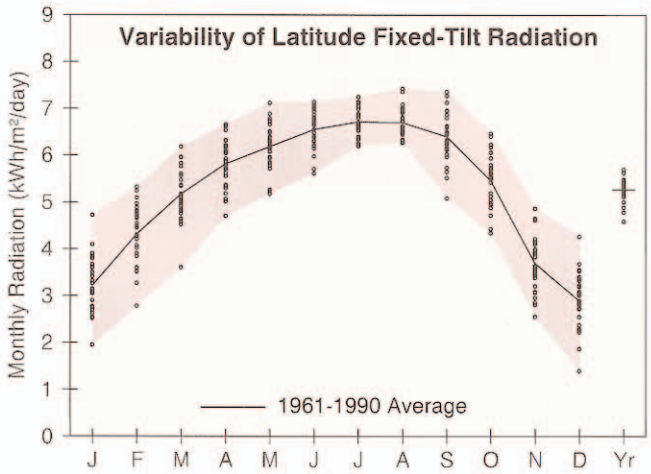
Salt Lake City, UT

WBAN NO. 24127

LATITUDE: 40.77° N
LONGITUDE: 111.97° W
ELEVATION: 1288 meters
MEAN PRESSURE: 872 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	1.9	2.9	4.1	5.4	6.5	7.4	7.3	6.5	5.2	3.7	2.2	1.7	4.6
	Min/Max	1.5/2.4	2.2/3.3	3.0/4.7	4.5/6.1	5.5/7.5	6.2/8.1	6.7/7.9	6.0/7.2	4.3/5.9	3.1/4.2	1.8/2.7	1.1/2.1	4.2/4.9
Latitude -15	Average	2.9	4.0	5.0	5.9	6.6	7.2	7.3	7.0	6.3	5.0	3.3	2.5	5.2
	Min/Max	1.9/4.1	2.7/4.8	3.5/5.9	4.8/6.8	5.5/7.6	6.1/7.9	6.7/7.9	6.5/7.7	5.0/7.2	4.1/5.9	2.3/4.3	1.3/3.6	4.6/5.6
Latitude	Average	3.2	4.3	5.2	5.8	6.2	6.6	6.7	6.7	6.4	5.4	3.7	2.9	5.3
	Min/Max	2.0/4.7	2.8/5.3	3.6/6.2	4.7/6.7	5.2/7.1	5.6/7.1	6.2/7.2	6.3/7.4	5.1/7.3	4.3/6.5	2.5/4.9	1.4/4.3	4.6/5.7
Latitude +15	Average	3.4	4.4	5.1	5.4	5.5	5.6	5.8	6.1	6.1	5.5	3.9	3.1	5.0
	Min/Max	2.0/5.1	2.8/5.6	3.5/6.1	4.3/6.2	4.6/6.3	4.9/6.1	5.4/6.3	5.7/6.7	4.8/7.1	4.4/6.6	2.6/5.2	1.4/4.6	4.3/5.5
90	Average	3.2	3.9	3.9	3.5	3.0	2.8	2.9	3.6	4.3	4.5	3.5	2.9	3.5
	Min/Max	1.6/4.8	2.4/5.0	2.6/4.7	2.9/4.0	2.6/3.3	2.5/2.9	2.7/3.2	3.3/3.9	3.4/5.0	3.6/5.5	2.2/4.7	1.3/4.4	2.9/3.9

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	2.7	4.0	5.6	7.3	8.8	10.0	10.1	9.2	7.6	5.5	3.2	2.3	6.4
	Min/Max	1.7/3.8	2.7/5.0	3.7/6.8	5.9/8.6	6.9/10.5	8.0/11.6	8.8/11.3	8.1/10.6	5.9/9.1	4.2/6.7	2.3/4.1	1.2/3.3	5.4/7.0
Latitude -15	Average	3.4	4.8	6.3	7.7	8.9	10.0	10.2	9.6	8.5	6.5	4.0	3.0	6.9
	Min/Max	2.0/5.1	3.0/6.1	4.1/7.7	6.2/9.2	7.1/10.8	8.0/11.6	8.9/11.4	8.5/11.1	6.4/10.0	4.9/7.9	2.7/5.3	1.4/4.5	5.9/7.6
Latitude	Average	3.7	5.1	6.5	7.7	8.7	9.6	9.8	9.4	8.6	6.8	4.3	3.3	7.0
	Min/Max	2.0/5.6	3.1/6.5	4.1/7.9	6.1/9.1	6.8/10.4	7.7/11.1	8.6/11.1	8.3/10.9	6.5/10.2	5.2/8.4	2.9/5.8	1.5/5.0	5.8/7.6
Latitude +15	Average	3.8	5.2	6.4	7.4	8.2	9.0	9.2	9.0	8.4	6.9	4.5	3.4	6.8
	Min/Max	2.1/5.9	3.1/6.7	4.1/7.9	5.8/8.8	6.4/9.9	7.1/10.4	8.0/10.4	7.9/10.4	6.3/10.0	5.2/8.4	2.9/6.0	1.5/5.3	5.6/7.5

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	3.9	5.2	6.5	7.8	9.1	10.3	10.4	9.6	8.6	6.9	4.5	3.5	7.2
	Min/Max	2.1/5.9	3.1/6.7	4.2/8.0	6.2/9.2	7.1/10.9	8.2/11.9	9.0/11.7	8.5/11.1	6.5/10.2	5.2/8.5	2.9/6.1	1.5/5.4	6.0/7.9

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	2.0	2.7	3.2	3.7	4.5	5.6	5.8	5.2	4.8	4.1	2.6	1.9	3.8
	Min/Max	0.6/4.0	0.9/4.0	1.6/4.3	2.5/4.8	3.1/5.9	3.8/6.8	4.7/6.8	4.3/6.4	3.4/6.1	2.9/5.3	1.4/3.9	0.3/3.6	3.1/4.4
1-Axis, N-S Horiz Axis	Average	1.4	2.4	3.6	4.8	6.1	7.4	7.6	6.9	5.8	4.1	2.0	1.2	4.5
	Min/Max	0.5/2.8	0.9/3.5	1.7/4.9	3.3/6.2	4.1/8.0	5.0/9.2	6.3/9.1	5.5/8.6	4.1/7.5	2.7/5.4	1.1/3.0	0.2/2.4	3.6/5.1
1-Axis, N-S Tilt=Latitude	Average	2.2	3.3	4.2	5.1	5.9	7.0	7.3	7.1	6.6	5.2	2.9	2.0	4.9
	Min/Max	0.7/4.3	1.1/4.8	2.0/5.8	3.5/6.6	4.0/7.8	4.7/8.7	6.0/8.7	5.7/8.8	4.5/8.5	3.5/6.8	1.6/4.4	0.3/3.8	3.9/5.6
2-Axis	Average	2.3	3.3	4.3	5.2	6.3	7.6	7.9	7.3	6.6	5.3	3.1	2.2	5.1
	Min/Max	0.8/4.6	1.2/4.9	2.0/5.8	3.6/6.7	4.2/8.2	5.1/9.5	6.5/9.4	5.8/9.0	4.6/8.5	3.6/6.9	1.7/4.6	0.4/4.1	4.0/5.9

Average Climatic Conditions

Element	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Year
Temperature (°C)	-2.3	1.2	5.4	9.8	14.9	20.6	25.5	24.2	18.4	11.8	4.9	-1.3	11.1
Daily Minimum Temp	-7.1	-4.1	-0.3	3.3	7.6	13.0	17.6	16.6	10.6	4.6	-0.6	-5.8	4.6
Daily Maximum Temp	2.4	6.4	11.2	16.3	22.2	28.2	33.4	31.9	26.2	18.9	10.4	3.2	17.6
Record Minimum Temp	-30.0	-34.4	-16.7	-10.0	-3.9	1.7	4.4	2.8	-2.8	-8.9	-25.6	-29.4	-34.4
Record Maximum Temp	16.7	20.6	25.6	29.4	33.9	40.0	41.7	40.0	37.8	31.7	23.9	19.4	41.7
HDD, Base 18.3°C	639	481	399	258	119	28	0	0	60	207	403	608	3203
CDD, Base 18.3°C	0	0	0	0	13	97	222	183	63	4	0	0	582
Relative Humidity (%)	74	70	60	53	49	41	36	39	46	56	66	74	55
Wind Speed (m/s)	3.5	3.8	4.3	4.4	4.2	4.2	4.3	4.3	4.2	3.8	3.8	3.4	4.0