

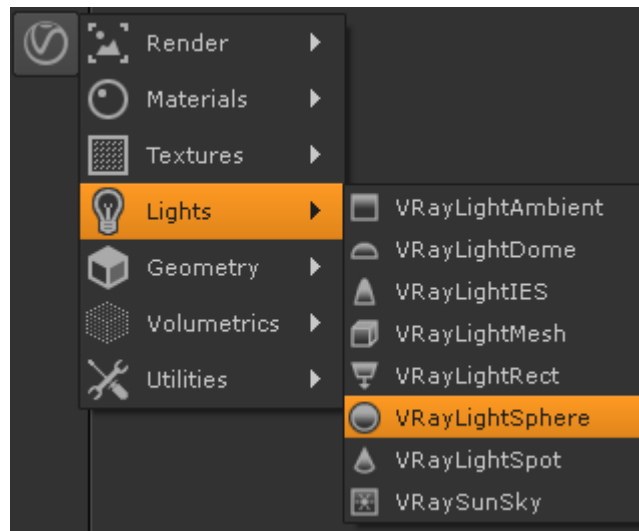
Sphere or Point Light | V-RayLightSphere

This page provides information on the V-RayLightSphere node.

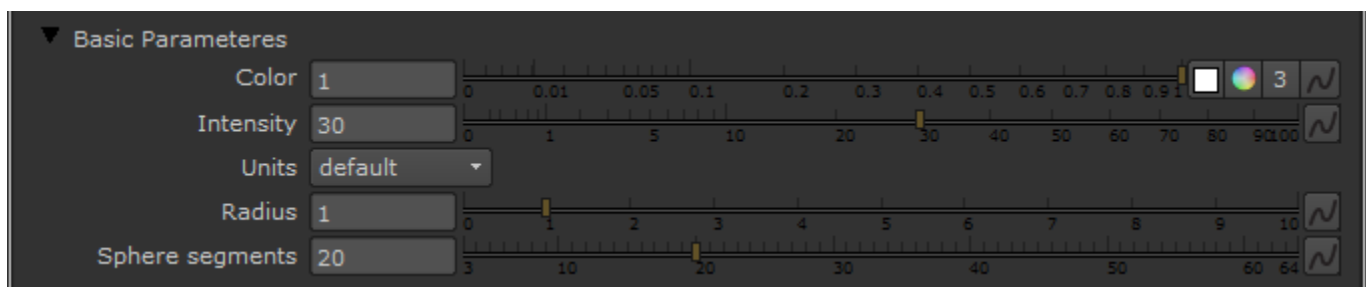
Overview

The V-RayLightSphere is a V-Ray light object which has the shape of a sphere.

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



Basic Parameters



Color – Controls 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**.

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. 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 – 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 – 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.

lm/m/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.

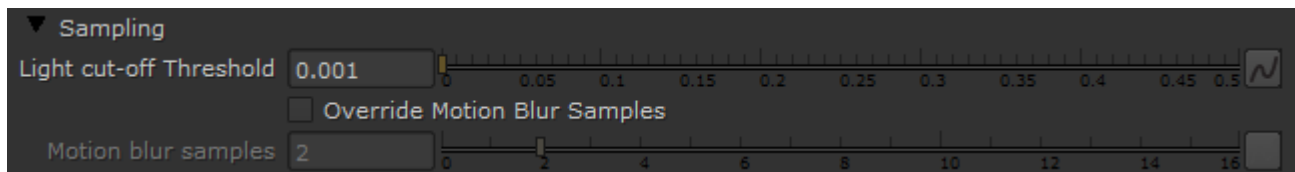
Watts – Total emitted visible light power measured in watts. When using this setting, the intensity of the light does not depend on its size. Keep in mind that this is not the same as the electric power consumed by a light bulb for example. A typical 100W light bulb only emits between 2 and 3 watts as visible light.

w/m/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.

Radius – The radius of the light source, measured in scene units.

Sphere segments – Controls the quality of the light object when it is visible either directly or in reflections. A bigger number makes the sphere smoother.

Sampling

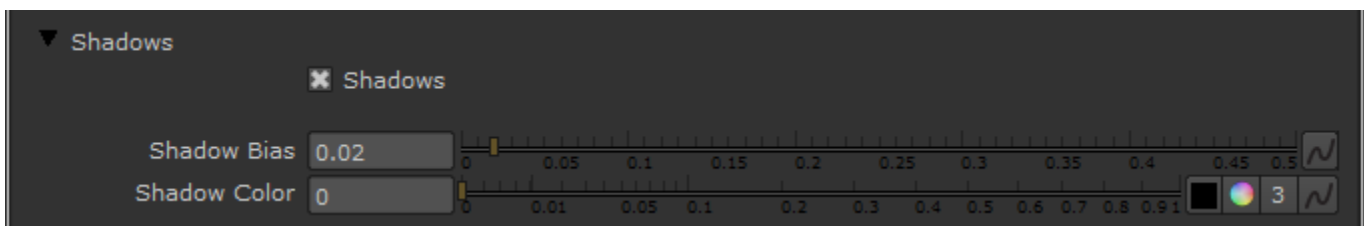


Light cutoff threshold – This parameter specifies a threshold for the light intensity, below which the light will not be computed. This can be useful in scenes with many lights, where you want to limit the effect of the lights to some distance around them. Larger values cut away more from the light; 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 the **Override motion blur samples** is enabled, this value will be used when sampling the motion blur created by the current light.

Shadows



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

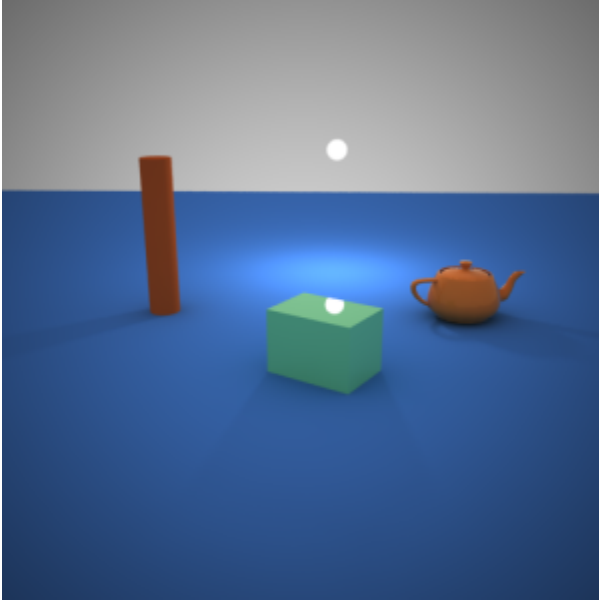
Shadow Bias – Moves the shadow toward or away from the shadow-casting object (or objects). If the value is too low, shadows can "leak" through places they shouldn't, produce moire patterns or create out-of-place dark areas on meshes. If the Shadow bias is too high, shadows can "detach" from an object.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

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

Example: Size of Lights, Shadows and Intensity

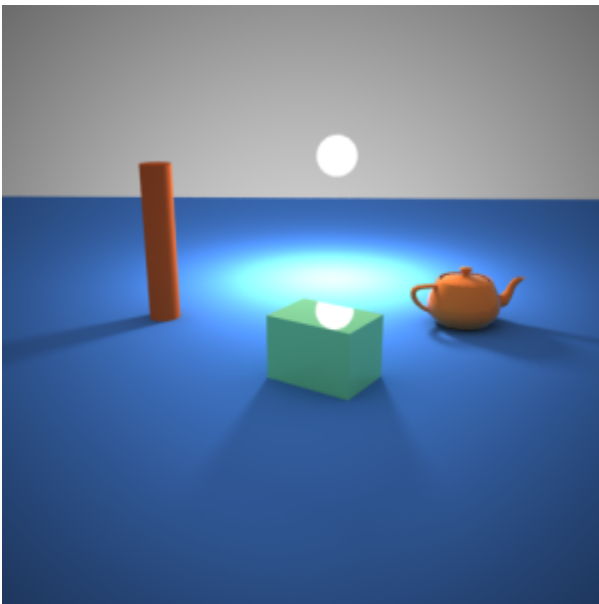
The following images show how the size of a light affects shadows. Bigger lights produce blurrier shadows, while smaller lights produce sharper shadows:

Radius = 2



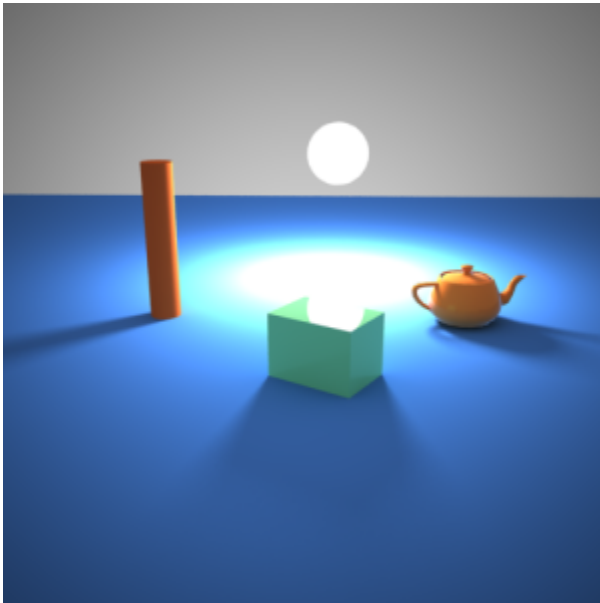
Units = default
Intensity mult = 100

Radius = 4

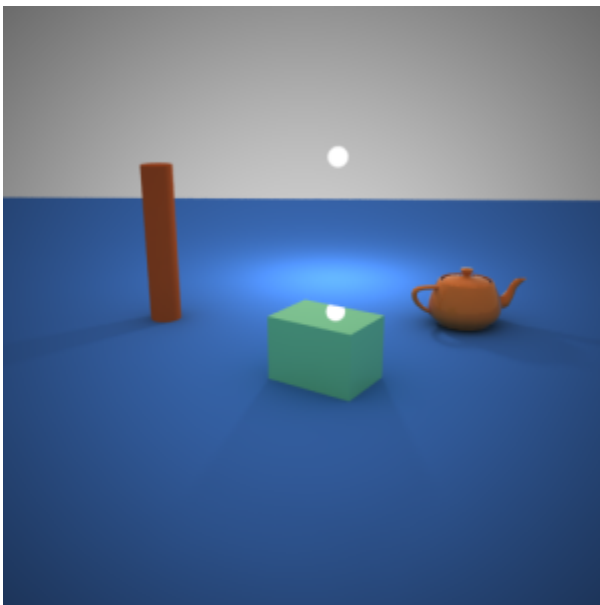


Units = default
Intensity mult = 100

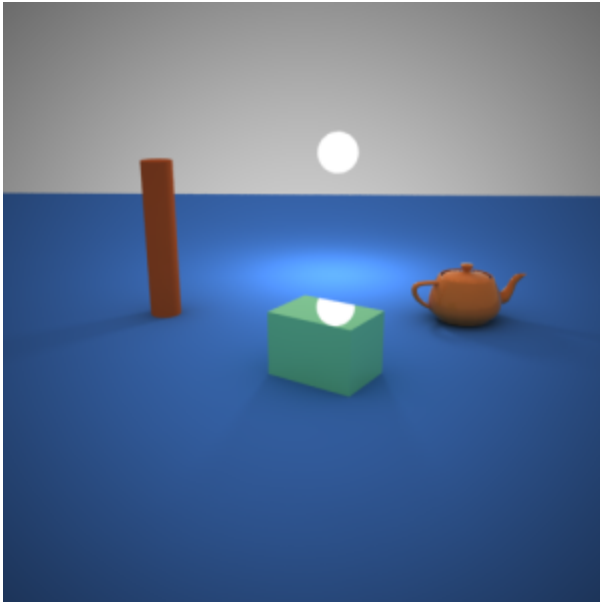
Radius = 6



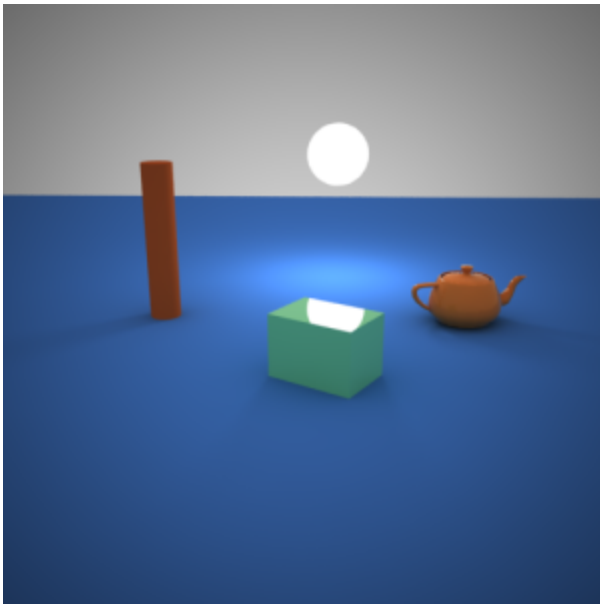
Units = default
Intensity mult = 100



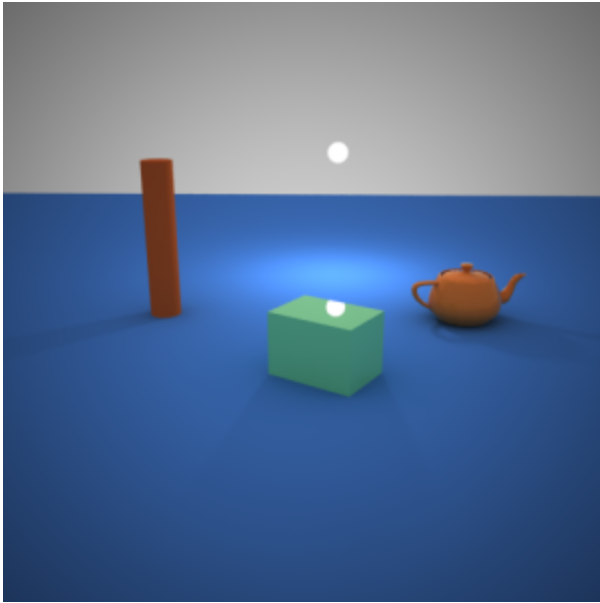
Units = Lumens
Intensity mult = 800



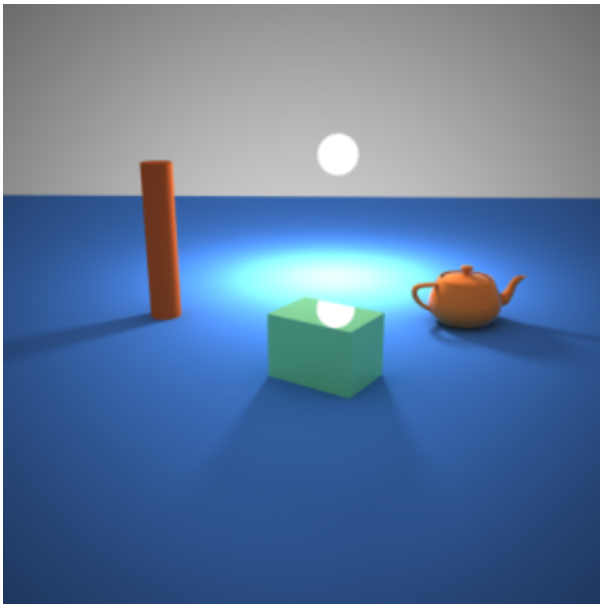
Units = Lumens
Intensity mult = 800



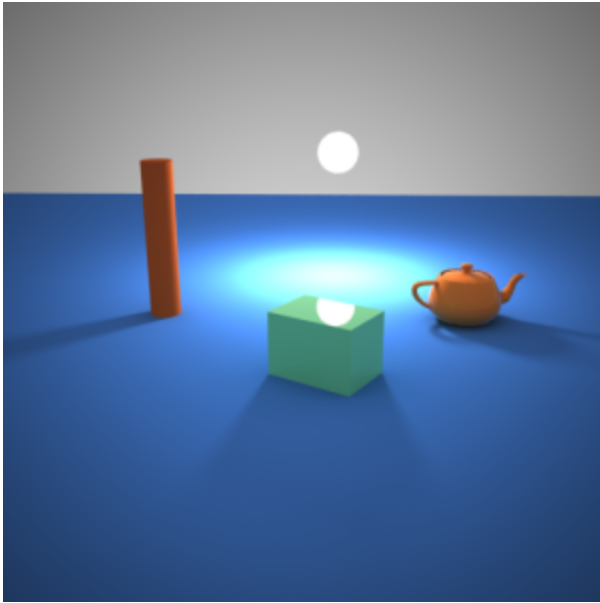
Units = Lumens
Intensity mult = 800



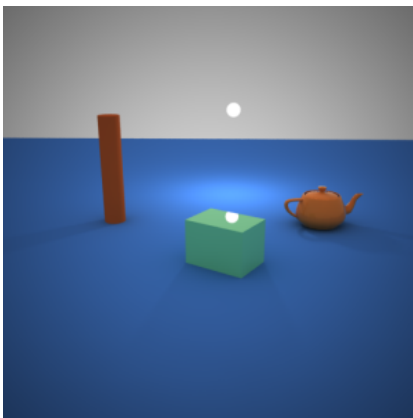
Units = lm/m/m/sr
Intensity mult = 5



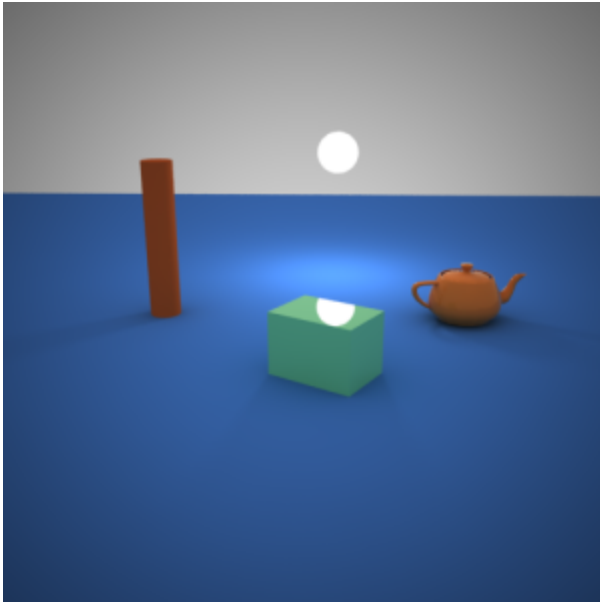
Units = lm/m/m/sr
Intensity mult = 5



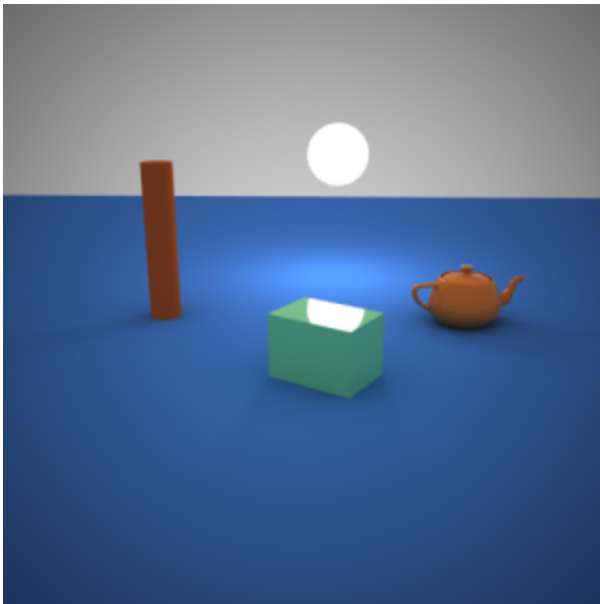
Units = lm/m/m/sr
Intensity mult = 5



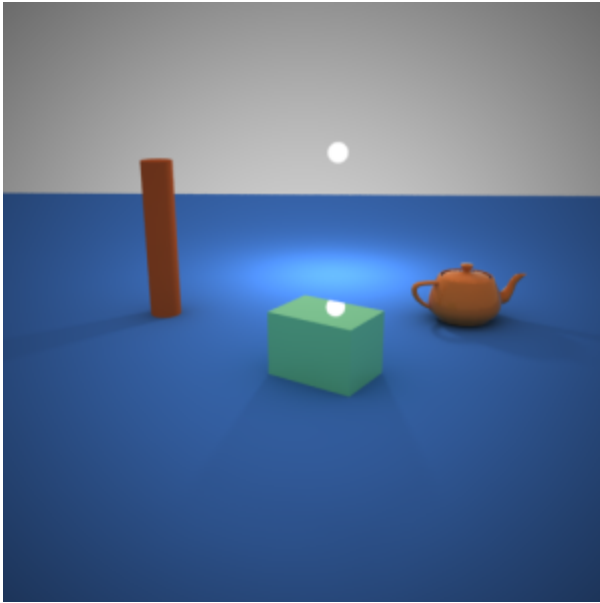
Units = Watts
Intensity mult = 1



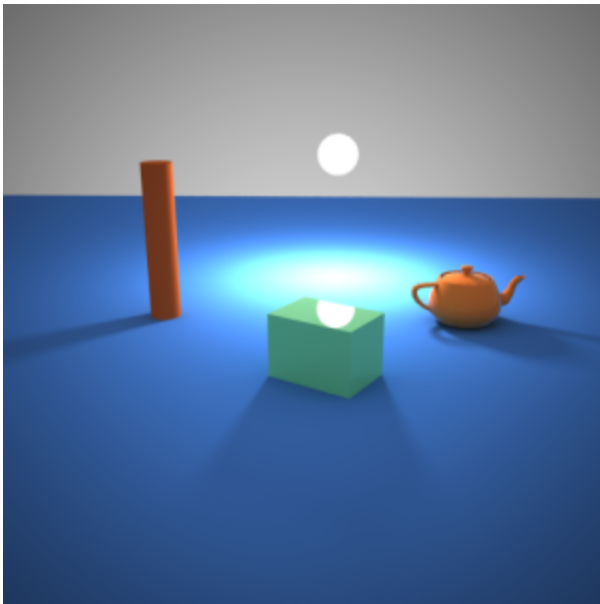
Units = Watts
Intensity mult = 1



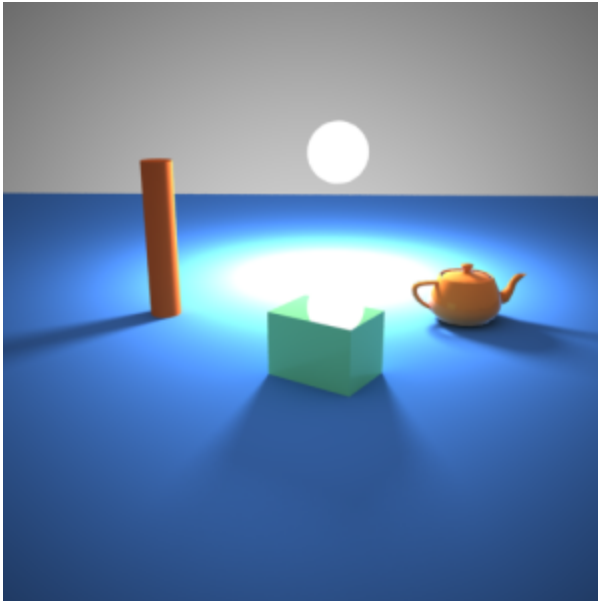
Units = Watts
Intensity mult = 1



Units = W/m/m/sr
Intensity mult = 0.008



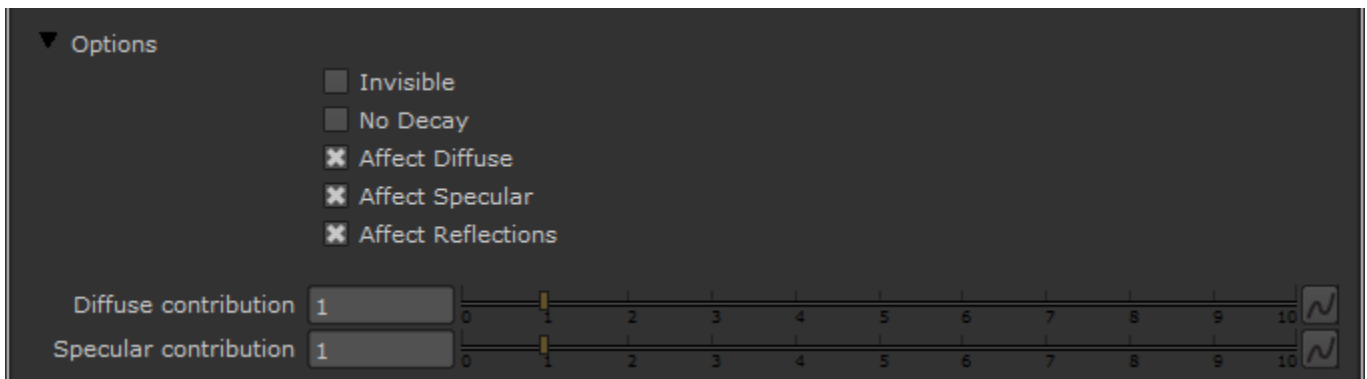
Units = W/m/m/sr
Intensity mult = 0.008



Units = W/m/m/sr
Intensity mult = 0.008

Notice that when we set the **Units** to **Watts** and **Lumens** the light appears to be of the same intensity. This is because the emitted light does not depend on the size of the light. The other three units depend on the size of the light - larger surfaces emit more light, that is why the intensity of the light increases with the radius of the light source. Note that the Intensity multiplier had to be adjusted for the different units in order to produce similar light intensity in the first images. However the multiplier is the same for each set of three images.

Options



Invisible – This setting controls whether the shape of the light source is visible in the render result. When this option is turned off 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 on the intensity will not decay with distance. *For more information, see the [Real-World Lights have Inverse Square Falloff example](#) below.*

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

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

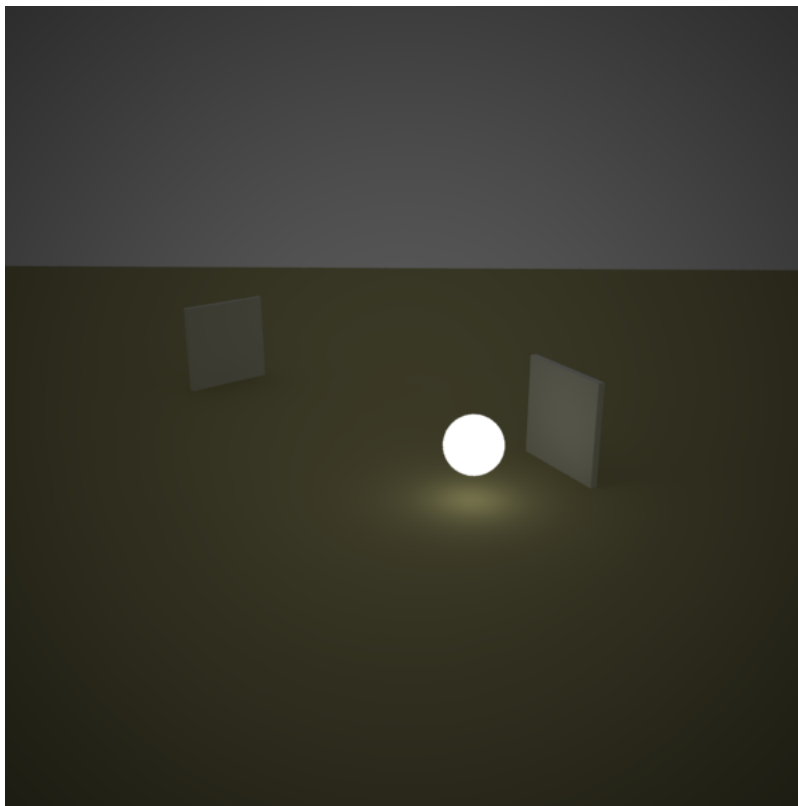
Affect Reflections – This determines whether the light will appear in reflections of materials. This means both perfect and glossy reflections.

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

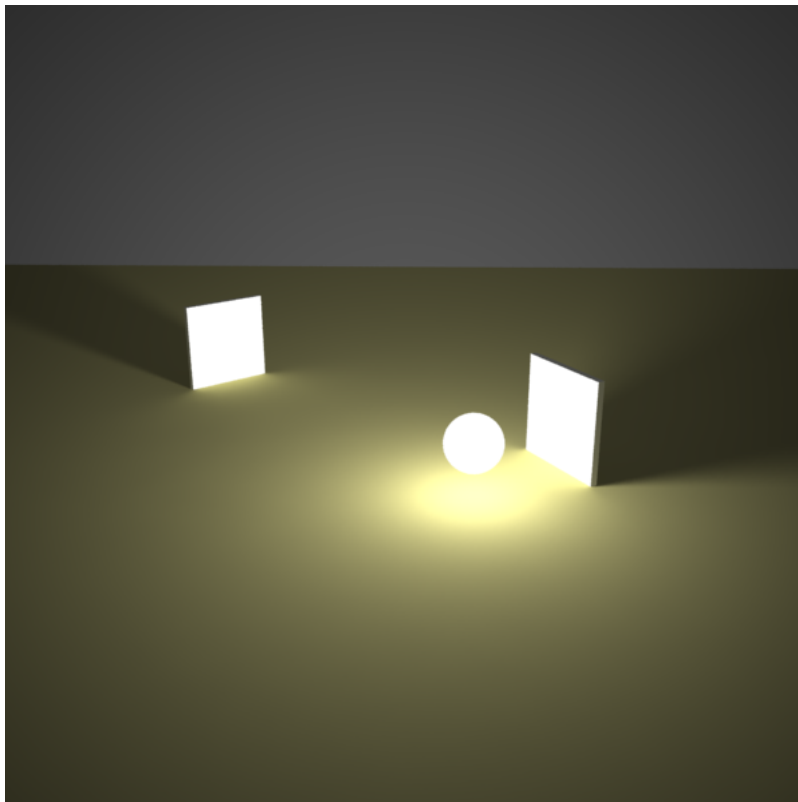
Specular contribution – A multiplier for the effect of the light on the specular.

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. However you can disable light decay to achieve a light with constant intensity. The settings for the light source are the same for both images with the exception of the Decay parameter:

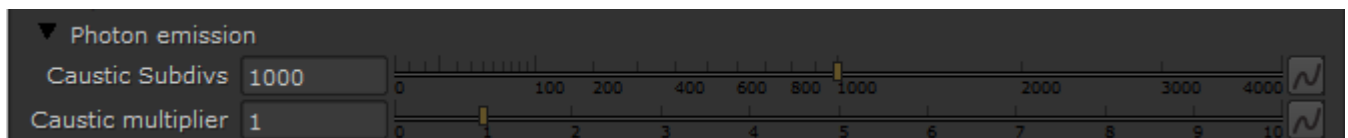


No decay is off (default)



No decay is on

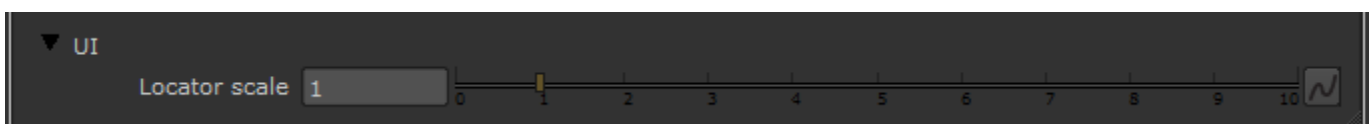
Photon Emission



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.

UI



Locator scale – Allows you to control the size of the dome light locator in the scene