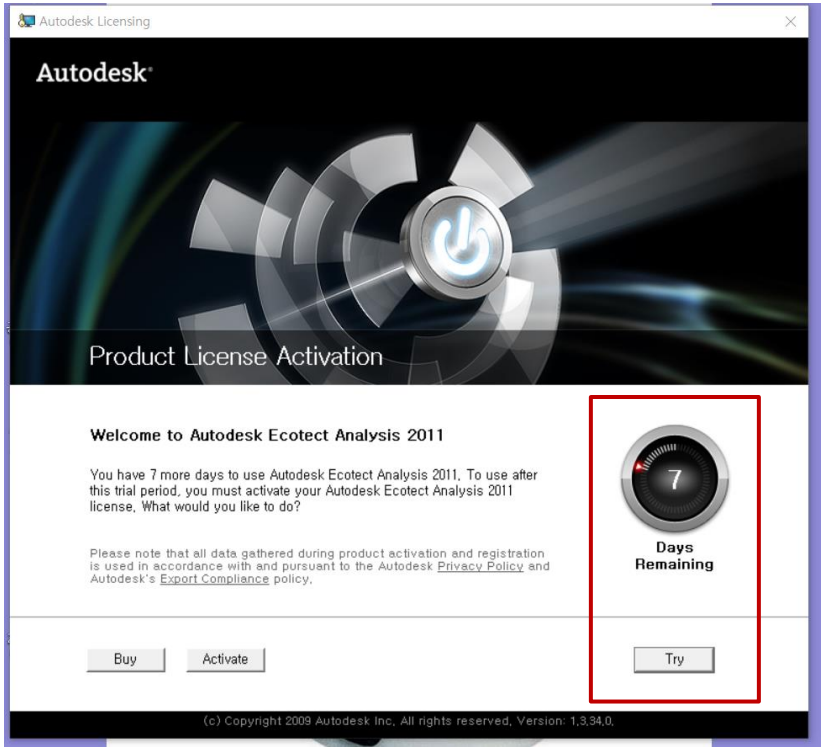
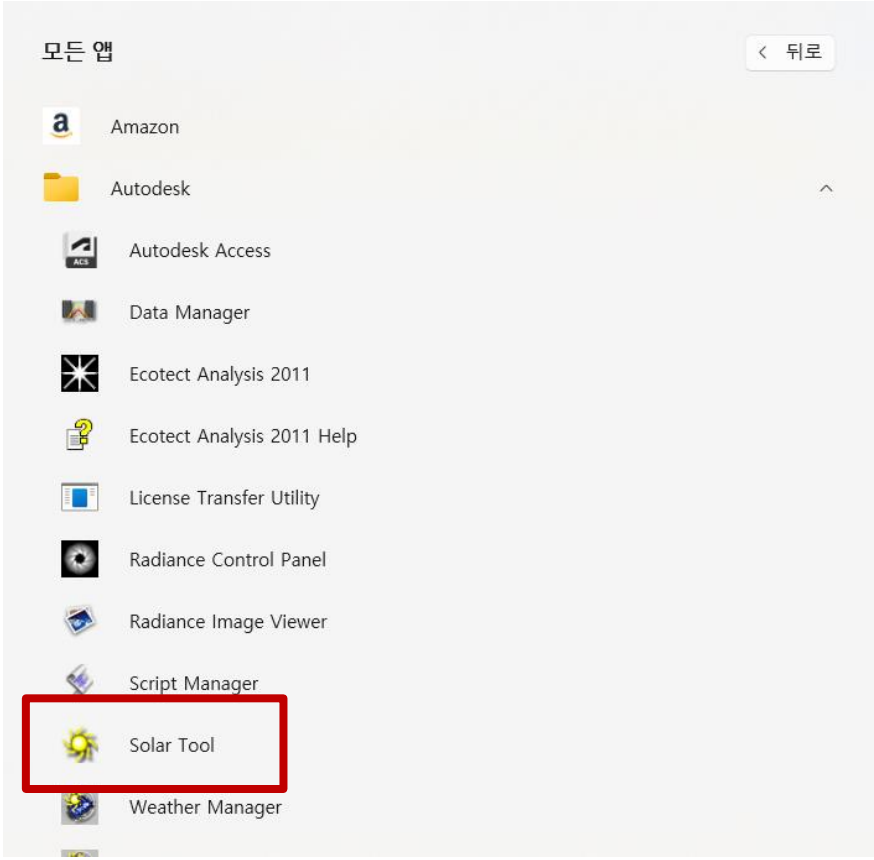
ECOTECT _ Solar Tool

1. ECOTECT 프로그램설치

✓Serial Number 입력안하고 설치

✓처음 프로그램 설치 시 30일 Try버전으로 사용가능





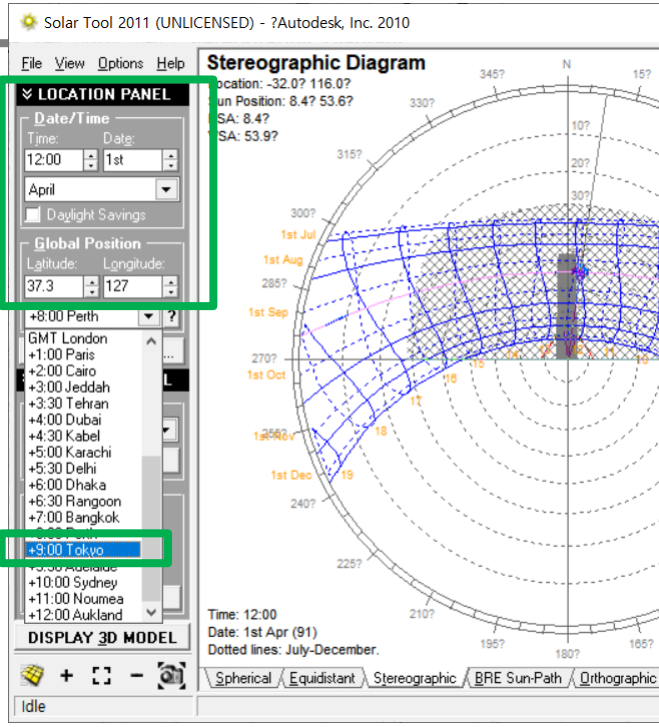
2. 모든앱-Autodesk-Solar Tool열기

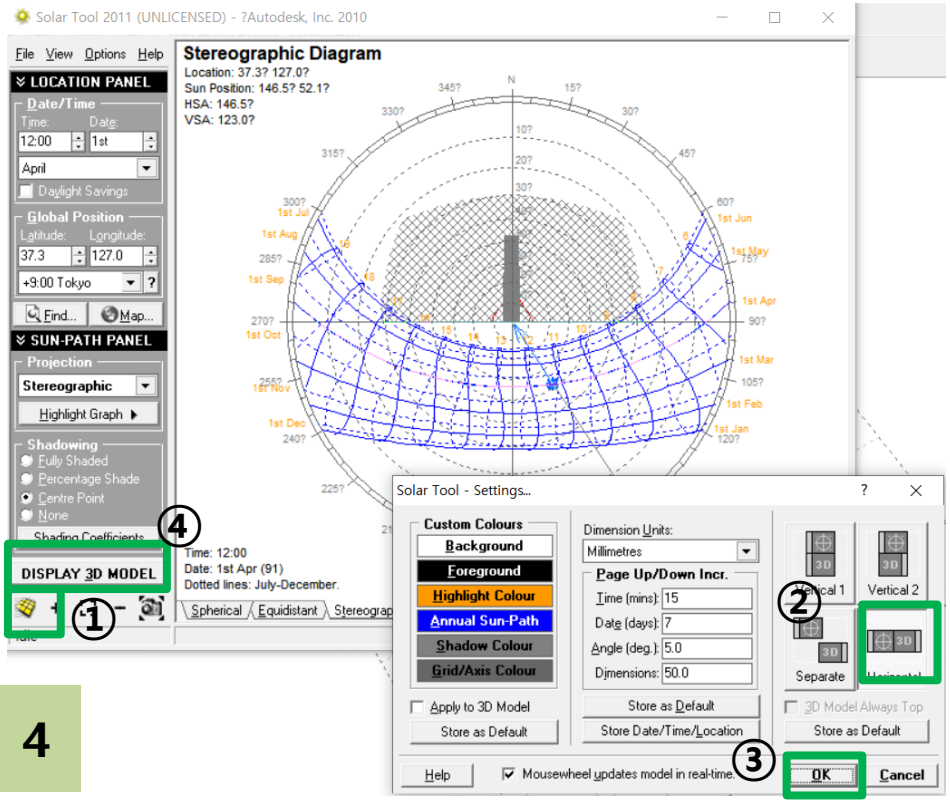
Solar Tool를 활용한 차양설계

[건축환경계획_ InYoung Jung]

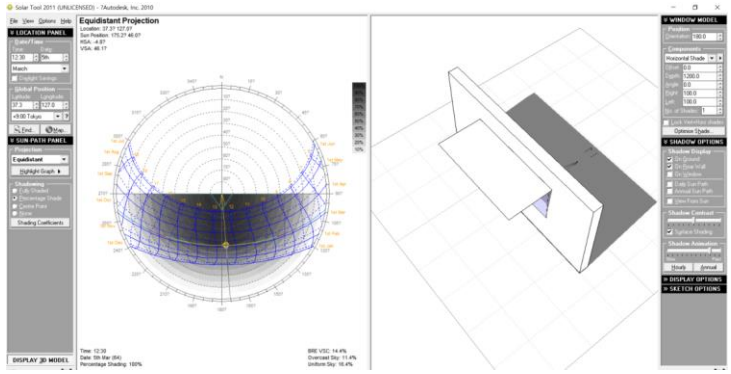
3. 지역정보입력
4. Setting 창에서 선택 후 Display 3D Model 클릭
   (아래 4번그림에서 순서대로 진행)

3



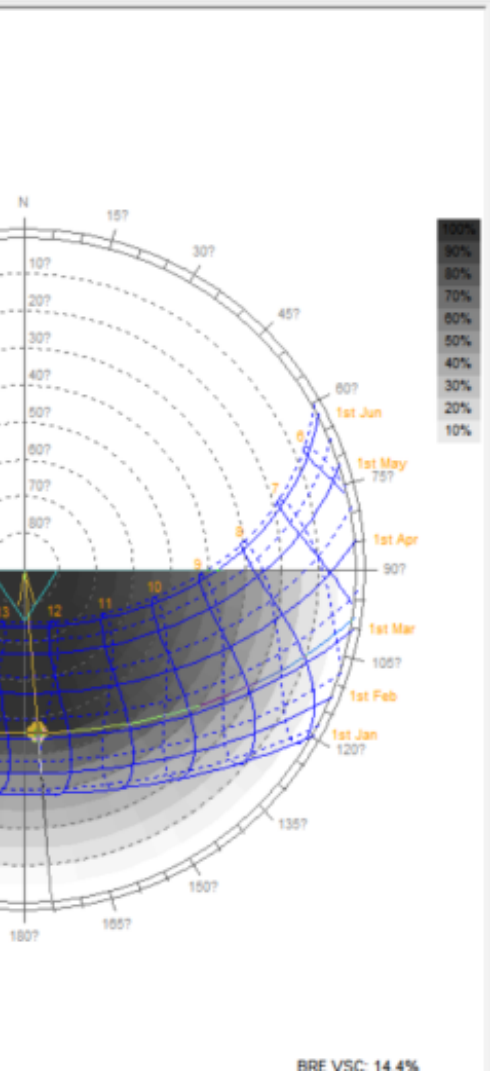


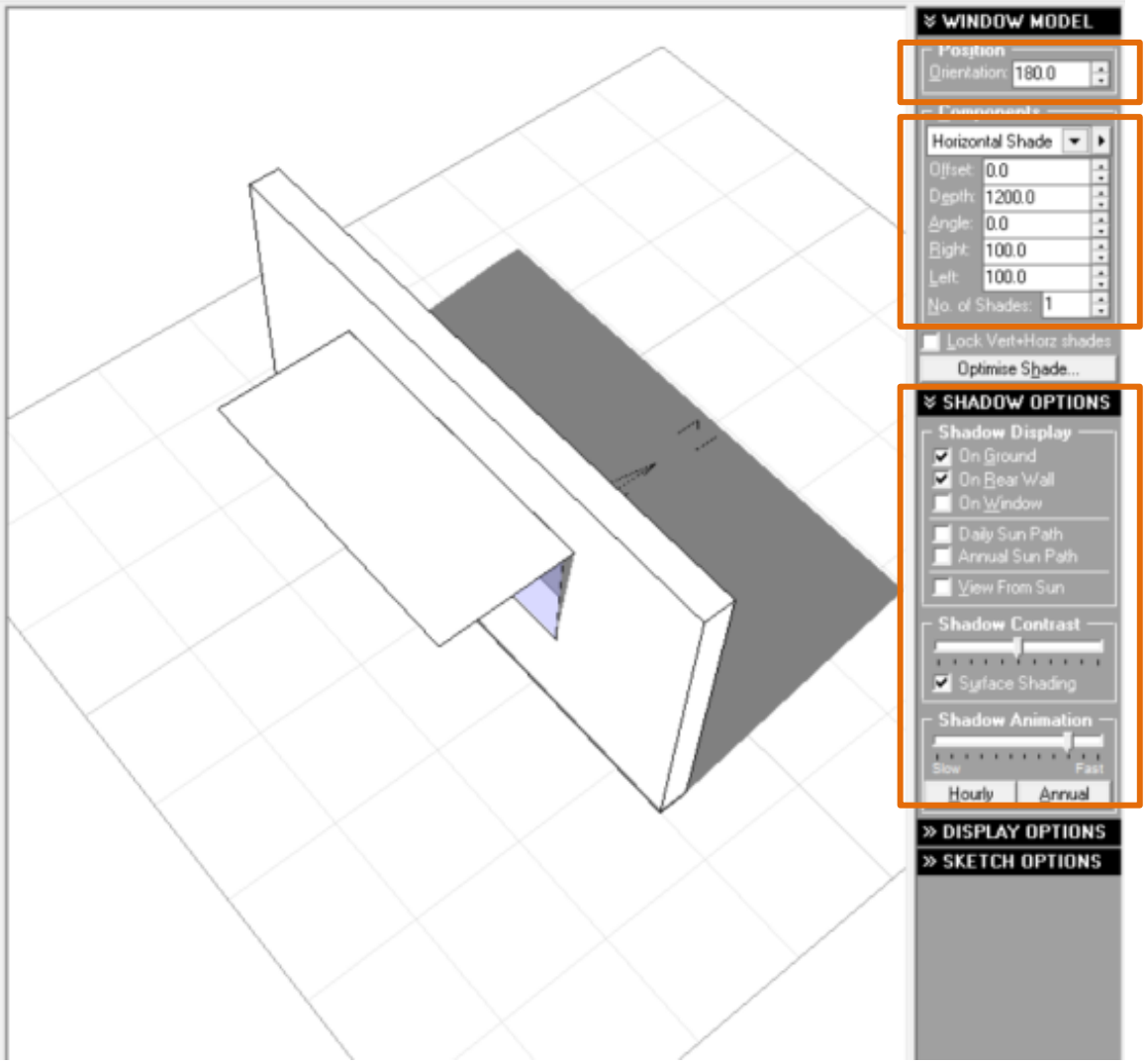
4



Solar Tool를 활용한 차양설계

[건축환경계획_ InYoung Jung]





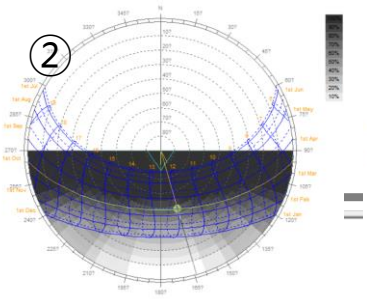
[창방위설정]
0 북, 180 남,
90 동, -90 서

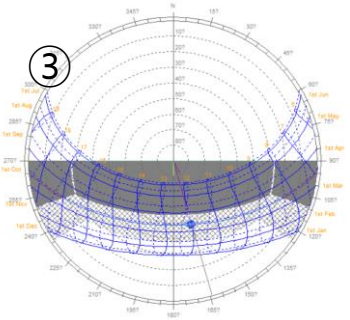
[모델링]
벽체, 창호, 차양
장애물

[일영시각화]
일영범위
태양궤적도
일영 애니메이션

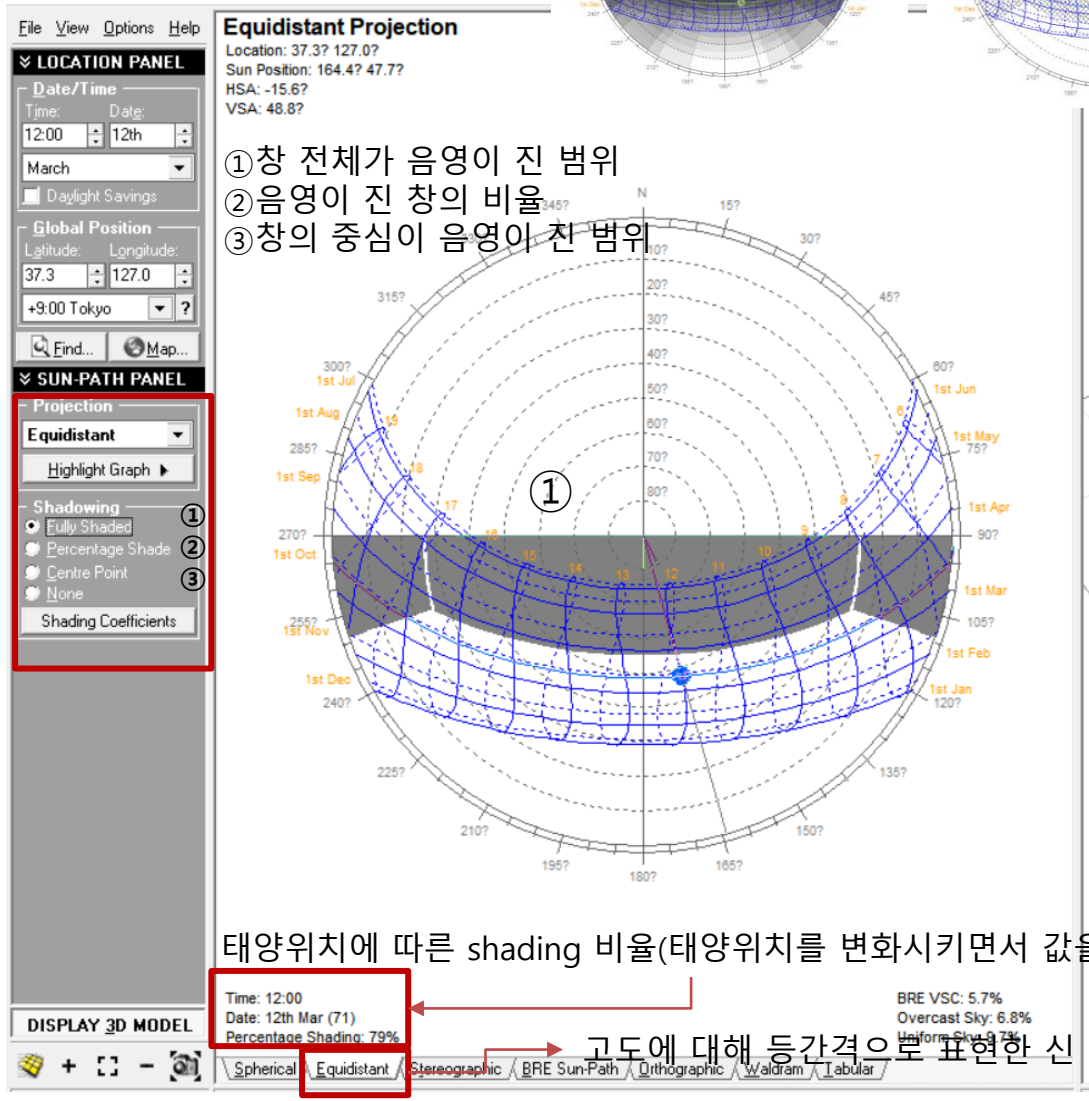
차양설계에 따른 분석

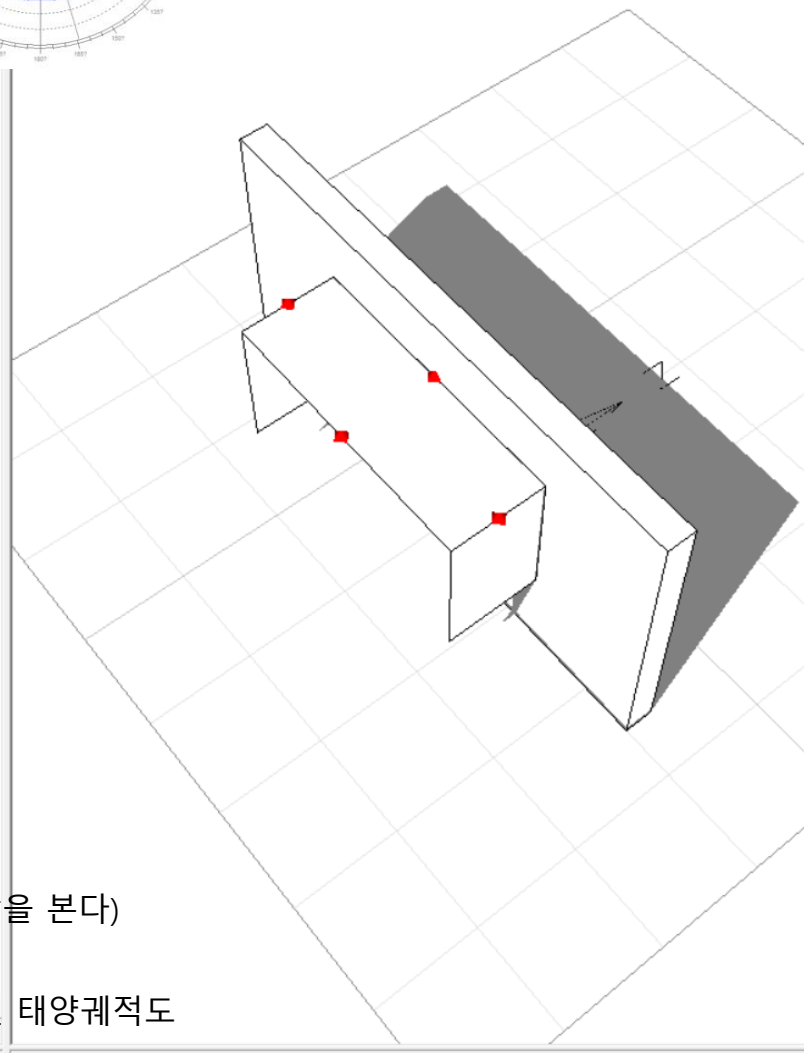
[건축환경계획_ InYoung Jung]





①창 전체가 음영이 진 범위
②음영이 진 창의 비율
③창의 중심이 음영이 진 범위





태양위치에 따른 shading 비율(태양위치를 변화시키면서 값을 본다)

고도에 대해 등간격으로 표현한 신 태양궤적도

차양설계에 따른 분석

✓특정일에 대한 시간대별 차양분석

[건축환경계획_ InYoung Jung]

Solar Tool 2011 (UNLICENSED) - ?Autodesk, Inc. 2010

File View Options Help

LOCATION PANEL

Time: 12:00 Date: 21st

March

Global Position

Latitude: 37.3 Longitude: 127.0

+9:00 Tokyo

Find... Map...

SUN-PATH PANEL

Projection: Tabular

Highlight Graph

Shadowing

Fully Shaded

Percentage Shade

Centre Point

None

Shading Coefficients

DISPLAY 3D MODEL

Tabulated Daily Solar Data

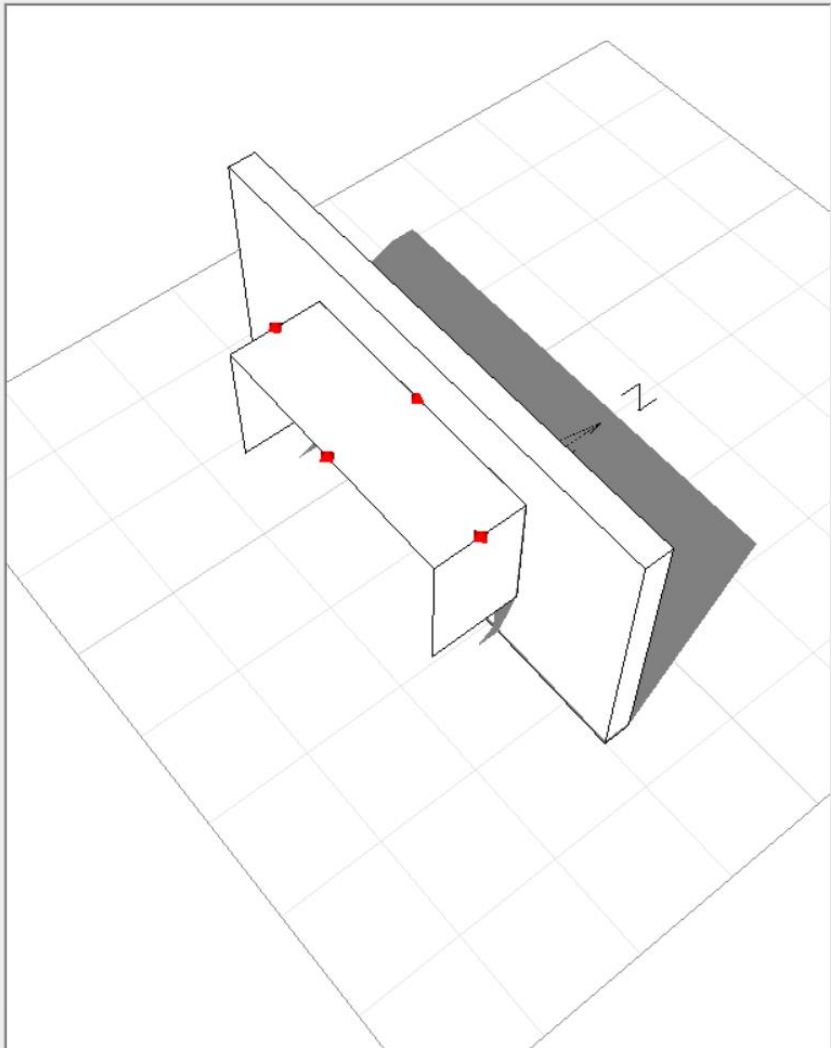
Latitude: 37.3?
Longitude: 127.0?
Timezone: 135.0?[+9.0hrs]
Orientation: 180.0?

Date: 21st March
Julian Date: 80
Sunrise: 06:39
Sunset: 18:38

Local Correction: -39.2 mins
Equation of Time: -7.2 mins
Declination: -0.3?

Local	(Solar)	Aziumuth	Altitude	HSA	VSA	Shading
07:00	(06:20)	93.4?	4.0?	-86.6?	49.9?	100%
07:30	(06:50)	98.0?	9.9?	-82.0?	51.5?	100%
08:00	(07:20)	102.8?	15.8?	-77.2?	52.0?	100%
08:30	(07:50)	107.9?	21.5?	-72.1?	52.2?	100%
09:00	(08:20)	113.4?	27.1?	-66.6?	52.3?	100%
09:30	(08:50)	119.4?	32.5?	-60.6?	52.3?	99%
10:00	(09:20)	126.2?	37.5?	-53.8?	52.4?	93%
10:30	(09:50)	134.0?	42.0?	-46.0?	52.4?	95%
11:00	(10:20)	142.9?	46.0?	-37.1?	52.4?	95%
11:30	(10:50)	152.9?	49.2?	-27.1?	52.4?	85%
12:00	(11:20)	164.2?	51.4?	-15.8?	52.4?	93%
12:30	(11:50)	176.2?	52.4?	-3.8?	52.4?	90%
13:00	(12:20)	-171.5?	52.1?	8.5?	52.4?	90%
13:30	(12:50)	-159.7?	50.7?	20.3?	52.4?	96%
14:00	(13:20)	-148.9?	48.1?	31.1?	52.4?	92%
14:30	(13:50)	-139.3?	44.6?	40.7?	52.4?	89%
15:00	(14:20)	-130.9?	40.3?	49.1?	52.4?	94%
15:30	(14:50)	-123.5?	35.6?	56.5?	52.4?	97%
16:00	(15:20)	-117.0?	30.4?	63.0?	52.3?	98%
16:30	(15:50)	-111.2?	25.0?	68.8?	52.2?	98%
17:00	(16:20)	-105.8?	19.3?	74.2?	52.1?	100%
17:30	(16:50)	-100.9?	13.5?	79.1?	51.8?	100%
18:00	(17:20)	-96.2?	7.6?	83.8?	51.2?	100%
18:30	(17:50)	-91.6?	1.7?	88.4?	46.4?	100%

Spherical Equidistant Stereographic BRE Sun-Path Orthographic Waldram Tabular



차양설계에 따른 분석

✓차양으로 인한 연간 및 여름철, 겨울철 분석

Solar Tool 2011 (UNLICENSED) - ?Autodesk, Inc. 2010

File View Options Help

LOCATION PANEL

Date/Time
Time: 12:00 Date: 21st
March
Daylight Savings

Global Position
Latitude: 37.3 Longitude: 127.0
+9:00 Tokyo ?
Find... Map...

SUN-PATH PANEL

Projection
Tabular
Highlight Graph

Shadowing
Fully Shaded
Percentage Shade
Centre Point
Shading Coefficients

DISPLAY 3D MODEL

Effective Shading Coefficients

Latitude: 37.3?
Longitude: 127.0?
Timezone: 135.0?[+9.0hrs]
Orientation: 180.0?

Month	Avg.SC	Max.SC	Min.SC
January	51.2%	70.0%	40.0%
February	76.3%	100.0%	61.0%
March	97.6%	100.0%	90.0%
April	100.0%	100.0%	100.0%
May	100.0%	100.0%	100.0%
June	100.0%	100.0%	100.0%
July	100.0%	100.0%	100.0%
August	100.0%	100.0%	100.0%
September	93.8%	100.0%	82.0%
October	69.4%	100.0%	50.0%
November	49.2%	70.0%	39.0%
December	41.7%	60.0%	31.0%
Winter	56.4%	76.7%	44.0%
Summer	100.0%	100.0%	100.0%
Annual	81.6%	91.7%	74.4%

Spherical Equidistant Stereographic BRE Sun-Path Orthographic Waldram Tabular