

Mesh Light

This page provides information on V-Ray Mesh Light.

Overview

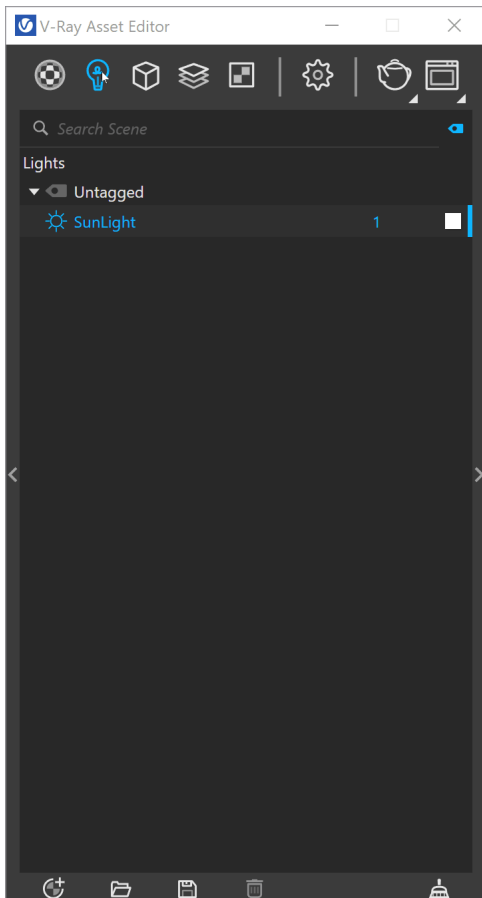
V-Ray Light Mesh can create light sources that have volume and shape without the need to use self illuminated objects and global illumination. It is useful for representing light sources that are not planar or spherical, such as string lights or lanterns.

If the Light Mesh is close to other surfaces in the scene, it is best to use it with GI enabled. That way V-Ray can use combined direct and GI sampling of the mesh light. Without GI, the light might produce noisy results for surfaces that are very close to it.

UI Paths

||V-Ray Asset Editor|| > **Lights** (right-click) > **Mesh Light**

||V-Ray Asset Editor|| > **Create Asset** (left-click) > **Lights** > **Mesh Light**



||V-Ray Lights Toolbar|| > **Mesh Light**



SketchUp Menus Ribbon

||Extensions|| > **V-Ray** > **Lights** > **Convert to Mesh Light**

Creating a Mesh Light

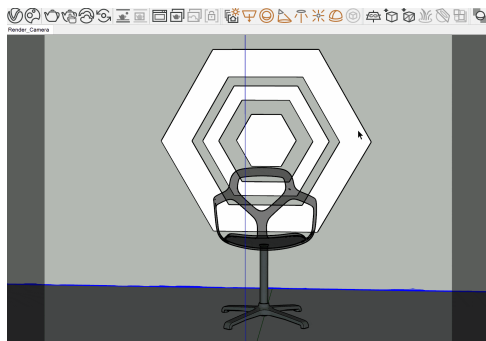
The V-Ray Mesh Light button in V-Ray Lights Toolbar is inactive until an object in the scene is selected. The V-Ray Mesh Light does not support nested groups or components and stays grayed out if a group or component contains other nested groups or components.

When you select a group or component in the scene, the V-Ray Mesh Light becomes active. See the example on the right.


The Mesh Light can only be applied to group or component objects in SketchUp (sometimes referred to as closed geometry). After creating a Mesh Light, a bounding box with Mesh Light icon appears in the viewport around the selected group or component. The bounding box and icon represent the newly applied Mesh Light properties.

The Mesh Light can be copied between groups or components by placing them inside a new group or component. The object then receives all associated object properties.

V-Ray Mesh Light can be created from the Geometry category of the Asset Editor. Then with right-click open the context menu and select the **Apply to Selection** option.



Parameters

Enabled () – Determines whether or not the Mesh Light emits light in the scene.

Color/Texture – Specifies the color of the light. A high dynamic range texture can be used. *Texture is not supported when rendering with V-Ray GPU.*

Intensity – Specifies the strength of the light. See [Intensity example](#) below for illustration.

Units – Specifies the light unit of measurement. Using correct units is essential when working with physical camera exposure. The light automatically takes the scene units scale into consideration to produce a correct result.

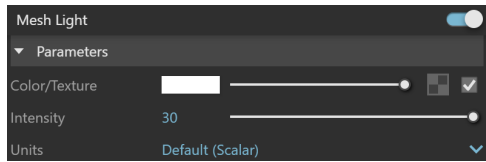
Default (Scalar) – The color and multiplier directly determine the visible color of the light without any conversion. The light surface will appear with the given color in the final image when seen directly by the camera.

Luminous Power (Lumens) – Total emitted visible light power measured in lumens. The intensity of the light will not depend on its size. A typical 100W incandescent light bulb emits about 1500 lumens of light.

Luminance (lm/m²/sr) – Visible light surface power measured in lumens per square meter per steradian. The intensity of the light depends on its size.

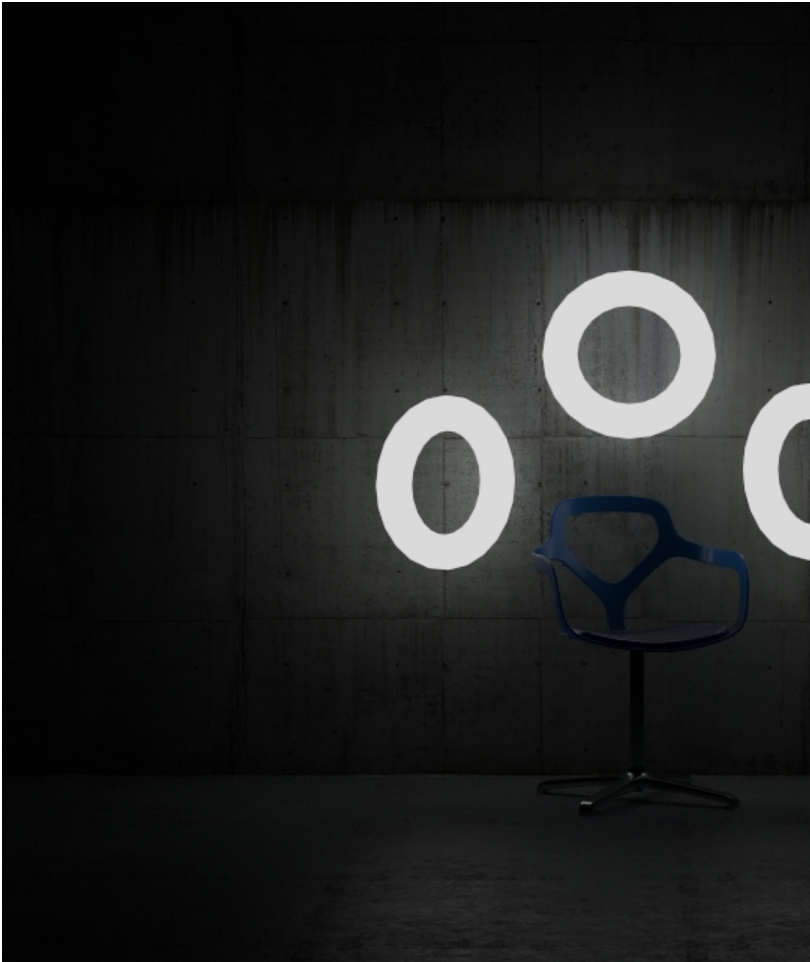
Radiant Power (W) – Total emitted visible light power measured in watts. The intensity of the light does not depend on its size. This is not the same as the electric power consumed by a light bulb for example. A typical 100W light bulb only emits between 2 and 3 watts as visible light.

Radiance (W/m²/sr) – Visible light surface power measured in watts per square meter per steradian. The intensity of the light depends on its size.

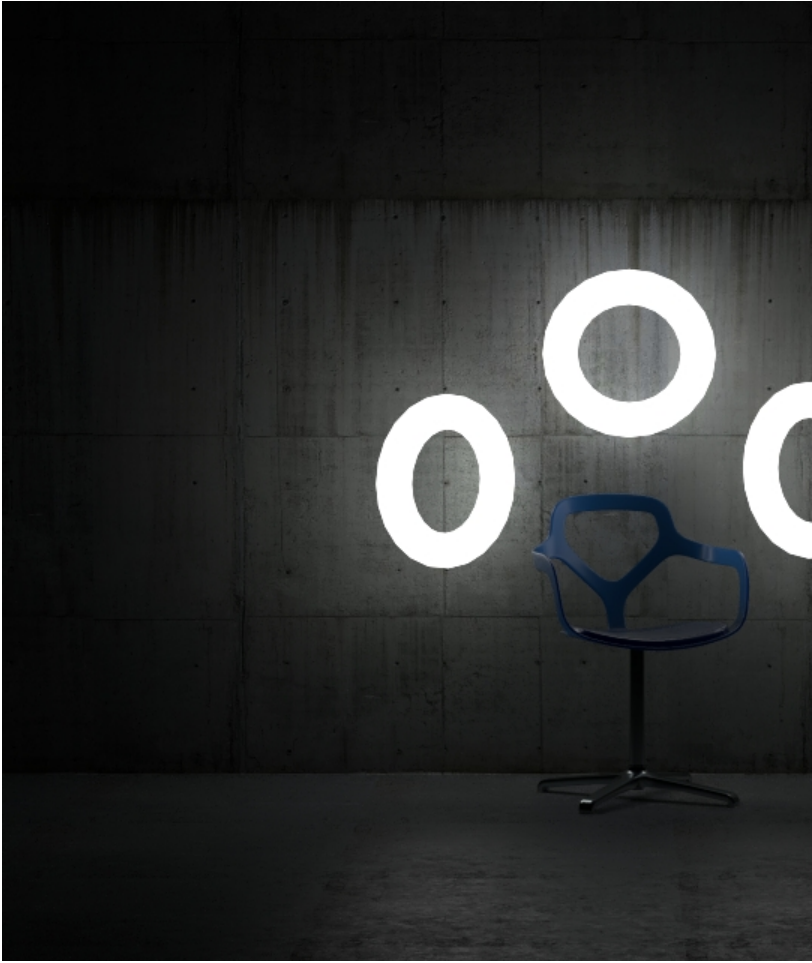


Example: Intensity

This example shows how the light in the scene changes based on the strength value.



Intensity = 15



Intensity = 30



Intensity = 45



Intensity = 60

15
60

Options

Invisible – When enabled, the shape of the light source is not visible in the render result. When disabled, the source is rendered in the current light color. This only affects the visibility of the light when seen directly by the camera or through refractions. The visibility of the light with respect to reflections is controlled by the **Affect specular** option. See [Invisibility example](#) below for illustration.

No Decay – The light intensity is inversely proportional to the square of the distance from the light (surfaces that are farther from the light source receive less than surfaces that are closer to the light). When this option is enabled, the intensity does not decay with distance.

Shadows – When enabled (default), the light casts shadows. When disabled, the light does not cast shadows.

Double Sided – When enabled, light will be emitted from back-facing polygons of the mesh as well.

Affect Diffuse – When enabled, the light affects the diffuse properties of the materials.

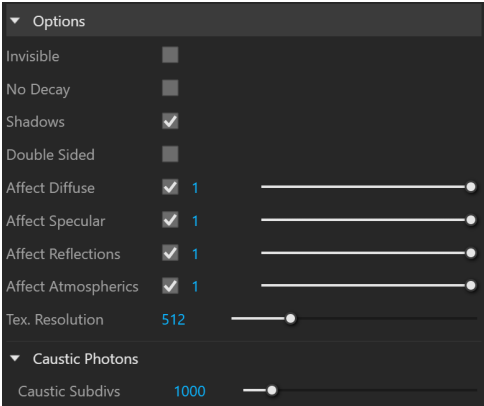
Affect Specular – When enabled, the light affects the specular of the materials.

Affect Reflections – When enabled, the light appears in the reflections of materials.

Affect Atmospherics – Specifies whether the light influences the atmospheric effects in the scene. The value determines the amount of involvement.

Tex. Resolution – Specifies texture resampling dimensions for importance sampling in order to produce better shadows without affecting how the texture itself is rendered. Note that this parameter is not supported yet in V-Ray GPU.

Caustic Subdivs – Used by V-Ray when calculating Caustics. Lower values produce noisy results but faster rendering. Higher values produce smoother results but take more time.



Example: Invisibility

The example below shows the difference between an invisible mesh light and visible mesh light.

on
off





Example: No Decay

This example below shows the difference when No Decay option is enabled or disabled.

Off
On





Example: Double-Sided

This example shows the difference between the Double-Sided option enabled and disabled.

off
on





Notes

- If a Mesh Light is applied to one instance of a component, it is automatically applied to all other instances as well. To apply it to a single instance of a component (out of many), first select the instance, right-click on it, choose **Make Unique**, and then apply the Mesh Light.
- Special objects can be removed from geometry by double clicking on the group/component, selecting the special object's widget and then selecting the Erase option from the context menu (right-click to open the context menu).
- Scene units in SketchUp are always calculated in inches.