

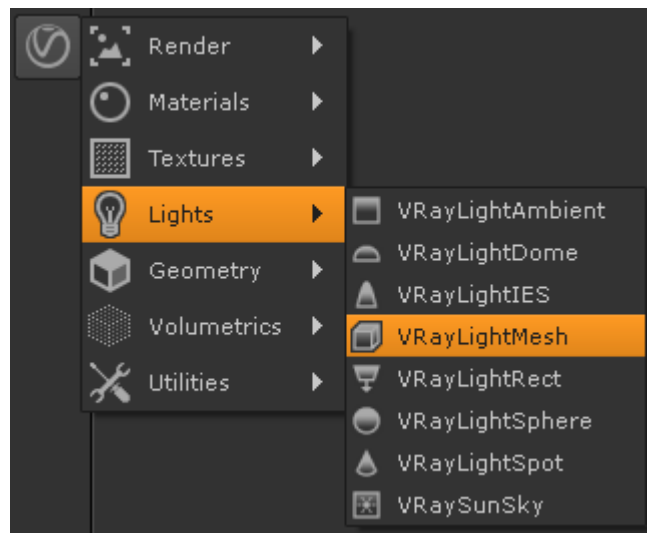
Mesh based Light | V-RayLightMesh

This page provides information on the V-RayLightMesh node.

Overview

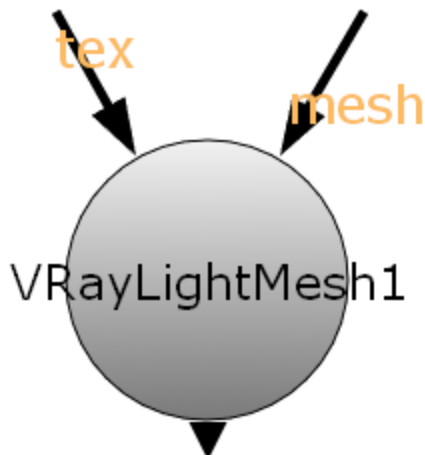
The V-RayLightMesh allows you to create direct mesh based lighting in your scene. Using this feature allows you to create light sources that have volume and shape without the need to use self illuminated objects and global illumination.

UI Path: ||Toolbar|| > **V-Ray menu icon** > **Lights** > **V-RayLightMesh**




Inputs

The V-RayLightMesh node has two inputs.



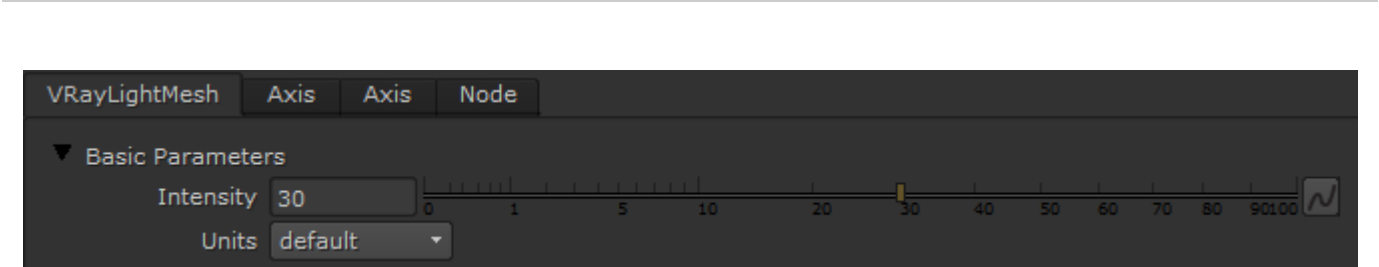
tex – Allows you to connect a texture to control the color of the illumination.

mesh – Connects the mesh that will be turned into a light source.



If the VRayLightMesh is close to other surfaces in the scene, it is best to use it with GI enabled. This will allow V-Ray to use combined direct and GI sampling of the mesh light for best results. Without GI, the light may produce noisy results for surfaces that are very close to it.

Basic Parameters



Intensity – Multiplier for the light color; this is also the light intensity in the units chosen by the intensity units parameter.

Units – Allows the user to choose the light units. Using correct units is essential when you are working with the [VRayCamera](#). The light will automatically take the scene units scale into consideration to produce the correct result for the scale you are working with. The possible values are:

Default (image) – 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 (assuming there is no color mapping involved).

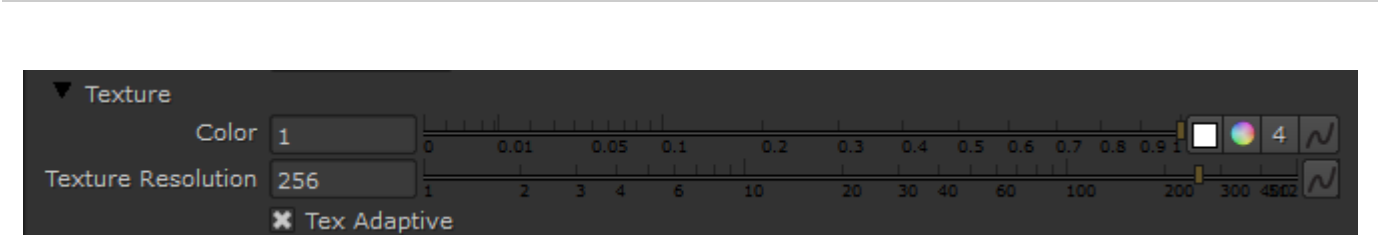
Lumens (lm) – Total emitted visible light power measured in lumens. When this setting is used, the intensity of the light will not depend on its size. A typical 100W electric bulb emits about 1500 lumens of light.

Liminance (lm/m²/sr) – Visible light surface power measured in lumens per square meter per steradian. When this setting is used, the intensity of the light depends on its size.

Watts – Total emitted visible light power measured in watts. When using this setting, the intensity of the light does not depend on its size. Keep in mind that 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. When this setting is used, the intensity of the light depends on its size.

Basic Parameters



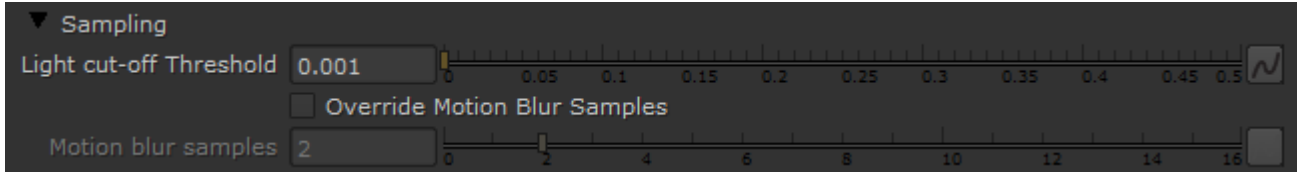
Color – The color of the light. When using photometric units, this color is normalized so that only the color hue is used, whereas the light intensity is determined by the **Intensity Multiplier**.

Texture Cache resolution – Specifies the resolution at which the texture is cached.

Tex Adaptive – When enabled, V-Ray will use importance sampling on the texture in order to produce better shadows.

These parameters are not supported by V-Ray GPU render.

Sampling

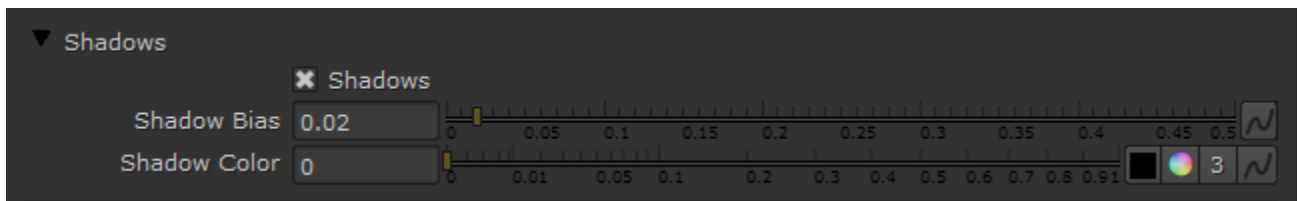


Light cutoff threshold – Specifies a threshold for the light intensity, below which the light will not be computed. This can be useful in scenes with many lights, where you want to limit the effect of the lights to some distance around them. Larger values cut away more from the light; lower values make the light range larger. If a value of 0.0 is specified, the light will be calculated for all surfaces.

Override motion blur samples – Allows the user to override the default number of samples that will be used to sample the current light for motion blur.

Motion blur samples – When **Override motion blur samples** is enabled, this value will be used when sampling the motion blur created by the current light.

Shadows

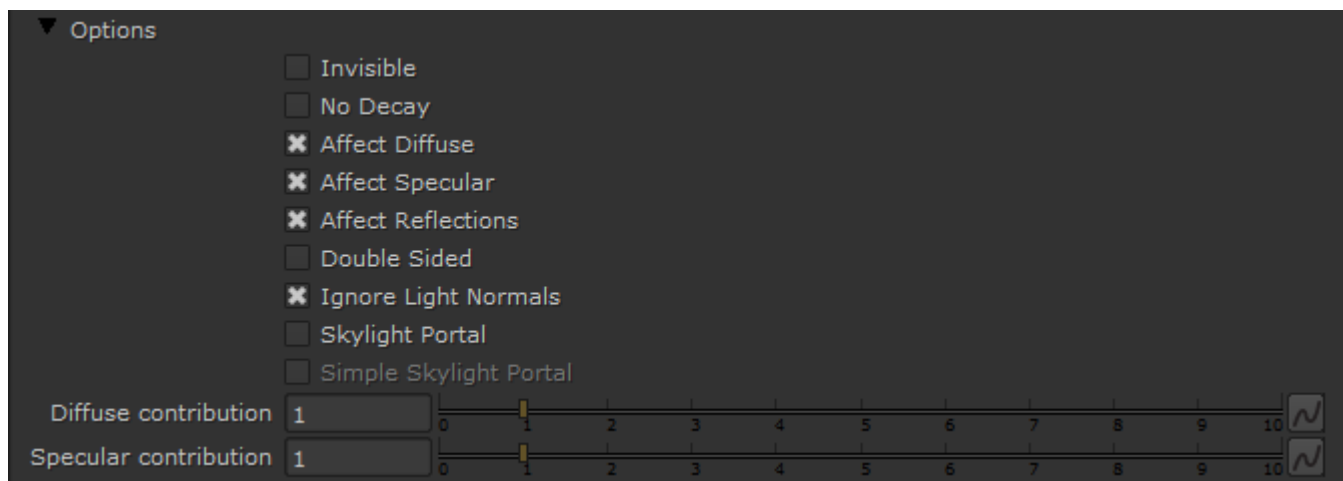


Shadows – When enabled (the default), the light casts shadows. Turn this option off to disable shadow casting for the light.

Shadow bias – Moves the shadow toward or away from the shadow-casting object (or objects). If the value is too low, shadows can "leak" through places they shouldn't, produce moire patterns or create out-of-place dark areas on meshes. If the Shadow bias is too high, shadows can "detach" from an object. If the value is too extreme in either direction, shadows might not be rendered at all.

Shadow Color – Controls the color of shadows for this light. Note that anything different from black is not physically correct.

Options



Invisible – Controls whether the shape of the V-RayLightMesh source is visible in the render result. When disabled, the source is rendered in the current light color. Otherwise it is not visible in the scene. Note that this option 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** and **Affect Reflections** options.

No decay – Normally the light intensity is inversely proportional to the square of the distance from the light (surfaces that are farther from the light are darker than surfaces which are closer to the light). When this option is enabled, the intensity will not decay with distance. See [the Real-World Lights have inverse Square Falloff](#) example for more information.

Affect Diffuse – Determines whether the light is affecting the diffuse properties of the materials.

Affect Specular – Determines whether the light is affecting the specular of the materials. This means glossy reflections.

Affect Reflections – Determines whether the light will appear in reflections of materials. This means both perfect and glossy reflections.

Double Sided – This option controls whether light is beamed from both sides of each face. See [the Single-Sided vs. Double-Sided Lights](#) example for more information.

Ignore Light Normals – Normally, the surface of the source emits light equally in all directions. When this option is disabled, more light is emitted in the direction of the source surface normal.

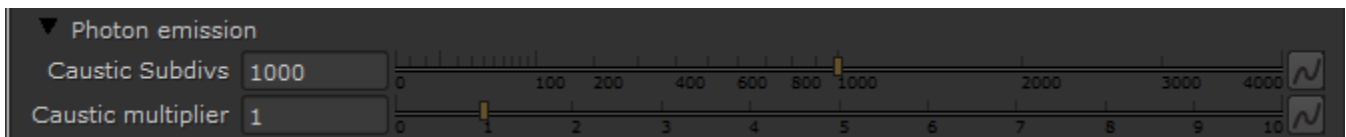
Skylight Portal – When enabled, the **Color** and **Intensity** parameters are ignored; instead the light will take its intensity from the environment behind it.

Simple Skylight Portal – This option is only enabled if the **Skylight Portal** option is on. It tells the V-RayLightMesh that there is nothing of interest behind the light itself, and so the environment color can be used directly. Normally, the portal light takes its color from whatever objects are behind it. In order to do this, the light traces additional rays, which may slow down the rendering. Turning this option on makes the rendering of portal lights faster.

Diffuse contribution – A multiplier for the effect of the light on the diffuse.

Specular contribution – A multiplier for the effect of the light on the specular.

Photon Emission

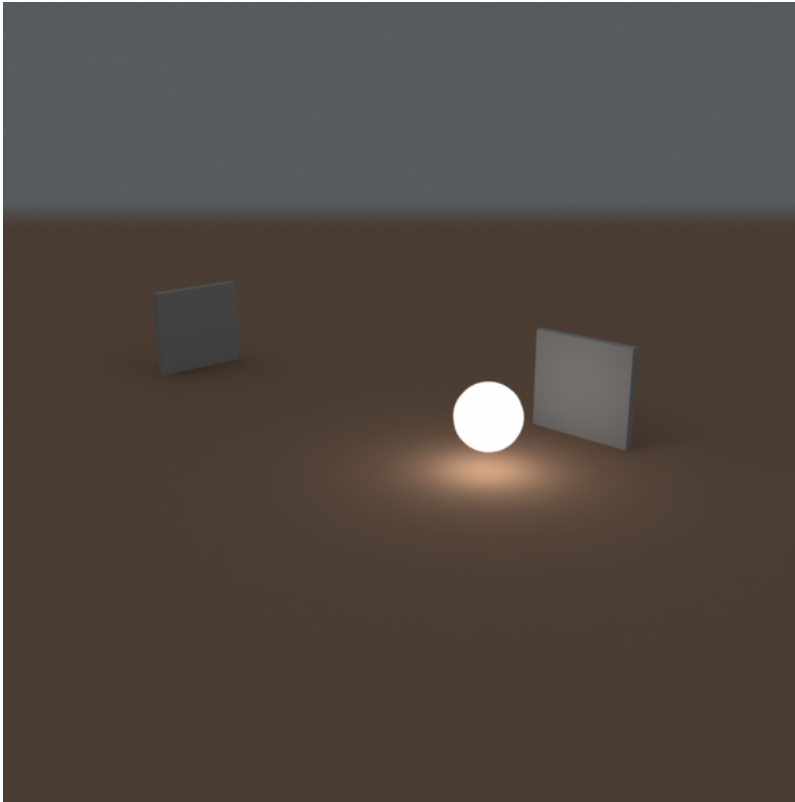


Caustics Subdivs – This value is used by V-Ray when calculating Caustics. Lower values mean more noisy results, but will render faster. Higher values produce smoother results but take more time.

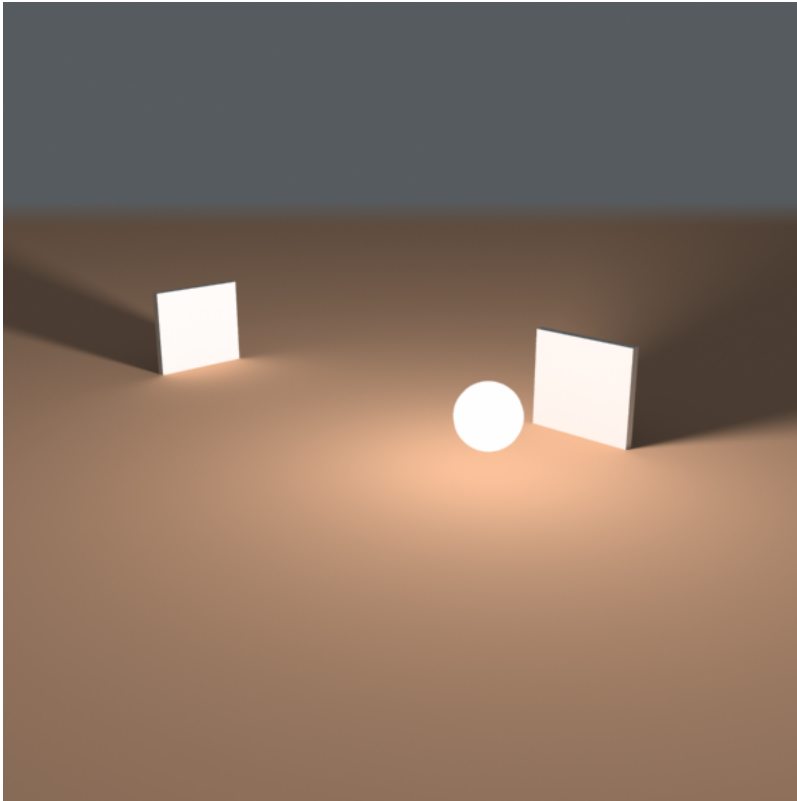
Caustics Multiplier – This value is a multiplier for the generated caustics by the selected light. Note that this multiplier is cumulative - it does not override the multiplier in the [Caustics](#) render roll-out section.

Example: Real-World Lights have inverse Square Falloff

The following images demonstrate the No decay parameter. In the real world the light sources attenuate with the inverse square of the distance from the light to the shaded surface. The settings for the light source the same for both images with the exception of the Decay parameter:



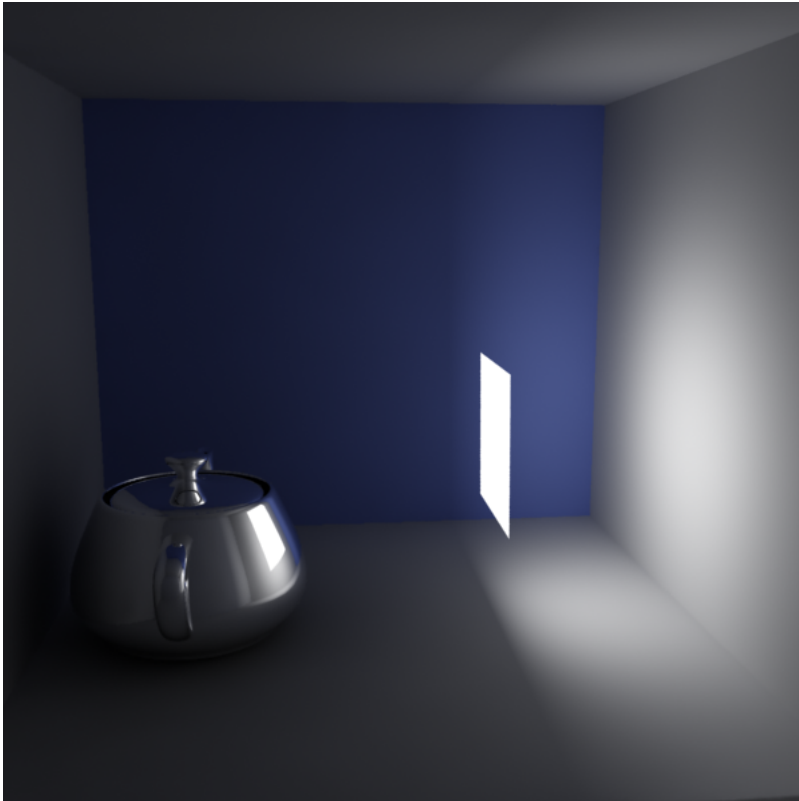
No decay is off (default).



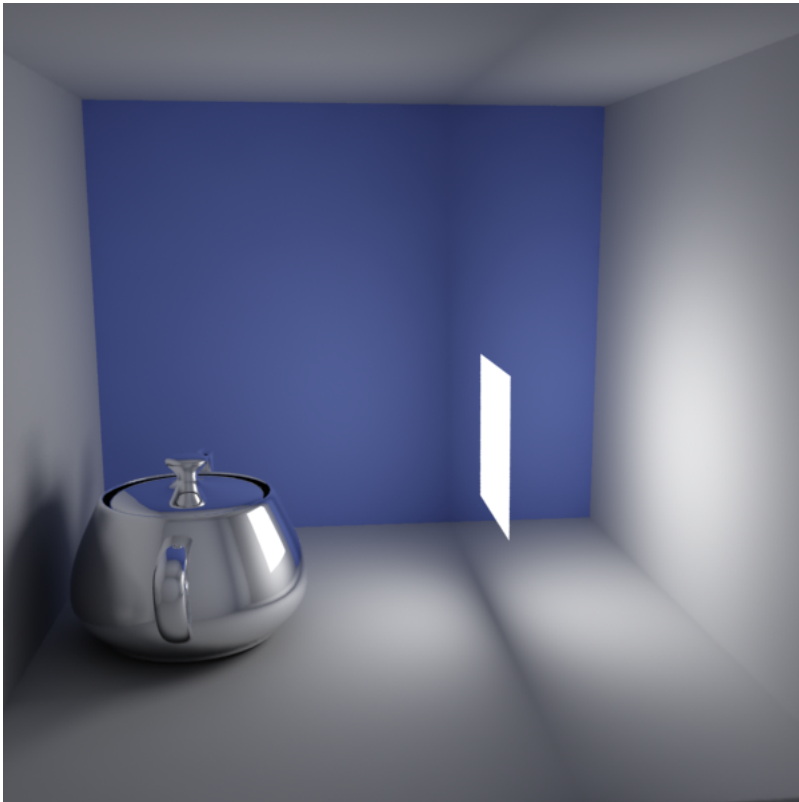
No decay is on.

Example: Single-Sided vs. Double-Sided Lights

This example demonstrates the difference between a single-sided and a double-sided planar area light.



Double Sided is off.



Double Sided is on.

