SunPath User Guide

<Virtual Environment> 6.0
1. Introduction to SunPath

1.1. SunPath Features

SunPath is used to show a stereographic projection of the Sun's path across the sky.

The program can be run from either SunCast or APLocate by clicking the button on the toolbar of these applications.

The default location is set for London, although if the program is run from the <VE> then the model site location will be used.

1.2. Getting Help

In SunCast the user can get help at any time on the current section.

To do this press the F1 function key.
2. The SunPath Toolbar

The main toolbar for SunCast is as follows:

![Toolbar Icons]

- load settings
- save settings
- print stereographic view
- Switch time lines on/off
- Switch angle labels on/off
- select colours
- set period
- CIBSE TM33 validation data
- copy view to clipboard
- exit program
- help

These functions are described in the relevant menu option.
3. File Menu

This menu has the following options:

3.1. Open
This allows the user to load specific settings for the model.
This function can also be activated by the icon on toolbar.

3.2. Save As...
This allows the user to save specific settings for the model.
This function can also be activated by the icon on the toolbar.

3.3. Page Setup...
This allows the user to change the printer settings.

3.4. Print
Print the view, also activated by the icon on the toolbar.

3.5. Exit
Terminates the program.
4. **Options Menu**

This menu has the following options:

![Options Menu]

4.1. **Toolbar**

When checked the toolbar is displayed, otherwise not.

4.2. **Status Bar**

When checked the status bar (at bottom of page) is displayed, otherwise not.

4.3. **Angle Labels**

When checked the angles are displayed, otherwise not.
4.4. Time Lines

When the “Display Lines” option is checked then the selected option is shown, i.e. either “Summer to Winter” or “Winter to Summer”.

4.5. Seasons

When checked the seasons are displayed, otherwise not.

4.6. Defaults

Sets the view back to the default settings.

4.7. Refresh

Clears the display.

4.8. Today

When clicked the Sun path for today’s date is displayed.
5. View Menu

This menu has the following options:

There is little practical use in either of these options but they have been retained for historical reasons.

5.1. Bitmaps

This allows the user to browse bitmap images within a folder:

5.2. Text Files

The contents of a text file can be viewed by using this option.
6. Project Menu

This menu has the following options:

6.1. Project Directory

This function has no relevance in the current version. It is an older function that allowed the user to set up the current working project directory for the separate <VE> modules.

6.2. Project Details

This allows the user to set the project details to be included on the printed output.

Sample output (project details underlined here – not in actual output):

SUNPATH Copyright © 2009 IES Ltd.
Project: Sample Project Date: 02/10/2009 Time: 09:36
Designed by: Administrator at Integrated Environmental Solutions Ltd for: IES Ltd

Location: London [United Kingdom]
Latitude: 51.50° N
Longitude: 0.00° W

Sun Paths Shown:
- October 1
7. Edit Menu

This menu has the following options:

- **Copy**
  - Copies the view to the Windows clipboard.
  - This function can also be activated from the toolbar by using the icon.

- **Period**
  - This function can also be activated from the toolbar by using the icon.

- **Clear**
  - This option removes all paths and lines from the view.
7.4. **Colours**

This allows the user to set the colours for the 8 active items.

The 8 categories are as follows:

- **Background**
- **General Text**
- **Sky Grid**
- **Time Lines**
- **Solstices**
- **Equinoxes**
- **Selected Dates**
- **Horizon**

Clicking the “Set Colour” button pops-up the standard colour table:
The “Test” button activates the view for a short period (3 seconds), the “Save” button will make this selection permanent and the “Undo” button will revert to the previous selection. The default colour settings (as shown in the images above) can be set by clicking the “Default Colours” button.

This function can also be activated from the toolbar by using the icon

### 8. Analysis Menu

This menu has the following options:

![Analysis Menu](image)

#### 8.1. Sunrise and Sunset

This pop-up window shows the Sunrise and Sunset times for the active design days, i.e. seasons, today, etc., and the Solstices and Equinox.

![Sunrise and Sunset](image)
8.2. *Time of Day*

This pop-up window shows the Solar position for a given time for the active design days, i.e. seasons, today, etc., and the Solstices and Equinox.

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Altitude</th>
<th>Azimuth</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 1</td>
<td>12:00</td>
<td>15.49°</td>
<td>173.14°</td>
</tr>
<tr>
<td>December 31</td>
<td>12:00</td>
<td>15.08°</td>
<td>173.03°</td>
</tr>
<tr>
<td>Summer Solstice</td>
<td>12:00</td>
<td>61.84°</td>
<td>173.85°</td>
</tr>
<tr>
<td>Equinox</td>
<td>12:00</td>
<td>30.02°</td>
<td>177.02°</td>
</tr>
<tr>
<td>Winter Solstice</td>
<td>12:00</td>
<td>16.07°</td>
<td>183.02°</td>
</tr>
</tbody>
</table>

8.3. *Monthly Design Days*

The pop-up window shows the Solar position at hourly intervals for the monthly design days.
8.4. **Target Azimuth/Altitude**

This allows the user to search for a particular target Azimuth and Altitude.

The search results are also shown as an accumulated hourly value:

9. **Help Menu**

The usual Windows help features are present:

- Contents
- Search
- Help on Help
- About
10. Miscellaneous

10.1. Definition of Azimuth and Altitude

10.1.1. Azimuth

The angle range is from 0° to 360° clockwise from North, see below. The azimuth will not make a difference to the rotation of the graphic if the Altitude is set to 90°.

10.1.2. Altitude

The angle range is from 0° to 90° from the horizontal, see below.