



# SU2SF *SketchUp* PLUGIN

## USER GUIDE

Version 1.1 – August 2007  
D. Bur

### This plugin was:

- Written by Tony Wooster, though not quite done yet, 24 MAR 07
- Edited by dandruff, added glas, transparent and phong support as well as the different sizes of output picture, 9 MAY 07
- Edited by D. Bur: added 2 UI modes, added dialog boxes for setting up your render: camera types, background, render and gobal illumination settings, lights.

## 1. Installation:

Unzip su2sf.zip in your main SketchUp folder, with the "Use folder names" option checked.

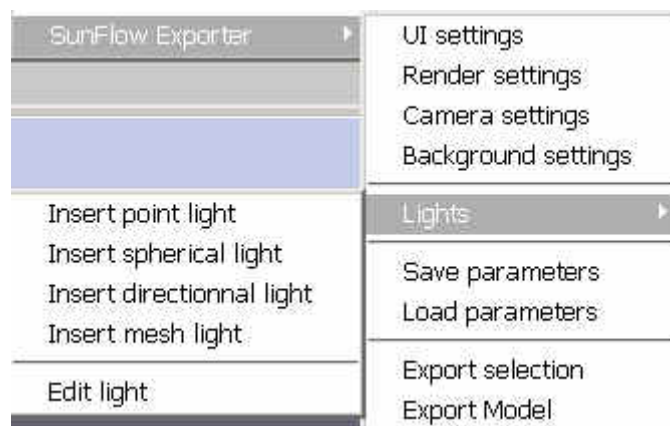
This will install the script, a new sub-folder "su2sf" under the "Plugins" sub-folder, and a new sub-folder "su2sf" under the "Components" sub-folder of SU.

Re-start SU.

## 2. Usage:

Go to the Plugins menu, you should have a "Sunflow Exporter" item.

Here is the menu:



Select your interface first. Choose "Standard" or "Advanced" in the UI dialog:



Standard will use less detailed dialog boxes and more default values will be used.

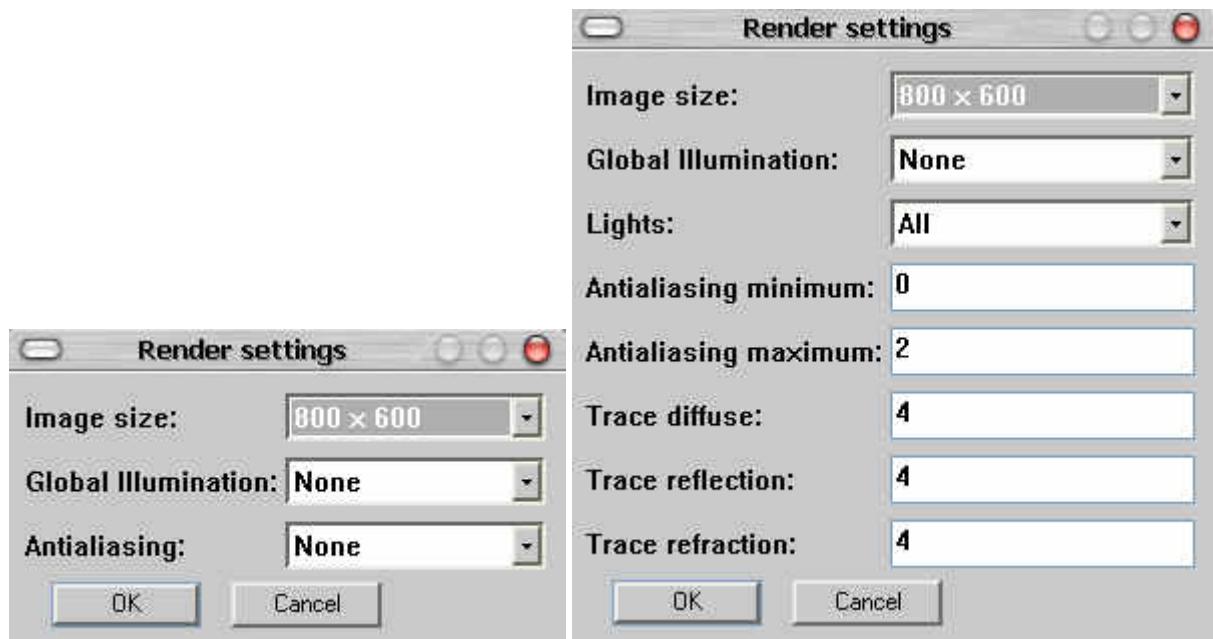
Advanced will give you access to all the parameters within dialog boxes to fine tune your render.

You can wether set all parameters before exporting your model, or set some parameters, or use default values without setting any parameter. Default values are listed at the end of this document.

### 2.1. Render settings:

They are intended to set image size, illumination algorithm, antialiasing and ray-tracing values.

Select "Render settings" from the Sunflow Exporter menu, the following dialog box will pop-up:



*Standard interface*

*Advanced interface*

#### **Image size:**

Select the output image size in the list, or select "Sketchup window". In this case, the width and length of the current viewport will be used to determine the image size and the aspect ratio is automatically calculated. (Units: pixels)

#### **Global illumination:**

Select "None" for a render without GI, or select a GI algorithm in the list. For each of them, default parameters will be used. Of course you can tweak the exported file before loading it in Sunflow, to finely tune your render.

#### **Lights:**

Select whether you want all lights to be exported, or only natural lights (sunsky and directionnal) or only artificial. When the interface "Standard" is in use, all lights will be exported.

#### **Antialiasing minimum and maximum:**

Set low and high values of AA. If minimum is -1, no AA is performed.

#### **Trace diffuse:**

Set maximum depth in diffuse shaders for ray tracing.

#### **Trace reflection:**

Set maximum depth in reflecting shaders for ray tracing.

#### **Trace refraction:**

Set maximum depth in transparent shaders for ray tracing.

## 2.2. Camera settings:

Sunflow has four camera types: Pinhole, thinlens, spherical, and fisheye. The common camera type is pinhole. Select "Camera settings" from the Sunflow Exporter menu, the following dialog box will pop-up:

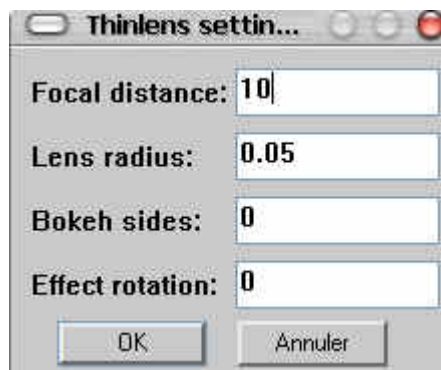


When the pinhole camera type is selected, the following dialog box will pop-up:



This sets the camera shifting. It basically takes the perspective shot you have and shifts the view in the x or y without ruining the perspective. (Units: meters)

When the thinlens camera type is selected, the following dialog box will pop-up:



### **Focal distance:**

Sets the focal distance, thus the depth of field of the camera. This is the distance starting from the camera to the camera target within which the objects will not be blurred. (Units: meters).

### **Lens radius:**

Blurs the image more when set to high values.

### **Bokeh sides:**

Number of sides for the bokeh effects. Will only be used if not zero.

### **Effect rotation:**

Angle for the bokeh effects. Will only be used if bokeh sides is not zero.

Spherical and fisheye cameras don't have any additional parameters.

### 2.3. Background settings:

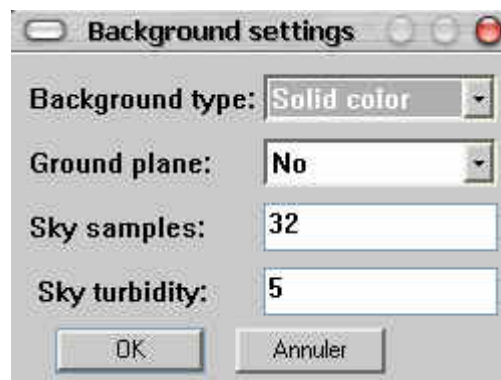
Background includes the ground plane and all pixels of the sky in the image.

Background type:

Select "Solid color" or "Sky".

If Solid color is selected, the color of your solid background color in SketchUp will be used (default: White, when not set in SketchUp). Selecting this option replaces the sky illumination by a directional lighting source, based on your shadows settings.

If Sky is selected, an hemisphere is set around the scene and a sunsky light is used, based on your shadows settings. Sky samples and Sky turbidity parameters are used only if this option is selected.

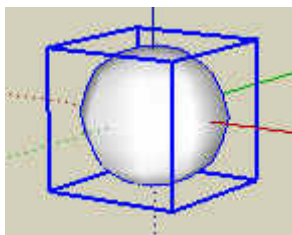


### 2.4. Export selection:

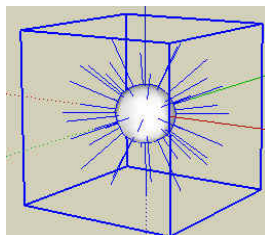
To export the current selection of your model, select the objects to export first, then select this item. Type a name for the output file (file extension must be ".sc").

### 2.5. Export model:

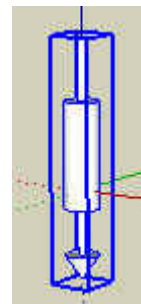
To export the whole model, no matter if objects are selected, simply select this item and type a name for the output file (file extension must be ".sc").



Point light representation



Spherical light representation



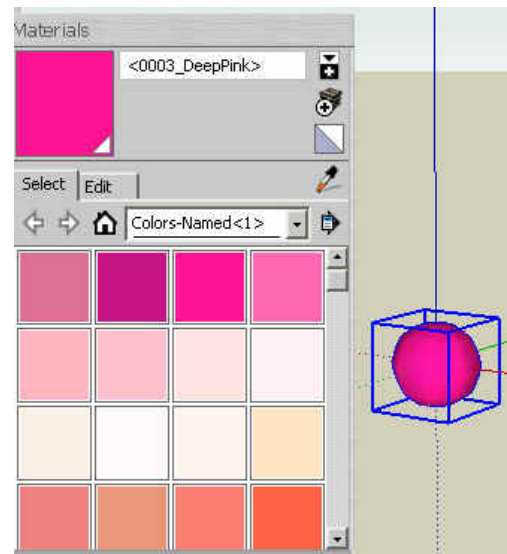
Directionnal light representation:

### 3. Lights:

You can insert, paint, and edit point lights, spherical lights, directionnal lights and mesh lights.

To paint a light (and then modify the color of the emitting light), select the light and paint it with the paint bucket, just like this:

Remember to use simple colors.

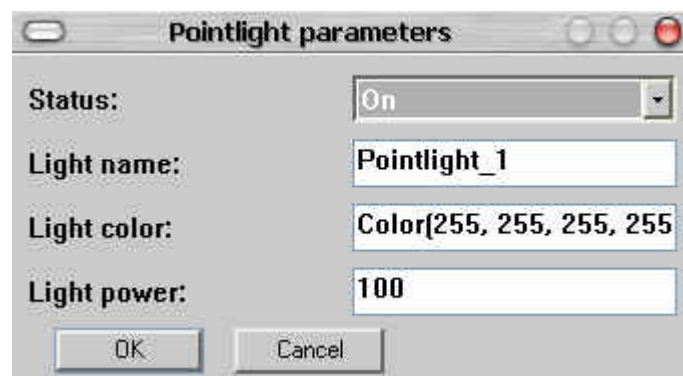


#### 3. 1. Point light:

**Insert point light:** will insert a component at origin, and the following message will be displayed:



A second dialog let you set the point light parameters:



**Status:** If "On", the light will emit light, if "Off", it is ignored.

**Light name:** Enter a name, it is exported as a comment in the output file.

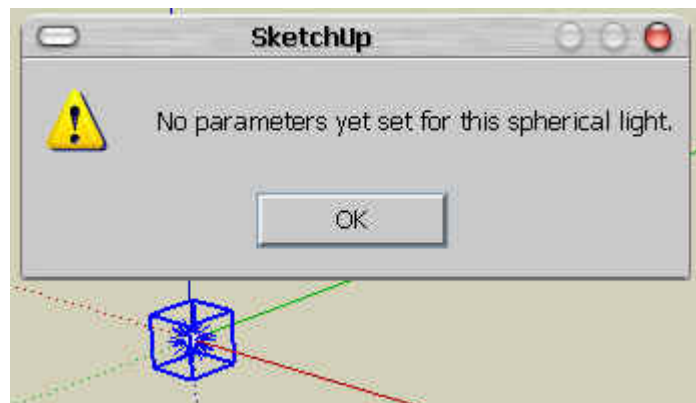
**Light color:** default white. Paint it with the paint bucket to give the light a color.

**Light power:** expressed in watts.

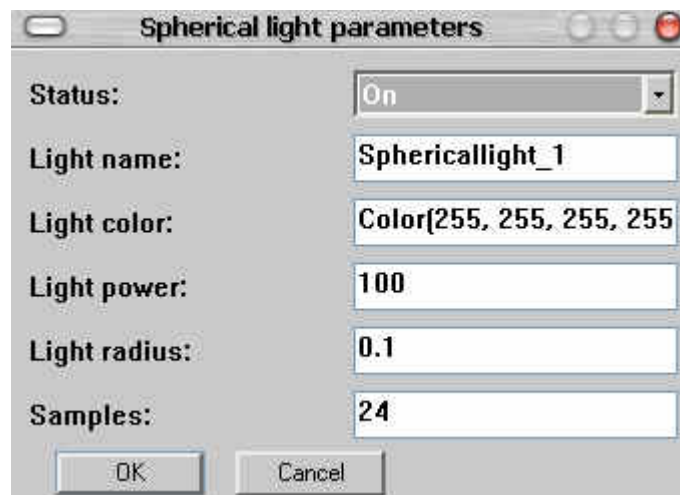
Move the component to place it where you want.

### 3. 2. Spherical light:

**Insert spherical light:** will insert a component at origin, and the following message will be displayed:



A second dialog let you set the spherical light parameters:



**Status:** If "On", the light will emit light, if "Off", it is ignored.

**Light name:** Enter a name, it is exported as a comment in the output file.

**Light color:** default white. Paint it with the paint bucket to give the light a color.

**Light power:** expressed in watts.

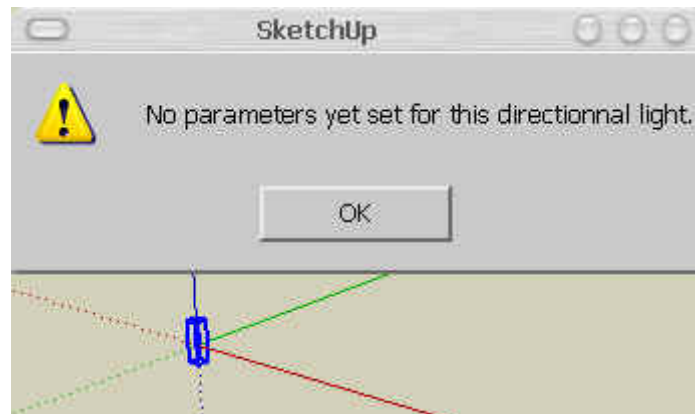
**Light radius:** the radius of the light "bulb".

**Light samples:** could be understood as the accuracy the the light emission.

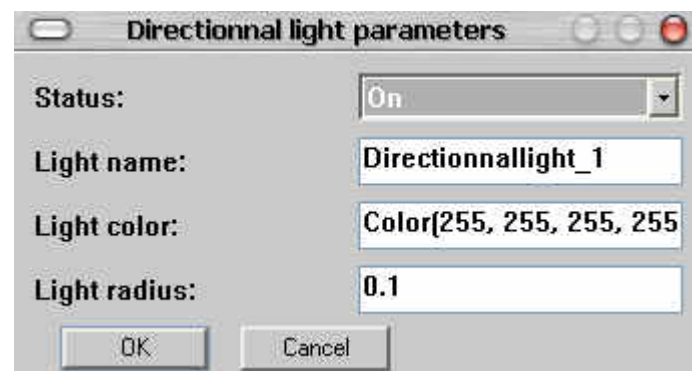
Move the component to place it where you want.

### 3. 3. Directionnal light:

**Insert directionnal light:** will insert a component at origin, and the following message will be displayed:



A second dialog let you set the directionnal light parameters:



**Status:** If "On", the light will emit light, if "Off", it is ignored.

**Light name:** Enter a name, it is exported as a comment in the output file.

**Light color:** default white. Paint it with the paint bucket to give the light a color.

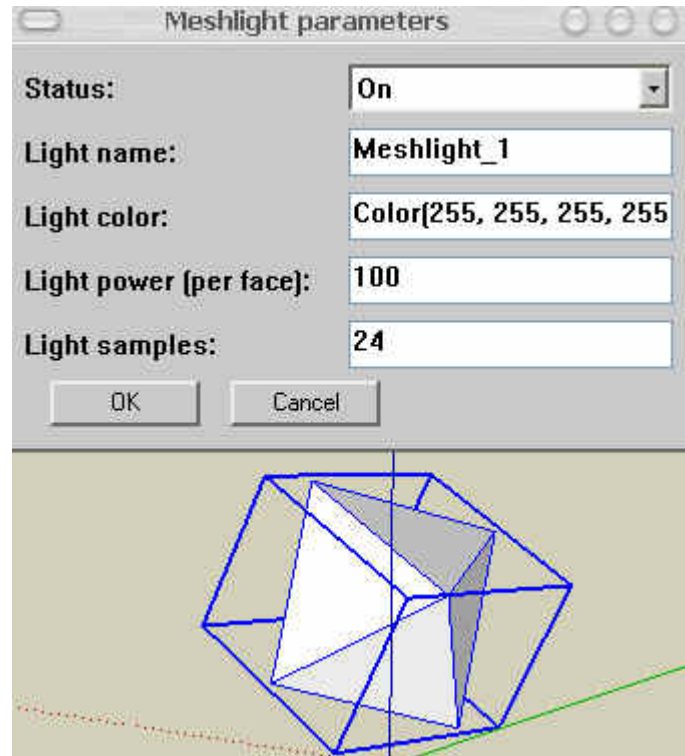
**Light radius:** enter the radius of the light beam.

Move and rotate the component to place it where you want and to orient the light beam.

### 3. 4. Mesh light:

Any component can be set to emit light as a mesh light. Select a component and choose this option. The following dialog box is displayed:





**Status:** If "On", the light will emit light, if "Off", it is ignored.

**Light name:** Enter a name, it is exported as a comment in the output file.

**Light color:** default white. Paint it with the paint bucket to give the light a color.

**Light power:** expressed in watts, for each face of the component.

**Light samples:** could be understood as the accuracy the the light emission.

Move and rotate the component to place it where you want. Paint it to give the light the color you want.

### 3. 5. Edit light:

Select a light component and select this option. Current parameters are displayed in the dialog box, you can change them except the color. To change the color, just paint the component with the paint bucket, using another color.

### 4. Load and save parameters:

**Save parameters:** all your su2sf parameters are saved within the ketchUp file. Thus you won't have to set them again during a later session, just use the "Load parameters" option.

**Load parameters:** restores all su2sf parameters previously saved within the SketchUp file with the "Save parameters" option.

## 5. Default values:

If you don't set any parameter, these values will be used:

### Interface Defaults

UI: Standard

### Render Defaults

AA minimum: 0

AA maximum: 2

Filter Mitchell

GI: None

Trace diffuse: 4

Trace reflections: 4

Trace refractions: 4

Image size: 800 x 600

### Camera Defaults

Camera type: Pinhole

Pinhole shift x: 0

Pinhole shift y: 0

Focal distance: 10

Lens radius: 0.05

Bokeh sides: 0

Bokeh rotation: 0

### Background Defaults

Background type: Solid color

Ground plane: no

Sky samples: 32

Sky turbidity: 5