

Rectangle Light

This page provides information on the V-Ray Rectangle Light.

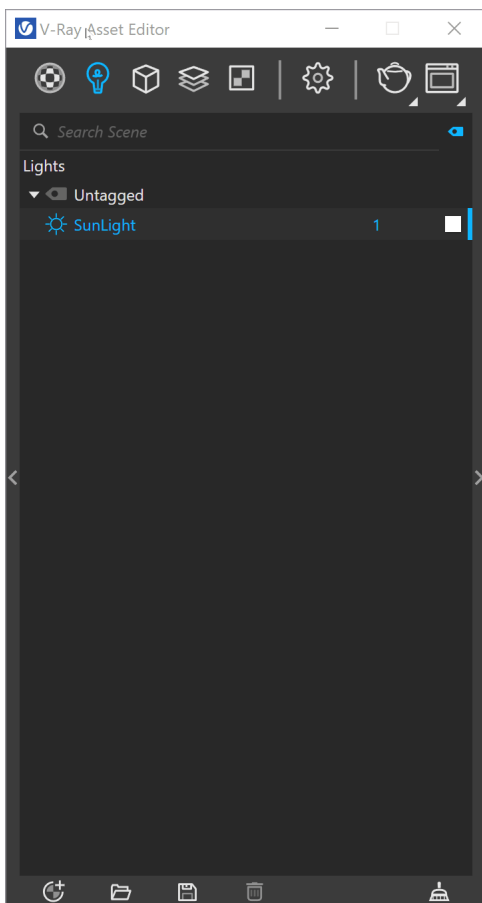
Overview

The V-Ray Rectangle Light, is a V-Ray specific light source plugin that can be used to create physically accurate area lights. It is a good general-purpose V-Ray light for lighting scenes to simulate real-world light sources like lamps and ceiling lights.

UI Paths

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

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




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



SketchUp Menus Ribbon

||Extensions|| > **V-Ray** > **Lights** > **Rectangle Light**

Parameters

Enabled () – Turns the V-Ray Rectangle Light on and off.

Color/Texture – Specifies the color of the light. A high dynamic range texture can be used. Make sure that the map checkbox is enabled for the texture to take effect. The light uses the texture's alpha as opacity map.

Intensity – Specifies the strength of the light.

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

Shape – Specifies the structure of the light object.

Rectangle – Sets the shape to a planar rectangle.

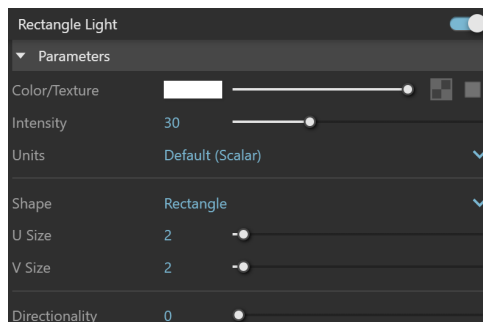
Ellipse – Sets the shape to a planar ellipse.

U Size – Determines the U size of the light measured in scene units. Additional light scaling does not affect this parameter.

V Size – Determines the V size of the light measured in scene units. Additional light scaling does not affect this parameter.

Size – Determines the light size measured in scene units. Available when the light Shape is **Disc**. Additional light scaling does not affect this parameter.

Directionality – When this value is 0, the light is spread out equally in all directions. Increasing this value makes the light beam more narrow and concentrates it in one direction. See the [Directionality example](#) below for illustration.



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.

No Decay – The light intensity is inversely proportional to the square of the distance from the light (surfaces that are farther from the light receive less light 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. Note that you should enable this option when using Portal Lights.

Double Sided – When enabled, light is emitted from both sides of the mesh. *For more information, see [Double Sided example](#) below.*

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

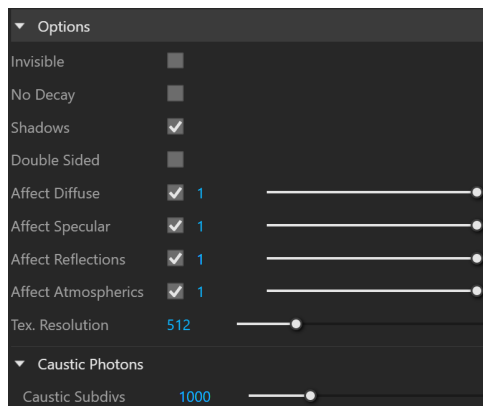
Affect Specular – When enabled, the light affects the specular of the materials.

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 the texture resampling dimensions for importance sampling in order to produce better shadows without affecting how the texture itself is rendered. This parameter does not work with V-Ray GPU. Instead, the texture resolution is resized to the specified amount.

Caustic Subdivs – Determines the number of caustic photons emitted from the light source. Lower values mean more noisy results but faster rendering. Higher values produce smoother results but take more time.



Example: Directionality

This example demonstrates how the light changes when Directionality value is changed, ranging from 0 to 1. When the value is closer to 1, the light is more focused towards one point, while when the value is closer to 0, the light spreads to all sides.



Directionality = 0.0



Directionality = 0.25



Directionality = 0.50



Directionality = 0.75



Directionality = 1.0

0.0
1.0

Example: Double Sided

This example demonstrates the behavior of the light when Double Sided option is enabled and disabled. When the Double Sided option is enabled, light is emitted from the two sides of the Rectangle light body.

Disabled
Enabled





Notes

- The Portal Light option in V-Ray Rectangle light is now a legacy option and is no longer exposed in the UI. Rectangle lights in files saved with previous V-Ray versions and this option enabled will still have it available. Regardless, for best performance consider disabling it and using the Adaptive Dome Light option instead.
- Scene units in SketchUp are always calculated in inches.