26.14.14 Editors - Properties Editor - Object Data Properties Tab - Light Probe Object

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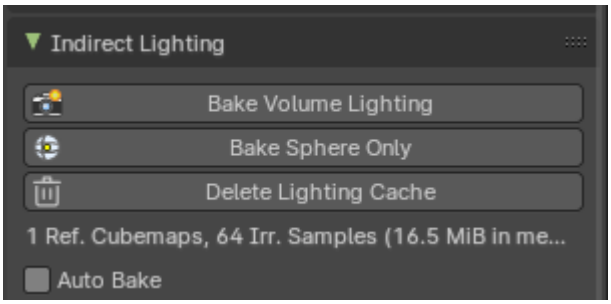
Light Probes



Probe objects are just useful for EEVEE (Legacy) and EEVEE. Working with Light probes is a real time render technique. The light gets precalculated into a light probe object then uses to light the scene indirectly.

There are three different probe types. Volume and Plane is meant for specular lighting. Sphere is used for diffuse lighting.

To work with the light probes you need to bake them. Baking lightprobes happens in the Render properties tab in the Indirect Lighting panel.

Sphere

Adds a reflective light probe in sphere shape.

Volume

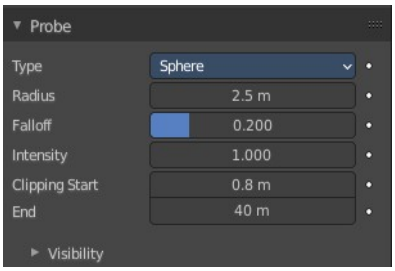
Adds a volumetric array light probe in a bounding box.

Plane

Adds a reflective light probe in plane shape.

Probe panel

Sphere



Type

The type of the influence volume. It can either sample a sphere or a bounding box.

Radius

A probe object only influences the lighting of nearby surfaces. This influence zone is defined by the Distance parameter and object scaling. The influence distance varies is a bit, depending on the probe type.

For Reflection Cubemaps the influence volume can either be a box or a sphere centered on the probe's origin.

Falloff

Percentage of the influence distance during which the influence of a probe fades linearly.

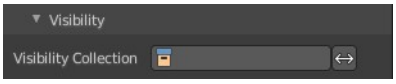
Intensity

Intensity factor of the recorded lighting. Making this parameter anything other than 1.0 is not physically correct. Use it for tweaking or artistic purposes.

Clipping Start / End

Define the near and far clip distances when capturing the scene.

Visibility



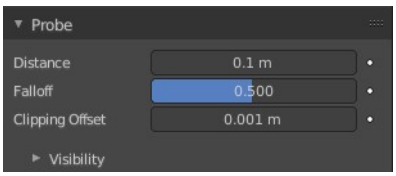
Visibility Collection

Sometimes, it is useful to limit which objects appear in the light probe's captured lighting. For instance, an object that is too close to a capture point might be better excluded. This is what the visibility collection does. Only objects that are in this collection will be visible when this probe will capture the scene.

There is also an option to invert this behavior and effectively hide the objects inside this collection.

Note! This is only a filtering option. That means if an object is not visible at render time it won't be visible during the probe render.

Plane



Distance

A probe object only influences the lighting of nearby surfaces. This influence zone is defined by the Distance parameter and object scaling. The influence distance varies is a bit, depending on the probe type.

For Reflection Planes the influence distance is the distance from the plane. Only surfaces whose normals are aligned with the Reflection Plane will receive the captured reflection.

Falloff

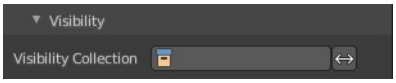
Percentage of the influence distance during which the influence of a probe fades linearly. Also defines how much shading normals needs to be aligned with the plane to receive reflections.

Clipping Offset

Define how much below the plane the near clip is when capturing the scene. Increasing this can fix reflection

contact problems.

Visibility



Visibility Collection

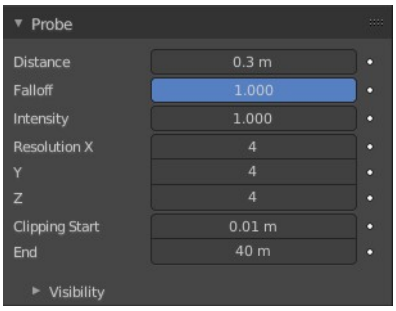
In some cases, it is useful to limit which objects appear in the light probe's captured lighting. For instance, an object that is too close to a capture point might be better excluded. This is what the visibility collection does. Only objects that are in this collection will be visible when this probe will capture the scene.

There is also an option to invert this behavior and effectively hide the objects inside this collection.

Note! This is only a filtering option. That means that if an object is not visible at render time it won't be visible during the probe render.

Note! Due to a limitation, dupli-objects cannot be hidden by using this option.

Volume



Distance

A probe object only influences the lighting of nearby surfaces. This influence zone is defined by the Distance parameter and object scaling. The influence distance varies a bit, depending on the probe type.

For Irradiance Volumes, the influence inside the volume is always 100%. The influence decays only outside of the volume until the distance to the volume reaches the Distance parameter value (in local space).

Falloff

Percentage of the influence distance during which the influence of a probe fades linearly.

Intensity

Intensity factor of the recorded lighting. Making this parameter anything other than 1.0 is not physically correct. Use it for tweaking or artistic purposes.

Resolution X / Y / Z

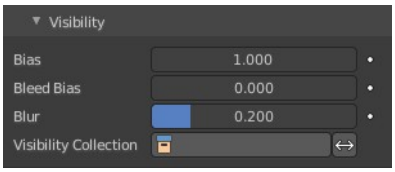
Spatial resolution for Irradiance Volumes is determined per probe. The local volume is divided into a regular grid of the specified dimensions. One irradiance sample will be computed for each cell in this grid.

Clipping Start / End

Defines the near and far clip distances when capturing the scene.

Warning! Clipping distances are applied at the samples positions and not at the grid origin.

Visibility



For every grid point a small Variance Shadow Map is rendered. This visibility cubemap is used to reduce light leaking behind occluders. You can tweak the size of this map inside the render settings and tweak the bias and blur factors per grid inside the Probe Properties tab.

Bias

Reduces self-shadowing.

Bleed Bias

Increases the “contrast” of the depth test result.

Blur

Amount of blur to apply when filtering the visibility shadow map. Does not increase runtime cost but has a small effect on baking time.

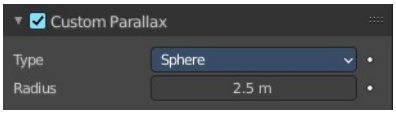
Visibility Collection

In some cases, it is useful to limit which objects appear in the light probe’s captured lighting. For instance, an object that is too close to a capture point might be better excluded. This is what the visibility collection does. Only objects that are in this collection will be visible when this probes captures the scene.

There is also an option to invert this behavior and effectively hide the objects in this collection.

Note! This is only a filtering option. That means that if an object is not visible at render time it won’t be visible during the probe render.

Custom Parallax panel



Reflection Cubemap only.

By default, the influence volume is also the parallax volume. The parallax volume is a volume on which is projected the recorded lighting. It should roughly fit it surrounding area. In some cases it may be better to adjust the parallax volume without touching the influence parameters. In this case, just enable the Custom Parallax and change the shape and distance of the parallax volume independently.

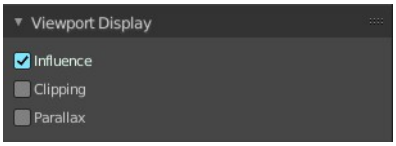
Type

The type of parallax volume.

Radius

The radius of the parallax volume. Measured by the lowest corner of the parallax bounding box.

Viewport Display panel



Sphere

Influence

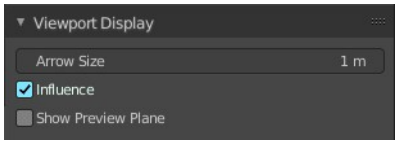
Show the influence bounds in the 3D Viewport. The inner sphere is where the falloff starts.

Clipping

Show the clipping distance in the 3D Viewport.

Parallax

Show the Custom Parallax shape in the 3D Viewport.



Plane

Arrow Size

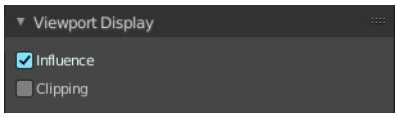
Size of the arrow showing the reflection plane normal.

Influence

Show the influence bounds in the 3D Viewport.

Show Preview Plane

Show the captured reflected image onto a fully reflective plane in the 3D Viewport.



Volume

Influence

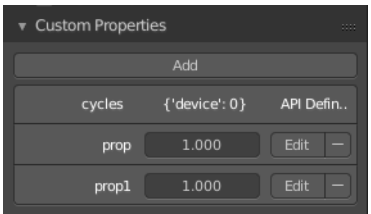
Show the influence bounds in the 3D Viewport. The inner sphere is where the falloff starts.

Clipping

Show the clipping distance in the 3D Viewport.

Custom Properties Panel

Here you can define custom properties that can be used for scripting.



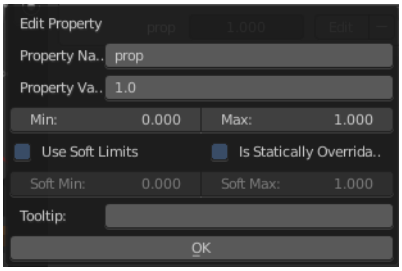
Here you might also find custom properties from addons or scripts.

Add

Adds a new property.

Edit

Opens a panel where you can adjust the settings for the custom property.



Remove

Removes the property.