Spot Light

Spot Light Controls

Spot Radius

The radius of the circle that emits light. If the spot light is seen as a cone, this is analogue to truncating the cone tip where the cone has a radius equal to *Spot Radius*. A very small value makes the cone near ideal. Increasing the *Spot Radius* will soften the lit region edge and the shadows casted by the spot light.

Visible to Camera

Makes the light source visible to the camera (a.k.a primary rays). This option is only available in *3Delight for Katana*.

Cone Angle

Defines the cone angle, in degrees.

Penumbra Angle

Defines the spread of the zone over the spot light beam edge where the light intensity will linearly falloff to 0. A value of 0 defines a sharp spot light beam edge. Positive angles define a beam falloff zone that spreads larger than the cone angle; larger values making a softer edge. Negative values define a falloff zone smaller than the cone angle; again, larger values making a softer beam edge.

Drop Off

Specifies the rate at which the light intensity decreases from the spot light beam center to the edge.

Spread

Specifies how much the light is focused towards the center of the spot light. Large values spread the light more evenly, while smaller values concentrates the light towards the center, making the center brighter. This is similar to focusing a light beam with a lens or a magnifying glass.

Barn Doors

Enable Barn Door

Turning this off will disable the barn doors.

Left, *Right,*
Top, *Bottom*

Specifies the angle of each of the four barn door openings (in degrees). An angle of zero completely closes a given barn door, while 90 makes it fully open.

Light Intensity and Color Controls

Color

Defines the light color.

Intensity

Species the light intensity.

Exposure

This is an additional control over the standard light intensity. Exposure is in many cases a preferred control due to its likeness to photography. Final light intensity is thus computed by:

```
I = intensity * pow(2, exposure)
```

Decay Rate

Specify the rate at which the light intensity decreases in function of the distance to the light source. The available values are:

No Decay	Light intensity remains constant with respect to distance.
Linear	Light intensity decreases linearly with distance.
Quadratic	Light intensity decreases proportionally to the square of the distance. This is the physically correct behaviour.
Cubic	Light intensity decreases proportionally to the cube of the distance.

Fine Tuning the Light Contribution to the Shading Components

It is sometimes useful to have a fine and direct control on how the light intensity affects various shading components. The following controls allows for that:

Diffuse Contribution

Specifies a multiplier for the light contribution to diffuse shading.

Specular Contribution

Specifies a multiplier for the light contribution to specular shading.

Hair Contribution

Specifies a multiplier for the light contribution to hair shading.

Volume Contribution

Specifies a multiplier for the light contribution to volumetric effects in atmosphere and OpenVDB volumes.