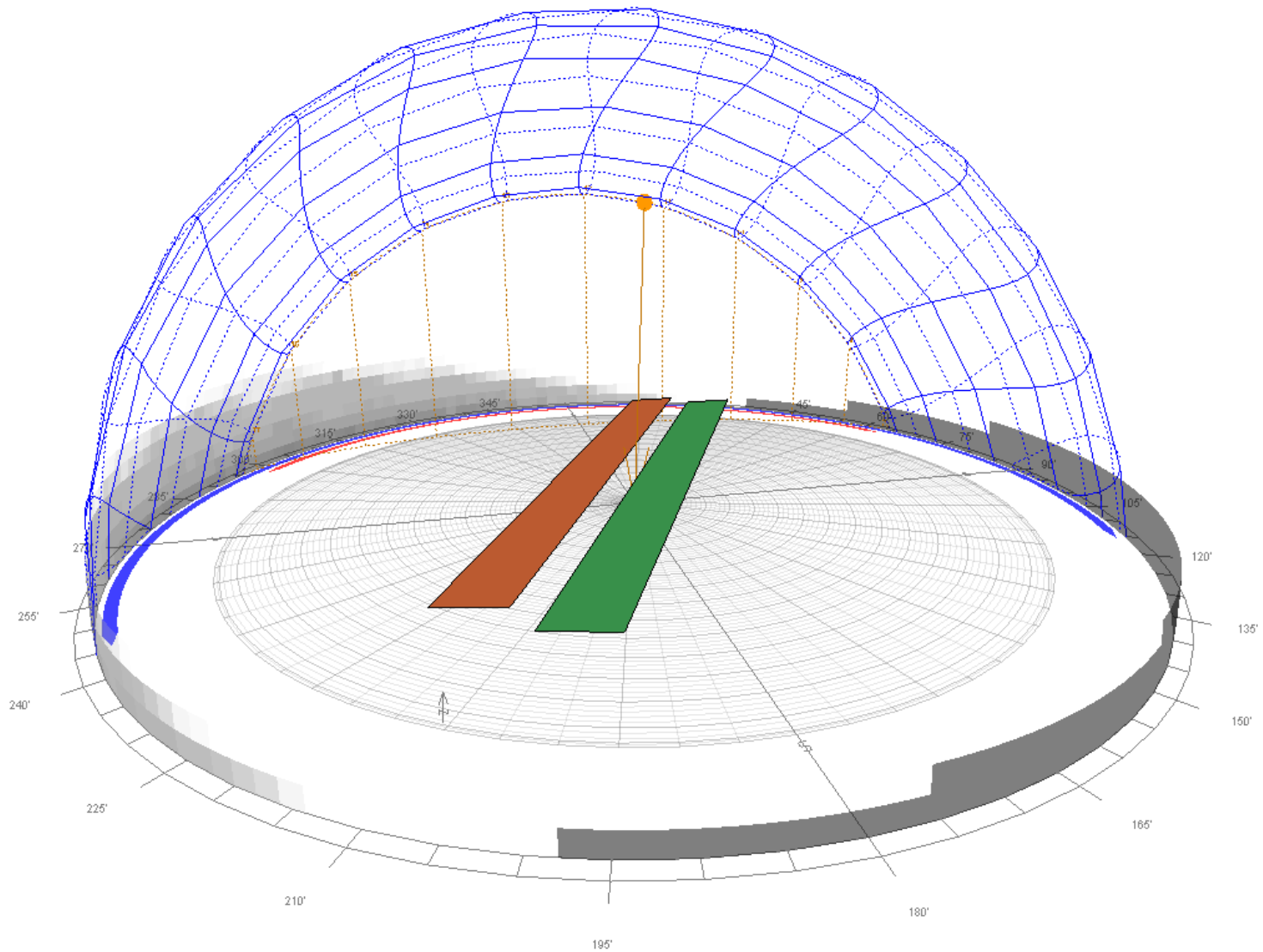


## Research

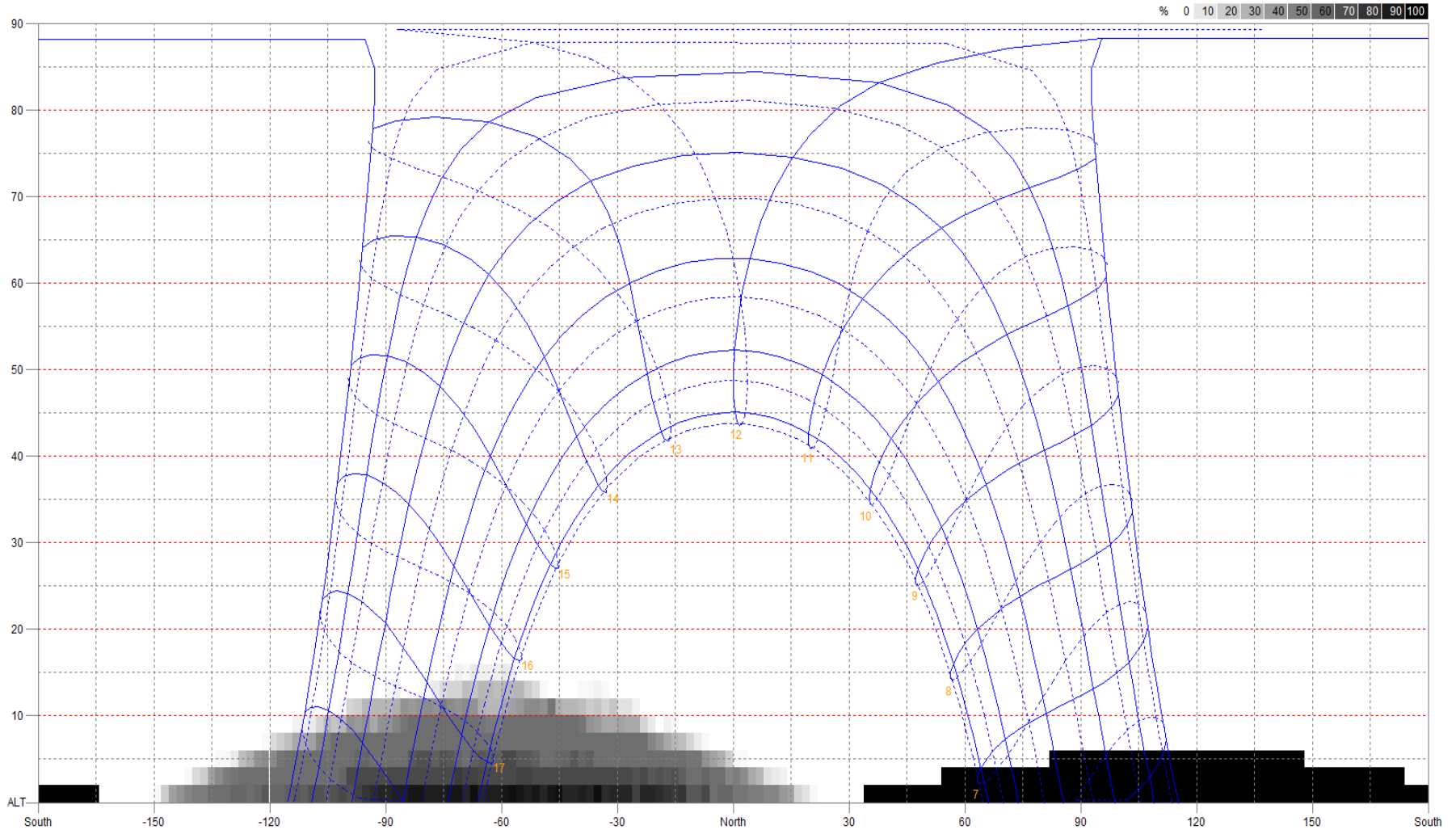
## Green Section – Without Buildings



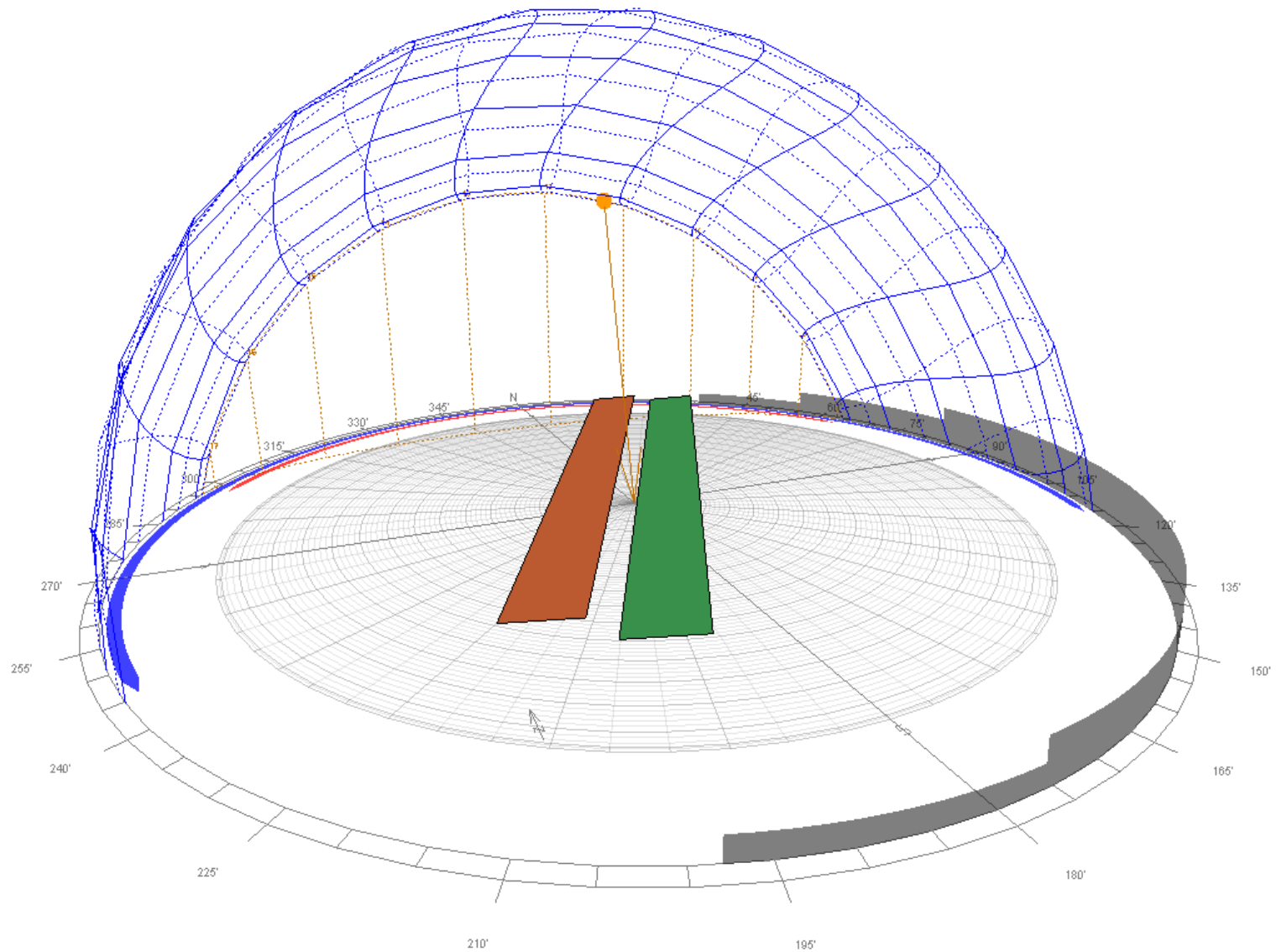
# Green Section – Without Buildings

Orthographic Projection

Overcast Sky Factor: 98.9%  
Uniform Sky Factor: 98.4%



## Orange Section – Without Buildings



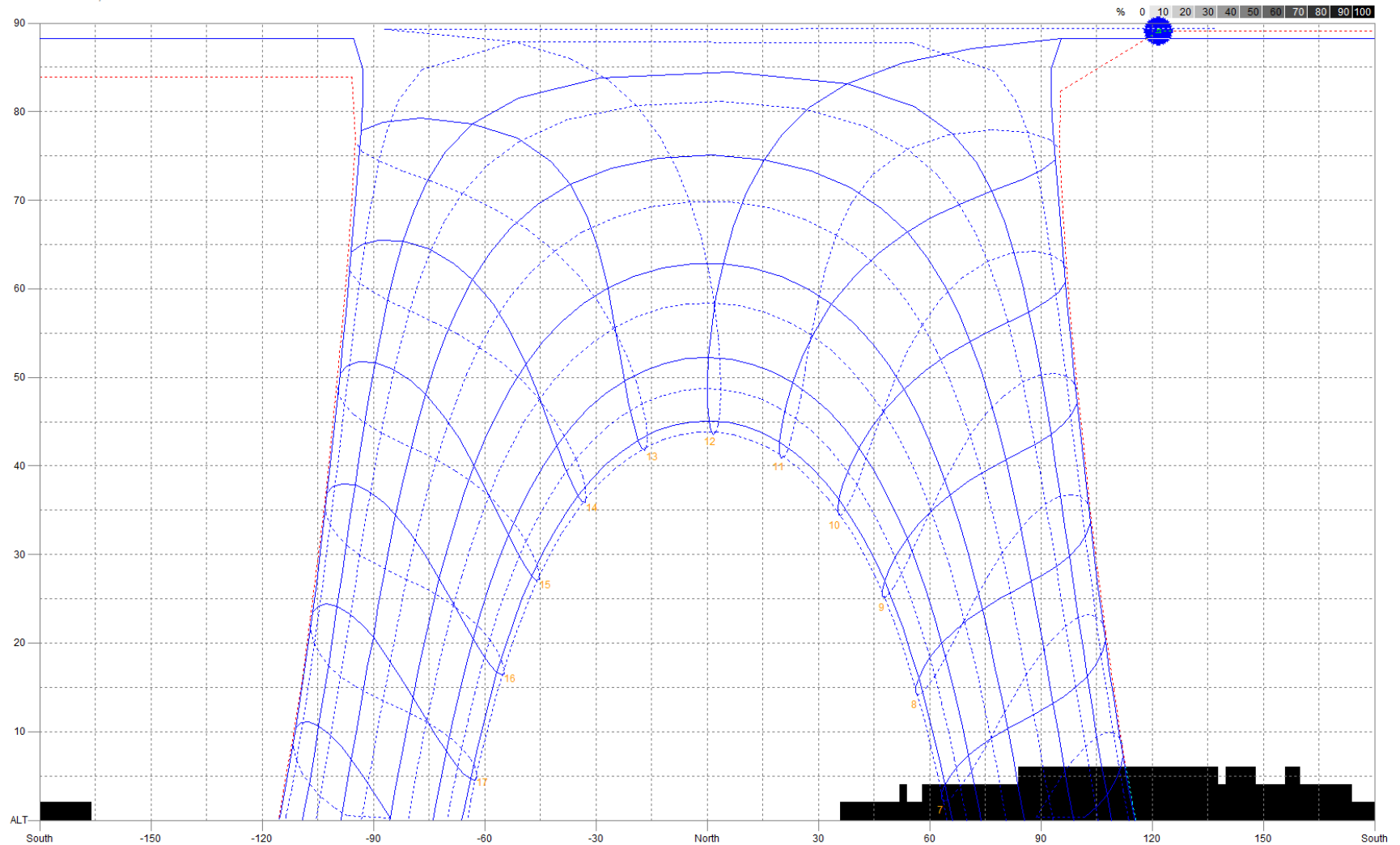
## Orange Section – Without Buildings

### Orthographic Projection

Location: -23.0°, -46.0°  
Obj 33208 Orientation: -64.3°, 84.0°  
Sun Position: 121.8°, 89.1°

Overcast Sky Factor: 99.6%  
Uniform Sky Factor: 99.7%

Date/Time: 12:00, 24th [  
Shading: 1%  
HSA: -173.9°, VSA: 90.9°



# Orange and Green Section – Without Buildings - Summary

## Effective Shading Coefficients

OBJECT No.: 33209

Latitude: -23.0°

Longitude: -46.0°

TimeZone: -45.0° [-3.0hrs]

Orientation: -64.2°

Month	Avg.SC	Max.SC	Min.SC	Month	Avg.SC	Max.SC	Min.SC
January	96.2%	0.0%	100.0%	January	96.2%	0.0%	100.0%
February	96.4%	11.1%	100.0%	February	100.0%	100.0%	100.0%
March	92.6%	0.0%	100.0%	March	95.8%	0.0%	100.0%
April	93.7%	0.0%	100.0%	April	95.7%	0.0%	100.0%
May	100.0%	100.0%	100.0%	May	100.0%	100.0%	100.0%
June	95.2%	0.0%	100.0%	June	95.2%	0.0%	100.0%
July	91.4%	0.0%	100.0%	July	95.5%	0.0%	100.0%
August	94.2%	0.0%	100.0%	August	95.7%	0.0%	100.0%
September	95.8%	0.0%	100.0%	September	95.8%	0.0%	100.0%
October	95.3%	0.0%	100.0%	October	96.2%	0.0%	100.0%
November	96.2%	0.0%	100.0%	November	96.2%	0.0%	100.0%
December	95.5%	0.0%	100.0%	December	96.3%	0.0%	100.0%
Summer	96.0%	3.7%	100.0%	Summer	97.5%	33.3%	100.0%
Winter	95.6%	33.3%	100.0%	Winter	96.9%	33.3%	100.0%
Annual	95.2%	9.3%	100.0%	Annual	96.5%	16.7%	100.0%

## Effective Shading Coefficients

OBJECT No.: 33208

Latitude: -23.0°

Longitude: -46.0°

TimeZone: -45.0° [-3.0hrs]

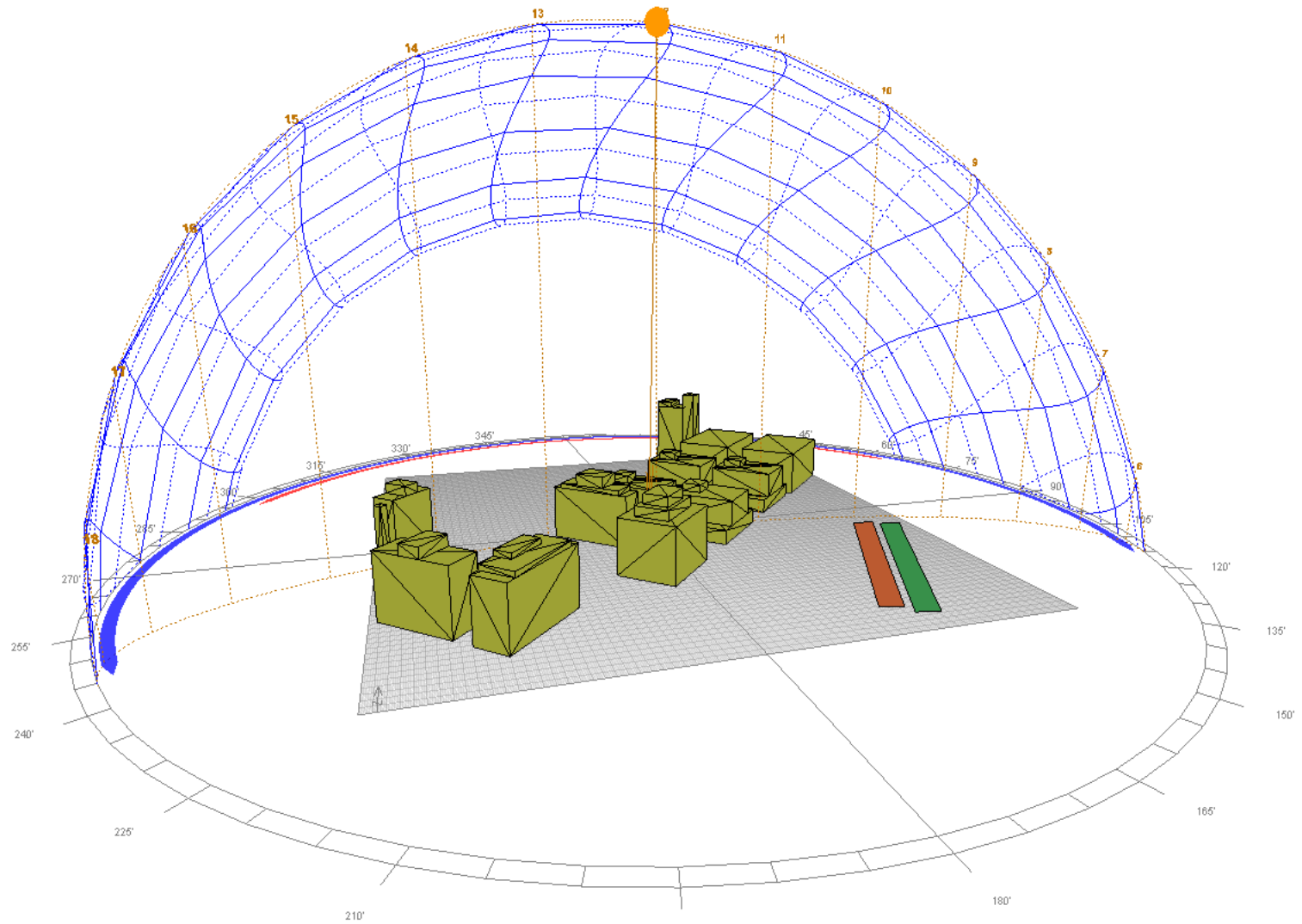
Orientation: -64.3°

Month	Avg.SC	Max.SC	Min.SC
January	96.2%	0.0%	100.0%
February	100.0%	100.0%	100.0%
March	95.8%	0.0%	100.0%
April	95.7%	0.0%	100.0%
May	100.0%	100.0%	100.0%
June	95.2%	0.0%	100.0%
July	95.5%	0.0%	100.0%
August	95.7%	0.0%	100.0%
September	95.8%	0.0%	100.0%
October	96.2%	0.0%	100.0%
November	96.2%	0.0%	100.0%
December	96.3%	0.0%	100.0%
Summer	97.5%	33.3%	100.0%
Winter	96.9%	33.3%	100.0%
Annual	96.5%	16.7%	100.0%

Solar 3DBR – Plug-in Skt-up		PVSYST	
	%Near Shading		%Near Shading
Month	Solar3DBR	Month	PVSYST
Jan	1,000	Jan	0,20
Feb	0,800	Feb	0,20
Mar	0,900	Mar	0,20
Apr	1,000	Apr	0,30
May	0,900	May	0,30
Jun	0,900	Jun	0,30
July	0,800	July	0,30
Aug	0,900	Aug	0,30
Sep	1,000	Sep	0,30
Oct	1,000	Oct	0,20
Nov	0,700	Nov	0,20
Dez	0,900	Dez	0,20
Year	0,900	Year	0,30

%NearShading Ecotect Year:  $((100\%-95,2\%)+(100\%-96,5\%))/12 = 7,95\%$

## Green Section – With Buildings



# Green Section – With Buildings

## Orthographic Projection

Location: -23.0°, -46.0°

Obj 33209 Orientation: -64.2°, 84.0°

Sun Position: 121.8°, 89.1°

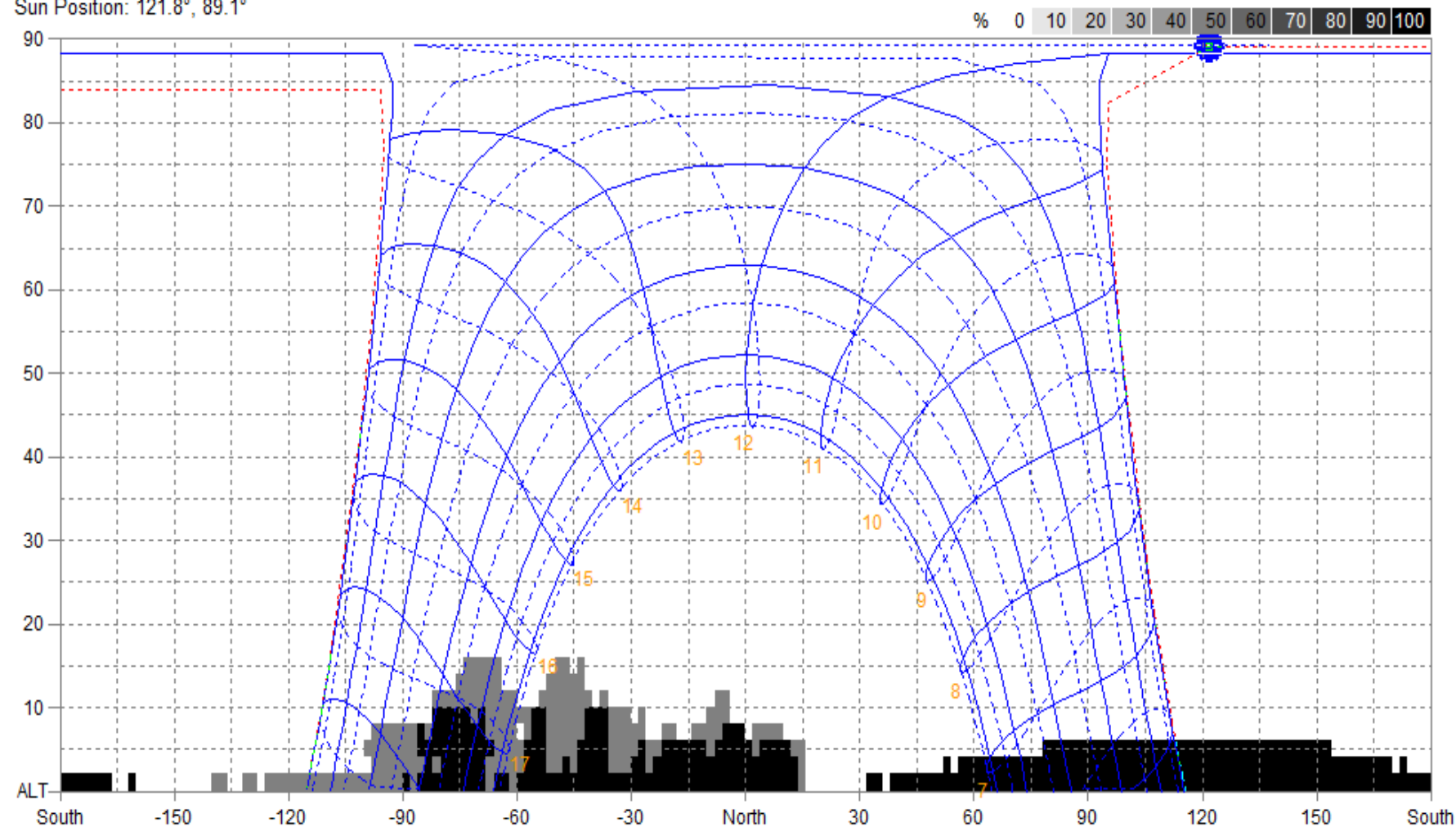
Overcast Sky Factor: 98.8%

Uniform Sky Factor: 98.3%

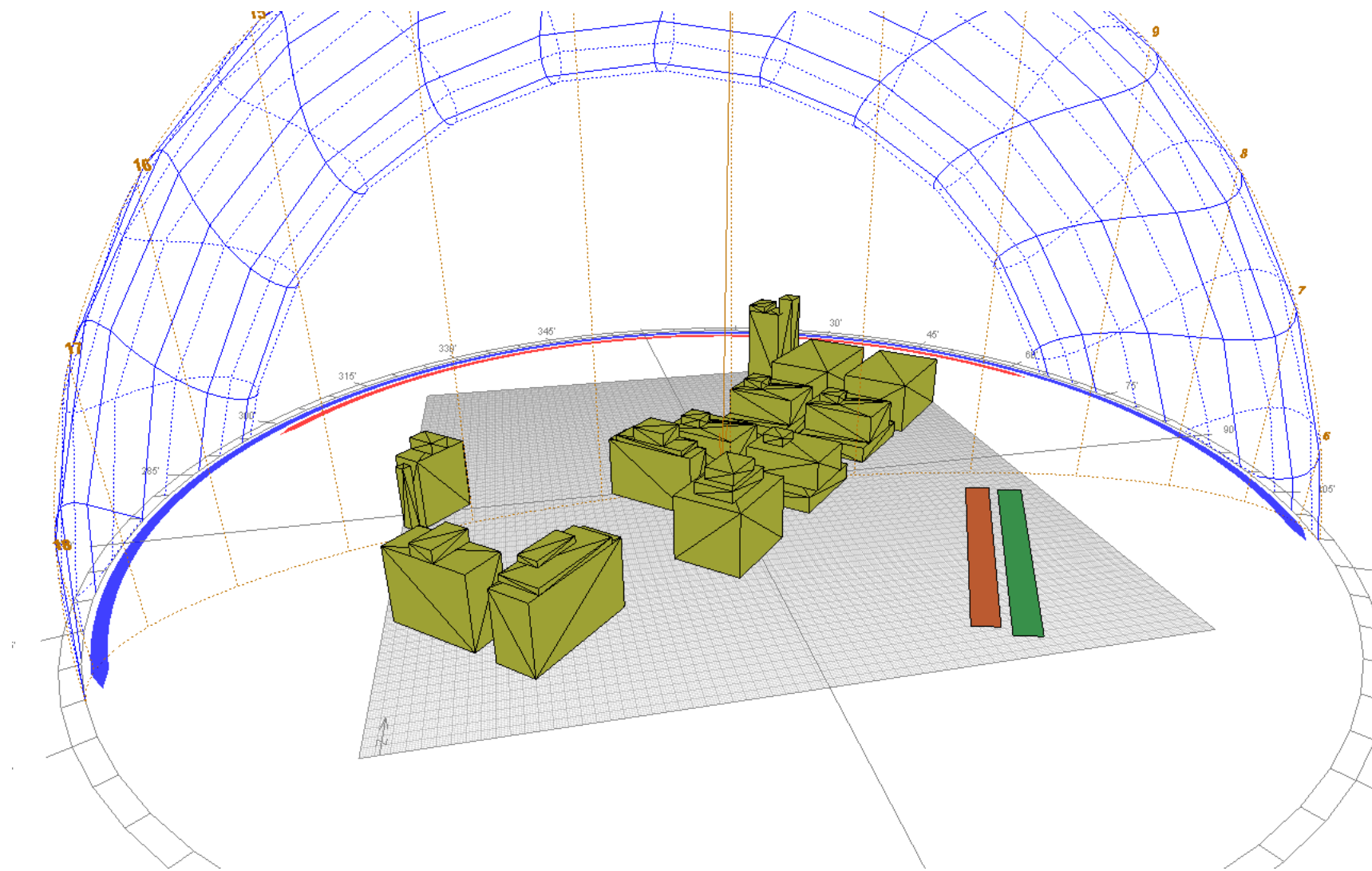
Date/Time: 12:00, 24th [

Shading: 1%

HSA: -174.0°, VSA: 90.9°



## Orange Section – With Buildings



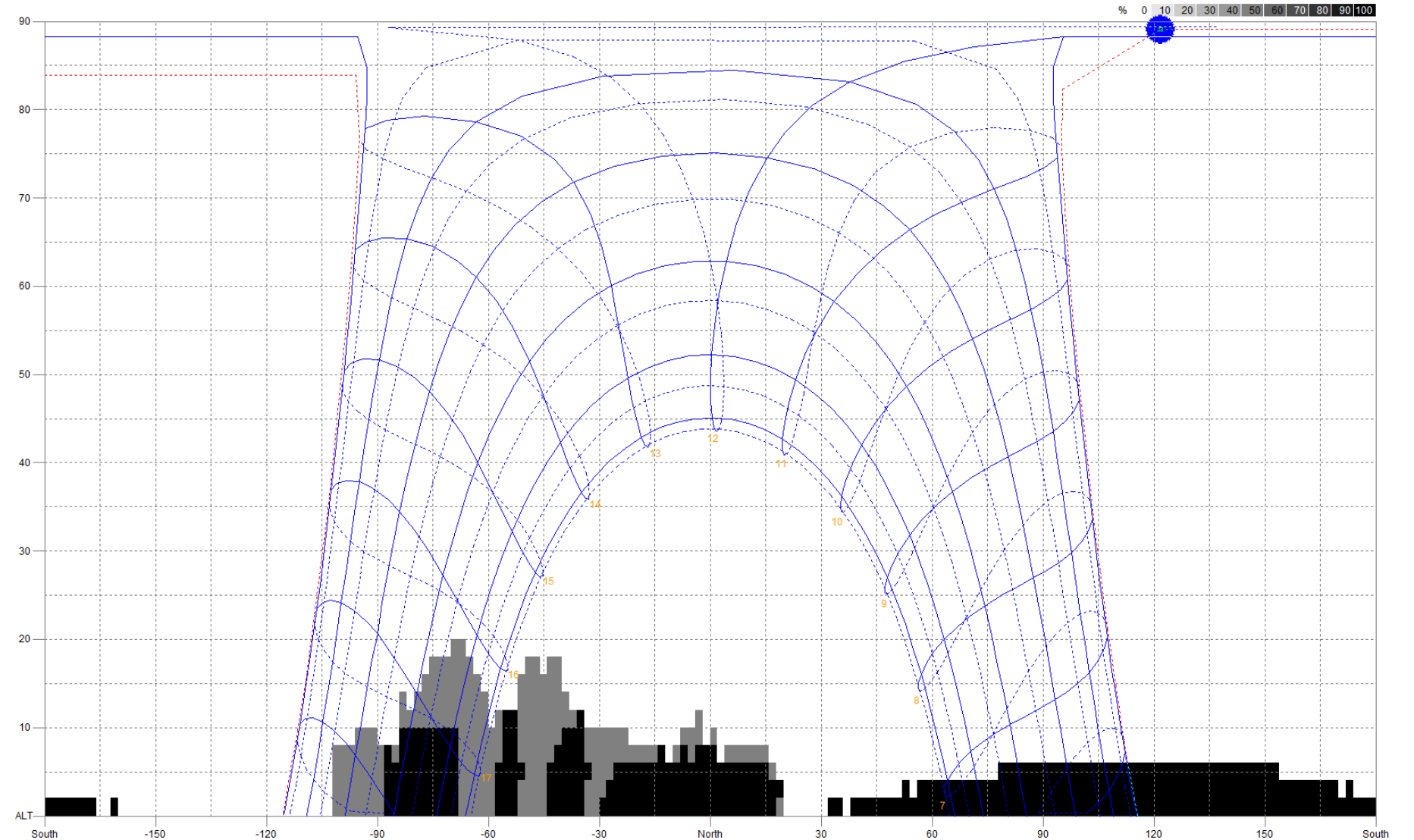
# Orange Section - With Buildings

## Orthographic Projection

Location: -23.0°, -46.0°  
Obj 33208 Orientation: -64.3°, 84.0°  
Sun Position: 121.8°, 89.1°

Overcast Sky Factor: 98.6%  
Uniform Sky Factor: 98.0%

Date/Time: 12:00, 24th  
Shading: 1%  
HSA: -173.9°, VSA: 90.0°



# Orange and Green Section – With Buildings - Summary

## Effective Shading Coefficients

OBJECT No.: 33209

Latitude: -23.0°

Longitude: -46.0°

TimeZone: -45.0° [-3.0hrs]

Orientation: -64.2°

Month	Avg.SC	Max.SC	Min.SC	Month	Avg.SC	Max.SC	Min.SC
January	96.2%	0.0%	100.0%	January	96.2%	0.0%	100.0%
February	96.0%	50.0%	100.0%	February	96.0%	50.0%	100.0%
March	93.8%	0.0%	100.0%	March	91.7%	0.0%	100.0%
April	87.0%	0.0%	100.0%	April	84.8%	0.0%	100.0%
May	95.2%	50.0%	100.0%	May	95.2%	50.0%	100.0%
June	92.9%	0.0%	100.0%	June	92.9%	0.0%	100.0%
July	88.6%	0.0%	100.0%	July	86.4%	0.0%	100.0%
August	89.1%	0.0%	100.0%	August	87.0%	0.0%	100.0%
September	93.8%	0.0%	100.0%	September	93.8%	0.0%	100.0%
October	96.2%	0.0%	100.0%	October	96.2%	0.0%	100.0%
November	96.2%	0.0%	100.0%	November	96.2%	0.0%	100.0%
December	96.3%	0.0%	100.0%	December	96.3%	0.0%	100.0%
Summer	96.2%	16.7%	100.0%	Summer	96.2%	16.7%	100.0%
Winter	92.2%	16.7%	100.0%	Winter	91.5%	16.7%	100.0%
<b>Annual</b>	<b>93.4%</b>	<b>8.3%</b>	<b>100.0%</b>	<b>Annual</b>	<b>92.7%</b>	<b>8.3%</b>	<b>100.0%</b>

## Effective Shading Coefficients

OBJECT No.: 33208

Latitude: -23.0°

Longitude: -46.0°

TimeZone: -45.0° [-3.0hrs]

Orientation: -64.3°

Month	Avg.SC	Max.SC	Min.SC	Month	Avg.SC	Max.SC	Min.SC
January	96.2%	0.0%	100.0%	January	96.2%	0.0%	100.0%
February	96.0%	50.0%	100.0%	February	96.0%	50.0%	100.0%
March	91.7%	0.0%	100.0%	March	91.7%	0.0%	100.0%
April	84.8%	0.0%	100.0%	April	84.8%	0.0%	100.0%
May	95.2%	50.0%	100.0%	May	95.2%	50.0%	100.0%
June	92.9%	0.0%	100.0%	June	92.9%	0.0%	100.0%
July	86.4%	0.0%	100.0%	July	86.4%	0.0%	100.0%
August	87.0%	0.0%	100.0%	August	87.0%	0.0%	100.0%
September	93.8%	0.0%	100.0%	September	93.8%	0.0%	100.0%
October	96.2%	0.0%	100.0%	October	96.2%	0.0%	100.0%
November	96.2%	0.0%	100.0%	November	96.2%	0.0%	100.0%
December	96.3%	0.0%	100.0%	December	96.3%	0.0%	100.0%
Summer	96.2%	16.7%	100.0%	Summer	96.2%	16.7%	100.0%
Winter	91.5%	16.7%	100.0%	Winter	91.5%	16.7%	100.0%
<b>Annual</b>	<b>92.7%</b>	<b>8.3%</b>	<b>100.0%</b>	<b>Annual</b>	<b>92.7%</b>	<b>8.3%</b>	<b>100.0%</b>

Solar 3DBR – Plug-in Skt-up		PVSYST	
	%Near Shading		%Near Shading
Month	Solar3DBR	Month	PVSYST
Jan	4,40	Jan	0,9
Feb	3,60	Feb	1,2
Mar	4,70	Mar	1,5
Apr	5,50	Apr	1,9
May	5,10	May	2
Jun	5,10	Jun	2,4
July	4,70	July	2,1
Aug	5,10	Aug	1,9
Sep	5,20	Sep	1,6
Oct	4,60	Oct	1,3
Nov	3,30	Nov	1,1
Dez	3,80	Dez	1
Year	4,50	Year	1,5

%NearShading Ecotect Year:  $((100\%-93,4\%)+(100\%-92,7\%))/12 = 7,636167\%$