

day of the year	190	starting from January 1st
standard meridian for local time zone	330 °	
longitude of location	337,1 °	in degrees west
local standard time	12	in hours
latitude of location	40,65 °	
slope of collector	45 °	
index of refraction of medium 1	1	air
index of refraction of medium 2	1,526	
extinction coefficient of cover	5 m ⁻¹	
thickness of cover	0,005 m	
intensity of beam radiation	1000 J/m ²	
intensity of diffuse radiation	0 J/m ²	
wind speed	2 m/s	
number of covers	1	
emittance of plate	0,1	
emittance of cover	0,88	glass or plastic
ambient temperature	20 °C	
collector length	2,491 m	
collector width	1,221 m	
collector thickness	0,079 m	
absorber plate length	2,4 m	
absorber plate width	1,137 m	
back insulation thermal conductivity	0,03 W/(m*K)	
back insulation thickness	0,03 m	
edge insulation thermal conductivity	0,03 W/(m*K)	
edge insulation thickness	0,03 m	
plate thermal conductivity	380 W/(m*K)	
plate thickness	0,0002 m	
distance between tubes	0,1 m	
tube diameter	0,02 m	
inner diameter of tube	0,016 m	
bond conductance	400 W/(m*K)	
length of tube	2 m	
thermal diffusivity of air	0,000019 m ² /s	
total collector flow rate	0,07877 kg/s	
absorptance of plate at normal incidence	0,953	
ground reflectance	0,4	