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Solar Irradiance for Several Iraqi Cities

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Solar Irradiance for Several Iraqi Cities

Solar Irradiance is a measure of how much solar power you are getting at your location. This irradiance varies throughout the year depending on the seasons. It also varies throughout the day, depending on the position of the sun in the sky, and the weather. Solar insolation is a measure of solar irradiance over of a certain period, typically, over the period of a single day.

This document is the first of its type in Iraq. It provides the Daily, Monthly, and Annual solar irradiance for 24 Iraqi's Provinces and Cities, including: Abu Ghraib, Baghdad, Baquba, Basra, Basra Qadima, Diwaniya, Falluja, Faw, Hilla, Karbala, Kirkuk, Kut, Mousl, Mousl Jadida, Nasiriya, Omara, Ramadi, Samara, Sinah, Sulaymaniya, Sumawa, Zubair.

The solar irradiance highly affected by the direction of the solar panels on site. This document presents results for 9 different directions for the solar panels, these are: Facing Directly South, 22.5° South East, 45° South East, 67.5° South East, Facing Directly East, 22.5° South West, 45° South West, 67.5° South West, and Facing Directly West. All angles are with respect to the South.

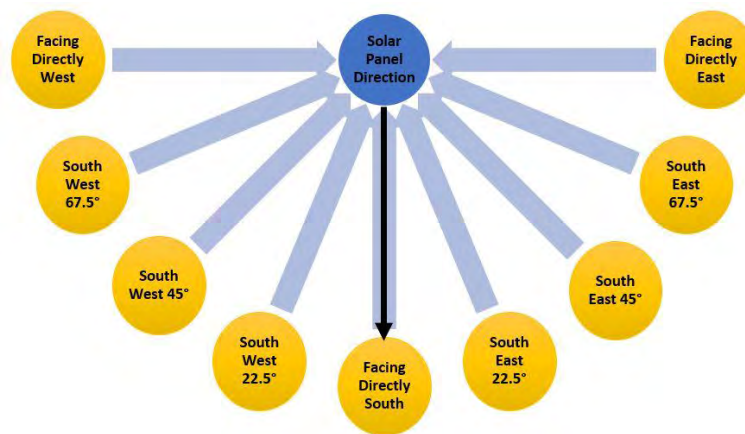


Figure 1. Direction of solar panels. All angles are measured from the south.

The solar irradiance also significantly affected by the inclination (tilt) angle of the solar panel. The results presented are for six different angles for each direction, these are: Vertical, Best Summer Performance, Best Winter Performance, Optimum Year Round, Adjusted throughout the Year, and Horizontal.

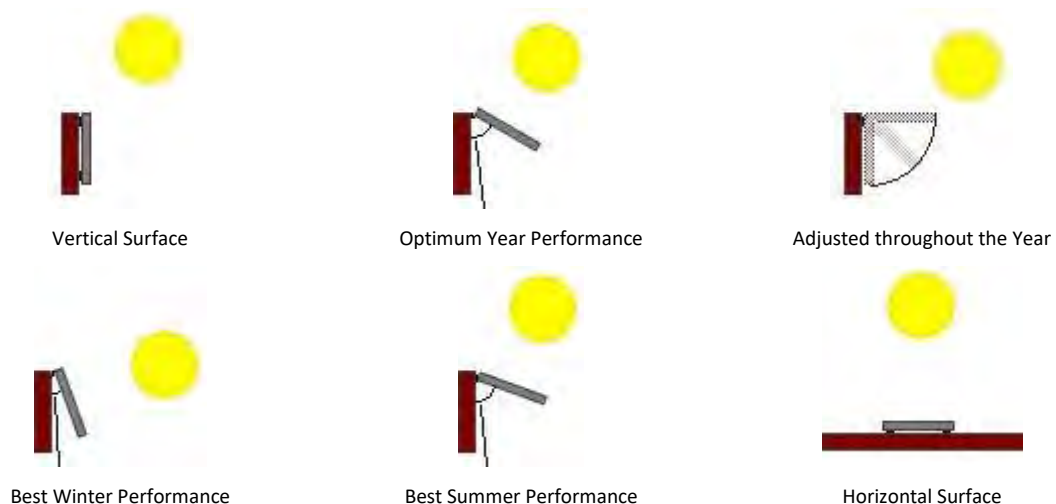


Figure 2. Inclination or tilt angles of solar panels.

The irradiance values that are presented are taken from data collated over 22 years period to provide monthly average insolation figures. This information is then used to calculate the average daily power generation a photovoltaic system will produce in any given month.

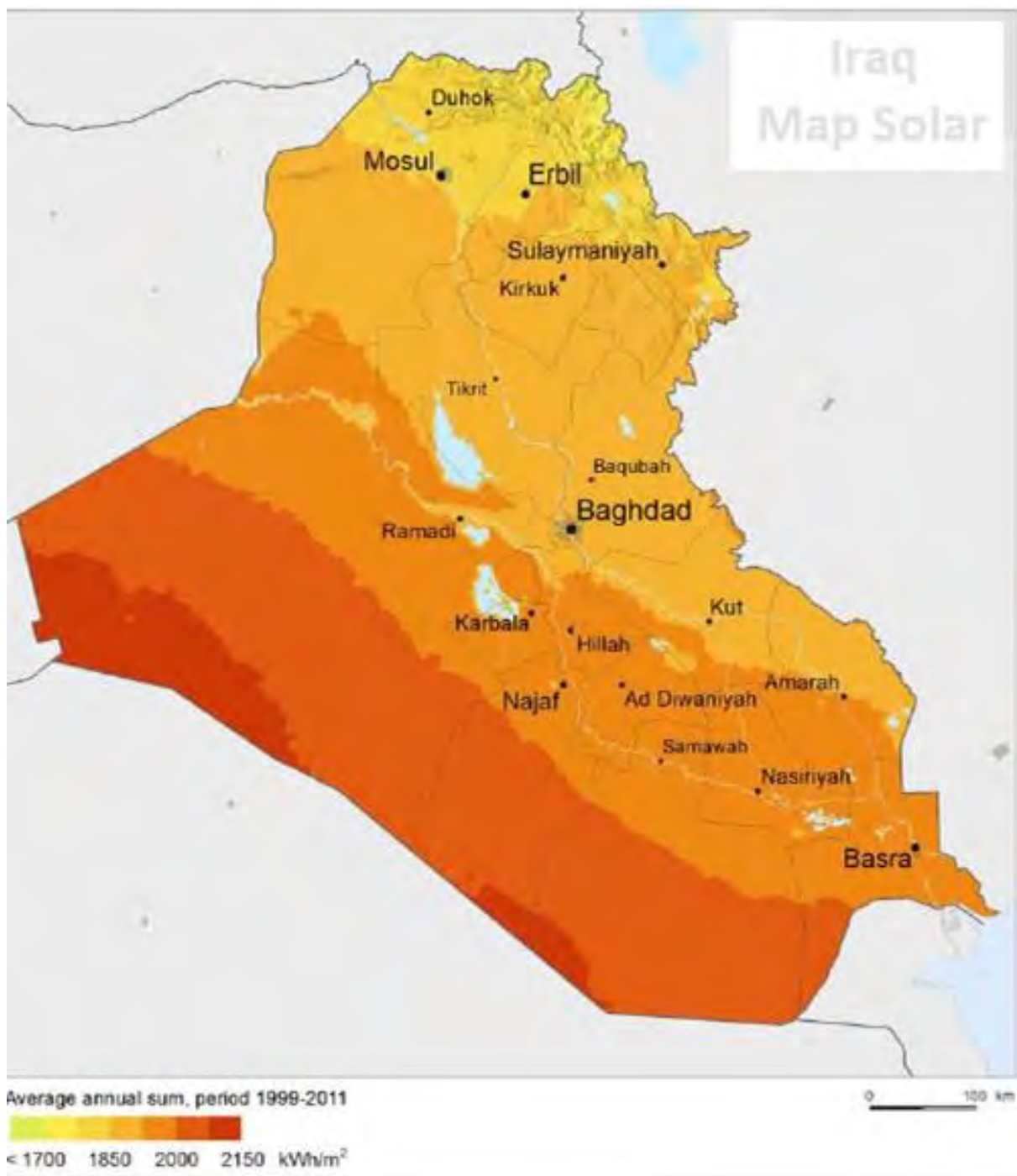


Figure 3. Iraq Solar Map

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Average Solar Irradiance for Different Angles (KWh/m².year)

Facing Directly South

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted over the Year	Average
1	Abu Ghraib	1,205	1,887	1,978	1,966	1,815	2,083	1,823
2	Arbil	1,194	1,821	1,923	1,926	1,748	2,028	1,773
3	Baghdad	1,205	1,887	1,978	1,966	1,815	2,083	1,823
4	Baquba	1,215	1,895	1,983	1,968	1,814	2,088	1,827
5	Basra	1,124	1,863	1,956	1,948	1,840	2,057	1,798
6	Basrah Qadima	1,124	1,863	1,956	1,948	1,839	2,046	1,796
7	Diwaniya	1,159	1,891	1,992	1,992	1,864	2,100	1,833
8	Falluja	1,144	1,848	1,953	1,957	1,828	2,056	1,798
9	Faw	1,136	1,893	1,990	1,983	1,874	2,095	1,828
10	Hilla	1,176	1,903	2,003	1,997	1,865	2,109	1,842
11	Karbala	1,179	1,906	2,005	1,999	1,865	2,111	1,844
12	Kirkuk	1,227	1,883	1,982	1,976	1,807	2,089	1,827
13	Kut	1,212	1,932	2,024	2,011	1,866	2,133	1,863
14	Mousl	1,211	1,841	1,943	1,941	1,770	1,211	1,653
15	Mousl Jadida	1,211	1,841	1,943	1,941	1,770	2,048	1,792
16	Najaf	1,159	1,891	1,993	1,992	1,864	2,100	1,833
17	Nasiriya	1,173	1,914	2,009	1,999	1,874	2,117	1,848
18	Omara	1,211	3,437	2,022	2,002	1,864	2,130	2,111
19	Ramadi	1,144	1,848	1,953	1,959	1,828	2,056	1,798
20	Samara	1,177	1,866	1,973	1,977	1,832	2,080	1,818
21	Sinah	1,228	1,855	1,954	1,948	1,770	2,062	1,803
22	Sulaymaniya	1,215	1,863	1,961	1,954	1,789	2,066	1,808
23	Sumawa	1,150	1,900	2,000	1,996	1,877	2,106	1,838
24	Zubair	1,122	1,860	1,953	1,947	1,839	2,054	1,796
	Average	1,179	1,941	1,976	1,971	1,830	2,046	1,824

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شركة كهرباء عادل

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Tariff Calculator



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Investment Calculator



EBCAL
Green Electricity Bill

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Electricity Bill Calculator

Inclination (Tilt) Angle of the Solar Panel (°)

Facing Directly South

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted over the Year
1	Abu Ghraib	0	42	57	72	90	0-90
2	Arbil	0	39	54	69	90	0-90
3	Baghdad	0	42	57	72	90	0-90
4	Baquba	0	41	56	71	90	0-90
5	Basra	0	45	60	75	90	0-90
6	Basrah Qadima	0	45	60	75	90	0-90
7	Diwaniya	0	43	58	73	90	0-90
8	Falluja	0	42	57	72	90	0-90
9	Faw	0	45	60	75	90	0-90
10	Hilla	0	43	58	73	90	0-90
11	Karbala	0	42	57	72	90	0-90
12	Kirkuk	0	39	54	69	90	0-90
13	Kut	0	43	58	73	90	0-90
14	Mousl	0	39	54	69	90	0-90
15	Mousl Jadida	0	39	54	69	90	0-90
16	Najaf	0	43	58	73	90	0-90
17	Nasiriya	0	44	59	74	90	0-90
18	Omara	0	43	58	73	90	0-90
19	Ramadi	0	42	57	72	90	0-90
20	Samara	0	41	56	71	90	0-90
21	Sinah	0	38	53	68	90	0-90
22	Sulaymaniya	0	39	54	69	90	0-90
23	Sumawa	0	44	59	74	90	0-90
24	Zubair	0	45	60	75	90	0-90

For further information, please contact:

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Iraq								IRQ
		VER	WIN	OPT	SUM	HOR	ADJ	S00
Abu Ghraib								GRB
Facing Directly South - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	4.00	4.61	4.33	3.81	2.91	4.61	4.05
Feb	28	4.46	5.60	5.42	4.93	4.00	5.60	5.00
Mar	31	3.78	5.59	5.71	5.53	4.92	5.71	5.21
Apr	30	2.75	4.94	5.33	5.46	5.27	5.46	4.87
May	31	2.44	5.20	5.92	6.35	6.45	6.35	5.45
Jun	30	2.27	5.57	6.56	7.22	7.51	7.51	6.11
Jul	31	2.35	5.37	6.22	6.77	6.96	6.77	5.74
Aug	31	2.89	5.83	6.47	6.78	6.68	6.80	5.91
Sept	30	3.61	5.80	6.05	5.98	5.47	6.05	5.49
Oct	31	3.77	5.01	4.96	4.65	3.95	5.02	4.56
Nov	30	3.62	4.31	4.11	3.69	2.92	4.31	3.83
Dec	31	3.77	4.25	3.96	3.45	2.59	4.31	3.72

Abu Ghraib								
Facing Directly South - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	124.00	142.91	134.23	118.11	90.21	142.91	125.40
Feb	28	124.88	156.80	151.76	138.04	112.00	156.80	140.05
Mar	31	117.18	173.29	177.01	171.43	152.52	177.01	161.41
Apr	30	82.50	148.20	159.90	163.80	158.10	163.80	146.05
May	31	75.64	161.20	183.52	196.85	199.95	196.85	169.00
Jun	30	68.10	167.10	196.80	216.60	225.30	225.30	183.20
Jul	31	72.85	166.47	192.82	209.87	215.76	209.87	177.94
Aug	31	89.59	180.73	200.57	210.18	207.08	210.80	183.16
Sept	30	108.30	174.00	181.50	179.40	164.10	181.50	164.80
Oct	31	116.87	155.31	153.76	144.15	122.45	155.62	141.36
Nov	30	108.60	129.30	123.30	110.70	87.60	129.30	114.80
Dec	31	116.87	131.75	122.76	106.95	80.29	133.61	115.37
Annual	365	1,205.38	1887.06	1977.93	1966.08	1815.36	2083.37	1822.53



Arbil								ARB
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.44	3.91	3.69	3.28	2.04	3.91	3.38
Feb	28	3.39	4.24	4.16	3.86	3.11	4.24	3.83
Mar	31	3.53	5.00	5.12	4.98	4.36	5.12	4.69
Apr	30	2.98	5.03	5.46	5.62	5.38	5.62	5.02
May	31	2.65	5.31	6.06	6.52	6.60	6.52	5.61
Jun	30	2.48	5.61	6.62	7.31	7.61	7.62	6.21
Jul	31	2.58	5.60	6.52	7.12	7.32	7.12	6.04
Aug	31	3.12	5.85	6.51	6.82	6.66	6.85	5.97
Sept	30	3.96	6.06	6.32	6.23	5.53	6.32	5.74
Oct	31	4.05	5.18	5.12	4.78	3.87	5.20	4.70
Nov	30	3.73	4.32	4.11	3.67	2.72	4.32	3.81
Dec	31	3.35	3.71	3.47	3.04	2.16	3.76	3.25

Arbil								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	106.64	121.21	114.39	101.68	63.24	121.21	104.73
Feb	28	94.92	118.72	116.48	108.08	87.08	118.72	107.33
Mar	31	109.43	155.00	158.72	154.38	135.16	158.72	145.24
Apr	30	89.40	150.90	163.80	168.60	161.40	168.60	150.45
May	31	82.15	164.61	187.86	202.12	204.60	202.12	173.91
Jun	30	74.40	168.30	198.60	219.30	228.30	228.60	186.25
Jul	31	79.98	173.60	202.12	220.72	226.92	220.72	187.34
Aug	31	96.72	181.35	201.81	211.42	206.46	212.35	185.02
Sept	30	118.80	181.80	189.60	186.90	165.90	189.60	172.10
Oct	31	125.55	160.58	158.72	148.18	119.97	161.20	145.70
Nov	30	111.90	129.60	123.30	110.10	81.60	129.60	114.35
Dec	31	103.85	115.01	107.57	94.24	66.96	116.56	100.70
Annual	365	1193.74	1820.68	1922.97	1925.72	1747.59	2028	1773.1167



Baghdad								BGD
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	4.00	4.61	4.33	3.81	2.91	4.61	4.05
Feb	28	4.46	5.60	5.42	4.93	4.00	5.60	5.00
Mar	31	3.78	5.59	5.71	5.53	4.92	5.71	5.21
Apr	30	2.75	4.94	5.33	5.46	5.27	5.46	4.87
May	31	2.44	5.20	5.92	6.35	6.45	6.35	5.45
Jun	30	2.27	5.57	6.56	7.22	7.51	7.51	6.11
Jul	31	2.35	5.37	6.22	6.77	6.96	6.77	5.74
Aug	31	2.89	5.83	6.47	6.78	6.68	6.80	5.91
Sept	30	3.61	5.80	6.05	5.98	5.47	6.05	5.49
Oct	31	3.77	5.01	4.96	4.65	3.95	5.02	4.56
Nov	30	3.62	4.31	4.11	3.69	2.92	4.31	3.83
Dec	31	3.77	4.25	3.96	3.45	2.59	4.31	3.72

Baghdad								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	124.00	142.91	134.23	118.11	90.21	142.91	125.40
Feb	28	124.88	156.80	151.76	138.04	112.00	156.80	140.05
Mar	31	117.18	173.29	177.01	171.43	152.52	177.01	161.41
Apr	30	82.50	148.20	159.90	163.80	158.10	163.80	146.05
May	31	75.64	161.20	183.52	196.85	199.95	196.85	169.00
Jun	30	68.10	167.10	196.80	216.60	225.30	225.30	183.20
Jul	31	72.85	166.47	192.82	209.87	215.76	209.87	177.94
Aug	31	89.59	180.73	200.57	210.18	207.08	210.80	183.16
Sept	30	108.30	174.00	181.50	179.40	164.10	181.50	164.80
Oct	31	116.87	155.31	153.76	144.15	122.45	155.62	141.36
Nov	30	108.60	129.30	123.30	110.70	87.60	129.30	114.80
Dec	31	116.87	131.75	122.76	106.95	80.29	133.61	115.37
Annual	365	1205.38	1887.06	1977.93	1966.08	1815.36	2083.37	1822.53



Baquba								BAQ
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	4.05	4.65	4.36	3.83	2.91	4.65	4.08
Feb	28	4.37	5.51	5.33	4.86	3.95	5.51	4.92
Mar	31	3.82	5.62	5.74	5.54	4.92	5.74	5.23
Apr	30	2.77	4.96	5.35	5.47	5.26	5.47	4.88
May	31	2.46	5.22	5.93	6.36	6.45	6.36	5.46
Jun	30	2.30	5.60	6.58	7.23	7.51	7.51	6.12
Jul	31	2.37	5.40	6.24	6.77	6.96	6.77	5.75
Aug	31	2.92	5.85	6.49	6.79	6.68	6.81	5.92
Sept	30	3.65	5.83	6.07	5.99	5.47	6.07	5.51
Oct	31	3.81	5.04	4.98	4.66	3.95	5.05	4.58
Nov	30	3.67	4.35	4.14	3.70	2.92	4.35	3.86
Dec	31	3.83	4.29	3.99	3.47	2.59	4.36	3.76

Baquba								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	125.55	144.15	135.16	118.73	90.21	144.15	126.33
Feb	28	122.36	154.28	149.24	136.08	110.60	154.28	137.81
Mar	31	118.42	174.22	177.94	171.74	152.52	177.94	162.13
Apr	30	83.10	148.80	160.50	164.10	157.80	164.10	146.40
May	31	76.26	161.82	183.83	197.16	199.95	197.16	169.36
Jun	30	69.00	168.00	197.40	216.90	225.30	225.30	183.65
Jul	31	73.47	167.40	193.44	209.87	215.76	209.87	178.30
Aug	31	90.52	181.35	201.19	210.49	207.08	211.11	183.62
Sept	30	109.50	174.90	182.10	179.70	164.10	182.10	165.40
Oct	31	118.11	156.24	154.38	144.46	122.45	156.55	142.03
Nov	30	110.10	130.50	124.20	111.00	87.60	130.50	115.65
Dec	31	118.73	132.99	123.69	107.57	80.29	135.16	116.41
Annual	365	1215.12	1894.65	1983.07	1967.8	1813.66	2088.22	1827.0867



Basra								BAS
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.88	4.61	4.34	3.83	3.11	4.61	4.06
Feb	28	4.16	5.41	5.25	4.80	4.10	5.41	4.86
Mar	31	3.41	5.27	5.39	5.23	4.80	5.39	4.92
Apr	30	2.63	5.03	5.42	5.54	5.39	5.54	4.93
May	31	2.28	5.24	5.95	6.37	6.47	6.37	5.45
Jun	30	2.07	5.61	6.60	7.25	7.53	7.53	6.10
Jul	31	2.17	5.52	6.39	6.95	7.15	6.95	5.86
Aug	31	2.65	5.71	6.32	6.61	6.56	6.63	5.75
Sept	30	3.43	5.81	6.06	5.98	5.59	6.06	5.49
Oct	31	3.60	4.96	4.92	4.62	4.08	4.98	4.53
Nov	30	3.30	4.07	3.90	3.52	2.96	4.07	3.64
Dec	31	3.46	4.03	3.78	3.32	2.69	4.08	3.56

Basra								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	120.28	142.91	134.54	118.73	96.41	142.91	125.96
Feb	28	116.48	151.48	147.00	134.40	114.80	151.48	135.94
Mar	31	105.71	163.37	167.09	162.13	148.80	167.09	152.37
Apr	30	78.90	150.90	162.60	166.20	161.70	166.20	147.75
May	31	70.68	162.44	184.45	197.47	200.57	197.47	168.85
Jun	30	62.10	168.30	198.00	217.50	225.90	225.90	182.95
Jul	31	67.27	171.12	198.09	215.45	221.65	215.45	181.51
Aug	31	82.15	177.01	195.92	204.91	203.36	205.53	178.15
Sept	30	102.90	174.30	181.80	179.40	167.70	181.80	164.65
Oct	31	111.60	153.76	152.52	143.22	126.48	154.38	140.33
Nov	30	99.00	122.10	117.00	105.60	88.80	122.10	109.10
Dec	31	107.26	124.93	117.18	102.92	83.39	126.48	110.36
Annual	365	1124.33	1862.62	1956.19	1947.93	1839.56	2056.79	1797.9033



Basra Qadima								BQD
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.88	4.61	4.34	3.83	3.11	4.61	4.06
Feb	28	4.16	5.41	5.25	4.80	4.10	5.41	4.86
Mar	31	3.41	5.27	5.39	5.23	4.80	5.39	4.92
Apr	30	2.63	5.03	5.42	5.54	5.39	5.54	4.93
May	31	2.28	5.24	5.95	6.37	6.47	6.37	5.45
Jun	30	2.07	5.61	6.60	7.25	7.52	7.53	6.10
Jul	31	2.17	5.52	6.39	6.95	7.15	6.59	5.80
Aug	31	2.65	5.71	6.32	6.61	6.56	6.63	5.75
Sept	30	3.43	5.81	6.06	5.98	5.59	6.06	5.49
Oct	31	3.60	4.96	4.92	4.62	4.08	4.98	4.53
Nov	30	3.30	4.07	3.90	3.52	2.96	4.07	3.64
Dec	31	3.46	4.03	3.78	3.32	2.69	4.08	3.56

Basra Qadima								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	120.28	142.91	134.54	118.73	96.41	142.91	125.96
Feb	28	116.48	151.48	147.00	134.40	114.80	151.48	135.94
Mar	31	105.71	163.37	167.09	162.13	148.80	167.09	152.37
Apr	30	78.90	150.90	162.60	166.20	161.70	166.20	147.75
May	31	70.68	162.44	184.45	197.47	200.57	197.47	168.85
Jun	30	62.10	168.30	198.00	217.50	225.60	225.90	182.90
Jul	31	67.27	171.12	198.09	215.45	221.65	204.29	179.65
Aug	31	82.15	177.01	195.92	204.91	203.36	205.53	178.15
Sept	30	102.90	174.30	181.80	179.40	167.70	181.80	164.65
Oct	31	111.60	153.76	152.52	143.22	126.48	154.38	140.33
Nov	30	99.00	122.10	117.00	105.60	88.80	122.10	109.10
Dec	31	107.26	124.93	117.18	102.92	83.39	126.48	110.36
Annual	365	1124.33	1862.62	1956.19	1947.93	1839.26	2045.63	1795.9933



Diwaniya								DIW
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.77	4.42	4.17	3.69	2.91	4.42	3.90
Feb	28	4.08	5.22	5.08	4.66	3.88	5.22	4.69
Mar	31	3.55	5.35	5.47	5.32	4.80	5.47	4.99
Apr	30	2.81	5.24	5.66	5.80	5.60	5.80	5.15
May	31	2.40	5.40	6.16	6.62	6.74	6.62	5.66
Jun	30	2.17	5.80	6.85	7.57	7.90	7.90	6.37
Jul	31	2.28	5.60	6.52	7.11	7.33	7.11	5.99
Aug	31	2.84	5.97	6.64	6.97	6.89	6.99	6.05
Sept	30	3.67	6.06	6.31	6.23	5.73	6.31	5.72
Oct	31	3.65	4.93	4.89	4.59	3.97	4.94	4.50
Nov	30	3.38	4.10	3.92	3.54	2.88	4.10	3.65
Dec	31	3.58	4.10	3.82	3.36	2.60	4.15	3.60

Diwaniya								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	116.87	137.02	129.27	114.39	90.21	137.02	120.80
Feb	28	114.24	146.16	142.24	130.48	108.64	146.16	131.32
Mar	31	110.05	165.85	169.57	164.92	148.80	169.57	154.79
Apr	30	84.30	157.20	169.80	174.00	168.00	174.00	154.55
May	31	74.40	167.40	190.96	205.22	208.94	205.22	175.36
Jun	30	65.10	174.00	205.50	227.10	237.00	237.00	190.95
Jul	31	70.68	173.60	202.12	220.41	227.23	220.41	185.74
Aug	31	88.04	185.07	205.84	216.07	213.59	216.69	187.55
Sept	30	110.10	181.80	189.30	186.90	171.90	189.30	171.55
Oct	31	113.15	152.83	151.59	142.29	123.07	153.14	139.35
Nov	30	101.40	123.00	117.60	106.20	86.40	123.00	109.60
Dec	31	110.98	127.10	118.42	104.16	80.60	128.65	111.65
Annual	365	1159.31	1891.03	1992.21	1992.14	1864.38	2100.16	1833.205



Falluja								FAL
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.54	4.12	3.89	3.45	2.69	4.12	3.64
Feb	28	3.75	4.78	4.66	4.30	3.56	4.78	4.31
Mar	31	3.61	5.33	5.45	5.28	4.73	5.45	4.98
Apr	30	2.87	5.22	5.63	5.76	5.54	5.77	5.13
May	31	2.49	5.42	6.18	6.63	6.74	6.63	5.68
Jun	30	2.28	5.87	6.93	7.65	7.97	7.97	6.45
Jul	31	2.39	5.70	6.63	7.23	7.45	7.23	6.11
Aug	31	2.94	5.97	6.63	6.95	6.84	6.97	6.05
Sept	30	3.75	6.04	6.29	6.20	5.65	6.29	5.70
Oct	31	3.68	4.88	4.84	4.54	3.87	4.90	4.45
Nov	30	3.12	3.75	3.60	3.26	2.63	3.75	3.35
Dec	31	3.22	3.67	3.44	3.03	2.33	3.70	3.23

Falluja								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	109.74	127.72	120.59	106.95	83.39	127.72	112.69
Feb	28	105.00	133.84	130.48	120.40	99.68	133.84	120.54
Mar	31	111.91	165.23	168.95	163.68	146.63	168.95	154.23
Apr	30	86.10	156.60	168.90	172.80	166.20	173.10	153.95
May	31	77.19	168.02	191.58	205.53	208.94	205.53	176.13
Jun	30	68.40	176.10	207.90	229.50	239.10	239.10	193.35
Jul	31	74.09	176.70	205.53	224.13	230.95	224.13	189.26
Aug	31	91.14	185.07	205.53	215.45	212.04	216.07	187.55
Sept	30	112.50	181.20	188.70	186.00	169.50	188.70	171.10
Oct	31	114.08	151.28	150.04	140.74	119.97	151.90	138.00
Nov	30	93.60	112.50	108.00	97.80	78.90	112.50	100.55
Dec	31	99.82	113.77	106.64	93.93	72.23	114.70	100.18
Annual	365	1143.57	1848.03	1952.84	1956.91	1827.53	2056.24	1797.52



Faw								FAW
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.97	4.72	4.45	3.93	3.19	4.72	4.16
Feb	28	4.44	5.79	5.61	5.11	4.34	5.79	5.18
Mar	31	3.35	5.20	5.33	5.18	4.77	5.33	4.86
Apr	30	2.64	5.11	5.51	5.65	5.50	5.65	5.01
May	31	2.27	5.33	6.08	6.52	6.64	6.52	5.56
Jun	30	2.04	5.60	6.59	7.26	7.55	7.55	6.10
Jul	31	2.14	5.59	6.50	7.08	7.30	7.08	5.95
Aug	31	2.64	5.79	6.42	6.73	6.69	6.76	5.84
Sept	30	3.45	5.90	6.15	6.08	5.69	6.15	5.57
Oct	31	3.61	4.99	4.95	4.66	4.12	5.01	4.56
Nov	30	3.30	4.09	3.92	3.55	2.99	4.09	3.66
Dec	31	3.60	4.19	3.93	3.45	2.78	4.24	3.70

Faw								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	123.07	146.32	137.95	121.83	98.89	146.32	129.06
Feb	28	124.32	162.12	157.08	143.08	121.52	162.12	145.04
Mar	31	103.85	161.20	165.23	160.58	147.87	165.23	150.66
Apr	30	79.20	153.30	165.30	169.50	165.00	169.50	150.30
May	31	70.37	165.23	188.48	202.12	205.84	202.12	172.36
Jun	30	61.20	168.00	197.70	217.80	226.50	226.50	182.95
Jul	31	66.34	173.29	201.50	219.48	226.30	219.48	184.40
Aug	31	81.84	179.49	199.02	208.63	207.39	209.56	180.99
Sept	30	103.50	177.00	184.50	182.40	170.70	184.50	167.10
Oct	31	111.91	154.69	153.45	144.46	127.72	155.31	141.26
Nov	30	99.00	122.70	117.60	106.50	89.70	122.70	109.70
Dec	31	111.60	129.89	121.83	106.95	86.18	131.44	114.65
Annual	365	1136.2	1893.23	1989.64	1983.33	1873.61	2094.78	1828.465



Hilla								HIL
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.83	4.47	4.20	3.71	2.91	4.47	3.93
Feb	28	4.14	5.26	5.11	4.67	3.88	5.26	4.72
Mar	31	3.59	5.38	5.50	5.33	4.81	5.50	5.02
Apr	30	2.84	5.27	5.68	5.81	5.60	5.81	5.17
May	31	2.43	5.42	6.18	6.63	6.74	6.63	5.67
Jun	30	2.21	5.83	6.88	7.58	7.89	7.89	6.38
Jul	31	2.32	5.63	6.54	7.12	7.33	7.12	6.01
Aug	31	2.88	6.01	6.67	6.98	6.89	7.00	6.07
Sept	30	3.72	6.09	6.34	6.25	5.73	6.34	5.75
Oct	31	3.70	4.96	4.91	4.61	3.97	4.97	4.52
Nov	30	3.43	4.14	3.95	3.56	2.89	4.14	3.69
Dec	31	3.64	4.14	3.87	3.38	2.60	4.20	3.64

Hilla								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	118.73	138.57	130.20	115.01	90.21	138.57	121.88
Feb	28	115.92	147.28	143.08	130.76	108.64	147.28	132.16
Mar	31	111.29	166.78	170.50	165.23	149.11	170.50	155.57
Apr	30	85.20	158.10	170.40	174.30	168.00	174.30	155.05
May	31	75.33	168.02	191.58	205.53	208.94	205.53	175.82
Jun	30	66.30	174.90	206.40	227.40	236.70	236.70	191.40
Jul	31	71.92	174.53	202.74	220.72	227.23	220.72	186.31
Aug	31	89.28	186.31	206.77	216.38	213.59	217.00	188.22
Sept	30	111.60	182.70	190.20	187.50	171.90	190.20	172.35
Oct	31	114.70	153.76	152.21	142.91	123.07	154.07	140.12
Nov	30	102.90	124.20	118.50	106.80	86.70	124.20	110.55
Dec	31	112.84	128.34	119.97	104.78	80.60	130.20	112.79
Annual	365	1,176.01	1903.49	2002.55	1997.32	1864.69	2109.27	1842.2217



Karbala								KAR
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.84	4.47	4.21	3.71	2.91	4.47	3.94
Feb	28	4.15	5.27	5.11	4.68	3.88	5.27	4.73
Mar	31	3.60	5.39	5.50	5.33	4.81	5.50	5.02
Apr	30	2.84	5.27	5.68	5.81	5.60	5.81	5.17
May	31	2.44	5.43	6.19	6.64	6.74	6.64	5.68
Jun	30	2.21	5.84	6.88	7.58	7.89	7.89	6.38
Jul	31	2.33	5.64	6.55	7.13	7.33	7.13	6.02
Aug	31	2.89	6.01	6.68	6.99	6.89	7.01	6.08
Sept	30	3.73	6.10	6.35	6.25	5.73	6.35	5.75
Oct	31	3.71	4.97	4.92	4.61	3.97	4.98	4.53
Nov	30	3.44	4.14	3.96	3.56	2.89	4.14	3.69
Dec	31	3.66	4.15	3.88	3.38	2.61	4.21	3.65

Karbala								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	119.04	138.57	130.51	115.01	90.21	138.57	121.99
Feb	28	116.20	147.56	143.08	131.04	108.64	147.56	132.35
Mar	31	111.60	167.09	170.50	165.23	149.11	170.50	155.67
Apr	30	85.20	158.10	170.40	174.30	168.00	174.30	155.05
May	31	75.64	168.33	191.89	205.84	208.94	205.84	176.08
Jun	30	66.30	175.20	206.40	227.40	236.70	236.70	191.45
Jul	31	72.23	174.84	203.05	221.03	227.23	221.03	186.57
Aug	31	89.59	186.31	207.08	216.69	213.59	217.31	188.43
Sept	30	111.90	183.00	190.50	187.50	171.90	190.50	172.55
Oct	31	115.01	154.07	152.52	142.91	123.07	154.38	140.33
Nov	30	103.20	124.20	118.80	106.80	86.70	124.20	110.65
Dec	31	113.46	128.65	120.28	104.78	80.91	130.51	113.10
Annual	365	1179.37	1905.92	2005.01	1998.53	1865	2111.4	1844.205



Kirkuk								KIR
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.84	4.35	4.06	3.60	2.64	4.35	3.81
Feb	28	3.93	4.90	4.78	4.39	3.52	4.90	4.40
Mar	31	3.84	5.50	5.62	5.43	4.75	5.62	5.13
Apr	30	3.02	5.22	5.66	5.81	5.57	5.81	5.18
May	31	2.59	5.28	6.02	6.46	6.55	6.46	5.56
Jun	30	2.44	5.69	6.72	7.40	7.71	7.71	6.28
Jul	31	2.53	5.62	6.54	7.12	7.33	7.12	6.04
Aug	31	3.10	5.97	6.63	6.95	6.79	6.97	6.07
Sept	30	3.91	6.06	6.31	6.21	5.56	6.31	5.73
Oct	31	3.80	4.92	4.87	4.56	3.77	4.93	4.48
Nov	30	3.74	4.36	4.15	3.70	2.80	4.36	3.85
Dec	31	3.64	4.03	3.76	3.27	2.35	4.09	3.52

Kirkuk								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	119.04	134.85	125.86	111.60	81.84	134.85	118.01
Feb	28	110.04	137.20	133.84	122.92	98.56	137.20	123.29
Mar	31	119.04	170.50	174.22	168.33	147.25	174.22	158.93
Apr	30	90.60	156.60	169.80	174.30	167.10	174.30	155.45
May	31	80.29	163.68	186.62	200.26	203.05	200.26	172.36
Jun	30	73.20	170.70	201.60	222.00	231.30	231.30	188.35
Jul	31	78.43	174.22	202.74	220.72	227.23	220.72	187.34
Aug	31	96.10	185.07	205.53	215.45	210.49	216.07	188.12
Sept	30	117.30	181.80	189.30	186.30	166.80	189.30	171.80
Oct	31	117.80	152.52	150.97	141.36	116.87	152.83	138.73
Nov	30	112.20	130.80	124.50	111.00	84.00	130.80	115.55
Dec	31	112.84	124.93	116.56	101.37	72.85	126.79	109.22
Annual	365	1226.88	1882.87	1981.54	1975.61	1807.34	2088.64	1827.1467



Kut								KUT
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	4.17	4.83	4.53	3.97	3.08	4.83	4.24
Feb	28	4.41	5.59	5.41	4.93	4.06	5.59	5.00
Mar	31	3.70	5.54	5.66	5.48	4.92	5.66	5.16
Apr	30	2.79	5.15	5.55	5.68	5.48	5.68	5.06
May	31	2.41	5.32	6.05	6.49	6.59	6.49	5.56
Jun	30	2.21	5.70	6.72	7.40	7.69	7.69	6.24
Jul	31	2.31	5.55	6.44	7.01	7.21	7.01	5.92
Aug	31	2.87	5.96	6.62	6.93	6.84	6.95	6.03
Sept	30	3.67	6.01	6.25	6.17	5.66	6.25	5.67
Oct	31	3.76	5.04	4.99	4.67	4.02	5.05	4.59
Nov	30	3.66	4.39	4.18	3.75	3.01	4.39	3.90
Dec	31	3.95	4.46	4.15	3.60	2.74	4.53	3.91

Kut								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	129.27	149.73	140.43	123.07	95.48	149.73	131.29
Feb	28	123.48	156.52	151.48	138.04	113.68	156.52	139.95
Mar	31	114.70	171.74	175.46	169.88	152.52	175.46	159.96
Apr	30	83.70	154.50	166.50	170.40	164.40	170.40	151.65
May	31	74.71	164.92	187.55	201.19	204.29	201.19	172.31
Jun	30	66.30	171.00	201.60	222.00	230.70	230.70	187.05
Jul	31	71.61	172.05	199.64	217.31	223.51	217.31	183.57
Aug	31	88.97	184.76	205.22	214.83	212.04	215.45	186.88
Sept	30	110.10	180.30	187.50	185.10	169.80	187.50	170.05
Oct	31	116.56	156.24	154.69	144.77	124.62	156.55	142.24
Nov	30	109.80	131.70	125.40	112.50	90.30	131.70	116.90
Dec	31	122.45	138.26	128.65	111.60	84.94	140.43	121.06
Annual	365	1211.65	1931.72	2024.12	2010.69	1866.28	2132.94	1862.9



Mousi								MSL
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.56	4.04	3.81	3.37	2.45	3.56	3.47
Feb	28	3.62	4.50	4.41	4.07	3.25	3.62	3.91
Mar	31	3.69	5.22	5.34	5.18	4.51	3.69	4.61
Apr	30	3.04	5.15	5.59	5.75	5.49	3.04	4.68
May	31	2.65	5.30	6.06	6.51	6.59	2.65	4.96
Jun	30	2.49	5.62	6.64	7.32	7.62	2.49	5.36
Jul	31	2.58	5.60	6.52	7.11	7.31	2.58	5.28
Aug	31	3.16	5.94	6.60	6.92	6.75	3.16	5.42
Sept	30	3.87	5.91	6.17	6.08	5.42	3.87	5.22
Oct	31	3.92	5.01	4.96	4.63	3.77	3.92	4.37
Nov	30	3.81	4.40	4.18	3.72	2.75	3.81	3.78
Dec	31	3.44	3.80	3.55	3.10	2.19	3.44	3.25

Mousi								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	110.36	125.24	118.11	104.47	75.95	110.36	107.42
Feb	28	101.36	126.00	123.48	113.96	91.00	101.36	109.53
Mar	31	114.39	161.82	165.54	160.58	139.81	114.39	142.76
Apr	30	91.20	154.50	167.70	172.50	164.70	91.20	140.30
May	31	82.15	164.30	187.86	201.81	204.29	82.15	153.76
Jun	30	74.70	168.60	199.20	219.60	228.60	74.70	160.90
Jul	31	79.98	173.60	202.12	220.41	226.61	79.98	163.78
Aug	31	97.96	184.14	204.60	214.52	209.25	97.96	168.07
Sept	30	116.10	177.30	185.10	182.40	162.60	116.10	156.60
Oct	31	121.52	155.31	153.76	143.53	116.87	121.52	135.42
Nov	30	114.30	132.00	125.40	111.60	82.50	114.30	113.35
Dec	31	106.64	117.80	110.05	96.10	67.89	106.64	100.85
Annual	365	1210.66	1840.61	1942.92	1941.48	1770.07	1210.66	1652.7333



Mousli Jadida								MJD
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.56	4.04	3.81	3.37	2.45	4.04	3.55
Feb	28	3.62	4.50	4.41	4.07	3.25	4.50	4.06
Mar	31	3.69	5.22	5.34	5.18	4.51	5.34	4.88
Apr	30	3.04	5.15	5.59	5.75	5.49	5.75	5.13
May	31	2.65	5.30	6.06	6.51	6.59	6.51	5.60
Jun	30	2.49	5.62	6.64	7.32	7.62	7.63	6.22
Jul	31	2.58	5.60	6.52	7.11	7.31	7.11	6.04
Aug	31	3.16	5.94	6.60	6.92	6.75	6.95	6.05
Sept	30	3.87	5.91	6.17	6.08	5.42	6.17	5.60
Oct	31	3.92	5.01	4.96	4.63	3.77	5.03	4.55
Nov	30	3.81	4.40	4.18	3.72	2.75	4.40	3.88
Dec	31	3.44	3.80	3.55	3.10	2.19	3.85	3.32

Mousli Jadida								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	110.36	125.24	118.11	104.47	75.95	125.24	109.90
Feb	28	101.36	126.00	123.48	113.96	91.00	126.00	113.63
Mar	31	114.39	161.82	165.54	160.58	139.81	165.54	151.28
Apr	30	91.20	154.50	167.70	172.50	164.70	172.50	153.85
May	31	82.15	164.30	187.86	201.81	204.29	201.81	173.70
Jun	30	74.70	168.60	199.20	219.60	228.60	228.90	186.60
Jul	31	79.98	173.60	202.12	220.41	226.61	220.41	187.19
Aug	31	97.96	184.14	204.60	214.52	209.25	215.45	187.65
Sept	30	116.10	177.30	185.10	182.40	162.60	185.10	168.10
Oct	31	121.52	155.31	153.76	143.53	116.87	155.93	141.15
Nov	30	114.30	132.00	125.40	111.60	82.50	132.00	116.30
Dec	31	106.64	117.80	110.05	96.10	67.89	119.35	102.97
Annual	365	1210.66	1840.61	1942.92	1941.48	1770.07	2048.23	1792.3283



Najaf								NAJ
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.77	4.42	4.17	3.69	2.91	4.42	3.90
Feb	28	4.08	5.22	5.08	4.66	3.88	5.22	4.69
Mar	31	3.55	5.35	5.47	5.32	4.80	5.47	4.99
Apr	30	2.81	5.24	5.66	5.80	5.60	5.80	5.15
May	31	2.40	5.40	6.16	6.62	6.74	6.62	5.66
Jun	30	2.17	5.80	6.85	7.57	7.90	7.90	6.37
Jul	31	2.28	5.60	6.52	7.11	7.33	7.11	5.99
Aug	31	2.84	5.97	6.64	6.97	6.89	6.99	6.05
Sept	30	3.67	6.06	6.31	6.23	5.73	6.31	5.72
Oct	31	3.65	4.93	4.89	4.59	3.97	4.94	4.50
Nov	30	3.38	4.10	3.92	3.54	2.88	4.10	3.65
Dec	31	3.58	4.10	3.83	3.36	2.60	4.15	3.60

Najaf								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	116.87	137.02	129.27	114.39	90.21	137.02	120.80
Feb	28	114.24	146.16	142.24	130.48	108.64	146.16	131.32
Mar	31	110.05	165.85	169.57	164.92	148.80	169.57	154.79
Apr	30	84.30	157.20	169.80	174.00	168.00	174.00	154.55
May	31	74.40	167.40	190.96	205.22	208.94	205.22	175.36
Jun	30	65.10	174.00	205.50	227.10	237.00	237.00	190.95
Jul	31	70.68	173.60	202.12	220.41	227.23	220.41	185.74
Aug	31	88.04	185.07	205.84	216.07	213.59	216.69	187.55
Sept	30	110.10	181.80	189.30	186.90	171.90	189.30	171.55
Oct	31	113.15	152.83	151.59	142.29	123.07	153.14	139.35
Nov	30	101.40	123.00	117.60	106.20	86.40	123.00	109.60
Dec	31	110.98	127.10	118.73	104.16	80.60	128.65	111.70
Annual	365	1,159.31	1891.03	1992.52	1992.14	1864.38	2100.16	1833.2567



Nasiriya								NAS
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	4.13	4.85	4.56	4.00	3.18	4.85	4.26
Feb	28	4.34	5.59	5.42	4.95	4.15	5.59	5.01
Mar	31	3.48	5.32	5.45	5.29	4.82	5.45	4.97
Apr	30	2.71	5.14	5.54	5.68	5.51	5.68	5.04
May	31	2.33	5.31	6.05	6.50	6.61	6.50	5.55
Jun	30	2.11	5.63	6.63	7.30	7.60	7.60	6.15
Jul	31	2.22	5.54	6.44	7.01	7.22	7.01	5.91
Aug	31	2.76	5.93	6.59	6.90	6.84	6.93	5.99
Sept	30	3.55	5.96	6.22	6.14	5.69	6.22	5.63
Oct	31	3.73	5.08	5.04	4.72	4.12	5.10	4.63
Nov	30	3.49	4.26	4.08	3.67	3.03	4.26	3.80
Dec	31	3.78	4.34	4.05	3.53	2.78	4.40	3.81

Nasiriya								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	128.03	150.35	141.36	124.00	98.58	150.35	132.11
Feb	28	121.52	156.52	151.76	138.60	116.20	156.52	140.19
Mar	31	107.88	164.92	168.95	163.99	149.42	168.95	154.02
Apr	30	81.30	154.20	166.20	170.40	165.30	170.40	151.30
May	31	72.23	164.61	187.55	201.50	204.91	201.50	172.05
Jun	30	63.30	168.90	198.90	219.00	228.00	228.00	184.35
Jul	31	68.82	171.74	199.64	217.31	223.82	217.31	183.11
Aug	31	85.56	183.83	204.29	213.90	212.04	214.83	185.74
Sept	30	106.50	178.80	186.60	184.20	170.70	186.60	168.90
Oct	31	115.63	157.48	156.24	146.32	127.72	158.10	143.58
Nov	30	104.70	127.80	122.40	110.10	90.90	127.80	113.95
Dec	31	117.18	134.54	125.55	109.43	86.18	136.40	118.21
Annual	365	1172.65	1913.69	2009.44	1998.75	1873.77	2116.76	1847.51



Omara								OMR
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	4.29	4.99	4.67	4.08	3.21	4.99	4.37
Feb	28	4.65	5.92	5.71	5.18	4.30	5.93	5.28
Mar	31	3.58	5.42	5.53	5.36	4.86	5.53	5.05
Apr	30	2.74	55.14	5.53	5.66	5.47	5.66	13.37
May	31	2.36	5.29	6.00	6.42	6.52	6.42	5.50
Jun	30	2.16	5.58	6.54	7.18	7.45	7.45	6.06
Jul	31	2.26	5.47	6.33	6.87	7.05	6.87	5.81
Aug	31	2.78	5.83	6.45	6.75	6.67	6.76	5.87
Sept	30	3.55	5.89	6.13	6.05	5.60	6.14	5.56
Oct	31	3.87	5.23	5.16	4.82	4.18	5.24	4.75
Nov	30	3.71	4.47	4.26	3.81	3.11	4.47	3.97
Dec	31	3.97	4.52	4.20	3.64	2.83	4.59	3.96

Omara								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	132.99	154.69	144.77	126.48	99.51	154.69	135.52
Feb	28	130.20	165.76	159.88	145.04	120.40	166.04	147.89
Mar	31	110.98	168.02	171.43	166.16	150.66	171.43	156.45
Apr	30	82.20	1,654.20	165.90	169.80	164.10	169.80	401.00
May	31	73.16	163.99	186.00	199.02	202.12	199.02	170.55
Jun	30	64.80	167.40	196.20	215.40	223.50	223.50	181.80
Jul	31	70.06	169.57	196.23	212.97	218.55	212.97	180.06
Aug	31	86.18	180.73	199.95	209.25	206.77	209.56	182.07
Sept	30	106.50	176.70	183.90	181.50	168.00	184.20	166.80
Oct	31	119.97	162.13	159.96	149.42	129.58	162.44	147.25
Nov	30	111.30	134.10	127.80	114.30	93.30	134.10	119.15
Dec	31	123.07	140.12	130.20	112.84	87.73	142.29	122.71
Annual	365	1211.41	3437.41	2022.22	2002.18	1864.22	2130.04	2111.2467



Ramadi								RAM
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.54	4.12	3.89	3.45	2.69	4.12	3.64
Feb	28	3.75	4.78	4.66	4.39	3.56	4.78	4.32
Mar	31	3.61	5.33	5.45	5.28	4.73	5.45	4.98
Apr	30	2.87	5.22	5.63	5.76	5.54	5.77	5.13
May	31	2.49	5.42	6.18	6.63	6.74	6.63	5.68
Jun	30	2.28	5.87	6.93	7.65	7.97	7.97	6.45
Jul	31	2.39	5.70	6.63	7.23	7.45	7.23	6.11
Aug	31	2.94	5.97	6.63	6.95	6.84	6.97	6.05
Sept	30	3.75	6.04	6.29	6.20	5.65	6.29	5.70
Oct	31	3.68	4.88	4.84	4.54	3.87	4.90	4.45
Nov	30	3.12	3.75	3.60	3.26	2.63	3.75	3.35
Dec	31	3.22	3.67	3.44	3.03	2.33	3.70	3.23

Ramadi								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	109.74	127.72	120.59	106.95	83.39	127.72	112.69
Feb	28	105.00	133.84	130.48	122.92	99.68	133.84	120.96
Mar	31	111.91	165.23	168.95	163.68	146.63	168.95	154.23
Apr	30	86.10	156.60	168.90	172.80	166.20	173.10	153.95
May	31	77.19	168.02	191.58	205.53	208.94	205.53	176.13
Jun	30	68.40	176.10	207.90	229.50	239.10	239.10	193.35
Jul	31	74.09	176.70	205.53	224.13	230.95	224.13	189.26
Aug	31	91.14	185.07	205.53	215.45	212.04	216.07	187.55
Sept	30	112.50	181.20	188.70	186.00	169.50	188.70	171.10
Oct	31	114.08	151.28	150.04	140.74	119.97	151.90	138.00
Nov	30	93.60	112.50	108.00	97.80	78.90	112.50	100.55
Dec	31	99.82	113.77	106.64	93.93	72.23	114.70	100.18
Annual	365	1143.57	1848.03	1952.84	1959.43	1827.53	2056.24	1797.94



Samara								SAM
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.89	4.46	4.20	3.70	2.78	4.46	3.92
Feb	28	3.73	4.73	4.63	4.27	3.50	4.73	4.27
Mar	31	3.60	5.24	5.37	5.21	4.63	5.37	4.90
Apr	30	2.92	5.15	5.59	5.75	5.54	5.75	5.12
May	31	2.54	5.42	6.20	6.66	6.77	6.66	5.71
Jun	30	2.35	5.85	6.91	7.64	7.97	7.97	6.45
Jul	31	2.45	5.72	6.66	7.28	7.50	7.28	6.15
Aug	31	3.03	6.03	6.71	7.04	6.91	7.06	6.13
Sept	30	3.91	6.21	6.47	6.37	5.75	6.47	5.86
Oct	31	3.74	4.91	4.87	4.57	3.84	4.93	4.48
Nov	30	3.24	3.86	3.70	3.34	2.64	3.86	3.44
Dec	31	3.33	3.76	3.52	3.09	2.31	3.80	3.30

Samara								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	120.59	138.26	130.20	114.70	86.18	138.26	121.37
Feb	28	104.44	132.44	129.64	119.56	98.00	132.44	119.42
Mar	31	111.60	162.44	166.47	161.51	143.53	166.47	152.00
Apr	30	87.60	154.50	167.70	172.50	166.20	172.50	153.50
May	31	78.74	168.02	192.20	206.46	209.87	206.46	176.96
Jun	30	70.50	175.50	207.30	229.20	239.10	239.10	193.45
Jul	31	75.95	177.32	206.46	225.68	232.50	225.68	190.60
Aug	31	93.93	186.93	208.01	218.24	214.21	218.86	190.03
Sept	30	117.30	186.30	194.10	191.10	172.50	194.10	175.90
Oct	31	115.94	152.21	150.97	141.67	119.04	152.83	138.78
Nov	30	97.20	115.80	111.00	100.20	79.20	115.80	103.20
Dec	31	103.23	116.56	109.12	95.79	71.61	117.80	102.35
Annual	365	1177.02	1866.28	1973.17	1976.61	1831.94	2080.3	1817.5533



Sinah								SIN
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	3.63	4.09	3.85	3.39	2.45	4.09	3.58
Feb	28	3.67	4.54	4.44	4.09	3.25	4.54	4.09
Mar	31	3.73	5.25	5.37	5.20	4.51	5.47	4.92
Apr	30	3.07	5.18	5.61	5.76	5.49	5.76	5.15
May	31	2.69	5.33	6.08	6.53	6.59	6.53	5.63
Jun	30	2.53	5.66	6.66	7.33	7.62	7.63	6.24
Jul	31	2.62	5.63	6.54	7.13	7.31	7.13	6.06
Aug	31	3.20	5.97	6.64	6.94	6.75	6.96	6.08
Sept	30	3.92	5.95	6.20	6.10	5.42	6.20	5.63
Oct	31	3.97	5.06	4.99	4.65	3.77	5.07	4.59
Nov	30	3.88	4.45	4.22	3.75	2.76	4.45	3.92
Dec	31	3.50	3.85	3.59	3.12	2.19	3.91	3.36

Sinah								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	112.53	126.79	119.35	105.09	75.95	126.79	111.08
Feb	28	102.76	127.12	124.32	114.52	91.00	127.12	114.47
Mar	31	115.63	162.75	166.47	161.20	139.81	169.57	152.57
Apr	30	92.10	155.40	168.30	172.80	164.70	172.80	154.35
May	31	83.39	165.23	188.48	202.43	204.29	202.43	174.38
Jun	30	75.90	169.80	199.80	219.90	228.60	228.90	187.15
Jul	31	81.22	174.53	202.74	221.03	226.61	221.03	187.86
Aug	31	99.20	185.07	205.84	215.14	209.25	215.76	188.38
Sept	30	117.60	178.50	186.00	183.00	162.60	186.00	168.95
Oct	31	123.07	156.86	154.69	144.15	116.87	157.17	142.14
Nov	30	116.40	133.50	126.60	112.50	82.80	133.50	117.55
Dec	31	108.50	119.35	111.29	96.72	67.89	121.21	104.16
Annual	365	1228.3	1854.9	1953.88	1948.48	1770.37	2062.28	1803.035



Sulaymaniya								SUL
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.80	4.31	4.06	3.57	2.63	4.31	3.78
Feb	28	3.72	4.66	4.55	4.20	3.38	4.66	4.20
Mar	31	3.64	5.21	5.33	5.17	4.54	5.33	4.87
Apr	30	2.94	5.03	5.46	5.61	5.38	5.61	5.01
May	31	2.61	5.35	6.10	6.55	6.64	6.55	5.63
Jun	30	2.44	5.65	6.66	7.33	7.63	7.63	6.22
Jul	31	2.53	5.59	6.49	7.07	7.27	7.07	6.00
Aug	31	3.08	5.90	6.55	6.85	6.70	6.88	5.99
Sept	30	3.92	6.07	6.31	6.22	5.56	6.31	5.73
Oct	31	4.00	5.16	5.09	4.75	3.90	5.17	4.68
Nov	30	3.74	4.35	4.13	3.66	2.78	4.35	3.84
Dec	31	3.56	3.94	3.68	3.20	2.31	4.00	3.45

Sulaymaniya								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	117.80	133.61	125.86	110.67	81.53	133.61	117.18
Feb	28	104.16	130.48	127.40	117.60	94.64	130.48	117.46
Mar	31	112.84	161.51	165.23	160.27	140.74	165.23	150.97
Apr	30	88.20	150.90	163.80	168.30	161.40	168.30	150.15
May	31	80.91	165.85	189.10	203.05	205.84	203.05	174.63
Jun	30	73.20	169.50	199.80	219.90	228.90	228.90	186.70
Jul	31	78.43	173.29	201.19	219.17	225.37	219.17	186.10
Aug	31	95.48	182.90	203.05	212.35	207.70	213.28	185.79
Sept	30	117.60	182.10	189.30	186.60	166.80	189.30	171.95
Oct	31	124.00	159.96	157.79	147.25	120.90	160.27	145.03
Nov	30	112.20	130.50	123.90	109.80	83.40	130.50	115.05
Dec	31	110.36	122.14	114.08	99.20	71.61	124.00	106.90
Annual	365	1215.18	1862.74	1960.5	1954.16	1788.83	2066.09	1807.9167



Sumawa								SUM
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	3.81	4.50	4.24	3.75	3.00	4.50	3.97
Feb	28	3.98	5.14	5.01	4.60	3.89	5.14	4.63
Mar	31	3.51	5.35	5.47	5.31	4.83	5.47	4.99
Apr	30	2.77	5.26	5.67	5.80	5.62	5.81	5.16
May	31	2.36	5.42	6.17	6.63	6.74	6.63	5.66
Jun	30	2.12	5.76	6.79	7.48	7.79	7.79	6.29
Jul	31	2.23	5.68	6.60	7.20	7.41	7.20	6.05
Aug	31	2.77	5.92	6.58	6.89	6.82	6.91	5.98
Sept	30	3.64	6.11	6.36	6.27	5.80	6.36	5.76
Oct	31	3.73	5.08	5.03	4.71	4.11	5.10	4.63
Nov	30	3.38	4.13	3.95	3.57	2.95	4.13	3.69
Dec	31	3.58	4.12	3.85	3.38	2.67	4.17	3.63

Sumawa								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	118.11	139.50	131.44	116.25	93.00	139.50	122.97
Feb	28	111.44	143.92	140.28	128.80	108.92	143.92	129.55
Mar	31	108.81	165.85	169.57	164.61	149.73	169.57	154.69
Apr	30	83.10	157.80	170.10	174.00	168.60	174.30	154.65
May	31	73.16	168.02	191.27	205.53	208.94	205.53	175.41
Jun	30	63.60	172.80	203.70	224.40	233.70	233.70	188.65
Jul	31	69.13	176.08	204.60	223.20	229.71	223.20	187.65
Aug	31	85.87	183.52	203.98	213.59	211.42	214.21	185.43
Sept	30	109.20	183.30	190.80	188.10	174.00	190.80	172.70
Oct	31	115.63	157.48	155.93	146.01	127.41	158.10	143.43
Nov	30	101.40	123.90	118.50	107.10	88.50	123.90	110.55
Dec	31	110.98	127.72	119.35	104.78	82.77	129.27	112.48
Annual	365	1150.43	1899.89	1999.52	1996.37	1876.7	2106	1838.1517



Zubair								ZUB
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.87	4.60	4.33	3.83	3.11	4.60	4.06
Feb	28	4.15	5.40	5.25	4.80	4.10	5.40	4.85
Mar	31	3.40	5.26	5.38	5.23	4.80	5.38	4.91
Apr	30	2.63	5.02	5.41	5.54	5.39	5.54	4.92
May	31	2.28	5.23	5.94	6.36	6.47	6.36	5.44
Jun	30	2.06	5.61	6.59	7.25	7.53	7.53	6.10
Jul	31	2.17	5.51	6.39	6.95	7.15	6.95	5.85
Aug	31	2.64	5.70	6.32	6.61	6.56	6.63	5.74
Sept	30	3.42	5.81	6.05	5.98	5.57	6.05	5.48
Oct	31	3.60	4.96	4.91	4.61	4.08	4.97	4.52
Nov	30	3.29	4.06	3.89	3.52	2.96	4.06	3.63
Dec	31	3.45	4.02	3.77	3.31	2.68	4.07	3.55

Zubair								
Facing Directly South - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	119.97	142.60	134.23	118.73	96.41	142.60	125.76
Feb	28	116.20	151.20	147.00	134.40	114.80	151.20	135.80
Mar	31	105.40	163.06	166.78	162.13	148.80	166.78	152.16
Apr	30	78.90	150.60	162.30	166.20	161.70	166.20	147.65
May	31	70.68	162.13	184.14	197.16	200.57	197.16	168.64
Jun	30	61.80	168.30	197.70	217.50	225.90	225.90	182.85
Jul	31	67.27	170.81	198.09	215.45	221.65	215.45	181.45
Aug	31	81.84	176.70	195.92	204.97	203.36	205.53	178.05
Sept	30	102.60	174.30	181.50	179.40	167.07	181.50	164.40
Oct	31	111.60	153.76	152.21	142.91	126.48	154.07	140.17
Nov	30	98.70	121.80	116.70	105.60	88.80	121.80	108.90
Dec	31	106.95	124.62	116.87	102.61	83.08	126.17	110.05
Annual	365	1121.91	1859.88	1953.44	1947.062	1838.62	2054.36	1795.8787





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Average Solar Irradiance for Different Angles (KWh/m².year)

Facing South East (22.5° from South)

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted throughout the Year	Average
1	Abu Ghraib	1,176	1,840	1,929	1,916	1,815	2,031	1,784
2	Arbil	1,164	1,775	1,875	1,878	1,759	1,977	1,738
3	Baghdad	1,164	1,840	1,929	1,916	1,815	2,031	1,782
4	Baquba	1,184	1,847	1,934	1,918	1,814	2,036	1,789
5	Basra	1,096	1,816	1,908	1,899	1,840	2,005	1,761
6	Basrah Qadima	1,096	1,816	1,908	1,899	1,840	2,005	1,761
7	Diwaniya	1,131	1,844	1,943	1,943	1,861	2,048	1,795
8	Falluja	1,115	1,802	1,904	1,908	1,828	2,005	1,760
9	Faw	1,108	1,846	1,940	1,933	1,874	2,042	1,791
10	Hilla	1,147	1,856	1,953	1,925	1,865	2,056	1,800
11	Karbala	1,150	1,859	1,955	1,948	1,865	2,058	1,806
12	Kirkuk	1,196	1,836	1,933	1,926	1,807	2,037	1,789
13	Kut	1,182	1,883	1,974	1,962	1,866	2,080	1,824
14	Mosul	1,180	1,794	1,895	1,893	1,770	1,997	1,755
15	Mosul Jadida	1,180	1,794	1,895	1,893	1,770	1,997	1,755
16	Najaf	1,131	1,844	1,943	1,943	1,864	2,048	1,795
17	Nasiriya	1,143	1,866	1,959	1,949	1,874	2,064	1,809
18	Omara	1,181	1,889	1,972	1,952	1,864	2,077	1,822
19	Ramadi	1,115	1,802	1,904	1,908	1,828	2,005	1,760
20	Samara	1,148	1,818	1,924	1,927	1,832	2,028	1,780
21	Sinah	1,197	1,809	1,905	1,900	1,770	2,008	1,765
22	Sulaymaniya	1,185	1,816	1,912	1,906	1,789	2,014	1,770
23	Sumawa	1,120	1,853	1,949	1,946	1,877	2,053	1,800
24	Zubair	1,094	1,813	1,905	1,898	1,839	2,003	1,759
	Average	1,149	1,832	1,927	1,920	1,830	2,029	1,781

For further information, please contact:

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www.tarcal.uk

Tariff Calculator



www.reical.uk

Renewable Energy
Investment Calculator



www.ebcal.uk

Electricity Bill Calculator

Inclination (Tilt) Angle of the Solar Panel (°)

Facing South East (22.5° from South)

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted throughout the Year
1	Abu Ghraib	0	42	57	72	90	0-90
2	Arbil	0	39	54	69	90	0-90
3	Baghdad	0	42	57	72	90	0-90
4	Baquba	0	41	56	71	90	0-90
5	Basra	0	45	60	75	90	0-90
6	Basrah Qadima	0	45	60	75	90	0-90
7	Diwaniya	0	43	58	73	90	0-90
8	Falluja	0	42	57	72	90	0-90
9	Faw	0	45	60	75	90	0-90
10	Hilla	0	43	58	73	90	0-90
11	Karbala	0	42	57	72	90	0-90
12	Kirkuk	0	39	54	69	90	0-90
13	Kut	0	43	58	73	90	0-90
14	Mosul	0	39	54	69	90	0-90
15	Mosul Jadida	0	39	54	69	90	0-90
16	Najaf	0	43	58	73	90	0-90
17	Nasiriya	0	44	59	74	90	0-90
18	Omara	0	43	58	73	90	0-90
19	Ramadi	0	42	57	72	90	0-90
20	Samara	0	41	56	71	90	0-90
21	Sinah	0	38	53	68	90	0-90
22	Sulaymaniya	0	39	54	69	90	0-90
23	Sumawa	0	44	59	74	90	0-90
24	Zubair	0	45	60	75	90	0-90

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Iraq								IRQ
		VER	WIN	OPT	SUM	HOR	ADJ	SE1
Abu Ghraib								GRB
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.90	4.49	4.22	3.71	2.91	4.49	3.95
Feb	28	4.35	5.46	5.28	4.81	4.00	5.46	4.89
Mar	31	3.69	5.45	5.57	5.39	4.92	5.57	5.10
Apr	30	2.68	4.82	5.20	5.32	5.27	5.32	4.77
May	31	2.38	5.07	5.77	6.19	6.45	6.19	5.34
Jun	30	2.21	5.43	6.40	7.04	7.51	7.32	5.99
Jul	31	2.29	5.24	6.06	6.60	6.96	6.60	5.63
Aug	31	2.82	5.68	6.31	6.61	6.68	6.63	5.79
Sept	30	3.52	5.66	5.90	5.83	5.47	5.90	5.38
Oct	31	3.68	4.88	4.84	4.53	3.95	4.89	4.46
Nov	30	3.53	4.20	4.01	3.60	2.92	4.20	3.74
Dec	31	3.68	4.14	3.86	3.36	2.59	4.20	3.64

Abu Ghraib								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	120.90	139.19	130.82	115.01	90.21	139.19	122.55
Feb	28	121.80	152.88	147.84	134.68	112.00	152.88	137.01
Mar	31	114.39	168.95	172.67	167.09	152.52	172.67	158.05
Apr	30	80.40	144.60	156.00	159.60	158.10	159.60	143.05
May	31	73.78	157.17	178.87	191.89	199.95	191.89	165.59
Jun	30	66.30	162.90	192.00	211.20	225.30	219.60	179.55
Jul	31	70.99	162.44	187.86	204.60	215.76	204.60	174.38
Aug	31	87.42	176.08	195.61	204.91	207.08	205.53	179.44
Sept	30	105.60	169.80	177.00	174.90	164.10	177.00	161.40
Oct	31	114.08	151.28	150.04	140.43	122.45	151.59	138.31
Nov	30	105.90	126.00	120.30	108.00	87.60	126.00	112.30
Dec	31	114.08	128.34	119.66	104.16	80.29	130.20	112.79
Annual	365	1,175.64	1,839.63	1,928.67	1,916.47	1,815.36	2,030.75	1,784.42



Arbil								ARB
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.35	3.81	3.60	3.20	2.40	3.81	3.36
Feb	28	3.31	4.13	4.06	3.76	3.11	4.13	3.75
Mar	31	3.44	4.88	4.99	4.86	4.36	4.99	4.59
Apr	30	2.91	4.90	5.32	5.48	5.38	5.48	4.91
May	31	2.58	5.18	5.91	6.36	6.60	6.36	5.50
Jun	30	2.42	5.47	6.45	7.13	7.61	7.43	6.09
Jul	31	2.52	5.46	6.36	6.94	7.32	6.94	5.92
Aug	31	3.04	5.70	6.35	6.65	6.66	6.68	5.85
Sept	30	3.86	5.91	6.16	6.07	5.53	6.16	5.62
Oct	31	3.95	5.05	4.99	4.66	3.87	5.07	4.60
Nov	30	3.64	4.21	4.01	3.58	2.72	4.21	3.73
Dec	31	3.27	3.62	3.38	2.96	2.16	3.67	3.18

Arbil								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	103.85	118.11	111.60	99.20	74.40	118.11	104.21
Feb	28	92.68	115.64	113.68	105.28	87.08	115.64	105.00
Mar	31	106.64	151.28	154.69	150.66	135.16	154.69	142.19
Apr	30	87.30	147.00	159.60	164.40	161.40	164.40	147.35
May	31	79.98	160.58	183.21	197.16	204.60	197.16	170.45
Jun	30	72.60	164.10	193.50	213.90	228.30	222.90	182.55
Jul	31	78.12	169.26	197.16	215.14	226.92	215.14	183.62
Aug	31	94.24	176.70	196.85	206.15	206.46	207.08	181.25
Sept	30	115.80	177.30	184.80	182.10	165.90	184.80	168.45
Oct	31	122.45	156.55	154.69	144.46	119.97	157.17	142.55
Nov	30	109.20	126.30	120.30	107.40	81.60	126.30	111.85
Dec	31	101.37	112.22	104.78	91.76	66.96	113.77	98.48
Annual	365	1,164.23	1,775.04	1,874.86	1,877.61	1,758.75	1,977.16	1,737.94



Baghdad								BGD
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.90	4.49	4.22	3.71	2.91	4.49	3.95
Feb	28	4.35	5.46	5.28	4.81	4.00	5.46	4.89
Mar	31	3.69	5.45	5.57	5.39	4.92	5.57	5.10
Apr	30	2.68	4.82	5.20	5.32	5.27	5.32	4.77
May	31	2.38	5.07	5.77	6.19	6.45	6.19	5.34
Jun	30	2.21	5.43	6.40	7.04	7.51	7.32	5.99
Jul	31	2.29	5.24	6.06	6.60	6.96	6.60	5.63
Aug	31	2.82	5.68	6.31	6.61	6.68	6.63	5.79
Sept	30	3.52	5.66	5.90	5.83	5.47	5.90	5.38
Oct	31	3.68	4.88	4.84	4.53	3.95	4.89	4.46
Nov	30	3.53	4.20	4.01	3.60	2.92	4.20	3.74
Dec	31	3.68	4.14	3.86	3.36	2.59	4.20	3.64

Baghdad								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	109.20	139.19	130.82	115.01	90.21	139.19	120.60
Feb	28	121.80	152.88	147.84	134.68	112.00	152.88	137.01
Mar	31	114.39	168.95	172.67	167.09	152.52	172.67	158.05
Apr	30	80.40	144.60	156.00	159.60	158.10	159.60	143.05
May	31	73.78	157.17	178.87	191.89	199.95	191.89	165.59
Jun	30	66.30	162.90	192.00	211.20	225.30	219.60	179.55
Jul	31	70.99	162.44	187.86	204.60	215.76	204.60	174.38
Aug	31	87.42	176.08	195.61	204.91	207.08	205.53	179.44
Sept	30	105.60	169.80	177.00	174.90	164.10	177.00	161.40
Oct	31	114.08	151.28	150.04	140.43	122.45	151.59	138.31
Nov	30	105.90	126.00	120.30	108.00	87.60	126.00	112.30
Dec	31	114.08	128.34	119.66	104.16	80.29	130.20	112.79
Annual	365	1,163.94	1,839.63	1,928.67	1,916.47	1,815.36	2,030.75	1,782.47



Baquba								BAQ
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.95	4.53	4.25	3.73	2.91	4.53	3.98
Feb	28	4.26	5.37	5.20	4.74	3.95	5.37	4.82
Mar	31	3.72	5.48	5.60	5.40	4.92	5.60	5.12
Apr	30	2.70	4.84	5.22	5.33	5.26	5.33	4.78
May	31	2.40	5.09	5.78	6.20	6.45	6.20	5.35
Jun	30	2.24	5.46	6.42	7.05	7.51	7.32	6.00
Jul	31	2.31	5.26	6.08	6.60	6.96	6.60	5.64
Aug	31	2.85	5.70	6.33	6.62	6.68	6.64	5.80
Sept	30	3.56	5.68	5.92	5.84	5.47	5.92	5.40
Oct	31	3.71	4.91	4.86	4.54	3.95	4.92	4.48
Nov	30	3.58	4.24	4.04	3.61	2.92	4.24	3.77
Dec	31	3.73	4.18	3.89	3.38	2.59	4.25	3.67

Baquba								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	122.45	140.43	131.75	115.63	90.21	140.43	123.48
Feb	28	119.28	150.36	145.60	132.72	110.60	150.36	134.82
Mar	31	115.32	169.88	173.60	167.40	152.52	173.60	158.72
Apr	30	81.00	145.20	156.60	159.90	157.80	159.90	143.40
May	31	74.40	157.79	179.18	192.20	199.95	192.20	165.95
Jun	30	67.20	163.80	192.60	211.50	225.30	219.60	180.00
Jul	31	71.61	163.06	188.48	204.60	215.76	204.60	174.69
Aug	31	88.35	176.70	196.23	205.22	207.08	205.84	179.90
Sept	30	106.80	170.40	177.60	175.20	164.10	177.60	161.95
Oct	31	115.01	152.21	150.66	140.74	122.45	152.52	138.93
Nov	30	107.40	127.20	121.20	108.30	87.60	127.20	113.15
Dec	31	115.63	129.58	120.59	104.78	80.29	131.75	113.77
Annual	365	1,184.45	1,846.61	1,934.09	1,918.19	1,813.66	2,035.60	1,788.77



Basra								BAS
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.78	4.49	4.23	3.73	3.11	4.49	3.97
Feb	28	4.06	5.27	5.12	4.68	4.10	5.27	4.75
Mar	31	3.32	5.14	5.26	5.10	4.80	5.26	4.81
Apr	30	2.56	4.90	5.28	5.40	5.39	5.40	4.82
May	31	2.22	5.11	5.80	6.21	6.47	6.21	5.34
Jun	30	2.02	5.47	6.44	7.07	7.53	7.34	5.98
Jul	31	2.12	5.38	6.23	6.78	7.15	6.78	5.74
Aug	31	2.58	5.57	6.16	6.44	6.56	6.46	5.63
Sept	30	3.34	5.66	5.91	5.83	5.59	5.91	5.37
Oct	31	3.51	4.84	4.80	4.50	4.08	4.86	4.43
Nov	30	3.22	3.97	3.80	3.43	2.96	3.97	3.56
Dec	31	3.37	3.93	3.69	3.24	2.69	3.98	3.48

Basra								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	117.18	139.19	131.13	115.63	96.41	139.19	123.12
Feb	28	113.68	147.56	143.36	131.04	114.80	147.56	133.00
Mar	31	102.92	159.34	163.06	158.10	148.80	163.06	149.21
Apr	30	76.80	147.00	158.40	162.00	161.70	162.00	144.65
May	31	68.82	158.41	179.80	192.51	200.57	192.51	165.44
Jun	30	60.60	164.10	193.20	212.10	225.90	220.20	179.35
Jul	31	65.72	166.78	193.13	210.18	221.65	210.18	177.94
Aug	31	79.98	172.67	190.96	199.64	203.36	200.26	174.48
Sept	30	100.20	169.80	177.30	174.90	167.70	177.30	161.20
Oct	31	108.81	150.04	148.80	139.50	126.48	150.66	137.38
Nov	30	96.60	119.10	114.00	102.90	88.80	119.10	106.75
Dec	31	104.47	121.83	114.39	100.44	83.39	123.38	107.98
Annual	365	1,095.78	1,815.82	1,907.53	1,898.94	1,839.56	2,005.40	1,760.51



Basra Qadima								BQD
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.78	4.49	4.23	3.73	3.11	4.49	3.97
Feb	28	4.06	5.27	5.12	4.68	4.10	5.27	4.75
Mar	31	3.32	5.14	5.26	5.10	4.80	5.26	4.81
Apr	30	2.56	4.90	5.28	5.40	5.39	5.40	4.82
May	31	2.22	5.11	5.80	6.21	6.47	6.21	5.34
Jun	30	2.02	5.47	6.44	7.07	7.53	7.34	5.98
Jul	31	2.12	5.38	6.23	6.78	7.15	6.78	5.74
Aug	31	2.58	5.57	6.16	6.44	6.56	6.46	5.63
Sept	30	3.34	5.66	5.91	5.83	5.59	5.91	5.37
Oct	31	3.51	4.84	4.80	4.50	4.08	4.86	4.43
Nov	30	3.22	3.97	3.80	3.43	2.96	3.97	3.56
Dec	31	3.37	3.93	3.69	3.24	2.69	3.98	3.48

Basra Qadima								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	117.18	139.19	131.13	115.63	96.41	139.19	123.12
Feb	28	113.68	147.56	143.36	131.04	114.80	147.56	133.00
Mar	31	102.92	159.34	163.06	158.10	148.80	163.06	149.21
Apr	30	76.80	147.00	158.40	162.00	161.70	162.00	144.65
May	31	68.82	158.41	179.80	192.51	200.57	192.51	165.44
Jun	30	60.60	164.10	193.20	212.10	225.90	220.20	179.35
Jul	31	65.72	166.78	193.13	210.18	221.65	210.18	177.94
Aug	31	79.98	172.67	190.96	199.64	203.36	200.26	174.48
Sept	30	100.20	169.80	177.30	174.90	167.70	177.30	161.20
Oct	31	108.81	150.04	148.80	139.50	126.48	150.66	137.38
Nov	30	96.60	119.10	114.00	102.90	88.80	119.10	106.75
Dec	31	104.47	121.83	114.39	100.44	83.39	123.38	107.98
Annual	365	1,095.78	1,815.82	1,907.53	1,898.94	1,839.56	2,005.40	1,760.51



Diwaniya								DIW
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.68	4.31	4.07	3.60	2.91	4.31	3.81
Feb	28	3.98	5.09	4.95	4.54	3.88	5.09	4.59
Mar	31	3.46	5.22	5.33	5.19	4.80	5.33	4.89
Apr	30	2.74	5.11	5.52	5.66	5.60	5.66	5.05
May	31	2.34	5.26	6.01	6.45	6.74	6.45	5.54
Jun	30	2.12	5.66	6.68	7.38	7.90	7.70	6.24
Jul	31	2.22	5.46	6.36	6.93	7.23	6.93	5.86
Aug	31	2.77	5.82	6.47	6.80	6.89	6.82	5.93
Sept	30	3.58	5.91	6.15	6.07	5.73	6.15	5.60
Oct	31	3.56	4.81	4.77	4.48	3.97	4.82	4.40
Nov	30	3.30	4.00	3.82	3.45	2.88	4.00	3.58
Dec	31	3.49	4.00	3.73	3.28	2.60	4.05	3.53

Diwaniya								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	114.08	133.61	126.17	111.60	90.21	133.61	118.21
Feb	28	111.44	142.52	138.60	127.12	108.64	142.52	128.47
Mar	31	107.26	161.82	165.23	160.89	148.80	165.23	151.54
Apr	30	82.20	153.30	165.60	169.80	168.00	169.80	151.45
May	31	72.54	163.06	186.31	199.95	208.94	199.95	171.79
Jun	30	63.60	169.80	200.40	221.40	237.00	231.00	187.20
Jul	31	68.82	169.26	197.16	214.83	224.13	214.83	181.51
Aug	31	85.87	180.42	200.57	210.80	213.59	211.42	183.78
Sept	30	107.40	177.30	184.50	182.10	171.90	184.50	167.95
Oct	31	110.36	149.11	147.87	138.88	123.07	149.42	136.45
Nov	30	99.00	120.00	114.60	103.50	86.40	120.00	107.25
Dec	31	108.19	124.00	115.63	101.68	80.60	125.55	109.28
Annual	365	1,130.76	1,844.20	1,942.64	1,942.55	1,861.28	2,047.83	1,794.88



Falluja								FAL
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.45	4.02	3.79	3.36	2.69	4.02	3.56
Feb	28	3.66	4.66	4.54	4.19	3.56	4.66	4.21
Mar	31	3.52	5.20	5.31	5.15	4.73	5.31	4.87
Apr	30	2.80	5.09	5.49	5.62	5.54	5.63	5.03
May	31	2.43	5.28	6.03	6.46	6.74	6.46	5.57
Jun	30	2.22	5.72	6.79	7.46	7.97	7.77	6.32
Jul	31	2.33	5.56	6.46	7.05	7.45	7.05	5.98
Aug	31	2.87	5.82	6.46	6.78	6.84	6.80	5.93
Sept	30	3.66	5.89	6.13	6.04	5.65	6.13	5.58
Oct	31	3.59	4.76	4.72	4.43	3.87	4.78	4.36
Nov	30	3.04	3.66	3.51	3.18	2.63	3.66	3.28
Dec	31	3.14	3.58	3.35	2.95	2.33	3.61	3.16

Falluja								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	106.95	124.62	117.49	104.16	83.39	124.62	110.21
Feb	28	102.48	130.48	127.12	117.32	99.68	130.48	117.93
Mar	31	109.12	161.20	164.61	159.65	146.63	164.61	150.97
Apr	30	84.00	152.70	164.70	168.60	166.20	168.90	150.85
May	31	75.33	163.68	186.93	200.26	208.94	200.26	172.57
Jun	30	66.60	171.60	203.70	223.80	239.10	233.10	189.65
Jul	31	72.23	172.36	200.26	218.55	230.95	218.55	185.48
Aug	31	88.97	180.42	200.26	210.18	212.04	210.80	183.78
Sept	30	109.80	176.70	183.90	181.20	169.50	183.90	167.50
Oct	31	111.29	147.56	146.32	137.33	119.97	148.18	135.11
Nov	30	91.20	109.80	105.30	95.40	78.90	109.80	98.40
Dec	31	97.34	110.98	103.85	91.45	72.23	111.91	97.96
Annual	365	1,115.31	1,802.10	1,904.44	1,907.90	1,827.53	2,005.11	1,760.40



Faw								FAW
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.87	4.60	4.34	3.83	3.19	4.60	4.07
Feb	28	4.33	5.65	5.47	4.98	4.34	5.65	5.07
Mar	31	3.27	5.07	5.20	5.05	4.77	5.20	4.76
Apr	30	2.57	4.98	5.37	5.51	5.50	5.51	4.91
May	31	2.21	5.20	5.93	6.36	6.64	6.36	5.45
Jun	30	1.99	5.46	6.43	7.08	7.55	7.36	5.98
Jul	31	2.09	5.45	6.34	6.90	7.30	6.90	5.83
Aug	31	2.57	5.65	6.26	6.56	6.69	6.59	5.72
Sept	30	3.36	5.75	6.00	5.93	5.69	6.00	5.46
Oct	31	3.52	4.87	4.83	4.54	4.12	4.88	4.46
Nov	30	3.22	3.99	3.82	3.46	2.99	3.99	3.58
Dec	31	3.51	4.09	3.83	3.36	2.78	4.13	3.62

Faw								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	119.97	142.60	134.54	118.73	98.89	142.60	126.22
Feb	28	121.24	158.20	153.16	139.44	121.52	158.20	141.96
Mar	31	101.37	157.17	161.20	156.55	147.87	161.20	147.56
Apr	30	77.10	149.40	161.10	165.30	165.00	165.30	147.20
May	31	68.51	161.20	183.83	197.16	205.84	197.16	168.95
Jun	30	59.70	163.80	192.90	212.40	226.50	220.80	179.35
Jul	31	64.79	168.95	196.54	213.90	226.30	213.90	180.73
Aug	31	79.67	175.15	194.06	203.36	207.39	204.29	177.32
Sept	30	100.80	172.50	180.00	177.90	170.70	180.00	163.65
Oct	31	109.12	150.97	149.73	140.74	127.72	151.28	138.26
Nov	30	96.60	119.70	114.60	103.80	89.70	119.70	107.35
Dec	31	108.81	126.79	118.73	104.16	86.18	128.03	112.12
Annual	365	1,107.68	1,846.43	1,940.39	1,933.44	1,873.61	2,042.46	1,790.67



Hilla								HIL
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.73	4.36	4.10	3.63	2.91	4.36	3.85
Feb	28	4.04	5.13	4.98	4.55	3.88	5.13	4.62
Mar	31	3.50	5.25	5.36	5.20	4.81	5.36	4.91
Apr	30	2.77	5.14	5.54	5.66	5.60	5.66	5.06
May	31	2.37	5.28	6.03	6.46	6.74	6.46	5.56
Jun	30	2.15	5.68	6.71	7.39	7.89	7.69	6.25
Jul	31	2.26	5.49	6.38	6.94	7.33	6.94	5.89
Aug	31	2.81	5.86	6.50	6.10	6.89	6.82	5.83
Sept	30	3.63	5.94	6.18	6.09	5.73	6.18	5.63
Oct	31	3.61	4.84	4.79	4.49	3.97	4.85	4.43
Nov	30	3.34	4.04	3.85	3.47	2.89	4.04	3.61
Dec	31	3.55	4.04	3.77	3.30	2.60	4.10	3.56

Hilla								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	115.63	135.16	127.10	112.53	90.21	135.16	119.30
Feb	28	113.12	143.64	139.44	127.40	108.64	143.64	129.31
Mar	31	108.50	162.75	166.16	161.20	149.11	166.16	152.31
Apr	30	83.10	154.20	166.20	169.80	168.00	169.80	151.85
May	31	73.47	163.68	186.93	200.26	208.94	200.26	172.26
Jun	30	64.50	170.40	201.30	221.70	236.70	230.70	187.55
Jul	31	70.06	170.19	197.78	215.14	227.23	215.14	182.59
Aug	31	87.11	181.66	201.50	189.10	213.59	211.42	180.73
Sept	30	108.90	178.20	185.40	182.70	171.90	185.40	168.75
Oct	31	111.91	150.04	148.49	139.19	123.07	150.35	137.18
Nov	30	100.20	121.20	115.50	104.10	86.70	121.20	108.15
Dec	31	110.05	125.24	116.87	102.30	80.60	127.10	110.36
Annual	365	1,146.55	1,856.36	1,952.67	1,925.42	1,864.69	2,056.33	1,800.34



Karbala								KAR
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.74	4.36	4.10	3.62	2.91	4.36	3.85
Feb	28	4.05	5.14	4.98	4.56	3.88	5.14	4.63
Mar	31	3.51	5.26	5.36	5.20	4.81	5.36	4.92
Apr	30	2.77	5.14	5.54	5.66	5.60	5.66	5.06
May	31	2.38	5.29	6.04	6.47	6.74	6.47	5.57
Jun	30	2.15	5.69	6.71	7.39	7.89	7.69	6.25
Jul	31	2.27	5.50	6.39	6.95	7.33	6.95	5.90
Aug	31	2.82	5.86	6.51	6.82	6.89	6.83	5.96
Sept	30	3.64	5.95	6.19	6.09	5.73	6.19	5.63
Oct	31	3.62	4.85	4.80	4.49	3.97	4.86	4.43
Nov	30	3.35	4.04	3.86	3.47	2.89	4.04	3.61
Dec	31	3.57	4.05	3.78	3.30	2.61	4.10	3.57

Karbala								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	115.94	135.16	127.10	112.22	90.21	135.16	119.30
Feb	28	113.40	143.92	139.44	127.68	108.64	143.92	129.50
Mar	31	108.81	163.06	166.16	161.20	149.11	166.16	152.42
Apr	30	83.10	154.20	166.20	169.80	168.00	169.80	151.85
May	31	73.78	163.99	187.24	200.57	208.94	200.57	172.52
Jun	30	64.50	170.70	201.30	221.70	236.70	230.70	187.60
Jul	31	70.37	170.50	198.09	215.45	227.23	215.45	182.85
Aug	31	87.42	181.66	201.81	211.42	213.59	211.73	184.61
Sept	30	109.20	178.50	185.70	182.70	171.90	185.70	168.95
Oct	31	112.22	150.35	148.80	139.19	123.07	150.66	137.38
Nov	30	100.50	121.20	115.80	104.10	86.70	121.20	108.25
Dec	31	110.67	125.55	117.18	102.30	80.91	127.10	110.62
Annual	365	1,149.91	1,858.79	1,954.82	1,948.33	1,865.00	2,058.15	1,805.83



Kirkuk								KIR
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.74	4.24	3.99	3.51	2.64	4.24	3.73
Feb	28	3.83	4.78	4.66	4.28	3.52	4.78	4.31
Mar	31	3.74	5.36	5.48	5.29	4.75	5.48	5.02
Apr	30	2.94	5.09	5.52	5.66	5.57	5.66	5.07
May	31	2.53	5.15	5.87	6.30	6.55	6.30	5.45
Jun	30	2.38	5.55	6.55	7.22	7.71	7.52	6.16
Jul	31	2.47	5.48	6.38	6.94	7.33	6.94	5.92
Aug	31	3.02	5.82	6.46	6.78	6.79	6.80	5.95
Sept	30	3.81	5.91	6.15	6.05	5.56	6.15	5.61
Oct	31	3.70	4.80	4.75	4.45	3.77	4.81	4.38
Nov	30	3.65	4.25	4.05	3.61	2.80	4.25	3.77
Dec	31	3.55	3.93	3.67	3.19	2.35	3.99	3.45

Kirkuk								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	115.94	131.44	123.69	108.81	81.84	131.44	115.53
Feb	28	107.24	133.84	130.48	119.84	98.56	133.84	120.63
Mar	31	115.94	166.16	169.88	163.99	147.25	169.88	155.52
Apr	30	88.20	152.70	165.60	169.80	167.10	169.80	152.20
May	31	78.43	159.65	181.97	195.30	203.05	195.30	168.95
Jun	30	71.40	166.50	196.50	216.60	231.30	225.60	184.65
Jul	31	76.57	169.88	197.78	215.14	227.23	215.14	183.62
Aug	31	93.62	180.42	200.26	210.18	210.49	210.80	184.30
Sept	30	114.30	177.30	184.50	181.50	166.80	184.50	168.15
Oct	31	114.70	148.80	147.25	137.95	116.87	149.11	135.78
Nov	30	109.50	127.50	121.50	108.30	84.00	127.50	113.05
Dec	31	110.05	121.83	113.77	98.89	72.85	123.69	106.85
	365	1,195.89	1,836.02	1,933.18	1,926.30	1,807.34	2,036.60	1,789.22



Kut								KUT
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	4.07	4.71	4.42	3.87	3.08	4.71	4.14
Feb	28	4.30	5.45	5.27	4.81	4.06	5.45	4.89
Mar	31	3.61	5.40	5.52	5.34	4.92	5.52	5.05
Apr	30	2.72	5.02	5.41	5.54	5.48	5.54	4.95
May	31	2.35	5.19	5.90	6.33	6.59	6.33	5.45
Jun	30	2.15	5.56	6.55	7.22	7.69	7.50	6.11
Jul	31	2.25	5.41	6.28	6.83	7.21	6.83	5.80
Aug	31	2.80	5.81	6.45	6.79	6.84	6.78	5.91
Sept	30	3.58	5.86	6.09	6.02	5.66	6.09	5.55
Oct	31	3.67	4.91	4.87	4.55	4.02	4.92	4.49
Nov	30	3.57	4.28	4.08	3.66	3.01	4.28	3.81
Dec	31	3.85	4.35	4.05	3.51	2.74	4.42	3.82

Kut								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	126.17	146.01	137.02	119.97	95.48	146.01	128.44
Feb	28	120.40	152.60	147.56	134.68	113.68	152.60	136.92
Mar	31	111.91	167.40	171.12	165.54	152.52	171.12	156.60
Apr	30	81.60	150.60	162.30	166.20	164.40	166.20	148.55
May	31	72.85	160.89	182.90	196.23	204.29	196.23	168.90
Jun	30	64.50	166.80	196.50	216.60	230.70	225.00	183.35
Jul	31	69.75	167.71	194.68	211.73	223.51	211.73	179.85
Aug	31	86.80	180.11	199.95	210.49	212.04	210.18	183.26
Sept	30	107.40	175.80	182.70	180.60	169.80	182.70	166.50
Oct	31	113.77	152.21	150.97	141.05	124.62	152.52	139.19
Nov	30	107.10	128.40	122.40	109.80	90.30	128.40	114.40
Dec	31	119.35	134.85	125.55	108.81	84.94	137.02	118.42
Annual	365	1,181.60	1,883.38	1,973.65	1,961.70	1,866.28	2,079.71	1,824.39



Mosul								MOS
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.47	3.94	3.71	3.29	2.45	3.94	3.47
Feb	28	3.53	4.39	4.30	3.97	3.25	4.39	3.97
Mar	31	3.60	5.09	5.21	5.05	4.51	5.21	4.78
Apr	30	2.96	5.02	5.45	5.61	5.49	5.61	5.02
May	31	2.58	5.17	5.91	6.35	6.59	6.35	5.49
Jun	30	2.43	5.48	6.47	7.14	7.62	7.44	6.10
Jul	31	2.52	5.46	6.36	6.93	7.31	6.93	5.92
Aug	31	3.08	5.79	6.44	6.75	6.75	6.78	5.93
Sept	30	3.77	5.76	6.02	5.93	5.42	6.02	5.49
Oct	31	3.82	4.88	4.84	4.51	3.77	4.90	4.45
Nov	30	3.71	4.29	4.08	3.63	2.75	4.29	3.79
Dec	31	3.35	3.70	3.46	3.02	2.19	3.75	3.25

Mosul								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	107.57	122.14	115.01	101.99	75.95	122.14	107.47
Feb	28	98.84	122.92	120.40	111.16	91.00	122.92	111.21
Mar	31	111.60	157.79	161.51	156.55	139.81	161.51	148.13
Apr	30	88.80	150.60	163.50	168.30	164.70	168.30	150.70
May	31	79.98	160.27	183.21	196.85	204.29	196.85	170.24
Jun	30	72.90	164.40	194.10	214.20	228.60	223.20	182.90
Jul	31	78.12	169.26	197.16	214.83	226.61	214.83	183.47
Aug	31	95.48	179.49	199.64	209.25	209.25	210.18	183.88
Sept	30	113.10	172.80	180.60	177.90	162.60	180.60	164.60
Oct	31	118.42	151.28	150.04	139.81	116.87	151.90	138.05
Nov	30	111.30	128.70	122.40	108.90	82.50	128.70	113.75
Dec	31	103.85	114.70	107.26	93.62	67.89	116.25	100.60
Annual	365	1,179.96	1,794.35	1,894.83	1,893.36	1,770.07	1,997.38	1,754.99



Mosul Jadida								MJD
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.47	3.94	3.71	3.29	2.45	3.94	3.47
Feb	28	3.53	4.39	4.30	3.97	3.25	4.39	3.97
Mar	31	3.60	5.09	5.21	5.05	4.51	5.21	4.78
Apr	30	2.96	5.02	5.45	5.61	5.49	5.61	5.02
May	31	2.58	5.17	5.91	6.35	6.59	6.35	5.49
Jun	30	2.43	5.48	6.47	7.14	7.62	7.44	6.10
Jul	31	2.52	5.46	6.36	6.93	7.31	6.93	5.92
Aug	31	3.08	5.79	6.44	6.75	6.75	6.78	5.93
Sept	30	3.77	5.76	6.02	5.93	5.42	6.02	5.49
Oct	31	3.82	4.88	4.84	4.51	3.77	4.90	4.45
Nov	30	3.71	4.29	4.08	3.63	2.75	4.29	3.79
Dec	31	3.35	3.70	3.46	3.02	2.19	3.75	3.25

Mosul Jadida								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	107.57	122.14	115.01	101.99	75.95	122.14	107.47
Feb	28	98.84	122.92	120.40	111.16	91.00	122.92	111.21
Mar	31	111.60	157.79	161.51	156.55	139.81	161.51	148.13
Apr	30	88.80	150.60	163.50	168.30	164.70	168.30	150.70
May	31	79.98	160.27	183.21	196.85	204.29	196.85	170.24
Jun	30	72.90	164.40	194.10	214.20	228.60	223.20	182.90
Jul	31	78.12	169.26	197.16	214.83	226.61	214.83	183.47
Aug	31	95.48	179.49	199.64	209.25	209.25	210.18	183.88
Sept	30	113.10	172.80	180.60	177.90	162.60	180.60	164.60
Oct	31	118.42	151.28	150.04	139.81	116.87	151.90	138.05
Nov	30	111.30	128.70	122.40	108.90	82.50	128.70	113.75
Dec	31	103.85	114.70	107.26	93.62	67.89	116.25	100.60
Annual	365	1,179.96	1,794.35	1,894.83	1,893.36	1,770.07	1,997.38	1,754.99



Najaf								NAJ
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.68	4.31	4.07	3.60	2.91	4.31	3.81
Feb	28	3.98	5.09	4.95	4.54	3.88	5.09	4.59
Mar	31	3.46	5.22	5.33	5.19	4.80	5.33	4.89
Apr	30	2.74	5.11	5.52	5.66	5.60	5.66	5.05
May	31	2.34	5.26	6.01	6.45	6.74	6.45	5.54
Jun	30	2.12	5.66	6.68	7.38	7.90	7.70	6.24
Jul	31	2.22	5.46	6.36	6.93	7.33	6.93	5.87
Aug	31	2.77	5.82	6.47	6.80	6.89	6.82	5.93
Sept	30	3.58	5.91	6.15	6.07	5.73	6.15	5.60
Oct	31	3.56	4.81	4.77	4.48	3.97	4.82	4.40
Nov	30	3.30	4.00	3.82	3.45	2.88	4.00	3.58
Dec	31	3.49	4.00	3.73	3.28	2.60	4.05	3.53

Najaf								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	114.08	133.61	126.17	111.60	90.21	133.61	118.21
Feb	28	111.44	142.52	138.60	127.12	108.64	142.52	128.47
Mar	31	107.26	161.82	165.23	160.89	148.80	165.23	151.54
Apr	30	82.20	153.30	165.60	169.80	168.00	169.80	151.45
May	31	72.54	163.06	186.31	199.95	208.94	199.95	171.79
Jun	30	63.60	169.80	200.40	221.40	237.00	231.00	187.20
Jul	31	68.82	169.26	197.16	214.83	227.23	214.83	182.02
Aug	31	85.87	180.42	200.57	210.80	213.59	211.42	183.78
Sept	30	107.40	177.30	184.50	182.10	171.90	184.50	167.95
Oct	31	110.36	149.11	147.87	138.88	123.07	149.42	136.45
Nov	30	99.00	120.00	114.60	103.50	86.40	120.00	107.25
Dec	31	108.19	124.00	115.63	101.68	80.60	125.55	109.28
Annual	365	1,130.76	1,844.20	1,942.64	1,942.55	1,864.38	2,047.83	1,795.39



Nasiriya								NAS
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	4.03	4.73	4.45	3.90	3.18	4.73	4.17
Feb	28	4.23	5.45	5.28	4.83	4.15	5.45	4.90
Mar	31	3.39	5.19	5.31	5.16	4.82	5.31	4.86
Apr	30	2.64	5.01	5.40	5.54	5.51	5.54	4.94
May	31	2.27	5.18	5.90	6.34	6.61	6.34	5.44
Jun	30	2.06	5.49	6.46	7.12	7.60	7.41	6.02
Jul	31	2.16	5.40	6.28	6.83	7.22	6.83	5.79
Aug	31	2.69	5.78	6.43	6.73	6.84	6.76	5.87
Sept	30	3.46	5.81	6.06	5.99	5.69	6.06	5.51
Oct	31	3.64	4.95	4.91	4.60	4.12	4.97	4.53
Nov	30	3.40	4.15	3.98	3.58	3.03	4.15	3.72
Dec	31	3.69	4.23	3.95	3.44	2.78	4.29	3.73

Nasiriya								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	124.93	146.63	137.95	120.90	98.58	146.63	129.27
Feb	28	118.44	152.60	147.84	135.24	116.20	152.60	137.15
Mar	31	105.09	160.89	164.61	159.96	149.42	164.61	150.76
Apr	30	79.20	150.30	162.00	166.20	165.30	166.20	148.20
May	31	70.37	160.58	182.90	196.54	204.91	196.54	168.64
Jun	30	61.80	164.70	193.80	213.60	228.00	222.30	180.70
Jul	31	66.96	167.40	194.68	211.73	223.82	211.73	179.39
Aug	31	83.39	179.18	199.33	208.63	212.04	209.56	182.02
Sept	30	103.80	174.30	181.80	179.70	170.70	181.80	165.35
Oct	31	112.84	153.45	152.21	142.60	127.72	154.07	140.48
Nov	30	102.00	124.50	119.40	107.40	90.90	124.50	111.45
Dec	31	114.39	131.13	122.45	106.64	86.18	132.99	115.63
Annual	365	1,143.21	1,865.66	1,958.97	1,949.14	1,873.77	2,063.53	1,809.05



Omara								OMR
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	4.18	4.87	4.55	3.98	3.21	4.87	4.28
Feb	28	4.53	5.77	5.57	5.05	4.30	5.78	5.17
Mar	31	3.49	5.28	5.39	5.23	4.86	5.39	4.94
Apr	30	2.67	5.01	5.39	5.52	5.47	5.52	4.93
May	31	2.30	5.16	5.85	6.26	6.52	6.26	5.39
Jun	30	2.11	5.44	6.38	7.00	7.45	7.26	5.94
Jul	31	2.20	5.33	6.17	6.70	7.05	6.70	5.69
Aug	31	2.71	5.68	6.29	6.58	6.67	6.59	5.75
Sept	30	3.46	5.74	5.98	5.89	5.60	5.98	5.44
Oct	31	3.77	5.10	5.03	4.70	4.18	5.11	4.65
Nov	30	3.62	4.36	4.15	3.71	3.11	4.36	3.89
Dec	31	3.87	4.41	4.10	3.55	2.83	4.48	3.87

Omara								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	129.58	150.97	141.05	123.38	99.51	150.97	132.58
Feb	28	126.84	161.56	155.96	141.40	120.40	161.84	144.67
Mar	31	108.19	163.68	167.09	162.13	150.66	167.09	153.14
Apr	30	80.10	150.30	161.70	165.60	164.10	165.60	147.90
May	31	71.30	159.96	181.35	194.06	202.12	194.06	167.14
Jun	30	63.30	163.20	191.40	210.00	223.50	217.80	178.20
Jul	31	68.20	165.23	191.27	207.70	218.55	207.70	176.44
Aug	31	84.01	176.08	194.99	203.98	206.77	204.29	178.35
Sept	30	103.80	172.20	179.40	176.70	168.00	179.40	163.25
Oct	31	116.87	158.10	155.93	145.70	129.58	158.41	144.10
Nov	30	108.60	130.80	124.50	111.30	93.30	130.80	116.55
Dec	31	119.97	136.71	127.10	110.05	87.73	138.88	120.07
Annual	365	1,180.76	1,888.79	1,971.74	1,952.00	1,864.22	2,076.84	1,822.39



Ramadi								RAM
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.45	4.02	3.79	3.36	2.69	4.02	3.56
Feb	28	3.66	4.66	4.54	4.19	3.56	4.66	4.21
Mar	31	3.52	5.20	5.31	5.15	4.73	5.31	4.87
Apr	30	2.80	5.09	5.49	5.62	5.54	5.63	5.03
May	31	2.43	5.28	6.03	6.46	6.74	6.46	5.57
Jun	30	2.22	5.72	6.76	7.46	7.97	7.77	6.32
Jul	31	2.33	5.56	6.46	7.05	7.45	7.05	5.98
Aug	31	2.87	5.82	6.46	6.78	6.84	6.80	5.93
Sept	30	3.66	5.89	6.13	6.04	5.65	6.13	5.58
Oct	31	3.59	4.76	4.72	4.43	3.87	4.78	4.36
Nov	30	3.04	3.66	3.51	3.18	2.63	3.66	3.28
Dec	31	3.14	3.58	3.35	2.95	2.33	3.61	3.16

Ramadi								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	106.95	124.62	117.49	104.16	83.39	124.62	110.21
Feb	28	102.48	130.48	127.12	117.32	99.68	130.48	117.93
Mar	31	109.12	161.20	164.61	159.65	146.63	164.61	150.97
Apr	30	84.00	152.70	164.70	168.60	166.20	168.90	150.85
May	31	75.33	163.68	186.93	200.26	208.94	200.26	172.57
Jun	30	66.60	171.60	202.80	223.80	239.10	233.10	189.50
Jul	31	72.23	172.36	200.26	218.55	230.95	218.55	185.48
Aug	31	88.97	180.42	200.26	210.18	212.04	210.80	183.78
Sept	30	109.80	176.70	183.90	181.20	169.50	183.90	167.50
Oct	31	111.29	147.56	146.32	137.33	119.97	148.18	135.11
Nov	30	91.20	109.80	105.30	95.40	78.90	109.80	98.40
Dec	31	97.34	110.98	103.85	91.45	72.23	111.91	97.96
Annual	365	1,115.31	1,802.10	1,903.54	1,907.90	1,827.53	2,005.11	1,760.25



Samara								SAM
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.79	4.32	4.10	3.61	2.78	4.35	3.82
Feb	28	3.64	4.61	4.51	4.16	3.50	4.61	4.17
Mar	31	3.51	5.11	5.24	5.08	4.63	5.24	4.80
Apr	30	2.85	5.02	5.45	5.61	5.54	5.61	5.01
May	31	2.48	5.28	6.04	6.49	6.77	6.49	5.59
Jun	30	2.29	5.70	6.74	7.45	7.97	7.77	6.32
Jul	31	2.39	5.58	6.49	7.10	7.50	7.10	6.03
Aug	31	2.95	5.88	6.54	6.86	6.91	6.88	6.00
Sept	30	3.81	6.05	6.31	6.21	5.75	6.31	5.74
Oct	31	3.65	4.79	4.75	4.46	3.84	4.81	4.38
Nov	30	3.16	3.76	3.61	3.26	2.64	3.76	3.37
Dec	31	3.25	3.67	3.43	3.01	2.31	3.70	3.23

Samara								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	117.49	133.77	127.10	111.91	86.18	134.85	118.55
Feb	28	101.92	129.08	126.28	116.48	98.00	129.08	116.81
Mar	31	108.81	158.41	162.44	157.48	143.53	162.44	148.85
Apr	30	85.50	150.60	163.50	168.30	166.20	168.30	150.40
May	31	76.88	163.68	187.24	201.19	209.87	201.19	173.34
Jun	30	68.70	171.00	202.20	223.50	239.10	233.10	189.60
Jul	31	74.09	172.98	201.19	220.10	232.50	220.10	186.83
Aug	31	91.45	182.28	202.74	212.66	214.21	213.28	186.10
Sept	30	114.30	181.50	189.30	186.30	172.50	189.30	172.20
Oct	31	113.15	148.49	147.25	138.26	119.04	149.11	135.88
Nov	30	94.80	112.80	108.30	97.80	79.20	112.80	100.95
Dec	31	100.75	113.77	106.33	93.31	71.61	114.70	100.08
Annual	365	1,147.84	1,818.36	1,923.87	1,927.29	1,831.94	2,028.25	1,779.59



Sinah								SIN
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	3.54	3.99	3.75	3.31	2.45	3.99	3.51
Feb	28	3.58	4.43	4.33	3.99	3.25	4.43	4.00
Mar	31	3.64	5.12	5.24	5.07	4.51	5.24	4.80
Apr	30	2.99	5.05	5.47	5.62	5.49	5.62	5.04
May	31	2.62	5.20	5.93	6.37	6.59	6.37	5.51
Jun	30	2.47	5.52	6.49	7.15	7.62	7.44	6.12
Jul	31	2.55	5.49	6.38	6.95	7.31	6.95	5.94
Aug	31	3.12	5.82	6.46	6.77	6.75	6.79	5.95
Sept	30	3.82	5.80	6.04	5.95	5.42	6.04	5.51
Oct	31	3.87	4.93	4.87	4.53	3.77	4.94	4.49
Nov	30	3.78	4.34	4.11	3.66	2.76	4.34	3.83
Dec	31	3.41	3.75	3.50	3.04	2.19	3.81	3.28

Sinah								SIN
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	109.74	123.69	116.25	102.61	75.95	123.69	108.66
Feb	28	100.24	124.04	121.24	111.72	91.00	124.04	112.05
Mar	31	112.84	158.72	162.44	157.17	139.81	162.44	148.90
Apr	30	89.70	151.50	164.10	168.60	164.70	168.60	151.20
May	31	81.22	161.20	183.83	197.47	204.29	197.47	170.91
Jun	30	74.10	165.60	194.70	214.50	228.60	223.20	183.45
Jul	31	79.05	170.19	197.78	215.45	226.61	215.45	184.09
Aug	31	96.72	180.42	200.26	209.87	209.25	210.49	184.50
Sept	30	114.60	174.00	181.20	178.50	162.60	181.20	165.35
Oct	31	119.97	152.83	150.97	140.43	116.87	153.14	139.04
Nov	30	113.40	130.20	123.30	109.80	82.80	130.20	114.95
Dec	31	105.71	116.25	108.50	94.24	67.89	118.11	101.78
Annual	365	1,197.29	1,808.64	1,904.57	1,900.36	1,770.37	2,008.03	1,764.88



Sulaymaniya								SUL
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.70	4.20	3.96	3.48	2.63	4.20	3.70
Feb	28	3.63	4.54	4.44	4.10	3.38	4.54	4.11
Mar	31	3.55	5.08	5.20	5.04	4.54	5.20	4.77
Apr	30	2.87	4.90	5.32	5.47	5.38	5.47	4.90
May	31	2.54	5.22	5.95	6.39	6.64	6.39	5.52
Jun	30	2.38	5.51	6.49	7.15	7.63	7.44	6.10
Jul	31	2.47	5.45	6.33	6.89	7.27	6.89	5.88
Aug	31	3.00	5.75	6.39	6.68	6.70	6.71	5.87
Sept	30	3.82	5.92	6.15	6.06	5.56	6.15	5.61
Oct	31	3.90	5.03	4.96	4.63	3.90	5.04	4.58
Nov	30	3.65	4.24	4.03	3.60	2.79	4.24	3.76
Dec	31	3.47	3.84	3.59	3.12	2.31	3.90	3.37

Sulaymaniya								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	114.70	130.20	122.76	107.88	81.53	130.20	114.55
Feb	28	101.64	127.12	124.32	114.80	94.64	127.12	114.94
Mar	31	110.05	157.48	161.20	156.24	140.74	161.20	147.82
Apr	30	86.10	147.00	159.60	164.10	161.40	164.10	147.05
May	31	78.74	161.82	184.45	198.09	205.84	198.09	171.17
Jun	30	71.40	165.30	194.70	214.50	228.90	223.20	183.00
Jul	31	76.57	168.95	196.23	213.59	225.37	213.59	182.38
Aug	31	93.00	178.25	198.09	207.08	207.70	208.01	182.02
Sept	30	114.60	177.60	184.50	181.80	166.80	184.50	168.30
Oct	31	120.90	155.93	153.76	143.53	120.90	156.24	141.88
Nov	30	109.50	127.20	120.90	108.00	83.70	127.20	112.75
Dec	31	107.57	119.04	111.29	96.72	71.61	120.90	104.52
Annual	365	1,184.77	1,815.89	1,911.80	1,906.33	1,789.13	2,014.35	1,770.38



Sumawa								SUM
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	3.71	4.39	4.13	3.66	3.00	4.39	3.88
Feb	28	3.88	5.01	4.88	4.48	3.89	5.01	4.53
Mar	31	3.42	5.22	5.33	5.18	4.83	5.33	4.89
Apr	30	2.70	5.13	5.53	5.66	5.62	5.66	5.05
May	31	2.30	5.28	6.02	6.46	6.74	6.46	5.54
Jun	30	2.07	5.62	6.62	7.29	7.79	7.60	6.17
Jul	31	2.13	5.54	6.44	7.02	7.41	7.02	5.93
Aug	31	2.70	5.77	6.42	6.72	6.82	6.74	5.86
Sept	30	3.55	5.96	6.20	6.11	5.80	6.20	5.64
Oct	31	3.64	4.95	4.90	4.59	4.11	4.97	4.53
Nov	30	3.30	4.03	3.85	3.48	2.95	4.03	3.61
Dec	31	3.49	4.02	3.75	3.30	2.67	4.07	3.55

Sumawa								
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	115.01	136.09	128.03	113.46	93.00	136.09	120.28
Feb	28	108.64	140.28	136.64	125.44	108.92	140.28	126.70
Mar	31	106.02	161.82	165.23	160.58	149.73	165.23	151.44
Apr	30	81.00	153.90	165.90	169.80	168.60	169.80	151.50
May	31	71.30	163.68	186.62	200.26	208.94	200.26	171.84
Jun	30	62.10	168.60	198.60	218.70	233.70	228.00	184.95
Jul	31	66.03	171.74	199.64	217.62	229.71	217.62	183.73
Aug	31	83.70	178.87	199.02	208.32	211.42	208.94	181.71
Sept	30	106.50	178.80	186.00	183.30	174.00	186.00	169.10
Oct	31	112.84	153.45	151.90	142.29	127.41	154.07	140.33
Nov	30	99.00	120.90	115.50	104.40	88.50	120.90	108.20
Dec	31	108.19	124.62	116.25	102.30	82.77	126.17	110.05
Annual	365	1,120.33	1,852.75	1,949.33	1,946.47	1,876.70	2,053.36	1,799.82



Zubair								ZUB
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.77	4.48	4.22	3.73	3.11	4.48	3.97
Feb	28	4.05	5.26	5.12	4.68	4.10	5.26	4.75
Mar	31	3.32	5.13	5.25	5.10	4.80	5.25	4.81
Apr	30	2.56	4.89	5.27	5.40	5.39	5.40	4.82
May	31	2.22	5.10	5.79	6.20	6.47	6.20	5.33
Jun	30	2.01	5.47	6.43	7.07	7.53	7.34	5.98
Jul	31	2.12	5.37	6.23	6.78	7.15	6.78	5.74
Aug	31	2.57	5.56	6.16	6.44	6.56	6.46	5.63
Sept	30	3.33	5.66	5.90	5.83	5.59	5.90	5.37
Oct	31	3.51	4.84	4.79	4.49	4.08	4.85	4.43
Nov	30	3.21	3.96	3.79	3.43	2.96	3.96	3.55
Dec	31	3.36	3.92	3.68	3.23	2.68	3.97	3.47

Zubair								ZUB
Facing South East (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	116.87	138.88	130.82	115.63	96.41	138.88	122.92
Feb	28	113.40	147.28	143.36	131.04	114.80	147.28	132.86
Mar	31	102.92	159.03	162.75	158.10	148.80	162.75	149.06
Apr	30	76.80	146.70	158.10	162.00	161.70	162.00	144.55
May	31	68.82	158.10	179.49	192.20	200.57	192.20	165.23
Jun	30	60.30	164.10	192.90	212.10	225.90	220.20	179.25
Jul	31	65.72	166.47	193.13	210.18	221.65	210.18	177.89
Aug	31	79.67	172.36	190.96	199.64	203.36	200.26	174.38
Sept	30	99.90	169.80	177.00	174.90	167.70	177.00	161.05
Oct	31	108.81	150.04	148.49	139.19	126.48	150.35	137.23
Nov	30	96.30	118.80	113.70	102.90	88.80	118.80	106.55
Dec	31	104.16	121.52	114.08	100.13	83.08	123.07	107.67
Annual	365	1,093.67	1,813.08	1,904.78	1,898.01	1,839.25	2,002.97	1,758.63





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Tariff Calculator



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Renewable Energy
Investment Calculator



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Electricity Bill Calculator

Average Solar Irradiance for Different Angles (KWh/m².year)

Facing South East (45° from South)

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted throughout the Year	Average
1	Abu Ghraib	1,145	1,793	1,878	1,868	1,815	1,979	1,746
2	Arbil	1,134	1,729	1,826	1,829	1,759	1,926	1,701
3	Baghdad	1,145	1,793	1,878	1,868	1,815	1,979	1,746
4	Baquba	1,154	1,800	1,884	1,870	1,814	1,984	1,751
5	Basra	1,069	1,770	1,858	1,850	1,840	1,954	1,723
6	Basrah Qadima	1,069	1,770	1,858	1,850	1,840	1,954	1,723
7	Diwaniya	1,102	1,797	1,893	1,892	1,864	1,995	1,757
8	Falluja	1,086	1,756	1,856	1,859	1,828	1,954	1,723
9	Faw	1,080	1,798	1,890	1,884	1,874	1,990	1,753
10	Hilla	1,117	1,809	1,902	1,897	1,865	2,004	1,766
11	Karbala	1,120	1,811	1,905	1,898	1,865	2,006	1,768
12	Kirkuk	1,165	1,783	1,883	1,877	1,807	1,984	1,750
13	Kut	1,151	1,835	1,923	1,910	1,866	2,027	1,785
14	Mosul	1,150	1,749	1,846	1,844	1,770	1,946	1,717
15	Mosul Jadida	1,150	1,749	1,846	1,844	1,770	1,946	1,717
16	Najaf	1,102	1,797	1,893	1,892	1,864	1,995	1,757
17	Nasiriya	1,113	1,818	1,909	1,899	1,874	2,011	1,771
18	Omara	1,151	1,841	1,921	1,902	1,864	2,023	1,784
19	Ramadi	1,086	1,756	1,856	1,859	1,828	1,954	1,723
20	Samara	1,118	1,773	1,875	1,878	1,832	1,977	1,742
21	Sinah	1,167	1,762	1,856	1,851	1,770	1,956	1,727
22	Sulaymaniya	1,154	1,769	1,863	1,857	1,789	1,963	1,733
23	Sumawa	1,092	1,805	1,900	1,897	1,877	2,000	1,762
24	Zubair	1,066	1,767	1,855	1,849	1,839	1,952	1,722
	Average	1,120	1,784	1,877	1,872	1,830	1,977	1,744

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www.tarcal.uk
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www.ebcal.uk
Electricity Bill Calculator

Inclination (Tilt) Angle of the Solar Panel (°)

Facing South East (45° from South)

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted throughout the Year
1	Abu Ghraib	0	42	57	72	90	0-90
2	Arbil	0	39	54	69	90	0-90
3	Baghdad	0	42	57	72	90	0-90
4	Baquba	0	41	56	71	90	0-90
5	Basra	0	45	60	75	90	0-90
6	Basrah Qadima	0	45	60	75	90	0-90
7	Diwaniya	0	43	58	73	90	0-90
8	Falluja	0	42	57	72	90	0-90
9	Faw	0	45	60	75	90	0-90
10	Hilla	0	43	58	73	90	0-90
11	Karbala	0	42	57	72	90	0-90
12	Kirkuk	0	39	54	69	90	0-90
13	Kut	0	43	58	73	90	0-90
14	Mosul	0	39	54	69	90	0-90
15	Mosul Jadida	0	39	54	69	90	0-90
16	Najaf	0	43	58	73	90	0-90
17	Nasiriya	0	44	59	74	90	0-90
18	Omara	0	43	58	73	90	0-90
19	Ramadi	0	42	57	72	90	0-90
20	Samara	0	41	56	71	90	0-90
21	Sinah	0	38	53	68	90	0-90
22	Sulaymaniya	0	39	54	69	90	0-90
23	Sumawa	0	44	59	74	90	0-90
24	Zubair	0	45	60	75	90	0-90

For further information, please contact:
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United Kingdom
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Iraq								IRQ
		VER	WIN	OPT	SUM	HOR	ADJ	SE2
Abu Ghraib								GRB
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.80	4.38	4.11	3.62	2.91	4.38	3.87
Feb	28	4.24	5.32	5.15	4.68	4.00	5.32	4.79
Mar	31	3.59	5.31	5.42	5.25	4.92	5.42	4.99
Apr	30	2.61	4.69	5.06	5.19	5.27	5.19	4.67
May	31	2.32	4.94	5.62	6.03	6.45	6.03	5.23
Jun	30	2.16	5.29	6.23	6.86	7.51	7.13	5.86
Jul	31	2.23	5.10	5.91	6.43	6.96	6.43	5.51
Aug	31	2.75	5.54	6.15	6.44	6.68	6.46	5.67
Sept	30	3.43	5.51	5.75	5.68	5.47	5.75	5.27
Oct	31	3.58	4.76	4.71	4.42	3.95	4.77	4.37
Nov	30	3.44	4.09	3.90	3.51	2.92	4.09	3.66
Dec	31	3.58	4.04	3.76	3.28	2.59	4.09	3.56

Abu Ghraib								
Facing South East (45° from South)- Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	117.80	135.78	127.41	112.22	90.21	135.78	119.87
Feb	28	118.72	148.96	144.20	131.04	112.00	148.96	133.98
Mar	31	111.29	164.61	168.02	162.75	152.52	168.02	154.54
Apr	30	78.30	140.70	151.80	155.70	158.10	155.70	140.05
May	31	71.92	153.14	174.22	186.93	199.95	186.93	162.18
Jun	30	64.80	158.70	186.90	205.80	225.30	213.90	175.90
Jul	31	69.13	158.10	183.21	199.33	215.76	199.33	170.81
Aug	31	85.25	171.74	190.65	199.64	207.08	200.26	175.77
Sept	30	102.90	165.30	172.50	170.40	164.10	172.50	157.95
Oct	31	110.98	147.56	146.01	137.02	122.45	147.87	135.32
Nov	30	103.20	122.70	117.00	105.30	87.60	122.70	109.75
Dec	31	110.98	125.24	116.56	101.68	80.29	126.79	110.26
Annual	365	1,145.27	1,792.53	1,878.48	1,867.81	1,815.36	1,978.74	1,746.37



Arbil								ARB
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.27	3.71	3.51	3.12	2.40	3.71	3.29
Feb	28	3.22	4.03	3.95	3.67	3.11	4.03	3.67
Mar	31	3.35	4.75	4.86	4.73	4.36	4.86	4.49
Apr	30	2.83	4.78	5.19	5.34	5.38	5.34	4.81
May	31	2.52	5.04	5.76	6.19	6.60	6.19	5.38
Jun	30	2.36	5.33	6.29	6.94	7.61	7.24	5.96
Jul	31	2.45	5.32	6.19	6.76	7.32	6.76	5.80
Aug	31	2.96	5.56	6.18	6.48	6.66	6.51	5.73
Sept	30	3.76	5.76	6.00	5.92	5.53	6.00	5.50
Oct	31	3.85	4.92	4.86	4.54	3.87	4.94	4.50
Nov	30	3.54	4.10	3.90	3.49	2.72	4.10	3.64
Dec	31	3.18	3.52	3.30	2.89	2.16	3.57	3.10

Arbil								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	101.37	115.01	108.81	96.72	74.40	115.01	101.89
Feb	28	90.16	112.84	110.60	102.76	87.08	112.84	102.71
Mar	31	103.85	147.25	150.66	146.63	135.16	150.66	139.04
Apr	30	84.90	143.40	155.70	160.20	161.40	160.20	144.30
May	31	78.12	156.24	178.56	191.89	204.60	191.89	166.88
Jun	30	70.80	159.90	188.70	208.20	228.30	217.20	178.85
Jul	31	75.95	164.92	191.89	209.56	226.92	209.56	179.80
Aug	31	91.76	172.36	191.58	200.88	206.46	201.81	177.48
Sept	30	112.80	172.80	180.00	177.60	165.90	180.00	164.85
Oct	31	119.35	152.52	150.66	140.74	119.97	153.14	139.40
Nov	30	106.20	123.00	117.00	104.70	81.60	123.00	109.25
Dec	31	98.58	109.12	102.30	89.59	66.96	110.67	96.20
Annual	365	1,133.84	1,729.36	1,826.46	1,829.47	1,758.75	1,925.98	1,700.64



Baghdad								BGD
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.80	4.38	4.11	3.62	2.91	4.38	3.87
Feb	28	4.24	5.32	5.15	4.68	4.00	5.32	4.79
Mar	31	3.59	5.31	5.42	5.25	4.92	5.42	4.99
Apr	30	2.61	4.69	5.06	5.19	5.27	5.19	4.67
May	31	2.32	4.94	5.62	6.03	6.45	6.03	5.23
Jun	30	2.16	5.29	6.23	6.86	7.51	7.13	5.86
Jul	31	2.23	5.10	5.91	6.43	6.96	6.43	5.51
Aug	31	2.75	5.54	6.15	6.44	6.68	6.46	5.67
Sept	30	3.43	5.51	5.75	5.68	5.47	5.75	5.27
Oct	31	3.58	4.76	4.71	4.42	3.95	4.77	4.37
Nov	30	3.44	4.09	3.90	3.51	2.92	4.09	3.66
Dec	31	3.58	4.04	3.76	3.28	2.59	4.09	3.56

Baghdad								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	117.80	135.78	127.41	112.22	90.21	135.78	119.87
Feb	28	118.72	148.96	144.20	131.04	112.00	148.96	133.98
Mar	31	111.29	164.61	168.02	162.75	152.52	168.02	154.54
Apr	30	78.30	140.70	151.80	155.70	158.10	155.70	140.05
May	31	71.92	153.14	174.22	186.93	199.95	186.93	162.18
Jun	30	64.80	158.70	186.90	205.80	225.30	213.90	175.90
Jul	31	69.13	158.10	183.21	199.33	215.76	199.33	170.81
Aug	31	85.25	171.74	190.65	199.64	207.08	200.26	175.77
Sept	30	102.90	165.30	172.50	170.40	164.10	172.50	157.95
Oct	31	110.98	147.56	146.01	137.02	122.45	147.87	135.32
Nov	30	103.20	122.70	117.00	105.30	87.60	122.70	109.75
Dec	31	110.98	125.24	116.56	101.68	80.29	126.79	110.26
Annual	365	1,145.27	1,792.53	1,878.48	1,867.81	1,815.36	1,978.74	1,746.37



Baquba								BAQ
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.85	4.42	4.14	3.64	2.91	4.42	3.90
Feb	28	4.15	5.23	5.06	4.62	3.95	5.23	4.71
Mar	31	3.63	5.34	5.45	5.26	4.92	5.45	5.01
Apr	30	2.63	4.71	5.08	5.20	5.26	5.20	4.68
May	31	2.34	4.96	5.63	6.04	6.45	6.04	5.24
Jun	30	2.18	5.32	6.25	6.87	7.51	7.13	5.88
Jul	31	2.25	5.13	5.93	6.43	6.96	6.43	5.52
Aug	31	2.77	5.56	6.17	6.45	6.68	6.47	5.68
Sept	30	3.47	5.54	5.77	5.69	5.47	5.77	5.29
Oct	31	3.62	4.79	4.73	4.43	3.95	4.80	4.39
Nov	30	3.49	4.13	3.93	3.52	2.92	4.13	3.69
Dec	31	3.64	4.08	3.79	3.30	2.59	4.14	3.59

Baquba								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	119.35	137.02	128.34	112.84	90.21	137.02	120.80
Feb	28	116.20	146.44	141.68	129.36	110.60	146.44	131.79
Mar	31	112.53	165.54	168.95	163.06	152.52	168.95	155.26
Apr	30	78.90	141.30	152.40	156.00	157.80	156.00	140.40
May	31	72.54	153.76	174.53	187.24	199.95	187.24	162.54
Jun	30	65.40	159.60	187.50	206.10	225.30	213.90	176.30
Jul	31	69.75	159.03	183.83	199.33	215.76	199.33	171.17
Aug	31	85.87	172.36	191.27	199.95	207.08	200.57	176.18
Sept	30	104.10	166.20	173.10	170.70	164.10	173.10	158.55
Oct	31	112.22	148.49	146.63	137.33	122.45	148.80	135.99
Nov	30	104.70	123.90	117.90	105.60	87.60	123.90	110.60
Dec	31	112.84	126.48	117.49	102.30	80.29	128.34	111.29
Annual	365	1,154.40	1,800.12	1,883.62	1,869.81	1,813.66	1,983.59	1,750.87



Basra								BAS
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.69	4.38	4.12	3.64	3.11	4.38	3.89
Feb	28	3.95	5.14	4.99	4.56	4.10	5.14	4.65
Mar	31	3.24	5.01	5.12	4.97	4.80	5.12	4.71
Apr	30	2.50	4.78	5.15	5.26	5.39	5.26	4.72
May	31	2.17	4.98	5.65	6.05	6.47	6.05	5.23
Jun	30	1.97	5.33	6.27	6.89	7.53	7.15	5.86
Jul	31	2.06	5.24	6.07	6.60	7.15	6.60	5.62
Aug	31	2.52	5.42	6.00	6.28	6.56	6.30	5.51
Sept	30	3.26	5.52	5.76	5.68	5.59	5.76	5.26
Oct	31	3.42	4.71	4.67	4.39	4.08	4.73	4.33
Nov	30	3.14	3.87	3.70	3.34	2.96	3.87	3.48
Dec	31	3.29	3.83	3.59	3.15	2.69	3.88	3.41

Basra								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	114.39	135.78	127.72	112.84	96.41	135.78	120.49
Feb	28	110.60	143.92	139.72	127.68	114.80	143.92	130.11
Mar	31	100.44	155.31	158.72	154.07	148.80	158.72	146.01
Apr	30	75.00	143.40	154.50	157.80	161.70	157.80	141.70
May	31	67.27	154.38	175.15	187.55	200.57	187.55	162.08
Jun	30	59.10	159.90	188.10	206.70	225.90	214.50	175.70
Jul	31	63.86	162.44	188.17	204.60	221.65	204.60	174.22
Aug	31	78.12	168.02	186.00	194.68	203.36	195.30	170.91
Sept	30	97.80	165.60	172.80	170.40	167.70	172.80	157.85
Oct	31	106.02	146.01	144.77	136.09	126.48	146.63	134.33
Nov	30	94.20	116.10	111.00	100.20	88.80	116.10	104.40
Dec	31	101.99	118.73	111.29	97.65	83.39	120.28	105.56
Annual	365	1,068.79	1,769.59	1,857.94	1,850.26	1,839.56	1,953.98	1,723.35



Basra Qadima								BQD
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.69	4.38	4.12	3.64	3.11	4.38	3.89
Feb	28	3.95	5.14	4.99	4.56	4.10	5.14	4.65
Mar	31	3.24	5.01	5.12	4.97	4.80	5.12	4.71
Apr	30	2.50	4.78	5.15	5.26	5.39	5.26	4.72
May	31	2.17	4.98	5.65	6.05	6.47	6.05	5.23
Jun	30	1.97	5.33	6.27	6.89	7.53	7.15	5.86
Jul	31	2.06	5.24	6.07	6.60	7.15	6.60	5.62
Aug	31	2.52	5.42	6.00	6.28	6.56	6.30	5.51
Sept	30	3.26	5.52	5.76	5.68	5.59	5.76	5.26
Oct	31	3.42	4.71	4.67	4.39	4.08	4.73	4.33
Nov	30	3.14	3.87	3.70	3.34	2.96	3.87	3.48
Dec	31	3.29	3.83	3.59	3.15	2.69	3.88	3.41

Basra Qadima								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	114.39	135.78	127.72	112.84	96.41	135.78	120.49
Feb	28	110.60	143.92	139.72	127.68	114.80	143.92	130.11
Mar	31	100.44	155.31	158.72	154.07	148.80	158.72	146.01
Apr	30	75.00	143.40	154.50	157.80	161.70	157.80	141.70
May	31	67.27	154.38	175.15	187.55	200.57	187.55	162.08
Jun	30	59.10	159.90	188.10	206.70	225.90	214.50	175.70
Jul	31	63.86	162.44	188.17	204.60	221.65	204.60	174.22
Aug	31	78.12	168.02	186.00	194.68	203.36	195.30	170.91
Sept	30	97.80	165.60	172.80	170.40	167.70	172.80	157.85
Oct	31	106.02	146.01	144.77	136.09	126.48	146.63	134.33
Nov	30	94.20	116.10	111.00	100.20	88.80	116.10	104.40
Dec	31	101.99	118.73	111.29	97.65	83.39	120.28	105.56
Annual	365	1,068.79	1,769.59	1,857.94	1,850.26	1,839.56	1,953.98	1,723.35



Diwaniya								DIW
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.58	4.20	3.96	3.51	2.91	4.20	3.73
Feb	28	3.88	4.96	4.83	4.43	3.88	4.96	4.49
Mar	31	3.37	5.08	5.20	5.05	4.80	5.20	4.78
Apr	30	2.67	4.98	5.38	5.51	5.60	5.51	4.94
May	31	2.28	5.13	5.85	6.29	6.74	6.29	5.43
Jun	30	2.06	5.51	6.51	7.19	7.90	7.50	6.11
Jul	31	2.17	5.32	6.19	6.75	7.33	6.75	5.75
Aug	31	2.70	5.67	6.31	6.62	6.89	6.64	5.81
Sept	30	3.49	5.76	5.99	5.92	5.73	5.99	5.48
Oct	31	3.47	4.68	4.65	4.36	3.97	4.69	4.30
Nov	30	3.21	3.90	3.72	3.36	2.88	3.90	3.50
Dec	31	3.40	3.90	3.64	3.19	2.60	3.94	3.45

Diwaniya								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	110.98	130.20	122.76	108.81	90.21	130.20	115.53
Feb	28	108.64	138.88	135.24	124.04	108.64	138.88	125.72
Mar	31	104.47	157.48	161.20	156.55	148.80	161.20	148.28
Apr	30	80.10	149.40	161.40	165.30	168.00	165.30	148.25
May	31	70.68	159.03	181.35	194.99	208.94	194.99	168.33
Jun	30	61.80	165.30	195.30	215.70	237.00	225.00	183.35
Jul	31	67.27	164.92	191.89	209.25	227.23	209.25	178.30
Aug	31	83.70	175.77	195.61	205.22	213.59	205.84	179.96
Sept	30	104.70	172.80	179.70	177.60	171.90	179.70	164.40
Oct	31	107.57	145.08	144.15	135.16	123.07	145.39	133.40
Nov	30	96.30	117.00	111.60	100.80	86.40	117.00	104.85
Dec	31	105.40	120.90	112.84	98.89	80.60	122.14	106.80
Annual	365	1,101.61	1,796.76	1,893.04	1,892.31	1,864.38	1,994.89	1,757.17



Falluja								FAL
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.36	3.91	3.70	3.28	2.69	3.91	3.48
Feb	28	3.56	4.54	4.43	4.08	3.56	4.54	4.12
Mar	31	3.43	5.06	5.18	5.02	4.73	5.18	4.77
Apr	30	2.73	4.96	5.35	5.47	5.54	5.48	4.92
May	31	2.37	5.15	5.87	6.30	6.74	6.30	5.46
Jun	30	2.17	5.58	6.58	7.27	7.97	7.57	6.19
Jul	31	2.27	5.42	6.30	6.87	7.45	6.87	5.86
Aug	31	2.79	5.67	6.30	6.60	6.84	6.62	5.80
Sept	30	3.56	5.74	5.98	5.89	5.65	5.98	5.47
Oct	31	3.50	4.64	4.60	4.31	3.87	4.66	4.26
Nov	30	2.96	3.56	3.42	3.10	2.63	3.56	3.21
Dec	31	3.06	3.49	3.27	2.88	2.33	3.52	3.09

Falluja								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	104.16	121.21	114.70	101.68	83.39	121.21	107.73
Feb	28	99.68	127.12	124.04	114.24	99.68	127.12	115.31
Mar	31	106.33	156.86	160.58	155.62	146.63	160.58	147.77
Apr	30	81.90	148.80	160.50	164.10	166.20	164.40	147.65
May	31	73.47	159.65	181.97	195.30	208.94	195.30	169.11
Jun	30	65.10	167.40	197.40	218.10	239.10	227.10	185.70
Jul	31	70.37	168.02	195.30	212.97	230.95	212.97	181.76
Aug	31	86.49	175.77	195.30	204.60	212.04	205.22	179.90
Sept	30	106.80	172.20	179.40	176.70	169.50	179.40	164.00
Oct	31	108.50	143.84	142.60	133.61	119.97	144.46	132.16
Nov	30	88.80	106.80	102.60	93.00	78.90	106.80	96.15
Dec	31	94.86	108.19	101.37	89.28	72.23	109.12	95.84
Annual	365	1,086.46	1,755.86	1,855.76	1,859.20	1,827.53	1,953.68	1,723.08



Faw								FAW
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.77	4.48	4.23	3.73	3.19	4.48	3.98
Feb	28	4.22	5.50	5.33	4.85	4.34	5.50	4.96
Mar	31	3.18	4.94	5.06	4.92	4.77	5.06	4.66
Apr	30	2.51	4.85	5.23	5.37	5.50	5.37	4.81
May	31	2.16	5.06	5.78	6.19	6.64	6.19	5.34
Jun	30	1.94	5.32	6.26	6.90	7.55	7.17	5.86
Jul	31	2.03	5.31	6.18	6.73	7.30	6.73	5.71
Aug	31	2.51	5.50	6.10	6.39	6.69	6.42	5.60
Sept	30	3.28	5.60	5.84	5.78	5.69	5.84	5.34
Oct	31	3.43	4.74	4.70	4.43	4.12	4.76	4.36
Nov	30	3.14	3.89	3.72	3.37	2.99	3.89	3.50
Dec	31	3.42	3.98	3.73	3.28	2.78	4.03	3.54

Faw								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	116.87	138.88	131.13	115.63	98.89	138.88	123.38
Feb	28	118.16	154.00	149.24	135.80	121.52	154.00	138.79
Mar	31	98.58	153.14	156.86	152.52	147.87	156.86	144.31
Apr	30	75.30	145.50	156.90	161.10	165.00	161.10	144.15
May	31	66.96	156.86	179.18	191.89	205.84	191.89	165.44
Jun	30	58.20	159.60	187.80	207.00	226.50	215.10	175.70
Jul	31	62.93	164.61	191.58	208.63	226.30	208.63	177.11
Aug	31	77.81	170.50	189.10	198.09	207.39	199.02	173.65
Sept	30	98.40	168.00	175.20	173.40	170.70	175.20	160.15
Oct	31	106.33	146.94	145.70	137.33	127.72	147.56	135.26
Nov	30	94.20	116.70	111.60	101.10	89.70	116.70	105.00
Dec	31	106.02	123.38	115.63	101.68	86.18	124.93	109.64
Annual	365	1,079.76	1,798.11	1,889.92	1,884.17	1,873.61	1,989.87	1,752.57



Hilla								HIL
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.64	4.25	3.99	3.52	2.91	4.25	3.76
Feb	28	3.93	5.00	4.85	4.44	3.88	5.00	4.52
Mar	31	3.41	5.11	5.22	5.06	4.81	5.22	4.81
Apr	30	2.70	5.01	5.40	5.52	5.60	5.52	4.96
May	31	2.31	5.15	5.87	6.30	6.74	6.30	5.45
Jun	30	2.10	5.54	6.54	7.20	7.89	7.50	6.13
Jul	31	2.20	5.35	6.21	6.76	7.33	6.76	5.77
Aug	31	2.74	5.71	6.34	6.63	6.89	6.65	5.83
Sept	30	3.53	5.79	6.02	5.94	5.73	6.02	5.51
Oct	31	3.52	4.71	4.66	4.38	3.97	4.72	4.33
Nov	30	3.26	3.93	3.75	3.38	2.89	3.93	3.52
Dec	31	3.46	3.93	3.68	3.21	2.60	3.99	3.48

Hilla								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	112.84	131.75	123.69	109.12	90.21	131.75	116.56
Feb	28	110.04	140.00	135.80	124.32	108.64	140.00	126.47
Mar	31	105.71	158.41	161.82	156.86	149.11	161.82	148.96
Apr	30	81.00	150.30	162.00	165.60	168.00	165.60	148.75
May	31	71.61	159.65	181.97	195.30	208.94	195.30	168.80
Jun	30	63.00	166.20	196.20	216.00	236.70	225.00	183.85
Jul	31	68.20	165.85	192.51	209.56	227.23	209.56	178.82
Aug	31	84.94	177.01	196.54	205.53	213.59	206.15	180.63
Sept	30	105.90	173.70	180.60	178.20	171.90	180.60	165.15
Oct	31	109.12	146.01	144.46	135.78	123.07	146.32	134.13
Nov	30	97.80	117.90	112.50	101.40	86.70	117.90	105.70
Dec	31	107.26	121.83	114.08	99.51	80.60	123.69	107.83
Annual	365	1,117.42	1,808.61	1,902.17	1,897.18	1,864.69	2,003.69	1,765.63



Karbala								KAR
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.65	4.25	4.00	3.52	2.91	4.25	3.76
Feb	28	3.94	5.01	4.85	4.45	3.88	5.01	4.52
Mar	31	3.42	5.12	5.22	5.06	4.81	5.22	4.81
Apr	30	2.70	5.01	5.40	5.52	5.60	5.52	4.96
May	31	2.32	5.16	5.88	6.31	6.74	6.31	5.45
Jun	30	2.10	5.55	6.54	7.20	7.89	7.50	6.13
Jul	31	2.21	5.36	6.22	6.77	7.33	6.77	5.78
Aug	31	2.75	5.71	6.35	6.64	6.89	6.66	5.83
Sept	30	3.54	5.80	6.03	5.94	5.73	6.03	5.51
Oct	31	3.52	4.72	4.67	4.38	3.97	4.73	4.33
Nov	30	3.27	3.93	3.76	3.38	2.89	3.93	3.53
Dec	31	3.48	3.94	3.69	3.21	2.61	4.00	3.49

Karbala								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	113.15	131.75	124.00	109.12	90.21	131.75	116.66
Feb	28	110.32	140.28	135.80	124.60	108.64	140.28	126.65
Mar	31	106.02	158.72	161.82	156.86	149.11	161.82	149.06
Apr	30	81.00	150.30	162.00	165.60	168.00	165.60	148.75
May	31	71.92	159.96	182.28	195.61	208.94	195.61	169.05
Jun	30	63.00	166.50	196.20	216.00	236.70	225.00	183.90
Jul	31	68.51	166.16	192.82	209.87	227.23	209.87	179.08
Aug	31	85.25	177.01	196.85	205.84	213.59	206.46	180.83
Sept	30	106.20	174.00	180.90	178.20	171.90	180.90	165.35
Oct	31	109.12	146.32	144.77	135.78	123.07	146.63	134.28
Nov	30	98.10	117.90	112.80	101.40	86.70	117.90	105.80
Dec	31	107.88	122.14	114.39	99.51	80.91	124.00	108.14
Annual	365	1,120.47	1,811.04	1,904.63	1,898.39	1,865.00	2,005.82	1,767.56



Kirkuk								KIR
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.65	4.13	3.89	3.42	2.64	4.13	3.64
Feb	28	3.73	4.44	4.54	4.17	3.52	4.66	4.18
Mar	31	3.65	5.22	5.34	5.16	4.75	5.34	4.91
Apr	30	2.87	4.96	5.38	5.52	5.57	5.52	4.97
May	31	2.46	5.02	5.72	6.14	6.55	6.14	5.34
Jun	30	2.32	5.41	6.38	7.03	7.71	7.32	6.03
Jul	31	2.40	5.34	6.21	6.76	7.33	6.76	5.80
Aug	31	2.94	5.67	6.30	6.60	6.79	6.62	5.82
Sept	30	3.71	5.76	5.99	5.90	5.56	5.99	5.49
Oct	31	3.61	4.67	4.63	4.33	3.77	4.68	4.28
Nov	30	3.55	4.14	3.94	3.52	2.80	4.14	3.68
Dec	31	3.46	3.83	3.57	3.11	2.35	3.89	3.37

Kirkuk								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	113.15	128.03	120.59	106.02	81.84	128.03	112.94
Feb	28	104.44	124.32	127.12	116.76	98.56	130.48	116.95
Mar	31	113.15	161.82	165.54	159.96	147.25	165.54	152.21
Apr	30	86.10	148.80	161.40	165.60	167.10	165.60	149.10
May	31	76.26	155.62	177.32	190.34	203.05	190.34	165.49
Jun	30	69.60	162.30	191.40	210.90	231.30	219.60	180.85
Jul	31	74.40	165.54	192.51	209.56	227.23	209.56	179.80
Aug	31	91.14	175.77	195.30	204.60	210.49	205.22	180.42
Sept	30	111.30	172.80	179.70	177.00	166.80	179.70	164.55
Oct	31	111.91	144.77	143.53	134.23	116.87	145.08	132.73
Nov	30	106.50	124.20	118.20	105.60	84.00	124.20	110.45
Dec	31	107.26	118.73	110.67	96.41	72.85	120.59	104.42
	365	1,165.21	1,782.70	1,883.28	1,876.98	1,807.34	1,983.94	1,749.91



Kut								KUT
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.96	4.59	4.30	3.77	3.08	4.59	4.05
Feb	28	4.19	5.31	5.14	4.68	4.06	5.31	4.78
Mar	31	3.52	5.26	5.38	5.21	4.92	5.38	4.95
Apr	30	2.65	4.89	5.27	5.40	5.48	5.40	4.85
May	31	2.29	5.05	5.75	6.17	6.59	6.17	5.34
Jun	30	2.10	5.42	6.38	7.03	7.69	7.31	5.99
Jul	31	2.19	5.27	6.12	6.66	7.21	6.66	5.69
Aug	31	2.73	5.66	6.29	6.58	6.84	6.60	5.78
Sept	30	3.49	5.71	5.94	5.86	5.66	5.94	5.43
Oct	31	3.57	4.79	4.74	4.44	4.02	4.80	4.39
Nov	30	3.48	4.17	3.97	3.56	3.01	4.17	3.73
Dec	31	3.75	4.24	3.94	3.42	2.74	4.30	3.73

Kut								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	122.76	142.29	133.30	116.87	95.48	142.29	125.50
Feb	28	117.32	148.68	143.92	131.04	113.68	148.68	133.89
Mar	31	109.12	163.06	166.78	161.51	152.52	166.78	153.30
Apr	30	79.50	146.70	158.10	162.00	164.40	162.00	145.45
May	31	70.99	156.55	178.25	191.27	204.29	191.27	165.44
Jun	30	63.00	162.60	191.40	210.90	230.70	219.30	179.65
Jul	31	67.89	163.37	189.72	206.46	223.51	206.46	176.24
Aug	31	84.63	175.46	194.99	203.98	212.04	204.60	179.28
Sept	30	104.70	171.30	178.20	175.80	169.80	178.20	163.00
Oct	31	110.67	148.49	146.94	137.64	124.62	148.80	136.19
Nov	30	104.40	125.10	119.10	106.80	90.30	125.10	111.80
Dec	31	116.25	131.44	122.14	106.02	84.94	133.30	115.68
Annual	365	1,151.23	1,835.04	1,922.84	1,910.29	1,866.28	2,026.78	1,785.41



Mosul								MOS
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.38	3.84	3.62	3.20	2.45	3.84	3.39
Feb	28	3.44	4.28	4.19	3.87	3.25	4.28	3.89
Mar	31	3.51	4.96	5.07	4.92	4.51	5.07	4.67
Apr	30	2.89	4.89	5.31	5.46	5.49	5.46	4.92
May	31	2.52	5.04	5.76	6.18	6.59	6.18	5.38
Jun	30	2.37	5.34	6.31	6.95	7.62	7.25	5.97
Jul	31	2.45	5.32	6.19	6.75	7.31	6.75	5.80
Aug	31	3.00	5.64	6.27	6.57	6.75	6.60	5.81
Sept	30	3.68	5.61	5.86	5.78	5.42	5.86	5.37
Oct	31	3.72	4.76	4.71	4.40	3.77	4.78	4.36
Nov	30	3.62	4.18	3.97	3.53	2.75	4.18	3.71
Dec	31	3.27	3.61	3.37	2.94	2.19	3.66	3.17

Mosul								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	104.78	119.04	112.22	99.20	75.95	119.04	105.04
Feb	28	96.32	119.84	117.32	108.36	91.00	119.84	108.78
Mar	31	108.81	153.76	157.17	152.52	139.81	157.17	144.87
Apr	30	86.70	146.70	159.30	163.80	164.70	163.80	147.50
May	31	78.12	156.24	178.56	191.58	204.29	191.58	166.73
Jun	30	71.10	160.20	189.30	208.50	228.60	217.50	179.20
Jul	31	75.95	164.92	191.89	209.25	226.61	209.25	179.65
Aug	31	93.00	174.84	194.37	203.67	209.25	204.60	179.96
Sept	30	110.40	168.30	175.80	173.40	162.60	175.80	161.05
Oct	31	115.32	147.56	146.01	136.40	116.87	148.18	135.06
Nov	30	108.60	125.40	119.10	105.90	82.50	125.40	111.15
Dec	31	101.37	111.91	104.47	91.14	67.89	113.46	98.37
Annual	365	1,150.47	1,748.71	1,845.51	1,843.72	1,770.07	1,945.62	1,717.35



Mosul Jadida								MJD
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.38	3.84	3.62	3.20	2.45	3.84	3.39
Feb	28	3.44	4.28	4.19	3.87	3.25	4.28	3.89
Mar	31	3.51	4.96	5.07	4.92	4.51	5.07	4.67
Apr	30	2.89	4.89	5.31	5.46	5.49	5.46	4.92
May	31	2.52	5.04	5.76	6.18	6.59	6.18	5.38
Jun	30	2.37	5.34	6.31	6.95	7.62	7.25	5.97
Jul	31	2.45	5.32	6.19	6.75	7.31	6.75	5.80
Aug	31	3.00	5.64	6.27	6.57	6.75	6.60	5.81
Sept	30	3.68	5.61	5.86	5.78	5.42	5.86	5.37
Oct	31	3.72	4.76	4.71	4.40	3.77	4.78	4.36
Nov	30	3.62	4.18	3.97	3.53	2.75	4.18	3.71
Dec	31	3.27	3.61	3.37	2.94	2.19	3.66	3.17

Mosul Jadida								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	104.78	119.04	112.22	99.20	75.95	119.04	105.04
Feb	28	96.32	119.84	117.32	108.36	91.00	119.84	108.78
Mar	31	108.81	153.76	157.17	152.52	139.81	157.17	144.87
Apr	30	86.70	146.70	159.30	163.80	164.70	163.80	147.50
May	31	78.12	156.24	178.56	191.58	204.29	191.58	166.73
Jun	30	71.10	160.20	189.30	208.50	228.60	217.50	179.20
Jul	31	75.95	164.92	191.89	209.25	226.61	209.25	179.65
Aug	31	93.00	174.84	194.37	203.67	209.25	204.60	179.96
Sept	30	110.40	168.30	175.80	173.40	162.60	175.80	161.05
Oct	31	115.32	147.56	146.01	136.40	116.87	148.18	135.06
Nov	30	108.60	125.40	119.10	105.90	82.50	125.40	111.15
Dec	31	101.37	111.91	104.47	91.14	67.89	113.46	98.37
Annual	365	1,150.47	1,748.71	1,845.51	1,843.72	1,770.07	1,945.62	1,717.35



Najaf								NAJ
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.58	4.20	3.96	3.51	2.91	4.20	3.73
Feb	28	3.88	4.96	4.83	4.43	3.88	4.96	4.49
Mar	31	3.37	5.08	5.20	5.05	4.80	5.20	4.78
Apr	30	2.67	4.98	5.38	5.51	5.60	5.51	4.94
May	31	2.28	5.13	5.85	6.29	6.74	6.29	5.43
Jun	30	2.06	5.51	6.51	7.19	7.90	7.50	6.11
Jul	31	2.17	5.32	6.19	6.75	7.33	6.75	5.75
Aug	31	2.70	5.67	6.31	6.62	6.89	6.64	5.81
Sept	30	3.49	5.76	5.99	5.92	5.73	5.99	5.48
Oct	31	3.47	4.68	4.65	4.36	3.97	4.69	4.30
Nov	30	3.21	3.90	3.72	3.36	2.88	3.90	3.50
Dec	31	3.40	3.90	3.64	3.19	2.60	3.94	3.45

Najaf								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	110.98	130.20	122.76	108.81	90.21	130.20	115.53
Feb	28	108.64	138.88	135.24	124.04	108.64	138.88	125.72
Mar	31	104.47	157.48	161.20	156.55	148.80	161.20	148.28
Apr	30	80.10	149.40	161.40	165.30	168.00	165.30	148.25
May	31	70.68	159.03	181.35	194.99	208.94	194.99	168.33
Jun	30	61.80	165.30	195.30	215.70	237.00	225.00	183.35
Jul	31	67.27	164.92	191.89	209.25	227.23	209.25	178.30
Aug	31	83.70	175.77	195.61	205.22	213.59	205.84	179.96
Sept	30	104.70	172.80	179.70	177.60	171.90	179.70	164.40
Oct	31	107.57	145.08	144.15	135.16	123.07	145.39	133.40
Nov	30	96.30	117.00	111.60	100.80	86.40	117.00	104.85
Dec	31	105.40	120.90	112.84	98.89	80.60	122.14	106.80
Annual	365	1,101.61	1,796.76	1,893.04	1,892.31	1,864.38	1,994.89	1,757.17



Nasiriya								NAS
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	3.92	4.61	4.33	3.80	3.18	4.61	4.08
Feb	28	4.12	5.31	5.15	4.70	4.15	5.31	4.79
Mar	31	3.31	5.05	5.18	5.03	4.82	5.18	4.76
Apr	30	2.57	4.88	5.26	5.40	5.51	5.40	4.84
May	31	2.21	5.04	5.75	6.18	6.61	6.18	5.33
Jun	30	2.00	5.35	6.30	6.94	7.60	7.22	5.90
Jul	31	2.11	5.26	6.12	6.66	7.22	6.66	5.67
Aug	31	2.62	5.63	6.26	6.56	6.84	6.58	5.75
Sept	30	3.37	5.66	5.91	5.83	5.69	5.91	5.40
Oct	31	3.54	4.83	4.79	4.48	4.12	4.84	4.43
Nov	30	3.32	4.05	3.88	3.49	3.03	4.05	3.64
Dec	31	3.59	4.12	3.85	3.35	2.78	4.18	3.65

Nasiriya								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	121.52	142.91	134.23	117.80	98.58	142.91	126.33
Feb	28	115.36	148.68	144.20	131.60	116.20	148.68	134.12
Mar	31	102.61	156.55	160.58	155.93	149.42	160.58	147.61
Apr	30	77.10	146.40	157.80	162.00	165.30	162.00	145.10
May	31	68.51	156.24	178.25	191.58	204.91	191.58	165.18
Jun	30	60.00	160.50	189.00	208.20	228.00	216.60	177.05
Jul	31	65.41	163.06	189.72	206.46	223.82	206.46	175.82
Aug	31	81.22	174.53	194.06	203.36	212.04	203.98	178.20
Sept	30	101.10	169.80	177.30	174.90	170.70	177.30	161.85
Oct	31	109.74	149.73	148.49	138.88	127.72	150.04	137.43
Nov	30	99.60	121.50	116.40	104.70	90.90	121.50	109.10
Dec	31	111.29	127.72	119.35	103.85	86.18	129.58	113.00
Annual	365	1,113.46	1,817.62	1,909.38	1,899.26	1,873.77	2,011.21	1,770.78



Omara								OMR
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	4.08	4.74	4.44	3.88	3.21	4.74	4.18
Feb	28	4.42	5.62	5.42	4.92	4.30	5.63	5.05
Mar	31	3.40	5.15	5.25	5.09	4.86	5.25	4.83
Apr	30	2.60	4.88	5.25	5.38	5.47	5.38	4.83
May	31	2.24	5.03	5.70	6.10	6.52	6.10	5.28
Jun	30	2.05	5.30	6.21	6.82	7.45	7.08	5.82
Jul	31	2.15	5.20	6.01	6.53	7.05	6.53	5.58
Aug	31	2.64	5.54	6.13	6.41	6.67	6.42	5.64
Sept	30	3.37	5.60	5.82	5.74	5.60	5.82	5.33
Oct	31	3.68	4.97	4.90	4.58	4.18	4.98	4.55
Nov	30	3.52	4.25	4.05	3.62	3.11	4.25	3.80
Dec	31	3.77	4.29	3.99	3.46	2.83	4.36	3.78

Omara								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	126.48	146.94	137.64	120.28	99.51	146.94	129.63
Feb	28	123.76	157.36	151.76	137.76	120.40	157.64	141.45
Mar	31	105.40	159.65	162.75	157.79	150.66	162.75	149.83
Apr	30	78.00	146.40	157.50	161.40	164.10	161.40	144.80
May	31	69.44	155.93	176.70	189.10	202.12	189.10	163.73
Jun	30	61.50	159.00	186.30	204.60	223.50	212.40	174.55
Jul	31	66.65	161.20	186.31	202.43	218.55	202.43	172.93
Aug	31	81.84	171.74	190.03	198.71	206.77	199.02	174.69
Sept	30	101.10	168.00	174.60	172.20	168.00	174.60	159.75
Oct	31	114.08	154.07	151.90	141.98	129.58	154.38	141.00
Nov	30	105.60	127.50	121.50	108.60	93.30	127.50	114.00
Dec	31	116.87	132.99	123.69	107.26	87.73	135.16	117.28
Annual	365	1,150.72	1,840.78	1,920.68	1,902.11	1,864.22	2,023.32	1,783.64



Ramadi								RAM
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.36	3.91	3.70	3.28	2.69	3.91	3.48
Feb	28	3.56	4.54	4.43	4.08	3.56	4.54	4.12
Mar	31	3.43	5.06	5.18	5.02	4.73	5.18	4.77
Apr	30	2.73	4.96	5.35	5.47	5.54	5.48	4.92
May	31	2.37	5.15	5.87	6.30	6.74	6.30	5.46
Jun	30	2.17	5.58	6.58	7.27	7.97	7.57	6.19
Jul	31	2.27	5.42	6.30	6.87	7.45	6.87	5.86
Aug	31	2.79	5.67	6.30	6.60	6.84	6.62	5.80
Sept	30	3.56	5.74	5.98	5.89	5.65	5.98	5.47
Oct	31	3.50	4.64	4.60	4.31	3.87	4.66	4.26
Nov	30	2.96	3.56	3.42	3.10	2.63	3.56	3.21
Dec	31	3.06	3.49	3.27	2.88	2.33	3.52	3.09

Ramadi								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	104.16	121.21	114.70	101.68	83.39	121.21	107.73
Feb	28	99.68	127.12	124.04	114.24	99.68	127.12	115.31
Mar	31	106.33	156.86	160.58	155.62	146.63	160.58	147.77
Apr	30	81.90	148.80	160.50	164.10	166.20	164.40	147.65
May	31	73.47	159.65	181.97	195.30	208.94	195.30	169.11
Jun	30	65.10	167.40	197.40	218.10	239.10	227.10	185.70
Jul	31	70.37	168.02	195.30	212.97	230.95	212.97	181.76
Aug	31	86.49	175.77	195.30	204.60	212.04	205.22	179.90
Sept	30	106.80	172.20	179.40	176.70	169.50	179.40	164.00
Oct	31	108.50	143.84	142.60	133.61	119.97	144.46	132.16
Nov	30	88.80	106.80	102.60	93.00	78.90	106.80	96.15
Dec	31	94.86	108.19	101.37	89.28	72.23	109.12	95.84
Annual	365	1,086.46	1,755.86	1,855.76	1,859.20	1,827.53	1,953.68	1,723.08



Samara								SAM
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.70	4.24	3.99	3.52	2.78	4.24	3.75
Feb	28	3.54	4.49	4.40	4.06	3.50	4.49	4.08
Mar	31	3.42	4.98	5.10	4.95	4.63	5.10	4.70
Apr	30	2.77	4.89	5.31	5.46	5.54	5.46	4.91
May	31	2.41	5.15	5.89	6.33	6.77	6.33	5.48
Jun	30	2.23	5.56	6.56	7.26	7.97	7.57	6.19
Jul	31	2.33	5.43	6.33	6.92	7.50	6.92	5.91
Aug	31	2.88	5.73	6.37	6.69	6.91	6.71	5.88
Sept	30	3.71	5.90	6.15	6.05	5.75	6.15	5.62
Oct	31	3.55	4.66	4.63	4.34	3.84	4.68	4.28
Nov	30	3.08	3.67	3.52	3.17	2.64	3.67	3.29
Dec	31	3.16	3.57	3.34	2.94	2.31	3.61	3.16

Samara								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	114.70	131.44	123.69	109.12	86.18	131.44	116.10
Feb	28	99.12	125.72	123.20	113.68	98.00	125.72	114.24
Mar	31	106.02	154.38	158.10	153.45	143.53	158.10	145.60
Apr	30	83.10	146.70	159.30	163.80	166.20	163.80	147.15
May	31	74.71	159.65	182.59	196.23	209.87	196.23	169.88
Jun	30	66.90	166.80	196.80	217.80	239.10	227.10	185.75
Jul	31	72.23	168.33	196.23	214.52	232.50	214.52	183.06
Aug	31	89.28	177.63	197.47	207.39	214.21	208.01	182.33
Sept	30	111.30	177.00	184.50	181.50	172.50	184.50	168.55
Oct	31	110.05	144.46	143.53	134.54	119.04	145.08	132.78
Nov	30	92.40	110.10	105.60	95.10	79.20	110.10	98.75
Dec	31	97.96	110.67	103.54	91.14	71.61	111.91	97.81
Annual	365	1,117.77	1,772.88	1,874.55	1,878.27	1,831.94	1,976.51	1,741.99



Sinah								SIN
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	3.45	3.89	3.66	3.22	2.45	3.89	3.43
Feb	28	3.49	4.31	4.22	3.89	3.25	4.31	3.91
Mar	31	3.54	4.99	5.10	4.94	4.51	5.10	4.70
Apr	30	2.92	4.92	5.33	5.47	5.49	5.47	4.93
May	31	2.56	5.06	5.78	6.20	6.59	6.20	5.40
Jun	30	2.40	5.38	6.33	6.96	7.62	7.25	5.99
Jul	31	2.49	5.35	6.21	6.77	7.31	6.77	5.82
Aug	31	3.04	5.67	6.30	6.59	6.75	6.61	5.83
Sept	30	3.72	5.65	5.89	5.80	5.42	5.89	5.40
Oct	31	3.77	4.81	4.74	4.42	3.77	4.82	4.39
Nov	30	3.69	4.23	4.01	3.56	2.76	4.23	3.75
Dec	31	3.32	3.66	3.41	2.96	2.19	3.71	3.21

Sinah								SIN
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	106.95	120.59	113.46	99.82	75.95	120.59	106.23
Feb	28	97.72	120.68	118.16	108.92	91.00	120.68	109.53
Mar	31	109.74	154.69	158.10	153.14	139.81	158.10	145.60
Apr	30	87.60	147.60	159.90	164.10	164.70	164.10	148.00
May	31	79.36	156.86	179.18	192.20	204.29	192.20	167.35
Jun	30	72.00	161.40	189.90	208.80	228.60	217.50	179.70
Jul	31	77.19	165.85	192.51	209.87	226.61	209.87	180.32
Aug	31	94.24	175.77	195.30	204.29	209.25	204.91	180.63
Sept	30	111.60	169.50	176.70	174.00	162.60	176.70	161.85
Oct	31	116.87	149.11	146.94	137.02	116.87	149.42	136.04
Nov	30	110.70	126.90	120.30	106.80	82.80	126.90	112.40
Dec	31	102.92	113.46	105.71	91.76	67.89	115.01	99.46
Annual	365	1,166.89	1,762.41	1,856.16	1,850.72	1,770.37	1,955.98	1,727.09



Sulaymaniya								SUL
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.61	4.09	3.86	3.39	2.63	4.09	3.61
Feb	28	3.53	4.43	4.32	3.99	3.38	4.43	4.01
Mar	31	3.46	4.95	5.06	4.91	4.54	5.06	4.66
Apr	30	2.79	4.78	5.19	5.33	5.38	5.33	4.80
May	31	2.48	5.08	5.80	6.22	6.64	6.22	5.41
Jun	30	2.32	5.37	6.33	6.96	7.63	7.25	5.98
Jul	31	2.40	5.31	6.17	6.72	7.27	6.72	5.77
Aug	31	2.93	5.60	6.22	6.51	6.70	6.54	5.75
Sept	30	3.72	5.77	5.99	5.91	5.56	5.99	5.49
Oct	31	3.80	4.90	4.84	4.51	3.90	4.91	4.48
Nov	30	3.55	4.13	3.92	3.51	2.79	4.13	3.67
Dec	31	3.38	3.74	3.50	3.04	2.31	3.80	3.30

Sulaymaniya								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	111.91	126.79	119.66	105.09	81.53	126.79	111.96
Feb	28	98.84	124.04	120.96	111.72	94.64	124.04	112.37
Mar	31	107.26	153.45	156.86	152.21	140.74	156.86	144.56
Apr	30	83.70	143.40	155.70	159.90	161.40	159.90	144.00
May	31	76.88	157.48	179.80	192.82	205.84	192.82	167.61
Jun	30	69.60	161.10	189.90	208.80	228.90	217.50	179.30
Jul	31	74.40	164.61	191.27	208.32	225.37	208.32	178.72
Aug	31	90.83	173.60	192.82	201.81	207.70	202.74	178.25
Sept	30	111.60	173.10	179.70	177.30	166.80	179.70	164.70
Oct	31	117.80	151.90	150.04	139.81	120.90	152.21	138.78
Nov	30	106.50	123.90	117.60	105.30	83.70	123.90	110.15
Dec	31	104.78	115.94	108.50	94.24	71.61	117.80	102.15
Annual	365	1,154.10	1,769.31	1,862.81	1,857.32	1,789.13	1,962.58	1,732.54



Sumawa								SUM
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	3.62	4.28	4.03	3.56	3.00	4.28	3.80
Feb	28	3.78	4.88	4.76	4.37	3.89	4.88	4.43
Mar	31	3.33	5.08	5.20	5.04	4.83	5.20	4.78
Apr	30	2.63	5.00	5.39	5.51	5.62	5.52	4.95
May	31	2.24	5.15	5.86	6.30	6.74	6.30	5.43
Jun	30	2.01	5.47	6.45	7.11	7.79	7.40	6.04
Jul	31	2.12	5.40	6.27	6.84	7.41	6.84	5.81
Aug	31	2.63	5.62	6.25	6.55	6.82	6.56	5.74
Sept	30	3.46	5.80	6.04	5.96	5.80	6.04	5.52
Oct	31	3.54	4.83	4.78	4.47	4.11	4.84	4.43
Nov	30	3.21	3.92	3.75	3.39	2.95	3.92	3.52
Dec	31	3.40	3.91	3.66	3.21	2.67	3.96	3.47

Sumawa								
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	112.22	132.68	124.93	110.36	93.00	132.68	117.65
Feb	28	105.84	136.64	133.28	122.36	108.92	136.64	123.95
Mar	31	103.23	157.48	161.20	156.24	149.73	161.20	148.18
Apr	30	78.90	150.00	161.70	165.30	168.60	165.60	148.35
May	31	69.44	159.65	181.66	195.30	208.94	195.30	168.38
Jun	30	60.30	164.10	193.50	213.30	233.70	222.00	181.15
Jul	31	65.72	167.40	194.37	212.04	229.71	212.04	180.21
Aug	31	81.53	174.22	193.75	203.05	211.42	203.36	177.89
Sept	30	103.80	174.00	181.20	178.80	174.00	181.20	165.50
Oct	31	109.74	149.73	148.18	138.57	127.41	150.04	137.28
Nov	30	96.30	117.60	112.50	101.70	88.50	117.60	105.70
Dec	31	105.40	121.21	113.46	99.51	82.77	122.76	107.52
Annual	365	1,092.42	1,804.71	1,899.73	1,896.53	1,876.70	2,000.42	1,761.75



Zubair								ZUB
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.68	4.37	4.11	3.64	3.11	4.37	3.88
Feb	28	3.94	5.13	4.99	4.56	4.10	5.13	4.64
Mar	31	3.23	5.00	5.11	4.97	4.80	5.11	4.70
Apr	30	2.50	4.77	5.14	5.26	5.39	5.26	4.72
May	31	2.17	4.97	5.64	6.04	6.47	6.04	5.22
Jun	30	1.96	5.33	6.26	6.89	7.53	7.15	5.85
Jul	31	2.06	5.23	6.07	6.60	7.15	6.60	5.62
Aug	31	2.51	5.42	6.00	6.28	6.56	6.30	5.51
Sept	30	3.25	5.52	5.75	5.68	5.59	5.75	5.26
Oct	31	3.42	4.71	4.66	4.38	4.08	4.72	4.33
Nov	30	3.13	3.86	3.70	3.34	2.96	3.86	3.48
Dec	31	3.28	3.82	3.58	3.14	2.68	3.87	3.40

Zubair								ZUB
Facing South East (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	114.08	135.47	127.41	112.84	96.41	135.47	120.28
Feb	28	110.32	143.64	139.72	127.68	114.80	143.64	129.97
Mar	31	100.13	155.00	158.41	154.07	148.80	158.41	145.80
Apr	30	75.00	143.10	154.20	157.80	161.70	157.80	141.60
May	31	67.27	154.07	174.84	187.24	200.57	187.24	161.87
Jun	30	58.80	159.90	187.80	206.70	225.90	214.50	175.60
Jul	31	63.86	162.13	188.17	204.60	221.65	204.60	174.17
Aug	31	77.81	168.02	186.00	194.68	203.36	195.30	170.86
Sept	30	97.50	165.60	172.50	170.40	167.70	172.50	157.70
Oct	31	106.02	146.01	144.46	135.78	126.48	146.32	134.18
Nov	30	93.90	115.80	111.00	100.20	88.80	115.80	104.25
Dec	31	101.68	118.42	110.98	97.34	83.08	119.97	105.25
Annual	365	1066.37	1767.16	1855.49	1849.33	1839.25	1951.55	1721.53





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Electricity Bill Calculator

Average Solar Irradiance for Different Angles (KWh/m².year)

Facing South East (67.5° from South)

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted throughout the Year	Average
1	Abu Ghraib	1,055	1,651	1,730	1,720	1,815	1,823	1,633
2	Arbil	1,044	1,593	1,683	1,685	1,759	1,774	1,590
3	Baghdad	1,056	1,651	1,730	1,720	1,815	1,823	1,633
4	Baquba	1,062	1,658	1,735	1,722	1,814	1,827	1,636
5	Basra	984	1,629	1,712	1,704	1,840	1,800	1,611
6	Basrah Qadima	984	1,629	1,712	1,704	1,840	1,800	1,611
7	Diwaniya	1,014	1,654	1,654	1,744	1,864	1,838	1,628
8	Falluja	1,001	1,617	1,709	1,712	1,828	1,799	1,611
9	Faw	994	1,657	1,741	1,735	1,874	1,833	1,639
10	Hilla	1,029	1,665	1,753	1,748	1,865	1,845	1,651
11	Karbala	1,037	1,668	1,754	1,749	1,865	1,847	1,653
12	Kirkuk	1,073	1,649	1,734	1,728	1,807	1,828	1,637
13	Kut	1,060	1,691	1,771	1,728	1,866	1,866	1,664
14	Mosul	1,061	1,611	1,700	1,699	1,770	1,793	1,605
15	Mosul Jadida	1,061	1,611	1,700	1,699	1,770	1,793	1,605
16	Najaf	1,014	1,654	1,743	1,744	1,864	1,838	1,643
17	Nasiriya	1,026	1,675	1,758	1,749	1,874	1,852	1,656
18	Omara	1,060	1,696	1,770	1,751	1,865	1,863	1,667
19	Ramadi	1,001	1,617	1,709	1,712	1,828	1,800	1,611
20	Samara	1,030	1,633	1,727	1,729	1,832	1,820	1,628
21	Sinah	1,074	1,623	1,709	1,705	1,770	1,802	1,614
22	Sulaymaniya	1,063	1,630	1,715	1,711	1,789	1,808	1,619
23	Sumawa	1,006	1,662	1,750	1,747	1,877	1,843	1,647
24	Zubair	982	1,627	1,706	1,703	1,839	1,797	1,609
	Average	1,032	1,644	1,725	1,723	1,830	1,821	1,629

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Inclination (Tilt) Angle of the Solar Panel (°)

Facing South East (67.5° from South)

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted throughout the Year
1	Abu Ghraib	0	42	57	72	90	0-90
2	Arbil	0	39	54	69	90	0-90
3	Baghdad	0	42	57	72	90	0-90
4	Baquba	0	41	56	71	90	0-90
5	Basra	0	45	60	75	90	0-90
6	Basrah Qadima	0	45	60	75	90	0-90
7	Diwaniya	0	43	58	73	90	0-90
8	Falluja	0	42	57	72	90	0-90
9	Faw	0	45	60	75	90	0-90
10	Hilla	0	43	58	73	90	0-90
11	Karbala	0	42	57	72	90	0-90
12	Kirkuk	0	39	54	69	90	0-90
13	Kut	0	43	58	73	90	0-90
14	Mosul	0	39	54	69	90	0-90
15	Mosul Jadida	0	39	54	69	90	0-90
16	Najaf	0	43	58	73	90	0-90
17	Nasiriya	0	44	59	74	90	0-90
18	Omara	0	43	58	73	90	0-90
19	Ramadi	0	42	57	72	90	0-90
20	Samara	0	41	56	71	90	0-90
21	Sinah	0	38	53	68	90	0-90
22	Sulaymaniya	0	39	54	69	90	0-90
23	Sumawa	0	44	59	74	90	0-90
24	Zubair	0	45	60	75	90	0-90

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Iraq								IRQ
		VER	WIN	OPT	SUM	HOR	ADJ	SE3
Abu Ghraib								GRB
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.50	4.03	3.79	3.33	2.91	4.03	3.60
Feb	28	3.90	4.90	4.74	4.31	4.00	4.90	4.46
Mar	31	3.31	4.89	5.00	4.84	4.92	5.00	4.66
Apr	30	2.41	4.32	4.66	4.78	5.27	4.78	4.37
May	31	2.14	4.55	5.18	5.56	6.45	5.56	4.91
Jun	30	1.99	4.87	5.74	6.32	7.51	6.57	5.50
Jul	31	2.06	4.70	5.44	5.92	6.96	5.92	5.17
Aug	31	2.53	5.10	5.66	5.93	6.68	5.95	5.31
Sept	30	3.16	5.08	5.29	5.23	5.47	5.29	4.92
Oct	31	3.30	4.38	4.34	4.07	3.95	4.39	4.07
Nov	30	3.17	3.77	3.60	3.23	2.92	3.77	3.41
Dec	31	3.30	3.72	3.46	3.02	2.59	3.77	3.31

Abu Ghraib								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	108.50	124.93	117.49	103.23	90.21	124.93	111.55
Feb	28	109.20	137.20	132.72	120.68	112.00	137.20	124.83
Mar	31	102.61	151.59	155.00	150.04	152.52	155.00	144.46
Apr	30	72.30	129.60	139.80	143.40	158.10	143.40	131.10
May	31	66.34	141.05	160.58	172.36	199.95	172.36	152.11
Jun	30	59.70	146.10	172.20	189.60	225.30	197.10	165.00
Jul	31	63.86	145.70	168.64	183.52	215.76	183.52	160.17
Aug	31	78.43	158.10	175.46	183.83	207.08	184.45	164.56
Sept	30	94.80	152.40	158.70	156.90	164.10	158.70	147.60
Oct	31	102.30	135.78	134.54	126.17	122.45	136.09	126.22
Nov	30	95.10	113.10	108.00	96.90	87.60	113.10	102.30
Dec	31	102.30	115.32	107.26	93.62	80.29	116.87	102.61
Annual	365	1,055.44	1,650.87	1,730.39	1,720.25	1,815.36	1,822.72	1,632.51



Arbil								ARB
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.01	3.42	3.23	2.87	2.40	3.42	3.06
Feb	28	2.97	3.71	3.64	3.38	3.11	3.71	3.42
Mar	31	3.09	4.38	4.48	4.36	4.36	4.48	4.19
Apr	30	2.61	4.40	4.78	4.92	5.38	4.92	4.50
May	31	2.32	4.65	5.30	5.70	6.60	5.70	5.05
Jun	30	2.17	4.91	5.79	6.40	7.61	6.67	5.59
Jul	31	2.26	4.90	5.70	6.23	7.32	6.23	5.44
Aug	31	2.73	5.12	5.70	5.97	6.66	5.99	5.36
Sept	30	3.46	5.30	5.53	5.45	5.53	5.53	5.13
Oct	31	3.54	4.53	4.48	4.18	3.87	4.55	4.19
Nov	30	3.26	3.78	3.60	3.21	2.72	3.78	3.39
Dec	31	2.93	3.25	3.06	2.66	2.16	3.29	2.89

Arbil								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	93.31	106.02	100.13	88.97	74.40	106.02	94.81
Feb	28	83.16	103.88	101.92	94.64	87.08	103.88	95.76
Mar	31	95.79	135.78	138.88	135.16	135.16	138.88	129.94
Apr	30	78.30	132.00	143.40	147.60	161.40	147.60	135.05
May	31	71.92	144.15	164.30	176.70	204.60	176.70	156.40
Jun	30	65.10	147.30	173.70	192.00	228.30	200.10	167.75
Jul	31	70.06	151.90	176.70	193.13	226.92	193.13	168.64
Aug	31	84.63	158.72	176.70	185.07	206.46	185.69	166.21
Sept	30	103.80	159.00	165.90	163.50	165.90	165.90	154.00
Oct	31	109.74	140.43	138.88	129.58	119.97	141.05	129.94
Nov	30	97.80	113.40	108.00	96.30	81.60	113.40	101.75
Dec	31	90.83	100.75	94.86	82.46	66.96	101.99	89.64
Annual	365	1,044.44	1,593.33	1,683.37	1,685.11	1,758.75	1,774.34	1,589.89



Baghdad								BGD
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.50	4.03	3.79	3.33	2.91	4.03	3.60
Feb	28	3.90	4.90	4.74	4.31	4.00	4.90	4.46
Mar	31	3.31	4.89	5.00	4.84	4.92	5.00	4.66
Apr	30	2.41	4.32	4.66	4.78	5.27	4.78	4.37
May	31	2.14	4.55	5.18	5.56	6.45	5.56	4.91
Jun	30	1.99	4.87	5.74	6.32	7.51	6.57	5.50
Jul	31	2.06	4.70	5.44	5.92	6.96	5.92	5.17
Aug	31	2.53	5.10	5.66	5.93	6.68	5.95	5.31
Sept	30	3.16	5.08	5.29	5.23	5.47	5.29	4.92
Oct	31	3.30	4.38	4.34	4.07	3.95	4.39	4.07
Nov	30	3.17	3.77	3.60	3.23	2.92	3.77	3.41
Dec	31	3.30	3.72	3.46	3.02	2.59	3.77	3.31

Baghdad								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	109.20	124.93	117.49	103.23	90.21	124.93	111.67
Feb	28	109.20	137.20	132.72	120.68	112.00	137.20	124.83
Mar	31	102.61	151.59	155.00	150.04	152.52	155.00	144.46
Apr	30	72.30	129.60	139.80	143.40	158.10	143.40	131.10
May	31	66.34	141.05	160.58	172.36	199.95	172.36	152.11
Jun	30	59.70	146.10	172.20	189.60	225.30	197.10	165.00
Jul	31	63.86	145.70	168.64	183.52	215.76	183.52	160.17
Aug	31	78.43	158.10	175.46	183.83	207.08	184.45	164.56
Sept	30	94.80	152.40	158.70	156.90	164.10	158.70	147.60
Oct	31	102.30	135.78	134.54	126.17	122.45	136.09	126.22
Nov	30	95.10	113.10	108.00	96.90	87.60	113.10	102.30
Dec	31	102.30	115.32	107.26	93.62	80.29	116.87	102.61
Annual	365	1,056.14	1,650.87	1,730.39	1,720.25	1,815.36	1,822.72	1,632.62



Baquba								BAQ
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.54	4.07	3.82	3.35	2.91	4.07	3.63
Feb	28	3.82	4.82	4.66	4.25	3.95	4.82	4.39
Mar	31	3.34	4.92	5.02	4.85	4.92	5.02	4.68
Apr	30	2.42	4.34	4.68	4.79	5.26	4.79	4.38
May	31	2.15	4.57	5.19	5.56	6.45	5.56	4.91
Jun	30	2.01	4.90	5.76	6.33	7.51	6.57	5.51
Jul	31	2.07	4.72	5.46	5.92	6.96	5.92	5.18
Aug	31	2.56	5.12	5.68	5.94	6.68	5.96	5.32
Sept	30	3.19	5.10	5.31	5.24	5.47	5.31	4.94
Oct	31	3.33	4.41	4.36	4.08	3.95	4.42	4.09
Nov	30	3.21	3.81	3.62	3.24	2.92	3.81	3.44
Dec	31	3.35	3.75	3.49	3.04	2.59	3.82	3.34

Baquba								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	109.74	126.17	118.42	103.85	90.21	126.17	112.43
Feb	28	106.96	134.96	130.48	119.00	110.60	134.96	122.83
Mar	31	103.54	152.52	155.62	150.35	152.52	155.62	145.03
Apr	30	72.60	130.20	140.40	143.70	157.80	143.70	131.40
May	31	66.65	141.67	160.89	172.36	199.95	172.36	152.31
Jun	30	60.30	147.00	172.80	189.90	225.30	197.10	165.40
Jul	31	64.17	146.32	169.26	183.52	215.76	183.52	160.43
Aug	31	79.36	158.72	176.08	184.14	207.08	184.76	165.02
Sept	30	95.70	153.00	159.30	157.20	164.10	159.30	148.10
Oct	31	103.23	136.71	135.16	126.48	122.45	137.02	126.84
Nov	30	96.30	114.30	108.60	97.20	87.60	114.30	103.05
Dec	31	103.85	116.25	108.19	94.24	80.29	118.42	103.54
Annual	365	1,062.40	1,657.82	1,735.20	1,721.94	1,813.66	1,827.23	1,636.38



Basra								BAS
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.40	4.03	3.80	3.35	3.11	4.03	3.62
Feb	28	3.64	4.73	4.59	4.20	4.10	4.74	4.33
Mar	31	2.98	4.61	4.72	4.58	4.80	4.72	4.40
Apr	30	2.30	4.40	4.74	4.85	5.39	4.85	4.42
May	31	2.00	4.58	5.21	5.57	6.47	5.57	4.90
Jun	30	1.81	4.91	5.78	6.34	7.53	6.59	5.49
Jul	31	1.90	4.83	5.59	6.08	7.15	6.08	5.27
Aug	31	2.32	5.00	5.53	5.78	6.56	5.80	5.17
Sept	30	3.00	5.08	5.30	5.23	5.59	5.30	4.92
Oct	31	3.15	4.34	4.30	4.04	4.08	4.36	4.05
Nov	30	2.89	3.56	3.41	3.08	2.96	3.56	3.24
Dec	31	3.03	3.53	3.31	2.90	2.69	3.57	3.17

Basra								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	105.40	124.93	117.80	103.85	96.41	124.93	112.22
Feb	28	101.92	132.44	128.52	117.60	114.80	132.72	121.33
Mar	31	92.38	142.91	146.32	141.98	148.80	146.32	136.45
Apr	30	69.00	132.00	142.20	145.50	161.70	145.50	132.65
May	31	62.00	141.98	161.51	172.67	200.57	172.67	151.90
Jun	30	54.30	147.30	173.40	190.20	225.90	197.70	164.80
Jul	31	58.90	149.73	173.29	188.48	221.65	188.48	163.42
Aug	31	71.92	155.00	171.43	179.18	203.36	179.80	160.12
Sept	30	90.00	152.40	159.00	156.90	167.70	159.00	147.50
Oct	31	97.65	134.54	133.30	125.24	126.48	135.16	125.40
Nov	30	86.70	106.80	102.30	92.40	88.80	106.80	97.30
Dec	31	93.93	109.43	102.61	89.90	83.39	110.67	98.32
Annual	365	984.10	1,629.46	1,711.68	1,703.90	1,839.56	1,799.75	1,611.41



Basra Qadima								BQD
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.40	4.03	3.80	3.35	3.11	4.03	3.62
Feb	28	3.64	4.73	4.59	4.20	4.10	4.74	4.33
Mar	31	2.98	4.61	4.72	4.58	4.80	4.72	4.40
Apr	30	2.30	4.40	4.74	4.85	5.39	4.85	4.42
May	31	2.00	4.58	5.21	5.57	6.47	5.57	4.90
Jun	30	1.81	4.91	5.78	6.34	7.53	6.59	5.49
Jul	31	1.90	4.83	5.59	6.08	7.15	6.08	5.27
Aug	31	2.32	5.00	5.53	5.78	6.56	5.80	5.17
Sept	30	3.00	5.08	5.30	5.23	5.59	5.30	4.92
Oct	31	3.15	4.34	4.30	4.04	4.08	4.36	4.05
Nov	30	2.89	3.56	3.41	3.08	2.96	3.56	3.24
Dec	31	3.03	3.53	3.31	2.90	2.69	3.57	3.17

Basra Qadima								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	105.40	124.93	117.80	103.85	96.41	124.93	112.22
Feb	28	101.92	132.44	128.52	117.60	114.80	132.72	121.33
Mar	31	92.38	142.91	146.32	141.98	148.80	146.32	136.45
Apr	30	69.00	132.00	142.20	145.50	161.70	145.50	132.65
May	31	62.00	141.98	161.51	172.67	200.57	172.67	151.90
Jun	30	54.30	147.30	173.40	190.20	225.90	197.70	164.80
Jul	31	58.90	149.73	173.29	188.48	221.65	188.48	163.42
Aug	31	71.92	155.00	171.43	179.18	203.36	179.80	160.12
Sept	30	90.00	152.40	159.00	156.90	167.70	159.00	147.50
Oct	31	97.65	134.54	133.30	125.24	126.48	135.16	125.40
Nov	30	86.70	106.80	102.30	92.40	88.80	106.80	97.30
Dec	31	93.93	109.43	102.61	89.90	83.39	110.67	98.32
Annual	365	984.10	1,629.46	1,711.68	1,703.90	1,839.56	1,799.75	1,611.41



Diwaniya								DIW
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.30	3.87	3.87	3.23	2.91	3.87	3.51
Feb	28	3.57	4.57	4.57	4.08	3.88	4.57	4.21
Mar	31	3.11	4.68	4.68	4.66	4.80	4.79	4.45
Apr	30	2.46	4.58	4.58	5.08	5.60	5.08	4.56
May	31	2.10	4.72	4.72	5.79	6.74	5.79	4.98
Jun	30	1.90	5.08	5.08	6.62	7.90	6.91	5.58
Jul	31	2.00	4.90	4.90	6.22	7.33	6.22	5.26
Aug	31	2.48	5.22	5.22	6.10	6.89	6.12	5.34
Sept	30	3.21	5.30	5.30	5.45	5.73	5.52	5.09
Oct	31	3.19	4.31	4.31	4.02	3.97	4.32	4.02
Nov	30	2.96	3.59	3.59	3.10	2.88	3.59	3.29
Dec	31	3.13	3.59	3.59	2.94	2.60	3.63	3.25

Diwaniya								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	102.30	119.97	119.97	100.13	90.21	119.97	108.76
Feb	28	99.96	127.96	127.96	114.24	108.64	127.96	117.79
Mar	31	96.41	145.08	145.08	144.46	148.80	148.49	138.05
Apr	30	73.80	137.40	137.40	152.40	168.00	152.40	136.90
May	31	65.10	146.32	146.32	179.49	208.94	179.49	154.28
Jun	30	57.00	152.40	152.40	198.60	237.00	207.30	167.45
Jul	31	62.00	151.90	151.90	192.82	227.23	192.82	163.11
Aug	31	76.88	161.82	161.82	189.10	213.59	189.72	165.49
Sept	30	96.30	159.00	159.00	163.50	171.90	165.60	152.55
Oct	31	98.89	133.61	133.61	124.62	123.07	133.92	124.62
Nov	30	88.80	107.70	107.70	93.00	86.40	107.70	98.55
Dec	31	97.03	111.29	111.29	91.14	80.60	112.53	100.65
Annual	365	1,014.47	1,654.45	1,654.45	1,743.50	1,864.38	1,837.90	1,628.19



Falluja								FAL
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.10	3.60	3.40	3.02	2.69	3.60	3.24
Feb	28	3.28	4.18	4.08	3.76	3.56	4.18	3.84
Mar	31	3.16	4.66	4.77	4.62	4.73	4.77	4.45
Apr	30	2.51	4.57	4.93	5.04	5.54	5.05	4.61
May	31	2.18	4.74	5.41	5.80	6.74	5.80	5.11
Jun	30	2.00	5.14	6.06	6.69	7.97	6.97	5.81
Jul	31	2.09	4.99	5.80	6.33	7.45	6.33	5.50
Aug	31	2.57	5.22	5.80	6.08	6.84	6.10	5.44
Sept	30	3.28	5.28	5.50	5.42	5.65	5.50	5.11
Oct	31	3.22	4.27	4.24	3.97	3.87	4.29	3.98
Nov	30	2.73	3.28	3.15	2.85	2.63	3.28	2.99
Dec	31	2.82	3.21	3.01	2.65	2.33	3.24	2.88

Falluja								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	96.10	111.60	105.40	93.62	83.39	111.60	100.29
Feb	28	91.84	117.04	114.24	105.28	99.68	117.04	107.52
Mar	31	97.96	144.46	147.87	143.22	146.63	147.87	138.00
Apr	30	75.30	137.10	147.90	151.20	166.20	151.50	138.20
May	31	67.58	146.94	167.71	179.80	208.94	179.80	158.46
Jun	30	60.00	154.20	181.80	200.70	239.10	209.10	174.15
Jul	31	64.79	154.69	179.80	196.23	230.95	196.23	170.45
Aug	31	79.67	161.82	179.80	188.48	212.04	189.10	168.49
Sept	30	98.40	158.40	165.00	162.60	169.50	165.00	153.15
Oct	31	99.82	132.37	131.44	123.07	119.97	132.99	123.28
Nov	30	81.90	98.40	94.50	85.50	78.90	98.40	89.60
Dec	31	87.42	99.51	93.31	82.15	72.23	100.44	89.18
Annual	365	1,000.78	1,616.53	1,708.77	1,711.85	1,827.53	1,799.07	1,610.76



Faw								FAW
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.47	4.13	3.89	3.44	3.19	4.13	3.71
Feb	28	3.88	5.07	4.91	4.47	4.34	5.07	4.62
Mar	31	2.93	4.55	4.66	4.53	4.77	4.66	4.35
Apr	30	2.31	4.47	4.82	4.94	5.50	4.94	4.50
May	31	1.99	4.66	5.32	5.70	6.64	5.70	5.00
Jun	30	1.78	4.90	5.77	6.35	7.55	6.61	5.49
Jul	31	1.87	4.89	5.69	6.20	7.30	6.20	5.36
Aug	31	2.31	5.07	5.62	5.89	6.69	5.92	5.25
Sept	30	3.02	5.16	5.38	5.32	5.69	5.38	4.99
Oct	31	3.16	4.37	4.33	4.08	4.12	4.38	4.07
Nov	30	2.89	3.58	3.43	3.11	2.99	3.58	3.26
Dec	31	3.15	3.67	3.44	3.02	2.78	3.71	3.30

Faw								FAW
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	107.57	128.03	120.59	106.64	98.89	128.03	114.96
Feb	28	108.64	141.96	137.48	125.16	121.52	141.96	129.45
Mar	31	90.83	141.05	144.46	140.43	147.87	144.46	134.85
Apr	30	69.30	134.10	144.60	148.20	165.00	148.20	134.90
May	31	61.69	144.46	164.92	176.70	205.84	176.70	155.05
Jun	30	53.40	147.00	173.10	190.50	226.50	198.30	164.80
Jul	31	57.97	151.59	176.39	192.20	226.30	192.20	166.11
Aug	31	71.61	157.17	174.22	182.59	207.39	183.52	162.75
Sept	30	90.60	154.80	161.40	159.60	170.70	161.40	149.75
Oct	31	97.96	135.47	134.23	126.48	127.72	135.78	126.27
Nov	30	86.70	107.40	102.90	93.30	89.70	107.40	97.90
Dec	31	97.65	113.77	106.64	93.62	86.18	115.01	102.15
Annual	365	993.92	1,656.80	1,740.93	1,735.42	1,873.61	1,832.96	1,638.94



Hilla								HIL
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.35	3.91	3.68	3.25	2.91	3.91	3.50
Feb	28	3.62	4.60	4.47	4.09	3.88	4.60	4.21
Mar	31	3.14	4.71	4.81	4.66	4.81	4.81	4.49
Apr	30	2.48	4.61	4.97	5.08	5.60	5.08	4.64
May	31	2.13	4.74	5.41	5.80	6.74	5.80	5.10
Jun	30	1.93	5.10	6.02	6.63	7.89	6.90	5.75
Jul	31	2.03	4.93	5.72	6.23	7.33	6.23	5.41
Aug	31	2.52	5.26	5.84	6.11	6.89	6.12	5.46
Sept	30	3.26	5.33	5.55	5.47	5.73	5.55	5.15
Oct	31	3.24	4.34	4.30	4.03	3.97	4.35	4.04
Nov	30	3.00	3.62	3.46	3.12	2.89	3.62	3.29
Dec	31	3.18	3.62	3.39	2.96	2.60	3.68	3.24

Hilla								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	103.85	121.21	114.08	100.75	90.21	121.21	108.55
Feb	28	101.36	128.80	125.16	114.52	108.64	128.80	117.88
Mar	31	97.34	146.01	149.11	144.46	149.11	149.11	139.19
Apr	30	74.40	138.30	149.10	152.40	168.00	152.40	139.10
May	31	66.03	146.94	167.71	179.80	208.94	179.80	158.20
Jun	30	57.90	153.00	180.60	198.90	236.70	207.00	172.35
Jul	31	62.93	152.83	177.32	193.13	227.23	193.13	167.76
Aug	31	78.12	163.06	181.04	189.41	213.59	189.72	169.16
Sept	30	97.80	159.90	166.50	164.10	171.90	166.50	154.45
Oct	31	100.44	134.54	133.30	124.93	123.07	134.85	125.19
Nov	30	90.00	108.60	103.80	93.60	86.70	108.60	98.55
Dec	31	98.58	112.22	105.09	91.76	80.60	114.08	100.39
Annual	365	1,028.75	1,665.41	1,752.81	1,747.76	1,864.69	1,845.20	1,650.77



Karbala								KAR
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.36	3.91	3.68	3.25	2.91	3.91	3.50
Feb	28	3.63	4.61	4.47	4.10	3.88	4.61	4.22
Mar	31	3.32	4.72	4.81	4.66	4.81	4.81	4.52
Apr	30	2.48	4.61	4.97	5.08	5.60	5.08	4.64
May	31	2.14	4.75	5.42	5.81	6.74	5.81	5.11
Jun	30	1.93	5.11	6.02	6.63	7.89	6.90	5.75
Jul	31	2.04	4.94	5.73	6.24	7.33	6.24	5.42
Aug	31	2.53	5.26	5.83	6.12	6.89	6.13	5.46
Sept	30	3.26	5.34	5.56	5.47	5.73	5.56	5.15
Oct	31	3.25	4.35	4.30	4.03	3.97	4.36	4.04
Nov	30	3.01	3.62	3.46	3.12	2.89	3.62	3.29
Dec	31	3.20	3.63	3.40	2.96	2.61	3.68	3.25

Karbala								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	104.16	121.21	114.08	100.75	90.21	121.21	108.60
Feb	28	101.64	129.08	125.16	114.80	108.64	129.08	118.07
Mar	31	102.77	146.32	149.11	144.46	149.11	149.11	140.15
Apr	30	74.40	138.30	149.10	152.40	168.00	152.40	139.10
May	31	66.34	147.25	168.02	180.11	208.94	180.11	158.46
Jun	30	57.90	153.30	180.60	198.90	236.70	207.00	172.40
Jul	31	63.24	153.14	177.63	193.44	227.23	193.44	168.02
Aug	31	78.43	163.06	180.73	189.72	213.59	190.03	169.26
Sept	30	97.80	160.20	166.80	164.10	171.90	166.80	154.60
Oct	31	100.75	134.85	133.30	124.93	123.07	135.16	125.34
Nov	30	90.30	108.60	103.80	93.60	86.70	108.60	98.60
Dec	31	99.20	112.53	105.40	91.76	80.91	114.08	100.65
Annual	365	1,036.93	1,667.84	1,753.73	1,748.97	1,865.00	1,847.02	1,653.25



Kirkuk								KIR
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.36	3.81	3.58	3.15	2.64	3.81	3.39
Feb	28	3.44	4.29	4.18	3.84	3.52	4.29	3.93
Mar	31	3.36	4.81	4.92	4.75	4.75	4.92	4.59
Apr	30	2.64	4.57	4.95	5.08	5.57	5.08	4.65
May	31	2.27	4.67	5.27	5.65	6.55	5.65	5.01
Jun	30	2.14	4.98	5.88	6.48	7.71	6.75	5.66
Jul	31	2.21	4.92	5.72	6.23	7.33	6.23	5.44
Aug	31	2.71	5.22	5.80	6.08	6.79	6.10	5.45
Sept	30	3.42	5.30	5.52	5.43	5.56	5.52	5.13
Oct	31	3.32	4.30	4.26	3.99	3.77	4.31	3.99
Nov	30	3.27	3.82	3.63	3.24	2.80	3.82	3.43
Dec	31	3.18	3.53	3.29	2.86	2.35	3.58	3.13

Kirkuk								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	104.16	118.11	110.98	97.65	81.84	118.11	105.14
Feb	28	96.32	120.12	117.04	107.52	98.56	120.12	109.95
Mar	31	104.16	149.11	152.52	147.25	147.25	152.52	142.14
Apr	30	79.20	137.10	148.50	152.40	167.10	152.40	139.45
May	31	70.37	144.77	163.37	175.15	203.05	175.15	155.31
Jun	30	64.20	149.40	176.40	194.40	231.30	202.50	169.70
Jul	31	68.51	152.52	177.32	193.13	227.23	193.13	168.64
Aug	31	84.01	161.82	179.80	188.48	210.49	189.10	168.95
Sept	30	102.60	159.00	165.60	162.90	166.80	165.60	153.75
Oct	31	102.92	133.30	132.06	123.69	116.87	133.61	123.74
Nov	30	98.10	114.60	108.90	97.20	84.00	114.60	102.90
Dec	31	98.58	109.43	101.99	88.66	72.85	110.98	97.08
	365	1,073.13	1,649.28	1,734.48	1,728.43	1,807.34	1,827.82	1,636.75



Kut								KUT
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.65	4.23	3.96	2.47	3.08	4.23	3.60
Feb	28	3.86	4.89	4.73	4.31	4.06	4.89	4.46
Mar	31	3.24	4.85	4.95	4.80	4.92	4.95	4.62
Apr	30	2.44	4.51	4.86	4.97	5.48	4.97	4.54
May	31	2.11	4.66	5.29	5.68	6.59	5.68	5.00
Jun	30	1.93	4.99	5.88	6.48	7.69	6.73	5.62
Jul	31	2.02	4.86	5.64	6.13	7.21	6.13	5.33
Aug	31	2.51	5.22	5.79	6.06	6.84	6.08	5.42
Sept	30	3.21	5.26	5.47	5.40	5.66	5.47	5.08
Oct	31	3.29	4.41	4.37	4.09	4.02	4.42	4.10
Nov	30	3.20	3.84	3.66	3.28	3.01	3.84	3.47
Dec	31	3.46	3.90	3.63	3.15	2.74	3.96	3.47

Kut								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	113.15	131.13	122.76	76.57	95.48	131.13	111.70
Feb	28	108.08	136.92	132.44	120.68	113.68	136.92	124.79
Mar	31	100.44	150.35	153.45	148.80	152.52	153.45	143.17
Apr	30	73.20	135.30	145.80	149.10	164.40	149.10	136.15
May	31	65.41	144.46	163.99	176.08	204.29	176.08	155.05
Jun	30	57.90	149.70	176.40	194.40	230.70	201.90	168.50
Jul	31	62.62	150.66	174.84	190.03	223.51	190.03	165.28
Aug	31	77.81	161.82	179.49	187.86	212.04	188.48	167.92
Sept	30	96.30	157.80	164.10	162.00	169.80	164.10	152.35
Oct	31	101.99	136.71	135.47	126.79	124.62	137.02	127.10
Nov	30	96.00	115.20	109.80	98.40	90.30	115.20	104.15
Dec	31	107.26	120.90	112.53	97.65	84.94	122.76	107.67
Annual	365	1,060.16	1,690.95	1,771.07	1,728.36	1,866.28	1,866.17	1,663.83



Mosul								MOS
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.12	3.54	3.33	2.95	2.45	3.54	3.16
Feb	28	3.17	3.94	3.86	3.56	3.25	3.94	3.62
Mar	31	3.23	4.57	4.67	4.53	4.51	4.67	4.36
Apr	30	2.66	4.51	4.89	5.03	5.49	5.03	4.60
May	31	2.32	4.64	5.30	5.70	6.59	5.70	5.04
Jun	30	2.18	4.92	5.81	6.40	7.62	6.68	5.60
Jul	31	2.26	4.90	5.70	6.22	7.31	6.22	5.44
Aug	31	2.79	5.20	5.78	6.06	6.75	6.08	5.44
Sept	30	3.39	5.17	5.40	5.32	5.42	5.40	5.02
Oct	31	3.43	4.38	4.34	4.05	3.77	4.40	4.06
Nov	30	3.33	3.85	3.66	3.26	2.75	3.85	3.45
Dec	31	3.01	3.32	3.11	2.71	2.19	3.37	2.95

Mosul								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	96.72	109.74	103.23	91.45	75.95	109.74	97.81
Feb	28	88.76	110.32	108.08	99.68	91.00	110.32	101.36
Mar	31	100.13	141.67	144.77	140.43	139.81	144.77	135.26
Apr	30	79.80	135.30	146.70	150.90	164.70	150.90	138.05
May	31	71.92	143.84	164.30	176.70	204.29	176.70	156.29
Jun	30	65.40	147.60	174.30	192.00	228.60	200.40	168.05
Jul	31	70.06	151.90	176.70	192.82	226.61	192.82	168.49
Aug	31	86.49	161.20	179.18	187.86	209.25	188.48	168.74
Sept	30	101.70	155.10	162.00	159.60	162.60	162.00	150.50
Oct	31	106.33	135.78	134.54	125.55	116.87	136.40	125.91
Nov	30	99.90	115.50	109.80	97.80	82.50	115.50	103.50
Dec	31	93.31	102.92	96.41	84.01	67.89	104.47	91.50
Annual	365	1,060.52	1,610.87	1,700.01	1,698.80	1,770.07	1,792.50	1,605.46



Mosul Jadida								MJD
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.12	3.54	3.33	2.95	2.45	3.54	3.16
Feb	28	3.17	3.94	3.86	3.56	3.25	3.94	3.62
Mar	31	3.23	4.57	4.67	4.53	4.51	4.67	4.36
Apr	30	2.66	4.51	4.89	5.03	5.49	5.03	4.60
May	31	2.32	4.64	5.30	5.70	6.59	5.70	5.04
Jun	30	2.18	4.92	5.81	6.40	7.62	6.68	5.60
Jul	31	2.26	4.90	5.70	6.22	7.31	6.22	5.44
Aug	31	2.79	5.20	5.78	6.06	6.75	6.08	5.44
Sept	30	3.39	5.17	5.40	5.32	5.42	5.40	5.02
Oct	31	3.43	4.38	4.34	4.05	3.77	4.40	4.06
Nov	30	3.33	3.85	3.66	3.26	2.75	3.85	3.45
Dec	31	3.01	3.32	3.11	2.71	2.19	3.37	2.95

Mosul Jadida								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	96.72	109.74	103.23	91.45	75.95	109.74	97.81
Feb	28	88.76	110.32	108.08	99.68	91.00	110.32	101.36
Mar	31	100.13	141.67	144.77	140.43	139.81	144.77	135.26
Apr	30	79.80	135.30	146.70	150.90	164.70	150.90	138.05
May	31	71.92	143.84	164.30	176.70	204.29	176.70	156.29
Jun	30	65.40	147.60	174.30	192.00	228.60	200.40	168.05
Jul	31	70.06	151.90	176.70	192.82	226.61	192.82	168.49
Aug	31	86.49	161.20	179.18	187.86	209.25	188.48	168.74
Sept	30	101.70	155.10	162.00	159.60	162.60	162.00	150.50
Oct	31	106.33	135.78	134.54	125.55	116.87	136.40	125.91
Nov	30	99.90	115.50	109.80	97.80	82.50	115.50	103.50
Dec	31	93.31	102.92	96.41	84.01	67.89	104.47	91.50
Annual	365	1,060.52	1,610.87	1,700.01	1,698.80	1,770.07	1,792.50	1,605.46



Najaf								NAJ
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.30	3.87	3.65	3.23	2.91	3.87	3.47
Feb	28	3.57	4.57	4.44	4.08	3.88	4.57	4.19
Mar	31	3.11	4.68	4.79	4.66	4.80	4.79	4.47
Apr	30	2.46	4.58	4.95	5.08	5.60	5.08	4.63
May	31	2.10	4.72	5.39	5.79	6.74	5.79	5.09
Jun	30	1.90	5.08	5.99	6.62	7.90	6.91	5.73
Jul	31	2.00	4.90	5.70	6.22	7.33	6.22	5.40
Aug	31	2.48	5.22	5.81	6.10	6.89	6.12	5.44
Sept	30	3.21	5.30	5.52	5.45	5.73	5.52	5.12
Oct	31	3.19	4.31	4.28	4.02	3.97	4.32	4.02
Nov	30	2.96	3.59	3.43	3.10	2.88	3.59	3.26
Dec	31	3.13	3.59	3.35	2.94	2.60	3.63	3.21

Najaf								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	102.30	119.97	113.15	100.13	90.21	119.97	107.62
Feb	28	99.96	127.96	124.32	114.24	108.64	127.96	117.18
Mar	31	96.41	145.08	148.49	144.46	148.80	148.49	138.62
Apr	30	73.80	137.40	148.50	152.40	168.00	152.40	138.75
May	31	65.10	146.32	167.09	179.49	208.94	179.49	157.74
Jun	30	57.00	152.40	179.70	198.60	237.00	207.30	172.00
Jul	31	62.00	151.90	176.70	192.82	227.23	192.82	167.25
Aug	31	76.88	161.82	180.11	189.10	213.59	189.72	168.54
Sept	30	96.30	159.00	165.60	163.50	171.90	165.60	153.65
Oct	31	98.89	133.61	132.68	124.62	123.07	133.92	124.47
Nov	30	88.80	107.70	102.90	93.00	86.40	107.70	97.75
Dec	31	97.03	111.29	103.85	91.14	80.60	112.53	99.41
Annual	365	1,014.47	1,654.45	1,743.09	1,743.50	1,864.38	1,837.90	1,642.97



Nasiriya								NAS
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	3.61	4.24	3.99	3.50	3.18	4.24	3.79
Feb	28	3.80	4.89	4.74	4.33	4.15	4.89	4.47
Mar	31	3.04	4.66	4.77	4.63	4.82	4.77	4.45
Apr	30	2.37	4.50	4.85	4.97	5.51	4.97	4.53
May	31	2.04	4.65	5.29	5.69	6.61	5.69	5.00
Jun	30	1.85	4.93	5.80	6.39	7.60	6.65	5.54
Jul	31	1.94	4.85	5.64	6.13	7.22	6.13	5.32
Aug	31	2.42	5.19	5.77	6.04	6.84	6.06	5.39
Sept	30	3.11	5.22	5.44	5.37	5.69	5.44	5.05
Oct	31	3.26	4.44	4.41	4.13	4.12	4.46	4.14
Nov	30	3.05	3.73	3.57	3.21	3.03	3.73	3.39
Dec	31	3.31	3.80	3.54	3.09	2.78	3.85	3.40

Nasiriya								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	111.91	131.44	123.69	108.50	98.58	131.44	117.59
Feb	28	106.40	136.92	132.72	121.24	116.20	136.92	125.07
Mar	31	94.24	144.46	147.87	143.53	149.42	147.87	137.90
Apr	30	71.10	135.00	145.50	149.10	165.30	149.10	135.85
May	31	63.24	144.15	163.99	176.39	204.91	176.39	154.85
Jun	30	55.50	147.90	174.00	191.70	228.00	199.50	166.10
Jul	31	60.14	150.35	174.84	190.03	223.82	190.03	164.87
Aug	31	75.02	160.89	178.87	187.24	212.04	187.86	166.99
Sept	30	93.30	156.60	163.20	161.10	170.70	163.20	151.35
Oct	31	101.06	137.64	136.71	128.03	127.72	138.26	128.24
Nov	30	91.50	111.90	107.10	96.30	90.90	111.90	101.60
Dec	31	102.61	117.80	109.74	95.79	86.18	119.35	105.25
Annual	365	1,026.02	1,675.05	1,758.23	1,748.95	1,873.77	1,851.82	1,655.64



Omara								OMR
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.75	4.37	4.09	3.57	3.21	4.37	3.89
Feb	28	4.07	5.18	5.00	4.53	4.30	5.19	4.71
Mar	31	3.13	4.74	4.84	4.69	4.86	4.83	4.52
Apr	30	2.40	4.50	4.84	4.95	5.47	4.95	4.52
May	31	2.06	4.63	5.25	5.62	6.52	5.62	4.95
Jun	30	1.89	4.88	5.72	6.28	7.45	6.52	5.46
Jul	31	1.98	4.79	5.54	6.01	7.05	6.01	5.23
Aug	31	2.43	5.10	5.64	5.91	6.68	5.92	5.28
Sept	30	3.11	5.15	5.36	5.28	5.60	5.36	4.98
Oct	31	3.39	4.58	4.52	4.22	4.18	4.58	4.25
Nov	30	3.25	3.91	3.73	3.33	3.11	3.91	3.54
Dec	31	3.47	3.96	3.68	3.18	2.83	4.02	3.52

Omara								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	116.25	135.47	126.79	110.67	99.51	135.47	120.69
Feb	28	113.96	145.04	140.00	126.84	120.40	145.32	131.93
Mar	31	97.03	146.94	150.04	145.39	150.66	149.73	139.97
Apr	30	72.00	135.00	145.20	148.50	164.10	148.50	135.55
May	31	63.86	143.53	162.75	174.22	202.12	174.22	153.45
Jun	30	56.70	146.40	171.60	188.40	223.50	195.60	163.70
Jul	31	61.38	148.49	171.74	186.31	218.55	186.31	162.13
Aug	31	75.33	158.10	174.84	183.21	207.08	183.52	163.68
Sept	30	93.30	154.50	160.80	158.40	168.00	160.80	149.30
Oct	31	105.09	141.98	140.12	130.82	129.58	141.98	131.60
Nov	30	97.50	117.30	111.90	99.90	93.30	117.30	106.20
Dec	31	107.57	122.76	114.08	98.58	87.73	124.62	109.22
Annual	365	1,059.97	1,695.51	1,769.86	1,751.24	1,864.53	1,863.37	1,667.41



Ramadi								RAM
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.10	3.60	3.40	3.02	2.69	3.60	3.24
Feb	28	3.28	4.18	4.08	3.76	3.56	4.18	3.84
Mar	31	3.16	4.66	4.77	4.62	4.73	4.77	4.45
Apr	30	2.51	4.57	4.93	5.04	5.54	5.08	4.61
May	31	2.18	4.74	5.41	5.80	6.74	5.80	5.11
Jun	30	2.00	5.14	6.06	6.69	7.97	6.98	5.81
Jul	31	2.09	4.99	5.80	6.33	7.45	6.33	5.50
Aug	31	2.57	5.22	5.80	6.08	6.84	6.10	5.44
Sept	30	3.28	5.28	5.50	5.42	5.65	5.50	5.11
Oct	31	3.22	4.27	4.24	3.97	3.87	4.29	3.98
Nov	30	2.73	3.28	3.15	2.85	2.63	3.28	2.99
Dec	31	2.82	3.21	3.01	2.65	2.33	3.24	2.88

Ramadi								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	96.10	111.60	105.40	93.62	83.39	111.60	100.29
Feb	28	91.84	117.04	114.24	105.28	99.68	117.04	107.52
Mar	31	97.96	144.46	147.87	143.22	146.63	147.87	138.00
Apr	30	75.30	137.10	147.90	151.20	166.20	152.40	138.35
May	31	67.58	146.94	167.71	179.80	208.94	179.80	158.46
Jun	30	60.00	154.20	181.80	200.70	239.10	209.40	174.20
Jul	31	64.79	154.69	179.80	196.23	230.95	196.23	170.45
Aug	31	79.67	161.82	179.80	188.48	212.04	189.10	168.49
Sept	30	98.40	158.40	165.00	162.60	169.50	165.00	153.15
Oct	31	99.82	132.37	131.44	123.07	119.97	132.99	123.28
Nov	30	81.90	98.40	94.50	85.50	78.90	98.40	89.60
Dec	31	87.42	99.51	93.31	82.15	72.23	100.44	89.18
Annual	365	1,000.78	1,616.53	1,708.77	1,711.85	1,827.53	1,800.27	1,610.96



Samara								SAM
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.40	3.90	3.68	3.24	2.78	3.90	3.48
Feb	28	3.26	4.14	4.05	3.74	3.50	4.14	3.81
Mar	31	3.15	4.58	4.70	4.56	4.63	4.70	4.39
Apr	30	2.56	4.51	4.89	5.03	5.54	5.03	4.59
May	31	2.22	4.74	5.42	5.83	6.77	5.83	5.14
Jun	30	2.06	5.12	6.05	6.68	7.97	6.97	5.81
Jul	31	2.14	5.00	5.83	6.37	7.50	6.37	5.54
Aug	31	2.65	5.28	5.87	6.16	6.91	6.18	5.51
Sept	30	3.42	5.43	5.66	5.57	5.75	5.66	5.25
Oct	31	3.27	4.30	4.26	4.00	3.84	4.31	4.00
Nov	30	2.84	3.38	3.24	2.92	2.64	3.38	3.07
Dec	31	2.91	3.29	3.08	2.70	2.31	3.32	2.94

Samara								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	105.40	120.90	114.08	100.44	86.18	120.90	107.98
Feb	28	91.28	115.92	113.40	104.72	98.00	115.92	106.54
Mar	31	97.65	141.98	145.70	141.36	143.53	145.70	135.99
Apr	30	76.80	135.30	146.70	150.90	166.20	150.90	137.80
May	31	68.82	146.94	168.02	180.73	209.87	180.73	159.19
Jun	30	61.80	153.60	181.50	200.40	239.10	209.10	174.25
Jul	31	66.34	155.00	180.73	197.47	232.50	197.47	171.59
Aug	31	82.15	163.68	181.97	190.96	214.21	191.58	170.76
Sept	30	102.60	162.90	169.80	167.10	172.50	169.80	157.45
Oct	31	101.37	133.30	132.06	124.00	119.04	133.61	123.90
Nov	30	85.20	101.40	97.20	87.60	79.20	101.40	92.00
Dec	31	90.21	101.99	95.48	83.70	71.61	102.92	90.99
Annual	365	1,029.62	1,632.91	1,726.64	1,729.38	1,831.94	1,820.03	1,628.42



Sinah								SIN
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	3.18	3.58	3.37	2.97	2.45	3.58	3.19
Feb	28	3.21	3.97	3.88	3.58	3.25	3.97	3.64
Mar	31	3.26	4.59	4.70	4.55	4.51	4.70	4.39
Apr	30	2.69	4.53	4.91	5.04	5.49	5.04	4.62
May	31	2.35	4.66	5.32	5.71	6.59	5.71	5.06
Jun	30	2.21	4.95	5.83	6.41	7.62	6.68	5.62
Jul	31	2.29	4.93	5.72	6.24	7.31	6.24	5.46
Aug	31	2.80	5.22	5.80	6.07	6.75	6.09	5.46
Sept	30	3.43	5.21	5.42	5.34	5.42	5.42	5.04
Oct	31	3.47	4.43	4.37	4.07	3.77	4.44	4.09
Nov	30	3.40	3.89	3.69	3.28	2.76	3.89	3.49
Dec	31	3.06	3.37	3.14	2.73	2.19	3.42	2.99

Sinah								SIN
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	98.58	110.98	104.47	92.07	75.95	110.98	98.84
Feb	28	89.88	111.16	108.64	100.24	91.00	111.16	102.01
Mar	31	101.06	142.29	145.70	141.05	139.81	145.70	135.94
Apr	30	80.70	135.90	147.30	151.20	164.70	151.20	138.50
May	31	72.85	144.46	164.92	177.01	204.29	177.01	156.76
Jun	30	66.30	148.50	174.90	192.30	228.60	200.40	168.50
Jul	31	70.99	152.83	177.32	193.44	226.61	193.44	169.11
Aug	31	86.80	161.82	179.80	188.17	209.25	188.79	169.11
Sept	30	102.90	156.30	162.60	160.20	162.60	162.60	151.20
Oct	31	107.57	137.33	135.47	126.17	116.87	137.64	126.84
Nov	30	102.00	116.70	110.70	98.40	82.80	116.70	104.55
Dec	31	94.86	104.47	97.34	84.63	67.89	106.02	92.54
Annual	365	1,074.49	1,622.74	1,709.16	1,704.88	1,770.37	1,801.64	1,613.88



Sulaymaniya								SUL
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.32	3.77	3.55	3.12	2.63	3.77	3.36
Feb	28	3.26	4.08	3.98	3.68	3.38	4.08	3.74
Mar	31	3.18	4.56	4.66	4.52	4.54	4.66	4.35
Apr	30	2.57	4.40	4.78	4.91	5.38	4.91	4.49
May	31	2.28	4.68	5.34	5.73	6.64	5.73	5.07
Jun	30	2.14	4.94	5.83	6.41	7.63	6.68	5.61
Jul	31	2.21	4.89	5.68	6.19	7.27	6.19	5.41
Aug	31	2.70	5.16	5.73	5.99	6.70	6.02	5.38
Sept	30	3.43	5.31	5.52	5.44	5.56	5.52	5.13
Oct	31	3.50	4.52	4.45	4.16	3.90	4.52	4.18
Nov	30	3.27	3.81	3.61	3.23	2.79	3.81	3.42
Dec	31	3.12	3.45	3.22	2.80	2.31	3.50	3.07

Sulaymaniya								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	102.92	116.87	110.05	96.72	81.53	116.87	104.16
Feb	28	91.28	114.24	111.44	103.04	94.64	114.24	104.81
Mar	31	98.58	141.36	144.46	140.12	140.74	144.46	134.95
Apr	30	77.10	132.00	143.40	147.30	161.40	147.30	134.75
May	31	70.68	145.08	165.54	177.63	205.84	177.63	157.07
Jun	30	64.20	148.20	174.90	192.30	228.90	200.40	168.15
Jul	31	68.51	151.59	176.08	191.89	225.37	191.89	167.56
Aug	31	83.70	159.96	177.63	185.69	207.70	186.62	166.88
Sept	30	102.90	159.30	165.60	163.20	166.80	165.60	153.90
Oct	31	108.50	140.12	137.95	128.96	120.90	140.12	129.43
Nov	30	98.10	114.30	108.30	96.90	83.70	114.30	102.60
Dec	31	96.72	106.95	99.82	86.80	71.61	108.50	95.07
Annual	365	1,063.19	1,629.97	1,715.17	1,710.55	1,789.13	1,807.93	1,619.32



Sumawa								SUM
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	3.33	3.94	3.71	3.28	3.00	3.94	3.53
Feb	28	3.48	4.50	4.38	4.02	3.89	4.50	4.13
Mar	31	3.07	4.68	4.79	4.65	4.83	4.79	4.47
Apr	30	2.42	4.60	4.96	5.08	5.62	5.08	4.63
May	31	2.06	4.74	5.40	5.80	6.74	5.80	5.09
Jun	30	1.86	5.04	5.94	6.54	7.79	6.82	5.67
Jul	31	1.95	4.97	5.78	6.30	7.41	6.30	5.45
Aug	31	2.42	5.18	5.76	6.03	6.82	6.05	5.38
Sept	30	3.18	5.35	5.56	5.49	5.80	5.56	5.16
Oct	31	3.26	4.44	4.40	4.12	4.11	4.46	4.13
Nov	30	2.96	3.61	3.46	3.12	2.95	3.61	3.29
Dec	31	3.13	3.60	3.37	2.96	2.67	3.65	3.23

Sumawa								
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	103.23	122.14	115.01	101.68	93.00	122.14	109.53
Feb	28	97.44	126.00	122.64	112.56	108.92	126.00	115.59
Mar	31	95.17	145.08	148.49	144.15	149.73	148.49	138.52
Apr	30	72.60	138.00	148.80	152.40	168.60	152.40	138.80
May	31	63.86	146.94	167.40	179.80	208.94	179.80	157.79
Jun	30	55.80	151.20	178.20	196.20	233.70	204.60	169.95
Jul	31	60.45	154.07	179.18	195.30	229.71	195.30	169.00
Aug	31	75.02	160.58	178.56	186.93	211.42	187.55	166.68
Sept	30	95.40	160.50	166.80	164.70	174.00	166.80	154.70
Oct	31	101.06	137.64	136.40	127.72	127.41	138.26	128.08
Nov	30	88.80	108.30	103.80	93.60	88.50	108.30	98.55
Dec	31	97.03	111.60	104.47	91.76	82.77	113.15	100.13
Annual	365	1,005.86	1,662.05	1,749.75	1,746.80	1,876.70	1,842.79	1,647.33



Zubair								ZUB
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.39	4.02	3.70	3.35	3.11	4.02	3.60
Feb	28	3.63	4.72	4.59	4.20	4.10	4.72	4.33
Mar	31	2.98	4.60	4.71	4.58	4.80	4.71	4.40
Apr	30	2.30	4.39	4.73	4.85	5.39	4.85	4.42
May	31	2.00	4.58	5.20	5.56	6.47	5.56	4.90
Jun	30	1.80	4.91	5.77	6.34	7.53	6.59	5.49
Jul	31	1.90	4.82	5.59	6.08	7.15	6.08	5.27
Aug	31	2.31	4.99	5.53	5.78	6.56	5.80	5.16
Sept	30	2.99	5.08	5.29	5.23	5.59	5.29	4.91
Oct	31	3.15	4.34	4.30	4.03	4.08	4.35	4.04
Nov	30	2.88	3.55	3.40	3.08	2.96	3.55	3.24
Dec	31	3.02	3.52	3.30	2.90	2.68	3.56	3.16

Zubair								ZUB
Facing South East (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	105.09	124.62	114.70	103.85	96.41	124.62	111.55
Feb	28	101.64	132.16	128.52	117.60	114.80	132.16	121.15
Mar	31	92.38	142.60	146.01	141.98	148.80	146.01	136.30
Apr	30	69.00	131.70	141.90	145.50	161.70	145.50	132.55
May	31	62.00	141.98	161.20	172.36	200.57	172.36	151.75
Jun	30	54.00	147.30	173.10	190.20	225.90	197.70	164.70
Jul	31	58.90	149.42	173.29	188.48	221.65	188.48	163.37
Aug	31	71.61	154.69	171.43	179.18	203.36	179.80	160.01
Sept	30	89.70	152.40	158.70	156.90	167.70	158.70	147.35
Oct	31	97.65	134.54	133.30	124.93	126.48	134.85	125.29
Nov	30	86.40	106.50	102.00	92.40	88.80	106.50	97.10
Dec	31	93.62	109.12	102.30	89.90	83.08	110.36	98.06
Annual	365	981.99	1,627.03	1,706.45	1,703.28	1,839.25	1,797.04	1,609.17





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Average Solar Irradiance for Different Angles (KWh/m².year)

Facing Directly East

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted over the Year	Average
1	Abu Ghraib	965	1,510	1,583	1,573	1,815	1,667	1,519
2	Arbil	954	1,457	1,539	1,541	1,759	1,623	1,479
3	Baghdad	959	1,510	1,583	1,573	1,815	1,667	1,518
4	Baquba	972	1,516	1,586	1,574	1,814	1,671	1,522
5	Basra	899	1,491	1,565	1,558	1,840	1,645	1,500
6	Basrah Qadima	899	1,491	1,565	1,558	1,840	1,645	1,500
7	Diwaniya	927	1,513	1,594	1,602	1,864	1,681	1,530
8	Falluja	915	1,510	1,561	1,568	1,830	1,645	1,505
9	Faw	909	1,514	1,592	1,586	1,874	1,676	1,525
10	Hilla	940	1,523	1,602	1,598	1,865	1,657	1,531
11	Karbala	943	1,525	1,604	1,598	1,865	1,689	1,537
12	Kirkuk	981	1,507	1,586	1,581	1,807	1,671	1,522
13	Kut	970	1,545	1,619	1,608	1,866	1,706	1,552
14	Mosul	969	1,473	1,555	1,554	1,770	1,638	1,493
15	Mosul Jadida	969	1,473	1,555	1,554	1,770	1,638	1,493
16	Najaf	927	1,513	1,594	1,594	1,864	1,680	1,529
17	Nasiriya	938	1,531	1,607	1,599	1,874	1,693	1,540
18	Omara	969	1,550	1,618	1,602	1,864	1,704	1,551
19	Ramadi	915	1,479	1,559	1,565	1,828	1,645	1,498
20	Samara	941	1,493	1,579	1,581	1,832	1,664	1,515
21	Sinah	983	1,484	1,563	1,558	1,770	1,647	1,501
22	Sulaymaniya	972	1,491	1,568	1,564	1,792	1,653	1,507
23	Samawa	920	1,520	1,600	1,597	1,877	1,685	1,533
24	Zubair	898	1,488	1,563	1,558	1,558	1,613	1,446
	Average	943	1,504	1,581	1,577	1,819	1,663	1,514

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Inclination (Tilt) Angle of the Solar Panel (°)

Facing Directly East

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted over the Year
1	Abu Ghraib	0	42	57	72	90	0-90
2	Arbil	0	39	54	69	90	0-90
3	Baghdad	0	42	57	72	90	0-90
4	Baquba	0	41	56	71	90	0-90
5	Basra	0	45	60	75	90	0-90
6	Basrah Qadima	0	45	60	75	90	0-90
7	Diwaniya	0	43	58	73	90	0-90
8	Falluja	0	42	57	72	90	0-90
9	Faw	0	45	60	75	90	0-90
10	Hilla	0	43	58	73	90	0-90
11	Karbala	0	42	57	72	90	0-90
12	Kirkuk	0	39	54	69	90	0-90
13	Kut	0	43	58	73	90	0-90
14	Mosul	0	39	54	69	90	0-90
15	Mosul Jadida	0	39	54	69	90	0-90
16	Najaf	0	43	58	73	90	0-90
17	Nasiriya	0	44	59	74	90	0-90
18	Omara	0	43	58	73	90	0-90
19	Ramadi	0	42	57	72	90	0-90
20	Samara	0	41	56	71	90	0-90
21	Sinah	0	38	53	68	90	0-90
22	Sulaymaniya	0	39	54	69	90	0-90
23	Sumawa	0	44	59	74	90	0-90
24	Zubair	0	45	60	75	90	0-90

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United Kingdom
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Iraq								IRQ
		VER	WIN	OPT	SUM	HOR	ADJ	E00
Abu Ghraib								GRB
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.20	3.69	3.46	3.05	2.91	3.69	3.33
Feb	28	3.57	4.48	4.34	3.94	4.00	4.48	4.14
Mar	31	3.02	4.47	4.57	4.42	4.92	4.57	4.33
Apr	30	2.20	3.95	4.26	4.37	5.27	4.37	4.07
May	31	1.95	4.16	4.74	5.08	6.45	5.08	4.58
Jun	30	1.82	4.46	5.25	5.78	7.51	6.01	5.14
Jul	31	1.88	4.30	4.98	5.42	6.96	5.42	4.83
Aug	31	2.31	4.66	5.18	5.42	6.68	5.44	4.95
Sept	30	2.89	4.64	4.84	4.78	5.47	4.84	4.58
Oct	31	3.02	4.01	3.97	3.72	3.95	4.02	3.78
Nov	30	2.90	3.45	3.29	2.95	2.92	3.45	3.16
Dec	31	3.02	3.40	3.17	2.76	2.59	3.45	3.07

Abu Ghraib								
Facing East Directly - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	99.20	114.39	107.26	94.55	90.21	114.39	103.33
Feb	28	99.96	125.44	121.52	110.32	112.00	125.44	115.78
Mar	31	93.62	138.57	141.67	137.02	152.52	141.67	134.18
Apr	30	66.00	118.50	127.80	131.10	158.10	131.10	122.10
May	31	60.45	128.96	146.94	157.48	199.95	157.48	141.88
Jun	30	54.60	133.80	157.50	173.40	225.30	180.30	154.15
Jul	31	58.28	133.30	154.38	168.02	215.76	168.02	149.63
Aug	31	71.61	144.46	160.58	168.02	207.08	168.64	153.40
Sept	30	86.70	139.20	145.20	143.40	164.10	145.20	137.30
Oct	31	93.62	124.31	123.07	115.32	122.45	124.62	117.23
Nov	30	87.00	103.50	98.70	88.50	87.60	103.50	94.80
Dec	31	93.62	105.40	98.27	85.56	80.29	106.95	95.02
Annual	365	964.66	1509.83	1582.89	1572.69	1815.36	1667.31	1518.79



Arbil								ARB
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	2.75	3.13	2.95	2.62	2.40	3.13	2.83
Feb	28	2.71	3.39	3.33	3.09	3.11	3.39	3.17
Mar	31	2.82	4.00	4.10	3.98	4.36	4.10	3.89
Apr	30	2.38	4.02	4.37	4.50	5.38	4.50	4.19
May	31	2.12	4.25	4.85	5.22	6.60	5.22	4.71
Jun	30	1.98	4.49	5.30	5.85	7.61	6.10	5.22
Jul	31	2.06	4.48	5.22	5.70	7.32	5.70	5.08
Aug	31	2.50	4.68	5.21	5.46	6.66	5.48	5.00
Sept	30	3.17	4.85	5.06	4.98	5.53	5.06	4.78
Oct	31	3.24	4.14	4.10	3.82	3.87	4.16	3.89
Nov	30	2.98	3.46	3.29	2.94	2.72	3.46	3.14
Dec	31	2.68	2.97	2.78	2.43	2.16	3.01	2.67

Arbil								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	85.25	97.03	91.45	81.22	74.40	97.03	87.73
Feb	28	75.88	94.92	93.24	86.52	87.08	94.92	88.76
Mar	31	87.42	124.00	127.10	123.38	135.16	127.10	120.69
Apr	30	71.40	120.60	131.10	135.00	161.40	135.00	125.75
May	31	65.72	131.75	150.35	161.82	204.60	161.82	146.01
Jun	30	59.40	134.70	159.00	175.50	228.30	183.00	156.65
Jul	31	63.86	138.88	161.82	176.70	226.92	176.70	157.48
Aug	31	77.50	145.08	161.51	169.26	206.46	169.88	154.95
Sept	30	95.10	145.50	151.80	149.40	165.90	151.80	143.25
Oct	31	100.44	128.34	127.10	118.42	119.97	128.96	120.54
Nov	30	89.40	103.80	98.70	88.20	81.60	103.80	94.25
Dec	31	83.08	92.07	86.18	75.33	66.96	93.31	82.82
Annual	365	954.45	1456.67	1539.35	1540.75	1758.75	1623.32	1478.8817



Baghdad								BGD
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.20	3.69	3.46	3.05	2.91	3.69	3.33
Feb	28	3.57	4.48	4.34	3.94	4.00	4.48	4.14
Mar	31	3.02	4.47	4.57	4.42	4.92	4.57	4.33
Apr	30	2.20	3.95	4.26	4.37	5.27	4.37	4.07
May	31	1.95	4.16	4.74	5.08	6.45	5.08	4.58
Jun	30	1.82	4.46	5.25	5.78	7.51	6.01	5.14
Jul	31	1.88	4.30	4.98	5.42	6.96	5.42	4.83
Aug	31	2.31	4.66	5.18	5.42	6.68	5.44	4.95
Sept	30	2.89	4.64	4.84	4.78	5.47	4.84	4.58
Oct	31	3.02	4.01	3.97	3.72	3.95	4.02	3.78
Nov	30	2.90	3.45	3.29	2.95	2.92	3.45	3.16
Dec	31	3.02	3.40	3.17	2.76	2.59	3.45	3.07

Baghdad								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	93.62	114.39	107.26	94.55	90.21	114.39	102.40
Feb	28	99.96	125.44	121.52	110.32	112.00	125.44	115.78
Mar	31	93.62	138.57	141.67	137.02	152.52	141.67	134.18
Apr	30	66.00	118.50	127.80	131.10	158.10	131.10	122.10
May	31	60.45	128.96	146.94	157.48	199.95	157.48	141.88
Jun	30	54.60	133.80	157.50	173.40	225.30	180.30	154.15
Jul	31	58.28	133.30	154.38	168.02	215.76	168.02	149.63
Aug	31	71.61	144.46	160.58	168.02	207.08	168.64	153.40
Sept	30	86.70	139.20	145.20	143.40	164.10	145.20	137.30
Oct	31	93.62	124.31	123.07	115.32	122.45	124.62	117.23
Nov	30	87.00	103.50	98.70	88.50	87.60	103.50	94.80
Dec	31	93.62	105.40	98.27	85.56	80.29	106.95	95.02
Annual	365	959.08	1509.83	1582.89	1572.69	1815.36	1667.31	1517.86



Baquba								BAQ
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.24	3.72	3.49	3.06	2.91	3.72	3.36
Feb	28	3.50	4.41	4.26	3.89	3.95	4.41	4.07
Mar	31	3.06	4.50	4.59	4.43	4.92	4.59	4.35
Apr	30	2.20	3.97	4.28	4.38	5.26	4.38	4.08
May	31	1.97	4.18	4.74	5.09	6.45	5.09	4.59
Jun	30	1.84	4.48	5.26	5.78	7.51	6.01	5.15
Jul	31	1.90	4.32	4.99	5.42	6.96	5.42	4.84
Aug	31	2.34	4.68	5.19	5.43	6.68	5.45	4.96
Sept	30	2.92	4.66	4.86	4.79	5.47	4.86	4.59
Oct	31	3.05	4.03	3.98	3.73	3.95	4.04	3.80
Nov	30	2.94	3.48	3.31	2.96	2.92	3.48	3.18
Dec	31	3.06	3.43	3.19	2.78	2.59	3.49	3.09

Baquba								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	100.44	115.32	108.19	94.86	90.21	115.32	104.06
Feb	28	98.00	123.48	119.28	108.92	110.60	123.48	113.96
Mar	31	94.86	139.50	142.29	137.33	152.52	142.29	134.80
Apr	30	66.00	119.10	128.40	131.40	157.80	131.40	122.35
May	31	61.07	129.58	146.94	157.79	199.95	157.79	142.19
Jun	30	55.20	134.40	157.80	173.40	225.30	180.30	154.40
Jul	31	58.90	133.92	154.69	168.02	215.76	168.02	149.89
Aug	31	72.54	145.08	160.89	168.33	207.08	168.95	153.81
Sept	30	87.60	139.80	145.80	143.70	164.10	145.80	137.80
Oct	31	94.55	124.93	123.38	115.63	122.45	125.24	117.70
Nov	30	88.20	104.40	99.30	88.80	87.60	104.40	95.45
Dec	31	94.86	106.33	98.89	86.18	80.29	108.19	95.79
Annual	365	972.22	1515.84	1585.85	1574.36	1813.66	1671.18	1522.185



Basra								BAS
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.10	3.69	3.47	3.06	3.11	3.69	3.35
Feb	28	3.33	4.33	4.20	3.84	4.10	4.33	4.02
Mar	31	2.73	4.22	4.31	4.18	4.80	4.31	4.09
Apr	30	2.10	4.02	4.34	4.43	5.39	4.43	4.12
May	31	1.82	4.19	4.76	5.10	6.47	5.10	4.57
Jun	30	1.66	4.49	5.28	5.80	7.53	6.02	5.13
Jul	31	1.74	4.42	5.11	5.56	7.15	5.56	4.92
Aug	31	2.12	4.57	5.06	5.29	6.56	5.30	4.82
Sept	30	2.74	4.65	4.85	4.78	5.59	4.85	4.58
Oct	31	2.88	3.97	3.94	3.70	4.08	3.98	3.76
Nov	30	2.64	3.26	3.12	2.82	2.96	3.26	3.01
Dec	31	2.77	3.22	3.02	2.66	2.69	3.26	2.94

Basra								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	96.10	114.39	107.57	94.86	96.41	114.39	103.95
Feb	28	93.24	121.24	117.60	107.52	114.80	121.24	112.61
Mar	31	84.63	130.82	133.61	129.58	148.80	133.61	126.84
Apr	30	63.00	120.60	130.20	132.90	161.70	132.90	123.55
May	31	56.42	129.89	147.56	158.10	200.57	158.10	141.77
Jun	30	49.80	134.70	158.40	174.00	225.90	180.60	153.90
Jul	31	53.94	137.02	158.41	172.36	221.65	172.36	152.62
Aug	31	65.72	141.67	156.86	163.99	203.36	164.30	149.32
Sept	30	82.20	139.50	145.50	143.40	167.70	145.50	137.30
Oct	31	89.28	123.07	122.14	114.70	126.48	123.38	116.51
Nov	30	79.20	97.80	93.60	84.60	88.80	97.80	90.30
Dec	31	85.87	99.82	93.62	82.46	83.39	101.06	91.04
Annual	365	899.4	1490.52	1565.07	1558.47	1839.56	1645.24	1499.71



Basra Qadima								BQD
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.10	3.69	3.47	3.06	3.11	3.69	3.35
Feb	28	3.33	4.33	4.20	3.84	4.10	4.33	4.02
Mar	31	2.73	4.22	4.31	4.18	4.80	4.31	4.09
Apr	30	2.10	4.02	4.34	4.43	5.39	4.43	4.12
May	31	1.82	4.19	4.76	5.10	6.47	5.10	4.57
Jun	30	1.66	4.49	5.28	5.80	7.53	6.02	5.13
Jul	31	1.74	4.42	5.11	5.56	7.15	5.56	4.92
Aug	31	2.12	4.57	5.06	5.29	6.56	5.30	4.82
Sept	30	2.74	4.65	4.85	4.78	5.59	4.85	4.58
Oct	31	2.88	3.97	3.94	3.70	4.08	3.98	3.76
Nov	30	2.64	3.26	3.12	2.82	2.96	3.26	3.01
Dec	31	2.77	3.22	3.02	2.66	2.69	3.26	2.94

Basra Qadima								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	96.10	114.39	107.57	94.86	96.41	114.39	103.95
Feb	28	93.24	121.24	117.60	107.52	114.80	121.24	112.61
Mar	31	84.63	130.82	133.61	129.58	148.80	133.61	126.84
Apr	30	63.00	120.60	130.20	132.90	161.70	132.90	123.55
May	31	56.42	129.89	147.56	158.10	200.57	158.10	141.77
Jun	30	49.80	134.70	158.40	174.00	225.90	180.60	153.90
Jul	31	53.94	137.02	158.41	172.36	221.65	172.36	152.62
Aug	31	65.72	141.67	156.86	163.99	203.36	164.30	149.32
Sept	30	82.20	139.50	145.50	143.40	167.70	145.50	137.30
Oct	31	89.28	123.07	122.14	114.70	126.48	123.38	116.51
Nov	30	79.20	97.80	93.60	84.60	88.80	97.80	90.30
Dec	31	85.87	99.82	93.62	82.46	83.39	101.06	91.04
Annual	365	899.4	1490.52	1565.07	1558.47	1839.56	1645.24	1499.71



Diwaniya								DIW
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.02	3.54	3.34	2.95	2.91	3.54	3.22
Feb	28	3.26	4.18	4.06	3.73	3.88	4.18	3.88
Mar	31	2.84	4.28	4.38	4.26	4.80	4.38	4.16
Apr	30	2.25	4.19	4.53	4.64	5.60	4.64	4.31
May	31	1.92	4.32	4.93	5.30	6.74	5.30	4.75
Jun	30	1.74	4.64	5.48	6.06	7.90	6.32	5.36
Jul	31	1.82	4.48	5.22	5.95	7.33	5.69	5.08
Aug	31	2.27	4.78	5.31	5.58	6.89	5.59	5.07
Sept	30	2.94	4.85	5.05	4.98	5.73	5.05	4.77
Oct	31	2.92	3.94	3.91	3.67	3.97	3.95	3.73
Nov	30	2.70	3.28	3.14	2.83	2.88	3.28	3.02
Dec	31	2.86	3.28	3.06	2.69	2.60	3.32	2.97

Diwaniya								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	93.62	109.74	103.54	91.45	90.21	109.74	99.72
Feb	28	91.28	117.04	113.68	104.44	108.64	117.04	108.69
Mar	31	88.04	132.68	135.78	132.06	148.80	135.78	128.86
Apr	30	67.50	125.70	135.90	139.20	168.00	139.20	129.25
May	31	59.52	133.92	152.83	164.30	208.94	164.30	147.30
Jun	30	52.20	139.20	164.40	181.80	237.00	189.60	160.70
Jul	31	56.42	138.88	161.82	184.45	227.23	176.39	157.53
Aug	31	70.37	148.18	164.61	172.98	213.59	173.29	157.17
Sept	30	88.20	145.50	151.50	149.40	171.90	151.50	143.00
Oct	31	90.52	122.14	121.21	113.77	123.07	122.45	115.53
Nov	30	81.00	98.40	94.20	84.90	86.40	98.40	90.55
Dec	31	88.66	101.68	94.86	83.39	80.60	102.92	92.02
Annual	365	927.33	1513.06	1594.33	1602.14	1864.38	1680.61	1530.3083



Falluja								FAL
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	2.83	3.30	3.11	2.76	2.69	3.30	3.00
Feb	28	3.00	3.82	3.73	3.44	3.56	3.82	3.56
Mar	31	2.89	4.26	4.36	4.22	4.73	4.36	4.14
Apr	30	2.30	4.18	4.50	4.61	5.54	4.62	4.29
May	31	1.99	4.34	4.94	5.39	6.74	5.30	4.78
Jun	30	1.82	4.70	5.54	6.12	7.97	6.38	5.42
Jul	31	1.91	4.56	5.30	5.78	7.54	5.78	5.15
Aug	31	2.35	4.78	5.30	5.56	6.84	5.58	5.07
Sept	30	3.00	4.83	5.03	4.96	5.65	5.03	4.75
Oct	31	2.94	4.90	3.87	3.63	3.87	3.92	3.86
Nov	30	2.50	3.00	2.88	2.61	2.63	3.00	2.77
Dec	31	2.58	2.94	2.75	2.42	2.33	2.96	2.66

Falluja								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	87.73	102.30	96.41	85.56	83.39	102.30	92.95
Feb	28	84.00	106.96	104.44	96.32	99.68	106.96	99.73
Mar	31	89.59	132.06	135.16	130.82	146.63	135.16	128.24
Apr	30	69.00	125.40	135.00	138.30	166.20	138.60	128.75
May	31	61.69	134.54	153.14	167.09	208.94	164.30	148.28
Jun	30	54.60	141.00	166.20	183.60	239.10	191.40	162.65
Jul	31	59.21	141.36	164.30	179.18	233.74	179.18	159.50
Aug	31	72.85	148.18	164.30	172.36	212.04	172.98	157.12
Sept	30	90.00	144.90	150.90	148.80	169.50	150.90	142.50
Oct	31	91.14	151.90	119.97	112.53	119.97	121.52	119.51
Nov	30	75.00	90.00	86.40	78.30	78.90	90.00	83.10
Dec	31	79.98	91.14	85.25	75.02	72.23	91.76	82.56
Annual	365	914.79	1509.74	1561.47	1567.88	1830.32	1645.06	1504.8767



Faw								FAW
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.18	3.78	3.56	3.14	3.19	3.78	3.44
Feb	28	3.55	4.63	4.49	4.09	4.34	4.63	4.29
Mar	31	2.68	4.16	4.26	4.14	4.77	4.26	4.05
Apr	30	2.11	4.09	4.41	4.52	5.50	4.52	4.19
May	31	1.82	4.26	4.86	5.22	6.64	5.22	4.67
Jun	30	1.63	4.48	5.27	5.81	7.55	6.04	5.13
Jul	31	1.71	4.47	5.20	5.66	7.30	5.66	5.00
Aug	31	2.11	4.63	5.14	5.38	6.69	5.41	4.89
Sept	30	2.76	4.72	4.92	4.86	5.69	4.92	4.65
Oct	31	2.89	3.99	3.96	3.73	4.12	4.01	3.78
Nov	30	2.64	3.27	3.14	2.84	2.99	3.27	3.03
Dec	31	2.88	3.35	3.14	2.76	2.78	3.39	3.05

Faw								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	98.58	117.18	110.36	97.34	98.89	117.18	106.59
Feb	28	99.40	129.64	125.72	114.52	121.52	129.64	120.07
Mar	31	83.08	128.96	132.06	128.34	147.87	132.06	125.40
Apr	30	63.30	122.70	132.30	135.60	165.00	135.60	125.75
May	31	56.42	132.06	150.66	161.82	205.84	161.82	144.77
Jun	30	48.90	134.40	158.10	174.30	226.50	181.20	153.90
Jul	31	53.01	138.57	161.20	175.46	226.30	175.46	155.00
Aug	31	65.41	143.53	159.34	166.78	207.39	167.71	151.69
Sept	30	82.80	141.60	147.60	145.80	170.70	147.60	139.35
Oct	31	89.59	123.69	122.76	115.63	127.72	124.31	117.28
Nov	30	79.20	98.10	94.20	85.20	89.70	98.10	90.75
Dec	31	89.28	103.85	97.34	85.56	86.18	105.09	94.55
Annual	365	908.97	1514.28	1591.64	1586.35	1873.61	1675.77	1525.1033



Hilla								HIL
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.06	3.58	3.36	2.97	2.91	2.58	3.08
Feb	28	3.31	4.21	4.09	3.74	3.88	4.21	3.91
Mar	31	2.87	4.30	4.40	4.26	4.81	4.40	4.17
Apr	30	2.27	4.22	4.54	4.65	5.60	4.65	4.32
May	31	1.94	4.34	4.94	5.30	6.74	5.30	4.76
Jun	30	1.77	4.66	5.50	6.06	7.89	6.31	5.37
Jul	31	1.86	4.50	5.23	5.70	7.33	5.70	5.05
Aug	31	2.30	4.81	5.34	5.58	6.89	5.60	5.09
Sept	30	2.98	4.87	5.07	5.00	5.73	5.07	4.79
Oct	31	2.96	3.97	3.93	3.69	3.97	3.98	3.75
Nov	30	2.74	3.31	3.16	2.85	2.89	3.31	3.04
Dec	31	2.91	3.31	3.10	2.70	2.60	3.36	3.00

Hilla								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	94.86	110.98	104.16	92.07	90.21	79.98	95.38
Feb	28	92.68	117.88	114.52	104.72	108.64	117.88	109.39
Mar	31	88.97	133.30	136.40	132.06	149.11	136.40	129.37
Apr	30	68.10	126.60	136.20	139.50	168.00	139.50	129.65
May	31	60.14	134.54	153.14	164.30	208.94	164.30	147.56
Jun	30	53.10	139.80	165.00	181.80	236.70	189.30	160.95
Jul	31	57.66	139.50	162.13	176.70	227.23	176.70	156.65
Aug	31	71.30	149.11	165.54	172.98	213.59	173.60	157.69
Sept	30	89.40	146.10	152.10	150.00	171.90	152.10	143.60
Oct	31	91.76	123.07	121.83	114.39	123.07	123.38	116.25
Nov	30	82.20	99.30	94.80	85.50	86.70	99.30	91.30
Dec	31	90.21	102.61	96.10	83.70	80.60	104.16	92.90
Annual	365	940.38	1522.79	1601.92	1597.72	1864.69	1656.6	1530.6833



Karbala								KAR
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.07	3.58	3.37	2.97	2.91	3.58	3.25
Feb	28	3.32	4.22	4.09	3.74	3.88	4.22	3.91
Mar	31	2.88	4.31	4.40	4.26	4.81	4.40	4.18
Apr	30	2.27	4.22	4.54	4.65	5.60	4.65	4.32
May	31	1.95	4.34	4.95	5.31	6.74	5.31	4.77
Jun	30	1.77	4.67	5.50	6.06	7.89	6.31	5.37
Jul	31	1.86	4.51	5.24	5.70	7.33	5.70	5.06
Aug	31	2.31	4.81	5.34	5.59	6.89	5.61	5.09
Sept	30	2.98	4.88	5.08	5.00	5.73	5.08	4.79
Oct	31	2.97	3.98	3.94	3.69	3.97	3.98	3.76
Nov	30	2.75	3.31	3.17	2.85	2.89	3.31	3.05
Dec	31	2.93	3.32	3.10	2.70	2.61	3.37	3.01

Karbala								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	95.17	110.98	104.47	92.07	90.21	110.98	100.65
Feb	28	92.96	118.16	114.52	104.72	108.64	118.16	109.53
Mar	31	89.28	133.61	136.40	132.06	149.11	136.40	129.48
Apr	30	68.10	126.60	136.20	139.50	168.00	139.50	129.65
May	31	60.45	134.54	153.45	164.61	208.94	164.61	147.77
Jun	30	53.10	140.10	165.00	181.80	236.70	189.30	161.00
Jul	31	57.66	139.81	162.44	176.70	227.23	176.70	156.76
Aug	31	71.61	149.11	165.54	173.29	213.59	173.91	157.84
Sept	30	89.40	146.40	152.40	150.00	171.90	152.40	143.75
Oct	31	92.07	123.38	122.14	114.39	123.07	123.38	116.41
Nov	30	82.50	99.30	95.10	85.50	86.70	99.30	91.40
Dec	31	90.83	102.92	96.10	83.70	80.91	104.47	93.16
Annual	365	943.13	1524.91	1603.76	1598.34	1865	1689.11	1537.375



Kirkuk								KIR
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.07	3.49	3.27	2.88	2.64	3.48	3.14
Feb	28	3.14	3.92	3.82	3.51	3.52	3.92	3.64
Mar	31	3.07	4.40	4.50	4.34	4.75	4.50	4.26
Apr	30	2.42	4.18	4.53	4.65	5.57	4.65	4.33
May	31	2.07	4.22	4.82	5.17	6.55	5.17	4.67
Jun	30	1.95	4.55	5.38	5.92	7.71	6.17	5.28
Jul	31	2.02	4.50	5.23	5.70	7.33	5.70	5.08
Aug	31	2.48	4.78	5.30	5.56	6.79	5.58	5.08
Sept	30	3.13	4.85	5.05	4.97	5.56	5.05	4.77
Oct	31	3.04	3.94	3.90	3.65	3.77	3.94	3.71
Nov	30	2.99	3.49	3.32	2.96	2.80	3.49	3.18
Dec	31	2.91	3.22	3.01	2.62	2.35	3.27	2.90

Kirkuk								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	95.17	108.19	101.37	89.28	81.84	107.88	97.29
Feb	28	87.92	109.76	106.96	98.28	98.56	109.76	101.87
Mar	31	95.17	136.40	139.50	134.54	147.25	139.50	132.06
Apr	30	72.60	125.40	135.90	139.50	167.10	139.50	130.00
May	31	64.17	130.82	149.42	160.27	203.05	160.27	144.67
Jun	30	58.50	136.50	161.40	177.60	231.30	185.10	158.40
Jul	31	62.62	139.50	162.13	176.70	227.23	176.70	157.48
Aug	31	76.88	148.18	164.30	172.36	210.49	172.98	157.53
Sept	30	93.90	145.50	151.50	149.10	166.80	151.50	143.05
Oct	31	94.24	122.14	120.90	113.15	116.87	122.14	114.91
Nov	30	89.70	104.70	99.60	88.80	84.00	104.70	95.25
Dec	31	90.21	99.82	93.31	81.22	72.85	101.37	89.80
	365	981.08	1506.91	1586.29	1580.8	1807.34	1671.4	1522.3033



Kut								KUT
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.34	3.86	3.62	3.18	3.08	3.86	3.49
Feb	28	3.53	4.47	4.33	3.94	4.06	4.47	4.13
Mar	31	2.96	4.43	4.53	4.38	4.92	4.53	4.29
Apr	30	2.23	4.12	4.44	4.54	5.48	4.54	4.23
May	31	1.93	4.26	4.84	5.19	6.59	5.19	4.67
Jun	30	1.77	4.56	5.38	5.92	7.69	6.15	5.25
Jul	31	1.85	4.44	5.15	5.61	7.21	5.61	4.98
Aug	31	2.30	4.77	5.30	5.54	6.84	5.56	5.05
Sept	30	2.94	4.81	5.00	4.94	5.66	5.00	4.73
Oct	31	3.01	4.03	3.99	3.73	4.02	4.04	3.80
Nov	30	2.93	3.51	3.34	3.00	3.01	3.51	3.22
Dec	31	3.16	3.57	3.32	2.88	2.74	3.62	3.22

Kut								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	103.54	119.66	112.22	98.58	95.48	119.66	108.19
Feb	28	98.84	125.16	121.24	110.32	113.68	125.16	115.73
Mar	31	91.76	137.33	140.43	135.78	152.52	140.43	133.04
Apr	30	66.90	123.60	133.20	136.20	164.40	136.20	126.75
May	31	59.83	132.06	150.04	160.89	204.29	160.89	144.67
Jun	30	53.10	136.80	161.40	177.60	230.70	184.50	157.35
Jul	31	57.35	137.64	159.65	173.91	223.51	173.91	154.33
Aug	31	71.30	147.87	164.30	171.74	212.04	172.36	156.60
Sept	30	88.20	144.30	150.00	148.20	169.80	150.00	141.75
Oct	31	93.31	124.93	123.69	115.63	124.62	125.24	117.90
Nov	30	87.90	105.30	100.20	90.00	90.30	105.30	96.50
Dec	31	97.96	110.67	102.92	89.28	84.94	112.22	99.67
Annual	365	969.99	1545.32	1619.29	1608.13	1866.28	1705.87	1552.48



Mosul								MOS
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	2.85	3.23	3.05	2.70	2.45	3.23	2.92
Feb	28	2.90	3.60	3.53	3.26	3.25	3.60	3.36
Mar	31	2.95	4.18	4.27	4.14	4.51	4.27	4.05
Apr	30	2.43	4.12	4.47	4.60	5.49	4.60	4.29
May	31	2.12	4.24	4.85	5.21	6.59	5.21	4.70
Jun	30	1.99	4.50	5.31	5.86	7.62	6.10	5.23
Jul	31	2.06	4.48	5.22	5.69	7.31	5.69	5.08
Aug	31	2.53	4.75	5.28	5.54	6.75	5.56	5.07
Sept	30	3.10	4.73	4.94	4.86	5.42	4.94	4.67
Oct	31	3.14	4.01	3.97	3.70	3.77	4.02	3.77
Nov	30	3.05	3.52	3.34	2.98	2.75	3.52	3.19
Dec	31	2.75	3.04	2.84	2.48	2.19	3.08	2.73

Mosul								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	88.35	100.13	94.55	83.70	75.95	100.13	90.47
Feb	28	81.20	100.80	98.84	91.28	91.00	100.80	93.99
Mar	31	91.45	129.58	132.37	128.34	139.81	132.37	125.65
Apr	30	72.90	123.60	134.10	138.00	164.70	138.00	128.55
May	31	65.72	131.44	150.35	161.51	204.29	161.51	145.80
Jun	30	59.70	135.00	159.30	175.80	228.60	183.00	156.90
Jul	31	63.86	138.88	161.82	176.39	226.61	176.39	157.33
Aug	31	78.43	147.25	163.68	171.74	209.25	172.36	157.12
Sept	30	93.00	141.90	148.20	145.80	162.60	148.20	139.95
Oct	31	97.34	124.31	123.07	114.70	116.87	124.62	116.82
Nov	30	91.50	105.60	100.20	89.40	82.50	105.60	95.80
Dec	31	85.25	94.24	88.04	76.88	67.89	95.48	84.63
Annual	365	968.7	1472.73	1554.52	1553.54	1770.07	1638.46	1493.0033



Mosul Jadida								MJD
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	2.85	3.23	3.05	2.70	2.45	3.23	2.92
Feb	28	2.90	3.60	3.53	3.26	3.25	3.60	3.36
Mar	31	2.95	4.18	4.27	4.14	4.51	4.27	4.05
Apr	30	2.43	4.12	4.47	4.60	5.49	4.60	4.29
May	31	2.12	4.24	4.85	5.21	6.59	5.21	4.70
Jun	30	1.99	4.50	5.31	5.86	7.62	6.10	5.23
Jul	31	2.06	4.48	5.22	5.69	7.31	5.69	5.08
Aug	31	2.53	4.75	5.28	5.54	6.75	5.56	5.07
Sept	30	3.10	4.73	4.94	4.86	5.42	4.94	4.67
Oct	31	3.14	4.01	3.97	3.70	3.77	4.02	3.77
Nov	30	3.05	3.52	3.34	2.98	2.75	3.52	3.19
Dec	31	2.75	3.04	2.84	2.48	2.19	3.08	2.73

Mosul Jadida								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	88.35	100.13	94.55	83.70	75.95	100.13	90.47
Feb	28	81.20	100.80	98.84	91.28	91.00	100.80	93.99
Mar	31	91.45	129.58	132.37	128.34	139.81	132.37	125.65
Apr	30	72.90	123.60	134.10	138.00	164.70	138.00	128.55
May	31	65.72	131.44	150.35	161.51	204.29	161.51	145.80
Jun	30	59.70	135.00	159.30	175.80	228.60	183.00	156.90
Jul	31	63.86	138.88	161.82	176.39	226.61	176.39	157.33
Aug	31	78.43	147.25	163.68	171.74	209.25	172.36	157.12
Sept	30	93.00	141.90	148.20	145.80	162.60	148.20	139.95
Oct	31	97.34	124.31	123.07	114.70	116.87	124.62	116.82
Nov	30	91.50	105.60	100.20	89.40	82.50	105.60	95.80
Dec	31	85.25	94.24	88.04	76.88	67.89	95.48	84.63
Annual	365	968.7	1472.73	1554.52	1553.54	1770.07	1638.46	1493.0033



Najaf								NAJ
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.02	3.54	3.34	2.95	2.91	3.54	3.22
Feb	28	3.26	4.18	4.06	3.73	3.88	4.18	3.88
Mar	31	2.84	4.28	4.38	4.26	4.80	4.38	4.16
Apr	30	2.25	4.19	4.53	4.64	5.60	4.64	4.31
May	31	1.92	4.32	4.93	5.30	6.74	5.30	4.75
Jun	30	1.74	4.64	5.48	6.06	7.90	6.32	5.36
Jul	31	1.82	4.48	5.22	5.69	7.33	5.69	5.04
Aug	31	2.27	4.78	5.31	5.58	6.89	5.57	5.07
Sept	30	2.94	4.85	5.05	4.98	5.73	5.05	4.77
Oct	31	2.92	3.94	3.91	3.67	3.97	3.95	3.73
Nov	30	2.70	3.28	3.14	2.83	2.88	3.28	3.02
Dec	31	2.86	3.28	3.06	2.69	2.60	3.32	2.97

Najaf								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	93.62	109.74	103.54	91.45	90.21	109.74	99.72
Feb	28	91.28	117.04	113.68	104.44	108.64	117.04	108.69
Mar	31	88.04	132.68	135.78	132.06	148.80	135.78	128.86
Apr	30	67.50	125.70	135.90	139.20	168.00	139.20	129.25
May	31	59.52	133.92	152.83	164.30	208.94	164.30	147.30
Jun	30	52.20	139.20	164.40	181.80	237.00	189.60	160.70
Jul	31	56.42	138.88	161.82	176.39	227.23	176.39	156.19
Aug	31	70.37	148.18	164.61	172.98	213.59	172.64	157.06
Sept	30	88.20	145.50	151.50	149.40	171.90	151.50	143.00
Oct	31	90.52	122.14	121.21	113.77	123.07	122.45	115.53
Nov	30	81.00	98.40	94.20	84.90	86.40	98.40	90.55
Dec	31	88.66	101.68	94.86	83.39	80.60	102.92	92.02
Annual	365	927.33	1513.06	1594.33	1594.08	1864.38	1679.959	1528.8565



Nasiriya								NAS
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	3.30	3.88	3.65	3.20	3.18	3.88	3.52
Feb	28	3.47	4.47	4.34	3.96	4.15	4.47	4.14
Mar	31	2.78	4.26	4.36	4.23	4.82	4.36	4.14
Apr	30	2.17	4.11	4.43	4.54	5.51	4.54	4.22
May	31	1.86	4.25	4.84	5.20	6.61	5.20	4.66
Jun	30	1.69	4.50	5.30	5.84	7.60	6.08	5.17
Jul	31	1.78	4.43	5.15	5.61	7.22	5.61	4.97
Aug	31	2.21	4.74	5.27	5.52	6.84	5.54	5.02
Sept	30	2.84	4.77	4.98	4.91	5.69	4.98	4.70
Oct	31	2.98	4.06	4.03	3.78	4.12	4.08	3.84
Nov	30	2.79	3.41	3.26	2.94	3.03	3.41	3.14
Dec	31	3.02	3.47	3.24	2.82	2.78	3.52	3.14

Nasiriya								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	102.30	120.28	113.15	99.20	98.58	120.28	108.97
Feb	28	97.16	125.16	121.52	110.88	116.20	125.16	116.01
Mar	31	86.18	132.06	135.16	131.13	149.42	135.16	128.19
Apr	30	65.10	123.30	132.90	136.20	165.30	136.20	126.50
May	31	57.66	131.75	150.04	161.20	204.91	161.20	144.46
Jun	30	50.70	135.00	159.00	175.20	228.00	182.40	155.05
Jul	31	55.18	137.33	159.65	173.91	223.82	173.91	153.97
Aug	31	68.51	146.94	163.37	171.12	212.04	171.74	155.62
Sept	30	85.20	143.10	149.40	147.30	170.70	149.40	140.85
Oct	31	92.38	125.86	124.93	117.18	127.72	126.48	119.09
Nov	30	83.70	102.30	97.80	88.20	90.90	102.30	94.20
Dec	31	93.62	107.57	100.44	87.42	86.18	109.12	97.39
Annual	365	937.69	1530.65	1607.36	1598.94	1873.77	1693.35	1540.2933



Omara								OMR
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.43	3.99	3.74	3.26	3.21	3.99	3.60
Feb	28	3.72	4.74	4.57	4.14	4.30	4.74	4.37
Mar	31	2.86	4.34	4.42	4.29	4.86	4.42	4.20
Apr	30	2.19	4.11	4.42	4.53	5.47	4.53	4.21
May	31	1.89	4.23	4.80	5.14	6.52	5.14	4.62
Jun	30	1.73	4.46	5.23	5.74	7.45	5.96	5.10
Jul	31	1.81	4.38	5.06	5.50	7.05	5.50	4.88
Aug	31	2.22	4.66	5.16	5.40	6.67	5.41	4.92
Sept	30	2.84	4.71	4.90	4.83	5.60	4.90	4.63
Oct	31	3.10	4.18	4.13	3.86	4.18	4.19	3.94
Nov	30	2.97	3.58	3.41	3.05	3.11	3.58	3.28
Dec	31	3.18	3.62	3.36	2.91	2.83	3.67	3.26

Omara								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	106.33	123.69	115.94	101.06	99.51	123.69	111.70
Feb	28	104.16	132.72	127.96	115.92	120.40	132.72	122.31
Mar	31	88.66	134.54	137.02	132.99	150.66	137.02	130.15
Apr	30	65.70	123.30	132.60	135.90	164.10	135.90	126.25
May	31	58.59	131.13	148.80	159.34	202.12	159.34	143.22
Jun	30	51.90	133.80	156.90	172.20	223.50	178.80	152.85
Jul	31	56.11	135.78	156.86	170.50	218.55	170.50	151.38
Aug	31	68.82	144.46	159.96	167.40	206.77	167.71	152.52
Sept	30	85.20	141.30	147.00	144.90	168.00	147.00	138.90
Oct	31	96.10	129.58	128.03	119.66	129.58	129.89	122.14
Nov	30	89.10	107.40	102.30	91.50	93.30	107.40	98.50
Dec	31	98.58	112.22	104.16	90.21	87.73	113.77	101.11
Annual	365	969.25	1549.92	1617.53	1601.58	1864.22	1703.74	1551.04



Ramadi								RAM
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	2.83	3.30	3.11	2.76	2.69	3.30	3.00
Feb	28	3.00	3.82	3.73	3.44	3.56	3.82	3.56
Mar	31	2.89	4.26	4.36	4.22	4.73	4.36	4.14
Apr	30	2.30	4.18	4.50	4.61	5.54	4.62	4.29
May	31	1.99	4.34	4.94	5.30	6.74	5.30	4.77
Jun	30	1.82	4.70	5.45	6.12	7.97	6.38	5.41
Jul	31	1.91	4.56	5.30	5.78	7.45	5.78	5.13
Aug	31	2.35	4.78	5.30	5.56	6.84	5.58	5.07
Sept	30	3.00	4.83	5.03	4.96	5.65	5.03	4.75
Oct	31	2.94	3.90	3.87	3.63	3.87	3.92	3.69
Nov	30	2.50	3.00	2.88	2.61	2.63	3.00	2.77
Dec	31	2.58	2.94	2.75	2.42	2.33	2.96	2.66

Ramadi								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	87.73	102.30	96.41	85.56	83.39	102.30	92.95
Feb	28	84.00	106.96	104.44	96.32	99.68	106.96	99.73
Mar	31	89.59	132.06	135.16	130.82	146.63	135.16	128.24
Apr	30	69.00	125.40	135.00	138.30	166.20	138.60	128.75
May	31	61.69	134.54	153.14	164.30	208.94	164.30	147.82
Jun	30	54.60	141.00	163.50	183.60	239.10	191.40	162.20
Jul	31	59.21	141.36	164.30	179.18	230.95	179.18	159.03
Aug	31	72.85	148.18	164.30	172.36	212.04	172.98	157.12
Sept	30	90.00	144.90	150.90	148.80	169.50	150.90	142.50
Oct	31	91.14	120.90	119.97	112.53	119.97	121.52	114.34
Nov	30	75.00	90.00	86.40	78.30	78.90	90.00	83.10
Dec	31	79.98	91.14	85.25	75.02	72.23	91.76	82.56
Annual	365	914.79	1478.74	1558.77	1565.09	1827.53	1645.06	1498.33



Samara								SAM
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.11	3.57	3.36	2.96	2.78	3.57	3.23
Feb	28	2.98	3.78	3.70	3.42	3.50	3.78	3.53
Mar	31	2.88	4.19	4.30	4.17	4.63	4.30	4.08
Apr	30	2.34	4.12	4.47	4.60	5.54	4.60	4.28
May	31	2.03	4.34	4.96	5.33	6.77	5.33	4.79
Jun	30	1.88	4.68	5.53	6.11	7.97	6.38	5.43
Jul	31	1.96	4.58	5.33	5.82	7.50	5.82	5.17
Aug	31	2.42	4.82	5.37	5.63	6.91	5.65	5.13
Sept	30	3.13	4.97	5.18	5.10	5.75	5.18	4.89
Oct	31	2.99	3.93	3.90	3.66	3.84	3.94	3.71
Nov	30	2.59	3.09	2.96	2.67	2.64	3.09	2.84
Dec	31	2.66	3.01	2.82	2.47	2.31	3.04	2.72

Samara								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	96.41	110.67	104.16	91.76	86.18	110.67	99.98
Feb	28	83.44	105.84	103.60	95.76	98.00	105.84	98.75
Mar	31	89.28	129.89	133.30	129.27	143.53	133.30	126.43
Apr	30	70.20	123.60	134.10	138.00	166.20	138.00	128.35
May	31	62.93	134.54	153.76	165.23	209.87	165.23	148.59
Jun	30	56.40	140.40	165.90	183.30	239.10	191.40	162.75
Jul	31	60.76	141.98	165.23	180.42	232.50	180.42	160.22
Aug	31	75.02	149.42	166.47	174.53	214.21	175.15	159.13
Sept	30	93.90	149.10	155.40	153.00	172.50	155.40	146.55
Oct	31	92.69	121.83	120.90	113.46	119.04	122.14	115.01
Nov	30	77.70	92.70	88.80	80.10	79.20	92.70	85.20
Dec	31	82.46	93.31	87.42	76.57	71.61	94.24	84.27
Annual	365	941.19	1493.28	1579.04	1581.4	1831.94	1664.49	1515.2233



Sinah								SIN
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	2.90	3.27	3.08	2.71	2.45	3.27	2.95
Feb	28	2.94	3.63	3.55	3.27	3.25	3.63	3.38
Mar	31	2.98	4.20	4.30	4.16	4.51	4.30	4.08
Apr	30	2.46	4.14	4.49	4.61	5.49	4.61	4.30
May	31	2.15	4.26	4.86	5.22	6.59	5.22	4.72
Jun	30	2.02	4.53	5.33	5.86	7.62	6.10	5.24
Jul	31	2.10	4.50	5.23	5.70	7.31	5.70	5.09
Aug	31	2.56	4.78	5.30	5.55	6.75	5.57	5.09
Sept	30	3.14	4.76	4.96	4.88	5.42	4.96	4.69
Oct	31	3.18	4.05	3.99	3.72	3.77	4.06	3.80
Nov	30	3.10	3.56	3.38	3.00	2.76	3.56	3.23
Dec	31	2.80	3.08	2.87	2.50	2.19	3.13	2.76

Sinah								SIN
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	89.90	101.37	95.48	84.01	75.95	101.37	91.35
Feb	28	82.32	101.64	99.40	91.56	91.00	101.64	94.59
Mar	31	92.38	130.20	133.30	128.96	139.81	133.30	126.33
Apr	30	73.80	124.20	134.70	138.30	164.70	138.30	129.00
May	31	66.65	132.06	150.66	161.82	204.29	161.82	146.22
Jun	30	60.60	135.90	159.90	175.80	228.60	183.00	157.30
Jul	31	65.10	139.50	162.13	176.70	226.61	176.70	157.79
Aug	31	79.36	148.18	164.30	172.05	209.25	172.67	157.64
Sept	30	94.20	142.80	148.80	146.40	162.60	148.80	140.60
Oct	31	98.58	125.55	123.69	115.32	116.87	125.86	117.65
Nov	30	93.00	106.80	101.40	90.00	82.80	106.80	96.80
Dec	31	86.80	95.48	88.97	77.50	67.89	97.03	85.61
Annual	365	982.69	1483.68	1562.73	1558.42	1770.37	1647.29	1500.8633



Sulaymaniya								SUL
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.04	3.45	3.25	2.86	2.63	3.45	3.11
Feb	28	2.98	3.73	3.64	3.36	3.38	3.73	3.47
Mar	31	2.91	4.17	4.26	4.14	4.54	4.26	4.05
Apr	30	2.35	4.02	4.37	4.49	5.38	4.49	4.18
May	31	2.09	4.28	4.88	5.24	6.64	5.24	4.73
Jun	30	1.95	4.52	5.33	5.86	7.63	6.10	5.23
Jul	31	2.02	4.47	5.19	5.66	7.27	5.66	5.05
Aug	31	2.46	4.72	5.24	5.48	6.70	5.50	5.02
Sept	30	3.14	4.86	5.05	4.98	5.56	5.05	4.77
Oct	31	3.20	4.13	4.07	3.80	3.90	4.14	3.87
Nov	30	2.99	3.48	3.30	2.95	2.89	3.48	3.18
Dec	31	2.85	3.16	2.94	2.56	2.31	3.20	2.84

Sulaymaniya								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	94.24	106.95	100.75	88.66	81.53	106.95	96.51
Feb	28	83.44	104.44	101.92	94.08	94.64	104.44	97.16
Mar	31	90.21	129.27	132.06	128.34	140.74	132.06	125.45
Apr	30	70.50	120.60	131.10	134.70	161.40	134.70	125.50
May	31	64.79	132.68	151.28	162.44	205.84	162.44	146.58
Jun	30	58.50	135.60	159.90	175.80	228.90	183.00	156.95
Jul	31	62.62	138.57	160.89	175.46	225.37	175.46	156.40
Aug	31	76.26	146.32	162.44	169.88	207.70	170.50	155.52
Sept	30	94.20	145.80	151.50	149.40	166.80	151.50	143.20
Oct	31	99.20	128.03	126.17	117.80	120.90	128.34	120.07
Nov	30	89.70	104.40	99.00	88.50	86.70	104.40	95.45
Dec	31	88.35	97.96	91.14	79.36	71.61	99.20	87.94
Annual	365	972.01	1490.62	1568.15	1564.42	1792.13	1652.99	1506.72



Sumawa								SUM
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	3.05	3.60	3.39	3.00	3.00	3.60	3.27
Feb	28	3.18	4.11	4.01	3.68	3.89	4.11	3.83
Mar	31	2.81	4.28	4.38	4.25	4.83	4.38	4.16
Apr	30	2.22	4.21	4.54	4.64	5.62	4.65	4.31
May	31	1.89	4.34	4.94	5.30	6.74	5.30	4.75
Jun	30	1.70	4.61	5.43	5.98	7.79	6.23	5.29
Jul	31	1.78	4.54	5.28	5.76	7.41	5.76	5.09
Aug	31	2.22	4.74	5.26	5.51	6.82	5.53	5.01
Sept	30	2.91	4.89	5.09	5.02	5.80	5.09	4.80
Oct	31	2.98	4.06	4.02	3.77	4.11	4.08	3.84
Nov	30	2.70	3.30	3.16	2.86	2.95	3.30	3.05
Dec	31	2.86	3.30	3.08	2.70	2.67	3.34	2.99

Sumawa								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	94.55	111.60	105.09	93.00	93.00	111.60	101.47
Feb	28	89.04	115.08	112.28	103.04	108.92	115.08	107.24
Mar	31	87.11	132.68	135.78	131.75	149.73	135.78	128.81
Apr	30	66.60	126.30	136.20	139.20	168.60	139.50	129.40
May	31	58.59	134.54	153.14	164.30	208.94	164.30	147.30
Jun	30	51.00	138.30	162.90	179.40	233.70	186.90	158.70
Jul	31	55.18	140.74	163.68	178.56	229.71	178.56	157.74
Aug	31	68.82	146.94	163.06	170.81	211.42	171.43	155.41
Sept	30	87.30	146.70	152.70	150.60	174.00	152.70	144.00
Oct	31	92.38	125.86	124.62	116.87	127.41	126.48	118.94
Nov	30	81.00	99.00	94.80	85.80	88.50	99.00	91.35
Dec	31	88.66	102.30	95.48	83.70	82.77	103.54	92.74
Annual	365	920.23	1520.04	1599.73	1597.03	1876.7	1684.87	1533.1



Zubair								ZUB
Facing Directly East - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.10	3.68	3.46	3.06	3.06	3.68	3.34
Feb	28	3.32	4.32	4.20	3.84	3.84	4.32	3.97
Mar	31	2.72	4.21	4.30	4.18	4.18	4.30	3.98
Apr	30	2.10	4.02	4.33	4.43	4.43	4.43	3.96
May	31	1.82	4.18	4.75	5.09	5.09	5.09	4.34
Jun	30	1.65	4.49	5.27	5.80	5.80	5.02	4.67
Jul	31	1.74	4.41	5.11	5.56	5.56	5.56	4.66
Aug	31	2.11	4.56	5.06	5.29	5.29	5.30	4.60
Sept	30	2.74	4.65	4.84	4.78	4.78	4.84	4.44
Oct	31	2.88	3.97	3.93	3.69	3.69	3.98	3.69
Nov	30	2.63	3.25	3.11	2.82	2.82	3.25	2.98
Dec	31	2.76	3.22	3.02	2.65	2.65	3.26	2.93

Zubair								
Facing Directly East - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	96.10	114.08	107.26	94.86	94.86	114.08	103.54
Feb	28	92.96	120.96	117.60	107.52	107.52	120.96	111.25
Mar	31	84.32	130.51	133.30	129.58	129.58	133.30	123.43
Apr	30	63.00	120.60	129.90	132.90	132.90	132.90	118.70
May	31	56.42	129.58	147.25	157.79	157.79	157.79	134.44
Jun	30	49.50	134.70	158.10	174.00	174.00	150.60	140.15
Jul	31	53.94	136.71	158.41	172.36	172.36	172.36	144.36
Aug	31	65.41	141.36	156.86	163.99	163.99	164.30	142.65
Sept	30	82.20	139.50	145.20	143.40	143.40	145.20	133.15
Oct	31	89.28	123.07	121.83	114.39	114.39	123.38	114.39
Nov	30	78.90	97.50	93.30	84.60	84.60	97.50	89.40
Dec	31	85.56	99.82	93.62	82.15	82.15	101.06	90.73
Annual	365	897.59	1488.39	1562.63	1557.54	1557.54	1613.43	1446.1867





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Average Solar Irradiance for Different Angles (KWh/m².year)

Facing South West (22.5° from South)

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted over the Year	Average
1	Abu Ghraib	1,176	1,845	1,929	1,916	1,815	2,031	1,785
2	Arbil	1,164	1,775	1,875	1,878	1,759	1,977	1,738
3	Baghdad	1,148	1,840	1,929	1,916	1,815	2,031	1,780
4	Baquba	1,225	1,847	1,934	1,918	1,814	2,036	1,796
5	Basra	1,096	1,816	1,908	1,899	1,840	2,005	1,761
6	Basrah Qadima	1,096	1,816	1,908	1,899	1,840	2,005	1,761
7	Diwaniya	1,131	1,844	1,943	1,943	1,864	2,048	1,795
8	Falluja	1,115	1,802	1,904	1,908	1,828	2,005	1,760
9	Faw	1,108	1,846	1,940	1,933	1,853	2,042	1,787
10	Hilla	1,147	1,856	1,953	1,947	1,865	2,056	1,804
11	Karbala	1,150	1,859	1,955	1,948	1,865	2,058	1,806
12	Kirkuk	1,196	1,836	1,933	1,926	1,806	2,023	1,787
13	Kut	1,182	1,883	1,974	1,961	1,866	2,080	1,824
14	Mosul	1,180	1,794	1,895	1,893	1,770	1,997	1,755
15	Mosul Jadida	1,180	1,794	1,895	1,893	1,770	1,997	1,755
16	Najaf	1,131	1,844	1,943	1,943	1,864	2,048	1,795
17	Nasiriya	1,143	1,866	1,959	1,949	1,874	2,064	1,809
18	Omara	1,181	1,889	1,972	1,952	1,864	2,077	1,822
19	Ramadi	1,115	1,802	1,904	1,908	1,828	2,005	1,760
20	Samara	1,148	1,819	1,924	1,927	1,832	2,028	1,780
21	Sinah	1,197	1,809	1,905	1,900	1,770	2,008	1,765
22	Sulaymaniya	1,185	1,816	1,912	1,906	1,789	2,014	1,770
23	Sumawa	1,122	1,853	1,949	1,946	1,877	2,053	1,800
24	Zubair	1,094	1,813	1,905	1,898	1,840	2,003	1,759
	Average	1,150	1,832	1,927	1,921	1,829	2,029	1,781

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Inclination (Tilt) Angle of the Solar Panel (°)

Facing South West (22.5° from South)

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted throughout the Year
1	Abu Ghraib	0	42	57	72	90	0-90
2	Arbil	0	39	54	69	90	0-90
3	Baghdad	0	42	57	72	90	0-90
4	Baquba	0	41	56	71	90	0-90
5	Basra	0	45	60	75	90	0-90
6	Basrah Qadima	0	45	60	75	90	0-90
7	Diwaniya	0	43	58	73	90	0-90
8	Falluja	0	42	57	72	90	0-90
9	Faw	0	45	60	75	90	0-90
10	Hilla	0	43	58	73	90	0-90
11	Karbala	0	42	57	72	90	0-90
12	Kirkuk	0	39	54	69	90	0-90
13	Kut	0	43	58	73	90	0-90
14	Mosul	0	39	54	69	90	0-90
15	Mosul Jadida	0	39	54	69	90	0-90
16	Najaf	0	43	58	73	90	0-90
17	Nasiriya	0	44	59	74	90	0-90
18	Omara	0	43	58	73	90	0-90
19	Ramadi	0	42	57	72	90	0-90
20	Samara	0	41	56	71	90	0-90
21	Sinah	0	38	53	68	90	0-90
22	Sulaymaniya	0	39	54	69	90	0-90
23	Sumawa	0	44	59	74	90	0-90
24	Zubair	0	45	60	75	90	0-90

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Iraq								IRQ
		VER	WIN	OPT	SUM	HOR	ADJ	SW1
Abu Ghraib								GRB
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.90	4.49	4.22	3.71	2.91	4.49	3.95
Feb	28	4.35	5.46	5.28	4.81	4.00	5.46	4.89
Mar	31	3.69	5.45	5.57	5.39	4.92	5.57	5.10
Apr	30	2.68	4.82	5.20	5.32	5.27	5.32	4.77
May	31	2.38	5.07	5.77	6.19	6.45	6.19	5.34
Jun	30	2.21	5.43	6.40	7.04	7.51	7.32	5.99
Jul	31	2.29	5.42	6.06	6.60	6.96	6.60	5.66
Aug	31	2.82	5.68	6.31	6.61	6.68	6.63	5.79
Sept	30	3.52	5.66	5.90	5.83	5.47	5.90	5.38
Oct	31	3.68	4.88	4.84	4.53	3.95	4.89	4.46
Nov	30	3.53	4.20	4.01	3.60	2.92	4.20	3.74
Dec	31	3.68	4.14	3.86	3.36	2.59	4.20	3.64

Abu Ghraib								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	120.90	139.19	130.82	115.01	90.21	139.19	122.55
Feb	28	121.80	152.88	147.84	134.68	112.00	152.88	137.01
Mar	31	114.39	168.95	172.67	167.09	152.52	172.67	158.05
Apr	30	80.40	144.60	156.00	159.60	158.10	159.60	143.05
May	31	73.78	157.17	178.87	191.89	199.95	191.89	165.59
Jun	30	66.30	162.90	192.00	211.20	225.30	219.60	179.55
Jul	31	70.99	168.02	187.86	204.60	215.76	204.60	175.31
Aug	31	87.42	176.08	195.61	204.91	207.08	205.53	179.44
Sept	30	105.60	169.80	177.00	174.90	164.10	177.00	161.40
Oct	31	114.08	151.28	150.04	140.43	122.45	151.59	138.31
Nov	30	105.90	126.00	120.30	108.00	87.60	126.00	112.30
Dec	31	114.08	128.34	119.66	104.16	80.29	130.20	112.79
Annual	365	1175.64	1845.21	1928.67	1916.47	1815.36	2030.75	1785.35



Arbil								ARB
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.35	3.81	3.60	3.20	2.40	3.81	3.36
Feb	28	3.31	4.13	4.06	3.76	3.11	4.13	3.75
Mar	31	3.44	4.88	4.99	4.86	4.36	4.99	4.59
Apr	30	2.91	4.90	5.32	5.48	5.38	5.48	4.91
May	31	2.58	5.18	5.91	6.36	6.60	6.36	5.50
Jun	30	2.42	5.47	6.45	7.13	7.61	7.43	6.09
Jul	31	2.52	5.46	6.36	6.94	7.32	6.94	5.92
Aug	31	3.04	5.70	6.35	6.65	6.66	6.68	5.85
Sept	30	3.86	5.91	6.16	6.07	5.53	6.16	5.62
Oct	31	3.95	5.05	4.99	4.66	3.87	5.07	4.60
Nov	30	3.64	4.21	4.01	3.58	2.72	4.21	3.73
Dec	31	3.27	3.62	3.38	2.96	2.16	3.67	3.18

Arbil								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	103.85	118.11	111.60	99.20	74.40	118.11	104.21
Feb	28	92.68	115.64	113.68	105.28	87.08	115.64	105.00
Mar	31	106.64	151.28	154.69	150.66	135.16	154.69	142.19
Apr	30	87.30	147.00	159.60	164.40	161.40	164.40	147.35
May	31	79.98	160.58	183.21	197.16	204.60	197.16	170.45
Jun	30	72.60	164.10	193.50	213.90	228.30	222.90	182.55
Jul	31	78.12	169.26	197.16	215.14	226.92	215.14	183.62
Aug	31	94.24	176.70	196.85	206.15	206.46	207.08	181.25
Sept	30	115.80	177.30	184.80	182.10	165.90	184.80	168.45
Oct	31	122.45	156.55	154.69	144.46	119.97	157.17	142.55
Nov	30	109.20	126.30	120.30	107.40	81.60	126.30	111.85
Dec	31	101.37	112.22	104.78	91.76	66.96	113.77	98.48
Annual	365	1,164.23	1,775.04	1,874.86	1,877.61	1,758.75	1,977.16	1,737.94



Baghdad								BGD
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.90	4.49	4.22	3.71	2.91	4.49	3.95
Feb	28	4.35	5.46	5.28	4.81	4.00	5.46	4.89
Mar	31	3.69	5.45	5.57	5.39	4.92	5.57	5.10
Apr	30	2.68	4.82	5.20	5.32	5.27	5.32	4.77
May	31	2.38	5.07	5.77	6.19	6.45	6.19	5.34
Jun	30	2.21	5.43	6.40	7.04	7.51	7.32	5.99
Jul	31	2.29	5.24	6.06	6.60	6.96	6.60	5.63
Aug	31	2.82	5.68	6.31	6.61	6.68	6.63	5.79
Sept	30	3.52	5.66	5.90	5.83	5.47	5.90	5.38
Oct	31	3.68	4.88	4.84	4.53	3.95	4.89	4.46
Nov	30	3.53	4.20	4.01	3.60	2.92	4.20	3.74
Dec	31	3.68	4.14	3.86	3.36	2.59	4.20	3.64

Baghdad								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	93.62	139.19	130.82	115.01	90.21	139.19	118.01
Feb	28	121.80	152.88	147.84	134.68	112.00	152.88	137.01
Mar	31	114.39	168.95	172.67	167.09	152.52	172.67	158.05
Apr	30	80.40	144.60	156.00	159.60	158.10	159.60	143.05
May	31	73.78	157.17	178.87	191.89	199.95	191.89	165.59
Jun	30	66.30	162.90	192.00	211.20	225.30	219.60	179.55
Jul	31	70.99	162.44	187.86	204.60	215.76	204.60	174.38
Aug	31	87.42	176.08	195.61	204.91	207.08	205.53	179.44
Sept	30	105.60	169.80	177.00	174.90	164.10	177.00	161.40
Oct	31	114.08	151.28	150.04	140.43	122.45	151.59	138.31
Nov	30	105.90	126.00	120.30	108.00	87.60	126.00	112.30
Dec	31	114.08	128.34	119.66	104.16	80.29	130.20	112.79
Annual	365	1,148.36	1,839.63	1,928.67	1,916.47	1,815.36	2,030.75	1,779.87



Baquba								BAQ
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.95	4.53	4.25	3.73	2.91	4.53	3.98
Feb	28	4.26	5.37	5.20	4.74	3.95	5.37	4.82
Mar	31	3.72	5.48	5.60	5.40	4.92	5.60	5.12
Apr	30	2.70	4.84	5.22	5.33	5.26	5.33	4.78
May	31	2.40	5.09	5.78	6.20	6.45	6.20	5.35
Jun	30	2.31	5.46	6.42	7.05	7.51	7.32	6.01
Jul	31	2.85	5.26	6.08	6.60	6.96	6.60	5.73
Aug	31	3.56	5.70	6.33	6.62	6.68	6.64	5.92
Sept	30	3.56	5.68	5.92	5.84	5.47	5.92	5.40
Oct	31	3.71	4.91	4.86	4.54	3.95	4.92	4.48
Nov	30	3.58	4.24	4.04	3.61	2.92	4.24	3.77
Dec	31	3.73	4.18	3.89	3.38	2.59	4.25	3.67

Baquba								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	122.45	140.43	131.75	115.63	90.21	140.43	123.48
Feb	28	119.28	150.36	145.60	132.72	110.60	150.36	134.82
Mar	31	115.32	169.88	173.60	167.40	152.52	173.60	158.72
Apr	30	81.00	145.20	156.60	159.90	157.80	159.90	143.40
May	31	74.40	157.79	179.18	192.20	199.95	192.20	165.95
Jun	30	69.30	163.80	192.60	211.50	225.30	219.60	180.35
Jul	31	88.35	163.06	188.48	204.60	215.76	204.60	177.48
Aug	31	110.36	176.70	196.23	205.22	207.08	205.84	183.57
Sept	30	106.80	170.40	177.60	175.20	164.10	177.60	161.95
Oct	31	115.01	152.21	150.66	140.74	122.45	152.52	138.93
Nov	30	107.40	127.20	121.20	108.30	87.60	127.20	113.15
Dec	31	115.63	129.58	120.59	104.78	80.29	131.75	113.77
Annual	365	1,225.30	1,846.61	1,934.09	1,918.19	1,813.66	2,035.60	1,795.58



Basra								BAS
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.78	4.49	4.23	3.73	3.11	4.49	3.97
Feb	28	4.06	5.27	5.12	4.68	4.10	5.27	4.75
Mar	31	3.32	5.14	5.26	5.10	4.80	5.26	4.81
Apr	30	2.56	4.90	5.28	5.40	5.39	5.40	4.82
May	31	2.22	5.11	5.80	6.21	6.47	6.21	5.34
Jun	30	2.02	5.47	6.44	7.07	7.53	7.34	5.98
Jul	31	2.12	5.38	6.23	6.78	7.15	6.78	5.74
Aug	31	2.58	5.57	6.16	6.44	6.56	6.46	5.63
Sept	30	3.34	5.66	5.91	5.83	5.59	5.91	5.37
Oct	31	3.51	4.84	4.80	4.50	4.08	4.86	4.43
Nov	30	3.22	3.97	3.80	3.43	2.96	3.97	3.56
Dec	31	3.37	3.93	3.69	3.24	2.69	3.98	3.48

Basra								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	117.18	139.19	131.13	115.63	96.41	139.19	123.12
Feb	28	113.68	147.56	143.36	131.04	114.80	147.56	133.00
Mar	31	102.92	159.34	163.06	158.10	148.80	163.06	149.21
Apr	30	76.80	147.00	158.40	162.00	161.70	162.00	144.65
May	31	68.82	158.41	179.80	192.51	200.57	192.51	165.44
Jun	30	60.60	164.10	193.20	212.10	225.90	220.20	179.35
Jul	31	65.72	166.78	193.13	210.18	221.65	210.18	177.94
Aug	31	79.98	172.67	190.96	199.64	203.36	200.26	174.48
Sept	30	100.20	169.80	177.30	174.90	167.70	177.30	161.20
Oct	31	108.81	150.04	148.80	139.50	126.48	150.66	137.38
Nov	30	96.60	119.10	114.00	102.90	88.80	119.10	106.75
Dec	31	104.47	121.83	114.39	100.44	83.39	123.38	107.98
Annual	365	1,095.78	1,815.82	1,907.53	1,898.94	1,839.56	2,005.40	1,760.51



Basra Qadima								BQD
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.78	4.49	4.23	3.73	3.11	4.49	3.97
Feb	28	4.06	5.27	5.12	4.68	4.10	5.27	4.75
Mar	31	3.32	5.14	5.26	5.10	4.80	5.26	4.81
Apr	30	2.56	4.90	5.28	5.40	5.39	5.40	4.82
May	31	2.22	5.11	5.80	6.21	6.47	6.21	5.34
Jun	30	2.02	5.47	6.44	7.07	7.53	7.34	5.98
Jul	31	2.12	5.38	6.23	6.78	7.15	6.78	5.74
Aug	31	2.58	5.57	6.16	6.44	6.56	6.46	5.63
Sept	30	3.34	5.66	5.91	5.83	5.59	5.91	5.37
Oct	31	3.51	4.84	4.80	4.50	4.08	4.86	4.43
Nov	30	3.22	3.97	3.80	3.43	2.96	3.97	3.56
Dec	31	3.37	3.93	3.69	3.24	2.69	3.98	3.48

Basra Qadima								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	117.18	139.19	131.13	115.63	96.41	139.19	123.12
Feb	28	113.68	147.56	143.36	131.04	114.80	147.56	133.00
Mar	31	102.92	159.34	163.06	158.10	148.80	163.06	149.21
Apr	30	76.80	147.00	158.40	162.00	161.70	162.00	144.65
May	31	68.82	158.41	179.80	192.51	200.57	192.51	165.44
Jun	30	60.60	164.10	193.20	212.10	225.90	220.20	179.35
Jul	31	65.72	166.78	193.13	210.18	221.65	210.18	177.94
Aug	31	79.98	172.67	190.96	199.64	203.36	200.26	174.48
Sept	30	100.20	169.80	177.30	174.90	167.70	177.30	161.20
Oct	31	108.81	150.04	148.80	139.50	126.48	150.66	137.38
Nov	30	96.60	119.10	114.00	102.90	88.80	119.10	106.75
Dec	31	104.47	121.83	114.39	100.44	83.39	123.38	107.98
Annual	365	1,095.78	1,815.82	1,907.53	1,898.94	1,839.56	2,005.40	1,760.51



Diwaniya								DIW
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.68	4.31	4.07	3.60	2.91	4.31	3.81
Feb	28	3.98	5.09	4.95	4.54	3.88	5.09	4.59
Mar	31	3.46	5.22	5.33	5.19	4.80	5.33	4.89
Apr	30	2.74	5.11	5.52	5.66	5.60	5.66	5.05
May	31	2.34	5.26	6.01	6.45	6.74	6.45	5.54
Jun	30	2.12	5.66	6.68	7.38	7.90	7.70	6.24
Jul	31	2.22	5.46	6.36	6.93	7.33	6.93	5.87
Aug	31	2.77	5.82	6.47	6.80	6.89	6.82	5.93
Sept	30	3.58	5.91	6.15	6.07	5.73	6.15	5.60
Oct	31	3.56	4.81	4.77	4.48	3.97	4.82	4.40
Nov	30	3.30	4.00	3.82	3.45	2.88	4.00	3.58
Dec	31	3.49	4.00	3.73	3.28	2.60	4.05	3.53

Diwaniya								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	114.08	133.61	126.17	111.60	90.21	133.61	118.21
Feb	28	111.44	142.52	138.60	127.12	108.64	142.52	128.47
Mar	31	107.26	161.82	165.23	160.89	148.80	165.23	151.54
Apr	30	82.20	153.30	165.60	169.80	168.00	169.80	151.45
May	31	72.54	163.06	186.31	199.95	208.94	199.95	171.79
Jun	30	63.60	169.80	200.40	221.40	237.00	231.00	187.20
Jul	31	68.82	169.26	197.16	214.83	227.23	214.83	182.02
Aug	31	85.87	180.42	200.57	210.80	213.59	211.42	183.78
Sept	30	107.40	177.30	184.50	182.10	171.90	184.50	167.95
Oct	31	110.36	149.11	147.87	138.88	123.07	149.42	136.45
Nov	30	99.00	120.00	114.60	103.50	86.40	120.00	107.25
Dec	31	108.19	124.00	115.63	101.68	80.60	125.55	109.28
Annual	365	1,130.76	1,844.20	1,942.64	1,942.55	1,864.38	2,047.83	1,795.39



Falluja								FAL
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.45	4.02	3.79	3.36	2.69	4.02	3.56
Feb	28	3.66	4.66	4.54	4.19	3.56	4.66	4.21
Mar	31	3.52	5.20	5.31	5.15	4.73	5.31	4.87
Apr	30	2.80	5.09	5.49	5.62	5.54	5.63	5.03
May	31	2.43	5.28	6.03	6.46	6.74	6.46	5.57
Jun	30	2.22	5.72	6.76	7.46	7.97	7.77	6.32
Jul	31	2.33	5.56	6.46	7.05	7.45	7.05	5.98
Aug	31	2.87	5.82	6.46	6.78	6.84	6.80	5.93
Sept	30	3.66	5.89	6.13	6.04	5.65	6.13	5.58
Oct	31	3.59	4.76	4.72	4.43	3.87	4.78	4.36
Nov	30	3.04	3.66	3.51	3.18	2.63	3.66	3.28
Dec	31	3.14	3.58	3.35	2.95	2.33	3.61	3.16

Falluja								FAL
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	107.04	124.62	117.49	104.16	83.39	124.62	110.22
Feb	28	102.48	130.48	127.12	117.32	99.68	130.48	117.93
Mar	31	109.12	161.20	164.61	159.65	146.63	164.61	150.97
Apr	30	84.00	152.70	164.70	168.60	166.20	168.90	150.85
May	31	75.33	163.68	186.93	200.26	208.94	200.26	172.57
Jun	30	66.60	171.60	202.80	223.80	239.10	233.10	189.50
Jul	31	72.23	172.36	200.26	218.55	230.95	218.55	185.48
Aug	31	88.97	180.42	200.26	210.18	212.04	210.80	183.78
Sept	30	109.80	176.70	183.90	181.20	169.50	183.90	167.50
Oct	31	111.29	147.56	146.32	137.33	119.97	148.18	135.11
Nov	30	91.20	109.80	105.30	95.40	78.90	109.80	98.40
Dec	31	97.34	110.98	103.85	91.45	72.23	111.91	97.96
Annual	365	1,115.40	1,802.10	1,903.54	1,907.90	1,827.53	2,005.11	1,760.26



Faw								FAW
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.87	4.60	4.34	3.83	3.19	4.60	4.07
Feb	28	4.33	5.65	5.47	4.98	4.34	5.65	5.07
Mar	31	3.27	5.07	5.20	5.05	4.77	5.20	4.76
Apr	30	2.57	4.98	5.37	5.51	5.50	5.51	4.91
May	31	2.21	5.20	5.93	6.36	6.64	6.36	5.45
Jun	30	1.99	5.46	6.43	7.08	7.55	7.36	5.98
Jul	31	2.09	5.45	6.34	6.90	7.30	6.90	5.83
Aug	31	2.57	5.65	6.26	6.56	6.69	6.59	5.72
Sept	30	3.36	5.75	6.00	5.93	5.69	6.00	5.46
Oct	31	3.52	4.87	4.83	4.54	4.12	4.88	4.46
Nov	30	3.22	3.99	3.82	3.46	2.29	3.99	3.46
Dec	31	3.51	4.09	3.83	3.36	2.78	4.13	3.62

Faw								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	119.97	142.60	134.54	118.73	98.89	142.60	126.22
Feb	28	121.24	158.20	153.16	139.44	121.52	158.20	141.96
Mar	31	101.37	157.17	161.20	156.55	147.87	161.20	147.56
Apr	30	77.10	149.40	161.10	165.30	165.00	165.30	147.20
May	31	68.51	161.20	183.83	197.16	205.84	197.16	168.95
Jun	30	59.70	163.80	192.90	212.40	226.50	220.80	179.35
Jul	31	64.79	168.95	196.54	213.90	226.30	213.90	180.73
Aug	31	79.67	175.15	194.06	203.36	207.39	204.29	177.32
Sept	30	100.80	172.50	180.00	177.90	170.70	180.00	163.65
Oct	31	109.12	150.97	149.73	140.74	127.72	151.28	138.26
Nov	30	96.60	119.70	114.60	103.80	68.70	119.70	103.85
Dec	31	108.81	126.79	118.73	104.16	86.18	128.03	112.12
Annual	365	1,107.68	1,846.43	1,940.39	1,933.44	1,852.61	2,042.46	1,787.17



Hilla								HIL
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.73	4.36	4.10	3.62	2.91	4.36	3.85
Feb	28	4.04	5.13	4.98	4.55	3.88	5.13	4.62
Mar	31	3.50	5.25	5.36	5.20	4.81	5.36	4.91
Apr	30	2.77	5.14	5.54	5.66	5.60	5.66	5.06
May	31	2.37	5.28	6.03	6.46	6.74	6.46	5.56
Jun	30	2.15	5.68	6.71	7.39	7.89	7.69	6.25
Jul	31	2.26	5.49	6.38	6.94	7.33	6.94	5.89
Aug	31	2.81	5.86	6.50	6.81	6.89	6.82	5.95
Sept	30	3.63	5.94	6.18	6.09	5.73	6.18	5.63
Oct	31	3.61	4.84	4.79	4.49	3.97	4.85	4.43
Nov	30	3.34	4.04	3.85	3.47	2.89	4.04	3.61
Dec	31	3.55	4.04	3.77	3.30	2.60	4.10	3.56

Hilla								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	115.63	135.16	127.10	112.22	90.21	135.16	119.25
Feb	28	113.12	143.64	139.44	127.40	108.64	143.64	129.31
Mar	31	108.50	162.75	166.16	161.20	149.11	166.16	152.31
Apr	30	83.10	154.20	166.20	169.80	168.00	169.80	151.85
May	31	73.47	163.68	186.93	200.26	208.94	200.26	172.26
Jun	30	64.50	170.40	201.30	221.70	236.70	230.70	187.55
Jul	31	70.06	170.19	197.78	215.14	227.23	215.14	182.59
Aug	31	87.11	181.66	201.50	211.11	213.59	211.42	184.40
Sept	30	108.90	178.20	185.40	182.70	171.90	185.40	168.75
Oct	31	111.91	150.04	148.49	139.19	123.07	150.35	137.18
Nov	30	100.20	121.20	115.50	104.10	86.70	121.20	108.15
Dec	31	110.05	125.24	116.87	102.30	80.60	127.10	110.36
Annual	365	1,146.55	1,856.36	1,952.67	1,947.12	1,864.69	2,056.33	1,803.95



Karbala								KAR
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.74	4.36	4.10	3.62	2.91	4.36	3.85
Feb	28	4.05	5.14	4.98	4.56	3.88	5.14	4.63
Mar	31	3.51	5.26	5.36	5.20	4.81	5.36	4.92
Apr	30	2.77	5.14	5.54	5.66	5.60	5.66	5.06
May	31	2.38	5.29	6.04	6.47	6.74	6.47	5.57
Jun	30	2.15	5.69	6.71	7.39	7.89	7.69	6.25
Jul	31	2.27	5.50	6.39	6.95	7.33	6.95	5.90
Aug	31	2.82	5.86	6.51	6.82	6.89	6.83	5.96
Sept	30	3.64	5.95	6.19	6.09	5.73	6.19	5.63
Oct	31	3.62	4.85	4.80	4.49	3.97	4.86	4.43
Nov	30	3.35	4.04	3.86	3.47	2.89	4.04	3.61
Dec	31	3.57	4.05	3.78	3.30	2.61	4.10	3.57

Karbala								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	115.94	135.16	127.10	112.22	90.21	135.16	119.30
Feb	28	113.40	143.92	139.44	127.68	108.64	143.92	129.50
Mar	31	108.81	163.06	166.16	161.20	149.11	166.16	152.42
Apr	30	83.10	154.20	166.20	169.80	168.00	169.80	151.85
May	31	73.78	163.99	187.24	200.57	208.94	200.57	172.52
Jun	30	64.50	170.70	201.30	221.70	236.70	230.70	187.60
Jul	31	70.37	170.50	198.09	215.45	227.23	215.45	182.85
Aug	31	87.42	181.66	201.81	211.42	213.59	211.73	184.61
Sept	30	109.20	178.50	185.70	182.70	171.90	185.70	168.95
Oct	31	112.22	150.35	148.80	139.19	123.07	150.66	137.38
Nov	30	100.50	121.20	115.80	104.10	86.70	121.20	108.25
Dec	31	110.67	125.55	117.18	102.30	80.91	127.10	110.62
Annual	365	1,149.91	1,858.79	1,954.82	1,948.33	1,865.00	2,058.15	1,805.83



Kirkuk								KIR
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.74	4.24	3.99	3.51	2.64	4.24	3.73
Feb	28	3.83	4.78	4.66	4.28	3.52	4.78	4.31
Mar	31	3.74	5.36	5.48	5.29	4.75	5.48	5.02
Apr	30	2.94	5.09	5.52	5.66	5.57	5.66	5.07
May	31	2.53	5.15	5.87	6.30	6.55	6.30	5.45
Jun	30	2.38	5.55	6.55	7.22	7.71	7.52	6.16
Jul	31	2.47	5.48	6.38	6.94	7.33	6.49	5.85
Aug	31	3.02	5.82	6.46	6.78	6.76	6.80	5.94
Sept	30	3.81	5.91	6.15	6.05	5.56	6.15	5.61
Oct	31	3.70	4.80	4.75	4.45	3.77	4.81	4.38
Nov	30	3.65	4.25	4.05	3.61	2.80	4.25	3.77
Dec	31	3.55	3.93	3.67	3.19	2.35	3.99	3.45

Kirkuk								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	115.94	131.44	123.69	108.81	81.84	131.44	115.53
Feb	28	107.24	133.84	130.48	119.84	98.56	133.84	120.63
Mar	31	115.94	166.16	169.88	163.99	147.25	169.88	155.52
Apr	30	88.20	152.70	165.60	169.80	167.10	169.80	152.20
May	31	78.43	159.65	181.97	195.30	203.05	195.30	168.95
Jun	30	71.40	166.50	196.50	216.60	231.30	225.60	184.65
Jul	31	76.57	169.88	197.78	215.14	227.23	201.19	181.30
Aug	31	93.62	180.42	200.26	210.18	209.56	210.80	184.14
Sept	30	114.30	177.30	184.50	181.50	166.80	184.50	168.15
Oct	31	114.70	148.80	147.25	137.95	116.87	149.11	135.78
Nov	30	109.50	127.50	121.50	108.30	84.00	127.50	113.05
Dec	31	110.05	121.83	113.77	98.89	72.85	123.69	106.85
	365	1,195.89	1,836.02	1,933.18	1,926.30	1,806.41	2,022.65	1,786.74



Kut								KUT
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	4.07	4.71	4.42	3.87	3.08	4.71	4.14
Feb	28	4.30	5.45	5.27	4.81	4.06	5.45	4.89
Mar	31	3.61	5.40	5.52	5.34	4.92	5.52	5.05
Apr	30	2.72	5.02	5.41	5.54	5.48	5.54	4.95
May	31	2.35	5.19	5.90	6.33	6.59	6.33	5.45
Jun	30	2.15	5.56	6.55	7.22	7.69	7.50	6.11
Jul	31	2.25	5.41	6.28	6.83	7.21	6.83	5.80
Aug	31	2.80	5.81	6.45	6.76	6.84	6.78	5.91
Sept	30	3.58	5.86	6.09	6.02	5.66	6.09	5.55
Oct	31	3.67	4.91	4.87	4.55	4.02	4.92	4.49
Nov	30	3.57	4.28	4.08	3.66	3.01	4.28	3.81
Dec	31	3.85	4.35	4.05	3.51	2.74	4.42	3.82

Kut								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	126.17	146.01	137.02	119.97	95.48	146.01	128.44
Feb	28	120.40	152.60	147.56	134.68	113.68	152.60	136.92
Mar	31	111.91	167.40	171.12	165.54	152.52	171.12	156.60
Apr	30	81.60	150.60	162.30	166.20	164.40	166.20	148.55
May	31	72.85	160.89	182.90	196.23	204.29	196.23	168.90
Jun	30	64.50	166.80	196.50	216.60	230.70	225.00	183.35
Jul	31	69.75	167.71	194.68	211.73	223.51	211.73	179.85
Aug	31	86.80	180.11	199.95	209.56	212.04	210.18	183.11
Sept	30	107.40	175.80	182.70	180.60	169.80	182.70	166.50
Oct	31	113.77	152.21	150.97	141.05	124.62	152.52	139.19
Nov	30	107.10	128.40	122.40	109.80	90.30	128.40	114.40
Dec	31	119.35	134.85	125.55	108.81	84.94	137.02	118.42
Annual	365	1,181.60	1,883.38	1,973.65	1,960.77	1,866.28	2,079.71	1,824.23



Mosul								MOS
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.47	3.94	3.71	3.29	2.45	3.94	3.47
Feb	28	3.53	4.39	4.30	3.97	3.25	4.39	3.97
Mar	31	3.60	5.09	5.21	5.05	4.51	5.21	4.78
Apr	30	2.96	5.02	5.45	5.61	5.49	5.61	5.02
May	31	2.58	5.17	5.91	6.35	6.59	6.35	5.49
Jun	30	2.43	5.48	6.47	7.14	7.62	7.44	6.10
Jul	31	2.52	5.46	6.36	6.93	7.31	6.93	5.92
Aug	31	3.08	5.79	6.44	6.75	6.75	6.78	5.93
Sept	30	3.77	5.76	6.02	5.93	5.42	6.02	5.49
Oct	31	3.82	4.88	4.84	4.51	3.77	4.90	4.45
Nov	30	3.71	4.29	4.08	3.63	2.75	4.29	3.79
Dec	31	3.35	3.70	3.46	3.02	2.19	3.75	3.25

Mosul								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	107.57	122.14	115.01	101.99	75.95	122.14	107.47
Feb	28	98.84	122.92	120.40	111.16	91.00	122.92	111.21
Mar	31	111.60	157.79	161.51	156.55	139.81	161.51	148.13
Apr	30	88.80	150.60	163.50	168.30	164.70	168.30	150.70
May	31	79.98	160.27	183.21	196.85	204.29	196.85	170.24
Jun	30	72.90	164.40	194.10	214.20	228.60	223.20	182.90
Jul	31	78.12	169.26	197.16	214.83	226.61	214.83	183.47
Aug	31	95.48	179.49	199.64	209.25	209.25	210.18	183.88
Sept	30	113.10	172.80	180.60	177.90	162.60	180.60	164.60
Oct	31	118.42	151.28	150.04	139.81	116.87	151.90	138.05
Nov	30	111.30	128.70	122.40	108.90	82.50	128.70	113.75
Dec	31	103.85	114.70	107.26	93.62	67.89	116.25	100.60
Annual	365	1,179.96	1,794.35	1,894.83	1,893.36	1,770.07	1,997.38	1,754.99



Mosul Jadida								MJD
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.47	3.94	3.71	3.29	2.45	3.94	3.47
Feb	28	3.53	4.39	4.30	3.97	3.25	4.39	3.97
Mar	31	3.60	5.09	5.21	5.05	4.51	5.21	4.78
Apr	30	2.96	5.02	5.45	5.61	5.49	5.61	5.02
May	31	2.58	5.17	5.91	6.35	6.59	6.35	5.49
Jun	30	2.43	5.48	6.47	7.14	7.62	7.44	6.10
Jul	31	2.52	5.46	6.36	6.93	7.31	6.93	5.92
Aug	31	3.08	5.79	6.44	6.75	6.75	6.78	5.93
Sept	30	3.77	5.76	6.02	5.93	5.42	6.02	5.49
Oct	31	3.82	4.88	4.84	4.51	3.77	4.90	4.45
Nov	30	3.71	4.29	4.08	3.63	2.75	4.29	3.79
Dec	31	3.35	3.70	3.46	3.02	2.19	3.75	3.25

Mosul Jadida								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	107.57	122.14	115.01	101.99	75.95	122.14	107.47
Feb	28	98.84	122.92	120.40	111.16	91.00	122.92	111.21
Mar	31	111.60	157.79	161.51	156.55	139.81	161.51	148.13
Apr	30	88.80	150.60	163.50	168.30	164.70	168.30	150.70
May	31	79.98	160.27	183.21	196.85	204.29	196.85	170.24
Jun	30	72.90	164.40	194.10	214.20	228.60	223.20	182.90
Jul	31	78.12	169.26	197.16	214.83	226.61	214.83	183.47
Aug	31	95.48	179.49	199.64	209.25	209.25	210.18	183.88
Sept	30	113.10	172.80	180.60	177.90	162.60	180.60	164.60
Oct	31	118.42	151.28	150.04	139.81	116.87	151.90	138.05
Nov	30	111.30	128.70	122.40	108.90	82.50	128.70	113.75
Dec	31	103.85	114.70	107.26	93.62	67.89	116.25	100.60
Annual	365	1,179.96	1,794.35	1,894.83	1,893.36	1,770.07	1,997.38	1,754.99



Najaf								NAJ
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.68	4.31	4.07	3.60	2.91	4.31	3.81
Feb	28	3.98	5.09	4.95	4.54	3.88	5.09	4.59
Mar	31	3.46	5.22	5.33	5.19	4.80	5.33	4.89
Apr	30	2.74	5.11	5.52	5.66	5.60	5.66	5.05
May	31	2.34	5.26	6.01	6.46	6.74	6.45	5.54
Jun	30	2.12	5.66	6.68	7.38	7.90	7.70	6.24
Jul	31	2.22	5.46	6.36	6.93	7.33	6.93	5.87
Aug	31	2.77	5.82	6.47	6.80	6.89	6.82	5.93
Sept	30	3.58	5.91	6.15	6.07	5.73	6.15	5.60
Oct	31	3.56	4.81	4.77	4.48	3.97	4.82	4.40
Nov	30	3.30	4.00	3.82	3.45	2.88	4.00	3.58
Dec	31	3.49	4.00	3.73	3.28	2.60	4.05	3.53

Najaf								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	114.08	133.61	126.17	111.60	90.21	133.61	118.21
Feb	28	111.44	142.52	138.60	127.12	108.64	142.52	128.47
Mar	31	107.26	161.82	165.23	160.89	148.80	165.23	151.54
Apr	30	82.20	153.30	165.60	169.80	168.00	169.80	151.45
May	31	72.54	163.06	186.31	200.11	208.94	199.95	171.82
Jun	30	63.60	169.80	200.40	221.40	237.00	231.00	187.20
Jul	31	68.82	169.26	197.16	214.83	227.23	214.83	182.02
Aug	31	85.87	180.42	200.57	210.80	213.59	211.42	183.78
Sept	30	107.40	177.30	184.50	182.10	171.90	184.50	167.95
Oct	31	110.36	149.11	147.87	138.88	123.07	149.42	136.45
Nov	30	99.00	120.00	114.60	103.50	86.40	120.00	107.25
Dec	31	108.19	124.00	115.63	101.68	80.60	125.55	109.28
Annual	365	1,130.76	1,844.20	1,942.64	1,942.71	1,864.38	2,047.83	1,795.42



Nasiriya								NAS
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	4.03	4.73	4.45	3.90	3.18	4.73	4.17
Feb	28	4.23	5.45	5.28	4.83	4.15	5.45	4.90
Mar	31	3.39	5.19	5.31	5.16	4.82	5.31	4.86
Apr	30	2.64	5.01	5.40	5.54	5.51	5.54	4.94
May	31	2.27	5.18	5.90	6.34	6.61	6.34	5.44
Jun	30	2.06	5.49	6.46	7.12	7.60	7.41	6.02
Jul	31	2.16	5.40	6.28	6.83	7.22	6.83	5.79
Aug	31	2.69	5.78	6.43	6.73	6.84	6.76	5.87
Sept	30	3.46	5.81	6.06	5.99	5.69	6.06	5.51
Oct	31	3.64	4.95	4.91	4.60	4.12	4.97	4.53
Nov	30	3.40	4.15	3.98	3.58	3.03	4.15	3.72
Dec	31	3.69	4.23	3.95	3.44	2.78	4.29	3.73

Nasiriya								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	124.93	146.63	137.95	120.90	98.58	146.63	129.27
Feb	28	118.44	152.60	147.84	135.24	116.20	152.60	137.15
Mar	31	105.09	160.89	164.61	159.96	149.42	164.61	150.76
Apr	30	79.20	150.30	162.00	166.20	165.30	166.20	148.20
May	31	70.37	160.58	182.90	196.54	204.91	196.54	168.64
Jun	30	61.80	164.70	193.80	213.60	228.00	222.30	180.70
Jul	31	66.96	167.40	194.68	211.73	223.82	211.73	179.39
Aug	31	83.39	179.18	199.33	208.63	212.04	209.56	182.02
Sept	30	103.80	174.30	181.80	179.70	170.70	181.80	165.35
Oct	31	112.84	153.45	152.21	142.60	127.72	154.07	140.48
Nov	30	102.00	124.50	119.40	107.40	90.90	124.50	111.45
Dec	31	114.39	131.13	122.45	106.64	86.18	132.99	115.63
Annual	365	1,143.21	1,865.66	1,958.97	1,949.14	1,873.77	2,063.53	1,809.05



Omara								OMR
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	4.18	4.87	4.55	3.98	3.21	4.87	4.28
Feb	28	4.53	5.77	5.57	5.05	4.30	5.78	5.17
Mar	31	3.49	5.28	5.39	5.23	4.86	5.39	4.94
Apr	30	2.67	5.01	5.39	5.52	5.47	5.52	4.93
May	31	2.30	5.16	5.85	6.26	6.52	6.26	5.39
Jun	30	2.11	5.44	6.38	7.00	7.45	7.26	5.94
Jul	31	2.20	5.33	6.17	6.70	7.05	6.70	5.69
Aug	31	2.71	5.68	6.29	6.58	6.67	6.59	5.75
Sept	30	3.46	5.74	5.98	5.89	5.60	5.98	5.44
Oct	31	3.77	5.10	5.03	4.70	4.18	5.11	4.65
Nov	30	3.62	4.36	4.15	3.71	3.11	4.38	3.89
Dec	31	3.87	4.41	4.10	3.55	2.83	4.48	3.87

Omara								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	129.58	150.97	141.05	123.38	99.51	150.97	132.58
Feb	28	126.84	161.56	155.96	141.40	120.40	161.84	144.67
Mar	31	108.19	163.68	167.09	162.13	150.66	167.09	153.14
Apr	30	80.10	150.30	161.70	165.60	164.10	165.60	147.90
May	31	71.30	159.96	181.35	194.06	202.12	194.06	167.14
Jun	30	63.30	163.20	191.40	210.00	223.50	217.80	178.20
Jul	31	68.20	165.23	191.27	207.70	218.55	207.70	176.44
Aug	31	84.01	176.08	194.99	203.98	206.77	204.29	178.35
Sept	30	103.80	172.20	179.40	176.70	168.00	179.40	163.25
Oct	31	116.87	158.10	155.93	145.70	129.58	158.41	144.10
Nov	30	108.60	130.80	124.50	111.30	93.30	131.40	116.65
Dec	31	119.97	136.71	127.10	110.05	87.73	138.88	120.07
Annual	365	1,180.76	1,888.79	1,971.74	1,952.00	1,864.22	2,077.44	1,822.49



Ramadi								RAM
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.45	4.02	3.79	3.36	2.69	4.02	3.56
Feb	28	3.66	4.66	4.54	4.19	3.56	4.66	4.21
Mar	31	3.52	5.20	5.31	5.15	4.73	5.31	4.87
Apr	30	2.80	5.09	5.49	5.62	5.54	5.63	5.03
May	31	2.43	5.28	6.03	6.46	6.74	6.46	5.57
Jun	30	2.22	5.72	6.76	7.46	7.97	7.77	6.32
Jul	31	2.33	5.56	6.46	7.05	7.45	7.05	5.98
Aug	31	2.87	5.82	6.46	6.78	6.84	6.80	5.93
Sept	30	3.66	5.89	6.13	6.04	5.65	6.13	5.58
Oct	31	3.59	4.76	4.72	4.43	3.87	4.78	4.36
Nov	30	3.04	3.66	3.51	3.18	2.63	3.66	3.28
Dec	31	3.14	3.58	3.35	2.95	2.33	3.61	3.16

Ramadi								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	106.95	124.62	117.49	104.16	83.39	124.62	110.21
Feb	28	102.48	130.48	127.12	117.32	99.68	130.48	117.93
Mar	31	109.12	161.20	164.61	159.65	146.63	164.61	150.97
Apr	30	84.00	152.70	164.70	168.60	166.20	168.90	150.85
May	31	75.33	163.68	186.93	200.26	208.94	200.26	172.57
Jun	30	66.60	171.60	202.80	223.80	239.10	233.10	189.50
Jul	31	72.23	172.36	200.26	218.55	230.95	218.55	185.48
Aug	31	88.97	180.42	200.26	210.18	212.04	210.80	183.78
Sept	30	109.80	176.70	183.90	181.20	169.50	183.90	167.50
Oct	31	111.29	147.56	146.32	137.33	119.97	148.18	135.11
Nov	30	91.20	109.80	105.30	95.40	78.90	109.80	98.40
Dec	31	97.34	110.98	103.85	91.45	72.23	111.91	97.96
Annual	365	1,115.31	1,802.10	1,903.54	1,907.90	1,827.53	2,005.11	1,760.25



Samara								SAM
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.79	4.35	4.10	3.61	2.78	4.35	3.83
Feb	28	3.64	4.61	4.51	4.16	3.50	4.61	4.17
Mar	31	3.51	5.11	5.24	5.08	4.63	5.24	4.80
Apr	30	2.85	5.02	5.45	5.61	5.54	5.61	5.01
May	31	2.48	5.28	6.04	6.49	6.77	6.49	5.59
Jun	30	2.29	5.70	6.74	7.45	7.97	7.77	6.32
Jul	31	2.39	5.58	6.49	7.10	7.50	7.10	6.03
Aug	31	2.95	5.88	6.54	6.86	6.91	6.88	6.00
Sept	30	3.81	6.05	6.31	6.21	5.75	6.31	5.74
Oct	31	3.65	4.79	4.75	4.46	3.84	4.81	4.38
Nov	30	3.16	3.76	3.61	3.26	2.64	3.76	3.37
Dec	31	3.25	3.67	3.43	3.01	2.31	3.70	3.23

Samara								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	117.49	134.85	127.10	111.91	86.18	134.85	118.73
Feb	28	101.92	129.08	126.28	116.48	98.00	129.08	116.81
Mar	31	108.81	158.41	162.44	157.48	143.53	162.44	148.85
Apr	30	85.50	150.60	163.50	168.30	166.20	168.30	150.40
May	31	76.88	163.68	187.24	201.19	209.87	201.19	173.34
Jun	30	68.70	171.00	202.20	223.50	239.10	233.10	189.60
Jul	31	74.09	172.98	201.19	220.10	232.50	220.10	186.83
Aug	31	91.45	182.28	202.74	212.66	214.21	213.28	186.10
Sept	30	114.30	181.50	189.30	186.30	172.50	189.30	172.20
Oct	31	113.15	148.49	147.25	138.26	119.04	149.11	135.88
Nov	30	94.80	112.80	108.30	97.80	79.20	112.80	100.95
Dec	31	100.75	113.77	106.33	93.31	71.61	114.70	100.08
Annual	365	1,147.84	1,819.44	1,923.87	1,927.29	1,831.94	2,028.25	1,779.77



Sinah								SIN
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	3.54	3.99	3.75	3.31	2.45	3.99	3.51
Feb	28	3.58	4.43	4.33	3.99	3.25	4.43	4.00
Mar	31	3.64	5.12	5.24	5.07	4.51	5.24	4.80
Apr	30	2.99	5.05	5.47	5.62	5.49	5.62	5.04
May	31	2.62	5.20	5.93	6.37	6.59	6.37	5.51
Jun	30	2.47	5.52	6.49	7.15	7.62	7.44	6.12
Jul	31	2.55	5.49	6.38	6.95	7.31	6.95	5.94
Aug	31	3.12	5.82	6.46	6.77	6.75	6.79	5.95
Sept	30	3.82	5.80	6.04	5.95	5.42	6.04	5.51
Oct	31	3.87	4.93	4.87	4.53	3.77	4.94	4.49
Nov	30	3.78	4.34	4.11	3.66	2.76	4.34	3.83
Dec	31	3.41	3.75	3.50	3.04	2.19	3.81	3.28

Sinah								SIN
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	109.74	123.69	116.25	102.61	75.95	123.69	108.66
Feb	28	100.24	124.04	121.24	111.72	91.00	124.04	112.05
Mar	31	112.84	158.72	162.44	157.17	139.81	162.44	148.90
Apr	30	89.70	151.50	164.10	168.60	164.70	168.60	151.20
May	31	81.22	161.20	183.83	197.47	204.29	197.47	170.91
Jun	30	74.10	165.60	194.70	214.50	228.60	223.20	183.45
Jul	31	79.05	170.19	197.78	215.45	226.61	215.45	184.09
Aug	31	96.72	180.42	200.26	209.87	209.25	210.49	184.50
Sept	30	114.60	174.00	181.20	178.50	162.60	181.20	165.35
Oct	31	119.97	152.83	150.97	140.43	116.87	153.14	139.04
Nov	30	113.40	130.20	123.30	109.80	82.80	130.20	114.95
Dec	31	105.71	116.25	108.50	94.24	67.89	118.11	101.78
Annual	365	1,197.29	1,808.64	1,904.57	1,900.36	1,770.37	2,008.03	1,764.88



Sulaymaniya								SUL
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.70	4.20	3.96	3.48	2.63	4.20	3.70
Feb	28	3.63	4.54	4.44	4.10	3.38	4.54	4.11
Mar	31	3.55	5.08	5.20	5.04	4.54	5.20	4.77
Apr	30	2.87	4.90	5.32	5.47	5.38	5.47	4.90
May	31	2.54	5.22	5.95	6.39	6.64	6.39	5.52
Jun	30	2.38	5.51	6.49	7.15	7.63	7.44	6.10
Jul	31	2.47	5.45	6.33	6.89	7.27	6.89	5.88
Aug	31	3.00	5.75	6.39	6.68	6.70	6.71	5.87
Sept	30	3.82	5.92	6.15	6.06	5.56	6.15	5.61
Oct	31	3.90	5.03	4.96	4.63	3.90	5.04	4.58
Nov	30	3.65	4.24	4.03	3.60	2.79	4.24	3.76
Dec	31	3.47	3.84	3.59	3.12	2.31	3.90	3.37

Sulaymaniya								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	114.70	130.20	122.76	107.88	81.53	130.20	114.55
Feb	28	101.64	127.12	124.32	114.80	94.64	127.12	114.94
Mar	31	110.05	157.48	161.20	156.24	140.74	161.20	147.82
Apr	30	86.10	147.00	159.60	164.10	161.40	164.10	147.05
May	31	78.74	161.82	184.45	198.09	205.84	198.09	171.17
Jun	30	71.40	165.30	194.70	214.50	228.90	223.20	183.00
Jul	31	76.57	168.95	196.23	213.59	225.37	213.59	182.38
Aug	31	93.00	178.25	198.09	207.08	207.70	208.01	182.02
Sept	30	114.60	177.60	184.50	181.80	166.80	184.50	168.30
Oct	31	120.90	155.93	153.76	143.53	120.90	156.24	141.88
Nov	30	109.50	127.20	120.90	108.00	83.70	127.20	112.75
Dec	31	107.57	119.04	111.29	96.72	71.61	120.90	104.52
Annual	365	1,184.77	1,815.89	1,911.80	1,906.33	1,789.13	2,014.35	1,770.38



Sumawa								SUM
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	3.71	4.39	4.13	3.66	3.00	4.39	3.88
Feb	28	3.88	5.01	4.88	4.48	3.89	5.01	4.53
Mar	31	3.42	5.22	5.33	5.18	4.83	5.33	4.89
Apr	30	2.70	5.13	5.53	5.66	5.62	5.66	5.05
May	31	2.30	5.28	6.02	6.46	6.74	6.46	5.54
Jun	30	2.07	5.62	6.62	7.29	7.79	7.60	6.17
Jul	31	2.17	5.54	6.44	7.02	7.41	7.02	5.93
Aug	31	2.70	5.77	6.42	6.72	6.82	6.74	5.86
Sept	30	3.55	5.96	6.20	6.11	5.80	6.20	5.64
Oct	31	3.64	4.95	4.90	4.59	4.11	4.97	4.53
Nov	30	3.30	4.03	3.85	3.48	2.95	4.03	3.61
Dec	31	3.49	4.02	3.75	3.30	2.67	4.07	3.55

Sumawa								
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	115.01	136.09	128.03	113.46	93.00	136.09	120.28
Feb	28	108.64	140.28	136.64	125.44	108.92	140.28	126.70
Mar	31	106.02	161.82	165.23	160.58	149.73	165.23	151.44
Apr	30	81.00	153.90	165.90	169.80	168.60	169.80	151.50
May	31	71.30	163.68	186.62	200.26	208.94	200.26	171.84
Jun	30	62.10	168.60	198.60	218.70	233.70	228.00	184.95
Jul	31	67.27	171.74	199.64	217.62	229.71	217.62	183.93
Aug	31	83.70	178.87	199.02	208.32	211.42	208.94	181.71
Sept	30	106.50	178.80	186.00	183.30	174.00	186.00	169.10
Oct	31	112.84	153.45	151.90	142.29	127.41	154.07	140.33
Nov	30	99.00	120.90	115.50	104.40	88.50	120.90	108.20
Dec	31	108.19	124.62	116.25	102.30	82.77	126.17	110.05
Annual	365	1,121.57	1,852.75	1,949.33	1,946.47	1,876.70	2,053.36	1,800.03



Zubair								ZUB
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.77	4.48	4.22	3.73	3.11	4.48	3.97
Feb	28	4.05	5.26	5.12	4.68	4.10	5.26	4.75
Mar	31	3.32	5.13	5.25	5.10	4.81	5.25	4.81
Apr	30	2.56	4.89	5.27	5.40	5.39	5.40	4.82
May	31	2.22	5.10	5.79	6.20	6.47	6.20	5.33
Jun	30	2.01	5.47	6.43	7.07	7.53	7.34	5.98
Jul	31	2.12	5.37	6.23	6.78	7.15	6.78	5.74
Aug	31	2.57	5.56	6.16	6.44	6.56	6.46	5.63
Sept	30	3.33	5.66	5.90	5.83	5.59	5.90	5.37
Oct	31	3.51	4.84	4.79	4.49	4.08	4.85	4.43
Nov	30	3.21	3.96	3.79	3.43	2.96	3.96	3.55
Dec	31	3.36	3.92	3.68	3.23	2.68	3.97	3.47

Zubair								ZUB
Facing South West (22.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	116.87	138.88	130.82	115.63	96.41	138.88	122.92
Feb	28	113.40	147.28	143.36	131.04	114.80	147.28	132.86
Mar	31	102.92	159.03	162.75	158.10	149.08	162.75	149.10
Apr	30	76.80	146.70	158.10	162.00	161.70	162.00	144.55
May	31	68.82	158.10	179.49	192.20	200.57	192.20	165.23
Jun	30	60.30	164.10	192.90	212.10	225.90	220.20	179.25
Jul	31	65.72	166.47	193.13	210.18	221.65	210.18	177.89
Aug	31	79.67	172.36	190.96	199.64	203.36	200.26	174.38
Sept	30	99.90	169.80	177.00	174.90	167.70	177.00	161.05
Oct	31	108.81	150.04	148.49	139.19	126.48	150.35	137.23
Nov	30	96.30	118.80	113.70	102.90	88.80	118.80	106.55
Dec	31	104.16	121.52	114.08	100.13	83.08	123.07	107.67
Annual	365	1,093.67	1,813.08	1,904.78	1,898.01	1,839.53	2,002.97	1,758.67





www.tarcal.uk

Tariff Calculator



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Renewable Energy
Investment Calculator



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Electricity Bill Calculator

Average Solar Irradiance for Different Angles (KWh/m².year)

Facing South West (45° from South)

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted throughout the Year	Average
1	Abu Ghraib	1,145	1,793	1,878	1,868	1,815	1,979	1,746
2	Arbil	1,134	1,729	1,826	1,829	1,759	1,926	1,701
3	Baghdad	1,124	1,793	1,878	1,868	1,815	1,979	1,743
4	Baquba	1,154	1,800	1,884	1,870	1,814	1,984	1,751
5	Basra	1,069	1,770	1,858	1,850	1,840	1,954	1,723
6	Basrah Qadima	1,069	1,770	1,858	1,850	1,840	1,954	1,723
7	Diwaniya	1,102	1,797	1,894	1,892	1,842	1,995	1,754
8	Falluja	1,102	1,797	1,893	1,892	1,864	1,995	1,757
9	Faw	1,080	1,798	1,890	1,884	1,873	1,990	1,753
10	Hilla	1,117	1,809	1,902	1,897	1,865	2,004	1,766
11	Karbala	1,120	1,811	1,905	1,898	1,865	2,006	1,768
12	Kirkuk	1,165	1,789	1,883	1,877	1,807	1,984	1,751
13	Kut	1,151	1,835	1,923	1,910	1,928	2,027	1,796
14	Mosul	1,150	1,749	1,846	1,844	1,770	1,946	1,717
15	Mosul Jadida	1,150	1,749	1,846	1,844	1,770	1,946	1,717
16	Najaf	1,102	1,797	1,893	1,892	1,864	1,995	1,757
17	Nasiriya	1,113	1,818	1,909	1,899	1,874	2,011	1,771
18	Omara	1,151	1,841	1,921	1,902	1,864	2,023	1,784
19	Ramadi	1,086	1,756	1,856	1,859	1,828	1,954	1,723
20	Samara	1,118	1,773	1,875	1,879	1,832	1,977	1,742
21	Sinah	1,167	1,762	1,856	1,851	1,770	1,956	1,727
22	Sulaymaniya	1,154	1,769	1,863	1,857	1,789	1,994	1,738
23	Sumawa	1,092	1,805	1,900	1,897	1,877	2,000	1,762
24	Zubair	1,066	1,767	1,855	1,849	1,839	1,952	1,722
	Average	1,120	1,786	1,879	1,873	1,834	1,980	1,745

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Inclination (Tilt) Angle of the Solar Panel (°)

Facing South West (45° from South)

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted throughout the Year
1	Abu Ghraib	0	42	57	72	90	0-90
2	Arbil	0	39	54	69	90	0-90
3	Baghdad	0	42	57	72	90	0-90
4	Baquba	0	41	56	71	90	0-90
5	Basra	0	45	60	75	90	0-90
6	Basrah Qadima	0	45	60	75	90	0-90
7	Diwaniya	0	43	58	73	90	0-90
8	Falluja	0	42	57	72	90	0-90
9	Faw	0	45	60	75	90	0-90
10	Hilla	0	43	58	73	90	0-90
11	Karbala	0	42	57	72	90	0-90
12	Kirkuk	0	39	54	69	90	0-90
13	Kut	0	43	58	73	90	0-90
14	Mosul	0	39	54	69	90	0-90
15	Mosul Jadida	0	39	54	69	90	0-90
16	Najaf	0	43	58	73	90	0-90
17	Nasiriya	0	44	59	74	90	0-90
18	Omara	0	43	58	73	90	0-90
19	Ramadi	0	42	57	72	90	0-90
20	Samara	0	41	56	71	90	0-90
21	Sinah	0	38	53	68	90	0-90
22	Sulaymaniya	0	39	54	69	90	0-90
23	Sumawa	0	44	59	74	90	0-90
24	Zubair	0	45	60	75	90	0-90

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Iraq								IRQ
		VER	WIN	OPT	SUM	HOR	ADJ	SW2
Abu Ghraib								GRB
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.80	4.38	4.11	3.62	2.91	4.38	3.87
Feb	28	4.24	5.32	5.15	4.68	4.00	5.32	4.79
Mar	31	3.59	5.31	5.42	5.25	4.92	5.42	4.99
Apr	30	2.61	4.69	5.06	5.19	5.27	5.19	4.67
May	31	2.32	4.94	5.62	6.03	6.45	6.03	5.23
Jun	30	2.16	5.29	6.23	6.86	7.51	7.13	5.86
Jul	31	2.23	5.10	5.91	6.43	6.96	6.43	5.51
Aug	31	2.75	5.54	6.15	6.44	6.68	6.46	5.67
Sept	30	3.43	5.51	5.75	5.68	5.47	5.75	5.27
Oct	31	3.58	4.76	4.71	4.42	3.95	4.77	4.37
Nov	30	3.44	4.09	3.90	3.51	2.92	4.09	3.66
Dec	31	3.58	4.04	3.76	3.28	2.59	4.09	3.56

Abu Ghraib								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	117.80	135.78	127.41	112.22	90.21	135.78	119.87
Feb	28	118.72	148.96	144.20	131.04	112.00	148.96	133.98
Mar	31	111.29	164.61	168.02	162.75	152.52	168.02	154.54
Apr	30	78.30	140.70	151.80	155.70	158.10	155.70	140.05
May	31	71.92	153.14	174.22	186.93	199.95	186.93	162.18
Jun	30	64.80	158.70	186.90	205.80	225.30	213.90	175.90
Jul	31	69.13	158.10	183.21	199.33	215.76	199.33	170.81
Aug	31	85.25	171.74	190.65	199.64	207.08	200.26	175.77
Sept	30	102.90	165.30	172.50	170.40	164.10	172.50	157.95
Oct	31	110.98	147.56	146.01	137.02	122.45	147.87	135.32
Nov	30	103.20	122.70	117.00	105.30	87.60	122.70	109.75
Dec	31	110.98	125.24	116.56	101.68	80.29	126.79	110.26
Annual	365	1,145.27	1,792.53	1,878.48	1,867.81	1,815.36	1,978.74	1,746.37



Arbil								ARB
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.27	3.71	3.51	3.12	2.40	3.71	3.29
Feb	28	3.22	4.03	3.92	3.67	3.11	4.03	3.66
Mar	31	3.35	4.75	4.86	4.73	4.36	4.86	4.49
Apr	30	2.83	4.78	5.19	5.34	5.38	5.34	4.81
May	31	2.52	5.04	5.76	6.19	6.60	6.19	5.38
Jun	30	2.36	5.33	6.29	6.94	7.61	7.24	5.96
Jul	31	2.45	5.32	6.19	6.76	7.32	6.76	5.80
Aug	31	2.96	5.56	6.18	6.48	6.66	6.51	5.73
Sept	30	3.76	5.76	6.00	5.92	5.53	6.00	5.50
Oct	31	3.85	4.92	4.86	4.54	3.87	4.94	4.50
Nov	30	3.54	4.10	3.90	3.49	2.72	4.10	3.64
Dec	31	3.18	3.52	3.30	2.89	2.16	3.57	3.10

Arbil								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	101.37	115.01	108.81	96.72	74.40	115.01	101.89
Feb	28	90.16	112.84	109.76	102.76	87.08	112.84	102.57
Mar	31	103.85	147.25	150.66	146.63	135.16	150.66	139.04
Apr	30	84.90	143.40	155.70	160.20	161.40	160.20	144.30
May	31	78.12	156.24	178.56	191.89	204.60	191.89	166.88
Jun	30	70.80	159.90	188.70	208.20	228.30	217.20	178.85
Jul	31	75.95	164.92	191.89	209.56	226.92	209.56	179.80
Aug	31	91.76	172.36	191.58	200.88	206.46	201.81	177.48
Sept	30	112.80	172.80	180.00	177.60	165.90	180.00	164.85
Oct	31	119.35	152.52	150.66	140.74	119.97	153.14	139.40
Nov	30	106.20	123.00	117.00	104.70	81.60	123.00	109.25
Dec	31	98.58	109.12	102.30	89.59	66.96	110.67	96.20
Annual	365	1,133.84	1,729.36	1,825.62	1,829.47	1,758.75	1,925.98	1,700.50



Baghdad								BGD
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.80	4.38	4.11	3.62	2.91	4.38	3.87
Feb	28	4.24	5.32	5.15	4.68	4.00	5.32	4.79
Mar	31	3.59	5.31	5.42	5.25	4.92	5.42	4.99
Apr	30	2.61	4.69	5.06	5.19	5.27	5.19	4.67
May	31	2.32	4.94	5.62	6.03	6.45	6.03	5.23
Jun	30	2.16	5.29	6.23	6.86	7.51	7.13	5.86
Jul	31	2.32	5.10	5.91	6.43	6.96	6.43	5.53
Aug	31	2.75	5.54	6.15	6.44	6.68	6.46	5.67
Sept	30	3.43	5.51	5.75	5.68	5.47	5.75	5.27
Oct	31	3.58	4.76	4.71	4.42	3.95	4.77	4.37
Nov	30	3.44	4.09	3.90	3.51	2.92	4.09	3.66
Dec	31	3.58	4.04	3.76	3.28	2.59	4.09	3.56

Baghdad								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	93.62	135.78	127.41	112.22	90.21	135.78	115.84
Feb	28	118.72	148.96	144.20	131.04	112.00	148.96	133.98
Mar	31	111.29	164.61	168.02	162.75	152.52	168.02	154.54
Apr	30	78.30	140.70	151.80	155.70	158.10	155.70	140.05
May	31	71.92	153.14	174.22	186.93	199.95	186.93	162.18
Jun	30	64.80	158.70	186.90	205.80	225.30	213.90	175.90
Jul	31	71.92	158.10	183.21	199.33	215.76	199.33	171.28
Aug	31	85.25	171.74	190.65	199.64	207.08	200.26	175.77
Sept	30	102.90	165.30	172.50	170.40	164.10	172.50	157.95
Oct	31	110.98	147.56	146.01	137.02	122.45	147.87	135.32
Nov	30	103.20	122.70	117.00	105.30	87.60	122.70	109.75
Dec	31	110.98	125.24	116.56	101.68	80.29	126.79	110.26
Annual	365	1,123.88	1,792.53	1,878.48	1,867.81	1,815.36	1,978.74	1,742.80



Baquba								BAQ
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.85	4.42	4.14	3.64	2.91	4.42	3.90
Feb	28	4.15	5.23	5.06	4.62	3.95	5.23	4.71
Mar	31	3.63	5.34	5.45	5.26	4.92	5.45	5.01
Apr	30	2.63	4.71	5.08	5.20	5.26	5.20	4.68
May	31	2.34	4.96	5.63	6.04	6.45	6.04	5.24
Jun	30	2.18	5.32	6.25	6.87	7.51	7.13	5.88
Jul	31	2.25	5.13	5.93	6.43	6.96	6.43	5.52
Aug	31	2.77	5.56	6.17	6.45	6.68	6.47	5.68
Sept	30	3.47	5.54	5.77	5.69	5.47	5.77	5.29
Oct	31	3.62	4.79	4.73	4.43	3.95	4.80	4.39
Nov	30	3.49	4.13	3.93	3.52	2.92	4.13	3.69
Dec	31	3.64	4.08	3.79	3.30	2.59	4.14	3.59

Baquba								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	119.35	137.02	128.34	112.84	90.21	137.02	120.80
Feb	28	116.20	146.44	141.68	129.36	110.60	146.44	131.79
Mar	31	112.53	165.54	168.95	163.06	152.52	168.95	155.26
Apr	30	78.90	141.30	152.40	156.00	157.80	156.00	140.40
May	31	72.54	153.76	174.53	187.24	199.95	187.24	162.54
Jun	30	65.40	159.60	187.50	206.10	225.30	213.90	176.30
Jul	31	69.75	159.03	183.83	199.33	215.76	199.33	171.17
Aug	31	85.87	172.36	191.27	199.95	207.08	200.57	176.18
Sept	30	104.10	166.20	173.10	170.70	164.10	173.10	158.55
Oct	31	112.22	148.49	146.63	137.33	122.45	148.80	135.99
Nov	30	104.70	123.90	117.90	105.60	87.60	123.90	110.60
Dec	31	112.84	126.48	117.49	102.30	80.29	128.34	111.29
Annual	365	1,154.40	1,800.12	1,883.62	1,869.81	1,813.66	1,983.59	1,750.87



Basra								BAS
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.69	4.38	4.12	3.64	3.11	4.38	3.89
Feb	28	3.95	5.14	4.99	4.56	4.10	5.14	4.65
Mar	31	3.24	5.01	5.12	4.97	4.80	5.12	4.71
Apr	30	2.50	4.78	5.15	5.26	5.39	5.26	4.72
May	31	2.17	4.98	5.65	6.05	6.47	6.05	5.23
Jun	30	1.97	5.33	6.27	6.89	7.53	7.15	5.86
Jul	31	2.06	5.24	6.07	6.60	7.15	6.60	5.62
Aug	31	2.52	5.42	6.00	6.28	6.56	6.30	5.51
Sept	30	3.26	5.52	5.76	5.68	5.59	5.76	5.26
Oct	31	3.42	4.71	4.67	4.39	4.08	4.73	4.33
Nov	30	3.14	3.87	3.70	3.34	2.96	3.87	3.48
Dec	31	3.29	3.83	3.59	3.15	2.69	3.88	3.41

Basra								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	114.39	135.78	127.72	112.84	96.41	135.78	120.49
Feb	28	110.60	143.92	139.72	127.68	114.80	143.92	130.11
Mar	31	100.44	155.31	158.72	154.07	148.80	158.72	146.01
Apr	30	75.00	143.40	154.50	157.80	161.70	157.80	141.70
May	31	67.27	154.38	175.15	187.55	200.57	187.55	162.08
Jun	30	59.10	159.90	188.10	206.70	225.90	214.50	175.70
Jul	31	63.86	162.44	188.17	204.60	221.65	204.60	174.22
Aug	31	78.12	168.02	186.00	194.68	203.36	195.30	170.91
Sept	30	97.80	165.60	172.80	170.40	167.70	172.80	157.85
Oct	31	106.02	146.01	144.77	136.09	126.48	146.63	134.33
Nov	30	94.20	116.10	111.00	100.20	88.80	116.10	104.40
Dec	31	101.99	118.73	111.29	97.65	83.39	120.28	105.56
Annual	365	1,068.79	1,769.59	1,857.94	1,850.26	1,839.56	1,953.98	1,723.35



Basra Qadima								BQD
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.69	4.38	4.12	3.64	3.11	4.38	3.89
Feb	28	3.95	5.14	4.99	4.56	4.10	5.14	4.65
Mar	31	3.24	5.01	5.12	4.97	4.80	5.12	4.71
Apr	30	2.50	4.78	5.15	5.26	5.39	5.26	4.72
May	31	2.17	4.98	5.65	6.05	6.47	6.05	5.23
Jun	30	1.97	5.33	6.27	6.89	7.53	7.15	5.86
Jul	31	2.06	5.24	6.07	6.60	7.15	6.60	5.62
Aug	31	2.52	5.42	6.00	6.28	6.56	6.30	5.51
Sept	30	3.26	5.52	5.76	5.68	5.59	5.76	5.26
Oct	31	3.42	4.71	4.67	4.39	4.08	4.73	4.33
Nov	30	3.14	3.87	3.70	3.34	2.96	3.87	3.48
Dec	31	3.29	3.83	3.59	3.15	2.69	3.88	3.41

Basra Qadima								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	114.39	135.78	127.72	112.84	96.41	135.78	120.49
Feb	28	110.60	143.92	139.72	127.68	114.80	143.92	130.11
Mar	31	100.44	155.31	158.72	154.07	148.80	158.72	146.01
Apr	30	75.00	143.40	154.50	157.80	161.70	157.80	141.70
May	31	67.27	154.38	175.15	187.55	200.57	187.55	162.08
Jun	30	59.10	159.90	188.10	206.70	225.90	214.50	175.70
Jul	31	63.86	162.44	188.17	204.60	221.65	204.60	174.22
Aug	31	78.12	168.02	186.00	194.68	203.36	195.30	170.91
Sept	30	97.80	165.60	172.80	170.40	167.70	172.80	157.85
Oct	31	106.02	146.01	144.77	136.09	126.48	146.63	134.33
Nov	30	94.20	116.10	111.00	100.20	88.80	116.10	104.40
Dec	31	101.99	118.73	111.29	97.65	83.39	120.28	105.56
Annual	365	1,068.79	1,769.59	1,857.94	1,850.26	1,839.56	1,953.98	1,723.35



Diwaniya								DIW
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.58	4.20	3.98	3.51	2.19	4.20	3.61
Feb	28	3.88	4.96	4.83	4.43	3.88	4.96	4.49
Mar	31	3.37	5.08	5.20	5.05	4.80	5.20	4.78
Apr	30	2.67	4.98	5.38	5.51	5.60	5.51	4.94
May	31	2.28	5.13	5.85	6.29	6.74	6.29	5.43
Jun	30	2.06	5.51	6.51	7.19	7.90	7.50	6.11
Jul	31	2.17	5.32	6.19	6.75	7.33	6.75	5.75
Aug	31	2.70	5.67	6.31	6.62	6.89	6.64	5.81
Sept	30	3.49	5.76	5.99	5.92	5.73	5.99	5.48
Oct	31	3.47	4.68	4.65	4.36	3.97	4.69	4.30
Nov	30	3.21	3.90	3.72	3.36	2.88	3.90	3.50
Dec	31	3.40	3.90	3.64	3.19	2.60	3.94	3.45

Diwaniya								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	110.98	130.20	123.38	108.81	67.89	130.20	111.91
Feb	28	108.64	138.88	135.24	124.04	108.64	138.88	125.72
Mar	31	104.47	157.48	161.20	156.55	148.80	161.20	148.28
Apr	30	80.10	149.40	161.40	165.30	168.00	165.30	148.25
May	31	70.68	159.03	181.35	194.99	208.94	194.99	168.33
Jun	30	61.80	165.30	195.30	215.70	237.00	225.00	183.35
Jul	31	67.27	164.92	191.89	209.25	227.23	209.25	178.30
Aug	31	83.70	175.77	195.61	205.22	213.59	205.84	179.96
Sept	30	104.70	172.80	179.70	177.60	171.90	179.70	164.40
Oct	31	107.57	145.08	144.15	135.16	123.07	145.39	133.40
Nov	30	96.30	117.00	111.60	100.80	86.40	117.00	104.85
Dec	31	105.40	120.90	112.84	98.89	80.60	122.14	106.80
Annual	365	1,101.61	1,796.76	1,893.66	1,892.31	1,842.06	1,994.89	1,753.55



Falluja								FAL
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.58	4.20	3.96	3.51	2.91	4.20	3.73
Feb	28	3.88	4.96	4.83	4.43	3.88	4.96	4.49
Mar	31	3.37	5.08	5.20	5.05	4.80	5.20	4.78
Apr	30	2.67	4.98	5.38	5.51	5.60	5.51	4.94
May	31	2.28	5.13	5.85	6.29	6.74	6.29	5.43
Jun	30	2.06	5.51	6.51	7.19	7.90	7.50	6.11
Jul	31	2.17	5.32	6.19	6.75	7.33	6.75	5.75
Aug	31	2.70	5.67	6.31	6.62	6.89	6.64	5.81
Sept	30	3.49	5.76	5.99	5.92	5.73	5.99	5.48
Oct	31	3.47	4.68	4.65	4.36	3.97	4.69	4.30
Nov	30	3.21	3.90	3.72	3.36	2.88	3.90	3.50
Dec	31	3.40	3.90	3.64	3.19	2.60	3.94	3.45

Falluja								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	110.98	130.20	122.76	108.81	90.21	130.20	115.53
Feb	28	108.64	138.88	135.24	124.04	108.64	138.88	125.72
Mar	31	104.47	157.48	161.20	156.55	148.80	161.20	148.28
Apr	30	80.10	149.40	161.40	165.30	168.00	165.30	148.25
May	31	70.68	159.03	181.35	194.99	208.94	194.99	168.33
Jun	30	61.80	165.30	195.30	215.70	237.00	225.00	183.35
Jul	31	67.27	164.92	191.89	209.25	227.23	209.25	178.30
Aug	31	83.70	175.77	195.61	205.22	213.59	205.84	179.96
Sept	30	104.70	172.80	179.70	177.60	171.90	179.70	164.40
Oct	31	107.57	145.08	144.15	135.16	123.07	145.39	133.40
Nov	30	96.30	117.00	111.60	100.80	86.40	117.00	104.85
Dec	31	105.40	120.90	112.84	98.89	80.60	122.14	106.80
Annual	365	1,101.61	1,796.76	1,893.04	1,892.31	1,864.38	1,994.89	1,757.17



Faw								FAW
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.77	4.48	4.23	3.73	3.18	4.48	3.98
Feb	28	4.22	5.50	5.33	4.85	4.34	5.50	4.96
Mar	31	3.18	4.94	5.06	4.92	4.77	5.06	4.66
Apr	30	2.51	4.85	5.23	5.37	5.50	5.37	4.81
May	31	2.16	5.05	5.78	6.19	6.64	6.19	5.34
Jun	30	1.94	5.32	6.26	6.90	7.55	7.17	5.86
Jul	31	2.03	5.31	6.18	6.74	7.30	6.73	5.72
Aug	31	2.51	5.50	6.10	6.39	6.69	6.42	5.60
Sept	30	3.28	5.60	5.84	5.78	5.69	5.84	5.34
Oct	31	3.43	4.74	4.70	4.43	4.12	4.76	4.36
Nov	30	3.14	3.89	3.72	3.37	2.99	3.89	3.50
Dec	31	3.42	3.98	3.73	3.28	2.78	4.03	3.54

Faw								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	116.87	138.88	131.13	115.63	98.58	138.88	123.33
Feb	28	118.16	154.00	149.24	135.80	121.52	154.00	138.79
Mar	31	98.58	153.14	156.86	152.52	147.87	156.86	144.31
Apr	30	75.30	145.50	156.90	161.10	165.00	161.10	144.15
May	31	66.96	156.55	179.18	191.89	205.84	191.89	165.39
Jun	30	58.20	159.60	187.80	207.00	226.50	215.10	175.70
Jul	31	62.93	164.61	191.58	208.94	226.30	208.63	177.17
Aug	31	77.81	170.50	189.10	198.09	207.39	199.02	173.65
Sept	30	98.40	168.00	175.20	173.40	170.70	175.20	160.15
Oct	31	106.33	146.94	145.70	137.33	127.72	147.56	135.26
Nov	30	94.20	116.70	111.60	101.10	89.70	116.70	105.00
Dec	31	106.02	123.38	115.63	101.68	86.18	124.93	109.64
Annual	365	1,079.76	1,797.80	1,889.92	1,884.48	1,873.30	1,989.87	1,752.52



Hilla								HIL
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.64	4.25	3.99	3.52	2.91	4.25	3.76
Feb	28	3.93	5.00	4.85	4.44	3.88	5.00	4.52
Mar	31	3.41	5.11	5.22	5.06	4.81	5.22	4.81
Apr	30	2.70	5.01	5.40	5.52	5.60	5.52	4.96
May	31	2.31	5.15	5.87	6.30	6.74	6.30	5.45
Jun	30	2.10	5.54	6.54	7.20	7.89	7.50	6.13
Jul	31	2.20	5.35	6.21	6.76	7.33	6.76	5.77
Aug	31	2.74	5.71	6.34	6.63	6.89	6.65	5.83
Sept	30	3.53	5.79	6.02	5.94	5.73	6.02	5.51
Oct	31	3.52	4.71	4.66	4.38	3.97	4.72	4.33
Nov	30	3.26	3.93	3.75	3.38	2.89	3.93	3.52
Dec	31	3.46	3.93	3.68	3.21	2.60	3.99	3.48

Hilla								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	112.84	131.75	123.69	109.12	90.21	131.75	116.56
Feb	28	110.04	140.00	135.80	124.32	108.64	140.00	126.47
Mar	31	105.71	158.41	161.82	156.86	149.11	161.82	148.96
Apr	30	81.00	150.30	162.00	165.60	168.00	165.60	148.75
May	31	71.61	159.65	181.97	195.30	208.94	195.30	168.80
Jun	30	63.00	166.20	196.20	216.00	236.70	225.00	183.85
Jul	31	68.20	165.85	192.51	209.56	227.23	209.56	178.82
Aug	31	84.94	177.01	196.54	205.53	213.59	206.15	180.63
Sept	30	105.90	173.70	180.60	178.20	171.90	180.60	165.15
Oct	31	109.12	146.01	144.46	135.78	123.07	146.32	134.13
Nov	30	97.80	117.90	112.50	101.40	86.70	117.90	105.70
Dec	31	107.26	121.83	114.08	99.51	80.60	123.69	107.83
Annual	365	1,117.42	1,808.61	1,902.17	1,897.18	1,864.69	2,003.69	1,765.63



Karbala								KAR
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.65	4.25	4.00	3.52	2.91	4.25	3.76
Feb	28	3.94	5.01	4.85	4.45	3.88	5.01	4.52
Mar	31	3.42	5.12	5.22	5.06	4.81	5.22	4.81
Apr	30	2.70	5.01	5.40	5.52	5.60	5.52	4.96
May	31	2.32	5.16	5.88	6.31	6.74	6.31	5.45
Jun	30	2.10	5.55	6.54	7.20	7.89	7.50	6.13
Jul	31	2.21	5.36	6.22	6.77	7.33	6.77	5.78
Aug	31	2.75	5.71	6.35	6.64	6.89	6.66	5.83
Sept	30	3.54	5.80	6.03	5.94	5.73	6.03	5.51
Oct	31	3.52	4.72	4.67	4.38	3.97	4.73	4.33
Nov	30	3.27	3.93	3.76	3.38	2.89	3.93	3.53
Dec	31	3.48	3.94	3.69	3.21	2.61	4.00	3.49

Karbala								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	113.15	131.75	124.00	109.12	90.21	131.75	116.66
Feb	28	110.32	140.28	135.80	124.60	108.64	140.28	126.65
Mar	31	106.02	158.72	161.82	156.86	149.11	161.82	149.06
Apr	30	81.00	150.30	162.00	165.60	168.00	165.60	148.75
May	31	71.92	159.96	182.28	195.61	208.94	195.61	169.05
Jun	30	63.00	166.50	196.20	216.00	236.70	225.00	183.90
Jul	31	68.51	166.16	192.82	209.87	227.23	209.87	179.08
Aug	31	85.25	177.01	196.85	205.84	213.59	206.46	180.83
Sept	30	106.20	174.00	180.90	178.20	171.90	180.90	165.35
Oct	31	109.12	146.32	144.77	135.78	123.07	146.63	134.28
Nov	30	98.10	117.90	112.80	101.40	86.70	117.90	105.80
Dec	31	107.88	122.14	114.39	99.51	80.91	124.00	108.14
Annual	365	1,120.47	1,811.04	1,904.63	1,898.39	1,865.00	2,005.82	1,767.56



Kirkuk								KIR
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.65	4.13	3.89	3.42	2.64	4.13	3.64
Feb	28	3.73	4.66	4.54	4.17	3.52	4.66	4.21
Mar	31	3.65	5.22	5.34	5.16	4.75	5.34	4.91
Apr	30	2.87	4.96	5.38	5.52	5.57	5.52	4.97
May	31	2.46	5.02	5.72	6.14	6.55	6.14	5.34
Jun	30	2.32	5.41	6.38	7.03	7.71	7.32	6.03
Jul	31	2.40	5.34	6.21	6.76	7.33	6.76	5.80
Aug	31	2.94	5.67	6.30	6.60	6.79	6.62	5.82
Sept	30	3.71	5.76	5.99	5.90	5.56	5.99	5.49
Oct	31	3.61	4.67	4.63	4.33	3.77	4.68	4.28
Nov	30	3.55	4.14	3.94	3.52	2.80	4.14	3.68
Dec	31	3.46	3.83	3.57	3.11	2.35	3.89	3.37

Kirkuk								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	113.15	128.03	120.59	106.02	81.84	128.03	112.94
Feb	28	104.44	130.48	127.12	116.76	98.56	130.48	117.97
Mar	31	113.15	161.82	165.54	159.96	147.25	165.54	152.21
Apr	30	86.10	148.80	161.40	165.60	167.10	165.60	149.10
May	31	76.26	155.62	177.32	190.34	203.05	190.34	165.49
Jun	30	69.60	162.30	191.40	210.90	231.30	219.60	180.85
Jul	31	74.40	165.54	192.51	209.56	227.23	209.56	179.80
Aug	31	91.14	175.77	195.30	204.60	210.49	205.22	180.42
Sept	30	111.30	172.80	179.70	177.00	166.80	179.70	164.55
Oct	31	111.91	144.77	143.53	134.23	116.87	145.08	132.73
Nov	30	106.50	124.20	118.20	105.60	84.00	124.20	110.45
Dec	31	107.26	118.73	110.67	96.41	72.85	120.59	104.42
Annual	365	1,165.21	1,788.86	1,883.28	1,876.98	1,807.34	1,983.94	1,750.94



Kut								KUT
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.96	4.59	4.30	3.77	3.08	4.59	4.05
Feb	28	4.19	5.31	5.14	4.68	4.06	5.31	4.78
Mar	31	3.52	5.26	5.38	5.21	6.92	5.38	5.28
Apr	30	2.65	4.89	5.27	5.40	5.48	5.40	4.85
May	31	2.29	5.05	5.75	6.17	6.59	6.17	5.34
Jun	30	2.10	5.42	6.38	7.03	7.69	7.31	5.99
Jul	31	2.19	5.27	6.12	6.66	7.21	6.66	5.69
Aug	31	2.73	5.66	6.29	6.58	6.84	6.60	5.78
Sept	30	3.49	5.71	5.94	5.86	5.66	5.94	5.43
Oct	31	3.57	4.79	4.74	4.44	4.02	4.80	4.39
Nov	30	3.48	4.17	3.97	3.56	3.01	4.17	3.73
Dec	31	3.75	4.24	3.94	3.42	2.74	4.30	3.73

Kut								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	122.76	142.29	133.30	116.87	95.48	142.29	125.50
Feb	28	117.32	148.68	143.92	131.04	113.68	148.68	133.89
Mar	31	109.12	163.06	166.78	161.51	214.52	166.78	163.63
Apr	30	79.50	146.70	158.10	162.00	164.40	162.00	145.45
May	31	70.99	156.55	178.25	191.27	204.29	191.27	165.44
Jun	30	63.00	162.60	191.40	210.90	230.70	219.30	179.65
Jul	31	67.89	163.37	189.72	206.46	223.51	206.46	176.24
Aug	31	84.63	175.46	194.99	203.98	212.04	204.60	179.28
Sept	30	104.70	171.30	178.20	175.80	169.80	178.20	163.00
Oct	31	110.67	148.49	146.94	137.64	124.62	148.80	136.19
Nov	30	104.40	125.10	119.10	106.80	90.30	125.10	111.80
Dec	31	116.25	131.44	122.14	106.02	84.94	133.30	115.68
Annual	365	1,151.23	1,835.04	1,922.84	1,910.29	1,928.28	2,026.78	1,795.74



Mosul								MOS
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.38	3.84	3.62	3.20	2.45	3.84	3.39
Feb	28	3.44	4.28	4.19	3.87	3.25	4.28	3.89
Mar	31	3.51	4.96	5.07	4.92	4.51	5.07	4.67
Apr	30	2.89	4.89	5.31	5.46	5.49	5.46	4.92
May	31	2.52	5.04	5.76	6.18	6.59	6.18	5.38
Jun	30	2.37	5.34	6.31	6.95	7.62	7.25	5.97
Jul	31	2.45	5.32	6.19	6.75	7.31	6.75	5.80
Aug	31	3.00	5.64	6.27	6.57	6.75	6.60	5.81
Sept	30	3.68	5.61	5.86	5.78	5.42	5.86	5.37
Oct	31	3.72	4.76	4.71	4.40	3.77	4.78	4.36
Nov	30	3.62	4.18	3.97	3.53	2.75	4.18	3.71
Dec	31	3.27	3.61	3.37	2.94	2.19	3.66	3.17

Mosul								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	104.78	119.04	112.22	99.20	75.95	119.04	105.04
Feb	28	96.32	119.84	117.32	108.36	91.00	119.84	108.78
Mar	31	108.81	153.76	157.17	152.52	139.81	157.17	144.87
Apr	30	86.70	146.70	159.30	163.80	164.70	163.80	147.50
May	31	78.12	156.24	178.56	191.58	204.29	191.58	166.73
Jun	30	71.10	160.20	189.30	208.50	228.60	217.50	179.20
Jul	31	75.95	164.92	191.89	209.25	226.61	209.25	179.65
Aug	31	93.00	174.84	194.37	203.67	209.25	204.60	179.96
Sept	30	110.40	168.30	175.80	173.40	162.60	175.80	161.05
Oct	31	115.32	147.56	146.01	136.40	116.87	148.18	135.06
Nov	30	108.60	125.40	119.10	105.90	82.50	125.40	111.15
Dec	31	101.37	111.91	104.47	91.14	67.89	113.46	98.37
Annual	365	1,150.47	1,748.71	1,845.51	1,843.72	1,770.07	1,945.62	1,717.35



Mosul Jadida								MJD
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.38	3.84	3.62	3.20	2.45	3.84	3.39
Feb	28	3.44	4.28	4.19	3.87	3.25	4.28	3.89
Mar	31	3.51	4.96	5.07	4.92	4.51	5.07	4.67
Apr	30	2.89	4.89	5.31	5.46	5.49	5.46	4.92
May	31	2.52	5.04	5.76	6.18	6.59	6.18	5.38
Jun	30	2.37	5.34	6.31	6.95	7.62	7.25	5.97
Jul	31	2.45	5.32	6.19	6.75	7.31	6.75	5.80
Aug	31	3.00	5.64	6.27	6.57	6.75	6.60	5.81
Sept	30	3.68	5.61	5.86	5.78	5.42	5.86	5.37
Oct	31	3.72	4.76	4.71	4.40	3.77	4.78	4.36
Nov	30	3.62	4.18	3.97	3.53	2.75	4.18	3.71
Dec	31	3.27	3.61	3.37	2.94	2.19	3.66	3.17

Mosul Jadida								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	104.78	119.04	112.22	99.20	75.95	119.04	105.04
Feb	28	96.32	119.84	117.32	108.36	91.00	119.84	108.78
Mar	31	108.81	153.76	157.17	152.52	139.81	157.17	144.87
Apr	30	86.70	146.70	159.30	163.80	164.70	163.80	147.50
May	31	78.12	156.24	178.56	191.58	204.29	191.58	166.73
Jun	30	71.10	160.20	189.30	208.50	228.60	217.50	179.20
Jul	31	75.95	164.92	191.89	209.25	226.61	209.25	179.65
Aug	31	93.00	174.84	194.37	203.67	209.25	204.60	179.96
Sept	30	110.40	168.30	175.80	173.40	162.60	175.80	161.05
Oct	31	115.32	147.56	146.01	136.40	116.87	148.18	135.06
Nov	30	108.60	125.40	119.10	105.90	82.50	125.40	111.15
Dec	31	101.37	111.91	104.47	91.14	67.89	113.46	98.37
Annual	365	1,150.47	1,748.71	1,845.51	1,843.72	1,770.07	1,945.62	1,717.35



Najaf								NAJ
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.58	4.20	3.96	3.51	2.91	4.20	3.73
Feb	28	3.88	4.96	4.83	4.43	3.88	4.96	4.49
Mar	31	3.37	5.08	5.20	5.05	4.80	5.20	4.78
Apr	30	2.67	4.98	5.38	5.51	5.60	5.51	4.94
May	31	2.28	5.13	5.85	6.29	6.74	6.29	5.43
Jun	30	2.06	5.51	6.51	7.19	7.90	7.50	6.11
Jul	31	2.17	5.32	6.19	6.75	7.33	6.75	5.75
Aug	31	2.70	5.67	6.31	6.62	6.89	6.64	5.81
Sept	30	3.49	5.76	5.99	5.92	5.73	5.99	5.48
Oct	31	3.47	4.68	4.65	4.36	3.97	4.69	4.30
Nov	30	3.21	3.90	3.72	3.36	2.88	3.90	3.50
Dec	31	3.40	3.90	3.64	3.19	2.60	3.94	3.45

Najaf								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	110.98	130.20	122.76	108.81	90.21	130.20	115.53
Feb	28	108.64	138.88	135.24	124.04	108.64	138.88	125.72
Mar	31	104.47	157.48	161.20	156.55	148.80	161.20	148.28
Apr	30	80.10	149.40	161.40	165.30	168.00	165.30	148.25
May	31	70.68	159.03	181.35	194.99	208.94	194.99	168.33
Jun	30	61.80	165.30	195.30	215.70	237.00	225.00	183.35
Jul	31	67.27	164.92	191.89	209.25	227.23	209.25	178.30
Aug	31	83.70	175.77	195.61	205.22	213.59	205.84	179.96
Sept	30	104.70	172.80	179.70	177.60	171.90	179.70	164.40
Oct	31	107.57	145.08	144.15	135.16	123.07	145.39	133.40
Nov	30	96.30	117.00	111.60	100.80	86.40	117.00	104.85
Dec	31	105.40	120.90	112.84	98.89	80.60	122.14	106.80
Annual	365	1,101.61	1,796.76	1,893.04	1,892.31	1,864.38	1,994.89	1,757.17



Nasiriya								NAS
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	3.92	4.61	4.33	3.80	3.18	4.61	4.08
Feb	28	4.12	5.31	5.15	4.70	4.15	5.31	4.79
Mar	31	3.31	5.05	5.18	5.03	4.82	5.18	4.76
Apr	30	2.57	4.88	5.26	5.40	5.51	5.40	4.84
May	31	2.21	5.04	5.75	6.18	6.61	6.18	5.33
Jun	30	2.00	5.35	6.30	6.94	7.60	7.22	5.90
Jul	31	2.11	5.26	6.12	6.66	7.22	6.66	5.67
Aug	31	2.62	5.63	6.26	6.56	6.84	6.58	5.75
Sept	30	3.37	5.66	5.91	5.83	5.69	5.91	5.40
Oct	31	3.54	4.83	4.79	4.48	4.12	4.84	4.43
Nov	30	3.32	4.05	3.88	3.49	3.03	4.05	3.64
Dec	31	3.59	4.12	3.85	3.35	2.78	4.18	3.65

Nasiriya								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	121.52	142.91	134.23	117.80	98.58	142.91	126.33
Feb	28	115.36	148.68	144.20	131.60	116.20	148.68	134.12
Mar	31	102.61	156.55	160.58	155.93	149.42	160.58	147.61
Apr	30	77.10	146.40	157.80	162.00	165.30	162.00	145.10
May	31	68.51	156.24	178.25	191.58	204.91	191.58	165.18
Jun	30	60.00	160.50	189.00	208.20	228.00	216.60	177.05
Jul	31	65.41	163.06	189.72	206.46	223.82	206.46	175.82
Aug	31	81.22	174.53	194.06	203.36	212.04	203.98	178.20
Sept	30	101.10	169.80	177.30	174.90	170.70	177.30	161.85
Oct	31	109.74	149.73	148.49	138.88	127.72	150.04	137.43
Nov	30	99.60	121.50	116.40	104.70	90.90	121.50	109.10
Dec	31	111.29	127.72	119.35	103.85	86.18	129.58	113.00
Annual	365	1,113.46	1,817.62	1,909.38	1,899.26	1,873.77	2,011.21	1,770.78



Omara								OMR
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	4.08	4.74	4.44	3.88	3.21	4.74	4.18
Feb	28	4.42	5.62	5.42	4.92	4.30	5.63	5.05
Mar	31	3.40	5.15	5.25	5.09	4.86	5.25	4.83
Apr	30	2.60	4.88	5.25	5.38	5.47	5.38	4.83
May	31	2.24	5.03	5.70	6.10	6.52	6.10	5.28
Jun	30	2.05	5.30	6.21	6.82	7.45	7.08	5.82
Jul	31	2.15	5.20	6.01	6.53	7.05	6.53	5.58
Aug	31	2.64	5.54	6.13	6.41	6.67	6.42	5.64
Sept	30	3.37	5.60	5.82	5.74	5.60	5.82	5.33
Oct	31	3.68	4.97	4.90	4.58	4.18	4.98	4.55
Nov	30	3.52	4.25	4.05	3.62	3.11	4.25	3.80
Dec	31	3.77	4.29	3.99	3.46	2.83	4.36	3.78

Omara								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	126.48	146.94	137.64	120.28	99.51	146.94	129.63
Feb	28	123.76	157.36	151.76	137.76	120.40	157.64	141.45
Mar	31	105.40	159.65	162.75	157.79	150.66	162.75	149.83
Apr	30	78.00	146.40	157.50	161.40	164.10	161.40	144.80
May	31	69.44	155.93	176.70	189.10	202.12	189.10	163.73
Jun	30	61.50	159.00	186.30	204.60	223.50	212.40	174.55
Jul	31	66.65	161.20	186.31	202.43	218.55	202.43	172.93
Aug	31	81.84	171.74	190.03	198.71	206.77	199.02	174.69
Sept	30	101.10	168.00	174.60	172.20	168.00	174.60	159.75
Oct	31	114.08	154.07	151.90	141.98	129.58	154.38	141.00
Nov	30	105.60	127.50	121.50	108.60	93.30	127.50	114.00
Dec	31	116.87	132.99	123.69	107.26	87.73	135.16	117.28
Annual	365	1,150.72	1,840.78	1,920.68	1,902.11	1,864.22	2,023.32	1,783.64



Ramadi								RAM
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.36	3.91	3.70	3.28	2.69	3.91	3.48
Feb	28	3.56	4.54	4.43	4.08	3.56	4.54	4.12
Mar	31	3.43	5.06	5.18	5.02	4.73	5.18	4.77
Apr	30	2.73	4.96	5.35	5.47	5.54	5.48	4.92
May	31	2.37	5.15	5.87	6.30	6.74	6.30	5.46
Jun	30	2.17	5.58	6.58	7.27	7.97	7.57	6.19
Jul	31	2.27	5.42	6.30	6.87	7.45	6.87	5.86
Aug	31	2.79	5.67	6.30	6.60	6.84	6.62	5.80
Sept	30	3.56	5.74	5.98	5.89	5.65	5.98	5.47
Oct	31	3.50	4.64	4.60	4.31	3.87	4.66	4.26
Nov	30	2.96	3.56	3.42	3.10	2.63	3.56	3.21
Dec	31	3.06	3.49	3.27	2.88	2.33	3.52	3.09

Ramadi								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	104.16	121.21	114.70	101.68	83.39	121.21	107.73
Feb	28	99.68	127.12	124.04	114.24	99.68	127.12	115.31
Mar	31	106.33	156.86	160.58	155.62	146.63	160.58	147.77
Apr	30	81.90	148.80	160.50	164.10	166.20	164.40	147.65
May	31	73.47	159.65	181.97	195.30	208.94	195.30	169.11
Jun	30	65.10	167.40	197.40	218.10	239.10	227.10	185.70
Jul	31	70.37	168.02	195.30	212.97	230.95	212.97	181.76
Aug	31	86.49	175.77	195.30	204.60	212.04	205.22	179.90
Sept	30	106.80	172.20	179.40	176.70	169.50	179.40	164.00
Oct	31	108.50	143.84	142.60	133.61	119.97	144.46	132.16
Nov	30	88.80	106.80	102.60	93.00	78.90	106.80	96.15
Dec	31	94.86	108.19	101.37	89.28	72.23	109.12	95.84
Annual	365	1,086.46	1,755.86	1,855.76	1,859.20	1,827.53	1,953.68	1,723.08



Samara								SAM
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.70	4.24	3.99	3.52	2.78	4.24	3.75
Feb	28	3.54	4.49	4.40	4.06	3.50	4.49	4.08
Mar	31	3.42	4.98	5.10	4.96	4.63	5.10	4.70
Apr	30	2.77	4.89	5.31	5.46	5.54	5.46	4.91
May	31	2.41	5.15	5.89	6.33	6.77	6.33	5.48
Jun	30	2.23	5.56	6.56	7.26	7.97	7.57	6.19
Jul	31	2.33	5.43	6.33	6.92	7.50	6.92	5.91
Aug	31	2.88	5.73	6.37	6.69	6.91	6.71	5.88
Sept	30	3.71	5.90	6.15	6.05	5.75	6.15	5.62
Oct	31	3.55	4.66	4.63	4.34	3.84	4.68	4.28
Nov	30	3.08	3.67	3.52	3.17	2.64	3.67	3.29
Dec	31	3.16	3.57	3.34	2.94	2.31	3.61	3.16

Samara								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	114.70	131.44	123.69	109.12	86.18	131.44	116.10
Feb	28	99.12	125.72	123.20	113.68	98.00	125.72	114.24
Mar	31	106.02	154.38	158.10	153.76	143.53	158.10	145.65
Apr	30	83.10	146.70	159.30	163.80	166.20	163.80	147.15
May	31	74.71	159.65	182.59	196.23	209.87	196.23	169.88
Jun	30	66.90	166.80	196.80	217.80	239.10	227.10	185.75
Jul	31	72.23	168.33	196.23	214.52	232.50	214.52	183.06
Aug	31	89.28	177.63	197.47	207.39	214.21	208.01	182.33
Sept	30	111.30	177.00	184.50	181.50	172.50	184.50	168.55
Oct	31	110.05	144.46	143.53	134.54	119.04	145.08	132.78
Nov	30	92.40	110.10	105.60	95.10	79.20	110.10	98.75
Dec	31	97.96	110.67	103.54	91.14	71.61	111.91	97.81
Annual	365	1,117.77	1,772.88	1,874.55	1,878.58	1,831.94	1,976.51	1,742.04



Sinah								SIN
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	3.45	3.89	3.66	3.22	2.45	3.89	3.43
Feb	28	3.49	4.31	4.22	3.89	3.25	4.31	3.91
Mar	31	3.54	4.99	5.10	4.94	4.51	5.10	4.70
Apr	30	2.92	4.92	5.33	5.47	5.49	5.47	4.93
May	31	2.56	5.06	5.78	6.20	6.59	6.20	5.40
Jun	30	2.40	5.38	6.33	6.96	7.62	7.25	5.99
Jul	31	2.49	5.35	6.21	6.77	7.31	6.77	5.82
Aug	31	3.04	5.67	6.30	6.59	6.75	6.61	5.83
Sept	30	3.72	5.65	5.89	5.80	5.42	5.89	5.40
Oct	31	3.77	4.81	4.74	4.42	3.77	4.82	4.39
Nov	30	3.69	4.23	4.01	3.56	2.76	4.23	3.75
Dec	31	3.32	3.66	3.41	2.96	2.19	3.71	3.21

Sinah								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	106.95	120.59	113.46	99.82	75.95	120.59	106.23
Feb	28	97.72	120.68	118.16	108.92	91.00	120.68	109.53
Mar	31	109.74	154.69	158.10	153.14	139.81	158.10	145.60
Apr	30	87.60	147.60	159.90	164.10	164.70	164.10	148.00
May	31	79.36	156.86	179.18	192.20	204.29	192.20	167.35
Jun	30	72.00	161.40	189.90	208.80	228.60	217.50	179.70
Jul	31	77.19	165.85	192.51	209.87	226.61	209.87	180.32
Aug	31	94.24	175.77	195.30	204.29	209.25	204.91	180.63
Sept	30	111.60	169.50	176.70	174.00	162.60	176.70	161.85
Oct	31	116.87	149.11	146.94	137.02	116.87	149.42	136.04
Nov	30	110.70	126.90	120.30	106.80	82.80	126.90	112.40
Dec	31	102.92	113.46	105.71	91.76	67.89	115.01	99.46
Annual	365	1,166.89	1,762.41	1,856.16	1,850.72	1,770.37	1,955.98	1,727.09



Sulaymaniya								SUL
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.61	4.09	3.86	3.39	2.63	4.09	3.61
Feb	28	3.53	4.43	4.32	3.99	3.38	4.43	4.01
Mar	31	3.46	4.95	5.06	4.91	4.54	5.06	4.66
Apr	30	2.79	4.78	5.19	5.33	5.38	5.33	4.80
May	31	2.48	5.08	5.80	6.22	6.64	6.22	5.41
Jun	30	2.32	5.37	6.33	6.96	7.63	7.25	5.98
Jul	31	2.40	5.31	6.17	6.72	7.27	6.72	5.77
Aug	31	2.93	5.60	6.22	6.51	6.70	6.54	5.75
Sept	30	3.72	5.77	5.99	5.91	5.56	5.99	5.49
Oct	31	3.80	4.90	4.84	4.51	3.90	4.91	4.48
Nov	30	3.55	4.13	3.92	3.51	2.79	4.13	3.67
Dec	31	3.38	3.74	3.50	3.04	2.31	4.80	3.46

Sulaymaniya								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	111.91	126.79	119.66	105.09	81.53	126.79	111.96
Feb	28	98.84	124.04	120.96	111.72	94.64	124.04	112.37
Mar	31	107.26	153.45	156.86	152.21	140.74	156.86	144.56
Apr	30	83.70	143.40	155.70	159.90	161.40	159.90	144.00
May	31	76.88	157.48	179.80	192.82	205.84	192.82	167.61
Jun	30	69.60	161.10	189.90	208.80	228.90	217.50	179.30
Jul	31	74.40	164.61	191.27	208.32	225.37	208.32	178.72
Aug	31	90.83	173.60	192.82	201.81	207.70	202.74	178.25
Sept	30	111.60	173.10	179.70	177.30	166.80	179.70	164.70
Oct	31	117.80	151.90	150.04	139.81	120.90	152.21	138.78
Nov	30	106.50	123.90	117.60	105.30	83.70	123.90	110.15
Dec	31	104.78	115.94	108.50	94.24	71.61	148.80	107.31
Annual	365	1,154.10	1,769.31	1,862.81	1,857.32	1,789.13	1,993.58	1,737.71



Sumawa								SUM
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	3.62	4.28	4.03	3.56	3.00	4.28	3.80
Feb	28	3.78	4.88	4.76	4.37	3.89	4.88	4.43
Mar	31	3.33	5.08	5.20	5.04	4.83	5.20	4.78
Apr	30	2.63	5.00	5.39	5.51	5.62	5.52	4.95
May	31	2.24	5.15	5.86	6.30	6.74	6.30	5.43
Jun	30	2.01	5.47	6.45	7.11	7.79	7.40	6.04
Jul	31	2.12	5.40	6.27	6.84	7.41	6.84	5.81
Aug	31	2.63	5.62	6.25	6.55	6.82	6.56	5.74
Sept	30	3.46	5.80	6.04	5.96	5.80	6.04	5.52
Oct	31	3.54	4.83	4.78	4.47	4.11	4.84	4.43
Nov	30	3.21	3.92	3.75	3.39	2.95	3.92	3.52
Dec	31	3.40	3.91	3.66	3.21	2.67	3.96	3.47

Sumawa								
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	112.22	132.68	124.93	110.36	93.00	132.68	117.65
Feb	28	105.84	136.64	133.28	122.36	108.92	136.64	123.95
Mar	31	103.23	157.48	161.20	156.24	149.73	161.20	148.18
Apr	30	78.90	150.00	161.70	165.30	168.60	165.60	148.35
May	31	69.44	159.65	181.66	195.30	208.94	195.30	168.38
Jun	30	60.30	164.10	193.50	213.30	233.70	222.00	181.15
Jul	31	65.72	167.40	194.37	212.04	229.71	212.04	180.21
Aug	31	81.53	174.22	193.75	203.05	211.42	203.36	177.89
Sept	30	103.80	174.00	181.20	178.80	174.00	181.20	165.50
Oct	31	109.74	149.73	148.18	138.57	127.41	150.04	137.28
Nov	30	96.30	117.60	112.50	101.70	88.50	117.60	105.70
Dec	31	105.40	121.21	113.46	99.51	82.77	122.76	107.52
Annual	365	1,092.42	1,804.71	1,899.73	1,896.53	1,876.70	2,000.42	1,761.75



Zubair								ZUB
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.68	4.37	4.11	3.64	3.11	4.37	3.88
Feb	28	3.94	5.13	4.99	4.56	4.10	5.13	4.64
Mar	31	3.23	5.00	5.11	4.97	4.80	5.11	4.70
Apr	30	2.50	4.77	5.14	5.26	5.39	5.26	4.72
May	31	2.17	4.97	5.64	6.04	6.47	6.04	5.22
Jun	30	1.96	5.33	6.26	6.89	7.53	7.15	5.85
Jul	31	2.06	5.23	6.07	6.60	7.15	6.60	5.62
Aug	31	2.51	5.42	6.00	6.28	6.56	6.30	5.51
Sept	30	3.25	5.52	5.75	5.68	5.59	5.75	5.26
Oct	31	3.42	4.71	4.66	4.38	4.08	4.72	4.33
Nov	30	3.13	3.86	3.70	3.34	2.96	3.86	3.48
Dec	31	3.28	3.82	3.58	3.14	2.68	3.87	3.40

Zubair								ZUB
Facing South West (45° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	114.08	135.47	127.41	112.84	96.41	135.47	120.28
Feb	28	110.32	143.64	139.72	127.68	114.80	143.64	129.97
Mar	31	100.13	155.00	158.41	154.07	148.80	158.41	145.80
Apr	30	75.00	143.10	154.20	157.80	161.70	157.80	141.60
May	31	67.27	154.07	174.84	187.24	200.57	187.24	161.87
Jun	30	58.80	159.90	187.80	206.70	225.90	214.50	175.60
Jul	31	63.86	162.13	188.17	204.60	221.65	204.60	174.17
Aug	31	77.81	168.02	186.00	194.68	203.36	195.30	170.86
Sept	30	97.50	165.60	172.50	170.40	167.70	172.50	157.70
Oct	31	106.02	146.01	144.46	135.78	126.48	146.32	134.18
Nov	30	93.90	115.80	111.00	100.20	88.80	115.80	104.25
Dec	31	101.68	118.42	110.98	97.34	83.08	119.97	105.25
Annual	365	1,066.37	1,767.16	1,855.49	1,849.33	1,839.25	1,951.55	1,721.53





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Average Solar Irradiance for Different Angles (KWh/m².year)

Facing South West (67.5° from South)

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted throughout the Year	Average
1	Abu Ghraib	1,055	1,651	1,730	1,720	1,815	1,823	1,633
2	Arbil	1,044	1,593	1,683	1,685	1,759	1,774	1,590
3	Baghdad	1,045	1,651	1,730	1,720	1,815	1,823	1,631
4	Baquba	1,062	1,658	1,736	1,722	1,814	1,802	1,632
5	Basra	984	1,629	1,712	1,704	1,840	1,799	1,611
6	Basrah Qadima	984	1,629	1,712	1,704	1,840	1,799	1,611
7	Diwaniya	1,014	1,654	1,743	1,744	1,864	1,838	1,643
8	Falluja	1,001	1,617	1,709	1,712	1,828	1,799	1,611
9	Faw	994	1,657	1,741	1,735	1,874	1,835	1,639
10	Hilla	1,029	1,665	1,753	1,748	1,865	1,845	1,651
11	Karbala	1,032	1,668	1,754	1,749	1,865	1,847	1,652
12	Kirkuk	1,073	1,648	1,734	1,728	1,807	1,828	1,636
13	Kut	1,060	1,691	1,771	1,759	1,863	1,866	1,669
14	Mosul	1,060	1,611	1,700	1,699	1,770	1,793	1,605
15	Mosul Jadida	1,060	1,611	1,700	1,699	1,770	1,793	1,605
16	Najaf	1,006	1,654	1,743	1,744	1,864	1,838	1,642
17	Nasiriya	1,026	1,675	1,758	1,749	1,874	1,852	1,656
18	Omara	1,060	1,696	1,770	1,751	1,864	1,864	1,667
19	Ramadi	1,001	1,617	1,709	1,712	1,828	1,799	1,611
20	Samara	1,030	1,633	1,727	1,729	1,832	1,820	1,628
21	Sinah	1,074	1,623	1,709	1,705	1,770	1,802	1,614
22	Sulaymaniya	1,063	1,630	1,715	1,711	1,789	1,808	1,619
23	Sumawa	976	1,662	1,750	1,747	1,877	1,843	1,642
24	Zubair	982	1,627	1,709	1,703	1,839	1,797	1,610
	Average	1,030	1,644	1,729	1,724	1,830	1,820	1,630

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Inclination (Tilt) Angle of the Solar Panel (°)

Facing South West (67.5° from South)

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted throughout the Year
1	Abu Ghraib	0	42	57	72	90	0-90
2	Arbil	0	39	54	69	90	0-90
3	Baghdad	0	42	57	72	90	0-90
4	Baquba	0	41	56	71	90	0-90
5	Basra	0	45	60	75	90	0-90
6	Basrah Qadima	0	45	60	75	90	0-90
7	Diwaniya	0	43	58	73	90	0-90
8	Falluja	0	42	57	72	90	0-90
9	Faw	0	45	60	75	90	0-90
10	Hilla	0	43	58	73	90	0-90
11	Karbala	0	42	57	72	90	0-90
12	Kirkuk	0	39	54	69	90	0-90
13	Kut	0	43	58	73	90	0-90
14	Mosul	0	39	54	69	90	0-90
15	Mosul Jadida	0	39	54	69	90	0-90
16	Najaf	0	43	58	73	90	0-90
17	Nasiriya	0	44	59	74	90	0-90
18	Omara	0	43	58	73	90	0-90
19	Ramadi	0	42	57	72	90	0-90
20	Samara	0	41	56	71	90	0-90
21	Sinah	0	38	53	68	90	0-90
22	Sulaymaniya	0	39	54	69	90	0-90
23	Sumawa	0	44	59	74	90	0-90
24	Zubair	0	45	60	75	90	0-90

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Iraq								IRQ
		VER	WIN	OPT	SUM	HOR	ADJ	SW3
Abu Ghraib								GRB
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.50	4.03	3.79	3.33	2.91	4.03	3.60
Feb	28	3.90	4.90	4.74	4.31	4.00	4.90	4.46
Mar	31	3.31	4.89	5.00	4.84	4.92	5.00	4.66
Apr	30	2.41	4.32	4.66	4.78	5.27	4.78	4.37
May	31	2.14	4.55	5.18	5.56	6.45	5.56	4.91
Jun	30	1.99	4.87	5.74	6.32	7.51	6.57	5.50
Jul	31	2.06	4.70	5.44	5.92	6.96	5.92	5.17
Aug	31	2.53	5.10	5.66	5.93	6.68	5.95	5.31
Sept	30	3.16	5.08	5.29	5.23	5.47	5.29	4.92
Oct	31	3.30	4.38	4.34	4.07	3.95	4.39	4.07
Nov	30	3.17	3.77	3.60	3.23	2.92	3.77	3.41
Dec	31	3.30	3.72	3.46	3.02	2.59	3.77	3.31

Abu Ghraib								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	108.50	124.93	117.49	103.23	90.21	124.93	111.55
Feb	28	109.20	137.20	132.72	120.68	112.00	137.20	124.83
Mar	31	102.61	151.59	155.00	150.04	152.52	155.00	144.46
Apr	30	72.30	129.60	139.80	143.40	158.10	143.40	131.10
May	31	66.34	141.05	160.58	172.36	199.95	172.36	152.11
Jun	30	59.70	146.10	172.20	189.60	225.30	197.10	165.00
Jul	31	63.86	145.70	168.64	183.52	215.76	183.52	160.17
Aug	31	78.43	158.10	175.46	183.83	207.08	184.45	164.56
Sept	30	94.80	152.40	158.70	156.90	164.10	158.70	147.60
Oct	31	102.30	135.78	134.54	126.17	122.45	136.09	126.22
Nov	30	95.10	113.10	108.00	96.90	87.60	113.10	102.30
Dec	31	102.30	115.32	107.26	93.62	80.29	116.87	102.61
Annual	365	1,055.44	1,650.87	1,730.39	1,720.25	1,815.36	1,822.72	1,632.51



Arbil								ARB
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.01	3.42	3.23	2.87	2.40	3.42	3.06
Feb	28	2.97	3.71	3.64	3.38	3.11	3.71	3.42
Mar	31	3.09	4.38	4.48	4.36	4.36	4.48	4.19
Apr	30	2.61	4.40	4.78	4.92	5.38	4.92	4.50
May	31	2.32	4.65	5.30	5.70	6.60	5.70	5.05
Jun	30	2.17	4.91	5.79	6.40	7.61	6.67	5.59
Jul	31	2.26	4.90	5.70	6.23	7.32	6.23	5.44
Aug	31	2.73	5.12	5.70	5.97	6.66	5.99	5.36
Sept	30	3.46	5.30	5.53	5.45	5.53	5.53	5.13
Oct	31	3.54	4.53	4.48	4.18	3.87	4.55	4.19
Nov	30	3.26	3.78	3.60	3.21	2.72	3.78	3.39
Dec	31	2.93	3.25	3.04	2.66	2.16	3.29	2.89

Arbil								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	93.31	106.02	100.13	88.97	74.40	106.02	94.81
Feb	28	83.16	103.88	101.92	94.64	87.08	103.88	95.76
Mar	31	95.79	135.78	138.88	135.16	135.16	138.88	129.94
Apr	30	78.30	132.00	143.40	147.60	161.40	147.60	135.05
May	31	71.92	144.15	164.30	176.70	204.60	176.70	156.40
Jun	30	65.10	147.30	173.70	192.00	228.30	200.10	167.75
Jul	31	70.06	151.90	176.70	193.13	226.92	193.13	168.64
Aug	31	84.63	158.72	176.70	185.07	206.46	185.69	166.21
Sept	30	103.80	159.00	165.90	163.50	165.90	165.90	154.00
Oct	31	109.74	140.43	138.88	129.58	119.97	141.05	129.94
Nov	30	97.80	113.40	108.00	96.30	81.60	113.40	101.75
Dec	31	90.83	100.75	94.24	82.46	66.96	101.99	89.54
Annual	365	1,044.44	1,593.33	1,682.75	1,685.11	1,758.75	1,774.34	1,589.79



Baghdad								BGD
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.50	4.03	3.79	3.33	2.91	4.03	3.60
Feb	28	3.90	4.90	4.74	4.31	4.00	4.90	4.46
Mar	31	3.31	4.89	5.00	4.84	4.92	5.00	4.66
Apr	30	2.41	4.32	4.66	4.78	5.27	4.78	4.37
May	31	2.14	4.55	5.18	5.56	6.45	5.56	4.91
Jun	30	1.99	4.87	5.74	6.32	7.51	6.57	5.50
Jul	31	2.06	4.70	5.44	5.92	6.96	5.92	5.17
Aug	31	2.53	5.10	5.66	5.93	6.68	5.95	5.31
Sept	30	3.16	5.08	5.29	5.23	5.47	5.29	4.92
Oct	31	3.30	4.38	4.34	4.07	3.95	4.39	4.07
Nov	30	3.17	3.77	3.60	3.23	2.92	3.77	3.41
Dec	31	3.30	3.72	3.46	3.02	2.59	3.77	3.31

Baghdad								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	98.00	124.93	117.49	103.23	90.21	124.93	109.80
Feb	28	109.20	137.20	132.72	120.68	112.00	137.20	124.83
Mar	31	102.61	151.59	155.00	150.04	152.52	155.00	144.46
Apr	30	72.30	129.60	139.80	143.40	158.10	143.40	131.10
May	31	66.34	141.05	160.58	172.36	199.95	172.36	152.11
Jun	30	59.70	146.10	172.20	189.60	225.30	197.10	165.00
Jul	31	63.86	145.70	168.64	183.52	215.76	183.52	160.17
Aug	31	78.43	158.10	175.46	183.83	207.08	184.45	164.56
Sept	30	94.80	152.40	158.70	156.90	164.10	158.70	147.60
Oct	31	102.30	135.78	134.54	126.17	122.45	136.09	126.22
Nov	30	95.10	113.10	108.00	96.90	87.60	113.10	102.30
Dec	31	102.30	115.32	107.26	93.62	80.29	116.87	102.61
Annual	365	1,044.94	1,650.87	1,730.39	1,720.25	1,815.36	1,822.72	1,630.76



Baquba								BAQ
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.54	4.07	3.82	3.35	2.91	4.07	3.63
Feb	28	3.82	4.82	4.66	4.25	3.95	4.82	4.39
Mar	31	3.34	4.92	5.02	4.85	4.92	5.02	4.68
Apr	30	2.42	4.34	4.68	4.79	5.26	4.79	4.38
May	31	2.15	4.57	5.19	5.56	6.45	5.56	4.91
Jun	30	2.01	4.90	5.79	6.33	7.51	6.57	5.52
Jul	31	2.07	4.72	5.46	5.92	6.96	5.92	5.18
Aug	31	2.56	5.12	5.68	5.94	6.68	5.96	5.32
Sept	30	3.19	5.10	5.31	5.24	5.47	5.31	4.94
Oct	31	3.33	4.41	4.36	4.08	3.95	4.42	4.09
Nov	30	3.21	3.81	3.62	3.24	2.92	3.81	3.44
Dec	31	3.35	3.75	3.49	3.04	2.59	3.02	3.21

Baquba								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	109.74	126.17	118.42	103.85	90.21	126.17	112.43
Feb	28	106.96	134.96	130.48	119.00	110.60	134.96	122.83
Mar	31	103.54	152.52	155.62	150.35	152.52	155.62	145.03
Apr	30	72.60	130.20	140.40	143.70	157.80	143.70	131.40
May	31	66.65	141.67	160.89	172.36	199.95	172.36	152.31
Jun	30	60.30	147.00	173.70	189.90	225.30	197.10	165.55
Jul	31	64.17	146.32	169.26	183.52	215.76	183.52	160.43
Aug	31	79.36	158.72	176.08	184.14	207.08	184.76	165.02
Sept	30	95.70	153.00	159.30	157.20	164.10	159.30	148.10
Oct	31	103.23	136.71	135.16	126.48	122.45	137.02	126.84
Nov	30	96.30	114.30	108.60	97.20	87.60	114.30	103.05
Dec	31	103.85	116.25	108.19	94.24	80.29	93.62	99.41
Annual	365	1,062.40	1,657.82	1,736.10	1,721.94	1,813.66	1,802.43	1,632.39



Basra								BAS
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.40	4.03	3.80	3.35	3.11	4.03	3.62
Feb	28	3.64	4.73	4.59	4.20	4.10	4.73	4.33
Mar	31	2.98	4.61	4.72	4.58	4.80	4.72	4.40
Apr	30	2.30	4.40	4.74	4.85	5.39	4.85	4.42
May	31	2.00	4.58	5.21	5.57	6.47	5.57	4.90
Jun	30	1.81	4.91	5.78	6.34	7.53	6.59	5.49
Jul	31	1.90	4.83	5.59	6.08	7.15	6.08	5.27
Aug	31	2.32	5.00	5.53	5.78	6.56	5.80	5.17
Sept	30	3.00	5.08	5.30	5.23	5.59	5.30	4.92
Oct	31	3.15	4.34	4.30	4.04	4.08	4.36	4.05
Nov	30	2.89	3.56	3.41	3.08	2.96	3.56	3.24
Dec	31	3.03	3.53	3.31	2.90	2.69	3.57	3.17

Basra								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	105.40	124.93	117.80	103.85	96.41	124.93	112.22
Feb	28	101.92	132.44	128.52	117.60	114.80	132.44	121.29
Mar	31	92.38	142.91	146.32	141.98	148.80	146.32	136.45
Apr	30	69.00	132.00	142.20	145.50	161.70	145.50	132.65
May	31	62.00	141.98	161.51	172.67	200.57	172.67	151.90
Jun	30	54.30	147.30	173.40	190.20	225.90	197.70	164.80
Jul	31	58.90	149.73	173.29	188.48	221.65	188.48	163.42
Aug	31	71.92	155.00	171.43	179.18	203.36	179.80	160.12
Sept	30	90.00	152.40	159.00	156.90	167.70	159.00	147.50
Oct	31	97.65	134.54	133.30	125.24	126.48	135.16	125.40
Nov	30	86.70	106.80	102.30	92.40	88.80	106.80	97.30
Dec	31	93.93	109.43	102.61	89.90	83.39	110.67	98.32
Annual	365	984.10	1,629.46	1,711.68	1,703.90	1,839.56	1,799.47	1,611.36



Basra Qadima								BQD
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.40	4.03	3.80	3.35	3.11	4.03	3.62
Feb	28	3.64	4.73	4.59	4.20	4.10	4.73	4.33
Mar	31	2.98	4.61	4.72	4.58	4.80	4.72	4.40
Apr	30	2.30	4.40	4.74	4.85	5.39	4.85	4.42
May	31	2.00	4.58	5.21	5.57	6.47	5.57	4.90
Jun	30	1.81	4.91	5.78	6.34	7.53	6.59	5.49
Jul	31	1.90	4.83	5.59	6.08	7.15	6.08	5.27
Aug	31	2.32	5.00	5.53	5.78	6.56	5.80	5.17
Sept	30	3.00	5.08	5.30	5.23	5.59	5.30	4.92
Oct	31	3.15	4.34	4.30	4.04	4.08	4.36	4.05
Nov	30	2.89	3.56	3.41	3.08	2.96	3.56	3.24
Dec	31	3.03	3.53	3.31	2.90	2.69	3.57	3.17

Basra Qadima								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	105.40	124.93	117.80	103.85	96.41	124.93	112.22
Feb	28	101.92	132.44	128.52	117.60	114.80	132.44	121.29
Mar	31	92.38	142.91	146.32	141.98	148.80	146.32	136.45
Apr	30	69.00	132.00	142.20	145.50	161.70	145.50	132.65
May	31	62.00	141.98	161.51	172.67	200.57	172.67	151.90
Jun	30	54.30	147.30	173.40	190.20	225.90	197.70	164.80
Jul	31	58.90	149.73	173.29	188.48	221.65	188.48	163.42
Aug	31	71.92	155.00	171.43	179.18	203.36	179.80	160.12
Sept	30	90.00	152.40	159.00	156.90	167.70	159.00	147.50
Oct	31	97.65	134.54	133.30	125.24	126.48	135.16	125.40
Nov	30	86.70	106.80	102.30	92.40	88.80	106.80	97.30
Dec	31	93.93	109.43	102.61	89.90	83.39	110.67	98.32
Annual	365	984.10	1,629.46	1,711.68	1,703.90	1,839.56	1,799.47	1,611.36



Diwaniya								DIW
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.30	3.87	3.65	3.23	2.91	3.87	3.47
Feb	28	3.57	4.57	4.44	4.08	3.88	4.57	4.19
Mar	31	3.11	4.68	4.79	4.66	4.80	4.79	4.47
Apr	30	2.46	4.58	4.95	5.08	5.60	5.08	4.63
May	31	2.10	4.72	5.39	5.79	6.74	5.79	5.09
Jun	30	1.90	5.08	5.99	6.62	7.90	6.91	5.73
Jul	31	2.00	4.90	5.70	6.22	7.33	6.22	5.40
Aug	31	2.48	5.22	5.81	6.10	6.89	6.12	5.44
Sept	30	3.21	5.30	5.52	5.45	5.73	5.52	5.12
Oct	31	3.19	4.31	4.28	4.02	3.97	4.32	4.02
Nov	30	2.96	3.59	3.43	3.10	2.88	3.59	3.26
Dec	31	3.13	3.59	3.35	2.94	2.60	3.63	3.21

Diwaniya								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	102.30	119.97	113.15	100.13	90.21	119.97	107.62
Feb	28	99.96	127.96	124.32	114.24	108.64	127.96	117.18
Mar	31	96.41	145.08	148.49	144.46	148.80	148.49	138.62
Apr	30	73.80	137.40	148.50	152.40	168.00	152.40	138.75
May	31	65.10	146.32	167.09	179.49	208.94	179.49	157.74
Jun	30	57.00	152.40	179.70	198.60	237.00	207.30	172.00
Jul	31	62.00	151.90	176.70	192.82	227.23	192.82	167.25
Aug	31	76.88	161.82	180.11	189.10	213.59	189.72	168.54
Sept	30	96.30	159.00	165.60	163.50	171.90	165.60	153.65
Oct	31	98.89	133.61	132.68	124.62	123.07	133.92	124.47
Nov	30	88.80	107.70	102.90	93.00	86.40	107.70	97.75
Dec	31	97.03	111.29	103.85	91.14	80.60	112.53	99.41
Annual	365	1,014.47	1,654.45	1,743.09	1,743.50	1,864.38	1,837.90	1,642.97



Falluja								FAL
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.10	3.60	3.40	3.02	2.69	3.60	3.24
Feb	28	3.28	4.18	4.08	3.76	3.56	4.18	3.84
Mar	31	3.16	4.66	4.77	4.62	4.73	4.77	4.45
Apr	30	2.51	4.57	4.93	5.04	5.54	5.05	4.61
May	31	2.18	4.74	5.41	5.80	6.74	5.80	5.11
Jun	30	2.00	5.14	6.06	6.69	7.97	6.97	5.81
Jul	31	2.09	4.99	5.80	6.33	7.45	6.33	5.50
Aug	31	2.57	5.22	5.80	6.08	6.84	6.10	5.44
Sept	30	3.28	5.28	5.50	5.42	5.65	5.50	5.11
Oct	31	3.22	4.27	4.24	3.97	3.87	4.29	3.98
Nov	30	2.73	3.28	3.15	2.85	2.63	3.28	2.99
Dec	31	2.82	3.21	3.01	2.65	2.33	3.24	2.88

Falluja								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	96.10	111.60	105.40	93.62	83.39	111.60	100.29
Feb	28	91.84	117.04	114.24	105.28	99.68	117.04	107.52
Mar	31	97.96	144.46	147.87	143.22	146.63	147.87	138.00
Apr	30	75.30	137.10	147.90	151.20	166.20	151.50	138.20
May	31	67.58	146.94	167.71	179.80	208.94	179.80	158.46
Jun	30	60.00	154.20	181.80	200.70	239.10	209.10	174.15
Jul	31	64.79	154.69	179.80	196.23	230.95	196.23	170.45
Aug	31	79.67	161.82	179.80	188.48	212.04	189.10	168.49
Sept	30	98.40	158.40	165.00	162.60	169.50	165.00	153.15
Oct	31	99.82	132.37	131.44	123.07	119.97	132.99	123.28
Nov	30	81.90	98.40	94.50	85.50	78.90	98.40	89.60
Dec	31	87.42	99.51	93.31	82.15	72.23	100.44	89.18
Annual	365	1,000.78	1,616.53	1,708.77	1,711.85	1,827.53	1,799.07	1,610.76



Faw								FAW
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.47	4.13	3.89	3.44	3.19	4.18	3.72
Feb	28	3.88	5.07	4.91	4.47	4.34	5.07	4.62
Mar	31	2.93	4.55	4.66	4.53	4.77	4.66	4.35
Apr	30	2.31	4.47	4.82	4.94	5.50	4.94	4.50
May	31	1.99	4.66	5.32	5.70	6.64	5.70	5.00
Jun	30	1.78	4.90	5.77	6.35	7.55	6.61	5.49
Jul	31	1.87	4.89	5.69	6.20	7.30	6.20	5.36
Aug	31	2.31	5.07	5.62	5.89	6.69	5.92	5.25
Sept	30	3.02	5.16	5.38	5.32	5.69	5.38	4.99
Oct	31	3.16	4.37	4.33	4.08	4.12	4.38	4.07
Nov	30	2.89	3.58	3.43	3.11	2.99	3.58	3.26
Dec	31	3.15	3.67	3.44	3.02	2.78	3.71	3.30

Faw								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	107.57	128.03	120.59	106.64	98.89	129.58	115.22
Feb	28	108.64	141.96	137.48	125.16	121.52	141.96	129.45
Mar	31	90.83	141.05	144.46	140.43	147.87	144.46	134.85
Apr	30	69.30	134.10	144.60	148.20	165.00	148.20	134.90
May	31	61.69	144.46	164.92	176.70	205.84	176.70	155.05
Jun	30	53.40	147.00	173.10	190.50	226.50	198.30	164.80
Jul	31	57.97	151.59	176.39	192.20	226.30	192.20	166.11
Aug	31	71.61	157.17	174.22	182.59	207.39	183.52	162.75
Sept	30	90.60	154.80	161.40	159.60	170.70	161.40	149.75
Oct	31	97.96	135.47	134.23	126.48	127.72	135.78	126.27
Nov	30	86.70	107.40	102.90	93.30	89.70	107.40	97.90
Dec	31	97.65	113.77	106.64	93.62	86.18	115.01	102.15
Annual	365	993.92	1,656.80	1,740.93	1,735.42	1,873.61	1,834.51	1,639.20



Hilla								HIL
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.35	3.91	3.68	3.25	2.91	3.91	3.50
Feb	28	3.62	4.60	4.47	4.09	3.88	4.60	4.21
Mar	31	3.14	4.71	4.81	4.66	4.81	4.81	4.49
Apr	30	2.48	4.61	4.97	5.08	5.60	5.08	4.64
May	31	2.13	4.74	5.41	5.80	6.74	5.80	5.10
Jun	30	1.93	5.10	6.02	6.63	7.89	6.90	5.75
Jul	31	2.03	4.93	5.72	6.23	7.33	6.23	5.41
Aug	31	2.52	5.26	5.84	6.11	6.89	6.12	5.46
Sept	30	3.26	5.33	5.55	5.47	5.73	5.55	5.15
Oct	31	3.24	4.34	4.30	4.03	3.97	4.35	4.04
Nov	30	3.00	3.62	3.46	3.12	2.89	3.62	3.29
Dec	31	3.18	3.62	3.39	2.96	2.60	3.68	3.24

Hilla								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	103.85	121.21	114.08	100.75	90.21	121.21	108.55
Feb	28	101.36	128.80	125.16	114.52	108.64	128.80	117.88
Mar	31	97.34	146.01	149.11	144.46	149.11	149.11	139.19
Apr	30	74.40	138.30	149.10	152.40	168.00	152.40	139.10
May	31	66.03	146.94	167.71	179.80	208.94	179.80	158.20
Jun	30	57.90	153.00	180.60	198.90	236.70	207.00	172.35
Jul	31	62.93	152.83	177.32	193.13	227.23	193.13	167.76
Aug	31	78.12	163.06	181.04	189.41	213.59	189.72	169.16
Sept	30	97.80	159.90	166.50	164.10	171.90	166.50	154.45
Oct	31	100.44	134.54	133.30	124.93	123.07	134.85	125.19
Nov	30	90.00	108.60	103.80	93.60	86.70	108.60	98.55
Dec	31	98.58	112.22	105.09	91.76	80.60	114.08	100.39
Annual	365	1,028.75	1,665.41	1,752.81	1,747.76	1,864.69	1,845.20	1,650.77



Karbala								KAR
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.36	3.91	3.68	3.25	2.91	3.91	3.50
Feb	28	3.63	4.61	4.47	4.10	3.88	4.61	4.22
Mar	31	3.15	4.72	4.81	4.66	4.81	4.81	4.49
Apr	30	2.48	4.61	4.97	5.08	5.60	5.08	4.64
May	31	2.14	4.75	5.42	5.81	6.74	5.81	5.11
Jun	30	1.93	5.11	6.02	6.63	7.89	6.90	5.75
Jul	31	2.04	4.94	5.73	6.24	7.33	6.24	5.42
Aug	31	2.53	5.26	5.84	6.12	6.89	6.13	5.46
Sept	30	3.26	5.34	5.56	5.47	5.73	5.56	5.15
Oct	31	3.25	4.35	4.30	4.03	3.97	4.36	4.04
Nov	30	3.01	3.62	3.46	3.12	2.89	3.62	3.29
Dec	31	3.20	3.63	3.40	2.96	2.61	3.68	3.25

Karbala								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	104.16	121.21	114.08	100.75	90.21	121.21	108.60
Feb	28	101.64	129.08	125.16	114.80	108.64	129.08	118.07
Mar	31	97.65	146.32	149.11	144.46	149.11	149.11	139.29
Apr	30	74.40	138.30	149.10	152.40	168.00	152.40	139.10
May	31	66.34	147.25	168.02	180.11	208.94	180.11	158.46
Jun	30	57.90	153.30	180.60	198.90	236.70	207.00	172.40
Jul	31	63.24	153.14	177.63	193.44	227.23	193.44	168.02
Aug	31	78.43	163.06	181.04	189.72	213.59	190.03	169.31
Sept	30	97.80	160.20	166.80	164.10	171.90	166.80	154.60
Oct	31	100.75	134.85	133.30	124.93	123.07	135.16	125.34
Nov	30	90.30	108.60	103.80	93.60	86.70	108.60	98.60
Dec	31	99.20	112.53	105.40	91.76	80.91	114.08	100.65
Annual	365	1,031.81	1,667.84	1,754.04	1,748.97	1,865.00	1,847.02	1,652.45



Kirkuk								KIR
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.36	3.81	3.58	3.15	2.64	3.81	3.39
Feb	28	3.44	4.29	4.18	3.84	3.52	4.29	3.93
Mar	31	3.36	4.81	4.92	4.75	4.75	4.92	4.59
Apr	30	2.64	4.57	4.95	5.08	5.57	5.08	4.65
May	31	2.27	4.62	5.27	5.65	6.55	5.65	5.00
Jun	30	2.14	4.98	5.88	6.48	7.71	6.75	5.66
Jul	31	2.21	4.92	5.72	6.23	7.33	6.23	5.44
Aug	31	2.71	5.22	5.80	6.08	6.79	6.10	5.45
Sept	30	3.42	5.30	5.52	5.43	5.56	5.52	5.13
Oct	31	3.32	4.30	4.26	3.99	3.77	4.31	3.99
Nov	30	3.27	3.82	3.63	3.24	2.80	3.82	3.43
Dec	31	3.18	3.53	3.29	2.86	2.35	3.58	3.13

Kirkuk								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	104.16	118.11	110.98	97.65	81.84	118.11	105.14
Feb	28	96.32	120.12	117.04	107.52	98.56	120.12	109.95
Mar	31	104.16	149.11	152.52	147.25	147.25	152.52	142.14
Apr	30	79.20	137.10	148.50	152.40	167.10	152.40	139.45
May	31	70.37	143.22	163.37	175.15	203.05	175.15	155.05
Jun	30	64.20	149.40	176.40	194.40	231.30	202.50	169.70
Jul	31	68.51	152.52	177.32	193.13	227.23	193.13	168.64
Aug	31	84.01	161.82	179.80	188.48	210.49	189.10	168.95
Sept	30	102.60	159.00	165.60	162.90	166.80	165.60	153.75
Oct	31	102.92	133.30	132.06	123.69	116.87	133.61	123.74
Nov	30	98.10	114.60	108.90	97.20	84.00	114.60	102.90
Dec	31	98.58	109.43	101.99	88.66	72.85	110.98	97.08
Annual	365	1,073.13	1,647.73	1,734.48	1,728.43	1,807.34	1,827.82	1,636.49



Kut								KUT
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.65	4.23	3.96	3.47	3.08	4.23	3.77
Feb	28	3.86	4.89	4.73	4.31	4.06	4.89	4.46
Mar	31	3.24	4.85	4.95	4.80	4.92	4.95	4.62
Apr	30	2.44	4.51	4.86	4.97	5.48	4.97	4.54
May	31	2.11	4.66	5.29	5.68	6.50	5.68	4.99
Jun	30	1.93	4.99	5.88	6.48	7.69	6.73	5.62
Jul	31	2.02	4.86	5.64	6.13	7.21	6.13	5.33
Aug	31	2.51	5.22	5.79	6.06	6.84	6.08	5.42
Sept	30	3.21	5.26	5.47	5.40	5.66	5.47	5.08
Oct	31	3.29	4.41	4.37	4.09	4.02	4.42	4.10
Nov	30	3.20	3.84	3.66	3.28	3.01	3.84	3.47
Dec	31	3.46	3.90	3.63	3.15	2.74	3.96	3.47

Kut								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	113.15	131.13	122.76	107.57	95.48	131.13	116.87
Feb	28	108.08	136.92	132.44	120.68	113.68	136.92	124.79
Mar	31	100.44	150.35	153.45	148.80	152.52	153.45	143.17
Apr	30	73.20	135.30	145.80	149.10	164.40	149.10	136.15
May	31	65.41	144.46	163.99	176.08	201.50	176.08	154.59
Jun	30	57.90	149.70	176.40	194.40	230.70	201.90	168.50
Jul	31	62.62	150.66	174.84	190.03	223.51	190.03	165.28
Aug	31	77.81	161.82	179.49	187.86	212.04	188.48	167.92
Sept	30	96.30	157.80	164.10	162.00	169.80	164.10	152.35
Oct	31	101.99	136.71	135.47	126.79	124.62	137.02	127.10
Nov	30	96.00	115.20	109.80	98.40	90.30	115.20	104.15
Dec	31	107.26	120.90	112.53	97.65	84.94	122.76	107.67
Annual	365	1,060.16	1,690.95	1,771.07	1,759.36	1,863.49	1,866.17	1,668.53



Mosul								MOS
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.12	3.54	3.33	2.95	2.45	3.54	3.16
Feb	28	3.17	3.94	3.86	3.56	3.25	3.94	3.62
Mar	31	3.23	4.57	4.67	4.53	4.51	4.67	4.36
Apr	30	2.66	4.51	4.89	5.03	5.49	5.03	4.60
May	31	2.32	4.64	5.30	5.70	6.59	5.70	5.04
Jun	30	2.18	4.92	5.81	6.40	7.62	6.68	5.60
Jul	31	2.26	4.90	5.70	6.22	7.31	6.22	5.44
Aug	31	2.76	5.20	5.78	6.06	6.75	6.08	5.44
Sept	30	3.39	5.17	5.40	5.32	5.42	5.40	5.02
Oct	31	3.43	4.38	4.34	4.05	3.77	4.40	4.06
Nov	30	3.33	3.85	3.66	3.26	2.75	3.85	3.45
Dec	31	3.01	3.32	3.11	2.71	2.19	3.37	2.95

Mosul								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	96.72	109.74	103.23	91.45	75.95	109.74	97.81
Feb	28	88.76	110.32	108.08	99.68	91.00	110.32	101.36
Mar	31	100.13	141.67	144.77	140.43	139.81	144.77	135.26
Apr	30	79.80	135.30	146.70	150.90	164.70	150.90	138.05
May	31	71.92	143.84	164.30	176.70	204.29	176.70	156.29
Jun	30	65.40	147.60	174.30	192.00	228.60	200.40	168.05
Jul	31	70.06	151.90	176.70	192.82	226.61	192.82	168.49
Aug	31	85.56	161.20	179.18	187.86	209.25	188.48	168.59
Sept	30	101.70	155.10	162.00	159.60	162.60	162.00	150.50
Oct	31	106.33	135.78	134.54	125.55	116.87	136.40	125.91
Nov	30	99.90	115.50	109.80	97.80	82.50	115.50	103.50
Dec	31	93.31	102.92	96.41	84.01	67.89	104.47	91.50
Annual	365	1,059.59	1,610.87	1,700.01	1,698.80	1,770.07	1,792.50	1,605.31



Mosul Jadida								MJD
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.12	3.54	3.33	2.95	2.45	3.54	3.16
Feb	28	3.17	3.94	3.86	3.56	3.25	3.94	3.62
Mar	31	3.23	4.57	4.67	4.53	4.51	4.67	4.36
Apr	30	2.66	4.51	4.89	5.03	5.49	5.03	4.60
May	31	2.32	4.64	5.30	5.70	6.59	5.70	5.04
Jun	30	2.18	4.92	5.81	6.40	7.62	6.68	5.60
Jul	31	2.26	4.90	5.70	6.22	7.31	6.22	5.44
Aug	31	2.76	5.20	5.78	6.06	6.75	6.08	5.44
Sept	30	3.39	5.17	5.40	5.32	5.42	5.40	5.02
Oct	31	3.43	4.38	4.34	4.05	3.77	4.40	4.06
Nov	30	3.33	3.85	3.66	3.26	2.75	3.85	3.45
Dec	31	3.01	3.32	3.11	2.71	2.19	3.37	2.95

Mosul Jadida								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	96.72	109.74	103.23	91.45	75.95	109.74	97.81
Feb	28	88.76	110.32	108.08	99.68	91.00	110.32	101.36
Mar	31	100.13	141.67	144.77	140.43	139.81	144.77	135.26
Apr	30	79.80	135.30	146.70	150.90	164.70	150.90	138.05
May	31	71.92	143.84	164.30	176.70	204.29	176.70	156.29
Jun	30	65.40	147.60	174.30	192.00	228.60	200.40	168.05
Jul	31	70.06	151.90	176.70	192.82	226.61	192.82	168.49
Aug	31	85.56	161.20	179.18	187.86	209.25	188.48	168.59
Sept	30	101.70	155.10	162.00	159.60	162.60	162.00	150.50
Oct	31	106.33	135.78	134.54	125.55	116.87	136.40	125.91
Nov	30	99.90	115.50	109.80	97.80	82.50	115.50	103.50
Dec	31	93.31	102.92	96.41	84.01	67.89	104.47	91.50
Annual	365	1,059.59	1,610.87	1,700.01	1,698.80	1,770.07	1,792.50	1,605.31



Najaf								NAJ
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.30	3.87	3.65	3.23	2.91	3.87	3.47
Feb	28	3.57	4.57	4.44	4.08	3.88	4.57	4.19
Mar	31	3.11	4.68	4.79	4.66	4.80	4.79	4.47
Apr	30	2.46	4.58	4.95	5.08	5.60	5.08	4.63
May	31	2.10	4.71	5.39	5.79	6.74	5.79	5.09
Jun	30	1.90	5.08	5.99	6.62	7.90	6.91	5.73
Jul	31	2.00	4.90	5.70	6.22	7.33	6.22	5.40
Aug	31	2.48	5.22	5.81	6.10	6.89	6.12	5.44
Sept	30	3.21	5.30	5.52	5.45	5.73	5.52	5.12
Oct	31	3.19	4.31	4.28	4.02	3.97	4.32	4.02
Nov	30	2.69	3.59	3.43	3.10	2.88	3.59	3.21
Dec	31	3.13	3.59	3.35	2.94	2.60	3.63	3.21

Najaf								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	102.30	119.97	113.15	100.13	90.21	119.97	107.62
Feb	28	99.96	127.96	124.32	114.24	108.64	127.96	117.18
Mar	31	96.41	145.08	148.49	144.46	148.80	148.49	138.62
Apr	30	73.80	137.40	148.50	152.40	168.00	152.40	138.75
May	31	65.10	146.01	167.09	179.49	208.94	179.49	157.69
Jun	30	57.00	152.40	179.70	198.60	237.00	207.30	172.00
Jul	31	62.00	151.90	176.70	192.82	227.23	192.82	167.25
Aug	31	76.88	161.82	180.11	189.10	213.59	189.72	168.54
Sept	30	96.30	159.00	165.60	163.50	171.90	165.60	153.65
Oct	31	98.89	133.61	132.68	124.62	123.07	133.92	124.47
Nov	30	80.70	107.70	102.90	93.00	86.40	107.70	96.40
Dec	31	97.03	111.29	103.85	91.14	80.60	112.53	99.41
Annual	365	1,006.37	1,654.14	1,743.09	1,743.50	1,864.38	1,837.90	1,641.56



Nasiriya								NAS
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	3.61	4.24	3.99	3.50	3.18	4.24	3.79
Feb	28	3.80	4.89	4.74	4.33	4.15	4.89	4.47
Mar	31	3.04	4.66	4.77	4.63	4.82	4.77	4.45
Apr	30	2.37	4.50	4.85	4.97	5.51	4.97	4.53
May	31	2.04	4.65	5.29	5.69	6.61	5.69	5.00
Jun	30	1.85	4.93	5.80	6.39	7.60	6.65	5.54
Jul	31	1.94	4.85	5.64	6.13	7.22	6.13	5.32
Aug	31	2.42	5.19	5.77	6.04	6.84	6.06	5.39
Sept	30	3.11	5.22	5.44	5.37	5.69	5.44	5.05
Oct	31	3.26	4.44	4.41	4.13	4.12	4.46	4.14
Nov	30	3.05	3.73	3.57	3.21	3.03	3.74	3.39
Dec	31	3.31	3.80	3.54	3.09	2.78	3.85	3.40

Nasiriya								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	111.91	131.44	123.69	108.50	98.58	131.44	117.59
Feb	28	106.40	136.92	132.72	121.24	116.20	136.92	125.07
Mar	31	94.24	144.46	147.87	143.53	149.42	147.87	137.90
Apr	30	71.10	135.00	145.50	149.10	165.30	149.10	135.85
May	31	63.24	144.15	163.99	176.39	204.91	176.39	154.85
Jun	30	55.50	147.90	174.00	191.70	228.00	199.50	166.10
Jul	31	60.14	150.35	174.84	190.03	223.82	190.03	164.87
Aug	31	75.02	160.89	178.87	187.24	212.04	187.86	166.99
Sept	30	93.30	156.60	163.20	161.10	170.70	163.20	151.35
Oct	31	101.06	137.64	136.71	128.03	127.72	138.26	128.24
Nov	30	91.50	111.90	107.10	96.30	90.90	112.20	101.65
Dec	31	102.61	117.80	109.74	95.79	86.18	119.35	105.25
Annual	365	1,026.02	1,675.05	1,758.23	1,748.95	1,873.77	1,852.12	1,655.69



Omara								OMR
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.75	4.37	4.09	3.57	3.21	4.37	3.89
Feb	28	4.07	5.18	5.00	4.53	4.30	5.19	4.71
Mar	31	3.13	4.74	4.84	4.69	4.86	4.84	4.52
Apr	30	2.40	4.50	4.84	4.95	5.47	4.95	4.52
May	31	2.06	4.63	5.25	5.62	6.52	5.62	4.95
Jun	30	1.89	4.88	5.72	6.28	7.45	6.52	5.46
Jul	31	1.98	4.79	5.54	6.01	7.05	6.01	5.23
Aug	31	2.43	5.10	5.64	5.91	6.67	5.92	5.28
Sept	30	3.11	5.15	5.36	5.28	5.60	5.36	4.98
Oct	31	3.39	4.58	4.52	4.22	4.18	4.58	4.25
Nov	30	3.25	3.91	3.73	3.33	3.11	3.91	3.54
Dec	31	3.47	3.96	3.68	3.18	2.83	4.02	3.52

Omara								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	116.25	135.47	126.79	110.67	99.51	135.47	120.69
Feb	28	113.96	145.04	140.00	126.84	120.40	145.32	131.93
Mar	31	97.03	146.94	150.04	145.39	150.66	150.04	140.02
Apr	30	72.00	135.00	145.20	148.50	164.10	148.50	135.55
May	31	63.86	143.53	162.75	174.22	202.12	174.22	153.45
Jun	30	56.70	146.40	171.60	188.40	223.50	195.60	163.70
Jul	31	61.38	148.49	171.74	186.31	218.55	186.31	162.13
Aug	31	75.33	158.10	174.84	183.21	206.77	183.52	163.63
Sept	30	93.30	154.50	160.80	158.40	168.00	160.80	149.30
Oct	31	105.09	141.98	140.12	130.82	129.58	141.98	131.60
Nov	30	97.50	117.30	111.90	99.90	93.30	117.30	106.20
Dec	31	107.57	122.76	114.08	98.58	87.73	124.62	109.22
Annual	365	1,059.97	1,695.51	1,769.86	1,751.24	1,864.22	1,863.68	1,667.41



Ramadi								RAM
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.10	3.60	3.40	3.02	2.69	3.60	3.24
Feb	28	3.28	4.18	4.08	3.76	3.56	4.18	3.84
Mar	31	3.16	4.66	4.77	4.62	4.73	4.77	4.45
Apr	30	2.51	4.57	4.93	5.04	5.54	5.05	4.61
May	31	2.18	4.74	5.41	5.80	6.74	5.80	5.11
Jun	30	2.00	5.14	6.06	6.69	7.97	6.97	5.81
Jul	31	2.09	4.99	5.80	6.33	7.45	6.33	5.50
Aug	31	2.57	5.22	5.80	6.08	6.84	6.10	5.44
Sept	30	3.28	5.28	5.50	5.42	5.65	5.50	5.11
Oct	31	3.22	4.27	4.24	3.97	3.87	4.29	3.98
Nov	30	2.73	3.28	3.15	2.85	2.63	3.28	2.99
Dec	31	2.82	3.21	3.01	2.65	2.33	3.24	2.88

Ramadi								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	96.10	111.60	105.40	93.62	83.39	111.60	100.29
Feb	28	91.84	117.04	114.24	105.28	99.68	117.04	107.52
Mar	31	97.96	144.46	147.87	143.22	146.63	147.87	138.00
Apr	30	75.30	137.10	147.90	151.20	166.20	151.50	138.20
May	31	67.58	146.94	167.71	179.80	208.94	179.80	158.46
Jun	30	60.00	154.20	181.80	200.70	239.10	209.10	174.15
Jul	31	64.79	154.69	179.80	196.23	230.95	196.23	170.45
Aug	31	79.67	161.82	179.80	188.48	212.04	189.10	168.49
Sept	30	98.40	158.40	165.00	162.60	169.50	165.00	153.15
Oct	31	99.82	132.37	131.44	123.07	119.97	132.99	123.28
Nov	30	81.90	98.40	94.50	85.50	78.90	98.40	89.60
Dec	31	87.42	99.51	93.31	82.15	72.23	100.44	89.18
Annual	365	1,000.78	1,616.53	1,708.77	1,711.85	1,827.53	1,799.07	1,610.76



Samara								SAM
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.40	3.90	3.68	3.24	2.78	3.90	3.48
Feb	28	3.26	4.14	4.05	3.74	3.50	4.14	3.81
Mar	31	3.15	4.58	4.70	4.56	4.63	4.70	4.39
Apr	30	2.56	4.51	4.89	5.03	5.54	5.03	4.59
May	31	2.22	4.74	5.42	5.83	6.77	5.84	5.14
Jun	30	2.06	5.12	6.05	6.68	7.97	6.97	5.81
Jul	31	2.14	5.00	5.83	6.37	7.50	6.37	5.54
Aug	31	2.65	5.28	5.87	6.16	6.91	6.18	5.51
Sept	30	3.42	5.43	5.66	5.57	5.75	5.66	5.25
Oct	31	3.27	4.30	4.26	4.00	3.84	4.31	4.00
Nov	30	2.84	3.38	3.24	2.92	2.64	3.38	3.07
Dec	31	2.91	3.29	3.08	2.70	2.31	3.32	2.94

Samara								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	105.40	120.90	114.08	100.44	86.18	120.90	107.98
Feb	28	91.28	115.92	113.40	104.72	98.00	115.92	106.54
Mar	31	97.65	141.98	145.70	141.36	143.53	145.70	135.99
Apr	30	76.80	135.30	146.70	150.90	166.20	150.90	137.80
May	31	68.82	146.94	168.02	180.73	209.87	181.04	159.24
Jun	30	61.80	153.60	181.50	200.40	239.10	209.10	174.25
Jul	31	66.34	155.00	180.73	197.47	232.50	197.47	171.59
Aug	31	82.15	163.68	181.97	190.96	214.21	191.58	170.76
Sept	30	102.60	162.90	169.80	167.10	172.50	169.80	157.45
Oct	31	101.37	133.30	132.06	124.00	119.04	133.61	123.90
Nov	30	85.20	101.40	97.20	87.60	79.20	101.40	92.00
Dec	31	90.21	101.99	95.48	83.70	71.61	102.92	90.99
Annual	365	1,029.62	1,632.91	1,726.64	1,729.38	1,831.94	1,820.34	1,628.47



Sinah								SIN
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	3.18	3.58	3.37	2.97	2.45	3.58	3.19
Feb	28	3.21	3.97	3.88	3.58	3.25	3.97	3.64
Mar	31	3.26	4.59	4.70	4.55	4.51	4.70	4.39
Apr	30	2.69	4.53	4.91	5.04	5.49	5.04	4.62
May	31	2.35	4.66	5.32	5.71	6.59	5.71	5.06
Jun	30	2.21	4.95	5.83	6.41	7.62	6.68	5.62
Jul	31	2.29	4.93	5.72	6.24	7.31	6.24	5.46
Aug	31	2.80	5.22	5.80	6.07	6.75	6.09	5.46
Sept	30	3.43	5.21	5.42	5.34	5.42	5.42	5.04
Oct	31	3.47	4.43	4.37	4.07	3.77	4.44	4.09
Nov	30	3.40	3.89	3.69	3.28	2.76	3.89	3.49
Dec	31	3.06	3.37	3.14	2.73	2.19	3.42	2.99

Sinah								SIN
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	98.58	110.98	104.47	92.07	75.95	110.98	98.84
Feb	28	89.88	111.16	108.64	100.24	91.00	111.16	102.01
Mar	31	101.06	142.29	145.70	141.05	139.81	145.70	135.94
Apr	30	80.70	135.90	147.30	151.20	164.70	151.20	138.50
May	31	72.85	144.46	164.92	177.01	204.29	177.01	156.76
Jun	30	66.30	148.50	174.90	192.30	228.60	200.40	168.50
Jul	31	70.99	152.83	177.32	193.44	226.61	193.44	169.11
Aug	31	86.80	161.82	179.80	188.17	209.25	188.79	169.11
Sept	30	102.90	156.30	162.60	160.20	162.60	162.60	151.20
Oct	31	107.57	137.33	135.47	126.17	116.87	137.64	126.84
Nov	30	102.00	116.70	110.70	98.40	82.80	116.70	104.55
Dec	31	94.86	104.47	97.34	84.63	67.89	106.02	92.54
Annual	365	1,074.49	1,622.74	1,709.16	1,704.88	1,770.37	1,801.64	1,613.88



Sulaymaniya								SUL
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.32	3.77	3.55	3.12	2.63	3.77	3.36
Feb	28	3.26	4.08	3.98	3.68	3.38	4.08	3.74
Mar	31	3.18	4.56	4.66	4.52	4.54	4.66	4.35
Apr	30	2.57	4.40	4.78	4.91	5.38	4.91	4.49
May	31	2.28	4.68	5.34	5.73	6.64	5.73	5.07
Jun	30	2.14	4.94	5.83	6.41	7.63	6.68	5.61
Jul	31	2.21	4.89	5.68	6.19	7.27	6.19	5.41
Aug	31	2.70	5.16	5.73	5.99	6.70	6.02	5.38
Sept	30	3.43	5.31	5.52	5.44	5.56	5.52	5.13
Oct	31	3.50	4.52	4.45	4.16	3.90	4.52	4.18
Nov	30	3.27	3.81	3.61	3.23	2.79	3.81	3.42
Dec	31	3.12	3.45	3.22	2.80	2.31	3.50	3.07

Sulaymaniya								SUL
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	102.92	116.87	110.05	96.72	81.53	116.87	104.16
Feb	28	91.28	114.24	111.44	103.04	94.64	114.24	104.81
Mar	31	98.58	141.36	144.46	140.12	140.74	144.46	134.95
Apr	30	77.10	132.00	143.40	147.30	161.40	147.30	134.75
May	31	70.68	145.08	165.54	177.63	205.84	177.63	157.07
Jun	30	64.20	148.20	174.90	192.30	228.90	200.40	168.15
Jul	31	68.51	151.59	176.08	191.89	225.37	191.89	167.56
Aug	31	83.70	159.96	177.63	185.69	207.70	186.62	166.88
Sept	30	102.90	159.30	165.60	163.20	166.80	165.60	153.90
Oct	31	108.50	140.12	137.95	128.96	120.90	140.12	129.43
Nov	30	98.10	114.30	108.30	96.90	83.70	114.30	102.60
Dec	31	96.72	106.95	99.82	86.80	71.61	108.50	95.07
Annual	365	1,063.19	1,629.97	1,715.17	1,710.55	1,789.13	1,807.93	1,619.32



Sumawa								SUM
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	3.33	3.94	3.71	3.28	3.00	3.94	3.53
Feb	28	3.48	4.50	4.38	4.02	3.89	4.50	4.13
Mar	31	3.07	4.68	4.79	4.65	4.83	4.79	4.47
Apr	30	2.42	4.60	4.96	5.08	5.62	5.08	4.63
May	31	2.06	4.74	5.40	5.80	6.74	5.80	5.09
Jun	30	1.86	5.04	5.94	6.54	7.79	6.82	5.67
Jul	31	1.95	4.97	5.78	6.30	7.41	6.30	5.45
Aug	31	2.42	5.18	5.76	6.03	6.82	6.05	5.38
Sept	30	2.18	5.35	5.56	5.49	5.80	5.56	4.99
Oct	31	3.26	4.44	4.40	4.12	4.11	4.46	4.13
Nov	30	2.96	3.61	3.46	3.12	2.95	3.61	3.29
Dec	31	3.13	3.60	3.37	2.96	2.67	3.65	3.23

Sumawa								
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	103.23	122.14	115.01	101.68	93.00	122.14	109.53
Feb	28	97.44	126.00	122.64	112.56	108.92	126.00	115.59
Mar	31	95.17	145.08	148.49	144.15	149.73	148.49	138.52
Apr	30	72.60	138.00	148.80	152.40	168.60	152.40	138.80
May	31	63.86	146.94	167.40	179.80	208.94	179.80	157.79
Jun	30	55.80	151.20	178.20	196.20	233.70	204.60	169.95
Jul	31	60.45	154.07	179.18	195.30	229.71	195.30	169.00
Aug	31	75.02	160.58	178.56	186.93	211.42	187.55	166.68
Sept	30	65.40	160.50	166.80	164.70	174.00	166.80	149.70
Oct	31	101.06	137.64	136.40	127.72	127.41	138.26	128.08
Nov	30	88.80	108.30	103.80	93.60	88.50	108.30	98.55
Dec	31	97.03	111.60	104.47	91.76	82.77	113.15	100.13
Annual	365	975.86	1,662.05	1,749.75	1,746.80	1,876.70	1,842.79	1,642.33



Zubair								ZUB
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.39	4.02	3.79	3.35	3.11	4.02	3.61
Feb	28	3.63	4.72	4.59	4.20	4.10	4.72	4.33
Mar	31	2.98	4.60	4.71	4.58	4.80	4.71	4.40
Apr	30	2.30	4.39	4.73	4.85	5.39	4.85	4.42
May	31	2.00	4.58	5.20	5.56	6.47	5.56	4.90
Jun	30	1.80	4.91	5.77	6.34	7.53	6.59	5.49
Jul	31	1.90	4.82	5.59	6.08	7.15	6.08	5.27
Aug	31	2.31	4.99	5.53	5.78	6.56	5.80	5.16
Sept	30	2.99	5.08	5.29	5.23	5.59	5.29	4.91
Oct	31	3.15	4.34	4.30	4.03	4.08	4.35	4.04
Nov	30	2.88	3.55	3.40	3.08	2.96	3.55	3.24
Dec	31	3.02	3.52	3.30	2.90	2.68	3.56	3.16

Zubair								ZUB
Facing South West (67.5° from South) - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	105.09	124.62	117.49	103.85	96.41	124.62	112.01
Feb	28	101.64	132.16	128.52	117.60	114.80	132.16	121.15
Mar	31	92.38	142.60	146.01	141.98	148.80	146.01	136.30
Apr	30	69.00	131.70	141.90	145.50	161.70	145.50	132.55
May	31	62.00	141.98	161.20	172.36	200.57	172.36	151.75
Jun	30	54.00	147.30	173.10	190.20	225.90	197.70	164.70
Jul	31	58.90	149.42	173.29	188.48	221.65	188.48	163.37
Aug	31	71.61	154.69	171.43	179.18	203.36	179.80	160.01
Sept	30	89.70	152.40	158.70	156.90	167.70	158.70	147.35
Oct	31	97.65	134.54	133.30	124.93	126.48	134.85	125.29
Nov	30	86.40	106.50	102.00	92.40	88.80	106.50	97.10
Dec	31	93.62	109.12	102.30	89.90	83.08	110.36	98.06
Annual	365	981.99	1,627.03	1,709.24	1,703.28	1,839.25	1,797.04	1,609.64





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Tariff Calculator



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Renewable Energy
Investment Calculator



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Electricity Bill Calculator

Average Solar Irradiance for Different Angles (KWh/m².year)

Facing Directly West

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted throughout the Year	Average
1	Abu Ghraib	965	1,510	1,583	1,573	1,815	1,667	1,519
2	Arbil	954	1,457	1,539	1,541	1,759	1,623	1,479
3	Baghdad	959	1,510	1,583	1,573	1,815	1,667	1,518
4	Baquba	972	1,516	1,586	1,574	1,814	1,671	1,522
5	Basra	899	1,491	1,565	1,558	1,840	1,645	1,500
6	Basrah Qadima	899	1,491	1,565	1,558	1,840	1,645	1,500
7	Diwaniya	927	1,513	1,594	1,602	1,864	1,681	1,530
8	Falluja	915	1,510	1,561	1,568	1,830	1,645	1,505
9	Faw	909	1,514	1,592	1,586	1,874	1,676	1,525
10	Hilla	940	1,523	1,602	1,598	1,865	1,657	1,531
11	Karbala	943	1,525	1,604	1,598	1,865	1,689	1,537
12	Kirkuk	981	1,507	1,586	1,581	1,807	1,671	1,522
13	Kut	970	1,545	1,619	1,608	1,866	1,706	1,552
14	Mosul	969	1,473	1,555	1,554	1,770	1,638	1,493
15	Mosul Jadida	969	1,473	1,555	1,554	1,770	1,638	1,493
16	Najaf	927	1,513	1,594	1,594	1,864	1,680	1,529
17	Nasiriya	938	1,531	1,607	1,599	1,874	1,693	1,540
18	Omara	969	1,550	1,618	1,602	1,864	1,704	1,551
19	Ramadi	915	1,479	1,559	1,565	1,828	1,645	1,498
20	Samara	941	1,493	1,579	1,581	1,832	1,664	1,515
21	Sinah	983	1,484	1,563	1,558	1,770	1,647	1,501
22	Sulaymaniya	972	1,491	1,568	1,564	1,792	1,653	1,507
23	Sumawa	920	1,520	1,600	1,597	1,877	1,685	1,533
24	Zubair	898	1,488	1,563	1,558	1,558	1,613	1,446
	Average	943	1,504	1,581	1,577	1,819	1,663	1,514

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EBCAL
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Electricity Bill Calculator

Inclination (Tilt) Angle of the Solar Panel (°)

Facing Directly West

#	Province or City	Vertical Surface	Best Winter Irradiance	Optimal Year Round	Best Summer Irradiance	Horizontal Surface	Adjusted throughout the Year
1	Abu Ghraib	0	42	57	72	90	0-90
2	Arbil	0	39	54	69	90	0-90
3	Baghdad	0	42	57	72	90	0-90
4	Baquba	0	41	56	71	90	0-90
5	Basra	0	45	60	75	90	0-90
6	Basrah Qadima	0	45	60	75	90	0-90
7	Diwaniya	0	43	58	73	90	0-90
8	Falluja	0	42	57	72	90	0-90
9	Faw	0	45	60	75	90	0-90
10	Hilla	0	43	58	73	90	0-90
11	Karbala	0	42	57	72	90	0-90
12	Kirkuk	0	39	54	69	90	0-90
13	Kut	0	43	58	73	90	0-90
14	Mosul	0	39	54	69	90	0-90
15	Mosul Jadida	0	39	54	69	90	0-90
16	Najaf	0	43	58	73	90	0-90
17	Nasiriya	0	44	59	74	90	0-90
18	Omara	0	43	58	73	90	0-90
19	Ramadi	0	42	57	72	90	0-90
20	Samara	0	41	56	71	90	0-90
21	Sinah	0	38	53	68	90	0-90
22	Sulaymaniya	0	39	54	69	90	0-90
23	Sumawa	0	44	59	74	90	0-90
24	Zubair	0	45	60	75	90	0-90

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United Kingdom
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Iraq								IRQ
		VER	WIN	OPT	SUM	HOR	ADJ	W00
Abu Ghraib								GRB
Facing Directly West - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.20	3.69	3.46	3.05	2.91	3.69	3.33
Feb	28	3.57	4.48	4.34	3.94	4.00	4.48	4.14
Mar	31	3.02	4.47	4.57	4.42	4.92	4.57	4.33
Apr	30	2.20	3.95	4.26	4.37	5.27	4.37	4.07
May	31	1.95	4.16	4.74	5.08	6.45	5.08	4.58
Jun	30	1.82	4.46	5.25	5.78	7.51	6.01	5.14
Jul	31	1.88	4.30	4.98	5.42	6.96	5.42	4.83
Aug	31	2.31	4.66	5.18	5.42	6.68	5.44	4.95
Sept	30	2.89	4.64	4.84	4.78	5.47	4.84	4.58
Oct	31	3.02	4.01	3.97	3.72	3.95	4.02	3.78
Nov	30	2.90	3.45	3.29	2.95	2.92	3.45	3.16
Dec	31	3.02	3.40	3.17	2.76	2.59	3.45	3.07

Abu Ghraib								
Facing Directly West - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	99.20	114.39	107.26	94.55	90.21	114.39	103.33
Feb	28	99.96	125.44	121.52	110.32	112.00	125.44	115.78
Mar	31	93.62	138.57	141.67	137.02	152.52	141.67	134.18
Apr	30	66.00	118.50	127.80	131.10	158.10	131.10	122.10
May	31	60.45	128.96	146.94	157.48	199.95	157.48	141.88
Jun	30	54.60	133.80	157.50	173.40	225.30	180.30	154.15
Jul	31	58.28	133.30	154.38	168.02	215.76	168.02	149.63
Aug	31	71.61	144.46	160.58	168.02	207.08	168.64	153.40
Sept	30	86.70	139.20	145.20	143.40	164.10	145.20	137.30
Oct	31	93.62	124.31	123.07	115.32	122.45	124.62	117.23
Nov	30	87.00	103.50	98.70	88.50	87.60	103.50	94.80
Dec	31	93.62	105.40	98.27	85.56	80.29	106.95	95.02
Annual	365	964.66	1,509.83	1,582.89	1,572.69	1,815.36	1,667.31	1,518.79



Arbil								ARB
Facing Directly West - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	2.75	3.13	2.95	2.62	2.40	3.13	2.83
Feb	28	2.71	3.39	3.33	3.09	3.11	3.39	3.17
Mar	31	2.82	4.00	4.10	3.98	4.36	4.10	3.89
Apr	30	2.38	4.02	4.37	4.50	5.38	4.50	4.19
May	31	2.12	4.25	4.85	5.22	6.60	5.22	4.71
Jun	30	1.98	4.49	5.30	5.85	7.61	6.10	5.22
Jul	31	2.06	4.48	5.22	5.70	7.32	5.70	5.08
Aug	31	2.50	4.68	5.21	5.46	6.66	5.48	5.00
Sept	30	3.17	4.85	5.06	4.98	5.53	5.06	4.78
Oct	31	3.24	4.14	4.10	3.82	3.87	4.16	3.89
Nov	30	2.98	3.46	3.29	2.94	2.72	3.46	3.14
Dec	31	2.68	2.97	2.78	2.43	2.16	3.01	2.67

Arbil								
Facing Directly West - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	85.25	97.03	91.45	81.22	74.40	97.03	87.73
Feb	28	75.88	94.92	93.24	86.52	87.08	94.92	88.76
Mar	31	87.42	124.00	127.10	123.38	135.16	127.10	120.69
Apr	30	71.40	120.60	131.10	135.00	161.40	135.00	125.75
May	31	65.72	131.75	150.35	161.82	204.60	161.82	146.01
Jun	30	59.40	134.70	159.00	175.50	228.30	183.00	156.65
Jul	31	63.86	138.88	161.82	176.70	226.92	176.70	157.48
Aug	31	77.50	145.08	161.51	169.26	206.46	169.88	154.95
Sept	30	95.10	145.50	151.80	149.40	165.90	151.80	143.25
Oct	31	100.44	128.34	127.10	118.42	119.97	128.96	120.54
Nov	30	89.40	103.80	98.70	88.20	81.60	103.80	94.25
Dec	31	83.08	92.07	86.18	75.33	66.96	93.31	82.82
Annual	365	954.45	1,456.67	1,539.35	1,540.75	1,758.75	1,623.32	1,478.88



Baghdad								BGD
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.02	3.69	3.46	3.05	2.91	3.69	3.30
Feb	28	3.57	4.48	4.34	3.94	4.00	4.48	4.14
Mar	31	3.02	4.47	4.57	4.42	4.92	4.57	4.33
Apr	30	2.20	3.95	4.26	4.37	5.27	4.37	4.07
May	31	1.95	4.16	4.74	5.08	6.45	5.08	4.58
Jun	30	1.82	4.46	5.25	5.78	7.51	6.01	5.14
Jul	31	1.88	4.30	4.98	5.42	6.96	5.42	4.83
Aug	31	2.31	4.66	5.18	5.42	6.68	5.44	4.95
Sept	30	2.89	4.64	4.84	4.78	5.47	4.84	4.58
Oct	31	3.02	4.01	3.97	3.72	3.95	4.02	3.78
Nov	30	2.90	3.45	3.29	2.95	2.92	3.45	3.16
Dec	31	3.02	3.40	3.17	2.76	2.59	3.45	3.07

Baghdad								
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	93.62	114.39	107.26	94.55	90.21	114.39	102.40
Feb	28	99.96	125.44	121.52	110.32	112.00	125.44	115.78
Mar	31	93.62	138.57	141.67	137.02	152.52	141.67	134.18
Apr	30	66.00	118.50	127.80	131.10	158.10	131.10	122.10
May	31	60.45	128.96	146.94	157.48	199.95	157.48	141.88
Jun	30	54.60	133.80	157.50	173.40	225.30	180.30	154.15
Jul	31	58.28	133.30	154.38	168.02	215.76	168.02	149.63
Aug	31	71.61	144.46	160.58	168.02	207.08	168.64	153.40
Sept	30	86.70	139.20	145.20	143.40	164.10	145.20	137.30
Oct	31	93.62	124.31	123.07	115.32	122.45	124.62	117.23
Nov	30	87.00	103.50	98.70	88.50	87.60	103.50	94.80
Dec	31	93.62	105.40	98.27	85.56	80.29	106.95	95.02
Annual	365	959.08	1,509.83	1,582.89	1,572.69	1,815.36	1,667.31	1,517.86



Baquba								BAQ
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.24	3.72	3.49	3.06	2.91	3.72	3.36
Feb	28	3.50	4.41	4.26	3.89	3.95	4.41	4.07
Mar	31	3.06	4.50	4.59	4.43	4.92	4.59	4.35
Apr	30	2.20	3.97	4.28	4.38	5.26	4.38	4.08
May	31	1.97	4.18	4.74	5.09	6.45	5.09	4.59
Jun	30	1.84	4.48	5.26	5.78	7.51	6.01	5.15
Jul	31	1.90	4.32	4.99	5.42	6.96	5.42	4.84
Aug	31	2.34	4.68	5.19	5.43	6.68	5.45	4.96
Sept	30	2.92	4.66	4.86	4.79	5.47	4.86	4.59
Oct	31	3.05	4.03	3.98	3.73	3.95	4.04	3.80
Nov	30	2.94	3.48	3.31	2.96	2.92	3.48	3.18
Dec	31	3.06	3.43	3.19	2.78	2.59	3.49	3.09

Baquba								
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	100.44	115.32	108.19	94.86	90.21	115.32	104.06
Feb	28	98.00	123.48	119.28	108.92	110.60	123.48	113.96
Mar	31	94.86	139.50	142.29	137.33	152.52	142.29	134.80
Apr	30	66.00	119.10	128.40	131.40	157.80	131.40	122.35
May	31	61.07	129.58	146.94	157.79	199.95	157.79	142.19
Jun	30	55.20	134.40	157.80	173.40	225.30	180.30	154.40
Jul	31	58.90	133.92	154.69	168.02	215.76	168.02	149.89
Aug	31	72.54	145.08	160.89	168.33	207.08	168.95	153.81
Sept	30	87.60	139.80	145.80	143.70	164.10	145.80	137.80
Oct	31	94.55	124.93	123.38	115.63	122.45	125.24	117.70
Nov	30	88.20	104.40	99.30	88.80	87.60	104.40	95.45
Dec	31	94.86	106.33	98.89	86.18	80.29	108.19	95.79
Annual	365	972.22	1,515.84	1,585.85	1,574.36	1,813.66	1,671.18	1,522.19



Basra								BAS
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.10	3.69	3.47	3.06	3.11	3.69	3.35
Feb	28	3.33	4.33	4.20	3.84	4.10	4.33	4.02
Mar	31	2.73	4.22	4.31	4.18	4.80	4.31	4.09
Apr	30	2.10	4.02	4.34	4.43	5.39	4.43	4.12
May	31	1.82	4.19	4.76	5.10	6.47	5.10	4.57
Jun	30	1.66	4.49	5.28	5.80	7.53	6.02	5.13
Jul	31	1.74	4.42	5.11	5.56	7.15	5.56	4.92
Aug	31	2.12	4.57	5.06	5.29	6.56	5.30	4.82
Sept	30	2.74	4.65	4.85	4.78	5.59	4.85	4.58
Oct	31	2.88	3.97	3.94	3.70	4.08	3.98	3.76
Nov	30	2.64	3.26	3.12	2.82	2.96	3.26	3.01
Dec	31	2.77	3.22	3.02	2.66	2.69	3.26	2.94

Basra								
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	96.10	114.39	107.57	94.86	96.41	114.39	103.95
Feb	28	93.24	121.24	117.60	107.52	114.80	121.24	112.61
Mar	31	84.63	130.82	133.61	129.58	148.80	133.61	126.84
Apr	30	63.00	120.60	130.20	132.90	161.70	132.90	123.55
May	31	56.42	129.89	147.56	158.10	200.57	158.10	141.77
Jun	30	49.80	134.70	158.40	174.00	225.90	180.60	153.90
Jul	31	53.94	137.02	158.41	172.36	221.65	172.36	152.62
Aug	31	65.72	141.67	156.86	163.99	203.36	164.30	149.32
Sept	30	82.20	139.50	145.50	143.40	167.70	145.50	137.30
Oct	31	89.28	123.07	122.14	114.70	126.48	123.38	116.51
Nov	30	79.20	97.80	93.60	84.60	88.80	97.80	90.30
Dec	31	85.87	99.82	93.62	82.46	83.39	101.06	91.04
Annual	365	899.40	1,490.52	1,565.07	1,558.47	1,839.56	1,645.24	1,499.71



Basra Qadima								BQD
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.10	3.69	3.47	3.06	3.11	3.69	3.35
Feb	28	3.33	4.33	4.20	3.84	4.10	4.33	4.02
Mar	31	2.73	4.22	4.31	4.18	4.80	4.31	4.09
Apr	30	2.10	4.02	4.34	4.43	5.39	4.43	4.12
May	31	1.82	4.19	4.76	5.10	6.47	5.10	4.57
Jun	30	1.66	4.49	5.28	5.80	7.53	6.02	5.13
Jul	31	1.74	4.42	5.11	5.56	7.15	5.56	4.92
Aug	31	2.12	4.57	5.06	5.29	6.56	5.30	4.82
Sept	30	2.74	4.65	4.85	4.78	5.59	4.85	4.58
Oct	31	2.88	3.97	3.94	3.70	4.08	3.98	3.76
Nov	30	2.64	3.26	3.12	2.82	2.96	3.26	3.01
Dec	31	2.77	3.22	3.02	2.66	2.69	3.26	2.94

Basra Qadima								
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	96.10	114.39	107.57	94.86	96.41	114.39	103.95
Feb	28	93.24	121.24	117.60	107.52	114.80	121.24	112.61
Mar	31	84.63	130.82	133.61	129.58	148.80	133.61	126.84
Apr	30	63.00	120.60	130.20	132.90	161.70	132.90	123.55
May	31	56.42	129.89	147.56	158.10	200.57	158.10	141.77
Jun	30	49.80	134.70	158.40	174.00	225.90	180.60	153.90
Jul	31	53.94	137.02	158.41	172.36	221.65	172.36	152.62
Aug	31	65.72	141.67	156.86	163.99	203.36	164.30	149.32
Sept	30	82.20	139.50	145.50	143.40	167.70	145.50	137.30
Oct	31	89.28	123.07	122.14	114.70	126.48	123.38	116.51
Nov	30	79.20	97.80	93.60	84.60	88.80	97.80	90.30
Dec	31	85.87	99.82	93.62	82.46	83.39	101.06	91.04
Annual	365	899.40	1,490.52	1,565.07	1,558.47	1,839.56	1,645.24	1,499.71



Diwaniya								DIW
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.02	3.54	3.34	2.95	2.91	3.54	3.22
Feb	28	3.26	4.18	4.06	3.73	3.88	4.18	3.88
Mar	31	2.84	4.28	4.38	4.26	4.80	4.38	4.16
Apr	30	2.25	4.19	4.53	4.64	5.60	4.64	4.31
May	31	1.92	4.32	4.93	5.30	6.74	5.30	4.75
Jun	30	1.74	4.64	5.48	6.06	7.90	6.32	5.36
Jul	31	1.82	4.48	5.22	5.95	7.33	5.69	5.08
Aug	31	2.27	4.78	5.31	5.58	6.89	5.59	5.07
Sept	30	2.94	4.85	5.05	4.98	5.73	5.05	4.77
Oct	31	2.92	3.94	3.91	3.67	3.97	3.95	3.73
Nov	30	2.70	3.28	3.14	2.83	2.88	3.28	3.02
Dec	31	2.86	3.28	3.06	2.69	2.60	3.32	2.97

Diwaniya								
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	93.62	109.74	103.54	91.45	90.21	109.74	99.72
Feb	28	91.28	117.04	113.68	104.44	108.64	117.04	108.69
Mar	31	88.04	132.68	135.78	132.06	148.80	135.78	128.86
Apr	30	67.50	125.70	135.90	139.20	168.00	139.20	129.25
May	31	59.52	133.92	152.83	164.30	208.94	164.30	147.30
Jun	30	52.20	139.20	164.40	181.80	237.00	189.60	160.70
Jul	31	56.42	138.88	161.82	184.45	227.23	176.39	157.53
Aug	31	70.37	148.18	164.61	172.98	213.59	173.29	157.17
Sept	30	88.20	145.50	151.50	149.40	171.90	151.50	143.00
Oct	31	90.52	122.14	121.21	113.77	123.07	122.45	115.53
Nov	30	81.00	98.40	94.20	84.90	86.40	98.40	90.55
Dec	31	88.66	101.68	94.86	83.39	80.60	102.92	92.02
Annual	365	927.33	1,513.06	1,594.33	1,602.14	1,864.38	1,680.61	1,530.31



Falluja								FAL
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	2.83	3.30	3.11	2.76	2.69	3.30	3.00
Feb	28	3.00	3.82	3.73	3.44	3.56	3.82	3.56
Mar	31	2.89	4.26	4.36	4.22	4.73	4.36	4.14
Apr	30	2.30	4.18	4.50	4.61	5.54	4.62	4.29
May	31	1.99	4.34	4.94	5.39	6.74	5.30	4.78
Jun	30	1.82	4.70	5.54	6.12	7.97	6.38	5.42
Jul	31	1.91	4.56	5.30	5.78	7.54	5.78	5.15
Aug	31	2.35	4.78	5.30	5.56	6.84	5.58	5.07
Sept	30	3.00	4.83	5.03	4.96	5.65	5.03	4.75
Oct	31	2.94	4.90	3.87	3.63	3.87	3.92	3.86
Nov	30	2.50	3.00	2.88	2.61	2.63	3.00	2.77
Dec	31	2.58	2.94	2.75	2.42	2.33	2.96	2.66

Falluja								
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	87.73	102.30	96.41	85.56	83.39	102.30	92.95
Feb	28	84.00	106.96	104.44	96.32	99.68	106.96	99.73
Mar	31	89.59	132.06	135.16	130.82	146.63	135.16	128.24
Apr	30	69.00	125.40	135.00	138.30	166.20	138.60	128.75
May	31	61.69	134.54	153.14	167.09	208.94	164.30	148.28
Jun	30	54.60	141.00	166.20	183.60	239.10	191.40	162.65
Jul	31	59.21	141.36	164.30	179.18	233.74	179.18	159.50
Aug	31	72.85	148.18	164.30	172.36	212.04	172.98	157.12
Sept	30	90.00	144.90	150.90	148.80	169.50	150.90	142.50
Oct	31	91.14	151.90	119.97	112.53	119.97	121.52	119.51
Nov	30	75.00	90.00	86.40	78.30	78.90	90.00	83.10
Dec	31	79.98	91.14	85.25	75.02	72.23	91.76	82.56
Annual	365	914.79	1,509.74	1,561.47	1,567.88	1,830.32	1,645.06	1,504.88



Faw								FAW
Facing Directly West - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.18	3.78	3.56	3.14	3.19	3.78	3.44
Feb	28	3.55	4.63	4.49	4.09	4.34	4.63	4.29
Mar	31	2.68	4.16	4.26	4.14	4.77	4.26	4.05
Apr	30	2.11	4.09	4.41	4.52	5.50	4.52	4.19
May	31	1.82	4.26	4.86	5.22	6.64	5.22	4.67
Jun	30	1.63	4.48	5.27	5.81	7.55	6.04	5.13
Jul	31	1.71	4.47	5.20	5.66	7.30	5.66	5.00
Aug	31	2.11	4.63	5.14	5.38	6.69	5.41	4.89
Sept	30	2.76	4.72	4.92	4.86	5.69	4.92	4.65
Oct	31	2.89	3.99	3.96	3.73	4.12	4.01	3.78
Nov	30	2.64	3.27	3.14	2.84	2.99	3.27	3.03
Dec	31	2.88	3.35	3.14	2.76	2.78	3.39	3.05

Faw								
Facing Directly West - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	98.58	117.18	110.36	97.34	98.89	117.18	106.59
Feb	28	99.40	129.64	125.72	114.52	121.52	129.64	120.07
Mar	31	83.08	128.96	132.06	128.34	147.87	132.06	125.40
Apr	30	63.30	122.70	132.30	135.60	165.00	135.60	125.75
May	31	56.42	132.06	150.66	161.82	205.84	161.82	144.77
Jun	30	48.90	134.40	158.10	174.30	226.50	181.20	153.90
Jul	31	53.01	138.57	161.20	175.46	226.30	175.46	155.00
Aug	31	65.41	143.53	159.34	166.78	207.39	167.71	151.69
Sept	30	82.80	141.60	147.60	145.80	170.70	147.60	139.35
Oct	31	89.59	123.69	122.76	115.63	127.72	124.31	117.28
Nov	30	79.20	98.10	94.20	85.20	89.70	98.10	90.75
Dec	31	89.28	103.85	97.34	85.56	86.18	105.09	94.55
Annual	365	908.97	1,514.28	1,591.64	1,586.35	1,873.61	1,675.77	1,525.10



Hilla								HIL
Facing Directly West - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.06	3.58	3.36	2.97	2.91	2.58	3.08
Feb	28	3.31	4.21	4.09	3.74	3.88	4.21	3.91
Mar	31	2.87	4.30	4.40	4.26	4.81	4.40	4.17
Apr	30	2.27	4.22	4.54	4.65	5.60	4.65	4.32
May	31	1.94	4.34	4.94	5.30	6.74	5.30	4.76
Jun	30	1.77	4.66	5.50	6.06	7.89	6.31	5.37
Jul	31	1.86	4.50	5.23	5.70	7.33	5.70	5.05
Aug	31	2.30	4.81	5.34	5.58	6.89	5.60	5.09
Sept	30	2.98	4.87	5.07	5.00	5.73	5.07	4.79
Oct	31	2.96	3.97	3.93	3.69	3.97	3.98	3.75
Nov	30	2.74	3.31	3.16	2.85	2.89	3.31	3.04
Dec	31	2.91	3.31	3.10	2.70	2.60	3.36	3.00

Hilla								
Facing Directly West - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	94.86	110.98	104.16	92.07	90.21	79.98	95.38
Feb	28	92.68	117.88	114.52	104.72	108.64	117.88	109.39
Mar	31	88.97	133.30	136.40	132.06	149.11	136.40	129.37
Apr	30	68.10	126.60	136.20	139.50	168.00	139.50	129.65
May	31	60.14	134.54	153.14	164.30	208.94	164.30	147.56
Jun	30	53.10	139.80	165.00	181.80	236.70	189.30	160.95
Jul	31	57.66	139.50	162.13	176.70	227.23	176.70	156.65
Aug	31	71.30	149.11	165.54	172.98	213.59	173.60	157.69
Sept	30	89.40	146.10	152.10	150.00	171.90	152.10	143.60
Oct	31	91.76	123.07	121.83	114.39	123.07	123.38	116.25
Nov	30	82.20	99.30	94.80	85.50	86.70	99.30	91.30
Dec	31	90.21	102.61	96.10	83.70	80.60	104.16	92.90
Annual	365	940.38	1,522.79	1,601.92	1,597.72	1,864.69	1,656.60	1,530.68



Karbala								KAR
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	3.07	3.58	3.37	2.97	2.91	3.58	3.25
Feb	28	3.32	4.22	4.09	3.74	3.88	4.22	3.91
Mar	31	2.88	4.31	4.40	4.26	4.81	4.40	4.18
Apr	30	2.27	4.22	4.54	4.65	5.60	4.65	4.32
May	31	1.95	4.34	4.95	5.31	6.74	5.31	4.77
Jun	30	1.77	4.67	5.50	6.06	7.89	6.31	5.37
Jul	31	1.86	4.51	5.24	5.70	7.33	5.70	5.06
Aug	31	2.31	4.81	5.34	5.59	6.89	5.61	5.09
Sept	30	2.98	4.88	5.08	5.00	5.73	5.08	4.79
Oct	31	2.97	3.98	3.94	3.69	3.97	3.98	3.76
Nov	30	2.75	3.31	3.17	2.85	2.89	3.31	3.05
Dec	31	2.93	3.32	3.10	2.70	2.61	3.37	3.01

Karbala								
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	95.17	110.98	104.47	92.07	90.21	110.98	100.65
Feb	28	92.96	118.16	114.52	104.72	108.64	118.16	109.53
Mar	31	89.28	133.61	136.40	132.06	149.11	136.40	129.48
Apr	30	68.10	126.60	136.20	139.50	168.00	139.50	129.65
May	31	60.45	134.54	153.45	164.61	208.94	164.61	147.77
Jun	30	53.10	140.10	165.00	181.80	236.70	189.30	161.00
Jul	31	57.66	139.81	162.44	176.70	227.23	176.70	156.76
Aug	31	71.61	149.11	165.54	173.29	213.59	173.91	157.84
Sept	30	89.40	146.40	152.40	150.00	171.90	152.40	143.75
Oct	31	92.07	123.38	122.14	114.39	123.07	123.38	116.41
Nov	30	82.50	99.30	95.10	85.50	86.70	99.30	91.40
Dec	31	90.83	102.92	96.10	83.70	80.91	104.47	93.16
Annual	365	943.13	1,524.91	1,603.76	1,598.34	1,865.00	1,689.11	1,537.38



Kirkuk								KIR
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.07	3.49	3.27	2.88	2.64	3.48	3.14
Feb	28	3.14	3.92	3.82	3.51	3.52	3.92	3.64
Mar	31	3.07	4.40	4.50	4.34	4.75	4.50	4.26
Apr	30	2.42	4.18	4.53	4.65	5.57	4.65	4.33
May	31	2.07	4.22	4.82	5.17	6.55	5.17	4.67
Jun	30	1.95	4.55	5.38	5.92	7.71	6.17	5.28
Jul	31	2.02	4.50	5.23	5.70	7.33	5.70	5.08
Aug	31	2.48	4.78	5.30	5.56	6.79	5.58	5.08
Sept	30	3.13	4.85	5.05	4.97	5.56	5.05	4.77
Oct	31	3.04	3.94	3.90	3.65	3.77	3.94	3.71
Nov	30	2.99	3.49	3.32	2.96	2.80	3.49	3.18
Dec	31	2.91	3.22	3.01	2.62	2.35	3.27	2.90

Kirkuk								
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	95.17	108.19	101.37	89.28	81.84	107.88	97.29
Feb	28	87.92	109.76	106.96	98.28	98.56	109.76	101.87
Mar	31	95.17	136.40	139.50	134.54	147.25	139.50	132.06
Apr	30	72.60	125.40	135.90	139.50	167.10	139.50	130.00
May	31	64.17	130.82	149.42	160.27	203.05	160.27	144.67
Jun	30	58.50	136.50	161.40	177.60	231.30	185.10	158.40
Jul	31	62.62	139.50	162.13	176.70	227.23	176.70	157.48
Aug	31	76.88	148.18	164.30	172.36	210.49	172.98	157.53
Sept	30	93.90	145.50	151.50	149.10	166.80	151.50	143.05
Oct	31	94.24	122.14	120.90	113.15	116.87	122.14	114.91
Nov	30	89.70	104.70	99.60	88.80	84.00	104.70	95.25
Dec	31	90.21	99.82	93.31	81.22	72.85	101.37	89.80
Annual	365	981.08	1,506.91	1,586.29	1,580.80	1,807.34	1,671.40	1,522.30



Kut								KUT
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.34	3.86	3.62	3.18	3.08	3.86	3.49
Feb	28	3.53	4.47	4.33	3.94	4.06	4.47	4.13
Mar	31	2.96	4.43	4.53	4.38	4.92	4.53	4.29
Apr	30	2.23	4.12	4.44	4.54	5.48	4.54	4.23
May	31	1.93	4.26	4.84	5.19	6.59	5.19	4.67
Jun	30	1.77	4.56	5.38	5.92	7.69	6.15	5.25
Jul	31	1.85	4.44	5.15	5.61	7.21	5.61	4.98
Aug	31	2.30	4.77	5.30	5.54	6.84	5.56	5.05
Sept	30	2.94	4.81	5.00	4.94	5.66	5.00	4.73
Oct	31	3.01	4.03	3.99	3.73	4.02	4.04	3.80
Nov	30	2.93	3.51	3.34	3.00	3.01	3.51	3.22
Dec	31	3.16	3.57	3.32	2.88	2.74	3.62	3.22

Kut								
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	103.54	119.66	112.22	98.58	95.48	119.66	108.19
Feb	28	98.84	125.16	121.24	110.32	113.68	125.16	115.73
Mar	31	91.76	137.33	140.43	135.78	152.52	140.43	133.04
Apr	30	66.90	123.60	133.20	136.20	164.40	136.20	126.75
May	31	59.83	132.06	150.04	160.89	204.29	160.89	144.67
Jun	30	53.10	136.80	161.40	177.60	230.70	184.50	157.35
Jul	31	57.35	137.64	159.65	173.91	223.51	173.91	154.33
Aug	31	71.30	147.87	164.30	171.74	212.04	172.36	156.60
Sept	30	88.20	144.30	150.00	148.20	169.80	150.00	141.75
Oct	31	93.31	124.93	123.69	115.63	124.62	125.24	117.90
Nov	30	87.90	105.30	100.20	90.00	90.30	105.30	96.50
Dec	31	97.96	110.67	102.92	89.28	84.94	112.22	99.67
Annual	365	969.99	1,545.32	1,619.29	1,608.13	1,866.28	1,705.87	1,552.48



Mosul								MOS
Facing Directly West - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	2.85	3.23	3.05	2.70	2.45	3.23	2.92
Feb	28	2.90	3.60	3.53	3.26	3.25	3.60	3.36
Mar	31	2.95	4.18	4.27	4.14	4.51	4.27	4.05
Apr	30	2.43	4.12	4.47	4.60	5.49	4.60	4.29
May	31	2.12	4.24	4.85	5.21	6.59	5.21	4.70
Jun	30	1.99	4.50	5.31	5.86	7.62	6.10	5.23
Jul	31	2.06	4.48	5.22	5.69	7.31	5.69	5.08
Aug	31	2.53	4.75	5.28	5.54	6.75	5.56	5.07
Sept	30	3.10	4.73	4.94	4.86	5.42	4.94	4.67
Oct	31	3.14	4.01	3.97	3.70	3.77	4.02	3.77
Nov	30	3.05	3.52	3.34	2.98	2.75	3.52	3.19
Dec	31	2.75	3.04	2.84	2.48	2.19	3.08	2.73

Mosul								
Facing Directly West - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	88.35	100.13	94.55	83.70	75.95	100.13	90.47
Feb	28	81.20	100.80	98.84	91.28	91.00	100.80	93.99
Mar	31	91.45	129.58	132.37	128.34	139.81	132.37	125.65
Apr	30	72.90	123.60	134.10	138.00	164.70	138.00	128.55
May	31	65.72	131.44	150.35	161.51	204.29	161.51	145.80
Jun	30	59.70	135.00	159.30	175.80	228.60	183.00	156.90
Jul	31	63.86	138.88	161.82	176.39	226.61	176.39	157.33
Aug	31	78.43	147.25	163.68	171.74	209.25	172.36	157.12
Sept	30	93.00	141.90	148.20	145.80	162.60	148.20	139.95
Oct	31	97.34	124.31	123.07	114.70	116.87	124.62	116.82
Nov	30	91.50	105.60	100.20	89.40	82.50	105.60	95.80
Dec	31	85.25	94.24	88.04	76.88	67.89	95.48	84.63
Annual	365	968.70	1,472.73	1,554.52	1,553.54	1,770.07	1,638.46	1,493.00



Mosul Jadida								MJD
Facing Directly West - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	2.85	3.23	3.05	2.70	2.45	3.23	2.92
Feb	28	2.90	3.60	3.53	3.26	3.25	3.60	3.36
Mar	31	2.95	4.18	4.27	4.14	4.51	4.27	4.05
Apr	30	2.43	4.12	4.47	4.60	5.49	4.60	4.29
May	31	2.12	4.24	4.85	5.21	6.59	5.21	4.70
Jun	30	1.99	4.50	5.31	5.86	7.62	6.10	5.23
Jul	31	2.06	4.48	5.22	5.69	7.31	5.69	5.08
Aug	31	2.53	4.75	5.28	5.54	6.75	5.56	5.07
Sept	30	3.10	4.73	4.94	4.86	5.42	4.94	4.67
Oct	31	3.14	4.01	3.97	3.70	3.77	4.02	3.77
Nov	30	3.05	3.52	3.34	2.98	2.75	3.52	3.19
Dec	31	2.75	3.04	2.84	2.48	2.19	3.08	2.73

Mosul Jadida								
Facing Directly West - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	88.35	100.13	94.55	83.70	75.95	100.13	90.47
Feb	28	81.20	100.80	98.84	91.28	91.00	100.80	93.99
Mar	31	91.45	129.58	132.37	128.34	139.81	132.37	125.65
Apr	30	72.90	123.60	134.10	138.00	164.70	138.00	128.55
May	31	65.72	131.44	150.35	161.51	204.29	161.51	145.80
Jun	30	59.70	135.00	159.30	175.80	228.60	183.00	156.90
Jul	31	63.86	138.88	161.82	176.39	226.61	176.39	157.33
Aug	31	78.43	147.25	163.68	171.74	209.25	172.36	157.12
Sept	30	93.00	141.90	148.20	145.80	162.60	148.20	139.95
Oct	31	97.34	124.31	123.07	114.70	116.87	124.62	116.82
Nov	30	91.50	105.60	100.20	89.40	82.50	105.60	95.80
Dec	31	85.25	94.24	88.04	76.88	67.89	95.48	84.63
Annual	365	968.70	1,472.73	1,554.52	1,553.54	1,770.07	1,638.46	1,493.00



Najaf								NAJ
Facing Directly West - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.02	3.54	3.34	2.95	2.91	3.54	3.22
Feb	28	3.26	4.18	4.06	3.73	3.88	4.18	3.88
Mar	31	2.84	4.28	4.38	4.26	4.80	4.38	4.16
Apr	30	2.25	4.19	4.53	4.64	5.60	4.64	4.31
May	31	1.92	4.32	4.93	5.30	6.74	5.30	4.75
Jun	30	1.74	4.64	5.48	6.06	7.90	6.32	5.36
Jul	31	1.82	4.48	5.22	5.69	7.33	5.69	5.04
Aug	31	2.27	4.78	5.31	5.58	6.89	5.57	5.07
Sept	30	2.94	4.85	5.05	4.98	5.73	5.05	4.77
Oct	31	2.92	3.94	3.91	3.67	3.97	3.95	3.73
Nov	30	2.70	3.28	3.14	2.83	2.88	3.28	3.02
Dec	31	2.86	3.28	3.06	2.69	2.60	3.32	2.97

Najaf								
Facing Directly West - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	93.62	109.74	103.54	91.45	90.21	109.74	99.72
Feb	28	91.28	117.04	113.68	104.44	108.64	117.04	108.69
Mar	31	88.04	132.68	135.78	132.06	148.80	135.78	128.86
Apr	30	67.50	125.70	135.90	139.20	168.00	139.20	129.25
May	31	59.52	133.92	152.83	164.30	208.94	164.30	147.30
Jun	30	52.20	139.20	164.40	181.80	237.00	189.60	160.70
Jul	31	56.42	138.88	161.82	176.39	227.23	176.39	156.19
Aug	31	70.37	148.18	164.61	172.98	213.59	172.64	157.06
Sept	30	88.20	145.50	151.50	149.40	171.90	151.50	143.00
Oct	31	90.52	122.14	121.21	113.77	123.07	122.45	115.53
Nov	30	81.00	98.40	94.20	84.90	86.40	98.40	90.55
Dec	31	88.66	101.68	94.86	83.39	80.60	102.92	92.02
Annual	365	927.33	1,513.06	1,594.33	1,594.08	1,864.38	1,679.96	1,528.86



Nasiriya								NAS
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	3.30	3.88	3.65	3.20	3.18	3.88	3.52
Feb	28	3.47	4.47	4.34	3.96	4.15	4.47	4.14
Mar	31	2.78	4.26	4.36	4.23	4.82	4.36	4.14
Apr	30	2.17	4.11	4.43	4.54	5.51	4.54	4.22
May	31	1.86	4.25	4.84	5.20	6.61	5.20	4.66
Jun	30	1.69	4.50	5.30	5.84	7.60	6.08	5.17
Jul	31	1.78	4.43	5.15	5.61	7.22	5.61	4.97
Aug	31	2.21	4.74	5.27	5.52	6.84	5.54	5.02
Sept	30	2.84	4.77	4.98	4.91	5.69	4.98	4.70
Oct	31	2.98	4.06	4.03	3.78	4.12	4.08	3.84
Nov	30	2.79	3.41	3.26	2.94	3.03	3.41	3.14
Dec	31	3.02	3.47	3.24	2.82	2.78	3.52	3.14

Nasiriya								
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	102.30	120.28	113.15	99.20	98.58	120.28	108.97
Feb	28	97.16	125.16	121.52	110.88	116.20	125.16	116.01
Mar	31	86.18	132.06	135.16	131.13	149.42	135.16	128.19
Apr	30	65.10	123.30	132.90	136.20	165.30	136.20	126.50
May	31	57.66	131.75	150.04	161.20	204.91	161.20	144.46
Jun	30	50.70	135.00	159.00	175.20	228.00	182.40	155.05
Jul	31	55.18	137.33	159.65	173.91	223.82	173.91	153.97
Aug	31	68.51	146.94	163.37	171.12	212.04	171.74	155.62
Sept	30	85.20	143.10	149.40	147.30	170.70	149.40	140.85
Oct	31	92.38	125.86	124.93	117.18	127.72	126.48	119.09
Nov	30	83.70	102.30	97.80	88.20	90.90	102.30	94.20
Dec	31	93.62	107.57	100.44	87.42	86.18	109.12	97.39
Annual	365	937.69	1,530.65	1,607.36	1,598.94	1,873.77	1,693.35	1,540.29



Omara								OMR
Facing Directly West - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	3.43	3.99	3.74	3.26	3.21	3.99	3.60
Feb	28	3.72	4.74	4.57	4.14	4.30	4.74	4.37
Mar	31	2.86	4.34	4.42	4.29	4.86	4.42	4.20
Apr	30	2.19	4.11	4.42	4.53	5.47	4.53	4.21
May	31	1.89	4.23	4.80	5.14	6.52	5.14	4.62
Jun	30	1.73	4.46	5.23	5.74	7.45	5.96	5.10
Jul	31	1.81	4.38	5.06	5.50	7.05	5.50	4.88
Aug	31	2.22	4.66	5.16	5.40	6.67	5.41	4.92
Sept	30	2.84	4.71	4.90	4.83	5.60	4.90	4.63
Oct	31	3.10	4.18	4.13	3.86	4.18	4.19	3.94
Nov	30	2.97	3.58	3.41	3.05	3.11	3.58	3.28
Dec	31	3.18	3.62	3.36	2.91	2.83	3.67	3.26

Omara								
Facing Directly West - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	43	58	73	90	0-90	Average
Jan	31	106.33	123.69	115.94	101.06	99.51	123.69	111.70
Feb	28	104.16	132.72	127.96	115.92	120.40	132.72	122.31
Mar	31	88.66	134.54	137.02	132.99	150.66	137.02	130.15
Apr	30	65.70	123.30	132.60	135.90	164.10	135.90	126.25
May	31	58.59	131.13	148.80	159.34	202.12	159.34	143.22
Jun	30	51.90	133.80	156.90	172.20	223.50	178.80	152.85
Jul	31	56.11	135.78	156.86	170.50	218.55	170.50	151.38
Aug	31	68.82	144.46	159.96	167.40	206.77	167.71	152.52
Sept	30	85.20	141.30	147.00	144.90	168.00	147.00	138.90
Oct	31	96.10	129.58	128.03	119.66	129.58	129.89	122.14
Nov	30	89.10	107.40	102.30	91.50	93.30	107.40	98.50
Dec	31	98.58	112.22	104.16	90.21	87.73	113.77	101.11
Annual	365	969.25	1,549.92	1,617.53	1,601.58	1,864.22	1,703.74	1,551.04



Ramadi								RAM
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	2.83	3.30	3.11	2.76	2.69	3.30	3.00
Feb	28	3.00	3.82	3.73	3.44	3.56	3.82	3.56
Mar	31	2.89	4.26	4.36	4.22	4.73	4.36	4.14
Apr	30	2.30	4.18	4.50	4.61	5.54	4.62	4.29
May	31	1.99	4.34	4.94	5.30	6.74	5.30	4.77
Jun	30	1.82	4.70	5.45	6.12	7.97	6.38	5.41
Jul	31	1.91	4.56	5.30	5.78	7.45	5.78	5.13
Aug	31	2.35	4.78	5.30	5.56	6.84	5.58	5.07
Sept	30	3.00	4.83	5.03	4.96	5.65	5.03	4.75
Oct	31	2.94	3.90	3.87	3.63	3.87	3.92	3.69
Nov	30	2.50	3.00	2.88	2.61	2.63	3.00	2.77
Dec	31	2.58	2.94	2.75	2.42	2.33	2.96	2.66

Ramadi								
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	42	57	72	90	0-90	Average
Jan	31	87.73	102.30	96.41	85.56	83.39	102.30	92.95
Feb	28	84.00	106.96	104.44	96.32	99.68	106.96	99.73
Mar	31	89.59	132.06	135.16	130.82	146.63	135.16	128.24
Apr	30	69.00	125.40	135.00	138.30	166.20	138.60	128.75
May	31	61.69	134.54	153.14	164.30	208.94	164.30	147.82
Jun	30	54.60	141.00	163.50	183.60	239.10	191.40	162.20
Jul	31	59.21	141.36	164.30	179.18	230.95	179.18	159.03
Aug	31	72.85	148.18	164.30	172.36	212.04	172.98	157.12
Sept	30	90.00	144.90	150.90	148.80	169.50	150.90	142.50
Oct	31	91.14	120.90	119.97	112.53	119.97	121.52	114.34
Nov	30	75.00	90.00	86.40	78.30	78.90	90.00	83.10
Dec	31	79.98	91.14	85.25	75.02	72.23	91.76	82.56
Annual	365	914.79	1,478.74	1,558.77	1,565.09	1,827.53	1,645.06	1,498.33



Samara								SAM
Facing Directly West - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	3.11	3.57	3.36	2.96	2.78	3.57	3.23
Feb	28	2.98	3.78	3.70	3.42	3.50	3.78	3.53
Mar	31	2.88	4.19	4.30	4.17	4.63	4.30	4.08
Apr	30	2.34	4.12	4.47	4.60	5.54	4.60	4.28
May	31	2.03	4.34	4.96	5.33	6.77	5.33	4.79
Jun	30	1.88	4.68	5.53	6.11	7.97	6.38	5.43
Jul	31	1.96	4.58	5.33	5.82	7.50	5.82	5.17
Aug	31	2.42	4.82	5.37	5.63	6.91	5.65	5.13
Sept	30	3.13	4.97	5.18	5.10	5.75	5.18	4.89
Oct	31	2.99	3.93	3.90	3.66	3.84	3.94	3.71
Nov	30	2.59	3.09	2.96	2.67	2.64	3.09	2.84
Dec	31	2.66	3.01	2.82	2.47	2.31	3.04	2.72

Samara								
Facing Directly West - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	41	56	71	90	0-90	Average
Jan	31	96.41	110.67	104.16	91.76	86.18	110.67	99.98
Feb	28	83.44	105.84	103.60	95.76	98.00	105.84	98.75
Mar	31	89.28	129.89	133.30	129.27	143.53	133.30	126.43
Apr	30	70.20	123.60	134.10	138.00	166.20	138.00	128.35
May	31	62.93	134.54	153.76	165.23	209.87	165.23	148.59
Jun	30	56.40	140.40	165.90	183.30	239.10	191.40	162.75
Jul	31	60.76	141.98	165.23	180.42	232.50	180.42	160.22
Aug	31	75.02	149.42	166.47	174.53	214.21	175.15	159.13
Sept	30	93.90	149.10	155.40	153.00	172.50	155.40	146.55
Oct	31	92.69	121.83	120.90	113.46	119.04	122.14	115.01
Nov	30	77.70	92.70	88.80	80.10	79.20	92.70	85.20
Dec	31	82.46	93.31	87.42	76.57	71.61	94.24	84.27
Annual	365	941.19	1,493.28	1,579.04	1,581.40	1,831.94	1,664.49	1,515.22



Sinah								SIN
Facing Directly West - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	2.90	3.27	3.08	2.71	2.45	3.27	2.95
Feb	28	2.94	3.63	3.55	3.27	3.25	3.63	3.38
Mar	31	2.98	4.20	4.30	4.16	4.51	4.30	4.08
Apr	30	2.46	4.14	4.49	4.61	5.49	4.61	4.30
May	31	2.15	4.26	4.86	5.22	6.59	5.22	4.72
Jun	30	2.02	4.53	5.33	5.86	7.62	6.10	5.24
Jul	31	2.10	4.50	5.23	5.70	7.31	5.70	5.09
Aug	31	2.56	4.78	5.30	5.55	6.75	5.57	5.09
Sept	30	3.14	4.76	4.96	4.88	5.42	4.96	4.69
Oct	31	3.18	4.05	3.99	3.72	3.77	4.06	3.80
Nov	30	3.10	3.56	3.38	3.00	2.76	3.56	3.23
Dec	31	2.80	3.08	2.87	2.50	2.19	3.13	2.76

Sinah								SIN
Facing Directly West - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	38	53	68	90	0-90	Average
Jan	31	89.90	101.37	95.48	84.01	75.95	101.37	91.35
Feb	28	82.32	101.64	99.40	91.56	91.00	101.64	94.59
Mar	31	92.38	130.20	133.30	128.96	139.81	133.30	126.33
Apr	30	73.80	124.20	134.70	138.30	164.70	138.30	129.00
May	31	66.65	132.06	150.66	161.82	204.29	161.82	146.22
Jun	30	60.60	135.90	159.90	175.80	228.60	183.00	157.30
Jul	31	65.10	139.50	162.13	176.70	226.61	176.70	157.79
Aug	31	79.36	148.18	164.30	172.05	209.25	172.67	157.64
Sept	30	94.20	142.80	148.80	146.40	162.60	148.80	140.60
Oct	31	98.58	125.55	123.69	115.32	116.87	125.86	117.65
Nov	30	93.00	106.80	101.40	90.00	82.80	106.80	96.80
Dec	31	86.80	95.48	88.97	77.50	67.89	97.03	85.61
Annual	365	982.69	1,483.68	1,562.73	1,558.42	1,770.37	1,647.29	1,500.86



Sulaymaniya								SUL
Facing Directly West - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	3.04	3.45	3.25	2.86	2.63	3.45	3.11
Feb	28	2.98	3.73	3.64	3.36	3.38	3.73	3.47
Mar	31	2.91	4.17	4.26	4.14	4.54	4.26	4.05
Apr	30	2.35	4.02	4.37	4.49	5.38	4.49	4.18
May	31	2.09	4.28	4.88	5.24	6.64	5.24	4.73
Jun	30	1.95	4.52	5.33	5.86	7.63	6.10	5.23
Jul	31	2.02	4.47	5.19	5.66	7.27	5.66	5.05
Aug	31	2.46	4.72	5.24	5.48	6.70	5.50	5.02
Sept	30	3.14	4.86	5.05	4.98	5.56	5.05	4.77
Oct	31	3.20	4.13	4.07	3.80	3.90	4.14	3.87
Nov	30	2.99	3.48	3.30	2.95	2.89	3.48	3.18
Dec	31	2.85	3.16	2.94	2.56	2.31	3.20	2.84

Sulaymaniya								
Facing Directly West - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	39	54	69	90	0-90	Average
Jan	31	94.24	106.95	100.75	88.66	81.53	106.95	96.51
Feb	28	83.44	104.44	101.92	94.08	94.64	104.44	97.16
Mar	31	90.21	129.27	132.06	128.34	140.74	132.06	125.45
Apr	30	70.50	120.60	131.10	134.70	161.40	134.70	125.50
May	31	64.79	132.68	151.28	162.44	205.84	162.44	146.58
Jun	30	58.50	135.60	159.90	175.80	228.90	183.00	156.95
Jul	31	62.62	138.57	160.89	175.46	225.37	175.46	156.40
Aug	31	76.26	146.32	162.44	169.88	207.70	170.50	155.52
Sept	30	94.20	145.80	151.50	149.40	166.80	151.50	143.20
Oct	31	99.20	128.03	126.17	117.80	120.90	128.34	120.07
Nov	30	89.70	104.40	99.00	88.50	86.70	104.40	95.45
Dec	31	88.35	97.96	91.14	79.36	71.61	99.20	87.94
Annual	365	972.01	1,490.62	1,568.15	1,564.42	1,792.13	1,652.99	1,506.72



Sumawa								SUM
Facing Directly West - Average Solar Insolation Figures (KWh/m2/day)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	3.05	3.60	3.39	3.00	3.00	3.60	3.27
Feb	28	3.18	4.11	4.01	3.68	3.89	4.11	3.83
Mar	31	2.81	4.28	4.38	4.25	4.83	4.38	4.16
Apr	30	2.22	4.21	4.54	4.64	5.62	4.65	4.31
May	31	1.89	4.34	4.94	5.30	6.74	5.30	4.75
Jun	30	1.70	4.61	5.43	5.98	7.79	6.23	5.29
Jul	31	1.78	4.54	5.28	5.76	7.41	5.76	5.09
Aug	31	2.22	4.74	5.26	5.51	6.82	5.53	5.01
Sept	30	2.91	4.89	5.09	5.02	5.80	5.09	4.80
Oct	31	2.98	4.06	4.02	3.77	4.11	4.08	3.84
Nov	30	2.70	3.30	3.16	2.86	2.95	3.30	3.05
Dec	31	2.86	3.30	3.08	2.70	2.67	3.34	2.99

Sumawa								
Facing Directly West - Average Solar Insolation Figures (KWh/m2/month)								
Month	D/M	0	44	59	74	90	0-90	Average
Jan	31	94.55	111.60	105.09	93.00	93.00	111.60	101.47
Feb	28	89.04	115.08	112.28	103.04	108.92	115.08	107.24
Mar	31	87.11	132.68	135.78	131.75	149.73	135.78	128.81
Apr	30	66.60	126.30	136.20	139.20	168.60	139.50	129.40
May	31	58.59	134.54	153.14	164.30	208.94	164.30	147.30
Jun	30	51.00	138.30	162.90	179.40	233.70	186.90	158.70
Jul	31	55.18	140.74	163.68	178.56	229.71	178.56	157.74
Aug	31	68.82	146.94	163.06	170.81	211.42	171.43	155.41
Sept	30	87.30	146.70	152.70	150.60	174.00	152.70	144.00
Oct	31	92.38	125.86	124.62	116.87	127.41	126.48	118.94
Nov	30	81.00	99.00	94.80	85.80	88.50	99.00	91.35
Dec	31	88.66	102.30	95.48	83.70	82.77	103.54	92.74
Annual	365	920.23	1,520.04	1,599.73	1,597.03	1,876.70	1,684.87	1,533.10



Zubair								ZUB
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /day)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	3.10	3.68	3.46	3.06	3.06	3.68	3.34
Feb	28	3.32	4.32	4.20	3.84	3.84	4.32	3.97
Mar	31	2.72	4.21	4.30	4.18	4.18	4.30	3.98
Apr	30	2.10	4.02	4.33	4.43	4.43	4.43	3.96
May	31	1.82	4.18	4.75	5.09	5.09	5.09	4.34
Jun	30	1.65	4.49	5.27	5.80	5.80	5.02	4.67
Jul	31	1.74	4.41	5.11	5.56	5.56	5.56	4.66
Aug	31	2.11	4.56	5.06	5.29	5.29	5.30	4.60
Sept	30	2.74	4.65	4.84	4.78	4.78	4.84	4.44
Oct	31	2.88	3.97	3.93	3.69	3.69	3.98	3.69
Nov	30	2.63	3.25	3.11	2.82	2.82	3.25	2.98
Dec	31	2.76	3.22	3.02	2.65	2.65	3.26	2.93

Zubair								
Facing Directly West - Average Solar Insolation Figures (KWh/m ² /month)								
Month	D/M	0	45	60	75	90	0-90	Average
Jan	31	96.10	114.08	107.26	94.86	94.86	114.08	103.54
Feb	28	92.96	120.96	117.60	107.52	107.52	120.96	111.25
Mar	31	84.32	130.51	133.30	129.58	129.58	133.30	123.43
Apr	30	63.00	120.60	129.90	132.90	132.90	132.90	118.70
May	31	56.42	129.58	147.25	157.79	157.79	157.79	134.44
Jun	30	49.50	134.70	158.10	174.00	174.00	150.60	140.15
Jul	31	53.94	136.71	158.41	172.36	172.36	172.36	144.36
Aug	31	65.41	141.36	156.86	163.99	163.99	164.30	142.65
Sept	30	82.20	139.50	145.20	143.40	143.40	145.20	133.15
Oct	31	89.28	123.07	121.83	114.39	114.39	123.38	114.39
Nov	30	78.90	97.50	93.30	84.60	84.60	97.50	89.40
Dec	31	85.56	99.82	93.62	82.15	82.15	101.06	90.73
Annual	365	897.59	1,488.39	1,562.63	1,557.54	1,557.54	1,613.43	1,446.19



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