Energy Trust Shade Effect Evaluation Form	70° <sub>г</sub>							12h						
Job Name:		(c) Univ. of C Sponsor: Ene	ergy Trust		11h	3.4	4		3.1	13 <u>h</u>				AC outputer per year
Contractor: Date:	-	Lat: 44.92; Lo (Solar) time Tilt: 22.5; As	zone: -8	<u> </u>	22				$\downarrow$					
Array Tilt:	60°	Salem, OR	pect: 90	10h	3 4 65		3.4	3	.2		14h		+	
Array Orientation:	-	-		$-/\!$	3.4					2.9	$\Delta$			
Zip Code of Site:		-		3.2	No.				148		2.3			
The sun path chart to the right is for a solar electric system located in Salem, Oregon tilted 22.5 degrees	50°	-	9h	3.1	3.1		3.1	2.8	2.4	\$ 1	2.1	15h		
with a 90 degree azimuthal orientation. The annual AC output for a system with these characteristics is about 0.94 kWh/Watt DC per year.	ation 40°	-	2.8			735			Ses			1.6		
	vati	-	8h / 2.7	, 2.7	X 🖘	2.2	2.1	1.9	3	1.6	1	4	16h	
For comparison, annual production capacity per Watt of an optimally oriented system (32 degree tilt and 189 degree azimuth) is 1.14 kWh/Watt DC per	ar Elev	-	£.2			(e)2)			1.4 Oct			$\bigvee$	p.g	
year.	Solar 30°	71	2.1	2.3	2.0	1.3	1.3	1.1	0.8	0.8	0.7	0.6	3 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	h
Local Production Capacity = 1.14 kWh/Watt DC per year.	2.20	- 1	5	1.5	1.0	)all	1.1	0.8	06	0.3	0.2	0.3	<b>1 1 1 1 1 1 1 1 1 1</b>	
At Salem, a system oriented as in the sun path chart to the right will produce 82% of the annual	20°	6h	1.2		0.7	Sec							0.1	18h
electricity produced by an optimally oriented system.	10°	- 0.5		0.6							X			
	10	5h 0.3			.2/									\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Draw the horizon on the sun path chart and shade											$\langle \ \rangle$		$\bigvee_{i=1}^{N}$	
obstructed areas. To calculate the percent reduction due to shading, enter the percentage of system	L	60° 90° 120° 150° 180° 210° 240° 270° 300												
power output shown on the sun path chart for areas		East < Solar Azimuth> West												
shaded by obstructions into the table on the right.		Period/Hr	5-6 6-7	7-8 8-9	9-10	10-11	11-12	12-13	13-14 14-	15 15-16	16-17	17-18	18-19	Period/Hr
For example, assume the percentage of system		May-Jun												Jun-Jul
power output from 7:00 to 8:00 between September		Apr-May												Jul-Aug
22 and October 21 is 0.4%, and 50% of that period		Mar-Apr Feb-Mar												Aug-Sep Sep-Oct
is shaded. Enter 0.2% in the column under 7-8 and the row labeled Feb-Mar on one side and Sep-Oct		Jan-Feb												Oct-Nov
and to it the creat too trial out one black and bep oct		0 411 1 00		1 1		1	1	1		II.	1			5001.51

Nov-Dec

Sum of

Hourly

Shading

Dec-Jan

Sum of

Hourly

Shading

Sum the shading values in each column and enter the total in the bottom row. Sum the bottom row to determine the percent annual shading.

on the other. Enter zero for each box where there is

no shading. Note that hours are in solar time.

Percent Annual Shading: