PxrCookieLightFilter

PxrCookieLightFilter projects a painted texture in front of the light.

This light filter is a more extensive version of PxrGoboLightFilter

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Parameters

Cookie Mode

Specify the cookie mode:

Physical (0): The cookie behaves like a stained glass window through which light falls. The falloff and blur are determined by the size of the light, the distance to the light and distance from the cookie.

physical filter far
physical filter near

Analytic (1): The cookie has a fixed projection and manual blur and falloff controls.

analytic

Map

Filename of the projected texture. If you want to control the blur for the projected edge, include the mask into the alpha channel of this map. Otherwise, it will use a white opaque alpha installed on $RMANTREE/lib/textures/white.tex for blurring when Blur is > 0.0.

Fill Color

If the texture's tile mode is not repeating, this specifies the color for the region outside of and behind the projected rectangle. When we specify Blur below, the edge of the projected rectangle will be blended with the fill color.

fill color = Green (no light)
fill color = Green
fill color = White

Width

Width of the rect which the light is shining through.
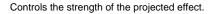
width = 1
width = 3
width = 30

Height

Height of the rect which the light is shining through.

height = 1
height = 3
height = 30

Multiplier

Density

Controls the strength of the projected effect.

density = 0.5
density = 0.85
density = 1

Invert

Specify whether to invert the projected texture before it is applied.

invert = 0
invert = 1

Intensity

Global Multiplier for both the diffuse and specular contribution below.

intensity = 0.3
intensity = 1
intensity = 8

Diffuse

Multiplier of this light filter result for the diffuse contribution.

diffuse = .15
diffuse = 1
diffuse = 5

Specular

Multiplier of this light filter result for the specular contribution.

specular = .15
specular = 1
specular = 5

Projection (For Analytic Mode Only)

Directional

When this is on, the texture projects along a direction using the orthographic projection. When it is off, the texture projects using a focal point specified by the Apex.

directional = Off
directional = On

Shear X

Shear the projection along the X axis.

shear x = 0
shear x = 5
shear x = -5

Shear Y

Shear the projection along the Y axis.

shear y = 0
shear y = 5

shear y = -5

Apex

Distance between the center of cookie and the center of projection. This is only applicable when Directional is off.

Use Light Direction

If this is on, the projection direction is determined by the position of the center of the light source. Otherwise, it only follows the orientation of the cookie. WARNING: This does not work with dome and mesh lights.

use light direction = Off
use light direction = On

Texture Mapping

Tile Mode

Specifies how the texture repeats.

- No Repeat (0)
- Edge Extent (1)
- Tile (2)

tile mode = Edge Extent
tile mode = No Repeat
tile mode = tile

Invert U

Turn this on only if you want to flip the texture from left to right. By default, the orientation of the texture is matching the orientation as it is viewed in an image viewer.

Invert V

Turn this on only if you want to flip texture from bottom to top. By default, the orientation of the texture is matching the orientation as it is viewed in an image viewer. Note that the light filter already takes into the account of flipping the V direction for the correct default orientation.

Scale U

Scale of the projected texture in the U direction.

scale u = 1
scale u = 3
scale u = -1

Scale V

Scale of the projected texture in the V direction.

scale v = 1
scale v = 3
scale v = -1

Offset U

Offset of the projected texture in the U direction.

Offset V

Offset of the the projected texture in the V direction.

Use Alpha

If this is off, your result may not be smooth.

Premultiplied Alpha

If using a texture with unpremultiplied Alpha, set this to 0 of off for correct behavior.

Blur (for Analytic Mode Only)

Blur

Specify the blur of projected texture from 0-1. This gets multiplied by the blurNear/blurFar interpolation. This blurs between the projected color and the fill color when the texture is not repeating.

blur = 0
blur = 0.3
blur = 0.6

S Blur Mult

Blur multiplier in S direction.

s blur mult = 1
s blur mult = 5
s blur mult = 15

T Blur Mult

Blur multiplier in T direction.

t blur mult = 1
t blur mult = 5
t blur mult = 15

Blur Near Dist

Distance from the cookie where the blur interpolation starts.

blur near dist = 0.6
blur near dist = 4
blur near dist = 5

Blur Midpoint

Distance between near and far, where the midValue is located.

blur mid point = 1
blur mid point = 5
blur mid point = 9

Blur Far Dist

Distance from the cookie where the blur interpolation ends.

blur far dist = 1
blur far dist = 10
blur far dist = 500

Blur Near Value

Blur multiplier where the blur interpolation starts.

blur near val = 1
blur near val = 10
blur near val = 100

Blur Mid Value

Blur multiplier in the middle of the blur interpolation.

blur mid val = 1
blur mid val = 100
blur mid val = 1000

Blur Far Value

Blur multiplier where the blur interpolation ends.

blur far val = 1
blur far val = 10
blur far val = 100

Blur Exponent

Power exponent of the blur interpolation.

exponent = 0.1
exponent = 1
exponent = 10

Density Falloff (for Analytic Mode Only)

Density Near Dist

Distance from the cookie where the density interpolation starts.

density near dist = 1
density near dist = 3
density near dist = 5

Density Midpoint

Distance between near and far, where the midValue is located.

density mid point = 0.1
density mid point = 0.5
density mid point = 0.9

Density Far Dist

Distance from the cookie where the density interpolation ends.

density far dist = 10
density far dist = 5
density far dist = 7

Density Near Value

Density multiplier where the blur interpolation starts.

density near val = 0
density near val = 0.5
density near val = 1

Density Mid Value

Density multiplier in the middle of the density interpolation.

density mid val = 0
density mid val = 0.5
density mid val = 1

Density Far Value

Density multiplier where the blur interpolation ends.

density far val = 0
density far val = 0.5
density far val = 1

Density Exponent

Power exponent of the density interpolation.

density exponent = 1
density exponent = .5
density exponent = 0.09

Saturation, Contrast, Tint

Saturation

Saturation of the result (0=greyscale,1=normal,>1=boosted colors).

saturation = 0
saturation = 0.5
saturation = 1

Midpoint

Midpoint for the contrast control.

midpoint = 0.1
midpoint = 1
midpoint = 2

Contrast

Contrast control (less than 1 = contrast reduction, larger than 1 = contrast increase).

contrast = 0.5
contrast = 1
contrast = 2

White Point

White point for the contrast control if (contrast > 1.0).

white point = 0.5
white point = 1
white point = 3

Tint

Tint of the resulting color after saturation, contrast and clamp.

tint is Blue
tint is Red
tint is White

Combine Mode

Combine Mode

mult: The results of all the filters are multiplied together

max: The maximum result from all filters is used.This works best for grey scale light filters.

min: The minimum result from all filters is used.This works best for grey scale light filters.

screen: Similar to the max operation, but it combines gradients in a smoother way. This works best for grey scale light.

Light filters on a light are grouped by their combine mode. Light filters in the same group are executed together and combined by the combine mode.The groups are executed in this order (max, min, screen, and then mult) and are multiplied together, which means a filter that turns things black in the mult group will zero out all other filters.