Intro to V-Ray for SketchUp QuickStart

⚠ This is a legacy documentation space! Please refer to V-Ray Next for SketchUp for most up-to-date information.

This page provides a step-by-step introduction to V-Ray for SketchUp.

Page Contents

Introduction

This tutorial covers the basic workflow of rendering a simple scene with V-Ray for SketchUp. It will introduce V-Ray's Interactive Renderer and provide steps to:

- Edit materials
- Add V-Ray Lights
- Create grass with V-Ray Fur
- Add Depth of Field
- Set up the final render

To follow this tutorial, you will need to have the V-Ray for SketchUp plugin installed. This tutorial is a companion to go along with the QuickStart video posted on our YouTube channel and available here:

Tutorial Assets

To download the files used in this tutorial, please click on the button below. This SketchUp scene is provided by Bartłomiej Ordon.

Tutorial Steps

Open the Example Scene

Begin by launching SketchUp. Open the project file **SU_quickstart_01_Doomo_Modny_II.skp**, which can be downloaded from the Tutorial Assets section above.

Using the V-Ray Toolbar and Asset Editor

V-Ray provides a set of three toolbars that make up the **V-Ray Toolbar**. They are floating toolbars by default, but they can be docked as needed in the SketchUp interface.

V-Ray Toolbar in floating mode (default)

These toolbars provide easy access to V-Ray features:

- V-Ray for SketchUp Toolbar – The main toolbar which includes buttons for the Asset Editor, Rendering, and the V-Ray Frame Buffer (VFB) which displays renders.
- V-Ray Lights – The lighting toolbar which allows you to create and place a variety of V-Ray lights in the scene.
- V-Ray Objects – The geometry toolbar which creates objects specific to V-Ray such as an Infinite Ground Plane, Proxies, and V-Ray Fur.

Click on the Asset Editor button on the toolbar to open the V-Ray Asset Editor.

The Asset Editor has four sections for managing V-Ray settings and scene objects which can be accessed by the tabs at the top of the editor:

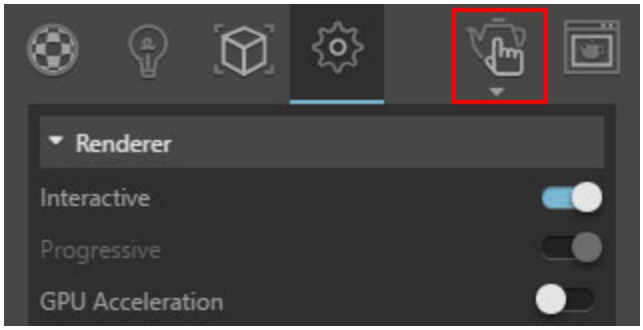
- Materials editor – Allows you to preview and edit materials. The Material List tab displays all materials in the scene. The Quick Settings tab allows you to edit the currently selected material.
- Lights editor – Manages the lights in the scene. A V-Ray Sunlight is provided by default.
- Geometry editor – List any V-Ray specific geometry in the scene, such as V-Ray Fur.
- Settings section – Provides a multitude of settings for rendering the scene.

Asset Editor (Materials Editor view)

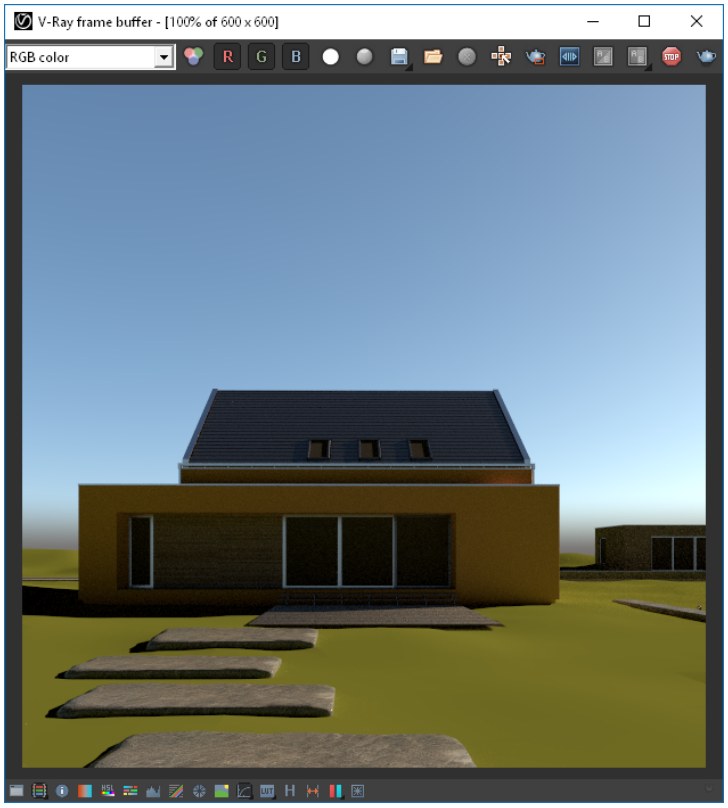
Additionally, the Asset Editor provides a Render button and VFB button, similar to the V-Ray Toolbar.

Working with Interactive Rendering

Interactive Rendering allows you to view a rendered version of your scene, and it will automatically update as adjustments to the scene are made. To start an Interactive Render, navigate to the Settings section of the V-Ray Asset Editor and enable the **Interactive** option. Next, click the **Render with V-Ray Interactive** button.



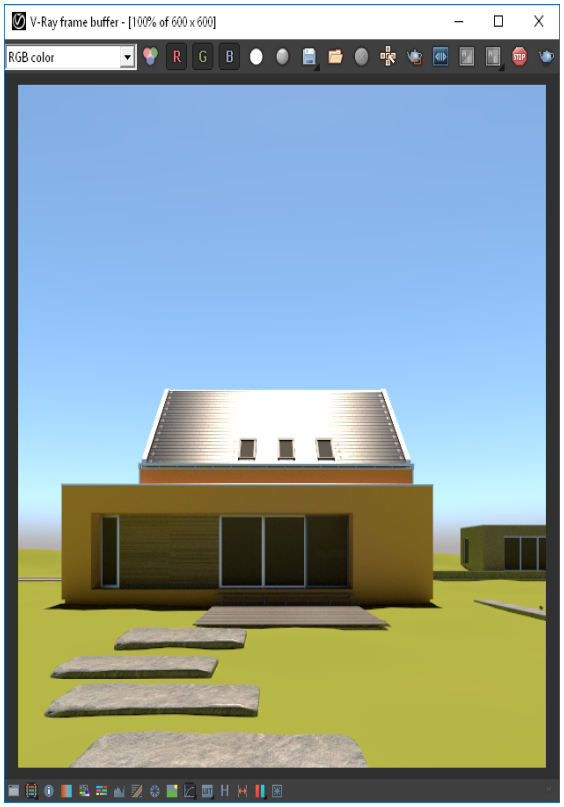
The **VFB** will launch and start to render. The render will become clearer over time.



Any changes made to the scene will automatically update in the interactive render. To test this out, enable SketchUp's **Shadows Toolbar**, and then turn on **Show/Hide Shadows**. This will allow you to see shadows within SketchUp. Set the **Time** of day to around Noon.

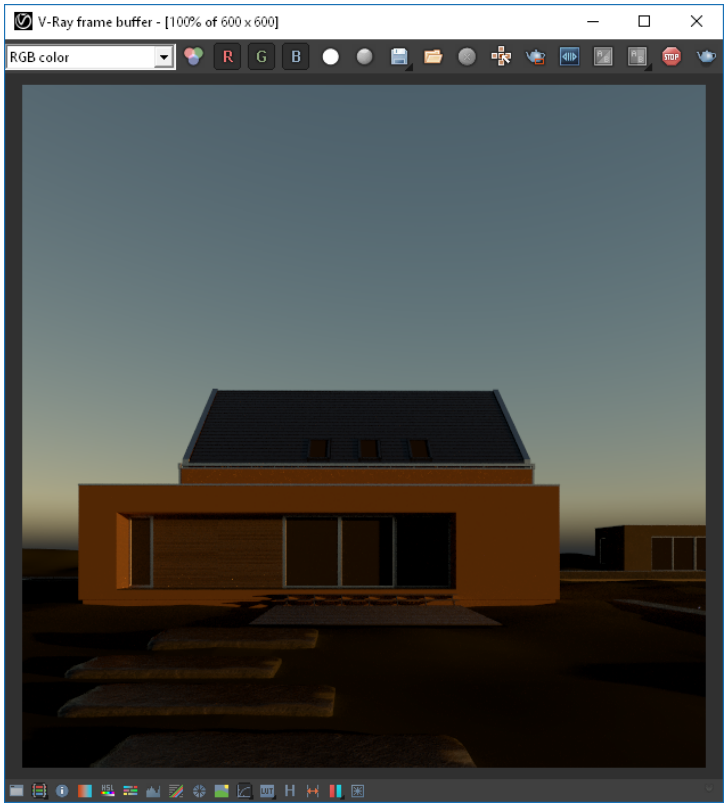
Both the scene view in SketchUp and the Interactive Render in the **VFB** will update. You will see that the shadows are consistent between both views.

SketchUp Scene View with Shadows

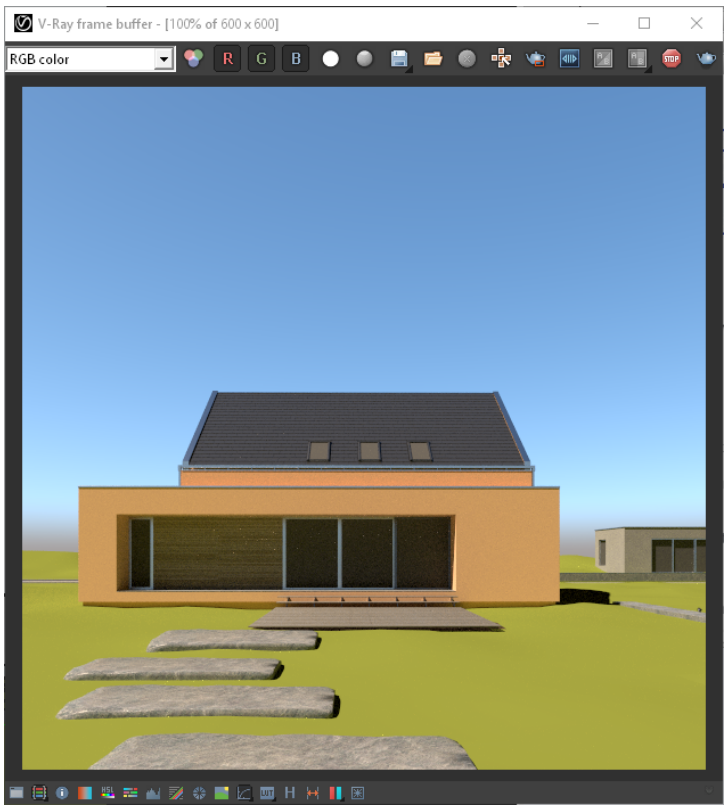


Interactive Render

To reduce calculation times, disable **Show/Hide Shadows** in SketchUp's Shadows Toolbar. Go ahead and change the **Date** and **Time** of day to evening to see how the sunlight changes in both direction and color. Feel free to experiment for yourself.

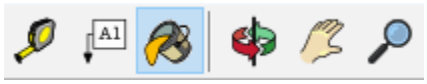


When you are ready to proceed, set the **Time** to around late morning and set the **Date** to **August**. The rendered scene should look like the following:

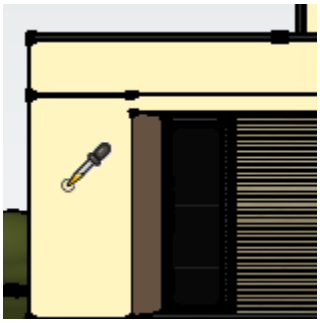


Replacing and Editing Materials

Next, we will replace existing materials in the scene with materials from V-Ray's **Preset Material Library**. Open the **Asset Editor** and go to the **Materials** section. To select a material to edit, select SketchUp's **Paint Bucket** tool.



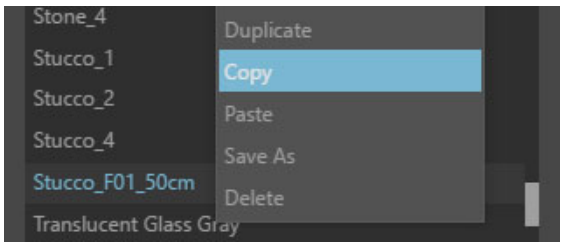
Holding down the **Alt key** and clicking with the **Paint Bucket tool** will allow you to select a material. Let's select the stucco material on the surface of the house.



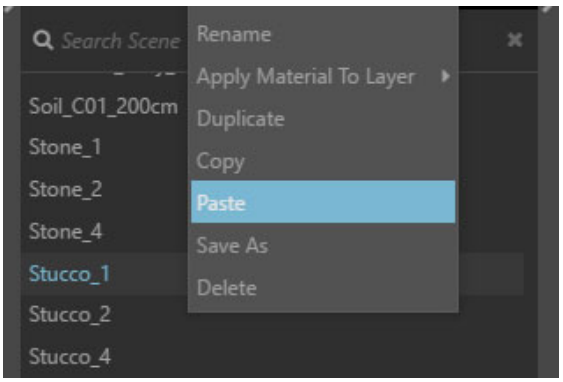
Both SketchUp's UI and the **V-Ray Asset Editor** will display the material information. Let's replace the stucco with one of V-Ray's material presets. Click the left facing arrow to expand the **Asset Editor** to reveal the material library.

V-Ray's **Material Library** contains a variety of ready-to-use materials that are optimized for V-Ray. Go to the **WallPaint & Wallpaper** category, and scroll down to find **Stucco_F01_50cm**. Simply drag and drop the icon from the **Library** into the right panel to add it to your **Material List**.

To replace the existing material, right click on the **Stucco_F01_50cm material**, and select **Copy**. Using the **Paint Bucket tool + Alt key**, select the existing stucco material on the house to select it again. Then right click on **Stucco_1** and choose **Paste**. This will take all the parameters from the copied material and lay it on top of the assigned material.

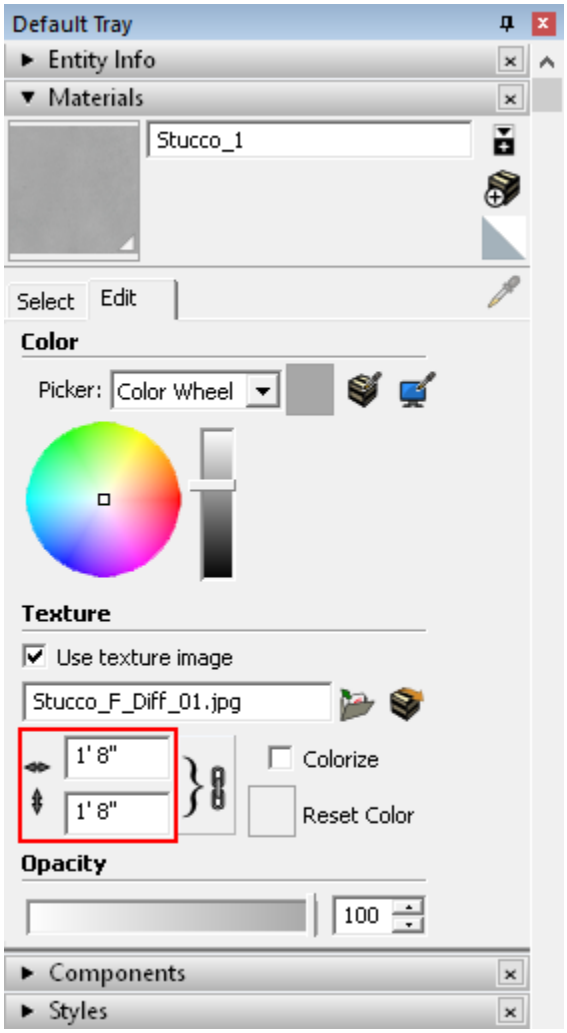


Copying the new Stucco parameters.

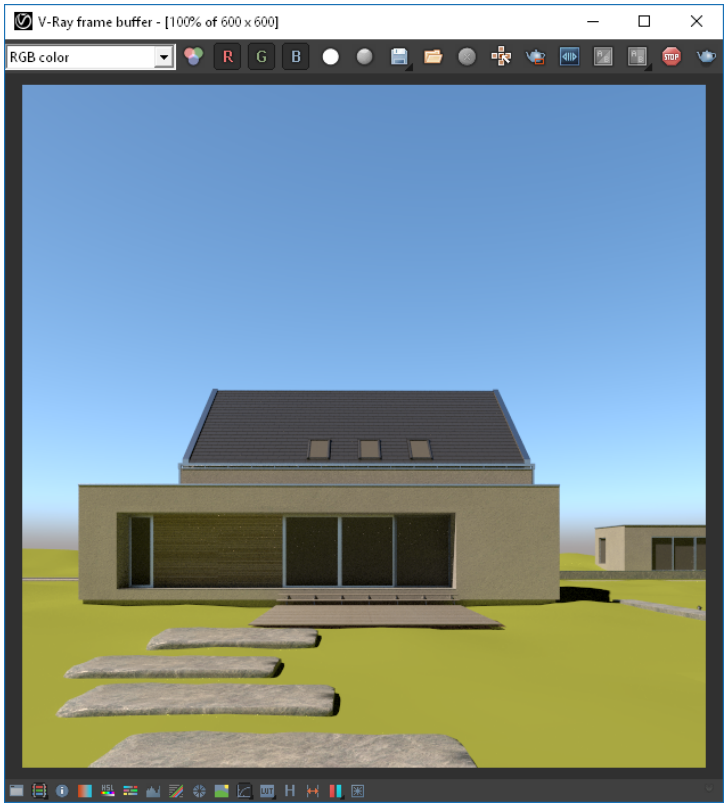


Pasting the new parameters into the old Stucco material.

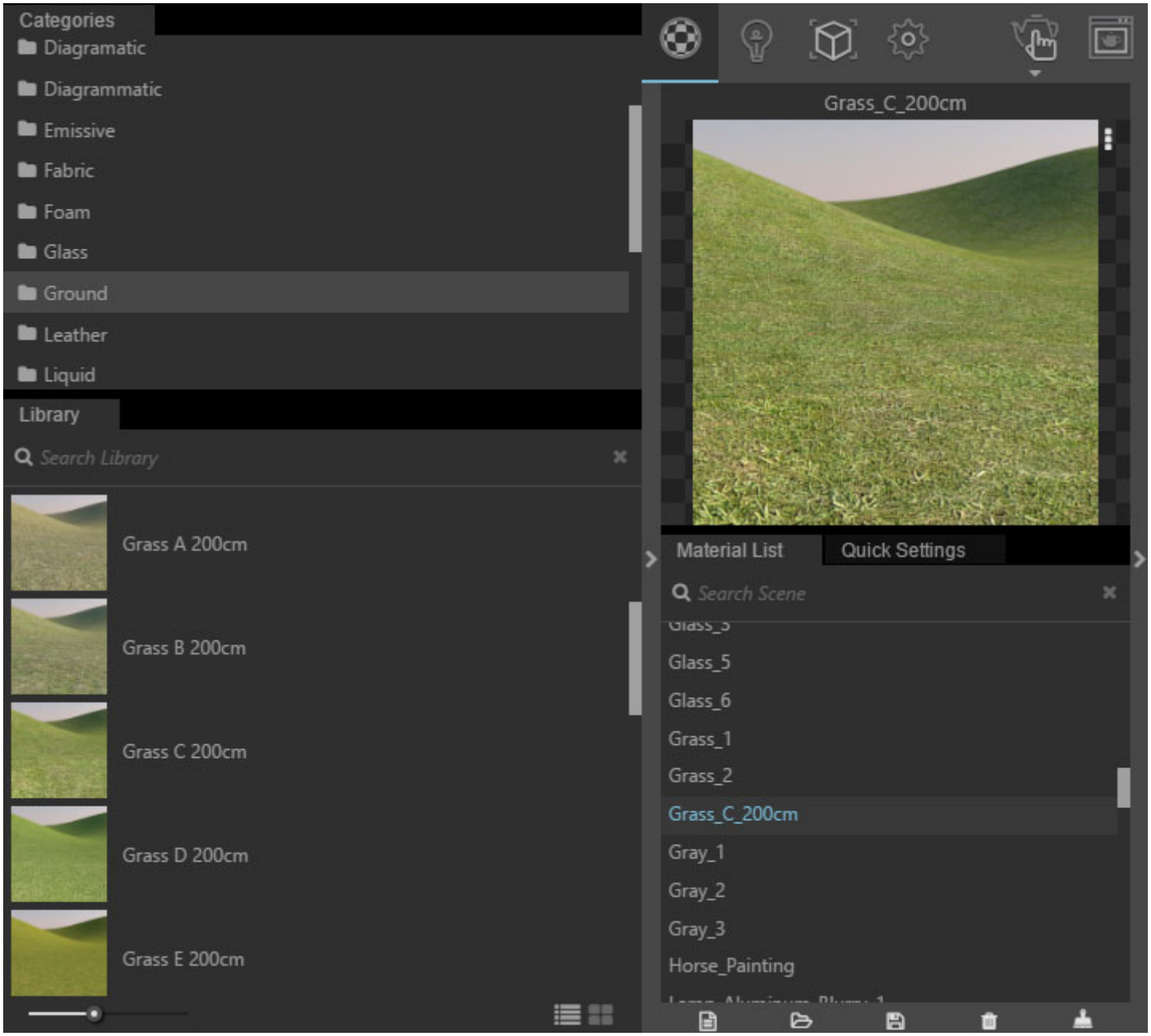
It's important to note that the stucco material that copied has a real-world size associated with it: **50cm**. To change the material size, go to the SketchUp **Materials** panel and navigate to the **Edit** tab. Set the size accordingly. In this case, 50 cm is about 20” or **1'8"**, so enter this number in the horizontal value and the vertical value will update automatically.



With the new stucco material, the interactive render should look like this:

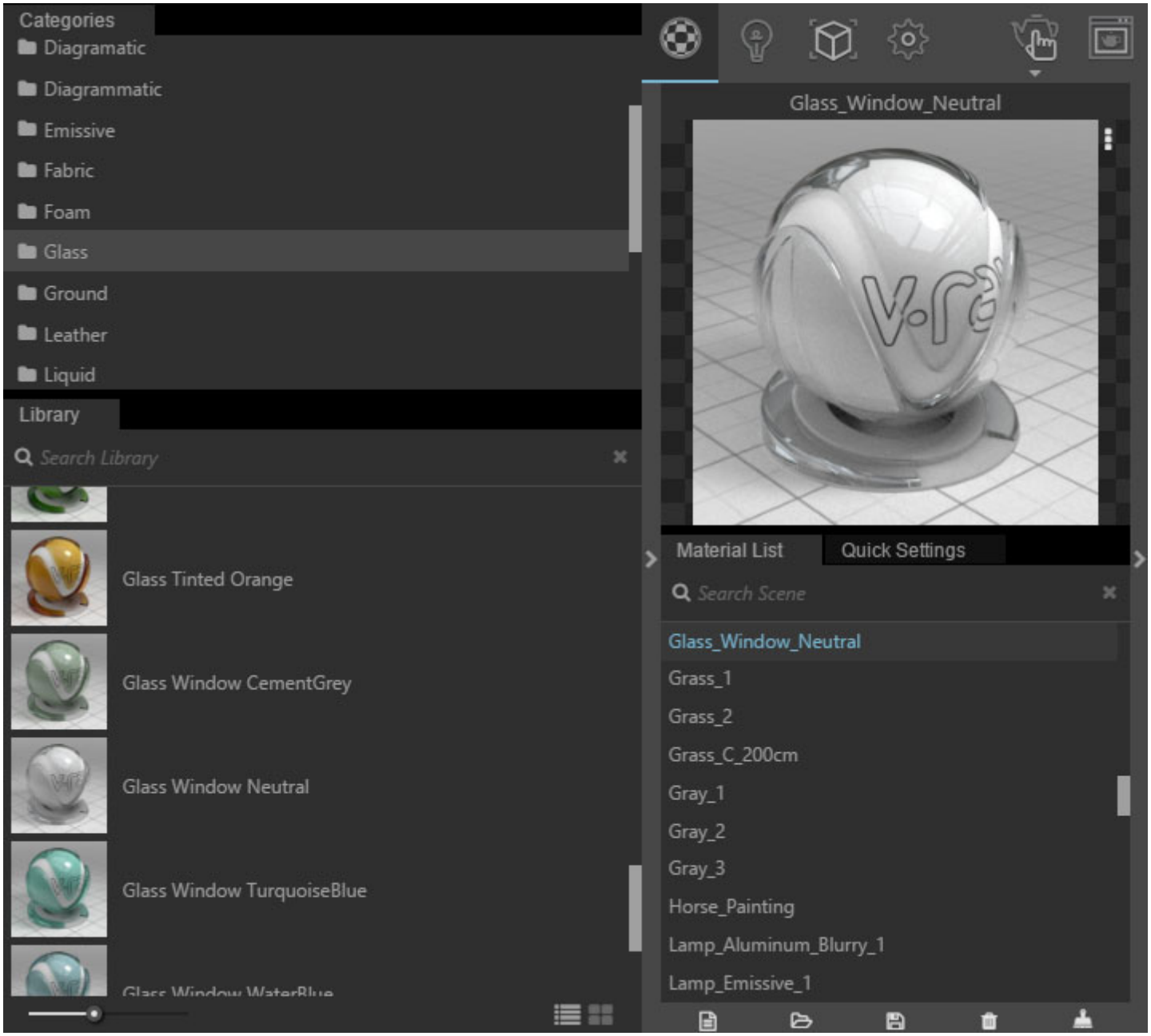


Using the same method, let's replace the grass material as well. Select the grass material using the same method as before with the **Paint Bucket + Alt key**. The **Grass_2 material** should be selected. Select the **Ground** category in the **Material Library**, and you'll find several grass materials available. Drag **Grass C** over to the right to bring it into the scene.



Similar to how we replaced the stucco, **right click** on **Grass_C** and **Copy** it. Select **Grass_2**, **right click** on it, and **Paste** the new grass. The material size needs to be edited as well, so navigate to **Material** panel's **Edit** tab. Although 200cm is about 6.5 feet, **enter 10'** for this material. This produces a more realistic grass appearance.

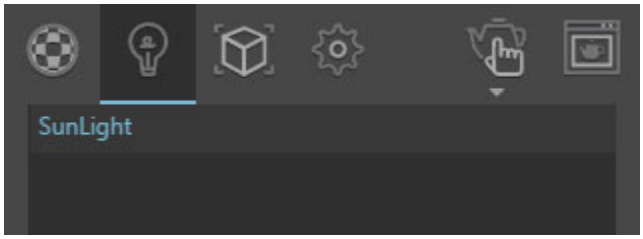
Finally, let's replace the glass material with something nicer. Go to the **Glass** category in the **Material Library**, and drag **Glass Window Neutral** into the **Material List**.



Right click and **Copy** it to the clipboard. Select the glass object in the scene select the **Glass_3 material**. **Right click** to **paste** the glass from the library. This material will not need to have its size adjusted. The **Interactive Renderer** in the **VFB** will update to show us a nicer glass appearance in the scene.

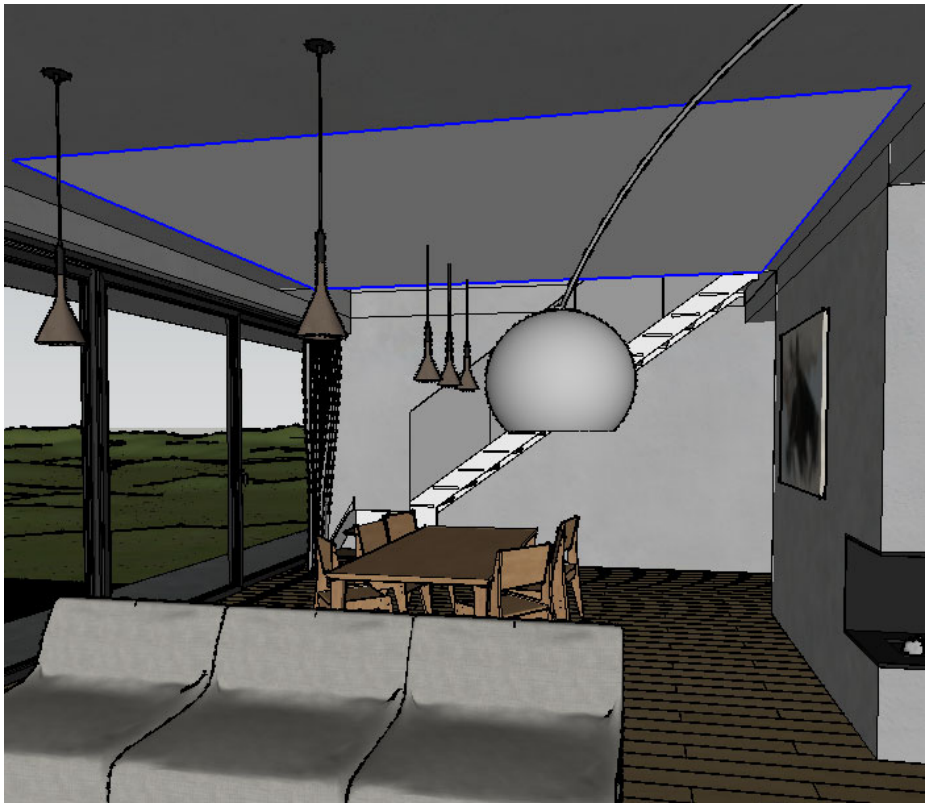
Adding V-Ray Lights

Now that the glass has been replaced, the darkness inside the house is more noticeable. Let's add some lights to the scene. In the **Asset Editor**, collapse the **Material Library** and switch to the **Lights** section. There is only the basic **Sunlight** so far.

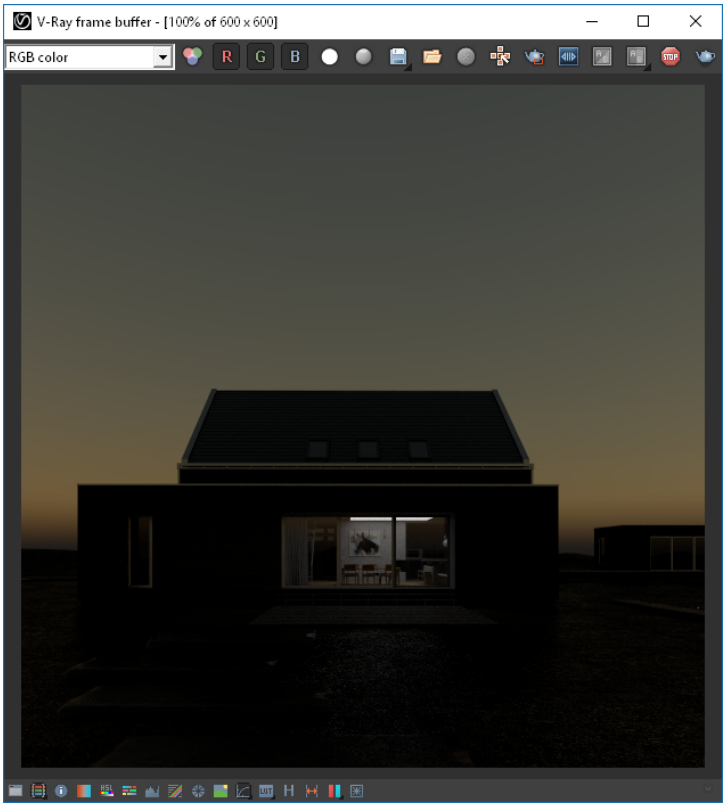


Before proceeding, click the **Lock Camera Orientation button** on the **V-Ray Toolbar**. This allows us to move the camera in the SketchUp scene without changing the Interactive Rendering view. This way the camera can move inside the house to add lights while keeping the same framing for rendering.

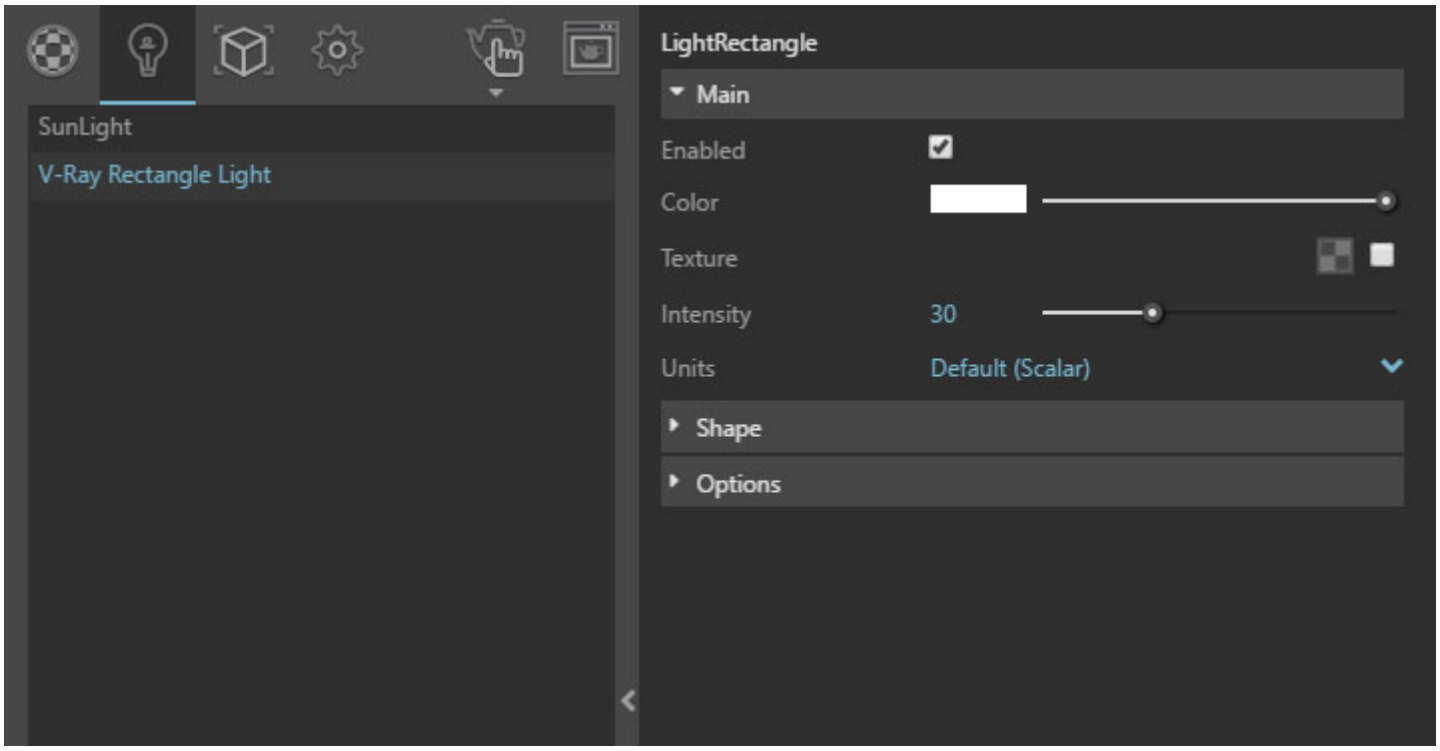
Once inside the house, click the **Plane Light icon** in the **V-Ray Toolbar**. In the scene, you should be able to draw the plane light along the surface of the ceiling. Switch back to the move tool and move the newly created **Plane Light** a small distance away from the ceiling.



The light will be visible in the **Interactive Render**, especially when the **Time** is changed to night.

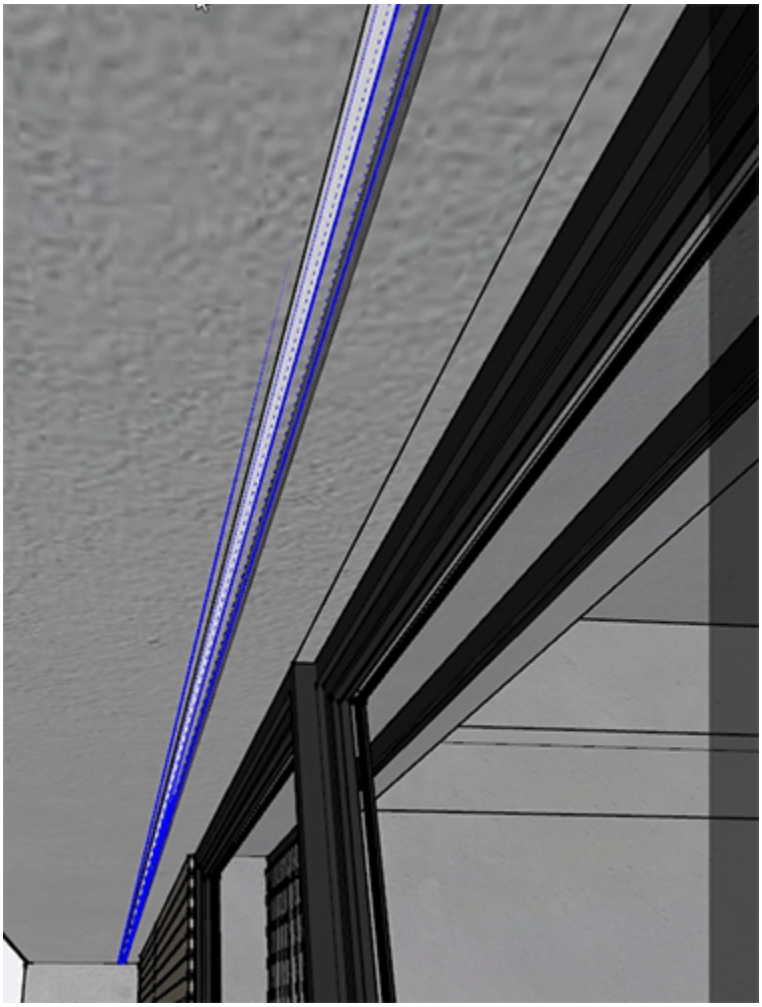


To edit the light properties, expand the right panel of the **Asset Editor** with the right arrow.

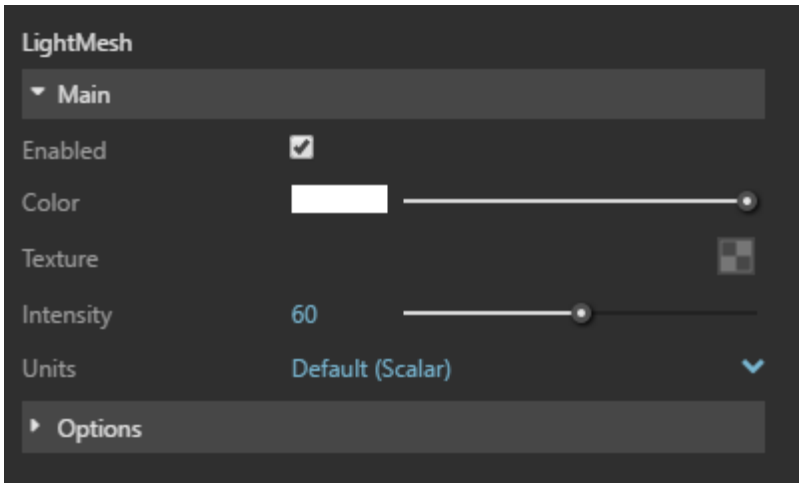


Let's set the **Intensity** parameter to **80** to brighten the light. Light intensity is measured in Scalar units by default, but you have the option of changing the **Units** for each light as you prefer.

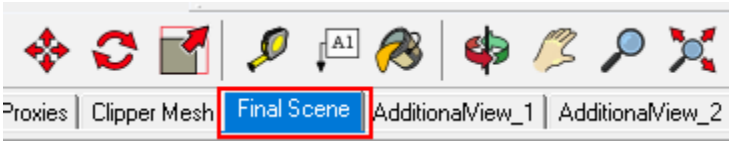
SketchUp groups and components can be turned into lights as well. Navigate in your scene to find this piece of geometry set into the overhang here outside the window, and select it. Click on the **Mesh Light icon** in the toolbar, and V-Ray converts that geometry into a light.



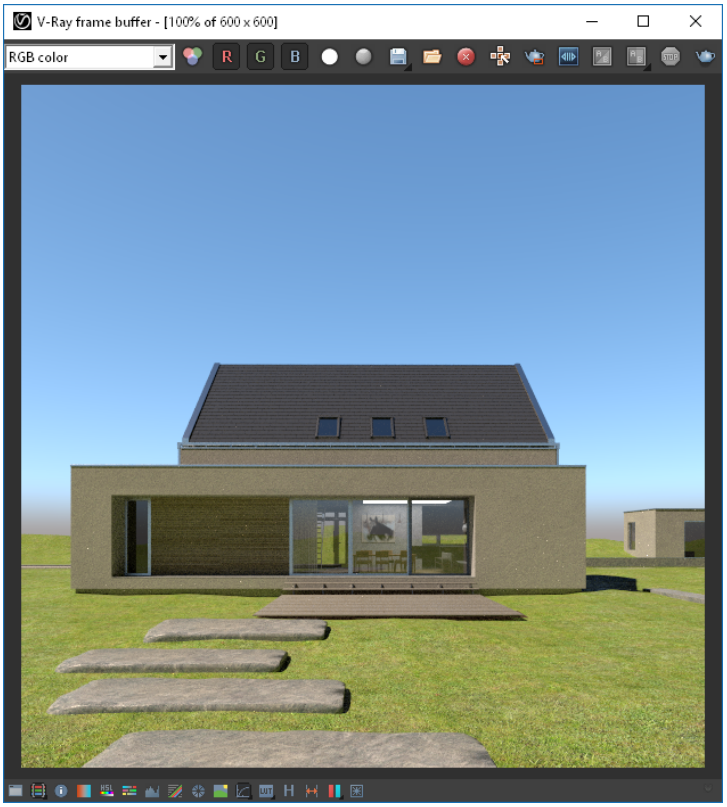
The newly created mesh light will be added to the **Asset Editor** where you can fine tune its properties. Increase its **Intensity** to about 60.



Set the **Time** to late morning again. Reset the camera back to the **Final Scene** view by clicking on the corresponding scene tab.

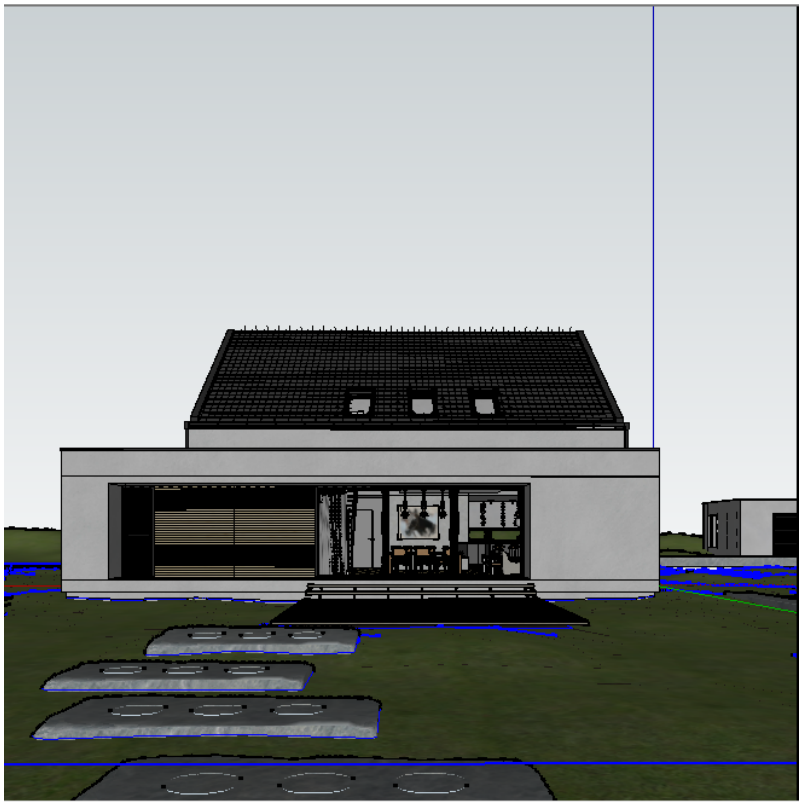


Here is what we have so far. Let's work on some nicer grass!



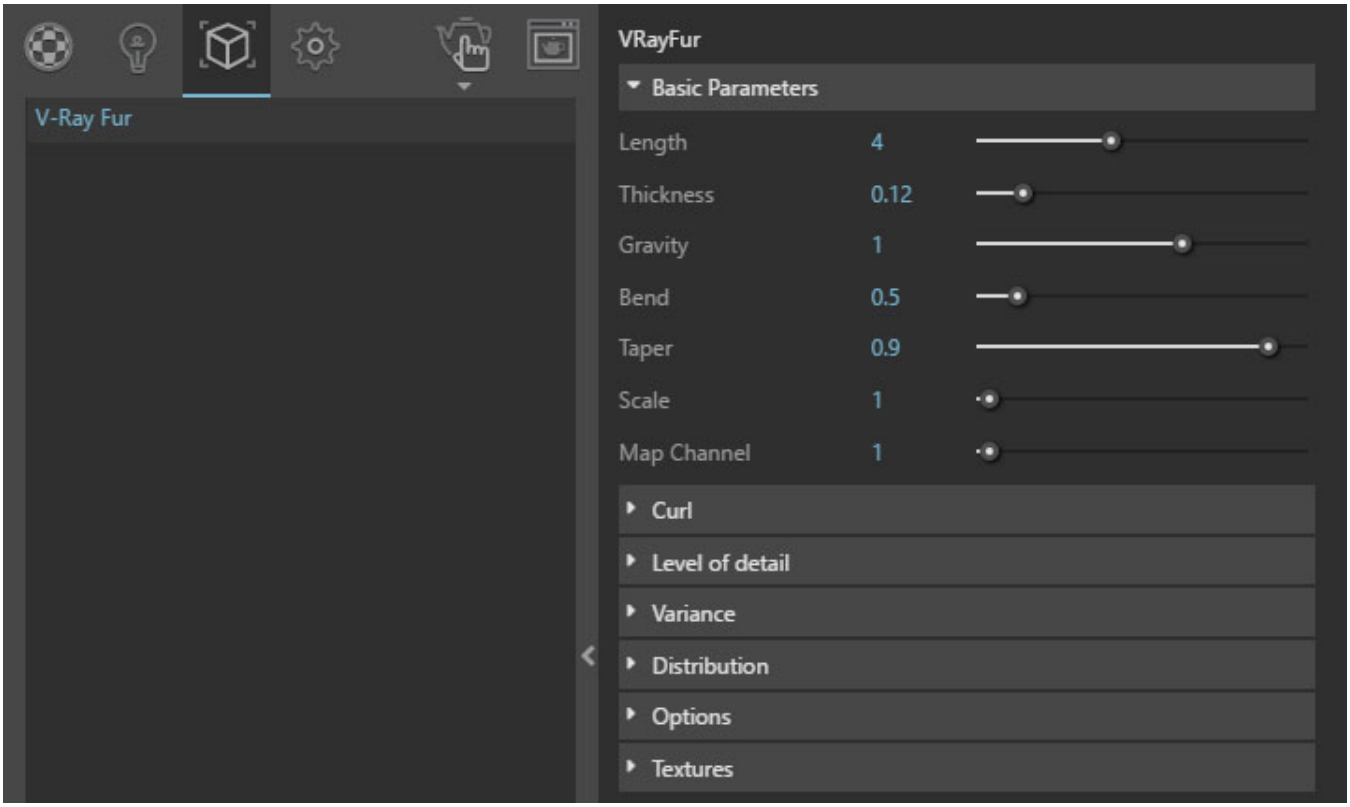
Creating Grass with V-Ray Fur

For efficiency, the grass should only be created on this section of geometry closest to the camera. This section of geometry has already been separately grouped for your convenience. Select it in the scene.



Next, click the **V-Ray Fur icon** in the **V-Ray toolbar**. This adds **V-Ray Fur** parameters to the selected object. Note that the fur will only be visible in the render, not in the SketchUp scene view.

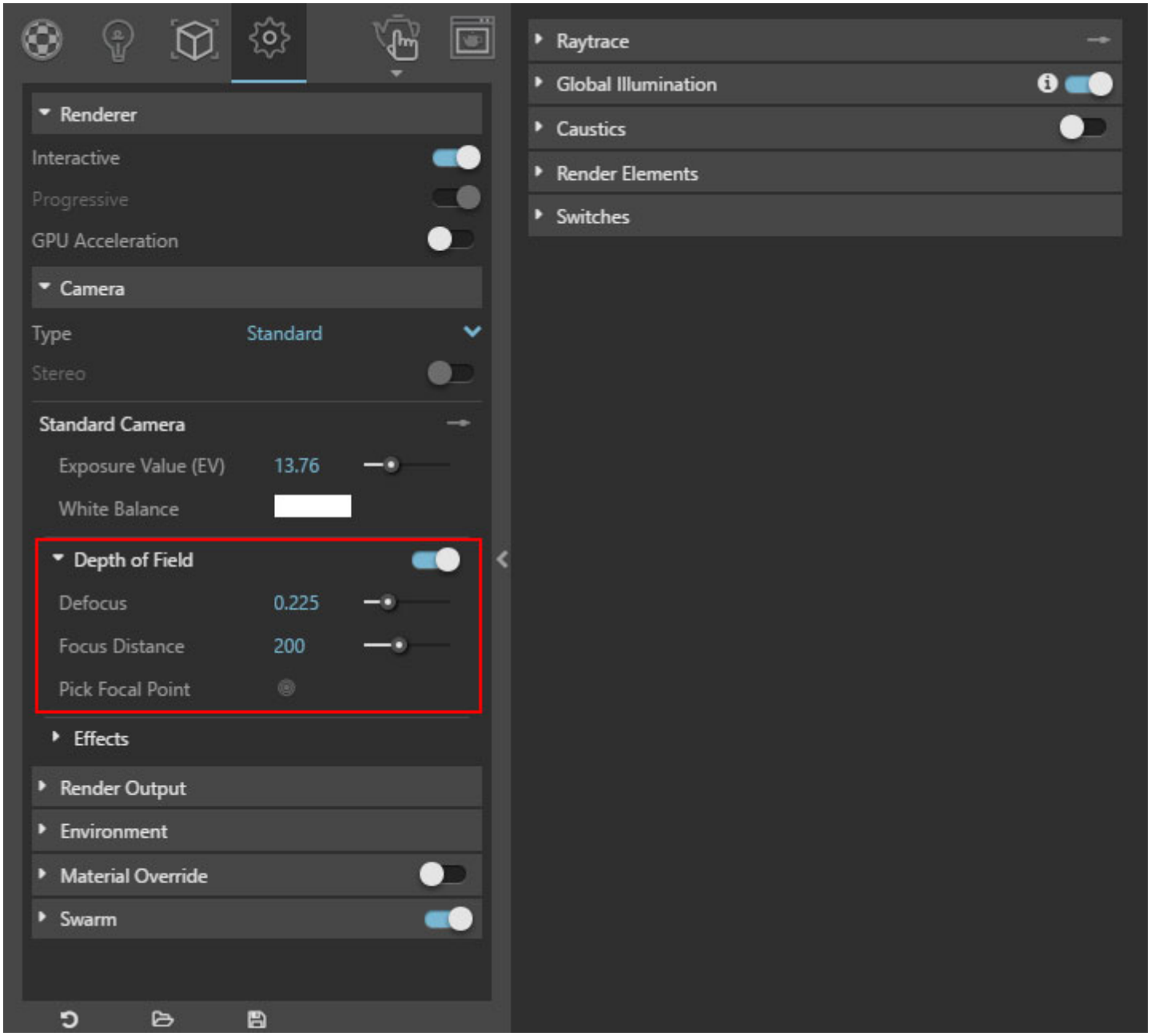
In the **Geometry section** of the **Asset Editor** you will see the newly created V-Ray Fur object. For ease of use, V-Ray Fur mimics standard grass by default. There are various other applications for V-Ray, but they will be covered in a later video.



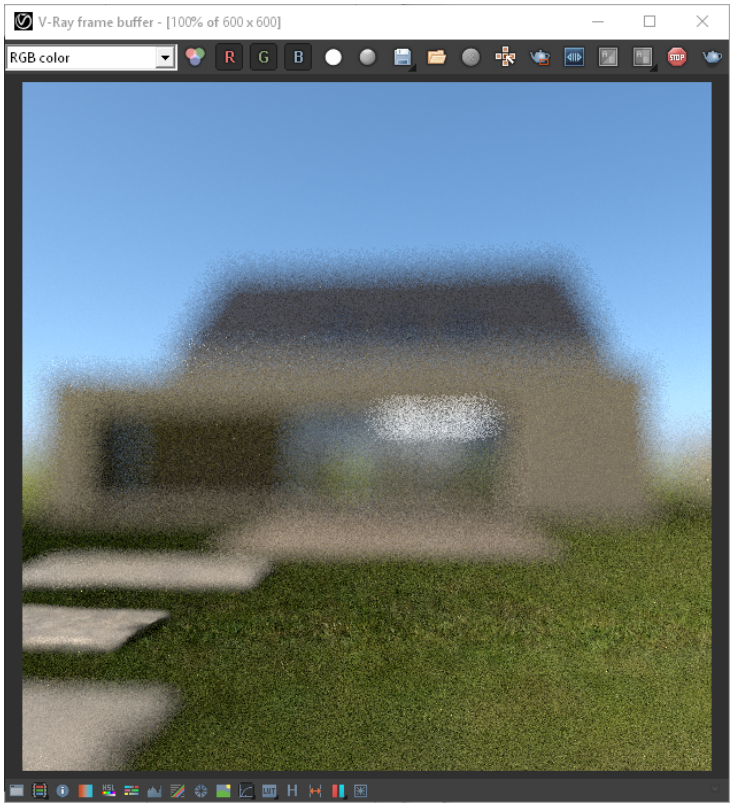
Let's get a better view of the grass. Turn off the **Lock Camera Orientation** button in the V-Ray Toolbar and move the camera down a bit, and settle into a view closer to the ground. You'll notice that there are actual blades of grass being rendered now.

Using Depth of Field

Before setting up the final render, we will cover how to setup depth of field. Navigate to the **Settings** section in the Asset Editor, and click open the **Camera** section. Enable **Depth of Field**, and you should notice the effect when the **VFB** updates.



Increase the **Defocus** value and you will notice the blur quickly affect the house. You will also notice that, by default, the camera's focal point is set fairly close to the camera.



To fix this set the **Focal Point**. In the Camera Settings, click the **Pick Focal Point** button and select a point on the wall of the house.

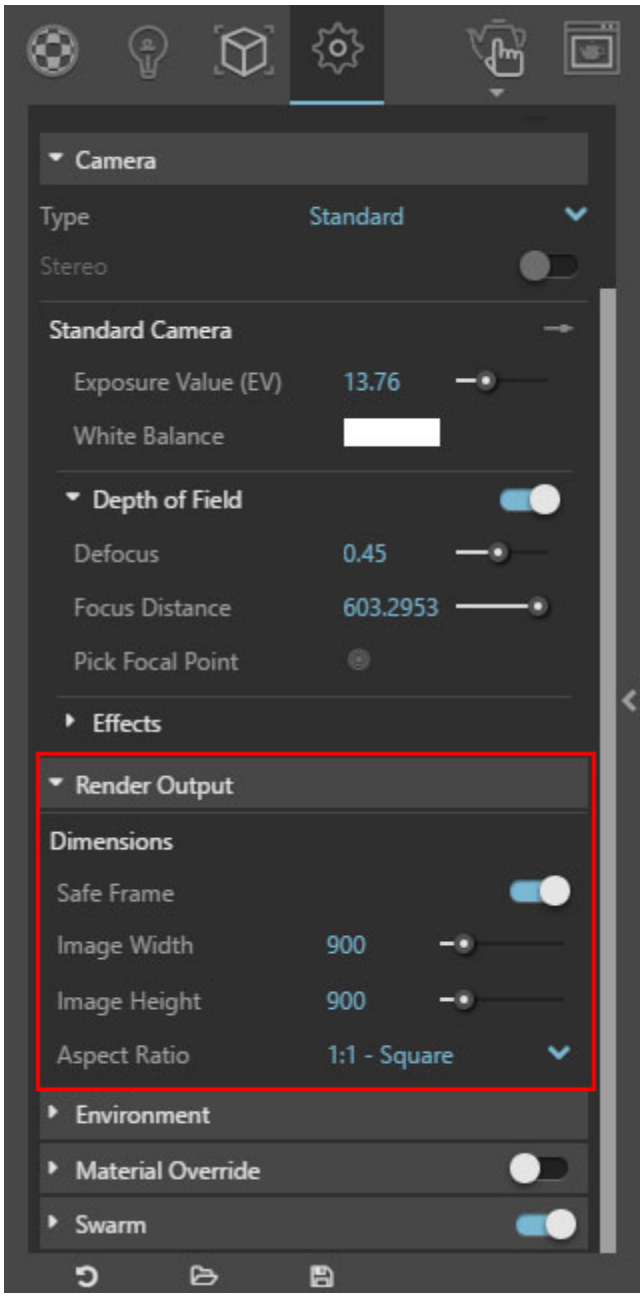
Right away the house will come into sharp focus, and the rest of the scene will be blurred.

The **Defocus** amount here is a bit much, so **set the value to about 0.45** to give us the hint of depth of field in the foreground and the background.

Setting up the Final Render

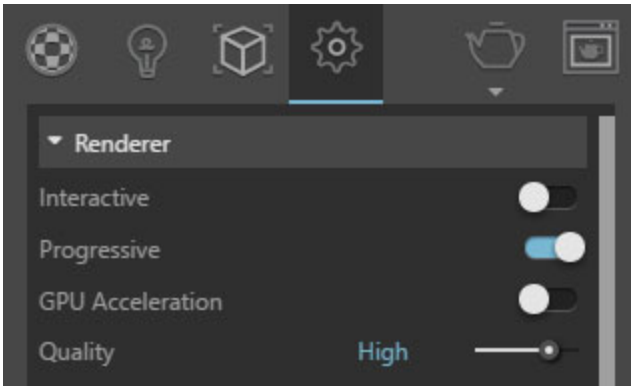
Now that the scene and camera settings are ready, let's get this going for a final render. **Stop** the **Interactive Render** by clicking the **Stop** icon in the **VFB**.

Click to expand the **Render Output** section in the **Asset Editor** and set the **image size to 900 by 900**. Of course, you can render any size and aspect ratio you wish by using the provided options.



At the top of the **Settings** section, navigate to the **Renderer** options and disable **Interactive** for the final render. With the **Progressive** option, which is enabled by default, the V-Ray renderer will render the entire image quickly in

Low quality and continue to increase the quality of the whole image over time. You can set your desired quality level here with the **Quality** slider which automatically balances image quality and the amount of time spent rendering. In this example, the value is set to **High**.



Make sure to re-align your view by clicking the **Final Scene** tab and then click the **Render with V-Ray** button. V-Ray will go through its rendering steps progressively, and you will see it develop in the **VFB** over time. Eventually, the renderer finishes resolving the image once it reaches High Quality. Here is our final rendered house: