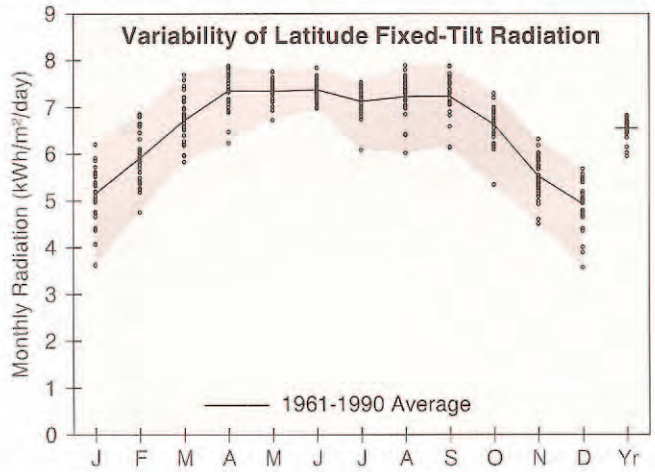
Las Vegas, NV

WBAN NO. 23169

LATITUDE: 36.08° N
LONGITUDE: 115.17° W
ELEVATION: 664 meters
MEAN PRESSURE: 938 millibars

STATION TYPE: Primary



Solar Radiation for Flat-Plate Collectors Facing South at a Fixed Tilt (kWh/m²/day), Uncertainty ±9%

Tilt (°)		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
0	Average	3.0	4.0	5.4	6.9	7.8	8.4	7.9	7.2	6.2	4.7	3.4	2.8	5.7
	Min/Max	2.3/3.4	3.4/4.5	4.8/6.1	6.1/7.4	7.2/8.3	7.8/8.9	6.6/8.4	6.0/7.8	5.4/6.7	4.0/5.1	3.0/3.7	2.2/3.1	5.3/5.8
Latitude -15	Average	4.4	5.3	6.4	7.5	7.8	8.1	7.7	7.5	7.1	6.1	4.8	4.2	6.4
	Min/Max	3.2/5.3	4.4/6.1	5.6/7.3	6.4/8.0	7.2/8.3	7.6/8.6	6.5/8.2	6.2/8.2	6.1/7.7	5.0/6.7	4.0/5.4	3.1/4.8	5.9/6.7
Latitude	Average	5.1	5.9	6.7	7.4	7.3	7.4	7.1	7.2	7.2	6.6	5.5	4.9	6.5
	Min/Max	3.6/6.2	4.8/6.8	5.8/7.7	6.2/7.9	6.7/7.8	7.0/7.8	6.1/7.5	6.0/7.9	6.1/7.9	5.3/7.3	4.5/6.3	3.6/5.7	5.9/6.8
Latitude +15	Average	5.6	6.1	6.6	6.8	6.5	6.3	6.2	6.5	7.0	6.8	5.9	5.4	6.3
	Min/Max	3.8/6.8	4.9/7.2	5.7/7.6	5.7/7.3	5.9/6.8	6.0/6.7	5.3/6.5	5.5/7.2	5.9/7.6	5.4/7.5	4.7/6.8	3.8/6.2	5.7/6.6
90	Average	5.0	5.1	4.7	3.9	3.0	2.6	2.6	3.4	4.5	5.3	5.2	5.0	4.2
	Min/Max	3.4/6.2	4.0/6.0	4.0/5.4	3.3/4.1	2.8/3.1	2.4/2.7	2.4/2.7	2.9/3.7	3.8/4.9	4.2/5.9	4.1/6.1	3.5/5.8	3.7/4.5

Solar Radiation for 1-Axis Tracking Flat-Plate Collectors with a North-South Axis (kWh/m²/day), Uncertainty ±9%

Axis Tilt (°)		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
0	Average	4.6	5.9	7.8	9.8	10.9	11.6	10.8	10.1	9.0	7.1	5.1	4.2	8.1
	Min/Max	3.3/5.6	4.6/7.0	6.2/9.3	8.2/10.9	9.8/11.9	10.5/12.5	8.2/11.8	8.1/11.3	7.1/10.1	5.7/7.9	4.1/6.0	3.0/4.9	7.2/8.5
Latitude -15	Average	5.7	6.9	8.5	10.3	11.0	11.5	10.8	10.4	9.7	8.1	6.2	5.3	8.7
	Min/Max	3.9/6.9	5.3/8.2	6.9/10.2	8.5/11.4	9.9/12.0	10.4/12.4	8.2/11.8	8.4/11.7	7.7/10.9	6.4/9.1	4.9/7.3	3.7/6.2	7.7/9.1
Latitude	Average	6.2	7.3	8.8	10.2	10.6	11.1	10.4	10.3	9.8	8.6	6.7	5.9	8.8
	Min/Max	4.3/7.7	5.6/8.7	7.1/10.5	8.4/11.3	9.6/11.6	10.0/11.9	7.8/11.4	8.2/11.5	7.8/11.1	6.7/9.5	5.3/7.9	4.1/6.9	7.8/9.3
Latitude +15	Average	6.5	7.5	8.7	9.8	10.0	10.3	9.8	9.8	9.6	8.7	7.0	6.2	8.7
	Min/Max	4.4/8.1	5.7/9.0	7.0/10.4	8.1/10.9	9.0/11.0	9.3/11.1	7.3/10.7	7.8/11.0	7.6/10.9	6.7/9.7	5.4/8.3	4.3/7.3	7.6/9.1

Solar Radiation for 2-Axis Tracking Flat-Plate Collectors (kWh/m²/day), Uncertainty ±9%

Tracker		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
2-Axis	Average	6.6	7.5	8.8	10.3	11.1	11.8	11.0	10.5	9.8	8.7	7.1	6.3	9.1
	Min/Max	4.5/8.2	5.7/9.0	7.1/10.5	8.5/11.4	10.0/12.1	10.6/12.7	8.3/12.1	8.4/11.8	7.8/11.1	6.7/9.7	5.5/8.3	4.3/7.4	8.1/9.6

Direct Beam Solar Radiation for Concentrating Collectors (kWh/m²/day), Uncertainty ±8%

Tracker		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
1-Axis, E-W Horiz Axis	Average	4.3	4.5	4.8	5.5	6.1	6.8	6.1	5.8	5.6	5.3	4.6	4.3	5.3
	Min/Max	2.7/5.7	3.0/5.8	3.8/6.3	4.1/6.4	5.2/7.1	5.7/7.6	4.4/7.1	4.4/6.9	4.0/6.6	3.5/6.1	3.1/5.7	2.7/5.3	4.5/5.8
1-Axis, N-S Horiz Axis	Average	3.4	4.4	5.7	7.4	8.2	9.1	8.2	7.8	7.1	5.6	3.9	3.2	6.2
	Min/Max	2.1/4.6	2.8/5.7	4.2/7.7	5.5/8.7	7.0/9.6	7.5/10.3	5.5/9.6	5.8/9.4	4.9/8.5	3.7/6.5	2.5/4.9	1.9/4.0	5.2/6.7
1-Axis, N-S Tilt=Latitude	Average	4.8	5.6	6.5	7.7	8.0	8.5	7.8	7.8	7.8	6.8	5.2	4.6	6.8
	Min/Max	3.0/6.4	3.6/7.2	4.9/8.8	5.6/9.0	6.8/9.3	7.1/9.6	5.2/9.1	5.8/9.4	5.4/9.3	4.5/7.9	3.5/6.7	2.8/5.8	5.7/7.4
2-Axis	Average	5.2	5.7	6.6	7.8	8.4	9.2	8.4	8.1	7.8	6.9	5.5	5.0	7.1
	Min/Max	3.2/6.9	3.7/7.4	4.9/8.8	5.8/9.2	7.2/9.8	7.7/10.4	5.6/9.7	6.0/9.7	5.4/9.4	4.5/8.0	3.7/7.0	3.1/6.3	6.0/7.7

Average Climatic Conditions

Element	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)	7.5	10.6	13.5	17.8	23.3	29.4	32.8	31.5	26.9	20.2	12.8	7.6	19.5
Daily Minimum Temp	0.9	3.8	6.6	10.4	15.7	20.8	24.6	23.4	19.0	12.4	5.9	1.1	12.1
Daily Maximum Temp	14.1	17.4	20.4	25.3	31.0	37.9	41.1	39.6	34.8	27.8	19.7	14.2	26.9
Record Minimum Temp	-13.3	-8.9	-5.0	-0.6	4.4	9.4	15.6	13.3	7.8	-3.3	-6.1	-11.7	-13.3
Record Maximum Temp	25.0	30.6	32.8	37.2	42.8	46.1	46.7	46.7	45.0	39.4	30.6	25.0	46.7
HDD, Base 18.3°C	336	216	162	79	8	0	0	0	0	34	169	332	1337
CDD, Base 18.3°C	0	0	12	64	163	332	449	408	258	91	0	0	1778
Relative Humidity (%)	45	40	33	25	21	16	21	26	25	29	37	45	30
Wind Speed (m/s)	3.6	4.1	4.9	5.1	5.2	5.1	4.9	4.5	4.3	3.8	3.8	3.4	4.4