.2764	0.2197	0.239	0.2887	0.4299	0.6539	0.7931	0.8712	0.518
60	0.7789	0.6514	0.465	0.2995	0.1953	0.181	0.1758	0.2061	0.3544	0.5951	0.7414	0.8232	0.4556
65	0.7234	0.5928	0.3955	0.2225	0.1833	0.1786	0.1736	0.1229	0.277	0.5333	0.6852	0.7701	0.4049
70	0.6635	0.5313	0.3243	0.1635	0.1806	0.1762	0.1713	0.1201	0.1982	0.4688	0.6252	0.7124	0.3613
75	0.5997	0.4672	0.2517	0.1625	0.1779	0.1736	0.169	0.1211	0.1187	0.4022	0.5616	0.6504	0.3213
80	0.5324	0.4011	0.1783	0.163	0.1751	0.171	0.1665	0.1222	0.1023	0.334	0.4951	0.5846	0.2855
85	0.4622	0.3335	0.16	0.1619	0.1723	0.1684	0.1641	0.1232	0.1058	0.2647	0.4261	0.5156	0.2548
90	0.3896	0.2649	0.1587	0.1607	0.1695	0.1658	0.1616	0.1242	0.1092	0.1891	0.3551	0.4438	0.2244



Tabla 10: Azimut de 35°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	1.0078	0.9935	0.9779	0.9621	0.9515	0.9456	0.9479	0.9546	0.9696	0.9887	1.0034	1.0117	0.9762
10	1.018	0.9897	0.958	0.9263	0.9055	0.8941	0.8984	0.9112	0.941	0.98	1.0092	1.0258	0.9548
15	1.0216	0.9799	0.932	0.8848	0.854	0.8371	0.8434	0.8619	0.906	0.9653	1.0087	1.0333	0.9273
20	1.0185	0.9642	0.9002	0.8377	0.7973	0.775	0.7832	0.8071	0.865	0.9448	1.0018	1.0341	0.8941
25	1.0088	0.9427	0.8626	0.7856	0.7359	0.7084	0.7184	0.7471	0.8184	0.9184	0.9886	1.0282	0.8553
30	0.9925	0.9155	0.8197	0.7288	0.6703	0.6377	0.6494	0.6825	0.7663	0.8865	0.9691	1.0157	0.8112
35	0.9698	0.8829	0.7718	0.6676	0.6009	0.5635	0.5768	0.6136	0.7093	0.8493	0.9435	0.9966	0.7622
40	0.9408	0.8451	0.7192	0.6027	0.5283	0.4864	0.5011	0.5412	0.6478	0.8071	0.9121	0.9711	0.7086
45	0.9059	0.8024	0.6624	0.5345	0.453	0.4068	0.4228	0.4656	0.5821	0.7601	0.8749	0.9394	0.6508
50	0.8651	0.7552	0.6018	0.4635	0.3756	0.3255	0.3426	0.3875	0.5128	0.7089	0.8324	0.9017	0.5894
55	0.8189	0.7037	0.5379	0.3902	0.2967	0.2429	0.2611	0.3074	0.4405	0.6536	0.7849	0.8584	0.5247
60	0.7676	0.6484	0.4711	0.3152	0.2167	0.181	0.1787	0.2259	0.3656	0.5949	0.7326	0.8096	0.4589
65	0.7115	0.5897	0.4019	0.2389	0.1833	0.1786	0.1736	0.1437	0.2887	0.533	0.6761	0.756	0.4062
70	0.6512	0.528	0.3309	0.1635	0.1806	0.1762	0.1713	0.1201	0.2104	0.4685	0.6157	0.6977	0.3595
75	0.587	0.4639	0.2584	0.1625	0.1779	0.1736	0.169	0.1211	0.1312	0.4019	0.5519	0.6353	0.3195
80	0.5195	0.3977	0.1852	0.1638	0.1751	0.171	0.1665	0.1222	0.1029	0.3337	0.4852	0.5692	0.2827
85	0.4492	0.3301	0.1601	0.1627	0.1723	0.1684	0.1641	0.1232	0.1064	0.2644	0.416	0.5	0.2514
90	0.3765	0.2614	0.1589	0.1615	0.1695	0.1658	0.1616	0.1242	0.1098	0.1891	0.345	0.4282	0.221

Tabla 11: Azimut de 40°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	1.0065	0.9931	0.9786	0.9639	0.9539	0.9484	0.9505	0.9568	0.9708	0.9887	1.0024	1.0102	0.977
10	1.0154	0.989	0.9594	0.9298	0.9103	0.8996	0.9036	0.9156	0.9434	0.98	1.0073	1.0228	0.9563
15	1.0177	0.9789	0.9341	0.8899	0.8612	0.8453	0.8512	0.8685	0.9097	0.9653	1.0058	1.0287	0.9297
20	1.0134	0.9629	0.9028	0.8446	0.8068	0.7859	0.7936	0.8158	0.8699	0.9446	0.9979	1.0281	0.8972
25	1.0025	0.941	0.8659	0.7941	0.7477	0.7219	0.7312	0.7579	0.8244	0.9183	0.9838	1.0207	0.8591
30	0.9851	0.9136	0.8236	0.7388	0.6842	0.6537	0.6646	0.6952	0.7736	0.8863	0.9634	1.0068	0.8157
35	0.9613	0.8807	0.7763	0.6792	0.6169	0.5819	0.5942	0.6283	0.7177	0.8491	0.937	0.9864	0.7674
40	0.9313	0.8426	0.7242	0.6158	0.5462	0.5069	0.5206	0.5577	0.6571	0.8068	0.9047	0.9597	0.7145
45	0.8954	0.7997	0.6679	0.5489	0.4728	0.4295	0.4444	0.4838	0.5924	0.7599	0.8669	0.9269	0.6574
50	0.8537	0.7522	0.6079	0.4791	0.397	0.35	0.366	0.4072	0.5239	0.7086	0.8237	0.8881	0.5965
55	0.8067	0.7005	0.5444	0.4069	0.3196	0.2692	0.2861	0.3285	0.4524	0.6533	0.7755	0.8438	0.5322
60	0.7547	0.645	0.478	0.3328	0.241	0.1875	0.2052	0.2483	0.3781	0.5946	0.7227	0.7943	0.4652
65	0.6981	0.5861	0.4091	0.2573	0.1833	0.1786	0.1736	0.167	0.3018	0.5327	0.6657	0.7399	0.4078
70	0.6372	0.5243	0.3383	0.1811	0.1806	0.1762	0.1713	0.1201	0.224	0.4682	0.6049	0.681	0.359
75	0.5727	0.4601	0.2661	0.1625	0.1779	0.1736	0.169	0.1211	0.1452	0.4016	0.5408	0.6182	0.3174
80	0.5049	0.3939	0.193	0.1646	0.1751	0.171	0.1665	0.123	0.1035	0.3334	0.4739	0.5518	0.2796
85	0.4344	0.3262	0.1602	0.1635	0.1723	0.1684	0.1641	0.124	0.107	0.264	0.4046	0.4824	0.2476
90	0.3617	0.2575	0.159	0.1623	0.1695	0.1658	0.1616	0.1249	0.1104	0.1891	0.3336	0.4105	0.2172



Tabla 12: Azimut de 45°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	1.0051	0.9927	0.9793	0.9658	0.9566	0.9514	0.9534	0.9592	0.9722	0.9886	1.0013	1.0085	0.9778
10	1.0126	0.9882	0.9609	0.9336	0.9156	0.9057	0.9094	0.9205	0.9461	0.9799	1.0051	1.0193	0.9581
15	1.0135	0.9778	0.9363	0.8957	0.8691	0.8544	0.8599	0.8758	0.9138	0.9652	1.0025	1.0236	0.9323
20	1.0078	0.9614	0.9058	0.8522	0.8173	0.798	0.8051	0.8254	0.8754	0.9445	0.9936	1.0213	0.9006
25	0.9955	0.9392	0.8696	0.8035	0.7607	0.7368	0.7454	0.7698	0.8312	0.9181	0.9784	1.0124	0.8634
30	0.9769	0.9114	0.828	0.75	0.6996	0.6714	0.6814	0.7094	0.7816	0.8861	0.9571	0.997	0.8208
35	0.9519	0.8782	0.7813	0.6921	0.6346	0.6022	0.6136	0.6446	0.7269	0.8489	0.9297	0.9752	0.7732
40	0.9207	0.8398	0.7298	0.6302	0.5661	0.5297	0.5423	0.576	0.6674	0.8066	0.8966	0.9471	0.721
45	0.8837	0.7966	0.6741	0.5647	0.4946	0.4546	0.4683	0.5039	0.6037	0.7596	0.8579	0.913	0.6646
50	0.8411	0.7489	0.6146	0.4963	0.4207	0.3772	0.3919	0.429	0.5362	0.7083	0.814	0.8731	0.6043
55	0.7933	0.6969	0.5516	0.4253	0.3449	0.2983	0.3137	0.3519	0.4655	0.653	0.7651	0.8277	0.5406
60	0.7405	0.6413	0.4856	0.3522	0.2678	0.2183	0.2344	0.273	0.392	0.5942	0.7117	0.7773	0.474
65	0.6832	0.5822	0.4171	0.2777	0.1899	0.1786	0.1736	0.1929	0.3163	0.5323	0.6542	0.7221	0.41
70	0.6218	0.5203	0.3466	0.2022	0.1806	0.1762	0.1713	0.1201	0.239	0.4678	0.593	0.6626	0.3585
75	0.5568	0.4559	0.2746	0.1625	0.1779	0.1736	0.169	0.1211	0.1607	0.4012	0.5286	0.5992	0.3151
80	0.4887	0.3896	0.2017	0.1615	0.1751	0.171	0.1665	0.1222	0.0987	0.333	0.4614	0.5324	0.2752
85	0.418	0.3218	0.1604	0.1642	0.1723	0.1684	0.1641	0.125	0.1075	0.2637	0.392	0.4628	0.2434
90	0.3453	0.2532	0.1592	0.163	0.1695	0.1658	0.1616	0.1259	0.111	0.1891	0.3209	0.3908	0.2129

Tabla 13: Azimut de 50°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	1.0035	0.9923	0.9802	0.9679	0.9595	0.9548	0.9566	0.9619	0.9737	0.9886	1	1.0066	0.9788
10	1.0095	0.9874	0.9625	0.9378	0.9214	0.9124	0.9158	0.9258	0.9491	0.9798	1.0027	1.0156	0.96
15	1.0088	0.9765	0.9387	0.9019	0.8778	0.8644	0.8693	0.8837	0.9182	0.9651	0.9989	1.0181	0.9351
20	1.0016	0.9597	0.909	0.8605	0.8288	0.8112	0.8176	0.8359	0.8813	0.9444	0.9889	1.014	0.9044
25	0.988	0.9372	0.8736	0.8137	0.7749	0.7531	0.7609	0.7828	0.8385	0.9179	0.9725	1.0034	0.868
30	0.9679	0.909	0.8327	0.7621	0.7164	0.6907	0.6998	0.7248	0.7903	0.8859	0.9501	0.9863	0.8263
35	0.9416	0.8755	0.7867	0.706	0.6539	0.6243	0.6346	0.6623	0.7368	0.8486	0.9218	0.9628	0.7796
40	0.9092	0.8368	0.7359	0.6458	0.5877	0.5546	0.566	0.5958	0.6785	0.8063	0.8877	0.9333	0.7281
45	0.871	0.7933	0.6809	0.582	0.5185	0.4819	0.4943	0.5258	0.6159	0.7593	0.8481	0.8978	0.6724
50	0.8274	0.7452	0.6219	0.515	0.4466	0.4068	0.4201	0.4528	0.5495	0.708	0.8033	0.8567	0.6128
55	0.7785	0.6931	0.5594	0.4453	0.3726	0.33	0.3439	0.3773	0.4797	0.6527	0.7538	0.8102	0.5497
60	0.7249	0.6372	0.4938	0.3734	0.297	0.2518	0.2663	0.2998	0.407	0.5939	0.6997	0.7587	0.4836
65	0.6669	0.5779	0.4257	0.2999	0.2204	0.1786	0.1879	0.221	0.3321	0.532	0.6417	0.7026	0.4156
70	0.6049	0.5158	0.3555	0.2252	0.1806	0.1762	0.1713	0.1413	0.2554	0.4674	0.58	0.6424	0.3597
75	0.5394	0.4513	0.2838	0.1625	0.1779	0.1736	0.169	0.1211	0.1775	0.4008	0.5152	0.5785	0.3126
80	0.471	0.3849	0.2111	0.1615	0.1751	0.171	0.1665	0.1222	0.0989	0.3326	0.4478	0.5113	0.2712
85	0.4001	0.3171	0.1605	0.1649	0.1723	0.1684	0.1641	0.1261	0.108	0.2632	0.3782	0.4414	0.2387
90	0.3273	0.2484	0.1593	0.1638	0.1695	0.1658	0.1616	0.1269	0.1115	0.1891	0.307	0.3694	0.2083



Tabla 14: Azimut de 55°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	1.0018	0.9919	0.9811	0.9701	0.9626	0.9584	0.96	0.9648	0.9753	0.9886	0.9987	1.0046	0.9798
10	1.0061	0.9865	0.9643	0.9423	0.9277	0.9196	0.9226	0.9315	0.9523	0.9798	1.0001	1.0116	0.962
15	1.0038	0.9752	0.9414	0.9086	0.8871	0.8751	0.8795	0.8923	0.923	0.9649	0.9951	1.0121	0.9382
20	0.995	0.958	0.9125	0.8694	0.8411	0.8253	0.831	0.8472	0.8876	0.9442	0.9838	1.0061	0.9084
25	0.9798	0.935	0.8779	0.8248	0.7901	0.7706	0.7776	0.7968	0.8463	0.9177	0.9663	0.9936	0.873
30	0.9582	0.9065	0.8378	0.7752	0.7345	0.7114	0.7195	0.7414	0.7996	0.8857	0.9427	0.9747	0.8323
35	0.9305	0.8725	0.7925	0.721	0.6746	0.6482	0.6573	0.6814	0.7475	0.8484	0.9132	0.9496	0.7864
40	0.8968	0.8335	0.7425	0.6626	0.611	0.5813	0.5913	0.6172	0.6905	0.806	0.8781	0.9184	0.7358
45	0.8574	0.7897	0.6881	0.6005	0.544	0.5113	0.5222	0.5493	0.6291	0.759	0.8375	0.8815	0.6808
50	0.8126	0.7413	0.6298	0.535	0.4743	0.4387	0.4503	0.4782	0.5638	0.7076	0.7919	0.839	0.6219
55	0.7627	0.6889	0.5678	0.4667	0.4022	0.364	0.3763	0.4045	0.4949	0.6523	0.7416	0.7913	0.5594
60	0.7082	0.6327	0.5027	0.3961	0.3284	0.2878	0.3006	0.3286	0.4232	0.5935	0.6868	0.7387	0.4939
65	0.6494	0.5733	0.435	0.3236	0.2533	0.2106	0.2238	0.2511	0.3489	0.5315	0.6282	0.6817	0.4259
70	0.5867	0.511	0.3652	0.2498	0.1806	0.1762	0.1713	0.1726	0.2728	0.467	0.566	0.6207	0.3617
75	0.5208	0.4464	0.2937	0.1753	0.1779	0.1736	0.169	0.1211	0.1954	0.4004	0.5008	0.5562	0.3109
80	0.452	0.3799	0.2212	0.1615	0.1751	0.171	0.1665	0.1222	0.1173	0.3321	0.4331	0.4886	0.2684
85	0.3809	0.312	0.1606	0.1656	0.1723	0.1684	0.1641	0.127	0.1084	0.2628	0.3633	0.4184	0.2337
90	0.308	0.2433	0.1594	0.1645	0.1695	0.1658	0.1616	0.128	0.1119	0.1891	0.2921	0.3463	0.2033

Tabla 15: Azimut de 60°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	1.0001	0.9914	0.982	0.9725	0.9659	0.9622	0.9636	0.9678	0.977	0.9885	0.9974	1.0024	0.9809
10	1.0025	0.9856	0.9662	0.9471	0.9343	0.9272	0.9298	0.9376	0.9557	0.9797	0.9973	1.0073	0.9642
15	0.9985	0.9738	0.9442	0.9158	0.897	0.8865	0.8903	0.9013	0.9281	0.9648	0.991	1.0058	0.9414
20	0.988	0.9561	0.9162	0.8788	0.8542	0.8404	0.8453	0.8592	0.8943	0.944	0.9783	0.9977	0.9127
25	0.9711	0.9327	0.8824	0.8364	0.8063	0.7893	0.7953	0.8117	0.8547	0.9175	0.9596	0.9832	0.8783
30	0.9479	0.9038	0.8432	0.789	0.7537	0.7335	0.7404	0.759	0.8094	0.8855	0.9348	0.9625	0.8385
35	0.9187	0.8694	0.7987	0.7369	0.6966	0.6734	0.6813	0.7016	0.7588	0.8481	0.9041	0.9355	0.7936
40	0.8836	0.83	0.7495	0.6805	0.6357	0.6096	0.6183	0.6398	0.7032	0.8057	0.8679	0.9027	0.7439
45	0.8428	0.7858	0.6958	0.6201	0.5712	0.5424	0.5518	0.5742	0.643	0.7587	0.8263	0.8641	0.6897
50	0.7968	0.7372	0.6381	0.5563	0.5037	0.4725	0.4824	0.5052	0.5789	0.7073	0.7798	0.8202	0.6315
55	0.7459	0.6844	0.5767	0.4895	0.4337	0.4001	0.4106	0.4334	0.5111	0.6519	0.7286	0.7712	0.5698
60	0.6904	0.628	0.5122	0.4201	0.3616	0.326	0.3369	0.3591	0.4402	0.593	0.6731	0.7175	0.5048
65	0.6307	0.5684	0.4449	0.3487	0.2881	0.2506	0.2618	0.2831	0.3668	0.5311	0.6138	0.6595	0.4373
70	0.5674	0.5059	0.3754	0.2759	0.2136	0.1762	0.1859	0.2057	0.2914	0.4666	0.5511	0.5977	0.3677
75	0.5009	0.4412	0.3042	0.2021	0.1779	0.1736	0.169	0.1277	0.2145	0.3999	0.4855	0.5325	0.3107
80	0.4317	0.3746	0.2319	0.1615	0.1751	0.171	0.1665	0.1222	0.1367	0.3316	0.4175	0.4644	0.2654
85	0.3604	0.3066	0.1607	0.1663	0.1735	0.1684	0.1641	0.128	0.1088	0.2623	0.3476	0.394	0.2284
90	0.2874	0.2379	0.1595	0.1651	0.1705	0.1658	0.1616	0.1289	0.1123	0.1891	0.2763	0.3218	0.198



Tabla 16: Azimut de 65°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9982	0.9909	0.983	0.975	0.9694	0.9662	0.9674	0.971	0.9788	0.9885	0.9959	1.0002	0.982
10	0.9988	0.9846	0.9681	0.9521	0.9413	0.9352	0.9375	0.944	0.9592	0.9796	0.9944	1.0029	0.9665
15	0.9929	0.9723	0.9471	0.9233	0.9074	0.8984	0.9017	0.9109	0.9334	0.9647	0.9866	0.9991	0.9448
20	0.9806	0.9542	0.9201	0.8887	0.868	0.8562	0.8604	0.8719	0.9014	0.9439	0.9726	0.9889	0.9172
25	0.962	0.9303	0.8872	0.8487	0.8233	0.8088	0.8138	0.8273	0.8634	0.9173	0.9525	0.9723	0.8839
30	0.9371	0.9009	0.8488	0.8036	0.7738	0.7566	0.7624	0.7775	0.8197	0.8852	0.9264	0.9495	0.8451
35	0.9063	0.8662	0.8052	0.7536	0.7197	0.7	0.7066	0.7228	0.7706	0.8478	0.8946	0.9207	0.8012
40	0.8697	0.8264	0.7568	0.6992	0.6616	0.6394	0.6466	0.6636	0.7164	0.8054	0.8572	0.8861	0.7524
45	0.8276	0.7818	0.7039	0.6407	0.5997	0.5752	0.583	0.6004	0.6576	0.7583	0.8146	0.8459	0.699
50	0.7803	0.7328	0.6469	0.5786	0.5346	0.5079	0.5162	0.5336	0.5947	0.7069	0.767	0.8004	0.6416
55	0.7282	0.6798	0.5861	0.5133	0.4667	0.4381	0.4467	0.4637	0.528	0.6515	0.7149	0.75	0.5806
60	0.6717	0.6231	0.5221	0.4453	0.3966	0.3661	0.375	0.3912	0.4581	0.5926	0.6587	0.6951	0.5163
65	0.6111	0.5632	0.4552	0.3751	0.3246	0.2926	0.3017	0.3166	0.3855	0.5306	0.5987	0.6361	0.4493
70	0.5471	0.5006	0.3861	0.3033	0.2515	0.2181	0.2273	0.2405	0.3108	0.4661	0.5354	0.5734	0.38
75	0.48	0.4357	0.3153	0.2302	0.1779	0.1736	0.169	0.1635	0.2344	0.3994	0.4694	0.5075	0.313
80	0.4104	0.369	0.2432	0.1615	0.1751	0.171	0.1665	0.1222	0.1571	0.3311	0.4011	0.439	0.2623
85	0.3389	0.301	0.1704	0.1669	0.1747	0.1684	0.1651	0.1289	0.1092	0.2618	0.331	0.3683	0.2237
90	0.2658	0.2322	0.1596	0.1657	0.1717	0.1658	0.1625	0.1299	0.1127	0.1891	0.2596	0.2959	0.1925

Tabla 17: Azimut de 70°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9962	0.9904	0.984	0.9776	0.9731	0.9704	0.9714	0.9743	0.9806	0.9884	0.9944	0.9978	0.9832
10	0.9949	0.9836	0.9702	0.9573	0.9486	0.9436	0.9454	0.9506	0.9629	0.9795	0.9914	0.9982	0.9688
15	0.9871	0.9708	0.9502	0.9311	0.9182	0.9109	0.9135	0.9208	0.9389	0.9645	0.9821	0.9921	0.9484
20	0.9729	0.9522	0.9241	0.899	0.8823	0.8727	0.876	0.885	0.9087	0.9437	0.9667	0.9797	0.9219
25	0.9525	0.9278	0.8922	0.8615	0.841	0.8292	0.8332	0.8435	0.8725	0.9171	0.9452	0.961	0.8897
30	0.9259	0.8979	0.8548	0.8187	0.7947	0.7807	0.7853	0.7967	0.8305	0.8849	0.9177	0.9361	0.852
35	0.8934	0.8628	0.812	0.7709	0.7438	0.7276	0.7328	0.7448	0.7829	0.8475	0.8846	0.9053	0.809
40	0.8552	0.8225	0.7645	0.7186	0.6885	0.6703	0.676	0.6883	0.7302	0.8051	0.846	0.8688	0.7612
45	0.8116	0.7776	0.7123	0.6621	0.6294	0.6093	0.6154	0.6276	0.6728	0.7579	0.8023	0.8269	0.7088
50	0.763	0.7283	0.656	0.6018	0.5667	0.5448	0.5513	0.563	0.6111	0.7065	0.7537	0.7798	0.6522
55	0.7097	0.6749	0.5958	0.5381	0.5011	0.4775	0.4842	0.4952	0.5456	0.6511	0.7007	0.728	0.5918
60	0.6522	0.618	0.5324	0.4715	0.4329	0.4079	0.4147	0.4245	0.4767	0.5921	0.6436	0.6718	0.5282
65	0.5907	0.5578	0.466	0.4025	0.3626	0.3363	0.3432	0.3514	0.405	0.5302	0.583	0.6117	0.4617
70	0.526	0.495	0.3973	0.3317	0.2909	0.2634	0.2704	0.2767	0.3309	0.4656	0.5191	0.5481	0.3929
75	0.4583	0.4299	0.3268	0.2595	0.2182	0.1897	0.1966	0.2006	0.2551	0.3989	0.4526	0.4816	0.3223
80	0.3883	0.3631	0.2549	0.1864	0.1751	0.171	0.1665	0.124	0.1782	0.3306	0.384	0.4125	0.2612
85	0.3164	0.2951	0.1823	0.1604	0.1723	0.1684	0.1641	0.1232	0.1022	0.2613	0.3137	0.3415	0.2167
90	0.2433	0.2263	0.1596	0.1663	0.1729	0.167	0.164	0.1307	0.113	0.1891	0.2423	0.2691	0.187



Tabla 18: Azimut de 75°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9942	0.9899	0.9851	0.9803	0.9768	0.9747	0.9755	0.9778	0.9825	0.9884	0.9928	0.9954	0.9845
10	0.9908	0.9825	0.9723	0.9627	0.9561	0.9522	0.9536	0.9575	0.9668	0.9794	0.9883	0.9934	0.9713
15	0.9811	0.9692	0.9533	0.9391	0.9294	0.9237	0.9257	0.931	0.9446	0.9644	0.9775	0.9849	0.952
20	0.965	0.9501	0.9283	0.9097	0.8971	0.8896	0.8922	0.8985	0.9162	0.9435	0.9606	0.9702	0.9267
25	0.9426	0.9252	0.8974	0.8746	0.8593	0.8501	0.8531	0.8602	0.8818	0.9169	0.9376	0.9492	0.8957
30	0.9143	0.8949	0.8609	0.8342	0.8164	0.8055	0.8089	0.8165	0.8415	0.8847	0.9088	0.9222	0.8591
35	0.88	0.8592	0.819	0.7888	0.7686	0.7561	0.7599	0.7675	0.7955	0.8472	0.8743	0.8894	0.8171
40	0.8403	0.8186	0.7723	0.7386	0.7163	0.7023	0.7064	0.7138	0.7444	0.8047	0.8345	0.851	0.7703
45	0.7952	0.7733	0.721	0.6841	0.6599	0.6444	0.6487	0.6556	0.6884	0.7575	0.7896	0.8072	0.7187
50	0.7452	0.7236	0.6654	0.6256	0.5998	0.5829	0.5874	0.5934	0.628	0.706	0.74	0.7586	0.663
55	0.6907	0.6699	0.6059	0.5636	0.5365	0.5182	0.5229	0.5276	0.5636	0.6506	0.686	0.7053	0.6034
60	0.632	0.6127	0.543	0.4985	0.4703	0.4509	0.4556	0.4587	0.4958	0.5917	0.6281	0.6478	0.5404
65	0.5697	0.5523	0.4771	0.4308	0.4018	0.3813	0.386	0.3873	0.425	0.5297	0.5667	0.5866	0.4745
70	0.5041	0.4892	0.4088	0.361	0.3315	0.3101	0.3147	0.3139	0.3517	0.4651	0.5023	0.5221	0.4062
75	0.4359	0.424	0.3386	0.2896	0.26	0.2377	0.2422	0.2389	0.2765	0.3984	0.4353	0.4548	0.336
80	0.3654	0.3571	0.267	0.2171	0.1877	0.171	0.169	0.163	0.1999	0.3301	0.3663	0.3852	0.2649
85	0.2933	0.2889	0.1945	0.1604	0.1723	0.1684	0.1641	0.1232	0.1227	0.2607	0.2958	0.3139	0.2132
90	0.2201	0.2202	0.1597	0.1668	0.1741	0.1687	0.1654	0.1316	0.1132	0.1891	0.2243	0.2413	0.1812

Tabla 19: Azimut de 80°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9921	0.9893	0.9862	0.9831	0.9807	0.9792	0.9797	0.9813	0.9845	0.9883	0.9912	0.993	0.9857
10	0.9867	0.9814	0.9745	0.9682	0.9637	0.961	0.962	0.9645	0.9707	0.9793	0.9851	0.9884	0.9738
15	0.9749	0.9676	0.9566	0.9473	0.9408	0.9369	0.9382	0.9415	0.9504	0.9643	0.9728	0.9776	0.9557
20	0.9568	0.9479	0.9326	0.9205	0.9122	0.907	0.9087	0.9123	0.9239	0.9433	0.9543	0.9605	0.9317
25	0.9326	0.9226	0.9027	0.8881	0.878	0.8716	0.8735	0.8773	0.8913	0.9166	0.9299	0.9372	0.9018
30	0.9024	0.8917	0.8671	0.8501	0.8384	0.8309	0.8331	0.8367	0.8527	0.8844	0.8996	0.908	0.8663
35	0.8664	0.8556	0.8262	0.807	0.7939	0.7852	0.7876	0.7907	0.8085	0.8469	0.8638	0.8731	0.8254
40	0.825	0.8146	0.7804	0.7591	0.7447	0.7349	0.7374	0.7398	0.7589	0.8044	0.8227	0.8327	0.7795
45	0.7784	0.7688	0.7298	0.7066	0.6911	0.6803	0.6829	0.6842	0.7043	0.7571	0.7766	0.7872	0.7289
50	0.727	0.7188	0.6749	0.65	0.6337	0.6218	0.6244	0.6243	0.6453	0.7056	0.7259	0.7368	0.674
55	0.6712	0.6648	0.6161	0.5896	0.5726	0.5598	0.5624	0.5607	0.5821	0.6502	0.671	0.682	0.6152
60	0.6114	0.6072	0.5538	0.526	0.5086	0.4949	0.4974	0.4938	0.5153	0.5912	0.6122	0.6232	0.5529
65	0.5481	0.5466	0.4885	0.4596	0.4419	0.4274	0.4298	0.424	0.4454	0.5292	0.5501	0.5608	0.4876
70	0.4818	0.4833	0.4206	0.3908	0.3731	0.3578	0.3601	0.3519	0.3728	0.4646	0.4851	0.4954	0.4198
75	0.4129	0.4179	0.3507	0.3203	0.3027	0.2868	0.2889	0.278	0.2982	0.3978	0.4176	0.4273	0.3499
80	0.342	0.3509	0.2793	0.2485	0.2312	0.2148	0.2166	0.2029	0.2221	0.3295	0.3483	0.3572	0.2786
85	0.2696	0.2827	0.207	0.1759	0.1723	0.1684	0.1641	0.1271	0.1451	0.2602	0.2775	0.2856	0.2113
90	0.1963	0.2139	0.1597	0.1672	0.1752	0.1704	0.1669	0.1323	0.1134	0.1891	0.206	0.2129	0.1753



Tabla 20: Azimut de 85°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.99	0.9888	0.9873	0.9859	0.9846	0.9837	0.984	0.9849	0.9865	0.9883	0.9896	0.9904	0.987
10	0.9825	0.9803	0.9767	0.9738	0.9715	0.9699	0.9705	0.9716	0.9746	0.9792	0.9819	0.9834	0.9763
15	0.9687	0.9659	0.9598	0.9557	0.9524	0.9502	0.9509	0.9521	0.9563	0.9641	0.9679	0.9701	0.9595
20	0.9486	0.9457	0.9369	0.9316	0.9275	0.9246	0.9254	0.9264	0.9317	0.9431	0.9479	0.9506	0.9367
25	0.9224	0.9199	0.908	0.9017	0.8969	0.8934	0.8942	0.8947	0.901	0.9164	0.922	0.925	0.908
30	0.8903	0.8886	0.8735	0.8663	0.8609	0.8567	0.8576	0.8572	0.8641	0.8841	0.8903	0.8936	0.8736
35	0.8525	0.852	0.8335	0.8255	0.8196	0.8148	0.8157	0.8143	0.8215	0.8465	0.8531	0.8566	0.8338
40	0.8094	0.8105	0.7885	0.7798	0.7735	0.768	0.7689	0.7661	0.7735	0.804	0.8107	0.8142	0.7889
45	0.7613	0.7643	0.7388	0.7294	0.7228	0.7167	0.7175	0.7132	0.7205	0.7567	0.7635	0.7668	0.7393
50	0.7085	0.7139	0.6847	0.6747	0.668	0.6612	0.6619	0.6558	0.6627	0.7052	0.7117	0.7147	0.6852
55	0.6514	0.6595	0.6265	0.616	0.6093	0.602	0.6025	0.5943	0.6008	0.6497	0.6557	0.6584	0.6272
60	0.5905	0.6017	0.5648	0.5539	0.5473	0.5395	0.5398	0.5293	0.535	0.5907	0.5961	0.5982	0.5656
65	0.5262	0.5408	0.5	0.4888	0.4825	0.474	0.4742	0.4612	0.466	0.5287	0.5332	0.5347	0.5009
70	0.4591	0.4774	0.4325	0.4211	0.4152	0.4063	0.4061	0.3904	0.3943	0.464	0.4676	0.4683	0.4335
75	0.3896	0.4118	0.363	0.3514	0.346	0.3366	0.3362	0.3177	0.3203	0.3973	0.3996	0.3995	0.3641
80	0.3182	0.3446	0.2918	0.2802	0.2754	0.2656	0.2648	0.2433	0.2446	0.329	0.3299	0.3288	0.293
85	0.2455	0.2764	0.2196	0.208	0.2039	0.1938	0.1927	0.168	0.1679	0.2596	0.259	0.2568	0.2209
90	0.1721	0.2075	0.1597	0.1676	0.1763	0.172	0.1682	0.133	0.1135	0.1891	0.1874	0.1841	0.1692

Tabla 21: Azimut de 90°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9879	0.9882	0.9884	0.9887	0.9885	0.9882	0.9883	0.9885	0.9885	0.9882	0.988	0.9879	0.9883
10	0.9783	0.9792	0.9789	0.9795	0.9793	0.979	0.979	0.9788	0.9786	0.9791	0.9786	0.9784	0.9789
15	0.9624	0.9643	0.9632	0.9641	0.9641	0.9637	0.9637	0.9628	0.9623	0.964	0.9631	0.9626	0.9633
20	0.9402	0.9436	0.9413	0.9427	0.9429	0.9424	0.9423	0.9405	0.9396	0.9429	0.9415	0.9407	0.9417
25	0.9121	0.9172	0.9134	0.9154	0.916	0.9153	0.9151	0.9121	0.9107	0.9161	0.914	0.9128	0.9142
30	0.8781	0.8853	0.8799	0.8825	0.8834	0.8826	0.8822	0.8778	0.8756	0.8838	0.8809	0.8791	0.8809
35	0.8386	0.8483	0.8408	0.8441	0.8455	0.8445	0.8439	0.8379	0.8347	0.8462	0.8424	0.8399	0.8422
40	0.7938	0.8064	0.7968	0.8006	0.8025	0.8014	0.8005	0.7927	0.7883	0.8036	0.7987	0.7955	0.7984
45	0.7441	0.7598	0.7478	0.7523	0.7547	0.7534	0.7523	0.7423	0.7367	0.7563	0.7502	0.7462	0.7497
50	0.6898	0.709	0.6945	0.6995	0.7025	0.7009	0.6996	0.6874	0.6803	0.7047	0.6973	0.6924	0.6965
55	0.6315	0.6543	0.637	0.6426	0.6463	0.6445	0.6429	0.6281	0.6195	0.6492	0.6404	0.6346	0.6392
60	0.5694	0.5961	0.5759	0.582	0.5864	0.5843	0.5824	0.565	0.5549	0.5902	0.5799	0.573	0.5783
65	0.5042	0.535	0.5116	0.5182	0.5233	0.521	0.5188	0.4986	0.4868	0.5281	0.5162	0.5083	0.5142
70	0.4362	0.4713	0.4446	0.4516	0.4575	0.455	0.4524	0.4292	0.4158	0.4635	0.4499	0.441	0.4473
75	0.366	0.4056	0.3753	0.3828	0.3895	0.3867	0.3838	0.3575	0.3424	0.3967	0.3815	0.3714	0.3783
80	0.2942	0.3383	0.3044	0.3122	0.3198	0.3167	0.3134	0.284	0.2672	0.3284	0.3114	0.3002	0.3075
85	0.2213	0.27	0.2324	0.2404	0.2489	0.2455	0.2418	0.2092	0.1907	0.259	0.2403	0.2279	0.2356
90	0.1478	0.2011	0.1598	0.1679	0.1773	0.1736	0.1696	0.1336	0.1136	0.1891	0.1686	0.155	0.1631



Tabla 22: Azimut de 95°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9858	0.9876	0.9895	0.9916	0.9925	0.9927	0.9926	0.9921	0.9905	0.9882	0.9863	0.9854	0.9896
10	0.9741	0.9781	0.9811	0.9851	0.9872	0.988	0.9876	0.986	0.9826	0.979	0.9754	0.9733	0.9814
15	0.9561	0.9626	0.9665	0.9725	0.9758	0.9771	0.9764	0.9734	0.9682	0.9638	0.9582	0.9551	0.9671
20	0.9319	0.9414	0.9457	0.9537	0.9584	0.9601	0.9591	0.9546	0.9474	0.9427	0.9351	0.9307	0.9467
25	0.9018	0.9145	0.9189	0.9291	0.935	0.9372	0.9359	0.9295	0.9203	0.9159	0.9061	0.9005	0.9204
30	0.8659	0.8821	0.8863	0.8987	0.9059	0.9085	0.9068	0.8985	0.8871	0.8835	0.8715	0.8645	0.8883
35	0.8246	0.8446	0.8482	0.8627	0.8713	0.8743	0.8722	0.8616	0.8478	0.8459	0.8316	0.8232	0.8507
40	0.7781	0.8022	0.805	0.8214	0.8314	0.8347	0.8322	0.8191	0.803	0.8033	0.7866	0.7768	0.8078
45	0.7269	0.7552	0.7569	0.7752	0.7865	0.79	0.7871	0.7715	0.7528	0.7559	0.7369	0.7256	0.7601
50	0.6712	0.704	0.7042	0.7243	0.737	0.7406	0.7373	0.7189	0.6978	0.7043	0.6829	0.6702	0.7077
55	0.6115	0.649	0.6474	0.6691	0.6831	0.6869	0.6832	0.6618	0.6383	0.6488	0.625	0.6107	0.6512
60	0.5484	0.5906	0.5869	0.61	0.6254	0.6292	0.625	0.6007	0.5747	0.5897	0.5636	0.5479	0.591
65	0.4821	0.5292	0.5231	0.5475	0.5641	0.5679	0.5634	0.5359	0.5075	0.5276	0.4992	0.482	0.5275
70	0.4133	0.4653	0.4566	0.482	0.4998	0.5036	0.4986	0.4679	0.4373	0.4629	0.4323	0.4136	0.4611
75	0.3425	0.3994	0.3877	0.414	0.433	0.4367	0.4313	0.3973	0.3645	0.3962	0.3633	0.3433	0.3924
80	0.2702	0.332	0.317	0.3441	0.3642	0.3677	0.3619	0.3246	0.2897	0.3279	0.2929	0.2715	0.322
85	0.197	0.2636	0.2451	0.2726	0.2938	0.2971	0.2909	0.2502	0.2135	0.2585	0.2216	0.1989	0.2502
90	0.1478	0.2011	0.1725	0.2003	0.2224	0.2254	0.2188	0.1749	0.1365	0.1891	0.1686	0.155	0.1844

Tabla 23: Azimut de 100°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9837	0.9871	0.9906	0.9944	0.9964	0.9972	0.9969	0.9956	0.9924	0.9881	0.9847	0.9829	0.9908
10	0.9699	0.977	0.9833	0.9907	0.9949	0.9969	0.9961	0.9931	0.9865	0.9789	0.9721	0.9683	0.984
15	0.9498	0.961	0.9697	0.9808	0.9874	0.9904	0.9891	0.984	0.9741	0.9637	0.9534	0.9476	0.9709
20	0.9236	0.9392	0.95	0.9647	0.9737	0.9777	0.9759	0.9686	0.9552	0.9425	0.9287	0.9209	0.9517
25	0.8916	0.9118	0.9242	0.9426	0.9539	0.959	0.9566	0.9468	0.9299	0.9157	0.8982	0.8883	0.9265
30	0.8539	0.879	0.8926	0.9147	0.9283	0.9342	0.9313	0.9189	0.8984	0.8833	0.8622	0.8501	0.8956
35	0.8108	0.841	0.8554	0.8811	0.8969	0.9037	0.9002	0.885	0.8608	0.8456	0.8209	0.8067	0.859
40	0.7626	0.7981	0.8131	0.842	0.8601	0.8677	0.8636	0.8454	0.8175	0.8029	0.7746	0.7583	0.8172
45	0.7098	0.7507	0.7658	0.7978	0.8181	0.8263	0.8216	0.8003	0.7688	0.7555	0.7238	0.7052	0.7703
50	0.6527	0.6992	0.7139	0.7488	0.7712	0.7799	0.7747	0.7501	0.7151	0.7039	0.6686	0.6481	0.7189
55	0.5918	0.6438	0.6578	0.6953	0.7197	0.7289	0.7231	0.6952	0.6568	0.6483	0.6097	0.5871	0.6631
60	0.5274	0.5851	0.5979	0.6377	0.664	0.6736	0.6673	0.636	0.5943	0.5892	0.5475	0.5229	0.6036
65	0.4602	0.5234	0.5346	0.5765	0.6045	0.6145	0.6076	0.5728	0.528	0.5271	0.4823	0.4558	0.5406
70	0.3906	0.4593	0.4684	0.5121	0.5418	0.5518	0.5445	0.5062	0.4586	0.4624	0.4148	0.3865	0.4748
75	0.3192	0.3932	0.3999	0.445	0.4761	0.4863	0.4784	0.4367	0.3864	0.3956	0.3454	0.3154	0.4065
80	0.2465	0.3257	0.3295	0.3756	0.4081	0.4182	0.4099	0.3647	0.312	0.3273	0.2746	0.2431	0.3363
85	0.173	0.2572	0.2578	0.3046	0.3382	0.3482	0.3395	0.2909	0.2361	0.2579	0.203	0.1702	0.2647
90	0.1478	0.2011	0.1852	0.2324	0.267	0.2768	0.2676	0.2157	0.1591	0.1891	0.1686	0.155	0.2054



Tabla 24: Azimut de 105°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9816	0.9865	0.9917	0.9971	1.0002	1.0016	1.0011	0.9991	0.9944	0.9881	0.9831	0.9804	0.9921
10	0.9657	0.9759	0.9855	0.9962	1.0026	1.0057	1.0045	1.0001	0.9904	0.9788	0.9689	0.9634	0.9865
15	0.9437	0.9593	0.973	0.989	0.9988	1.0035	1.0015	0.9945	0.9799	0.9635	0.9487	0.9403	0.9746
20	0.9155	0.937	0.9543	0.9755	0.9887	0.995	0.9923	0.9823	0.9628	0.9423	0.9224	0.9111	0.9566
25	0.8815	0.9091	0.9295	0.956	0.9725	0.9804	0.9769	0.9638	0.9393	0.9154	0.8905	0.8763	0.9326
30	0.842	0.8758	0.8989	0.9305	0.9503	0.9595	0.9553	0.939	0.9095	0.883	0.853	0.8359	0.9027
35	0.7971	0.8374	0.8626	0.8991	0.9221	0.9327	0.9277	0.908	0.8736	0.8452	0.8104	0.7904	0.8672
40	0.7473	0.7941	0.8211	0.8623	0.8884	0.9002	0.8944	0.8711	0.8318	0.8025	0.7628	0.74	0.8263
45	0.693	0.7463	0.7746	0.8201	0.8491	0.862	0.8556	0.8287	0.7845	0.7551	0.7108	0.6852	0.7804
50	0.6345	0.6944	0.7234	0.7729	0.8048	0.8186	0.8114	0.7808	0.7321	0.7034	0.6546	0.6263	0.7298
55	0.5723	0.6387	0.668	0.7211	0.7556	0.7703	0.7624	0.7281	0.675	0.6478	0.5947	0.5638	0.6748
60	0.5068	0.5796	0.6086	0.665	0.702	0.7173	0.7088	0.6707	0.6135	0.5887	0.5316	0.4983	0.6159
65	0.4387	0.5177	0.5459	0.605	0.6443	0.6602	0.651	0.6092	0.5482	0.5266	0.4657	0.4301	0.5535
70	0.3683	0.4534	0.4801	0.5417	0.583	0.5993	0.5895	0.5439	0.4794	0.4619	0.3975	0.3598	0.4882
75	0.2962	0.3872	0.4119	0.4754	0.5185	0.535	0.5247	0.4754	0.4078	0.3951	0.3276	0.288	0.4202
80	0.223	0.3195	0.3418	0.4066	0.4513	0.4679	0.4571	0.4042	0.3339	0.3267	0.2565	0.2152	0.3503
85	0.1493	0.251	0.2702	0.336	0.382	0.3985	0.3872	0.3309	0.2583	0.2573	0.1848	0.1569	0.2802
90	0.1478	0.2011	0.1977	0.2639	0.3109	0.3273	0.3156	0.2559	0.1814	0.1891	0.1686	0.155	0.2262

Tabla 25: Azimut de 110°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9796	0.986	0.9928	0.9998	1.004	1.0059	1.0052	1.0026	0.9963	0.988	0.9816	0.978	0.9933
10	0.9617	0.9748	0.9876	1.0015	1.0101	1.0143	1.0126	1.0069	0.9942	0.9787	0.9658	0.9586	0.9889
15	0.9376	0.9578	0.9761	0.9969	1.0099	1.0163	1.0137	1.0046	0.9855	0.9634	0.944	0.9331	0.9782
20	0.9076	0.9349	0.9585	0.9861	1.0034	1.012	1.0084	0.9958	0.9702	0.9421	0.9163	0.9017	0.9614
25	0.8717	0.9065	0.9347	0.969	0.9906	1.0012	0.9967	0.9804	0.9484	0.9152	0.8829	0.8645	0.9385
30	0.8303	0.8728	0.905	0.9458	0.9717	0.9842	0.9787	0.9585	0.9204	0.8827	0.8441	0.822	0.9097
35	0.7838	0.8339	0.8696	0.9168	0.9467	0.961	0.9546	0.9305	0.886	0.8449	0.8001	0.7745	0.8752
40	0.7324	0.7902	0.8289	0.882	0.9159	0.9319	0.9245	0.8963	0.8457	0.8022	0.7513	0.7222	0.8353
45	0.6765	0.742	0.7832	0.8418	0.8794	0.8969	0.8887	0.8563	0.7998	0.7548	0.6981	0.6655	0.7903
50	0.6167	0.6897	0.7327	0.7964	0.8376	0.8564	0.8473	0.8108	0.7487	0.703	0.6409	0.605	0.7404
55	0.5532	0.6336	0.6779	0.7462	0.7907	0.8106	0.8007	0.7601	0.6927	0.6474	0.58	0.5411	0.6862
60	0.4867	0.5743	0.6192	0.6915	0.739	0.76	0.7493	0.7045	0.6322	0.5883	0.5161	0.4742	0.628
65	0.4176	0.5122	0.5569	0.6328	0.6831	0.7048	0.6934	0.6446	0.5678	0.5261	0.4494	0.405	0.5661
70	0.3464	0.4477	0.4915	0.5705	0.6232	0.6456	0.6335	0.5806	0.4998	0.4614	0.3807	0.3338	0.5012
75	0.2738	0.3813	0.4237	0.505	0.5598	0.5826	0.5699	0.5132	0.4288	0.3946	0.3103	0.2612	0.4337
80	0.2001	0.3135	0.3537	0.4369	0.4935	0.5164	0.5032	0.4427	0.3553	0.3262	0.2389	0.1878	0.364
85	0.1486	0.2449	0.2823	0.3665	0.4246	0.4476	0.4339	0.3698	0.2798	0.2568	0.1719	0.1569	0.2986
90	0.1478	0.2011	0.2098	0.2946	0.3537	0.3765	0.3624	0.295	0.2031	0.1891	0.1686	0.155	0.2464



Tabla 26: Azimut de 115°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9776	0.9855	0.9938	1.0024	1.0076	1.0101	1.0091	1.0059	0.9981	0.988	0.98	0.9756	0.9945
10	0.9578	0.9738	0.9897	1.0067	1.0173	1.0226	1.0205	1.0135	0.9979	0.9786	0.9628	0.9539	0.9913
15	0.9318	0.9562	0.9792	1.0047	1.0207	1.0287	1.0255	1.0145	0.9909	0.9632	0.9395	0.9261	0.9818
20	0.8999	0.9329	0.9625	0.9963	1.0176	1.0283	1.0239	1.0088	0.9774	0.942	0.9104	0.8925	0.966
25	0.8622	0.904	0.9397	0.9816	1.0082	1.0214	1.0159	0.9964	0.9573	0.915	0.8756	0.8532	0.9442
30	0.8191	0.8698	0.9109	0.9607	0.9925	1.0081	1.0014	0.9775	0.9308	0.8824	0.8354	0.8086	0.9164
35	0.7709	0.8305	0.8764	0.9338	0.9705	0.9884	0.9806	0.9522	0.898	0.8446	0.7902	0.759	0.8829
40	0.7179	0.7863	0.8365	0.9011	0.9425	0.9625	0.9537	0.9206	0.8592	0.8018	0.7402	0.7049	0.8439
45	0.6606	0.7378	0.7915	0.8628	0.9087	0.9306	0.9207	0.883	0.8146	0.7544	0.6858	0.6465	0.7998
50	0.5994	0.6851	0.7417	0.8191	0.8693	0.8929	0.882	0.8397	0.7647	0.7026	0.6276	0.5844	0.7507
55	0.5348	0.6288	0.6875	0.7705	0.8246	0.8497	0.8378	0.791	0.7098	0.647	0.5658	0.5191	0.6972
60	0.4672	0.5692	0.6293	0.7172	0.7749	0.8013	0.7885	0.7372	0.6503	0.5878	0.501	0.451	0.6396
65	0.3972	0.5068	0.5675	0.6597	0.7206	0.748	0.7344	0.6788	0.5867	0.5256	0.4337	0.3806	0.5783
70	0.3253	0.4421	0.5026	0.5983	0.6621	0.6903	0.676	0.6161	0.5194	0.4609	0.3644	0.3085	0.5138
75	0.252	0.3755	0.435	0.5336	0.5998	0.6286	0.6136	0.5497	0.4489	0.3941	0.2936	0.2352	0.4466
80	0.178	0.3076	0.3653	0.4661	0.5342	0.5634	0.5478	0.48	0.3759	0.3257	0.2218	0.1614	0.3773
85	0.1486	0.2389	0.294	0.3961	0.4658	0.495	0.4789	0.4075	0.3007	0.2563	0.1719	0.1569	0.3176
90	0.1478	0.2011	0.2216	0.3243	0.3952	0.4242	0.4077	0.3328	0.224	0.1891	0.1686	0.155	0.2659

Tabla 27: Azimut de 120°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9757	0.985	0.9948	1.005	1.0111	1.0141	1.013	1.0091	0.9999	0.988	0.9786	0.9734	0.9956
10	0.954	0.9728	0.9916	1.0117	1.0242	1.0306	1.0281	1.0199	1.0014	0.9785	0.9599	0.9494	0.9935
15	0.9262	0.9547	0.9821	1.0121	1.031	1.0406	1.0368	1.0239	0.9961	0.9631	0.9352	0.9194	0.9851
20	0.8925	0.931	0.9664	1.006	1.0313	1.044	1.0389	1.0212	0.9842	0.9418	0.9047	0.8836	0.9705
25	0.8531	0.9016	0.9445	0.9936	1.025	1.0408	1.0343	1.0118	0.9658	0.9148	0.8685	0.8423	0.9497
30	0.8083	0.8669	0.9166	0.975	1.0124	1.031	1.0232	0.9957	0.9408	0.8822	0.8271	0.7957	0.9229
35	0.7585	0.8272	0.8829	0.9501	0.9934	1.0147	1.0056	0.973	0.9095	0.8443	0.7806	0.7442	0.8903
40	0.704	0.7827	0.8437	0.9194	0.9681	0.992	0.9816	0.9439	0.872	0.8015	0.7295	0.6883	0.8522
45	0.6453	0.7337	0.7995	0.8828	0.9368	0.963	0.9514	0.9087	0.8288	0.754	0.6741	0.6283	0.8089
50	0.5829	0.6808	0.7503	0.8409	0.8997	0.9279	0.9153	0.8675	0.78	0.7022	0.6148	0.5647	0.7606
55	0.5171	0.6241	0.6967	0.7937	0.8571	0.8871	0.8734	0.8207	0.7262	0.6465	0.5522	0.498	0.7077
60	0.4485	0.5643	0.639	0.7418	0.8093	0.8408	0.8261	0.7686	0.6676	0.5874	0.4866	0.4286	0.6507
65	0.3776	0.5016	0.5777	0.6854	0.7566	0.7894	0.7738	0.7116	0.6048	0.5252	0.4186	0.3572	0.59
70	0.305	0.4367	0.5131	0.625	0.6994	0.7332	0.7168	0.6501	0.5382	0.4604	0.3487	0.2842	0.5259
75	0.2312	0.37	0.4459	0.5611	0.6381	0.6727	0.6555	0.5846	0.4683	0.3936	0.2775	0.2103	0.4591
80	0.1567	0.302	0.3764	0.494	0.5733	0.6083	0.5905	0.5156	0.3956	0.3252	0.2054	0.1588	0.3918
85	0.1486	0.2333	0.3052	0.4244	0.5054	0.5405	0.5222	0.4436	0.3206	0.2558	0.1719	0.1569	0.3357
90	0.1478	0.2011	0.2329	0.3527	0.4348	0.4698	0.451	0.369	0.244	0.1891	0.1686	0.155	0.2847



Tabla 28: Azimut de 125°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9739	0.9845	0.9957	1.0073	1.0144	1.0179	1.0166	1.0121	1.0016	0.9879	0.9772	0.9712	0.9967
10	0.9505	0.9719	0.9935	1.0165	1.0308	1.0382	1.0353	1.0259	1.0047	0.9785	0.9572	0.9452	0.9957
15	0.9209	0.9533	0.9849	1.0191	1.0408	1.0519	1.0475	1.0329	1.0011	0.963	0.9311	0.9131	0.9883
20	0.8854	0.9291	0.9701	1.0153	1.0442	1.059	1.053	1.0331	0.9908	0.9416	0.8993	0.8752	0.9747
25	0.8444	0.8993	0.949	1.0051	1.041	1.0593	1.0518	1.0264	0.9738	0.9145	0.8618	0.8319	0.9549
30	0.798	0.8642	0.922	0.9885	1.0313	1.0528	1.0439	1.0129	0.9503	0.8819	0.8191	0.7834	0.929
35	0.7467	0.8241	0.8891	0.9656	1.015	1.0397	1.0293	0.9928	0.9204	0.8441	0.7715	0.7302	0.8974
40	0.6908	0.7792	0.8506	0.9367	0.9924	1.0199	1.0082	0.9661	0.8842	0.8012	0.7193	0.6725	0.8601
45	0.6308	0.7299	0.807	0.9019	0.9635	0.9937	0.9806	0.933	0.8422	0.7537	0.6629	0.6109	0.8175
50	0.5671	0.6766	0.7585	0.8615	0.9286	0.9612	0.9469	0.8938	0.7946	0.7019	0.6027	0.5459	0.7699
55	0.5003	0.6197	0.7055	0.8158	0.888	0.9227	0.9072	0.8488	0.7417	0.6461	0.5392	0.4778	0.7177
60	0.4307	0.5596	0.6483	0.7651	0.8419	0.8784	0.8618	0.7983	0.684	0.5869	0.4729	0.4074	0.6613
65	0.359	0.4967	0.5874	0.7098	0.7907	0.8287	0.8111	0.7427	0.622	0.5247	0.4043	0.335	0.601
70	0.2857	0.4316	0.5232	0.6503	0.7348	0.774	0.7555	0.6824	0.556	0.4599	0.3338	0.2612	0.5374
75	0.2113	0.3648	0.4562	0.5871	0.6745	0.7146	0.6953	0.6178	0.4865	0.3931	0.2622	0.1866	0.4708
80	0.1495	0.2967	0.3869	0.5205	0.6104	0.651	0.6311	0.5494	0.4142	0.3247	0.1898	0.1588	0.4069
85	0.1486	0.2279	0.3159	0.4512	0.5429	0.5837	0.5632	0.4778	0.3395	0.2553	0.1719	0.1569	0.3529
90	0.1478	0.2011	0.2436	0.3797	0.4725	0.5132	0.4922	0.4034	0.263	0.1891	0.1686	0.155	0.3024

Tabla 29: Azimut de 130°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9722	0.9841	0.9966	1.0096	1.0175	1.0215	1.02	1.015	1.0032	0.9879	0.9759	0.9692	0.9977
10	0.9471	0.971	0.9953	1.0209	1.0371	1.0454	1.0421	1.0316	1.0079	0.9784	0.9546	0.9412	0.9977
15	0.9159	0.952	0.9876	1.0257	1.0501	1.0626	1.0576	1.0413	1.0058	0.9629	0.9273	0.9071	0.9913
20	0.8788	0.9274	0.9735	1.0241	1.0564	1.073	1.0664	1.0442	0.9969	0.9415	0.8942	0.8673	0.9786
25	0.8362	0.8972	0.9533	1.0159	1.0561	1.0766	1.0683	1.0401	0.9813	0.9144	0.8555	0.8221	0.9598
30	0.7883	0.8617	0.927	1.0012	1.0491	1.0733	1.0633	1.0291	0.9592	0.8817	0.8117	0.7719	0.9348
35	0.7356	0.8212	0.8949	0.9802	1.0354	1.0632	1.0516	1.0113	0.9306	0.8438	0.763	0.7169	0.904
40	0.6784	0.7759	0.8571	0.953	1.0152	1.0462	1.0331	0.9868	0.8957	0.8009	0.7097	0.6577	0.8675
45	0.6171	0.7263	0.8141	0.9198	0.9886	1.0226	1.008	0.9558	0.8548	0.7534	0.6523	0.5946	0.8256
50	0.5523	0.6727	0.7662	0.8809	0.9558	0.9925	0.9766	0.9185	0.8082	0.7015	0.5913	0.5282	0.7787
55	0.4844	0.6155	0.7137	0.8365	0.917	0.9561	0.9389	0.8752	0.7562	0.6458	0.527	0.4589	0.7271
60	0.414	0.5551	0.657	0.7869	0.8725	0.9138	0.8953	0.8262	0.6994	0.5866	0.46	0.3874	0.6712
65	0.3415	0.4921	0.5964	0.7326	0.8227	0.8657	0.8462	0.7719	0.638	0.5243	0.3907	0.314	0.6114
70	0.2675	0.4268	0.5326	0.674	0.768	0.8123	0.7918	0.7126	0.5726	0.4595	0.3198	0.2395	0.5481
75	0.1926	0.3599	0.4659	0.6114	0.7087	0.754	0.7327	0.6489	0.5037	0.3927	0.2478	0.1643	0.4819
80	0.1495	0.2917	0.3968	0.5454	0.6452	0.6911	0.6691	0.5812	0.4317	0.3243	0.1752	0.1588	0.4217
85	0.1486	0.2228	0.3259	0.4764	0.5781	0.6243	0.6017	0.5099	0.3572	0.2548	0.1719	0.1569	0.369
90	0.1478	0.2011	0.2536	0.4049	0.5078	0.5539	0.5309	0.4356	0.2808	0.1891	0.1686	0.155	0.3191



Tabla 30: Azimut de 135°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9707	0.9837	0.9974	1.0117	1.0204	1.0249	1.0232	1.0176	1.0046	0.9878	0.9747	0.9674	0.9987
10	0.944	0.9702	0.9969	1.025	1.0428	1.052	1.0484	1.0368	1.0108	0.9783	0.9522	0.9374	0.9996
15	0.9112	0.9508	0.99	1.0319	1.0586	1.0724	1.067	1.0492	1.0101	0.9628	0.9237	0.9016	0.9941
20	0.8727	0.9257	0.9768	1.0322	1.0677	1.086	1.0787	1.0545	1.0026	0.9413	0.8894	0.86	0.9823
25	0.8286	0.8952	0.9573	1.0259	1.0701	1.0927	1.0836	1.0529	0.9883	0.9142	0.8497	0.8131	0.9643
30	0.7794	0.8593	0.9318	1.013	1.0656	1.0923	1.0814	1.0442	0.9674	0.8815	0.8048	0.7612	0.9402
35	0.7253	0.8184	0.9003	0.9937	1.0543	1.085	1.0723	1.0286	0.94	0.8436	0.755	0.7046	0.9101
40	0.6669	0.7729	0.8632	0.9681	1.0364	1.0706	1.0563	1.0061	0.9063	0.8006	0.7008	0.6439	0.8743
45	0.6044	0.723	0.8208	0.9364	1.0118	1.0494	1.0335	0.977	0.8664	0.7531	0.6425	0.5794	0.8332
50	0.5386	0.6691	0.7733	0.8988	0.9809	1.0216	1.0041	0.9415	0.8208	0.7012	0.5806	0.5118	0.7869
55	0.4697	0.6116	0.7213	0.8556	0.9439	0.9872	0.9684	0.8997	0.7697	0.6454	0.5156	0.4414	0.7358
60	0.3984	0.551	0.665	0.8072	0.901	0.9466	0.9265	0.8521	0.7136	0.5862	0.448	0.3688	0.6804
65	0.3252	0.4878	0.6049	0.7538	0.8525	0.9	0.8787	0.799	0.6529	0.5239	0.3782	0.2946	0.621
70	0.2506	0.4224	0.5413	0.6959	0.7988	0.8478	0.8256	0.7407	0.588	0.4591	0.3068	0.2193	0.558
75	0.1753	0.3553	0.4748	0.634	0.7403	0.7905	0.7673	0.6777	0.5195	0.3923	0.2344	0.1607	0.4935
80	0.1495	0.287	0.4059	0.5684	0.6775	0.7284	0.7045	0.6105	0.4478	0.3239	0.1752	0.1588	0.4365
85	0.1486	0.2181	0.3351	0.4997	0.6108	0.6619	0.6374	0.5396	0.3736	0.2544	0.1719	0.1569	0.384
90	0.1478	0.2011	0.263	0.4283	0.5406	0.5916	0.5667	0.4655	0.2972	0.1891	0.1686	0.155	0.3345

Tabla 31: Azimut de 140°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9692	0.9833	0.9982	1.0136	1.0231	1.0279	1.0261	1.0201	1.006	0.9878	0.9736	0.9656	0.9995
10	0.9411	0.9694	0.9984	1.0288	1.0481	1.0581	1.0542	1.0417	1.0134	0.9782	0.95	0.934	1.0013
15	0.907	0.9497	0.9923	1.0375	1.0665	1.0815	1.0756	1.0563	1.014	0.9627	0.9204	0.8965	0.9967
20	0.8671	0.9243	0.9797	1.0396	1.0781	1.098	1.0901	1.064	1.0078	0.9412	0.8851	0.8533	0.9857
25	0.8217	0.8933	0.961	1.035	1.0829	1.1074	1.0976	1.0645	0.9947	0.914	0.8443	0.8048	0.9684
30	0.7711	0.8571	0.9361	1.0238	1.0807	1.1097	1.0979	1.058	0.975	0.8813	0.7984	0.7513	0.945
35	0.7159	0.816	0.9053	1.0061	1.0716	1.1049	1.0912	1.0444	0.9486	0.8433	0.7477	0.6933	0.9157
40	0.6563	0.7701	0.8688	0.9819	1.0557	1.093	1.0775	1.0238	0.9159	0.8004	0.6926	0.6312	0.8806
45	0.5928	0.7199	0.8269	0.9516	1.0331	1.074	1.0568	0.9964	0.8771	0.7528	0.6335	0.5655	0.84
50	0.526	0.6657	0.7799	0.9152	1.004	1.0481	1.0294	0.9624	0.8323	0.7009	0.5709	0.4967	0.7943
55	0.4562	0.6081	0.7283	0.8731	0.9685	1.0156	0.9953	0.9221	0.782	0.6451	0.5052	0.4253	0.7437
60	0.3841	0.5473	0.6724	0.8257	0.927	0.9766	0.9549	0.8757	0.7266	0.5859	0.437	0.3518	0.6887
65	0.3103	0.4839	0.6125	0.7731	0.8797	0.9314	0.9085	0.8237	0.6665	0.5236	0.3667	0.2768	0.6297
70	0.2352	0.4183	0.5493	0.716	0.827	0.8804	0.8564	0.7663	0.6021	0.4588	0.2949	0.2009	0.5671
75	0.1594	0.3511	0.483	0.6546	0.7693	0.8239	0.799	0.7041	0.534	0.3919	0.2221	0.1607	0.5044
80	0.1495	0.2827	0.4143	0.5894	0.707	0.7624	0.7368	0.6374	0.4626	0.3235	0.1752	0.1588	0.45
85	0.1486	0.2137	0.3436	0.5209	0.6406	0.6963	0.6701	0.5668	0.3885	0.254	0.1719	0.1569	0.3977
90	0.1478	0.2011	0.2715	0.4497	0.5706	0.6261	0.5995	0.4927	0.3122	0.1891	0.1686	0.155	0.3487

Tabla 32: Azimut de 145°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9679	0.9829	0.9989	1.0153	1.0255	1.0307	1.0287	1.0222	1.0072	0.9878	0.9726	0.9641	1.0003
10	0.9386	0.9687	0.9998	1.0322	1.0529	1.0636	1.0594	1.046	1.0158	0.9782	0.948	0.9309	1.0028
15	0.9031	0.9487	0.9943	1.0426	1.0736	1.0896	1.0833	1.0628	1.0176	0.9626	0.9174	0.8919	0.999
20	0.862	0.9229	0.9824	1.0463	1.0875	1.1087	1.1003	1.0725	1.0125	0.9411	0.8812	0.8472	0.9887
25	0.8154	0.8917	0.9643	1.0432	1.0944	1.1207	1.1102	1.075	1.0005	0.9139	0.8395	0.7973	0.9722
30	0.7637	0.8552	0.94	1.0335	1.0943	1.1254	1.1128	1.0704	0.9817	0.8811	0.7927	0.7425	0.9495
35	0.7074	0.8137	0.9097	1.0172	1.0872	1.1229	1.1083	1.0585	0.9564	0.8431	0.7412	0.6832	0.9207
40	0.6467	0.7676	0.8738	0.9943	1.0732	1.1131	1.0966	1.0397	0.9246	0.8002	0.6853	0.6199	0.8862
45	0.5823	0.7171	0.8324	0.9652	1.0523	1.0961	1.0778	1.0138	0.8866	0.7525	0.6255	0.553	0.8462
50	0.5146	0.6627	0.7858	0.9299	1.0247	1.0721	1.0521	0.9813	0.8426	0.7006	0.5622	0.4831	0.801
55	0.4441	0.6049	0.7346	0.8889	0.9907	1.0412	1.0196	0.9422	0.793	0.6448	0.4959	0.4108	0.7509
60	0.3713	0.5439	0.679	0.8423	0.9504	1.0036	0.9806	0.897	0.7382	0.5856	0.4271	0.3364	0.6963
65	0.2968	0.4803	0.6195	0.7905	0.9042	0.9597	0.9353	0.8459	0.6786	0.5233	0.3563	0.2607	0.6376
70	0.2212	0.4146	0.5564	0.7339	0.8524	0.9097	0.8842	0.7893	0.6147	0.4584	0.2841	0.1842	0.5753
75	0.1503	0.3473	0.4904	0.673	0.7954	0.854	0.8276	0.7277	0.5469	0.3916	0.2111	0.1607	0.5147
80	0.1495	0.2789	0.4218	0.6082	0.7336	0.793	0.7658	0.6615	0.4757	0.3231	0.1752	0.1588	0.4621
85	0.1486	0.2099	0.3512	0.54	0.6674	0.7273	0.6995	0.5911	0.4018	0.2537	0.1719	0.1569	0.4099
90	0.1478	0.2011	0.2791	0.4688	0.5975	0.6572	0.6289	0.5172	0.3256	0.1891	0.1686	0.155	0.3613

Tabla 33: Azimut de 150°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9668	0.9826	0.9995	1.0168	1.0276	1.0331	1.031	1.0242	1.0083	0.9877	0.9717	0.9627	1.001
10	0.9363	0.9681	1.001	1.0353	1.0571	1.0684	1.064	1.0498	1.0179	0.9781	0.9462	0.9282	1.0042
15	0.8998	0.9478	0.9961	1.0471	1.0798	1.0968	1.0902	1.0685	1.0207	0.9625	0.9148	0.8878	1.001
20	0.8575	0.9217	0.9848	1.0522	1.0957	1.1182	1.1093	1.08	1.0166	0.941	0.8777	0.8419	0.9914
25	0.8099	0.8902	0.9672	1.0505	1.1046	1.1324	1.1213	1.0843	1.0055	0.9137	0.8352	0.7907	0.9755
30	0.7572	0.8535	0.9434	1.0421	1.1063	1.1393	1.126	1.0813	0.9877	0.881	0.7877	0.7347	0.9533
35	0.6999	0.8117	0.9137	1.027	1.101	1.1388	1.1234	1.0711	0.9632	0.843	0.7354	0.6742	0.9252
40	0.6383	0.7654	0.8782	1.0053	1.0886	1.1309	1.1135	1.0536	0.9321	0.8	0.6788	0.6098	0.8912
45	0.5731	0.7147	0.8372	0.9772	1.0692	1.1156	1.0963	1.0292	0.8949	0.7523	0.6183	0.542	0.8517
50	0.5046	0.6601	0.7911	0.9429	1.043	1.0932	1.0721	0.9979	0.8516	0.7004	0.5544	0.4712	0.8069
55	0.4334	0.602	0.7402	0.9027	1.0102	1.0638	1.041	0.9599	0.8027	0.6446	0.4876	0.3979	0.7572
60	0.36	0.5409	0.6848	0.8569	0.971	1.0275	1.0032	0.9157	0.7484	0.5853	0.4183	0.3229	0.7029
65	0.285	0.4772	0.6255	0.8057	0.9257	0.9846	0.959	0.8654	0.6893	0.523	0.3472	0.2466	0.6445
70	0.2089	0.4114	0.5627	0.7497	0.8747	0.9355	0.9087	0.8095	0.6257	0.4581	0.2747	0.1695	0.5824
75	0.1503	0.344	0.4969	0.6892	0.8183	0.8805	0.8527	0.7485	0.5582	0.3913	0.2013	0.1607	0.5243
80	0.1495	0.2755	0.4284	0.6247	0.7569	0.8201	0.7915	0.6826	0.4873	0.3228	0.1752	0.1588	0.4728
85	0.1486	0.2072	0.3579	0.5567	0.6911	0.7546	0.7253	0.6125	0.4134	0.2534	0.1719	0.1569	0.4208
90	0.1478	0.2011	0.2858	0.4856	0.6211	0.6845	0.6548	0.5387	0.3373	0.1891	0.1686	0.155	0.3724



Tabla 34: Azimut de 150°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9658	0.9824	1	1.0181	1.0294	1.0352	1.033	1.0258	1.0092	0.9877	0.971	0.9616	1.0016
10	0.9343	0.9676	1.002	1.0378	1.0607	1.0725	1.0679	1.0531	1.0198	0.9781	0.9447	0.9259	1.0054
15	0.8968	0.947	0.9976	1.0509	1.0852	1.103	1.096	1.0734	1.0234	0.9624	0.9126	0.8844	1.0027
20	0.8537	0.9207	0.9868	1.0572	1.1028	1.1264	1.1171	1.0865	1.0201	0.9409	0.8747	0.8373	0.9937
25	0.8051	0.889	0.9697	1.0567	1.1133	1.1425	1.1308	1.0923	1.0099	0.9136	0.8316	0.785	0.9783
30	0.7516	0.852	0.9464	1.0494	1.1166	1.1512	1.1373	1.0907	0.9928	0.8809	0.7833	0.7279	0.9567
35	0.6934	0.81	0.9171	1.0354	1.1128	1.1524	1.1363	1.0818	0.969	0.8428	0.7304	0.6665	0.929
40	0.6311	0.7634	0.882	1.0147	1.1018	1.1461	1.1279	1.0656	0.9386	0.7998	0.6732	0.6012	0.8955
45	0.5651	0.7126	0.8414	0.9875	1.0837	1.1324	1.1122	1.0424	0.902	0.7521	0.6122	0.5325	0.8563
50	0.4959	0.6578	0.7956	0.954	1.0587	1.1114	1.0893	1.0121	0.8593	0.7002	0.5478	0.4609	0.8119
55	0.4241	0.5996	0.745	0.9146	1.027	1.0831	1.0594	0.9751	0.8109	0.6444	0.4805	0.3869	0.7626
60	0.3502	0.5383	0.6899	0.8694	0.9887	1.048	1.0226	0.9317	0.7571	0.5851	0.4108	0.3113	0.7086
65	0.2748	0.4745	0.6308	0.8188	0.9443	1.0061	0.9793	0.8822	0.6983	0.5227	0.3393	0.2344	0.6504
70	0.1983	0.4086	0.5681	0.7632	0.8939	0.9577	0.9298	0.8269	0.6351	0.4579	0.2665	0.1625	0.589
75	0.1503	0.3411	0.5024	0.7031	0.838	0.9034	0.8744	0.7662	0.5678	0.391	0.1929	0.1607	0.5326
80	0.1495	0.2726	0.434	0.6388	0.777	0.8433	0.8135	0.7007	0.4971	0.3226	0.1752	0.1588	0.4819
85	0.1486	0.2072	0.3636	0.5709	0.7113	0.778	0.7476	0.6308	0.4233	0.2531	0.1719	0.1569	0.4303
90	0.1478	0.2011	0.2916	0.4999	0.6414	0.7079	0.6771	0.557	0.3472	0.1891	0.1686	0.155	0.382

Tabla 35: Azimut de 160°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.965	0.9822	1.0004	1.0192	1.0309	1.0369	1.0346	1.0272	1.0099	0.9877	0.9703	0.9606	1.0021
10	0.9327	0.9672	1.0028	1.04	1.0637	1.076	1.0712	1.0559	1.0213	0.978	0.9435	0.924	1.0063
15	0.8944	0.9464	0.9989	1.0541	1.0896	1.1081	1.1009	1.0775	1.0257	0.9624	0.9107	0.8815	1.0042
20	0.8505	0.9199	0.9885	1.0614	1.1086	1.1332	1.1235	1.0918	1.0231	0.9408	0.8723	0.8335	0.9956
25	0.8012	0.8879	0.9717	1.0619	1.1205	1.1508	1.1388	1.0988	1.0135	0.9135	0.8285	0.7803	0.9806
30	0.7469	0.8507	0.9488	1.0555	1.1252	1.161	1.1466	1.0985	0.997	0.8807	0.7797	0.7224	0.9594
35	0.688	0.8086	0.9199	1.0423	1.1226	1.1637	1.147	1.0907	0.9738	0.8427	0.7263	0.6601	0.9321
40	0.6251	0.7619	0.8852	1.0225	1.1128	1.1588	1.1399	1.0756	0.944	0.7997	0.6686	0.594	0.899
45	0.5585	0.7108	0.8449	0.996	1.0958	1.1463	1.1254	1.0533	0.9078	0.752	0.6071	0.5246	0.8602
50	0.4888	0.6559	0.7994	0.9632	1.0718	1.1264	1.1036	1.0239	0.8656	0.7	0.5423	0.4523	0.8161
55	0.4165	0.5976	0.749	0.9244	1.0409	1.0992	1.0746	0.9877	0.8176	0.6442	0.4746	0.3778	0.767
60	0.3421	0.5362	0.6941	0.8797	1.0034	1.0649	1.0387	0.9449	0.7642	0.5849	0.4046	0.3016	0.7133
65	0.2663	0.4723	0.6352	0.8295	0.9596	1.0238	0.9961	0.896	0.7058	0.5225	0.3328	0.2243	0.6554
70	0.1896	0.4063	0.5726	0.7743	0.9098	0.9762	0.9472	0.8412	0.6428	0.4577	0.2597	0.1625	0.595
75	0.1503	0.3387	0.5069	0.7145	0.8543	0.9224	0.8923	0.7809	0.5757	0.3908	0.186	0.1607	0.5395
80	0.1495	0.2701	0.4387	0.6504	0.7937	0.8627	0.8318	0.7157	0.5051	0.3223	0.1752	0.1588	0.4895
85	0.1486	0.2072	0.3683	0.5826	0.7281	0.7975	0.766	0.6459	0.4314	0.2529	0.1719	0.1569	0.4381
90	0.1478	0.2011	0.2963	0.5116	0.6582	0.7271	0.6954	0.5721	0.3553	0.1891	0.1686	0.155	0.3898



Tabla 36: Azimut de 165°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9644	0.982	1.0007	1.02	1.0321	1.0383	1.0359	1.0283	1.0105	0.9877	0.9698	0.9598	1.0025
10	0.9314	0.9668	1.0035	1.0417	1.066	1.0787	1.0738	1.058	1.0225	0.978	0.9425	0.9224	1.0071
15	0.8925	0.9459	0.9998	1.0566	1.0931	1.1122	1.1047	1.0807	1.0274	0.9623	0.9092	0.8792	1.0053
20	0.848	0.9192	0.9898	1.0647	1.1133	1.1385	1.1285	1.096	1.0254	0.9407	0.8704	0.8305	0.9971
25	0.7981	0.8871	0.9734	1.0659	1.1262	1.1574	1.145	1.104	1.0163	0.9135	0.8261	0.7766	0.9825
30	0.7432	0.8498	0.9507	1.0603	1.1319	1.1688	1.154	1.1046	1.0003	0.8807	0.7769	0.718	0.9616
35	0.6838	0.8075	0.9221	1.0478	1.1303	1.1725	1.1554	1.0977	0.9776	0.8426	0.723	0.6551	0.9346
40	0.6204	0.7606	0.8876	1.0286	1.1214	1.1687	1.1493	1.0834	0.9482	0.7995	0.665	0.5884	0.9018
45	0.5533	0.7095	0.8476	1.0027	1.1052	1.1572	1.1358	1.0618	0.9124	0.7519	0.6031	0.5184	0.8632
50	0.4832	0.6545	0.8023	0.9704	1.082	1.1382	1.1148	1.0331	0.8705	0.6999	0.5379	0.4456	0.8194
55	0.4105	0.596	0.7522	0.932	1.0518	1.1119	1.0866	0.9975	0.8228	0.644	0.47	0.3707	0.7705
60	0.3358	0.5345	0.6975	0.8878	1.0149	1.0783	1.0513	0.9553	0.7697	0.5847	0.3997	0.294	0.717
65	0.2597	0.4705	0.6387	0.838	0.9717	1.0378	1.0094	0.9068	0.7115	0.5224	0.3277	0.2164	0.6592
70	0.1827	0.4045	0.5762	0.783	0.9223	0.9907	0.961	0.8524	0.6487	0.4575	0.2544	0.1625	0.5997
75	0.1503	0.3369	0.5106	0.7234	0.8672	0.9373	0.9065	0.7924	0.5818	0.3906	0.1805	0.1607	0.5448
80	0.1495	0.2682	0.4423	0.6594	0.8068	0.878	0.8462	0.7274	0.5112	0.3222	0.1752	0.1588	0.4954
85	0.1486	0.2072	0.3719	0.5917	0.7414	0.8273	0.7806	0.6577	0.4376	0.2527	0.1719	0.1569	0.4455
90	0.1478	0.2011	0.2999	0.5207	0.6714	0.7575	0.722	0.584	0.3615	0.1891	0.1686	0.155	0.3982

Tabla 37: Azimut de 170°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9639	0.9819	1.001	1.0206	1.0329	1.0393	1.0368	1.0291	1.011	0.9877	0.9695	0.9593	1.0027
10	0.9305	0.9666	1.004	1.0429	1.0677	1.0806	1.0756	1.0596	1.0233	0.978	0.9418	0.9213	1.0077
15	0.8912	0.9455	1.0006	1.0584	1.0957	1.1151	1.1075	1.083	1.0287	0.9623	0.9082	0.8776	1.0061
20	0.8462	0.9187	0.9907	1.0671	1.1166	1.1423	1.1322	1.0991	1.027	0.9407	0.869	0.8283	0.9981
25	0.7958	0.8865	0.9745	1.0689	1.1303	1.1621	1.1495	1.1077	1.0183	0.9134	0.8244	0.7739	0.9838
30	0.7406	0.8491	0.9521	1.0637	1.1367	1.1743	1.1593	1.109	1.0027	0.8806	0.7749	0.7148	0.9632
35	0.6808	0.8067	0.9237	1.0517	1.1358	1.1789	1.1615	1.1027	0.9803	0.8425	0.7207	0.6515	0.9364
40	0.617	0.7597	0.8894	1.0329	1.1275	1.1758	1.1561	1.089	0.9512	0.7995	0.6623	0.5843	0.9037
45	0.5496	0.7085	0.8496	1.0075	1.112	1.1651	1.1432	1.068	0.9157	0.7518	0.6002	0.5139	0.8654
50	0.4792	0.6534	0.8045	0.9756	1.0893	1.1467	1.1228	1.0398	0.8741	0.6998	0.5348	0.4408	0.8217
55	0.4062	0.5949	0.7544	0.9375	1.0596	1.1209	1.0952	1.0046	0.8266	0.6439	0.4666	0.3655	0.773
60	0.3312	0.5333	0.6999	0.8936	1.0232	1.0879	1.0605	0.9628	0.7736	0.5846	0.3962	0.2886	0.7196
65	0.2549	0.4693	0.6412	0.844	0.9803	1.0479	1.0189	0.9146	0.7155	0.5223	0.324	0.2107	0.662
70	0.1777	0.4032	0.5788	0.7892	0.9313	1.0013	0.9709	0.8604	0.6529	0.4574	0.2506	0.1625	0.603
75	0.1503	0.3355	0.5132	0.7297	0.8765	0.9482	0.9167	0.8007	0.586	0.3905	0.1785	0.1607	0.5489
80	0.1495	0.2669	0.4449	0.6659	0.8163	0.8892	0.8568	0.7358	0.5156	0.3221	0.1752	0.1588	0.4997
85	0.1486	0.2072	0.3745	0.5982	0.7512	0.8389	0.8033	0.6663	0.442	0.2526	0.1719	0.1569	0.451
90	0.1478	0.2011	0.3025	0.5272	0.6902	0.769	0.733	0.5926	0.3658	0.1891	0.1686	0.155	0.4035



Tabla 38: Azimut de 175°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9636	0.9818	1.0011	1.021	1.0334	1.0399	1.0374	1.0295	1.0112	0.9877	0.9693	0.9589	1.0029
10	0.93	0.9665	1.0043	1.0436	1.0687	1.0818	1.0767	1.0605	1.0238	0.978	0.9414	0.9207	1.008
15	0.8903	0.9453	1.001	1.0595	1.0972	1.1168	1.1091	1.0843	1.0294	0.9623	0.9076	0.8766	1.0066
20	0.8451	0.9185	0.9913	1.0685	1.1186	1.1446	1.1343	1.1009	1.028	0.9407	0.8681	0.827	0.9988
25	0.7945	0.8862	0.9752	1.0706	1.1328	1.1649	1.1522	1.11	1.0196	0.9134	0.8234	0.7723	0.9846
30	0.739	0.8487	0.953	1.0658	1.1396	1.1777	1.1624	1.1116	1.0042	0.8806	0.7736	0.7129	0.9641
35	0.679	0.8062	0.9246	1.0541	1.1391	1.1828	1.1651	1.1057	0.9819	0.8425	0.7193	0.6493	0.9375
40	0.615	0.7592	0.8905	1.0356	1.1313	1.1801	1.1602	1.0924	0.953	0.7994	0.6608	0.5819	0.9049
45	0.5474	0.7079	0.8508	1.0104	1.1161	1.1698	1.1477	1.0717	0.9177	0.7517	0.5985	0.5113	0.8667
50	0.4767	0.6528	0.8057	0.9787	1.0937	1.1519	1.1277	1.0438	0.8762	0.6997	0.5329	0.4379	0.8232
55	0.4036	0.5942	0.7558	0.9409	1.0644	1.1264	1.1004	1.0089	0.8288	0.6439	0.4646	0.3624	0.7745
60	0.3285	0.5326	0.7013	0.897	1.0282	1.0937	1.0659	0.9673	0.7759	0.5845	0.3941	0.2853	0.7212
65	0.252	0.4685	0.6427	0.8476	0.9856	1.054	1.0247	0.9193	0.7179	0.5222	0.3218	0.2072	0.6636
70	0.1748	0.4024	0.5804	0.793	0.9367	1.0076	0.9769	0.8653	0.6553	0.4573	0.2483	0.1625	0.605
75	0.1503	0.3347	0.5148	0.7335	0.8821	0.9549	0.923	0.8056	0.5885	0.3904	0.1785	0.1607	0.5514
80	0.1495	0.266	0.4466	0.6697	0.8222	0.9104	0.8633	0.7409	0.518	0.322	0.1752	0.1588	0.5036
85	0.1486	0.2072	0.3761	0.6021	0.766	0.8458	0.8099	0.6715	0.4444	0.2525	0.1719	0.1569	0.4544
90	0.1478	0.2011	0.304	0.5311	0.6963	0.776	0.7396	0.598	0.3683	0.1891	0.1686	0.155	0.4062

Tabla 39: Azimut de 180°

β°	01	02	03	04	05	06	07	08	09	10	11	12	Anual
0	0.9911	0.9912	0.9916	0.9918	0.9916	0.9913	0.9914	0.9917	0.9917	0.9913	0.9911	0.9911	0.9914
5	0.9635	0.9818	1.0012	1.0211	1.0336	1.0401	1.0376	1.0297	1.0113	0.9877	0.9692	0.9588	1.003
10	0.9298	0.9664	1.0044	1.0439	1.0691	1.0822	1.0771	1.0608	1.024	0.978	0.9412	0.9205	1.0081
15	0.8901	0.9452	1.0011	1.0598	1.0977	1.1174	1.1097	1.0848	1.0297	0.9623	0.9073	0.8763	1.0068
20	0.8447	0.9184	0.9915	1.069	1.1192	1.1454	1.1351	1.1015	1.0283	0.9407	0.8678	0.8266	0.999
25	0.794	0.886	0.9755	1.0712	1.1336	1.1659	1.1531	1.1107	1.02	0.9134	0.823	0.7718	0.9849
30	0.7385	0.8485	0.9532	1.0665	1.1406	1.1788	1.1635	1.1125	1.0047	0.8805	0.7732	0.7123	0.9644
35	0.6784	0.8061	0.925	1.0549	1.1402	1.1841	1.1663	1.1067	0.9825	0.8425	0.7188	0.6486	0.9378
40	0.6143	0.759	0.8908	1.0365	1.1325	1.1816	1.1616	1.0935	0.9537	0.7994	0.6602	0.5811	0.9053
45	0.5466	0.7077	0.8512	1.0114	1.1175	1.1714	1.1492	1.0729	0.9184	0.7517	0.5979	0.5104	0.8672
50	0.4759	0.6525	0.8062	0.9798	1.0952	1.1536	1.1293	1.0451	0.8769	0.6997	0.5323	0.4369	0.8236
55	0.4027	0.5939	0.7563	0.942	1.066	1.1283	1.1021	1.0103	0.8295	0.6439	0.464	0.3613	0.775
60	0.3276	0.5324	0.7018	0.8982	1.0299	1.0957	1.0678	0.9688	0.7767	0.5845	0.3933	0.2842	0.7217
65	0.2511	0.4683	0.6432	0.8488	0.9873	1.0561	1.0266	0.9208	0.7187	0.5222	0.321	0.2061	0.6642
70	0.1738	0.4021	0.5809	0.7942	0.9386	1.0098	0.9789	0.8669	0.6561	0.4573	0.2475	0.1625	0.6057
75	0.1503	0.3344	0.5154	0.7348	0.884	0.9571	0.9251	0.8073	0.5893	0.3904	0.1785	0.1607	0.5523
80	0.1495	0.2658	0.4471	0.671	0.8241	0.9127	0.8655	0.7426	0.5188	0.322	0.1752	0.1588	0.5044
85	0.1486	0.2072	0.3767	0.6034	0.768	0.8481	0.8121	0.6732	0.4452	0.2525	0.1719	0.1569	0.4553
90	0.1478	0.2011	0.3046	0.5325	0.6983	0.7783	0.7418	0.6	0.369	0.1891	0.1686	0.155	0.4072