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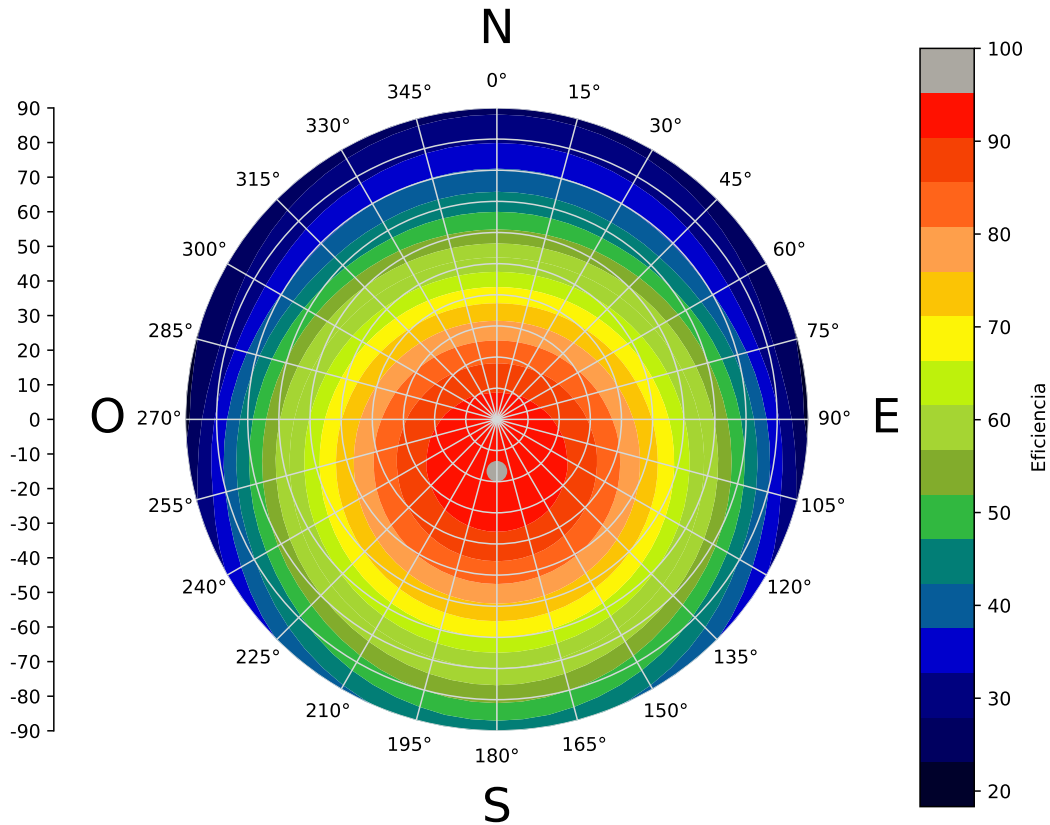
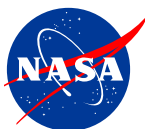


Tabla 1: Generalidades

Latitud	14.105512
Longitud	-87.204551
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	5.0106	11.2813	0.5498	0.1358	-20.8472	84.504
Febrero	5.284	10.8397	0.5355	0.1264	-13.3253	86.5799
Marzo	5.7792	9.5151	0.561	0.1366	-2.3892	89.3969
Abril	5.8647	9.3606	0.5641	0.1428	9.4932	92.4161
Mayo	5.5276	8.9649	0.5439	0.134	18.8058	94.9166
Junio	5.4922	9.2333	0.5385	0.1323	23.0771	96.1464
Julio	5.6018	9.3965	0.5506	0.1325	21.1015	95.5692
Agosto	5.6237	9.4445	0.5588	0.1373	13.296	93.4141
Septiembre	5.4408	9.3257	0.5679	0.1444	1.9936	90.503
Octubre	5.1652	9.3383	0.5323	0.1321	-9.8485	87.4913
Noviembre	4.5643	7.8582	0.5175	0.1332	-19.0505	85.0152
Diciembre	4.4363	7.7153	0.5267	0.131	-23.0956	83.8481
Promedio	5.2449	8.7716	0.5416	0.129	—	89.9834

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	1.0096	0.9929	0.9754	0.9567	0.9444	0.9382	0.9407	0.9472	0.9646	0.9878	1.0038	1.0125	0.9728
10	1.0217	0.9889	0.9531	0.9156	0.8915	0.8794	0.8843	0.8966	0.9309	0.9784	1.0104	1.0277	0.9482
15	1.0274	0.9792	0.9249	0.8688	0.8331	0.8152	0.8224	0.8402	0.891	0.9633	1.0109	1.0366	0.9178
20	1.0265	0.9638	0.891	0.8168	0.7698	0.7463	0.7557	0.7785	0.8452	0.9425	1.0053	1.0391	0.8817
25	1.0191	0.9429	0.8517	0.7598	0.702	0.6731	0.6847	0.7118	0.7938	0.9162	0.9936	1.0353	0.8403
30	1.0053	0.9166	0.8073	0.6984	0.6303	0.5962	0.6098	0.6408	0.7371	0.8846	0.976	1.025	0.7939
35	0.9851	0.8851	0.758	0.633	0.5552	0.5161	0.5316	0.5659	0.6757	0.8479	0.9525	1.0086	0.7429
40	0.9588	0.8487	0.7044	0.5641	0.4773	0.4336	0.4508	0.4877	0.61	0.8064	0.9234	0.9859	0.6876
45	0.9264	0.8076	0.6467	0.4922	0.3973	0.3492	0.368	0.407	0.5405	0.7604	0.8888	0.9573	0.6285
50	0.8883	0.7622	0.5855	0.4179	0.3156	0.2637	0.2839	0.3241	0.4677	0.7103	0.8491	0.9229	0.5659
55	0.8448	0.7128	0.5211	0.3418	0.2331	0.2097	0.2054	0.2399	0.3922	0.6565	0.8045	0.883	0.5037
60	0.7961	0.6597	0.4541	0.2644	0.2056	0.2061	0.202	0.1551	0.3146	0.5993	0.7553	0.838	0.4542
65	0.7427	0.6034	0.3851	0.1865	0.2019	0.2023	0.1984	0.1334	0.2354	0.5393	0.702	0.788	0.4099
70	0.6849	0.5444	0.3144	0.1828	0.1981	0.1983	0.1947	0.1336	0.1553	0.4768	0.645	0.7336	0.3718
75	0.6232	0.4829	0.2427	0.1804	0.1941	0.1942	0.1909	0.1339	0.1017	0.4123	0.5846	0.6751	0.3347
80	0.5581	0.4196	0.1842	0.1778	0.19	0.1901	0.1869	0.1341	0.1046	0.3463	0.5214	0.6131	0.3022
85	0.49	0.3549	0.1807	0.1752	0.1859	0.1858	0.1829	0.1343	0.1075	0.2794	0.4557	0.5478	0.2734
90	0.4196	0.2362	0.1772	0.1726	0.1818	0.1815	0.1789	0.1346	0.1105	0.2182	0.3883	0.48	0.2399



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	1.0095	0.9929	0.9754	0.9568	0.9446	0.9384	0.9409	0.9474	0.9647	0.9878	1.0037	1.0124	0.9729
10	1.0215	0.9889	0.9532	0.9158	0.8918	0.8797	0.8846	0.8969	0.9311	0.9785	1.0102	1.0275	0.9483
15	1.0271	0.9792	0.925	0.8692	0.8336	0.8158	0.823	0.8407	0.8913	0.9633	1.0107	1.0363	0.9179
20	1.0262	0.9638	0.8912	0.8173	0.7705	0.747	0.7564	0.7791	0.8456	0.9425	1.005	1.0387	0.8819
25	1.0187	0.9428	0.8519	0.7604	0.7028	0.674	0.6855	0.7126	0.7942	0.9162	0.9933	1.0348	0.8406
30	1.0048	0.9165	0.8076	0.6991	0.6313	0.5973	0.6108	0.6417	0.7377	0.8846	0.9756	1.0245	0.7943
35	0.9846	0.885	0.7584	0.6338	0.5564	0.5174	0.5328	0.5669	0.6764	0.8479	0.9521	1.008	0.7433
40	0.9582	0.8486	0.7047	0.565	0.4786	0.435	0.4522	0.4889	0.6107	0.8064	0.9229	0.9852	0.6881
45	0.9258	0.8075	0.6471	0.4932	0.3987	0.3508	0.3696	0.4083	0.5413	0.7605	0.8883	0.9566	0.629
50	0.8876	0.7621	0.5859	0.419	0.3171	0.2654	0.2856	0.3256	0.4686	0.7104	0.8486	0.9221	0.5665
55	0.844	0.7126	0.5216	0.343	0.2347	0.2097	0.2054	0.2415	0.3932	0.6565	0.8039	0.8822	0.504
60	0.7953	0.6595	0.4546	0.2658	0.2056	0.2061	0.202	0.1567	0.3157	0.5994	0.7547	0.837	0.4544
65	0.7418	0.6033	0.3856	0.1879	0.2019	0.2023	0.1984	0.1334	0.2367	0.5393	0.7014	0.7871	0.4099
70	0.684	0.5442	0.3149	0.1828	0.1981	0.1983	0.1947	0.1336	0.1568	0.4768	0.6443	0.7326	0.3718
75	0.6223	0.4827	0.2433	0.1804	0.1941	0.1942	0.1909	0.1339	0.1017	0.4123	0.5839	0.6741	0.3345
80	0.5572	0.4194	0.1844	0.1778	0.19	0.1901	0.1869	0.1341	0.1049	0.3463	0.5207	0.612	0.302
85	0.4891	0.3547	0.1807	0.1752	0.1859	0.1858	0.1829	0.1343	0.1077	0.2794	0.4551	0.5468	0.2731
90	0.4186	0.2362	0.1772	0.1726	0.1818	0.1815	0.1789	0.1346	0.1106	0.2182	0.3876	0.4789	0.2397

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	1.0093	0.9929	0.9756	0.9572	0.9451	0.939	0.9415	0.9479	0.965	0.9878	1.0035	1.0121	0.9731
10	1.0211	0.9888	0.9535	0.9166	0.8928	0.8809	0.8857	0.8979	0.9317	0.9785	1.0099	1.0269	0.9487
15	1.0264	0.979	0.9255	0.8703	0.8351	0.8175	0.8246	0.8421	0.8921	0.9633	1.0102	1.0355	0.9185
20	1.0252	0.9636	0.8918	0.8187	0.7724	0.7493	0.7586	0.7809	0.8467	0.9426	1.0043	1.0377	0.8826
25	1.0175	0.9426	0.8527	0.7622	0.7053	0.6768	0.6882	0.7149	0.7956	0.9162	0.9925	1.0335	0.8415
30	1.0034	0.9162	0.8084	0.7013	0.6342	0.6006	0.614	0.6444	0.7393	0.8846	0.9746	1.0229	0.7953
35	0.983	0.8847	0.7593	0.6363	0.5597	0.5212	0.5365	0.5701	0.6782	0.8479	0.951	1.0061	0.7445
40	0.9563	0.8482	0.7058	0.5678	0.4824	0.4393	0.4563	0.4925	0.6129	0.8065	0.9216	0.9832	0.6894
45	0.9238	0.8071	0.6483	0.4964	0.4028	0.3555	0.3741	0.4123	0.5437	0.7605	0.8869	0.9543	0.6305
50	0.8854	0.7616	0.5872	0.4225	0.3217	0.2705	0.2904	0.3299	0.4713	0.7104	0.847	0.9197	0.5681
55	0.8417	0.7121	0.523	0.3467	0.2395	0.2097	0.206	0.2461	0.3962	0.6566	0.8022	0.8796	0.505
60	0.7928	0.659	0.4561	0.2697	0.2056	0.2061	0.202	0.1616	0.3189	0.5994	0.753	0.8343	0.4549
65	0.7393	0.6027	0.3871	0.192	0.2019	0.2023	0.1984	0.1334	0.2402	0.5394	0.6996	0.7842	0.41
70	0.6814	0.5436	0.3166	0.1828	0.1981	0.1983	0.1947	0.1336	0.1604	0.4768	0.6424	0.7296	0.3715
75	0.6196	0.4822	0.2451	0.1804	0.1941	0.1942	0.1909	0.1339	0.1017	0.4124	0.582	0.671	0.3339
80	0.5544	0.4188	0.1845	0.1778	0.19	0.1901	0.1869	0.1341	0.1055	0.3464	0.5187	0.6089	0.3013
85	0.4863	0.3541	0.1809	0.1752	0.1859	0.1858	0.1829	0.1343	0.1083	0.2795	0.453	0.5436	0.2725
90	0.4158	0.2362	0.1772	0.1726	0.1818	0.1815	0.1789	0.1346	0.1112	0.2182	0.3855	0.4757	0.2391



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	1.0088	0.9928	0.9758	0.9578	0.9459	0.9399	0.9424	0.9487	0.9654	0.9878	1.0032	1.0116	0.9734
10	1.0202	0.9886	0.954	0.9178	0.8945	0.8828	0.8875	0.8994	0.9326	0.9785	1.0093	1.026	0.9493
15	1.0252	0.9788	0.9262	0.8721	0.8376	0.8203	0.8273	0.8444	0.8935	0.9634	1.0093	1.0341	0.9193
20	1.0236	0.9632	0.8928	0.8211	0.7757	0.753	0.7622	0.784	0.8485	0.9426	1.0032	1.0358	0.8838
25	1.0155	0.9422	0.8539	0.7652	0.7094	0.6814	0.6926	0.7187	0.7978	0.9163	0.991	1.0312	0.8429
30	1.0011	0.9157	0.8098	0.7048	0.6391	0.6061	0.6192	0.649	0.742	0.8847	0.9729	1.0203	0.7971
35	0.9803	0.8841	0.761	0.6404	0.5653	0.5275	0.5425	0.5754	0.6814	0.848	0.949	1.0031	0.7465
40	0.9533	0.8476	0.7077	0.5725	0.4887	0.4464	0.463	0.4985	0.6165	0.8065	0.9195	0.9798	0.6917
45	0.9204	0.8064	0.6503	0.5015	0.4098	0.3633	0.3815	0.4188	0.5477	0.7606	0.8845	0.9506	0.633
50	0.8818	0.7608	0.5894	0.4281	0.3292	0.2789	0.2985	0.3371	0.4757	0.7105	0.8444	0.9156	0.5708
55	0.8379	0.7113	0.5253	0.3528	0.2475	0.2097	0.2146	0.2538	0.401	0.6567	0.7995	0.8752	0.5071
60	0.7888	0.6582	0.4586	0.2761	0.2056	0.2061	0.202	0.1697	0.324	0.5995	0.75	0.8297	0.4557
65	0.735	0.6018	0.3898	0.1987	0.2019	0.2023	0.1984	0.1334	0.2455	0.5395	0.6965	0.7794	0.4102
70	0.677	0.5427	0.3194	0.1828	0.1981	0.1983	0.1947	0.1336	0.1659	0.477	0.6392	0.7247	0.3711
75	0.6151	0.4812	0.248	0.1804	0.1941	0.1942	0.1909	0.1339	0.1017	0.4125	0.5787	0.6659	0.333
80	0.5498	0.4179	0.1847	0.1778	0.19	0.1901	0.1869	0.1341	0.1062	0.3465	0.5153	0.6037	0.3002
85	0.4816	0.3531	0.1811	0.1752	0.1859	0.1858	0.1829	0.1343	0.109	0.2796	0.4497	0.5383	0.2714
90	0.4111	0.2362	0.1774	0.1726	0.1818	0.1815	0.1789	0.1346	0.1118	0.2182	0.3821	0.4704	0.2381

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	1.0083	0.9927	0.9761	0.9587	0.9471	0.9412	0.9436	0.9497	0.966	0.9878	1.0028	1.011	0.9738
10	1.0191	0.9884	0.9546	0.9195	0.8968	0.8854	0.89	0.9016	0.9338	0.9785	1.0085	1.0247	0.9501
15	1.0235	0.9784	0.9272	0.8746	0.841	0.8242	0.831	0.8477	0.8954	0.9634	1.0081	1.0322	0.9206
20	1.0214	0.9627	0.8941	0.8245	0.7803	0.7582	0.7671	0.7883	0.851	0.9426	1.0016	1.0333	0.8854
25	1.0128	0.9416	0.8555	0.7694	0.7151	0.6879	0.6987	0.7241	0.801	0.9164	0.989	1.0281	0.845
30	0.9978	0.915	0.8118	0.7098	0.6458	0.6137	0.6265	0.6553	0.7458	0.8848	0.9706	1.0166	0.7995
35	0.9765	0.8833	0.7632	0.6461	0.5731	0.5363	0.5508	0.5827	0.6857	0.8481	0.9463	0.9989	0.7493
40	0.9492	0.8467	0.7102	0.5789	0.4974	0.4562	0.4724	0.5067	0.6214	0.8066	0.9164	0.9751	0.6948
45	0.9158	0.8054	0.6531	0.5086	0.4194	0.3742	0.3919	0.4279	0.5532	0.7607	0.8812	0.9454	0.6364
50	0.8769	0.7598	0.5924	0.4359	0.3396	0.2907	0.3097	0.347	0.4817	0.7106	0.8408	0.91	0.5746
55	0.8325	0.7102	0.5285	0.3611	0.2587	0.2097	0.2266	0.2644	0.4074	0.6568	0.7956	0.8692	0.5101
60	0.7831	0.6569	0.4621	0.285	0.2056	0.2061	0.202	0.181	0.3308	0.5997	0.746	0.8233	0.4568
65	0.7291	0.6005	0.3935	0.208	0.2019	0.2023	0.1984	0.1334	0.2526	0.5396	0.6922	0.7727	0.4104
70	0.6708	0.5413	0.3233	0.1828	0.1981	0.1983	0.1947	0.1336	0.1732	0.4771	0.6348	0.7178	0.3705
75	0.6088	0.4798	0.2519	0.1804	0.1941	0.1942	0.1909	0.1339	0.1017	0.4126	0.5741	0.6588	0.3318
80	0.5434	0.4165	0.1848	0.1778	0.19	0.1901	0.1869	0.1341	0.1069	0.3467	0.5107	0.5964	0.2987
85	0.4751	0.3517	0.1812	0.1752	0.1859	0.1858	0.1829	0.1343	0.1097	0.2798	0.445	0.531	0.2698
90	0.4046	0.2362	0.1776	0.1726	0.1818	0.1815	0.1789	0.1346	0.1125	0.2182	0.3774	0.4631	0.2366



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	1.0076	0.9925	0.9766	0.9597	0.9486	0.9429	0.9452	0.9511	0.9668	0.9878	1.0023	1.0102	0.9743
10	1.0177	0.9881	0.9555	0.9216	0.8997	0.8887	0.8932	0.9044	0.9354	0.9785	1.0074	1.0231	0.9511
15	1.0213	0.9779	0.9285	0.8779	0.8455	0.8292	0.8358	0.8518	0.8978	0.9635	1.0065	1.0298	0.9221
20	1.0185	0.9621	0.8958	0.8287	0.7862	0.7648	0.7734	0.7938	0.8542	0.9427	0.9995	1.0301	0.8875
25	1.0093	0.9408	0.8577	0.7747	0.7223	0.696	0.7065	0.7308	0.805	0.9165	0.9865	1.0242	0.8475
30	0.9937	0.9141	0.8143	0.7161	0.6544	0.6234	0.6357	0.6634	0.7505	0.8849	0.9676	1.0119	0.8025
35	0.9718	0.8823	0.7661	0.6534	0.583	0.5474	0.5615	0.592	0.6912	0.8482	0.9429	0.9935	0.7528
40	0.9438	0.8455	0.7134	0.5871	0.5085	0.4688	0.4844	0.5171	0.6276	0.8068	0.9126	0.9691	0.6987
45	0.91	0.8041	0.6567	0.5176	0.4316	0.388	0.405	0.4394	0.5601	0.7609	0.8769	0.9388	0.6408
50	0.8705	0.7584	0.5962	0.4457	0.3529	0.3056	0.324	0.3595	0.4892	0.7108	0.8362	0.9028	0.5793
55	0.8257	0.7087	0.5327	0.3717	0.2728	0.2223	0.2418	0.2779	0.4154	0.657	0.7907	0.8616	0.5149
60	0.776	0.6554	0.4665	0.2962	0.2056	0.2061	0.202	0.1952	0.3393	0.5998	0.7408	0.8153	0.4582
65	0.7216	0.5989	0.3982	0.2197	0.2019	0.2023	0.1984	0.1334	0.2614	0.5398	0.6868	0.7643	0.4106
70	0.6631	0.5397	0.3281	0.1828	0.1981	0.1983	0.1947	0.1336	0.1824	0.4773	0.6292	0.709	0.3697
75	0.6008	0.4781	0.2569	0.1804	0.1941	0.1942	0.1909	0.1339	0.1027	0.4128	0.5684	0.6498	0.3302
80	0.5352	0.4147	0.1849	0.1784	0.19	0.1901	0.1869	0.1341	0.1076	0.3469	0.5048	0.5872	0.2967
85	0.4669	0.35	0.1814	0.1757	0.1859	0.1858	0.1829	0.1343	0.1104	0.28	0.439	0.5217	0.2678
90	0.3963	0.2362	0.1777	0.1729	0.1818	0.1815	0.1789	0.1346	0.1132	0.2182	0.3715	0.4537	0.2347

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	1.0067	0.9923	0.9771	0.961	0.9504	0.9449	0.9471	0.9528	0.9678	0.9879	1.0017	1.0092	0.9749
10	1.0159	0.9877	0.9566	0.9242	0.9033	0.8928	0.897	0.9077	0.9374	0.9786	1.0062	1.0212	0.9524
15	1.0188	0.9774	0.9301	0.8817	0.8508	0.8352	0.8415	0.8568	0.9007	0.9635	1.0046	1.0269	0.924
20	1.0151	0.9614	0.8979	0.8339	0.7932	0.7728	0.781	0.8004	0.8581	0.9428	0.9971	1.0263	0.89
25	1.0051	0.9399	0.8602	0.781	0.731	0.7059	0.7159	0.739	0.8098	0.9166	0.9835	1.0194	0.8506
30	0.9887	0.9131	0.8173	0.7236	0.6647	0.6351	0.6468	0.6731	0.7562	0.885	0.964	1.0063	0.8062
35	0.9661	0.8811	0.7696	0.6621	0.5948	0.5609	0.5743	0.6031	0.6979	0.8484	0.9387	0.9871	0.757
40	0.9374	0.8441	0.7173	0.5969	0.5218	0.4838	0.4987	0.5297	0.6351	0.8069	0.9079	0.9618	0.7035
45	0.9029	0.8026	0.6609	0.5285	0.4463	0.4046	0.4208	0.4533	0.5683	0.761	0.8718	0.9308	0.646
50	0.8629	0.7568	0.6009	0.4574	0.3688	0.3236	0.3411	0.3745	0.4981	0.711	0.8307	0.8942	0.585
55	0.8176	0.7069	0.5378	0.3843	0.2899	0.2416	0.2602	0.294	0.4249	0.6572	0.7848	0.8523	0.521
60	0.7673	0.6536	0.4719	0.3095	0.2102	0.2061	0.202	0.2122	0.3493	0.6001	0.7345	0.8055	0.4602
65	0.7126	0.597	0.4038	0.2337	0.2019	0.2023	0.1984	0.1334	0.2719	0.54	0.6802	0.754	0.4108
70	0.6537	0.5377	0.3339	0.1828	0.1981	0.1983	0.1947	0.1336	0.1933	0.4775	0.6224	0.6984	0.3687
75	0.5911	0.4761	0.2629	0.1804	0.1941	0.1942	0.1909	0.1339	0.1139	0.4131	0.5614	0.6389	0.3292
80	0.5254	0.4126	0.1851	0.1791	0.19	0.1901	0.1869	0.1341	0.1082	0.3471	0.4977	0.5761	0.2944
85	0.4569	0.3478	0.1815	0.1765	0.1859	0.1858	0.1829	0.1343	0.1111	0.2802	0.4318	0.5105	0.2654
90	0.3863	0.2362	0.1779	0.1737	0.1818	0.1815	0.1789	0.1346	0.1139	0.2182	0.3642	0.4425	0.2325



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	1.0057	0.9921	0.9777	0.9625	0.9524	0.9473	0.9494	0.9547	0.9689	0.9879	1.0009	1.0081	0.9756
10	1.0139	0.9873	0.9578	0.9272	0.9074	0.8974	0.9015	0.9116	0.9396	0.9786	1.0047	1.0189	0.9538
15	1.0157	0.9767	0.9319	0.8862	0.8569	0.8422	0.8482	0.8625	0.9041	0.9636	1.0025	1.0235	0.9262
20	1.0111	0.9605	0.9003	0.8399	0.8014	0.7821	0.7898	0.8081	0.8625	0.9429	0.9942	1.0218	0.8929
25	1.0002	0.9389	0.8632	0.7885	0.7412	0.7174	0.7269	0.7485	0.8154	0.9167	0.9799	1.0139	0.8542
30	0.9829	0.9118	0.8209	0.7324	0.6768	0.6487	0.6598	0.6844	0.7629	0.8851	0.9598	0.9997	0.8104
35	0.9594	0.8796	0.7736	0.6722	0.6086	0.5765	0.5891	0.6161	0.7055	0.8485	0.9339	0.9795	0.7619
40	0.9299	0.8425	0.7218	0.6082	0.5373	0.5014	0.5154	0.5442	0.6437	0.8071	0.9025	0.9534	0.709
45	0.8947	0.8008	0.6659	0.541	0.4634	0.4238	0.4392	0.4693	0.5778	0.7612	0.8659	0.9215	0.6521
50	0.854	0.7548	0.6064	0.4711	0.3873	0.3445	0.3611	0.392	0.5083	0.7112	0.8242	0.8842	0.5916
55	0.808	0.7049	0.5436	0.3989	0.3097	0.264	0.2815	0.3126	0.4358	0.6574	0.7779	0.8416	0.528
60	0.7573	0.6514	0.4781	0.325	0.2311	0.2061	0.202	0.232	0.3609	0.6003	0.7272	0.7941	0.4638
65	0.702	0.5947	0.4103	0.2499	0.2019	0.2023	0.1984	0.1505	0.2841	0.5403	0.6726	0.7422	0.4124
70	0.6428	0.5353	0.3407	0.1828	0.1981	0.1983	0.1947	0.1336	0.2059	0.4778	0.6145	0.6861	0.3675
75	0.5799	0.4736	0.2698	0.1804	0.1941	0.1942	0.1909	0.1339	0.1269	0.4134	0.5533	0.6263	0.328
80	0.5139	0.4102	0.1981	0.1799	0.19	0.1901	0.1869	0.1341	0.1088	0.3474	0.4894	0.5632	0.2927
85	0.4454	0.3454	0.1816	0.1772	0.1859	0.1858	0.1829	0.1343	0.1117	0.2805	0.4234	0.4974	0.2626
90	0.3747	0.2362	0.178	0.1745	0.1818	0.1815	0.1789	0.1346	0.1145	0.2182	0.3558	0.4293	0.2298

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	1.0045	0.9919	0.9784	0.9642	0.9548	0.9499	0.9519	0.9569	0.9702	0.9879	1.0001	1.0068	0.9765
10	1.0116	0.9868	0.9592	0.9306	0.9121	0.9028	0.9065	0.9159	0.9422	0.9787	1.0031	1.0163	0.9555
15	1.0123	0.976	0.934	0.8913	0.8639	0.8502	0.8557	0.8691	0.9079	0.9637	1	1.0196	0.9286
20	1.0066	0.9596	0.903	0.8466	0.8106	0.7925	0.7998	0.8167	0.8676	0.943	0.9909	1.0167	0.8962
25	0.9946	0.9377	0.8666	0.7968	0.7526	0.7304	0.7392	0.7593	0.8217	0.9168	0.9759	1.0076	0.8583
30	0.9763	0.9104	0.8249	0.7424	0.6903	0.6641	0.6744	0.6971	0.7704	0.8853	0.955	0.9923	0.8152
35	0.9518	0.878	0.7782	0.6836	0.6242	0.5941	0.606	0.6308	0.7142	0.8487	0.9284	0.971	0.7674
40	0.9215	0.8407	0.727	0.6211	0.5549	0.5212	0.5343	0.5607	0.6534	0.8073	0.8964	0.9438	0.7152
45	0.8854	0.7988	0.6716	0.5552	0.4827	0.4457	0.46	0.4875	0.5884	0.7615	0.8592	0.911	0.6589
50	0.8439	0.7527	0.6126	0.4864	0.4082	0.3682	0.3836	0.4116	0.5198	0.7115	0.8169	0.8728	0.599
55	0.7972	0.7026	0.5503	0.4153	0.3321	0.2893	0.3056	0.3337	0.4482	0.6577	0.7701	0.8294	0.536
60	0.7459	0.6489	0.4851	0.3423	0.2548	0.2095	0.2267	0.2542	0.3739	0.6006	0.719	0.7813	0.4702
65	0.6901	0.5922	0.4176	0.268	0.2019	0.2023	0.1984	0.1738	0.2977	0.5406	0.664	0.7287	0.4146
70	0.6304	0.5327	0.3483	0.193	0.1981	0.1983	0.1947	0.1336	0.22	0.4781	0.6055	0.6721	0.3671
75	0.5672	0.4709	0.2776	0.1804	0.1941	0.1942	0.1909	0.1339	0.1414	0.4137	0.5441	0.6119	0.3267
80	0.501	0.4074	0.2061	0.1806	0.19	0.1901	0.1869	0.1347	0.1093	0.3478	0.48	0.5486	0.2902
85	0.4322	0.3425	0.1818	0.178	0.1859	0.1858	0.1829	0.1348	0.1123	0.2808	0.4139	0.4826	0.2595
90	0.3615	0.2362	0.1782	0.1752	0.1818	0.1815	0.1789	0.1349	0.1151	0.2182	0.3463	0.4145	0.2269



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	1.0033	0.9916	0.9792	0.9661	0.9574	0.9529	0.9547	0.9593	0.9716	0.9879	0.9992	1.0053	0.9774
10	1.0091	0.9862	0.9607	0.9344	0.9173	0.9087	0.9122	0.9208	0.945	0.9788	1.0012	1.0134	0.9573
15	1.0086	0.9752	0.9363	0.897	0.8717	0.859	0.8641	0.8764	0.9121	0.9638	0.9973	1.0154	0.9314
20	1.0016	0.9585	0.9061	0.8541	0.8209	0.8042	0.8109	0.8264	0.8732	0.9431	0.9873	1.0111	0.8998
25	0.9884	0.9363	0.8703	0.8061	0.7653	0.7447	0.7529	0.7712	0.8286	0.917	0.9714	1.0006	0.8628
30	0.969	0.9088	0.8293	0.7534	0.7054	0.6811	0.6907	0.7112	0.7787	0.8855	0.9497	0.9841	0.8206
35	0.9435	0.8762	0.7833	0.6963	0.6415	0.6137	0.6246	0.647	0.7237	0.8489	0.9224	0.9615	0.7736
40	0.9121	0.8387	0.7327	0.6353	0.5743	0.5431	0.5552	0.5789	0.664	0.8076	0.8896	0.9332	0.7221
45	0.8751	0.7966	0.6779	0.5708	0.504	0.4698	0.483	0.5075	0.6001	0.7617	0.8517	0.8993	0.6665
50	0.8327	0.7503	0.6195	0.5034	0.4314	0.3944	0.4086	0.4334	0.5325	0.7118	0.8088	0.8601	0.6072
55	0.7853	0.7	0.5576	0.4335	0.3569	0.3173	0.3323	0.3569	0.4618	0.658	0.7614	0.8159	0.5447
60	0.7332	0.6462	0.4929	0.3615	0.281	0.2391	0.2549	0.2788	0.3883	0.6009	0.7098	0.767	0.4795
65	0.6768	0.5893	0.4258	0.2881	0.2043	0.2023	0.1984	0.1995	0.3127	0.5409	0.6544	0.7137	0.4172
70	0.6166	0.5297	0.3567	0.2138	0.1981	0.1983	0.1947	0.1336	0.2356	0.4785	0.5956	0.6566	0.3673
75	0.5531	0.4679	0.2863	0.1804	0.1941	0.1942	0.1909	0.1339	0.1574	0.414	0.5339	0.596	0.3252
80	0.4866	0.4043	0.2149	0.1813	0.19	0.1901	0.1869	0.1357	0.1098	0.3481	0.4696	0.5323	0.2875
85	0.4177	0.3394	0.1819	0.1787	0.1859	0.1858	0.1829	0.1359	0.1128	0.2812	0.4034	0.4662	0.256
90	0.3469	0.2362	0.1783	0.176	0.1818	0.1815	0.1789	0.1359	0.1157	0.2182	0.3357	0.398	0.2236

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	1.0019	0.9913	0.98	0.9682	0.9602	0.9561	0.9578	0.962	0.9731	0.988	0.9982	1.0038	0.9784
10	1.0063	0.9857	0.9624	0.9385	0.923	0.9151	0.9183	0.9261	0.9481	0.9788	0.9992	1.0103	0.9593
15	1.0044	0.9743	0.9388	0.9031	0.8802	0.8686	0.8732	0.8843	0.9167	0.9639	0.9943	1.0107	0.9344
20	0.9962	0.9573	0.9094	0.8623	0.8321	0.8169	0.823	0.8368	0.8793	0.9433	0.9834	1.0049	0.9037
25	0.9817	0.9349	0.8744	0.8162	0.7792	0.7604	0.7679	0.7841	0.8362	0.9172	0.9665	0.993	0.8676
30	0.961	0.9071	0.8341	0.7654	0.7218	0.6997	0.7084	0.7266	0.7877	0.8857	0.9439	0.9751	0.8264
35	0.9343	0.8742	0.7888	0.7101	0.6604	0.6351	0.645	0.6647	0.734	0.8492	0.9158	0.9512	0.7802
40	0.9018	0.8365	0.7389	0.6508	0.5954	0.5671	0.578	0.5987	0.6756	0.8078	0.8822	0.9217	0.7295
45	0.8638	0.7942	0.6848	0.5879	0.5273	0.4962	0.5081	0.5294	0.6129	0.762	0.8435	0.8866	0.6747
50	0.8205	0.7477	0.6269	0.5218	0.4566	0.4229	0.4357	0.457	0.5463	0.7121	0.8	0.8463	0.6162
55	0.7722	0.6972	0.5656	0.4532	0.3838	0.3478	0.3614	0.3822	0.4765	0.6583	0.752	0.8011	0.5543
60	0.7194	0.6433	0.5014	0.3824	0.3095	0.2714	0.2857	0.3056	0.4039	0.6013	0.6998	0.7514	0.4896
65	0.6624	0.5862	0.4346	0.31	0.2342	0.2023	0.2091	0.2275	0.3291	0.5413	0.644	0.6974	0.4232
70	0.6017	0.5265	0.3659	0.2364	0.1981	0.1983	0.1947	0.1488	0.2525	0.4789	0.5848	0.6397	0.3688
75	0.5376	0.4646	0.2957	0.1804	0.1941	0.1942	0.1909	0.1339	0.1748	0.4144	0.5227	0.5786	0.3235
80	0.4709	0.4009	0.2246	0.1778	0.19	0.1901	0.1869	0.1341	0.1046	0.3485	0.4583	0.5146	0.2834
85	0.4018	0.336	0.182	0.1794	0.1859	0.1858	0.1829	0.1369	0.1133	0.2816	0.3919	0.4482	0.2521
90	0.331	0.2362	0.1784	0.1767	0.1818	0.1815	0.1789	0.137	0.1162	0.2182	0.3242	0.38	0.22



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	1.0004	0.991	0.9809	0.9704	0.9633	0.9596	0.9611	0.9649	0.9748	0.988	0.9971	1.0021	0.9795
10	1.0033	0.985	0.9642	0.943	0.9291	0.922	0.9249	0.9318	0.9514	0.9789	0.9971	1.0069	0.9615
15	1	0.9734	0.9415	0.9098	0.8893	0.8789	0.883	0.8928	0.9217	0.964	0.9911	1.0057	0.9376
20	0.9903	0.9561	0.9129	0.8711	0.8442	0.8305	0.8359	0.8481	0.8859	0.9434	0.9791	0.9983	0.908
25	0.9744	0.9333	0.8788	0.8271	0.7941	0.7773	0.7839	0.7981	0.8444	0.9173	0.9613	0.9848	0.8729
30	0.9524	0.9053	0.8393	0.7782	0.7395	0.7197	0.7274	0.7431	0.7973	0.8859	0.9377	0.9654	0.8326
35	0.9245	0.8721	0.7948	0.7249	0.6807	0.658	0.6668	0.6836	0.7451	0.8494	0.9086	0.9401	0.7874
40	0.8908	0.8341	0.7456	0.6674	0.6181	0.5928	0.6025	0.62	0.688	0.8081	0.8742	0.9092	0.7376
45	0.8516	0.7916	0.6922	0.6061	0.5523	0.5245	0.5351	0.5528	0.6265	0.7623	0.8347	0.8729	0.6836
50	0.8073	0.7448	0.635	0.5416	0.4837	0.4536	0.4649	0.4824	0.5611	0.7124	0.7905	0.8315	0.6257
55	0.7581	0.6942	0.5742	0.4744	0.4128	0.3806	0.3926	0.4094	0.4923	0.6587	0.7418	0.7853	0.5645
60	0.7045	0.6401	0.5104	0.4048	0.3401	0.3061	0.3187	0.3343	0.4206	0.6016	0.6891	0.7346	0.5004
65	0.6468	0.5829	0.4441	0.3334	0.2662	0.2306	0.2436	0.2576	0.3465	0.5417	0.6327	0.6799	0.4338
70	0.5855	0.5231	0.3757	0.2607	0.1981	0.1983	0.1947	0.1799	0.2706	0.4793	0.5731	0.6215	0.3717
75	0.5211	0.461	0.3058	0.1873	0.1941	0.1942	0.1909	0.1339	0.1934	0.4148	0.5107	0.5599	0.3223
80	0.454	0.3973	0.2349	0.1778	0.19	0.1901	0.1869	0.1341	0.1156	0.3489	0.446	0.4955	0.2809
85	0.3847	0.3323	0.182	0.18	0.1859	0.1858	0.1829	0.1379	0.1137	0.282	0.3796	0.4289	0.248
90	0.3138	0.2362	0.1785	0.1773	0.1818	0.1815	0.1789	0.138	0.1167	0.2182	0.3118	0.3606	0.2161

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9988	0.9906	0.9819	0.9728	0.9665	0.9633	0.9646	0.9679	0.9766	0.9881	0.9959	1.0003	0.9806
10	1.0002	0.9843	0.9661	0.9477	0.9355	0.9293	0.9319	0.9379	0.9549	0.979	0.9948	1.0034	0.9637
15	0.9953	0.9723	0.9443	0.9168	0.8989	0.8898	0.8935	0.9018	0.9269	0.9641	0.9877	1.0004	0.941
20	0.9841	0.9547	0.9167	0.8804	0.857	0.845	0.8498	0.8601	0.8929	0.9436	0.9746	0.9912	0.9125
25	0.9667	0.9317	0.8835	0.8386	0.8099	0.7953	0.801	0.8129	0.853	0.9175	0.9557	0.9761	0.8785
30	0.9433	0.9033	0.8449	0.7919	0.7582	0.7409	0.7476	0.7607	0.8076	0.8861	0.9311	0.9551	0.8392
35	0.914	0.8699	0.8012	0.7406	0.7022	0.6824	0.69	0.7038	0.7568	0.8497	0.9011	0.9283	0.795
40	0.8791	0.8316	0.7528	0.6849	0.6422	0.6201	0.6285	0.6426	0.7011	0.8084	0.8657	0.896	0.7461
45	0.8387	0.7888	0.7001	0.6255	0.5788	0.5545	0.5637	0.5776	0.641	0.7626	0.8254	0.8584	0.6929
50	0.7933	0.7418	0.6435	0.5626	0.5124	0.4861	0.4959	0.5093	0.5768	0.7127	0.7804	0.8157	0.6359
55	0.7432	0.691	0.5833	0.4968	0.4435	0.4154	0.4258	0.4382	0.5091	0.6591	0.731	0.7684	0.5754
60	0.6887	0.6367	0.5201	0.4285	0.3726	0.3429	0.3537	0.3647	0.4383	0.602	0.6777	0.7168	0.5119
65	0.6303	0.5793	0.4542	0.3582	0.3002	0.2692	0.2803	0.2894	0.3651	0.5421	0.6207	0.6612	0.4459
70	0.5684	0.5194	0.3862	0.2865	0.2269	0.1983	0.2061	0.2129	0.2898	0.4797	0.5607	0.6021	0.3781
75	0.5034	0.4573	0.3166	0.2138	0.1941	0.1942	0.1909	0.1358	0.2132	0.4153	0.498	0.54	0.3227
80	0.436	0.3935	0.2459	0.1778	0.19	0.1901	0.1869	0.1341	0.1357	0.3494	0.433	0.4753	0.279
85	0.3665	0.3285	0.1821	0.1807	0.1867	0.1858	0.1829	0.1388	0.1141	0.2825	0.3664	0.4084	0.2436
90	0.2956	0.2362	0.1786	0.178	0.1824	0.1815	0.1789	0.1389	0.1171	0.2182	0.2986	0.34	0.212



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9971	0.9903	0.9829	0.9753	0.9699	0.9671	0.9683	0.9711	0.9784	0.9881	0.9947	0.9984	0.9818
10	0.9968	0.9836	0.9681	0.9527	0.9424	0.9371	0.9392	0.9442	0.9586	0.9791	0.9924	0.9996	0.9661
15	0.9903	0.9713	0.9474	0.9242	0.9091	0.9014	0.9044	0.9113	0.9325	0.9643	0.9841	0.9947	0.9446
20	0.9775	0.9533	0.9207	0.8902	0.8704	0.8603	0.8643	0.8726	0.9002	0.9438	0.9699	0.9838	0.9172
25	0.9586	0.9299	0.8884	0.8507	0.8265	0.8141	0.8189	0.8284	0.862	0.9177	0.9498	0.967	0.8844
30	0.9337	0.9013	0.8507	0.8062	0.7779	0.7632	0.7689	0.7791	0.8183	0.8864	0.9242	0.9443	0.8462
35	0.903	0.8675	0.8078	0.757	0.7247	0.708	0.7143	0.7249	0.7691	0.85	0.8931	0.9159	0.8029
40	0.8667	0.829	0.7603	0.7034	0.6675	0.6488	0.6558	0.6663	0.7149	0.8087	0.8568	0.8821	0.755
45	0.8252	0.7859	0.7084	0.6458	0.6067	0.5861	0.5937	0.6037	0.6561	0.763	0.8156	0.843	0.7028
50	0.7786	0.7387	0.6525	0.5846	0.5426	0.5203	0.5285	0.5376	0.5932	0.7131	0.7698	0.7991	0.6465
55	0.7275	0.6876	0.5929	0.5203	0.4758	0.452	0.4606	0.4684	0.5266	0.6595	0.7196	0.7507	0.5868
60	0.6721	0.6331	0.5302	0.4534	0.4067	0.3816	0.3905	0.3966	0.4569	0.6025	0.6656	0.698	0.5239
65	0.6129	0.5756	0.4648	0.3842	0.336	0.3096	0.3189	0.3229	0.3845	0.5425	0.6082	0.6416	0.4585
70	0.5503	0.5155	0.3972	0.3135	0.2639	0.2366	0.2461	0.2476	0.31	0.4801	0.5477	0.5818	0.3909
75	0.4849	0.4533	0.3279	0.2416	0.1941	0.1942	0.1909	0.1714	0.2339	0.4158	0.4846	0.5191	0.326
80	0.4171	0.3894	0.2574	0.1778	0.19	0.1901	0.1869	0.1341	0.1568	0.3499	0.4194	0.4539	0.2769
85	0.3474	0.3244	0.1822	0.1812	0.1879	0.1858	0.1836	0.1397	0.1145	0.283	0.3526	0.3869	0.2391
90	0.2764	0.2362	0.1786	0.1786	0.1836	0.1815	0.1794	0.1398	0.1174	0.2182	0.2847	0.3184	0.2077

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9954	0.9899	0.984	0.9778	0.9735	0.9712	0.9721	0.9744	0.9803	0.9881	0.9935	0.9964	0.9831
10	0.9934	0.9829	0.9703	0.9578	0.9495	0.9451	0.9469	0.9509	0.9624	0.9792	0.9899	0.9957	0.9686
15	0.9851	0.9702	0.9505	0.9319	0.9197	0.9134	0.9159	0.9212	0.9382	0.9644	0.9803	0.9889	0.9483
20	0.9707	0.9519	0.9249	0.9003	0.8844	0.8761	0.8794	0.8857	0.9078	0.9439	0.9649	0.9761	0.9222
25	0.9502	0.9281	0.8935	0.8633	0.8438	0.8337	0.8376	0.8446	0.8715	0.9179	0.9437	0.9574	0.8905
30	0.9237	0.8991	0.8567	0.8212	0.7983	0.7864	0.7909	0.7982	0.8294	0.8866	0.917	0.933	0.8534
35	0.8915	0.8651	0.8148	0.7741	0.7482	0.7346	0.7397	0.7469	0.7818	0.8502	0.8848	0.9029	0.8112
40	0.8539	0.8262	0.7681	0.7226	0.6939	0.6786	0.6842	0.6909	0.7292	0.809	0.8475	0.8676	0.7643
45	0.811	0.7829	0.717	0.6669	0.6356	0.6189	0.625	0.6308	0.6718	0.7633	0.8054	0.8271	0.713
50	0.7633	0.7354	0.6618	0.6075	0.574	0.5559	0.5623	0.5669	0.6102	0.7135	0.7587	0.7819	0.6576
55	0.7111	0.6841	0.6029	0.5448	0.5094	0.49	0.4968	0.4998	0.5448	0.6599	0.7078	0.7322	0.5986
60	0.6548	0.6294	0.5407	0.4792	0.4422	0.4218	0.4288	0.4298	0.4761	0.6029	0.6531	0.6785	0.5365
65	0.5948	0.5717	0.4758	0.4113	0.3731	0.3517	0.3589	0.3576	0.4046	0.543	0.5951	0.6211	0.4716
70	0.5316	0.5115	0.4086	0.3415	0.3025	0.2803	0.2876	0.2836	0.3309	0.4806	0.5341	0.5606	0.4044
75	0.4656	0.4491	0.3396	0.2704	0.2309	0.2081	0.2154	0.2085	0.2554	0.4162	0.4706	0.4973	0.3356
80	0.3974	0.3852	0.2694	0.1985	0.19	0.1901	0.1869	0.1341	0.1788	0.3504	0.4051	0.4317	0.2765
85	0.3275	0.3201	0.1984	0.1752	0.1859	0.1858	0.1829	0.1343	0.1075	0.2835	0.3382	0.3644	0.2336
90	0.2564	0.2362	0.1787	0.1791	0.1848	0.1824	0.1808	0.1407	0.1177	0.2182	0.2702	0.2958	0.2034



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9936	0.9895	0.9851	0.9805	0.9772	0.9753	0.9761	0.9778	0.9823	0.9882	0.9922	0.9944	0.9843
10	0.9898	0.9821	0.9724	0.9631	0.9568	0.9534	0.9548	0.9577	0.9664	0.9793	0.9873	0.9917	0.9712
15	0.9798	0.969	0.9537	0.9399	0.9306	0.9257	0.9276	0.9314	0.9441	0.9645	0.9765	0.9829	0.9521
20	0.9636	0.9504	0.9291	0.9108	0.8988	0.8925	0.8949	0.8992	0.9156	0.9441	0.9598	0.9682	0.9273
25	0.9414	0.9263	0.8988	0.8763	0.8617	0.8539	0.8569	0.8613	0.8811	0.9182	0.9374	0.9476	0.8967
30	0.9134	0.8969	0.863	0.8365	0.8194	0.8103	0.8137	0.8179	0.8409	0.8869	0.9095	0.9213	0.8608
35	0.8797	0.8625	0.822	0.7918	0.7724	0.762	0.7658	0.7695	0.795	0.8505	0.8763	0.8896	0.8198
40	0.8406	0.8234	0.7762	0.7423	0.721	0.7094	0.7135	0.7163	0.7439	0.8094	0.8379	0.8526	0.7739
45	0.7964	0.7798	0.7258	0.6886	0.6655	0.6527	0.6572	0.6587	0.688	0.7637	0.7948	0.8106	0.7235
50	0.7475	0.732	0.6714	0.631	0.6063	0.5925	0.5972	0.5971	0.6278	0.7139	0.7472	0.764	0.669
55	0.6942	0.6805	0.6132	0.5699	0.5439	0.5292	0.5341	0.5321	0.5636	0.6603	0.6956	0.7131	0.6108
60	0.6369	0.6256	0.5516	0.5058	0.4788	0.4632	0.4683	0.464	0.496	0.6034	0.6402	0.6583	0.5493
65	0.5761	0.5677	0.4872	0.4391	0.4114	0.3951	0.4002	0.3934	0.4254	0.5435	0.5815	0.6	0.485
70	0.5122	0.5073	0.4204	0.3704	0.3421	0.3253	0.3304	0.3207	0.3524	0.4811	0.52	0.5387	0.4184
75	0.4457	0.4449	0.3518	0.3001	0.2717	0.2543	0.2595	0.2466	0.2775	0.4167	0.4562	0.4748	0.35
80	0.3771	0.3808	0.2817	0.2288	0.2004	0.1901	0.1878	0.1716	0.2013	0.3509	0.3904	0.4088	0.2808
85	0.3069	0.3157	0.2109	0.1752	0.1859	0.1858	0.1829	0.1343	0.1244	0.284	0.3233	0.3412	0.2309
90	0.2357	0.2362	0.1787	0.1796	0.1859	0.184	0.1822	0.1416	0.118	0.2182	0.2553	0.2725	0.199

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9917	0.9891	0.9862	0.9832	0.9809	0.9796	0.9801	0.9813	0.9843	0.9882	0.9908	0.9923	0.9857
10	0.9861	0.9813	0.9746	0.9686	0.9643	0.9619	0.9628	0.9647	0.9704	0.9793	0.9846	0.9875	0.9739
15	0.9743	0.9678	0.957	0.948	0.9418	0.9384	0.9397	0.9419	0.9501	0.9647	0.9725	0.9767	0.9561
20	0.9564	0.9488	0.9335	0.9216	0.9136	0.9092	0.9109	0.913	0.9236	0.9443	0.9546	0.96	0.9325
25	0.9325	0.9243	0.9042	0.8896	0.8799	0.8746	0.8765	0.8783	0.891	0.9184	0.931	0.9375	0.9032
30	0.9028	0.8946	0.8694	0.8522	0.841	0.8348	0.837	0.8381	0.8526	0.8872	0.9019	0.9094	0.8684
35	0.8676	0.8599	0.8293	0.8098	0.7972	0.7901	0.7925	0.7926	0.8084	0.8508	0.8675	0.8759	0.8285
40	0.827	0.8205	0.7844	0.7625	0.7487	0.7408	0.7435	0.7422	0.7589	0.8097	0.8281	0.8373	0.7836
45	0.7815	0.7766	0.7349	0.7108	0.696	0.6873	0.6901	0.6872	0.7045	0.7641	0.784	0.7938	0.7342
50	0.7313	0.7286	0.6812	0.6551	0.6394	0.63	0.6329	0.628	0.6457	0.7143	0.7355	0.7458	0.6806
55	0.6769	0.6768	0.6237	0.5957	0.5793	0.5693	0.5723	0.5651	0.5827	0.6607	0.6831	0.6936	0.6233
60	0.6186	0.6217	0.5627	0.533	0.5162	0.5056	0.5086	0.4989	0.5162	0.6038	0.627	0.6377	0.5625
65	0.5569	0.5636	0.4988	0.4676	0.4505	0.4394	0.4424	0.4299	0.4466	0.5439	0.5677	0.5784	0.4988
70	0.4923	0.5031	0.4325	0.3999	0.3827	0.3713	0.3742	0.3586	0.3743	0.4816	0.5057	0.5163	0.4327
75	0.4253	0.4405	0.3641	0.3305	0.3134	0.3016	0.3045	0.2856	0.3001	0.4173	0.4414	0.4518	0.3647
80	0.3563	0.3764	0.2944	0.2597	0.243	0.231	0.2337	0.2114	0.2244	0.3514	0.3754	0.3853	0.2952
85	0.2859	0.3112	0.2237	0.1883	0.1859	0.1858	0.1829	0.1365	0.1477	0.2845	0.3081	0.3174	0.2298
90	0.2146	0.2362	0.1788	0.18	0.1871	0.1857	0.1836	0.1423	0.1181	0.2182	0.24	0.2487	0.1944



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9899	0.9887	0.9873	0.986	0.9847	0.9839	0.9843	0.9849	0.9864	0.9883	0.9895	0.9902	0.987
10	0.9824	0.9805	0.9769	0.9741	0.9719	0.9705	0.9711	0.9718	0.9745	0.9794	0.9819	0.9833	0.9765
15	0.9688	0.9667	0.9604	0.9562	0.9531	0.9513	0.9519	0.9524	0.9563	0.9648	0.9685	0.9705	0.9601
20	0.9491	0.9472	0.938	0.9325	0.9286	0.9262	0.927	0.927	0.9317	0.9445	0.9493	0.9517	0.9377
25	0.9234	0.9224	0.9097	0.903	0.8984	0.8956	0.8965	0.8956	0.901	0.9186	0.9244	0.9273	0.9097
30	0.8921	0.8923	0.8759	0.8681	0.8629	0.8596	0.8606	0.8586	0.8644	0.8874	0.8941	0.8973	0.8761
35	0.8553	0.8573	0.8368	0.828	0.8223	0.8186	0.8196	0.8161	0.8219	0.8512	0.8586	0.862	0.8373
40	0.8132	0.8175	0.7928	0.783	0.7769	0.7727	0.7738	0.7685	0.7741	0.8101	0.8181	0.8217	0.7935
45	0.7663	0.7733	0.7441	0.7333	0.727	0.7224	0.7235	0.7161	0.7213	0.7645	0.7731	0.7767	0.7451
50	0.7149	0.725	0.6912	0.6794	0.6729	0.668	0.6691	0.6594	0.6638	0.7147	0.7237	0.7272	0.6924
55	0.6593	0.673	0.6343	0.6217	0.6151	0.6099	0.6109	0.5986	0.6021	0.6612	0.6704	0.6738	0.6359
60	0.6	0.6177	0.574	0.5606	0.5541	0.5486	0.5495	0.5343	0.5367	0.6043	0.6135	0.6167	0.5758
65	0.5375	0.5594	0.5106	0.4964	0.4901	0.4844	0.4852	0.467	0.468	0.5444	0.5536	0.5565	0.5128
70	0.4722	0.4988	0.4447	0.4298	0.4238	0.4179	0.4186	0.3971	0.3966	0.4821	0.4911	0.4936	0.4472
75	0.4045	0.4361	0.3767	0.3612	0.3557	0.3496	0.3501	0.3251	0.323	0.4178	0.4264	0.4284	0.3796
80	0.3351	0.3718	0.3072	0.2911	0.2861	0.2799	0.2803	0.2517	0.2477	0.3519	0.3601	0.3615	0.3104
85	0.2645	0.3066	0.2367	0.2201	0.2157	0.2095	0.2096	0.1773	0.1713	0.2851	0.2926	0.2933	0.2402
90	0.1932	0.2362	0.1788	0.1803	0.1881	0.1872	0.185	0.143	0.1183	0.2182	0.2245	0.2245	0.1898

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.988	0.9883	0.9885	0.9888	0.9886	0.9883	0.9884	0.9885	0.9885	0.9883	0.9881	0.9881	0.9884
10	0.9786	0.9797	0.9792	0.9797	0.9795	0.9792	0.9793	0.9789	0.9787	0.9795	0.9792	0.9791	0.9792
15	0.9632	0.9655	0.9638	0.9645	0.9645	0.9642	0.9643	0.9631	0.9624	0.9649	0.9644	0.9641	0.9641
20	0.9417	0.9457	0.9424	0.9434	0.9436	0.9433	0.9433	0.9411	0.9398	0.9447	0.9439	0.9434	0.943
25	0.9143	0.9204	0.9153	0.9166	0.9171	0.9167	0.9166	0.913	0.9111	0.9188	0.9178	0.917	0.9162
30	0.8813	0.89	0.8824	0.8841	0.885	0.8846	0.8844	0.8791	0.8763	0.8877	0.8863	0.8851	0.8839
35	0.8429	0.8546	0.8443	0.8464	0.8476	0.8472	0.8469	0.8397	0.8356	0.8515	0.8496	0.848	0.8462
40	0.7994	0.8145	0.8012	0.8035	0.8052	0.8048	0.8044	0.7949	0.7894	0.8104	0.8081	0.806	0.8035
45	0.7511	0.77	0.7534	0.756	0.7581	0.7577	0.7571	0.7452	0.7381	0.7649	0.762	0.7594	0.7561
50	0.6983	0.7215	0.7012	0.704	0.7066	0.7063	0.7055	0.6909	0.682	0.7151	0.7117	0.7085	0.7043
55	0.6416	0.6692	0.645	0.6479	0.6512	0.6508	0.6499	0.6323	0.6216	0.6616	0.6576	0.6538	0.6486
60	0.5813	0.6137	0.5853	0.5883	0.5922	0.5918	0.5907	0.5699	0.5573	0.6048	0.6	0.5956	0.5892
65	0.5179	0.5552	0.5225	0.5254	0.5301	0.5297	0.5283	0.5043	0.4896	0.5449	0.5395	0.5344	0.5268
70	0.4518	0.4944	0.457	0.4599	0.4652	0.4649	0.4633	0.4357	0.4189	0.4826	0.4764	0.4706	0.4617
75	0.3837	0.4316	0.3894	0.3921	0.3982	0.3979	0.3961	0.3649	0.346	0.4183	0.4113	0.4048	0.3945
80	0.3139	0.3673	0.3201	0.3227	0.3295	0.3292	0.3271	0.2922	0.2711	0.3525	0.3447	0.3375	0.3256
85	0.243	0.302	0.2497	0.252	0.2596	0.2593	0.257	0.2183	0.1951	0.2856	0.2771	0.269	0.2556
90	0.1716	0.2362	0.1788	0.1806	0.1891	0.1888	0.1863	0.1437	0.1183	0.2182	0.2089	0.2001	0.185



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9861	0.9879	0.9896	0.9916	0.9924	0.9926	0.9926	0.9921	0.9906	0.9884	0.9868	0.986	0.9897
10	0.9749	0.9789	0.9815	0.9852	0.9872	0.9879	0.9876	0.9861	0.9828	0.9796	0.9765	0.9748	0.9819
15	0.9576	0.9643	0.9672	0.9728	0.9759	0.9771	0.9766	0.9737	0.9686	0.9651	0.9604	0.9578	0.9681
20	0.9343	0.9441	0.9469	0.9544	0.9587	0.9604	0.9596	0.9551	0.948	0.9448	0.9386	0.935	0.9483
25	0.9052	0.9185	0.9208	0.9301	0.9357	0.9379	0.9367	0.9304	0.9211	0.9191	0.9112	0.9067	0.9228
30	0.8705	0.8877	0.889	0.9001	0.907	0.9096	0.9082	0.8997	0.8882	0.888	0.8785	0.8729	0.8916
35	0.8305	0.852	0.8518	0.8647	0.8728	0.8759	0.8742	0.8633	0.8492	0.8518	0.8407	0.8341	0.8551
40	0.7855	0.8116	0.8096	0.8241	0.8335	0.8369	0.8349	0.8213	0.8047	0.8108	0.7981	0.7904	0.8134
45	0.7358	0.7668	0.7626	0.7785	0.7892	0.793	0.7907	0.7742	0.7549	0.7652	0.7509	0.7422	0.767
50	0.6818	0.7179	0.7112	0.7284	0.7403	0.7445	0.7419	0.7223	0.7002	0.7155	0.6997	0.6899	0.7161
55	0.6239	0.6654	0.6557	0.6741	0.6872	0.6917	0.6888	0.6659	0.641	0.6621	0.6447	0.6338	0.6612
60	0.5626	0.6097	0.5966	0.6159	0.6303	0.635	0.6318	0.6055	0.5778	0.6052	0.5865	0.5745	0.6026
65	0.4983	0.551	0.5343	0.5544	0.5699	0.5749	0.5714	0.5415	0.5111	0.5454	0.5253	0.5123	0.5408
70	0.4315	0.49	0.4693	0.4899	0.5066	0.5118	0.5079	0.4743	0.4412	0.4831	0.4617	0.4477	0.4763
75	0.3628	0.4271	0.402	0.423	0.4407	0.4461	0.4419	0.4045	0.3689	0.4188	0.3962	0.3813	0.4094
80	0.2926	0.3627	0.333	0.3541	0.3729	0.3783	0.3739	0.3327	0.2945	0.353	0.3293	0.3134	0.3409
85	0.2214	0.2974	0.2628	0.2838	0.3035	0.309	0.3043	0.2592	0.2187	0.2861	0.2615	0.2447	0.2711
90	0.1716	0.2362	0.1919	0.2126	0.2332	0.2387	0.2338	0.1848	0.1421	0.2188	0.2089	0.2001	0.206

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9842	0.9875	0.9907	0.9944	0.9962	0.997	0.9967	0.9956	0.9926	0.9884	0.9854	0.9838	0.9911
10	0.9712	0.9781	0.9837	0.9907	0.9948	0.9965	0.9958	0.9932	0.9869	0.9797	0.9738	0.9706	0.9846
15	0.952	0.9631	0.9706	0.981	0.9872	0.99	0.9888	0.9843	0.9747	0.9652	0.9564	0.9516	0.9721
20	0.9269	0.9425	0.9514	0.9652	0.9737	0.9774	0.9757	0.9691	0.956	0.945	0.9333	0.9268	0.9536
25	0.8961	0.9165	0.9263	0.9435	0.9541	0.9588	0.9567	0.9476	0.931	0.9193	0.9047	0.8964	0.9293
30	0.8598	0.8854	0.8955	0.916	0.9288	0.9344	0.9318	0.9201	0.8999	0.8882	0.8707	0.8608	0.8993
35	0.8182	0.8493	0.8593	0.8829	0.8979	0.9043	0.9012	0.8866	0.8627	0.8521	0.8318	0.8202	0.8639
40	0.7717	0.8086	0.8179	0.8444	0.8615	0.8688	0.8652	0.8475	0.8198	0.8111	0.7881	0.7748	0.8233
45	0.7206	0.7635	0.7718	0.8009	0.82	0.828	0.824	0.803	0.7715	0.7656	0.74	0.7251	0.7778
50	0.6653	0.7144	0.7211	0.7526	0.7737	0.7824	0.7779	0.7535	0.7182	0.716	0.6878	0.6713	0.7279
55	0.6063	0.6617	0.6664	0.7	0.723	0.7322	0.7273	0.6992	0.6602	0.6625	0.632	0.614	0.6737
60	0.544	0.6057	0.6079	0.6433	0.668	0.6779	0.6726	0.6407	0.5982	0.6057	0.573	0.5535	0.6159
65	0.4789	0.5469	0.5461	0.583	0.6094	0.6197	0.614	0.5783	0.5323	0.5459	0.5112	0.4903	0.5547
70	0.4114	0.4857	0.4815	0.5196	0.5475	0.5582	0.5521	0.5125	0.4633	0.4836	0.4472	0.425	0.4906
75	0.3421	0.4227	0.4145	0.4536	0.4828	0.4938	0.4874	0.4438	0.3916	0.4194	0.3813	0.3579	0.4242
80	0.2715	0.3582	0.3458	0.3853	0.4158	0.427	0.4203	0.3727	0.3177	0.3535	0.3141	0.2896	0.356
85	0.2001	0.2928	0.2757	0.3154	0.347	0.3583	0.3513	0.2998	0.2421	0.2867	0.246	0.2206	0.2863
90	0.1716	0.2362	0.2049	0.2443	0.2768	0.2882	0.2809	0.2255	0.1656	0.2193	0.2089	0.2001	0.2268



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9824	0.9871	0.9918	0.9971	1	1.0012	1.0007	0.9991	0.9946	0.9885	0.9841	0.9818	0.9924
10	0.9675	0.9773	0.9859	0.9962	1.0023	1.005	1.0039	1.0002	0.9909	0.9798	0.9712	0.9665	0.9872
15	0.9466	0.9619	0.9739	0.9891	0.9984	1.0026	1.0008	0.9947	0.9807	0.9654	0.9524	0.9454	0.976
20	0.9197	0.9409	0.9558	0.9759	0.9884	0.9941	0.9916	0.9828	0.9639	0.9452	0.928	0.9186	0.9587
25	0.8872	0.9146	0.9317	0.9566	0.9723	0.9794	0.9763	0.9646	0.9408	0.9195	0.8982	0.8864	0.9356
30	0.8492	0.8832	0.9019	0.9315	0.9503	0.9588	0.955	0.9401	0.9114	0.8885	0.8631	0.8489	0.9068
35	0.8061	0.8467	0.8666	0.9007	0.9225	0.9322	0.9278	0.9096	0.8759	0.8524	0.823	0.8065	0.8725
40	0.7581	0.8057	0.8261	0.8644	0.8891	0.9001	0.895	0.8732	0.8346	0.8115	0.7783	0.7595	0.833
45	0.7057	0.7603	0.7808	0.8229	0.8504	0.8625	0.8568	0.8313	0.7878	0.766	0.7292	0.7082	0.7885
50	0.6492	0.7109	0.7309	0.7764	0.8066	0.8197	0.8134	0.7841	0.7358	0.7164	0.6761	0.6531	0.7394
55	0.589	0.658	0.6768	0.7254	0.7581	0.7721	0.7653	0.732	0.6791	0.663	0.6195	0.5945	0.6861
60	0.5257	0.6018	0.6189	0.6702	0.7052	0.72	0.7126	0.6753	0.6181	0.6061	0.5598	0.5329	0.6289
65	0.4597	0.5428	0.5576	0.6112	0.6483	0.6638	0.656	0.6145	0.5532	0.5464	0.4974	0.4687	0.5683
70	0.3915	0.4815	0.4935	0.5488	0.5878	0.6039	0.5956	0.5501	0.485	0.4841	0.4328	0.4026	0.5048
75	0.3217	0.4183	0.4269	0.4836	0.5243	0.5408	0.5321	0.4825	0.4138	0.4199	0.3665	0.3349	0.4388
80	0.2506	0.3537	0.3584	0.4159	0.458	0.475	0.4659	0.4121	0.3404	0.3541	0.299	0.2661	0.3708
85	0.179	0.2883	0.2884	0.3464	0.3897	0.4068	0.3974	0.3396	0.2651	0.2872	0.2308	0.2061	0.3021
90	0.1716	0.2362	0.2176	0.2754	0.3197	0.3369	0.3272	0.2655	0.1887	0.2198	0.2089	0.2001	0.2473

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9806	0.9867	0.9929	0.9998	1.0037	1.0054	1.0047	1.0026	0.9966	0.9885	0.9828	0.9797	0.9937
10	0.9639	0.9766	0.9881	1.0015	1.0096	1.0133	1.0117	1.007	0.9949	0.9799	0.9686	0.9625	0.9898
15	0.9412	0.9608	0.9771	0.997	1.0092	1.015	1.0125	1.0048	0.9865	0.9655	0.9486	0.9394	0.9798
20	0.9127	0.9394	0.96	0.9863	1.0027	1.0104	1.0071	0.9962	0.9716	0.9454	0.9229	0.9107	0.9638
25	0.8785	0.9128	0.937	0.9695	0.99	0.9995	0.9954	0.9811	0.9503	0.9197	0.8919	0.8765	0.9419
30	0.8389	0.8809	0.9082	0.9467	0.9712	0.9825	0.9776	0.9596	0.9227	0.8888	0.8556	0.8373	0.9142
35	0.7942	0.8442	0.8738	0.9181	0.9465	0.9595	0.9537	0.932	0.8888	0.8527	0.8145	0.7931	0.8809
40	0.7448	0.8029	0.8341	0.8839	0.916	0.9306	0.924	0.8983	0.849	0.8118	0.7687	0.7445	0.8424
45	0.6911	0.7572	0.7896	0.8443	0.88	0.8961	0.8887	0.8589	0.8037	0.7664	0.7186	0.6917	0.7988
50	0.6334	0.7076	0.7404	0.7997	0.8386	0.8561	0.848	0.814	0.753	0.7168	0.6647	0.6352	0.7506
55	0.5721	0.6543	0.687	0.7502	0.7923	0.811	0.8023	0.7639	0.6975	0.6634	0.6073	0.5754	0.6981
60	0.5079	0.5979	0.6297	0.6964	0.7414	0.7611	0.7517	0.7091	0.6376	0.6066	0.5469	0.5127	0.6416
65	0.441	0.5388	0.5689	0.6387	0.6862	0.7068	0.6969	0.6499	0.5736	0.5469	0.4839	0.4476	0.5816
70	0.3721	0.4773	0.5052	0.5773	0.6271	0.6485	0.6381	0.5867	0.5061	0.4846	0.4188	0.3807	0.5185
75	0.3017	0.414	0.4389	0.5129	0.5646	0.5867	0.5757	0.5201	0.4356	0.4204	0.3521	0.3124	0.4529
80	0.2303	0.3494	0.3706	0.4458	0.4992	0.5217	0.5103	0.4505	0.3625	0.3546	0.2843	0.2432	0.3852
85	0.1747	0.2839	0.3008	0.3766	0.4314	0.4541	0.4424	0.3785	0.2875	0.2877	0.216	0.2061	0.32
90	0.1716	0.2362	0.2301	0.3058	0.3616	0.3844	0.3724	0.3045	0.2112	0.2204	0.2089	0.2001	0.2673



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9788	0.9864	0.994	1.0023	1.0072	1.0094	1.0085	1.0059	0.9985	0.9886	0.9815	0.9778	0.9949
10	0.9604	0.9758	0.9902	1.0066	1.0166	1.0213	1.0194	1.0136	0.9987	0.98	0.9661	0.9585	0.9923
15	0.936	0.9596	0.9803	1.0046	1.0198	1.0269	1.0239	1.0147	0.9922	0.9656	0.9448	0.9335	0.9835
20	0.9058	0.938	0.9642	0.9964	1.0166	1.0261	1.0221	1.0092	0.9791	0.9456	0.918	0.9029	0.9687
25	0.87	0.9109	0.9421	0.9819	1.0072	1.019	1.0139	0.9971	0.9595	0.92	0.8858	0.867	0.9479
30	0.8289	0.8788	0.9142	0.9614	0.9915	1.0056	0.9995	0.9785	0.9335	0.889	0.8484	0.826	0.9213
35	0.7828	0.8418	0.8807	0.935	0.9698	0.9859	0.9789	0.9536	0.9013	0.853	0.8062	0.7802	0.8891
40	0.732	0.8001	0.8419	0.9027	0.9421	0.9602	0.9522	0.9225	0.863	0.8121	0.7594	0.73	0.8515
45	0.6769	0.7542	0.7981	0.865	0.9086	0.9286	0.9196	0.8855	0.819	0.7667	0.7084	0.6758	0.8089
50	0.618	0.7043	0.7496	0.8221	0.8696	0.8913	0.8815	0.8428	0.7696	0.7172	0.6536	0.6179	0.7615
55	0.5558	0.6508	0.6968	0.7742	0.8255	0.8486	0.8381	0.7948	0.7153	0.6638	0.5955	0.5569	0.7097
60	0.4906	0.5942	0.6401	0.7218	0.7764	0.8009	0.7896	0.7417	0.6563	0.607	0.5344	0.4932	0.6538
65	0.4229	0.5349	0.5798	0.6652	0.7228	0.7485	0.7365	0.684	0.5932	0.5473	0.4708	0.4272	0.5944
70	0.3534	0.4733	0.5165	0.6048	0.6651	0.6917	0.6791	0.6221	0.5265	0.4851	0.4052	0.3595	0.5319
75	0.2824	0.4099	0.4505	0.5411	0.6037	0.631	0.6179	0.5565	0.4565	0.4209	0.3381	0.2906	0.4666
80	0.2106	0.3451	0.3825	0.4746	0.5391	0.5669	0.5533	0.4877	0.3839	0.3551	0.2701	0.221	0.3992
85	0.1747	0.2796	0.3129	0.4058	0.4717	0.4998	0.4859	0.4161	0.3092	0.2882	0.2155	0.2061	0.3388
90	0.1716	0.2362	0.2422	0.3351	0.402	0.4303	0.4161	0.3423	0.2329	0.2209	0.2089	0.2001	0.2865

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9772	0.986	0.995	1.0048	1.0106	1.0133	1.0122	1.0091	1.0004	0.9886	0.9803	0.9759	0.9961
10	0.9571	0.9751	0.9922	1.0115	1.0234	1.029	1.0267	1.0199	1.0023	0.9801	0.9636	0.9548	0.9946
15	0.9311	0.9586	0.9833	1.0119	1.0299	1.0384	1.0348	1.0241	0.9976	0.9657	0.9412	0.9279	0.987
20	0.8993	0.9366	0.9682	1.006	1.03	1.0413	1.0365	1.0216	0.9862	0.9457	0.9133	0.8955	0.9733
25	0.8619	0.9092	0.947	0.9938	1.0236	1.0377	1.0317	1.0124	0.9683	0.9202	0.8799	0.8578	0.9536
30	0.8193	0.8767	0.92	0.9755	1.011	1.0277	1.0205	0.9967	0.9439	0.8893	0.8415	0.8152	0.9281
35	0.7718	0.8394	0.8874	0.9511	0.9921	1.0113	1.0029	0.9744	0.9132	0.8533	0.7982	0.7678	0.8969
40	0.7196	0.7975	0.8493	0.9208	0.967	0.9886	0.9792	0.9458	0.8764	0.8124	0.7505	0.7161	0.8603
45	0.6634	0.7512	0.8063	0.8849	0.9361	0.9598	0.9493	0.9111	0.8337	0.7671	0.6986	0.6605	0.8185
50	0.6033	0.7011	0.7585	0.8436	0.8994	0.9251	0.9136	0.8705	0.7856	0.7175	0.643	0.6013	0.7719
55	0.54	0.6474	0.7063	0.7972	0.8573	0.8847	0.8724	0.8243	0.7323	0.6642	0.5841	0.5392	0.7208
60	0.4739	0.5907	0.6501	0.7461	0.81	0.8391	0.8259	0.773	0.6743	0.6075	0.5223	0.4744	0.6656
65	0.4055	0.5312	0.5903	0.6906	0.758	0.7884	0.7744	0.7167	0.6121	0.5478	0.4582	0.4076	0.6067
70	0.3353	0.4694	0.5273	0.6312	0.7016	0.7331	0.7185	0.656	0.546	0.4856	0.3922	0.3391	0.5446
75	0.2639	0.4059	0.4617	0.5682	0.6412	0.6736	0.6584	0.5914	0.4766	0.4213	0.3247	0.2697	0.4797
80	0.1917	0.3411	0.3939	0.5023	0.5773	0.6103	0.5946	0.5232	0.4044	0.3555	0.2564	0.2121	0.4136
85	0.1747	0.2755	0.3244	0.4337	0.5103	0.5437	0.5276	0.452	0.3299	0.2887	0.2155	0.2061	0.3568
90	0.1716	0.2362	0.2537	0.3632	0.4408	0.4743	0.458	0.3784	0.2537	0.2213	0.2089	0.2001	0.305



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9756	0.9857	0.996	1.0072	1.0139	1.017	1.0157	1.0121	1.0021	0.9886	0.9792	0.9741	0.9972
10	0.9539	0.9744	0.9942	1.0162	1.0299	1.0363	1.0337	1.0259	1.0058	0.9802	0.9614	0.9512	0.9969
15	0.9263	0.9576	0.9861	1.0189	1.0395	1.0493	1.0452	1.033	1.0027	0.9659	0.9378	0.9226	0.9904
20	0.893	0.9352	0.9719	1.0152	1.0426	1.0557	1.0502	1.0334	0.993	0.9459	0.9087	0.8885	0.9778
25	0.8542	0.9076	0.9517	1.0052	1.0393	1.0555	1.0486	1.027	0.9766	0.9204	0.8743	0.8491	0.9591
30	0.8102	0.8748	0.9256	0.9889	1.0295	1.0487	1.0405	1.0139	0.9537	0.8895	0.8349	0.8049	0.9346
35	0.7613	0.8371	0.8937	0.9664	1.0133	1.0353	1.0258	0.9941	0.9245	0.8535	0.7906	0.756	0.9043
40	0.7079	0.7949	0.8565	0.938	0.9908	1.0155	1.0048	0.9679	0.889	0.8127	0.742	0.7029	0.8686
45	0.6505	0.7485	0.814	0.9037	0.9621	0.9894	0.9775	0.9353	0.8476	0.7674	0.6893	0.6459	0.8276
50	0.5894	0.6981	0.7669	0.864	0.9276	0.9572	0.9441	0.8968	0.8006	0.7179	0.6329	0.5856	0.7817
55	0.5251	0.6442	0.7153	0.819	0.8874	0.919	0.905	0.8524	0.7484	0.6646	0.5733	0.5223	0.7313
60	0.4581	0.5873	0.6596	0.7691	0.8419	0.8753	0.8603	0.8026	0.6913	0.6079	0.5109	0.4566	0.6767
65	0.389	0.5276	0.6002	0.7147	0.7913	0.8263	0.8105	0.7478	0.6299	0.5482	0.4462	0.3889	0.6184
70	0.3182	0.4657	0.5376	0.6561	0.7361	0.7724	0.7558	0.6882	0.5644	0.486	0.3798	0.3198	0.5567
75	0.2463	0.4021	0.4723	0.5939	0.6767	0.7139	0.6968	0.6245	0.4956	0.4218	0.312	0.2498	0.4921
80	0.1778	0.3372	0.4047	0.5285	0.6135	0.6514	0.6337	0.5569	0.4237	0.356	0.2434	0.2121	0.4282
85	0.1747	0.2716	0.3353	0.4603	0.547	0.5853	0.5672	0.4862	0.3495	0.2892	0.2155	0.2061	0.374
90	0.1716	0.2362	0.2647	0.3898	0.4776	0.5161	0.4977	0.4127	0.2734	0.2218	0.2089	0.2001	0.3226

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9741	0.9853	0.9969	1.0094	1.0169	1.0204	1.019	1.0149	1.0037	0.9887	0.9781	0.9724	0.9983
10	0.951	0.9738	0.996	1.0206	1.0359	1.0432	1.0402	1.0316	1.009	0.9802	0.9592	0.9478	0.999
15	0.9219	0.9566	0.9888	1.0254	1.0485	1.0595	1.0549	1.0414	1.0076	0.966	0.9346	0.9176	0.9936
20	0.8871	0.934	0.9755	1.0238	1.0545	1.0692	1.0631	1.0445	0.9994	0.946	0.9045	0.8819	0.982
25	0.8469	0.906	0.9561	1.0158	1.054	1.0722	1.0645	1.0407	0.9845	0.9205	0.8691	0.841	0.9643
30	0.8016	0.8729	0.9308	1.0014	1.0469	1.0684	1.0593	1.03	0.963	0.8897	0.8287	0.7952	0.9407
35	0.7514	0.835	0.8997	0.9808	1.0332	1.058	1.0474	1.0126	0.9351	0.8538	0.7835	0.7449	0.9113
40	0.6969	0.7926	0.8632	0.954	1.0131	1.0409	1.0289	0.9886	0.9009	0.813	0.734	0.6904	0.8764
45	0.6383	0.7459	0.8214	0.9214	0.9866	1.0172	1.004	0.9581	0.8607	0.7677	0.6805	0.6322	0.8362
50	0.5762	0.6953	0.7748	0.8831	0.9541	0.9873	0.9728	0.9214	0.8148	0.7182	0.6234	0.5707	0.791
55	0.511	0.6412	0.7237	0.8394	0.9158	0.9512	0.9356	0.8788	0.7635	0.6649	0.5631	0.5064	0.7412
60	0.4433	0.5841	0.6685	0.7907	0.8718	0.9093	0.8927	0.8305	0.7073	0.6082	0.5002	0.4398	0.6872
65	0.3734	0.5243	0.6095	0.7373	0.8227	0.8619	0.8443	0.7769	0.6466	0.5486	0.435	0.3714	0.6293
70	0.302	0.4623	0.5473	0.6796	0.7686	0.8093	0.7909	0.7184	0.5818	0.4864	0.3681	0.3016	0.568
75	0.2297	0.3986	0.4822	0.618	0.7101	0.7519	0.7328	0.6555	0.5134	0.4222	0.3	0.2311	0.5038
80	0.1778	0.3336	0.4148	0.553	0.6475	0.6901	0.6705	0.5886	0.4419	0.3564	0.2312	0.2121	0.4431
85	0.1747	0.2679	0.3456	0.4851	0.5814	0.6244	0.6044	0.5182	0.3679	0.2896	0.2155	0.2061	0.3901
90	0.1716	0.2362	0.275	0.4148	0.5122	0.5554	0.535	0.4448	0.2919	0.2222	0.2089	0.2001	0.339



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9727	0.985	0.9977	1.0114	1.0197	1.0236	1.022	1.0176	1.0053	0.9887	0.9771	0.9708	0.9993
10	0.9482	0.9732	0.9976	1.0247	1.0416	1.0496	1.0463	1.0368	1.0121	0.9803	0.9572	0.9447	1.001
15	0.9178	0.9557	0.9913	1.0315	1.0569	1.069	1.064	1.0493	1.0121	0.9661	0.9316	0.9129	0.9965
20	0.8817	0.9328	0.9788	1.0318	1.0656	1.0818	1.075	1.0548	1.0053	0.9462	0.9006	0.8757	0.9858
25	0.8402	0.9046	0.9602	1.0257	1.0676	1.0877	1.0793	1.0534	0.9917	0.9207	0.8642	0.8333	0.9691
30	0.7936	0.8712	0.9356	1.0131	1.063	1.0868	1.0767	1.0451	0.9716	0.8899	0.8229	0.7862	0.9463
35	0.7423	0.8331	0.9053	0.9941	1.0517	1.079	1.0673	1.0298	0.9449	0.854	0.7769	0.7345	0.9177
40	0.6866	0.7904	0.8694	0.969	1.0338	1.0644	1.0512	1.0079	0.9119	0.8133	0.7266	0.6788	0.8836
45	0.627	0.7435	0.8282	0.9378	1.0094	1.0431	1.0286	0.9793	0.8728	0.768	0.6723	0.6195	0.8441
50	0.564	0.6927	0.7821	0.9008	0.9788	1.0153	0.9994	0.9443	0.8279	0.7185	0.6145	0.5569	0.7996
55	0.498	0.6384	0.7315	0.8584	0.9421	0.9812	0.9641	0.9032	0.7775	0.6652	0.5537	0.4917	0.7504
60	0.4294	0.5811	0.6767	0.8107	0.8996	0.941	0.9227	0.8563	0.7221	0.6086	0.4902	0.4242	0.6969
65	0.359	0.5212	0.6182	0.7582	0.8518	0.895	0.8758	0.8039	0.662	0.5489	0.4245	0.355	0.6394
70	0.2871	0.4591	0.5562	0.7013	0.7988	0.8436	0.8235	0.7464	0.5978	0.4868	0.3573	0.2847	0.5785
75	0.2143	0.3953	0.4914	0.6403	0.7411	0.7871	0.7663	0.6842	0.5298	0.4226	0.2888	0.218	0.5149
80	0.1778	0.3302	0.4242	0.5758	0.6791	0.726	0.7046	0.6179	0.4587	0.3568	0.2221	0.2121	0.4571
85	0.1747	0.2645	0.3551	0.5081	0.6133	0.6607	0.6389	0.5479	0.3849	0.29	0.2155	0.2061	0.405
90	0.1716	0.2362	0.2846	0.4379	0.5442	0.5918	0.5696	0.4746	0.3089	0.2226	0.2089	0.2001	0.3543

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9714	0.9848	0.9985	1.0133	1.0223	1.0266	1.0249	1.02	1.0067	0.9888	0.9761	0.9694	1.0002
10	0.9456	0.9726	0.9992	1.0284	1.0467	1.0555	1.0519	1.0416	1.0148	0.9804	0.9554	0.9418	1.0028
15	0.914	0.9549	0.9936	1.0371	1.0646	1.0778	1.0723	1.0564	1.0162	0.9662	0.9289	0.9087	0.9992
20	0.8767	0.9317	0.9818	1.0392	1.0757	1.0933	1.086	1.0642	1.0107	0.9463	0.8969	0.8701	0.9894
25	0.834	0.9032	0.9639	1.0347	1.0802	1.1019	1.0928	1.065	0.9984	0.9209	0.8597	0.8264	0.9734
30	0.7863	0.8697	0.94	1.0237	1.0778	1.1035	1.0927	1.0588	0.9794	0.8901	0.8176	0.7779	0.9515
35	0.7339	0.8313	0.9103	1.0063	1.0686	1.0982	1.0856	1.0456	0.9538	0.8542	0.7708	0.7251	0.9237
40	0.6772	0.7884	0.8751	0.9826	1.0527	1.0859	1.0717	1.0255	0.9219	0.8135	0.7198	0.6682	0.8902
45	0.6167	0.7412	0.8345	0.9528	1.0302	1.0668	1.0511	0.9986	0.8838	0.7682	0.6648	0.6078	0.8514
50	0.5528	0.6903	0.7889	0.9171	1.0013	1.0409	1.0238	0.9652	0.8398	0.7188	0.6064	0.5443	0.8075
55	0.486	0.6359	0.7387	0.8757	0.9662	1.0086	0.9901	0.9255	0.7903	0.6655	0.545	0.4782	0.7588
60	0.4168	0.5784	0.6843	0.829	0.9251	0.9699	0.9502	0.8799	0.7355	0.6089	0.481	0.4099	0.7057
65	0.3457	0.5183	0.6261	0.7773	0.8783	0.9252	0.9045	0.8285	0.6761	0.5493	0.4149	0.3401	0.6487
70	0.2733	0.4561	0.5644	0.7211	0.8263	0.8749	0.8533	0.7719	0.6124	0.4871	0.3473	0.2692	0.5881
75	0.2002	0.3922	0.4998	0.6607	0.7694	0.8193	0.7969	0.7105	0.5448	0.4229	0.2786	0.218	0.5261
80	0.1778	0.3272	0.4328	0.5965	0.708	0.7588	0.7358	0.6447	0.474	0.3572	0.2221	0.2121	0.4706
85	0.1747	0.2614	0.3638	0.5291	0.6425	0.6939	0.6704	0.5749	0.4003	0.2904	0.2155	0.2061	0.4186
90	0.1716	0.2362	0.2934	0.459	0.5735	0.625	0.6013	0.5018	0.3245	0.223	0.2089	0.2001	0.3682



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9703	0.9845	0.9992	1.015	1.0247	1.0292	1.0274	1.0222	1.0079	0.9888	0.9753	0.9681	1.001
10	0.9434	0.9722	1.0006	1.0318	1.0514	1.0608	1.0569	1.046	1.0173	0.9804	0.9537	0.9393	1.0045
15	0.9106	0.9542	0.9957	1.0421	1.0715	1.0856	1.0798	1.0629	1.0199	0.9663	0.9264	0.9048	1.0016
20	0.8722	0.9308	0.9846	1.0458	1.0849	1.1037	1.0958	1.0727	1.0155	0.9464	0.8937	0.865	0.9926
25	0.8284	0.902	0.9673	1.0428	1.0914	1.1147	1.1049	1.0755	1.0043	0.921	0.8557	0.8201	0.9774
30	0.7797	0.8683	0.944	1.0333	1.0911	1.1187	1.107	1.0712	0.9864	0.8903	0.8128	0.7705	0.9561
35	0.7264	0.8297	0.9149	1.0173	1.0838	1.1155	1.1021	1.0597	0.9619	0.8544	0.7654	0.7166	0.929
40	0.6688	0.7865	0.8802	0.9949	1.0698	1.1053	1.0902	1.0413	0.9309	0.8137	0.7137	0.6587	0.8962
45	0.6074	0.7392	0.8401	0.9663	1.049	1.0881	1.0713	1.016	0.8937	0.7685	0.6581	0.5973	0.8579
50	0.5427	0.6881	0.795	0.9316	1.0216	1.064	1.0457	0.984	0.8505	0.7191	0.5991	0.5329	0.8145
55	0.4752	0.6335	0.7452	0.8912	0.9878	1.0332	1.0135	0.9456	0.8017	0.6658	0.5372	0.466	0.7663
60	0.4054	0.576	0.6911	0.8454	0.948	0.996	0.975	0.9011	0.7476	0.6092	0.4728	0.3971	0.7137
65	0.3338	0.5158	0.6332	0.7945	0.9023	0.9525	0.9304	0.8507	0.6887	0.5496	0.4063	0.3266	0.657
70	0.2609	0.4535	0.5718	0.7388	0.8511	0.9032	0.8801	0.7949	0.6254	0.4874	0.3384	0.2552	0.5967
75	0.1874	0.3895	0.5074	0.6789	0.7949	0.8483	0.8245	0.7341	0.5582	0.4232	0.2694	0.218	0.5362
80	0.1778	0.3244	0.4405	0.6151	0.7339	0.7884	0.7639	0.6687	0.4876	0.3575	0.2221	0.2121	0.4827
85	0.1747	0.2586	0.3716	0.548	0.6687	0.7237	0.6988	0.5993	0.4142	0.2907	0.2155	0.2061	0.4308
90	0.1716	0.2362	0.3012	0.4779	0.5998	0.655	0.6297	0.5262	0.3384	0.2233	0.2089	0.2001	0.3807

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9693	0.9843	0.9998	1.0165	1.0267	1.0316	1.0296	1.0241	1.009	0.9888	0.9746	0.967	1.0018
10	0.9413	0.9717	1.0018	1.0348	1.0555	1.0654	1.0613	1.0498	1.0195	0.9805	0.9522	0.937	1.0059
15	0.9076	0.9535	0.9975	1.0465	1.0776	1.0926	1.0864	1.0685	1.0231	0.9663	0.9242	0.9014	1.0038
20	0.8682	0.9299	0.987	1.0516	1.0929	1.1128	1.1045	1.0802	1.0198	0.9465	0.8908	0.8605	0.9954
25	0.8235	0.901	0.9703	1.05	1.1014	1.126	1.1157	1.0848	1.0096	0.9211	0.8522	0.8146	0.9808
30	0.7739	0.867	0.9476	1.0418	1.1028	1.132	1.1197	1.0821	0.9926	0.8904	0.8086	0.7639	0.9602
35	0.7197	0.8282	0.919	1.027	1.0973	1.1308	1.1166	1.0722	0.9689	0.8546	0.7605	0.709	0.9337
40	0.6613	0.7849	0.8847	1.0057	1.0848	1.1225	1.1064	1.0553	0.9388	0.8139	0.7083	0.6502	0.9014
45	0.5992	0.7375	0.8451	0.9781	1.0655	1.1069	1.0892	1.0313	0.9023	0.7687	0.6522	0.588	0.8637
50	0.5338	0.6862	0.8004	0.9445	1.0395	1.0844	1.0651	1.0006	0.8599	0.7193	0.5927	0.5229	0.8208
55	0.4657	0.6315	0.7509	0.9049	1.0069	1.055	1.0342	0.9633	0.8117	0.6661	0.5303	0.4553	0.773
60	0.3953	0.5738	0.6971	0.8598	0.9681	1.019	0.9968	0.9197	0.7582	0.6094	0.4655	0.3857	0.7207
65	0.3232	0.5135	0.6394	0.8096	0.9234	0.9766	0.9533	0.8702	0.6998	0.5498	0.3987	0.3147	0.6643
70	0.25	0.4511	0.5783	0.7545	0.873	0.9281	0.9038	0.8151	0.6369	0.4877	0.3305	0.2429	0.6043
75	0.1808	0.3871	0.5141	0.6949	0.8173	0.8739	0.8488	0.7548	0.57	0.4235	0.2613	0.218	0.5454
80	0.1778	0.3219	0.4473	0.6315	0.7568	0.8144	0.7886	0.6898	0.4996	0.3578	0.2221	0.2121	0.4933
85	0.1747	0.2561	0.3785	0.5645	0.6918	0.7501	0.7238	0.6206	0.4263	0.291	0.2155	0.2061	0.4416
90	0.1716	0.2362	0.3081	0.4945	0.623	0.6813	0.6548	0.5477	0.3506	0.2236	0.2089	0.2001	0.3917



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9684	0.9841	1.0003	1.0178	1.0285	1.0336	1.0315	1.0258	1.01	0.9888	0.974	0.966	1.0024
10	0.9396	0.9713	1.0028	1.0373	1.059	1.0694	1.0651	1.0531	1.0214	0.9805	0.951	0.935	1.0071
15	0.905	0.953	0.9991	1.0503	1.0828	1.0985	1.092	1.0734	1.0259	0.9664	0.9224	0.8985	1.0056
20	0.8648	0.9292	0.9891	1.0566	1.0998	1.1207	1.112	1.0867	1.0235	0.9466	0.8883	0.8566	0.9978
25	0.8193	0.9001	0.9728	1.0562	1.1099	1.1357	1.1249	1.0927	1.0141	0.9212	0.8491	0.8098	0.9838
30	0.7689	0.8659	0.9506	1.0491	1.1129	1.1435	1.1306	1.0914	0.9979	0.8905	0.805	0.7583	0.9637
35	0.714	0.827	0.9224	1.0353	1.1088	1.144	1.1291	1.0829	0.975	0.8547	0.7564	0.7026	0.9377
40	0.6549	0.7836	0.8886	1.015	1.0977	1.1372	1.1204	1.0672	0.9455	0.8141	0.7036	0.643	0.9059
45	0.5921	0.736	0.8494	0.9883	1.0797	1.1231	1.1046	1.0445	0.9097	0.7689	0.6471	0.5801	0.8686
50	0.5262	0.6846	0.805	0.9555	1.0548	1.1019	1.0817	1.0148	0.8678	0.7195	0.5872	0.5142	0.8261
55	0.4575	0.6298	0.7559	0.9166	1.0233	1.0737	1.052	0.9785	0.8202	0.6663	0.5244	0.446	0.7787
60	0.3867	0.5719	0.7024	0.8722	0.9855	1.0387	1.0156	0.9357	0.7673	0.6097	0.4592	0.3759	0.7267
65	0.3142	0.5116	0.6448	0.8225	0.9415	0.9972	0.9729	0.8869	0.7092	0.5501	0.3921	0.3045	0.6706
70	0.2406	0.4491	0.5838	0.7678	0.8917	0.9495	0.9241	0.8324	0.6466	0.4879	0.3237	0.2323	0.6108
75	0.1808	0.385	0.5198	0.7086	0.8366	0.8959	0.8696	0.7726	0.58	0.4238	0.2543	0.218	0.5538
80	0.1778	0.3198	0.4531	0.6454	0.7764	0.8368	0.8099	0.7079	0.5098	0.358	0.2221	0.2121	0.5024
85	0.1747	0.254	0.3844	0.5786	0.7117	0.7727	0.7453	0.6389	0.4366	0.2912	0.2155	0.2061	0.4508
90	0.1716	0.2362	0.314	0.5087	0.6428	0.7039	0.6762	0.566	0.3609	0.2239	0.2089	0.2001	0.4011

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9677	0.984	1.0008	1.0189	1.03	1.0353	1.0331	1.0271	1.0108	0.9888	0.9734	0.9652	1.0029
10	0.9382	0.971	1.0037	1.0394	1.0619	1.0727	1.0683	1.0558	1.023	0.9805	0.9499	0.9334	1.0082
15	0.9028	0.9525	1.0004	1.0534	1.0872	1.1035	1.0967	1.0775	1.0282	0.9665	0.9208	0.8961	1.0071
20	0.862	0.9286	0.9908	1.0607	1.1056	1.1272	1.1182	1.092	1.0265	0.9467	0.8863	0.8534	0.9998
25	0.8158	0.8993	0.975	1.0613	1.117	1.1437	1.1325	1.0993	1.0179	0.9213	0.8466	0.8058	0.9863
30	0.7648	0.865	0.9531	1.0551	1.1212	1.153	1.1396	1.0992	1.0023	0.8906	0.802	0.7536	0.9666
35	0.7092	0.826	0.9253	1.0422	1.1184	1.1549	1.1395	1.0918	0.98	0.8548	0.753	0.6972	0.941
40	0.6496	0.7824	0.8918	1.0227	1.1084	1.1494	1.132	1.0772	0.9511	0.8142	0.6998	0.637	0.9096
45	0.5863	0.7347	0.8529	0.9968	1.0914	1.1365	1.1173	1.0553	0.9158	0.769	0.6428	0.5735	0.8727
50	0.5198	0.6832	0.8089	0.9645	1.0675	1.1164	1.0954	1.0266	0.8744	0.7196	0.5826	0.5071	0.8305
55	0.4507	0.6283	0.76	0.9263	1.0369	1.0892	1.0667	0.991	0.8272	0.6664	0.5195	0.4384	0.7834
60	0.3795	0.5704	0.7067	0.8824	0.9998	1.0551	1.0311	0.9489	0.7746	0.6098	0.454	0.3678	0.7317
65	0.3067	0.51	0.6494	0.8331	0.9565	1.0144	0.9891	0.9007	0.717	0.5502	0.3867	0.296	0.6758
70	0.2329	0.4474	0.5885	0.7788	0.9073	0.9673	0.941	0.8467	0.6547	0.4881	0.3181	0.2237	0.6162
75	0.1808	0.3833	0.5245	0.7199	0.8525	0.9142	0.887	0.7872	0.5882	0.424	0.2486	0.218	0.5607
80	0.1778	0.3181	0.4579	0.6569	0.7927	0.8555	0.8276	0.7228	0.5182	0.3582	0.2221	0.2121	0.51
85	0.1747	0.2522	0.3892	0.5902	0.7281	0.7915	0.7631	0.6539	0.445	0.2914	0.2155	0.2061	0.4584
90	0.1716	0.2362	0.3189	0.5203	0.6592	0.7225	0.694	0.5811	0.3694	0.2241	0.2089	0.2001	0.4088



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9671	0.9838	1.0011	1.0197	1.0311	1.0366	1.0344	1.0282	1.0114	0.9889	0.973	0.9645	1.0033
10	0.937	0.9708	1.0044	1.0411	1.0642	1.0753	1.0708	1.0579	1.0242	0.9806	0.9491	0.9321	1.009
15	0.9012	0.9522	1.0014	1.0559	1.0906	1.1073	1.1004	1.0807	1.0301	0.9665	0.9196	0.8942	1.0083
20	0.8597	0.9281	0.9921	1.064	1.1101	1.1323	1.1231	1.0962	1.0289	0.9467	0.8847	0.8509	1.0014
25	0.8131	0.8987	0.9766	1.0653	1.1225	1.15	1.1385	1.1044	1.0208	0.9214	0.8446	0.8027	0.9882
30	0.7615	0.8644	0.9551	1.0598	1.1278	1.1604	1.1467	1.1053	1.0058	0.8907	0.7997	0.75	0.9689
35	0.7055	0.8252	0.9276	1.0476	1.1259	1.1634	1.1476	1.0988	0.9839	0.8549	0.7503	0.693	0.9436
40	0.6454	0.7815	0.8944	1.0287	1.1168	1.1589	1.1411	1.0849	0.9555	0.8143	0.6967	0.6323	0.9125
45	0.5817	0.7337	0.8557	1.0034	1.1007	1.147	1.1273	1.0639	0.9206	0.7691	0.6395	0.5683	0.8759
50	0.5148	0.6821	0.8119	0.9717	1.0775	1.1278	1.1063	1.0358	0.8795	0.7198	0.579	0.5015	0.834
55	0.4454	0.6272	0.7633	0.9339	1.0476	1.1014	1.0782	1.0008	0.8327	0.6666	0.5156	0.4324	0.7871
60	0.3739	0.5692	0.7101	0.8904	1.0111	1.068	1.0433	0.9593	0.7803	0.61	0.45	0.3615	0.7356
65	0.3008	0.5087	0.653	0.8414	0.9683	1.0279	1.0019	0.9115	0.7229	0.5504	0.3825	0.2894	0.6799
70	0.2267	0.4461	0.5922	0.7874	0.9195	0.9813	0.9542	0.8579	0.6608	0.4883	0.3136	0.2237	0.621
75	0.1808	0.382	0.5282	0.7287	0.8651	0.9287	0.9006	0.7987	0.5946	0.4241	0.244	0.218	0.5661
80	0.1778	0.3167	0.4616	0.6658	0.8055	0.8703	0.8415	0.7345	0.5246	0.3584	0.2221	0.2121	0.5159
85	0.1747	0.2508	0.3929	0.5992	0.7411	0.8063	0.7772	0.6658	0.4515	0.2916	0.2155	0.2061	0.4644
90	0.1716	0.2362	0.3226	0.5293	0.6722	0.752	0.7199	0.5929	0.3758	0.2243	0.2089	0.2001	0.4171

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9667	0.9837	1.0014	1.0203	1.032	1.0375	1.0352	1.029	1.0118	0.9889	0.9727	0.9641	1.0036
10	0.9362	0.9706	1.0049	1.0423	1.0659	1.0772	1.0726	1.0595	1.0251	0.9806	0.9485	0.9312	1.0096
15	0.9	0.9519	1.0021	1.0577	1.0931	1.1101	1.1031	1.0829	1.0314	0.9665	0.9187	0.8928	1.0092
20	0.8581	0.9277	0.9931	1.0663	1.1133	1.136	1.1266	1.0992	1.0306	0.9468	0.8835	0.8491	1.0025
25	0.8111	0.8983	0.9778	1.0682	1.1265	1.1546	1.1429	1.1081	1.0229	0.9214	0.8432	0.8005	0.9896
30	0.7592	0.8638	0.9565	1.0632	1.1325	1.1658	1.1518	1.1097	1.0083	0.8908	0.798	0.7473	0.9706
35	0.7028	0.8246	0.9292	1.0515	1.1313	1.1696	1.1534	1.1038	0.9868	0.855	0.7483	0.69	0.9455
40	0.6424	0.7809	0.8962	1.0331	1.1229	1.1658	1.1476	1.0905	0.9586	0.8144	0.6946	0.6289	0.9147
45	0.5784	0.733	0.8577	1.0081	1.1073	1.1546	1.1345	1.07	0.924	0.7692	0.6371	0.5645	0.8782
50	0.5112	0.6814	0.8141	0.9768	1.0847	1.136	1.114	1.0424	0.8832	0.7198	0.5764	0.4974	0.8365
55	0.4416	0.6263	0.7656	0.9394	1.0553	1.1101	1.0865	1.0079	0.8366	0.6667	0.5129	0.428	0.7897
60	0.3698	0.5683	0.7126	0.8962	1.0192	1.0773	1.0521	0.9668	0.7844	0.6101	0.447	0.3569	0.7384
65	0.2965	0.5078	0.6555	0.8474	0.9767	1.0376	1.0111	0.9193	0.7271	0.5505	0.3794	0.2846	0.6828
70	0.2223	0.4452	0.5949	0.7936	0.9283	0.9914	0.9638	0.8659	0.6651	0.4884	0.3104	0.2237	0.6244
75	0.1808	0.381	0.531	0.735	0.8742	0.9391	0.9105	0.8069	0.5989	0.4242	0.2407	0.218	0.57
80	0.1778	0.3157	0.4644	0.6722	0.8148	0.8811	0.8517	0.7429	0.5291	0.3585	0.2221	0.2121	0.5202
85	0.1747	0.2498	0.3957	0.6056	0.7506	0.8317	0.7993	0.6743	0.456	0.2917	0.2155	0.2061	0.4709
90	0.1716	0.2362	0.3253	0.5357	0.6908	0.7631	0.7305	0.6015	0.3803	0.2244	0.2089	0.2001	0.4224



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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9664	0.9837	1.0015	1.0207	1.0325	1.0381	1.0358	1.0294	1.0121	0.9889	0.9725	0.9638	1.0038
10	0.9357	0.9705	1.0052	1.043	1.0669	1.0784	1.0736	1.0604	1.0256	0.9806	0.9482	0.9307	1.0099
15	0.8992	0.9517	1.0026	1.0587	1.0945	1.1118	1.1047	1.0843	1.0322	0.9665	0.9182	0.892	1.0097
20	0.8572	0.9275	0.9937	1.0677	1.1153	1.1382	1.1287	1.101	1.0317	0.9468	0.8828	0.848	1.0032
25	0.8099	0.8981	0.9786	1.0699	1.1289	1.1573	1.1455	1.1104	1.0242	0.9215	0.8423	0.7992	0.9905
30	0.7578	0.8635	0.9573	1.0653	1.1354	1.1691	1.1549	1.1123	1.0097	0.8908	0.797	0.7457	0.9716
35	0.7012	0.8243	0.9302	1.0538	1.1346	1.1733	1.157	1.1068	0.9885	0.855	0.7472	0.6881	0.9467
40	0.6405	0.7805	0.8973	1.0357	1.1265	1.17	1.1516	1.0939	0.9605	0.8144	0.6932	0.6268	0.9159
45	0.5764	0.7326	0.8589	1.011	1.1113	1.1592	1.1388	1.0737	0.9261	0.7693	0.6357	0.5623	0.8796
50	0.5091	0.6809	0.8154	0.9799	1.089	1.1409	1.1187	1.0464	0.8854	0.7199	0.5748	0.495	0.838
55	0.4392	0.6258	0.767	0.9427	1.0599	1.1154	1.0915	1.0122	0.8389	0.6667	0.5112	0.4254	0.7913
60	0.3674	0.5678	0.7141	0.8996	1.0241	1.0829	1.0574	0.9712	0.7868	0.6101	0.4453	0.3542	0.7401
65	0.294	0.5072	0.6571	0.851	0.9819	1.0435	1.0167	0.924	0.7296	0.5506	0.3775	0.2817	0.6846
70	0.2197	0.4446	0.5965	0.7973	0.9336	0.9976	0.9696	0.8707	0.6677	0.4885	0.3085	0.2237	0.6265
75	0.1808	0.3804	0.5326	0.7388	0.8797	0.9455	0.9165	0.8119	0.6015	0.4243	0.2388	0.218	0.5724
80	0.1778	0.3151	0.4661	0.676	0.8205	0.9019	0.8579	0.748	0.5317	0.3586	0.2221	0.2121	0.524
85	0.1747	0.2492	0.3974	0.6095	0.7565	0.8384	0.8057	0.6794	0.4586	0.2918	0.2155	0.2061	0.4736
90	0.1716	0.2362	0.327	0.5396	0.6966	0.7698	0.7368	0.6068	0.3829	0.2244	0.2089	0.2001	0.4251

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	0.9919	0.9916	0.9913	0.9914	0.9917	0.9918	0.9913	0.9911	0.9911	0.9914
5	0.9664	0.9837	1.0016	1.0208	1.0326	1.0383	1.036	1.0296	1.0122	0.9889	0.9725	0.9637	1.0038
10	0.9356	0.9705	1.0053	1.0433	1.0672	1.0787	1.074	1.0607	1.0258	0.9806	0.9481	0.9305	1.01
15	0.899	0.9517	1.0027	1.0591	1.095	1.1124	1.1052	1.0848	1.0324	0.9666	0.918	0.8917	1.0099
20	0.8568	0.9275	0.9939	1.0682	1.1159	1.1389	1.1294	1.1016	1.032	0.9468	0.8826	0.8477	1.0034
25	0.8095	0.898	0.9788	1.0705	1.1297	1.1583	1.1463	1.1111	1.0246	0.9215	0.842	0.7987	0.9908
30	0.7573	0.8634	0.9576	1.0659	1.1363	1.1701	1.1559	1.1132	1.0102	0.8908	0.7966	0.7452	0.9719
35	0.7006	0.8241	0.9305	1.0546	1.1357	1.1745	1.1581	1.1078	0.989	0.8551	0.7468	0.6875	0.947
40	0.6399	0.7804	0.8977	1.0366	1.1277	1.1714	1.1529	1.095	0.9611	0.8144	0.6928	0.6261	0.9163
45	0.5757	0.7324	0.8593	1.0119	1.1127	1.1607	1.1402	1.075	0.9268	0.7693	0.6352	0.5615	0.8801
50	0.5084	0.6808	0.8158	0.9809	1.0905	1.1426	1.1203	1.0477	0.8862	0.7199	0.5743	0.4942	0.8385
55	0.4385	0.6257	0.7675	0.9438	1.0614	1.1172	1.0932	1.0136	0.8397	0.6667	0.5106	0.4245	0.7919
60	0.3665	0.5676	0.7146	0.9008	1.0257	1.0847	1.0592	0.9727	0.7877	0.6102	0.4447	0.3532	0.7406
65	0.2931	0.5071	0.6576	0.8522	0.9836	1.0454	1.0185	0.9255	0.7305	0.5506	0.3769	0.2807	0.6852
70	0.2188	0.4444	0.597	0.7985	0.9354	0.9996	0.9715	0.8723	0.6686	0.4885	0.3079	0.2237	0.6272
75	0.1808	0.3802	0.5332	0.7401	0.8815	0.9477	0.9186	0.8136	0.6024	0.4243	0.2381	0.218	0.5732
80	0.1778	0.3149	0.4667	0.6773	0.8224	0.9041	0.8601	0.7497	0.5325	0.3586	0.2221	0.2121	0.5248
85	0.1747	0.249	0.3979	0.6107	0.7673	0.8406	0.8078	0.6812	0.4594	0.2918	0.2155	0.2061	0.4752
90	0.1716	0.2362	0.3275	0.5409	0.6986	0.7721	0.739	0.6087	0.3836	0.2245	0.2089	0.2001	0.426