

Hook4 Lighting Guide:

Understanding Level Definition Files

This is a basic guide to adjusting lighting with the Hook4 Graphic Enhancement developed by the incredibly talented pervokpetr. The goal of this is to help educate in game lighting so you have the skills to create different lighting environments per room. You will be able to create sunsets, moonlight environments and anything your heart desires. We will use only the Level Definition Files located in Hook4 Rooms. Screenshot examples are unmodified generic game screenshots using Intel i5 Laptop with Integrated Graphics. For latest version of this guide [click here](#)

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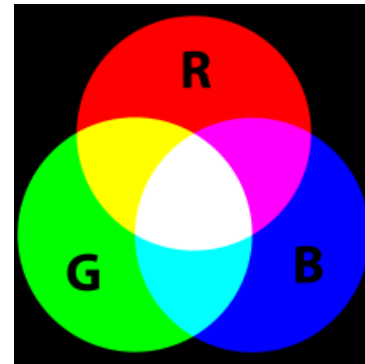
Definition of Color

Definition: Red, Green, Blue

Game Representation: (1.0, 1.0, 1.0)

Increasing or decreasing one or more numbers will generate a new color. If you want redder coloring, ensure the first value (R) is the largest value of the three, for example (1.0, .50, .50) will generate a more red color. Within the game you'll see 4 values with the 4th being intensity (R, G, B, Intensity) (1.0, 1.0, 1.0, 3.3).

Additive color mixing: adding red to green yields yellow; adding red to blue yields magenta; adding green to blue yields cyan; adding all three primary colors together yields white (1.0, 1.0, 1.0).



You may see a color palette referencing numerical values up to 255 (Example 255, 56, 91). In order to convert this color to be used in the game's system files it's simply a case of dividing your RGB value; x divided by 255: If x = 91 then your value is $91/255 = 0.36$. So the color (255, 56, 91) is the same as (1, .22, .36).

Color Palette Reference with 0-1 values: <https://tug.org/pracjourn/2007-4/walden/color.pdf>

Level Definition Files

- ✓ The example to the right is text within a text file named `_level_definition.txt` and can be stored in each Room folder of your Rooms.
- ✓ The `_level_definition.txt` is a text file that can be edited with Notepad or Notepad++
- ✓ Rooms are found in you Klub17/Mod/ActiveMod folder
- ✓ In order to control lighting per room, each room needs its own level definition file and any .dds file
- ✓ You can use any .dds file for any room as long as the **level definition file references the name of the used .dds file**
- ✓ You can set one `_level_definition.txt` and dds file up in the root Active Mod folder that applies the level definitions to all rooms.
- ✓ You can edit the file while the game is running and refresh the look by pressing Alt+R
- ✓ To the right is the default level definition file and its values, we'll go through them in this guide

```
[environment]
envmap = _env_yacht.dds
ambcolor = 1.0, 1.0, 1.0, 4.0
skycolor = 0.5, 0.65, 1.0, 0.8
hdr_exposure           = 1.3
hdr_bloom_clamp        = 1.5
hdr_bloom_amount       = 0.2
use_envcolor = 1
use_skycolor = 1
use_sun = 1
```

```
[sun_light_pool_day]
type = sunlight
rotation = 20, 0, 45, 350.0
color    = 1.0, 0.98, 0.92, 3.3
data = 1, 2, 0, 0
game_control = 0
```

Below are definitions for each line in the `_level_definition.txt` files.

[environment]

envmap: determines which environment .dds file the room will use. At this point you can use any .dds file for any room. In future all rooms can have specific level definition files. There is a ton that can be done with them, including adding objects to rooms (more on that another day).

ambcolor: An ambient light source represents a fixed-intensity and fixed-color light source that affects all objects in the scene equally. Ambient light sources are sources of light that are already *available* naturally (e.g. the sun, moon, lightning) or artificial light already being used (e.g. to light a room). Upon rendering, all objects in the scene are brightened with the specified intensity and color. You can achieve a full scene coloring with ambcolor by shutting off envcolor; `use_envcolor = 0`. See [Examples](#)

skycolor: the color coming from the sky can also be adjusted to enhance a scene. The colors will be applied to background textures like mountains. See [Examples](#)

hdr_exposure: Exposure is a way to control the intensity of light that gets passed through the lens. If you have been sitting in a dark room for some time and walk out into the sun, your eyes will not be ready for the bright light and you will have to squint with light blurring out from the source. See [Examples](#)

hdr_bloom_clamp: When applying a light source to a scene there will be a certain amount of bloom emanating from various surfaces. A shiny surface will scatter the light a certain amount; you can control the amount of light scatter with bloom amount. In some cases the bloom has too large of a range and scatters the light too much. In order to control the amount of scattered light you can adjust bloom_clamp. It reduces the scattering of light, making dark areas around the light darker (the light reflection tighter) while keeping the brightness of the bloom amount. See [Examples](#)

hdr_bloom_amount: amount of bloom you want to apply to room lighting. Pixels that get too bright should start bleeding over to other nearby pixels, producing a halo around them. It is a subtle effect that adds realism to the image. This effect is called HDR Bloom. See [Examples](#)

use_envcolor: Allows us to disable env color/lighting for some room. When setting _envcolor to = 1 the ambient light color will be picked from environment texture. When use_envcolor = 0 the ambient light color will revert to ambcolor ([see example](#)) or will be the default color from environment dds file.

use_skycolor: Allows us to enable or disable sky color/lighting, typically for indoor or closed environments. Set to 0 to disable and the default sky color from environment dds file will be used.

use_sun: Allows us to enable or disable sun and sky color/lighting for some room (indoor or closed environments). Set to 0 to disable and the default sun color from environment dds file will be used.

[sun_light_pool_day]

type: defines the type of light that you want to control

rotation: determines the direction the light is coming from. You can use the in game controls to manage light direction (ctrl-l or ctrl-shift-l, etc...) but you lose these settings when loading sequences or poses. This at least gives you one fixed light direction for a room. So choose wisely when creating sequences as various light settings cannot currently be saved within one sequence.

color: Allows for the adjustment of colors; Red, Green, Blue and Intensity. See Examples

data = 1, 2, 0, 0: The first value defines shadow casting, it is currently not used but will in future releases. The second value is a distance or size of first split in shadow splits-chain. More info will come on how to use this data.

game_control = : if set to 0 then the rotation values in the level definition file will be used for the sun direction, if it is set to "1" then the games direction will be used. If you do not have game_control in the level definition, then this parameter will be defaulted to "1".

Lighting Examples



```
[environment]
envmap = _env_yacht.dds
ambcolor = 1.0, 1.0, 1.0, 4.0
skycolor = 0.5, 0.65, 1.0, 0.8
hdr_exposure           = 1.3
hdr_bloom_clamp        = 1.5
hdr_bloom_amount       = 0.2
use_envcolor = 1
use_skycolor = 1
use_sun = 1

[sun_light_pool_day]
type = sunlight
rotation = 20, 0, 45, 350.0
color   = 1.0, 0.98, 0.92, 3.3
data = 1, 2, 0, 0
```

Default Yacht Level Definition color = 1.0, 0.98, 0.92, 3.3

Emphasising the Three Colors



Blue: color = .50, 0.50, **1.0**, 3.3



Blue More Intense: color = .50, 0.50, **1.0**, **8**



Green: color = .50, **1.0**, 0.52, 3.3



Green More Intense: color = .50, **1.0**, 0.52, **8**



Red: color = **1.0**, 0.30, 0, 3.3



Red More Intense: color = **1.0**, 0.30, 0, **8**

As you can see when we emphasize RED we get closer to a sunset color scheme. Read more to use additional features in the level definition files to get closer to a sunset look.

ambcolor/envcolor

The key to unlocking the ambcolor is turning off use_envcolor by setting its value to = 0



Default; use_envcolor = 1 ambcolor = 1.0, 1.0, 1.0, 4.0

```
[environment]
envmap = _env_yacht.dds
ambcolor = 1.0, 1.0, 1.0, 4.0
skycolor = 0.5, 0.65, 1.0, 0.8
hdr_exposure = 1.3
hdr_bloom_clamp = 1.5
hdr_bloom_amount = 0.2
use_envcolor = 1
use_skycolor = 1
use_sun = 1
```

```
[sun_light_pool_day]
type = sunlight
rotation = 20, 0, 45, 350.0
color = 1.0, 0.98, 0.92, 3.3
data = 1, 2, 0, 0
```



Default; use_envcolor = 1 ambcolor = 1.0, 1.0, 1.0, 4.0



use_envcolor = 1 ambcolor = 0.1, 0.1, 1.0, 9.0



`use_envcolor = 0 ambcolor = 0.1, 0.1, 1.0, 4.0`



`use_envcolor = 0 ambcolor = 0.1, 0.1, 1.0, 9.0`



Default skycolor = 0.5, 0.65, 1.0, 0.8

```
[environment]
envmap = _env_yacht.dds
ambcolor = 1.0, 1.0, 1.0, 4.0
skycolor = 0.5, 0.65, 1.0, 0.8
hdr_exposure      = 1.3
hdr_bloom_clamp   = 1.5
hdr_bloom_amount  = 0.2
use_envcolor = 1
use_skycolor = 1
use_sun = 1

[sun_light_pool_day]
type = sunlight
rotation = 20, 0, 45, 350.0
color    = 1.0, 0.98, 0.92, 3.3
data     = 1, 2, 0, 0
```



Default skycolor = 0.5, 0.65, 1.0, 0.8



skycolor = 0.3, 0.3, 1, 6.0



skycolor = 0.3, 1.0, 0.3, 6.0



skycolor = 1, 0.3, 0.3, 6.0

hdr_exposure



Default

```
[environment]
envmap = _env_yacht.dds
ambcolor = 1.0, 1.0, 1.0, 4.0
skycolor = 0.5, 0.65, 1.0, 0.8
hdr_exposure = 1.3
hdr_bloom_clamp = 1.5
hdr_bloom_amount = 0.2
use_envcolor = 1
use_skycolor = 1

[sun_light_pool_day]
type = sunlight
rotation = 20, 0, 45, 350.0
color = 1.0, 0.98, 0.92, 3.3
data = 1, 2, 0, 0
```



Default with hdr exposure = 1.3



Default with hdr exposure = 0.5



Default with hdr exposure = 3.0

[hdr_bloom_clamp](#)

When applying a light source to a scene there will be a certain amount of bloom emanating from various surfaces. A shiny surface will scatter the light a certain amount; you can control the amount of light scatter with bloom amount. In some cases the bloom has too large of a range and scatters the light too much. In order to control the amount of scattered light you can use bloom clamp. It reduces the scattering of light, making dark areas around the light darker (the light reflection tighter) while keeping the brightness of the bloom amount.



Default

```
[environment]
envmap = _env_yacht.dds
ambcolor = 1.0, 1.0, 1.0, 4.0
skycolor = 0.5, 0.65, 1.0, 0.8
hdr_exposure = 1.3
hdr_bloom_clamp = 1.5
hdr_bloom_amount = 0.2
use_envcolor = 1
use_skycolor = 1

[sun_light_pool_day]
type = sunlight
rotation = 20, 0, 45, 350.0
color = 1.0, 0.98, 0.92, 3.3
data = 1, 2, 0, 0
```



bloom amount = 2.5 with default bloom clamp = 1.5



bloom amount = 2.5 bloom clamp = 5.0

hdr_bloom_amount



Default hdr_bloom and color

```
[environment]
envmap = _env_yacht.dds
ambcolor = 1.0, 1.0, 1.0, 4.0
skycolor = 0.5, 0.65, 1.0, 0.8
hdr_exposure      = 1.3
hdr_bloom_clamp   = 1.5
hdr_bloom_amount  = 0.2
use_envcolor = 1
use_skycolor = 1
use_sun = 1

[sun_light_pool_day]
type = sunlight
rotation = 20, 0, 45, 350.0
color    = 1.0, 0.98, 0.92, 3.3
data     = 1, 2, 0, 0
```



Default hdr_bloom and color



hdr_bloom_amount = 0.2 | color = 1.0, 0.3, 0.4, 3.3



hdr_bloom_amount = 0.9 | color = 1.0, 0.3, 0.4, 3.3



hdr_bloom_amount = 1.9 | color = 1.0, 0.3, 0.4, 3.3

There are many color variations, you can research palettes to find a color you like or just play around with the values to find yours. Here is a comprehensive Color Palette Reference with 0-1 values:

<https://tug.org/pracjourn/2007-4/walden/color.pdf>

Spotlights [spot_]

Spotlights are individual light sources that can be altered through the room's level definition file. A spotlight is similar to a directional light, but allows you to control the lighting effect with greater specificity. The light is defined with a color and direction.

However, it also requires an xyz location (position) for the light as well as an x,y,z angle (rotation) that controls the direction of the light. You could define the 3 axis (x,y,z) as being (west/east, vertical, north/south).

position = -11.3, 2.9, 2.25 (x,y,z)

This is the origin of the light source within the room. This is typically unchanged as the light source will be a fixed object in the room.

rotation = 0, 0, 0 (x,y,z)

This is the rotation or direction of the light source. Determines where the light will point to from the source.

color = 1, 0.95, 0.9, 3 (R, G, B, Intensity)

This is the main color associated to the light source.

bound_color = 1, 0.5, 0.0, 0.06 (R, G, B, Intensity)

You need set show_bound to true in main.fx, then hook will additionally draw bound volumes with bound_color, fourth component of bound_color is opacity. *Very important to set on when editing lights.*

fov = 1.2

Controls the size of the light source, the lower the number the smaller the diameter of the light source is. Angle of light cone in radians

near = 0.8

The distance of the beginning of the casting shadow and light calculation is modified. A small value will make a laser beam like light and a larger value makes a wider light source. See diagram below and examples in near section.

range = 3.3

This is the distance the light will travel. You can control if a light just reaches its destination, goes past an object creating a brighter glow on the object. The distance of end casting shadow and light calculation.

fov_fade = 1

This determines if the light source field of view fades to the edge of its range dissipating the light source. Set to 0 in order to fade the light source, set to 1 to have a crisp undiluted light. It turns on fade light intensity from center to cone edges.

range_fade = 1

This determines if the light source dissipates to the end of its range or if it maintains its intensity through the entire range. It turns on fade light intensity from near to (near + range).

[spot_kitchen]

type = spotlight

position = -11.3, 2.9, 2.25

rotation = 0, 0, 0

color = 1, 0.95, 0.9, 3

bound_color = 1, 0.5, 0.0, 0.06

fov = 1.2

near = 0.8

range = 3.3

fov_fade = 1

range_fade = 1

[spot_kitchen2]

type = spotlight

position = -13.4, 2.4, 1.5

rotation = 0, 0.0, 45

color = 0.8, 0.65, 1.0, 1.4

bound_color = 0.8, 0.0, 1.0, 0.04

fov = 1.0

near = 1.0

range = 7

fov_fade = 1

range_fade = 1

[spot_bath]

type = spotlight

position = -10.5, 2.6, -4.8

rotation = -45.0, 0.0, 0

color = 1.0, 0.94, 0.86, 2.0

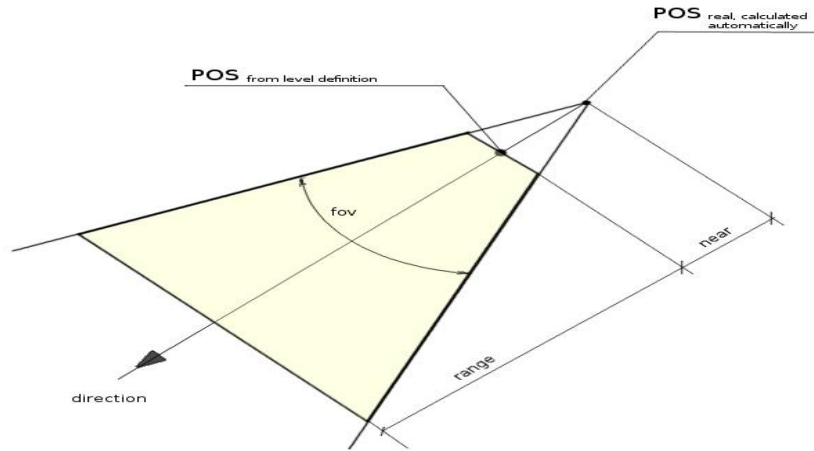
fov = 1.5

near = 0.6

range = 4.0

fov_fade = 1

range_fade = 1



Study this image!

spotlight vs. omnilight

A spotlight is a light source that emits light in one direction. An omnilight emits light in 6 directions. Omnilights are important for scenes that need good light coverage with a single light source.

Important: You can use up to 16 spotlights per room without seeing shadow rendering issues. **One omnilight equals 6 spotlights** so if you use 1 omnilight in room, you can have an additional 10 spotlights, use 2 omnilights and you have only 4 spotlights left.

To change a spotlight to an omnilight change: type = omnilight.

Spotlight	Omnilight
[spot_kitchen]	[omni_kitchen]
type = spotlight	type = omnilight
position = -11.3, 2.9, 2.25	position = -11.1, 2.6, 2.25
rotation = 0, 0, 0	color = 1, 0.95, 0.9, 3
color = 1, 0.95, 0.9, 3	bound_color = 1, 1.0, 0.0, 0.16
bound_color = 1, 0.5, 0.0, 0.06	near = 0.2
fov = 1.2	range = 3.3
near = 0.8	
range = 3.3	
fov_fade = 1	
range_fade = 1	

As you can see in the below examples, the omnilight emits light throughout the scene (up, down, east, west, north and south) where the spotlight is emitting light downward only.

Spotlight – 3DGHouse Kitchen



Omnilight – 3DGHouse Kitchen



bound color

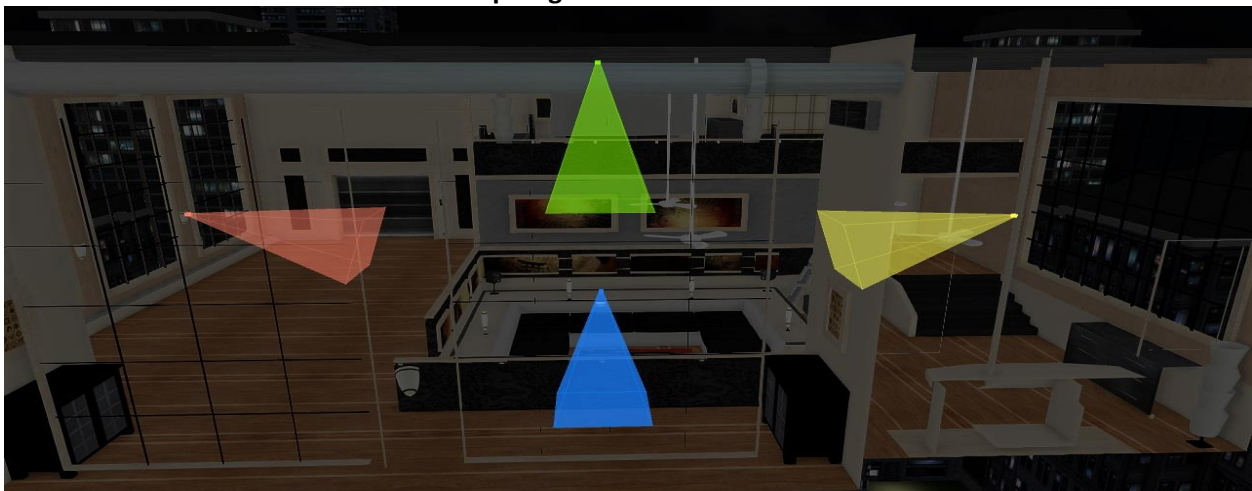
With bound_color you can now see the light more effectively and makes editing position and rotation much easier. **If you try and create/move lights without doing this you are nuts!** With Hook4 Version 9d you can use control key **F4** - change light editing mode. Previous Hook4 versions control bound color in the main.fx found in the binaries folder. Pressing F4 will scroll through the following options;

- ✓ normal; no bound colors will show
- ✓ show_bound; enables bound colors of various spot and omni lights so you can see where your spot and omni lights are in the room
- ✓ show_overlap; enables overlap so you can see how each spot or omni light overlaps each other
- ✓ reserved

bound colors displaying below; each light can have its own bound color to easily differentiate them



below are four spotlights with 4 different bound colors



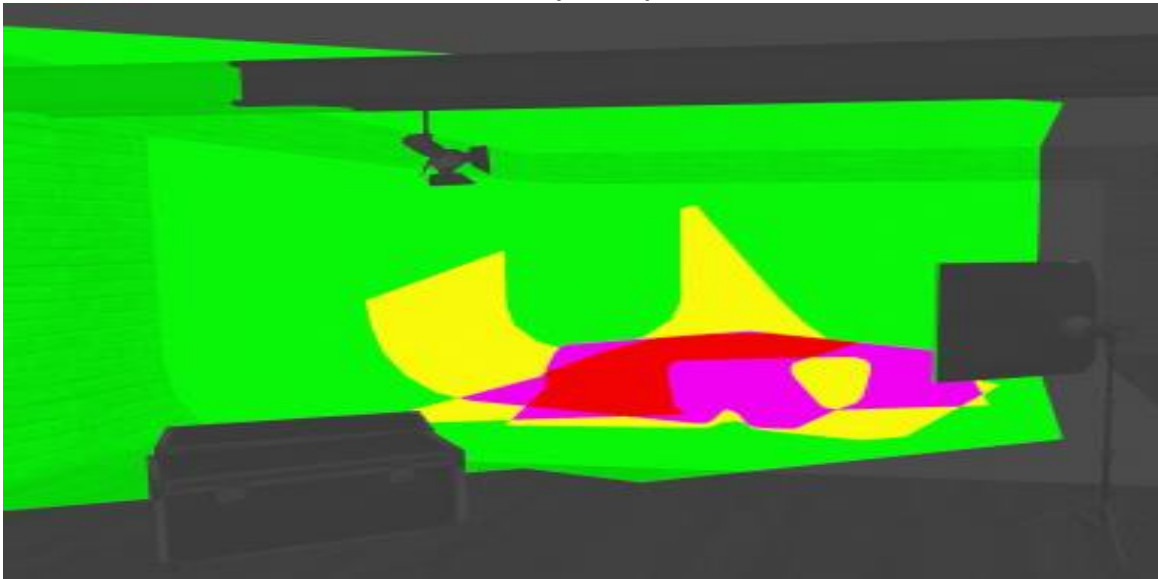


When setting bound_color to true in main.fx you can see how using a spotlight just sends light in one direction, downward.

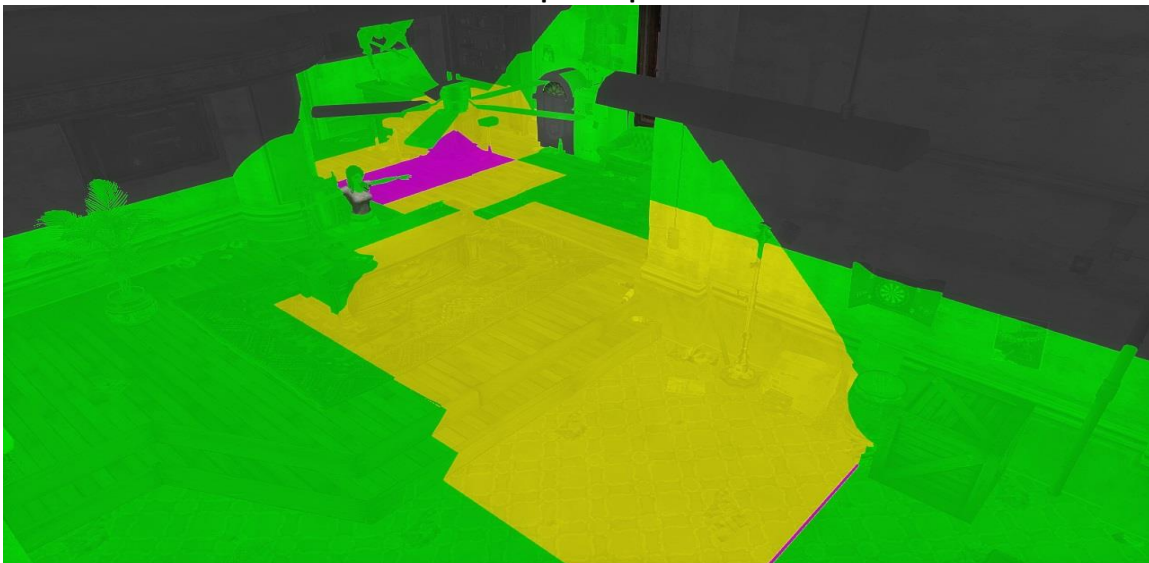


When setting bound_color to true in main.fx you can see how using an omnilight spreads the lights throughout the room (6 directions).

Overlap Example:



Overlap Example 2:





Notice that omnilights create a box as opposed to a cone.

```
[omni_kitchen]
type = omnilight
position = -11.1, 2.6, 2.25
color = 1, 0.95, 0.9, 3
bound_color = 1, 1.0, 0.0, 0.16
near = 0.2
range = 3.3
```

glow

In the otaku room of the 3dhouse you will find some surfaces that glow; a lamp, monitor and tv. Some users, like myself have created some rooms with glow features. You have some control over the final effect with these main.fx settings.

#define glow_to_color; controls the light intensity of the glow

#define glow_to_hdrbloom; controls the amount of hdrbloom is applied to the glowing texture.

*See examples below

Here are simple step by step instructions on how to add glow to a room texture. You need Photoshop and the DDS plugin; <https://developer.nvidia.com/nvidia-texture-tools-adobe-photoshop>. Once you've done a couple you should be able to complete one in 30 seconds.

I suggest using images that have lots of light colors as light colors will glow more brilliantly. When you complete the DDS file the colors will be inverted as blacks glow and whites will be dark.

Details	Like a Boss Method
1. File: Open the Texture you want to glow	Ctrl-O
2. Select: All	Ctrl-A
3. Edit: Copy	Ctrl-C
4. File: Create New	Ctrl-N

5. Name New File; must be slightly different name than texture! I name it same as texture but add _glow: Room_Loft01_art01_glow.dds	Name New File
6. Edit: Fill with Black (Foreground color could work if it is set to black)	Shift-F5, then OK
7. In Channel Section; Add Channel; it's called Alpha 1	Add Channel
8. Paste Original Texture (should still be in clipboard)	Ctrl-V
9a. Invert Colors of Alpha Channel by pressing Ctrl-i Or 9b. Add black color to textures you want to glow and white to textures you do not want to have any glow. Use shades of grey to deliver levels of glow.	9a. Ctrl-i 9b. Manual application of white/greys/blacks
10. Save in DDS format. Save as D3D/DDS (*.DDS;*.DDS) Next step: select "DXT5 ARGB 8 bpp interpolated alpha"	Save as D3D/DDS (*.DDS;*.DDS)
11. Open related .txf file and change contents to: "RGB_8888" "AlphaMask"	Change .txf file to: "RGB_8888" "AlphaMask"
12. Add a _pass.txt file with the following: [pass] name = StaticLightMapReflect stage2 = [[Name of glow file you just created here]].dds	Add a _pass.txt file with the following: [pass] name = StaticLightMapReflect stage2 = [[Name of glow file you just created here]].dds

Main.fx parameters you can adjust for your glowing textures

 #define glow_to_color 1.1 #define glow_to_hdrbloom 1.0	 #define glow_to_color 1.1 #define glow_to_hdrbloom 5.0
 #define glow_to_color 3.1 #define glow_to_hdrbloom 5.0	 #define glow_to_color 5.1 #define glow_to_hdrbloom 0.1

Other Glow Examples



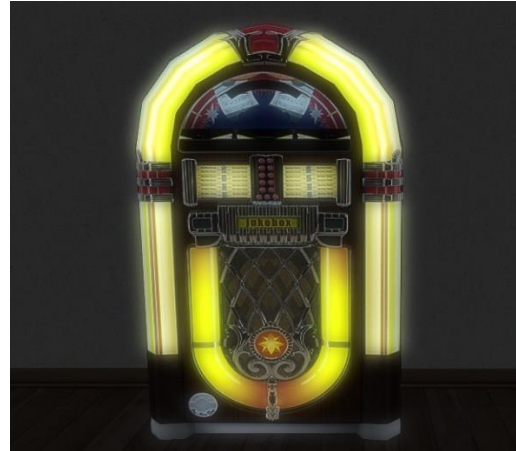
3DHouse Otaku Room TV



New Art Made for Loft



Lights to Accent the Stripclub Pool table Area



Jukebox from Stripclub

position

I will not edit position parameters in this guide as the light sources are supplied and in fixed areas so the positions are “set”. If you are adding a new light source to a room you will need to determine the position (x,y,z) of the light source. There is no easy way to do this, I have copied a current light source and then slowly added values to each of the x,y and z to move the new light source to the new position. If there are no current light sources just start with some values and see where that light is within the room.



Default [spot_kitchen] + [spot_kitchen2]



3DHouse Default [spot_kitchen] + [spot_kitchen2]



3DHouse Default [spot_kitchen] + [spot_kitchen2]

rotation



3DHouse Default [spot_bath] rotation = -45.0, 0.0, 0

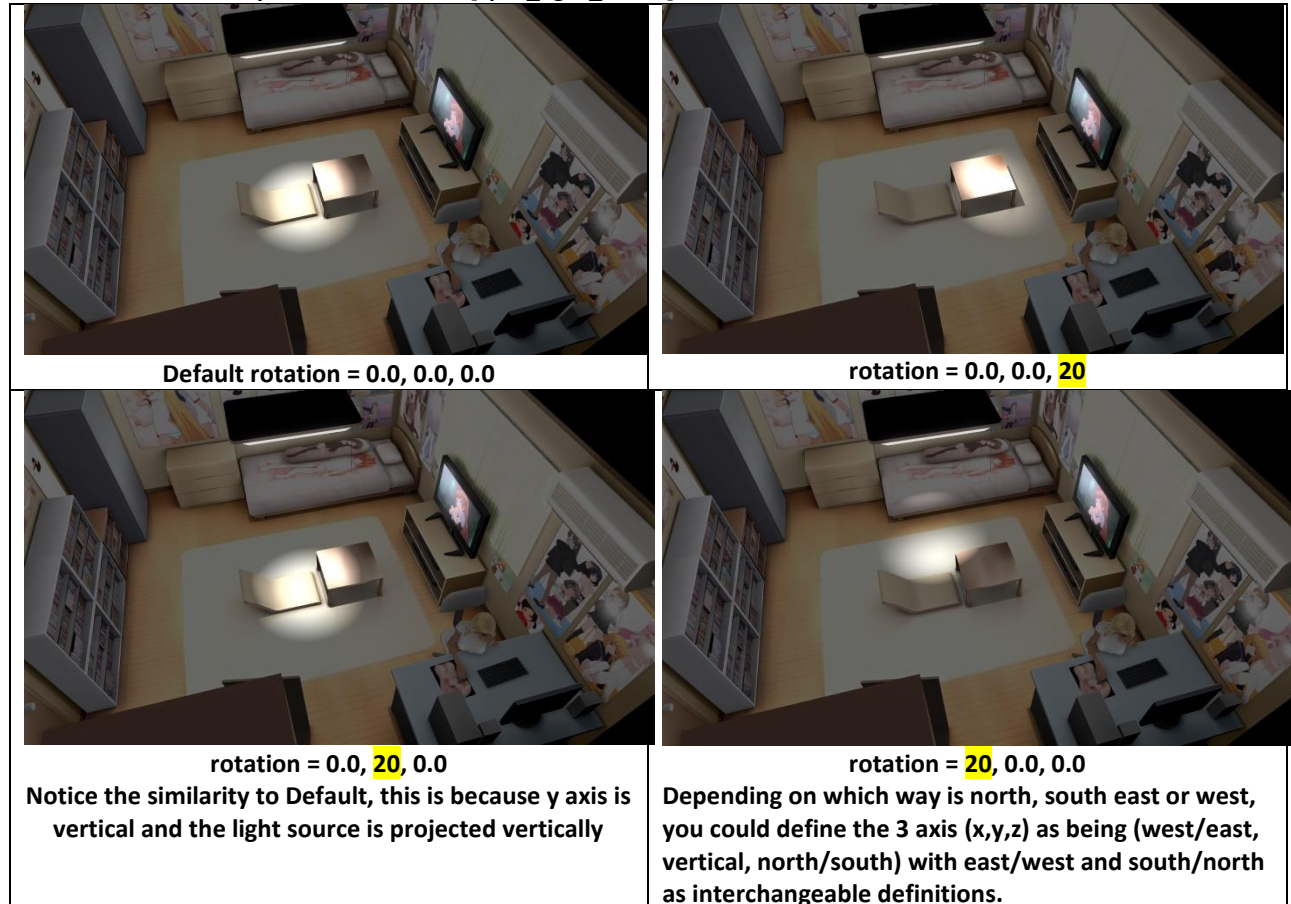


3DHouse [spot_bath] rotation = -90.0, 0.0, 0



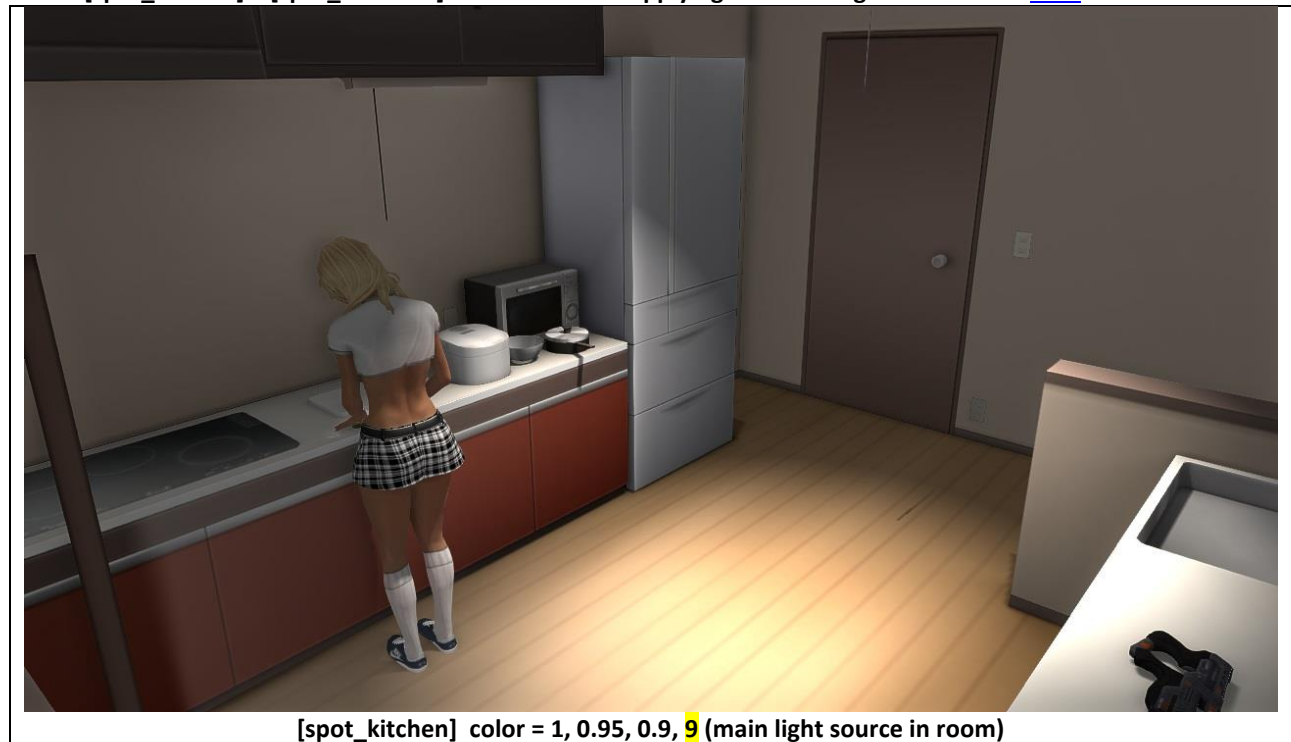
3DHouse [spot_bath] rotation = -45.0, -45.0, 0

Other Rotation Examples with 3DHouse [spot_light_otaku]



Color Intensity Examples

With [spot_kitchen] + [spot_kitchen2] For more about applying color to a light source click [here](#)



[spot_kitchen2] color = 0.8, 0.65, 1.0, 0



[spot_kitchen] color = 1, 0.95, 0.9, 0
[spot_kitchen2] color = 0.8, 0.65, 1.0, 9 (under cabinet light source)

fov



3DHouse [spot_bath] Default fov = 1.5 rotation = -45.0, 0.0, 0



3DHouse [spot_light_otaku] fov = 0.5 tighter light diameter



3DHouse [spot_light_otaku] fov = 3.5



3DHouse [spot_light_otaku] fov = 4.5

near

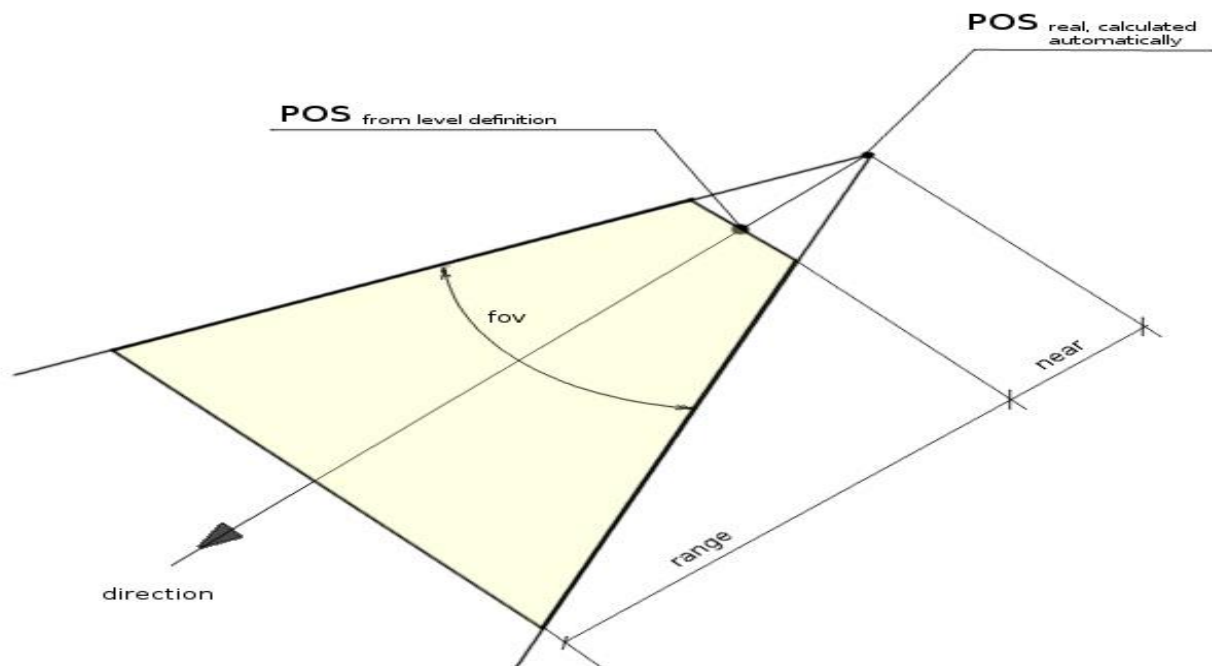
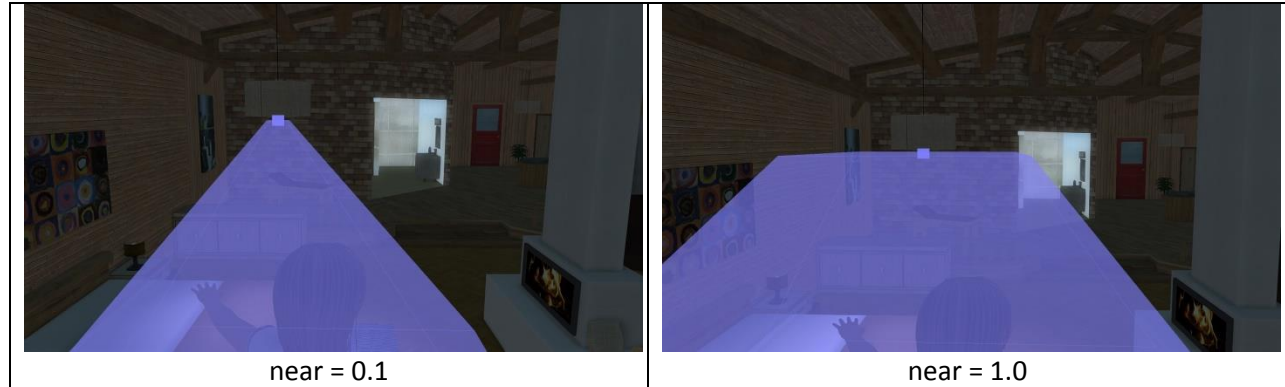
Keep in mind that we are using spotlights and the light is a cone that has a source and a destination. So it is pointing one way where lights typically emit light in all directions. So we are going to use near to create the effect that the light is coming from a larger area. It makes a more realistic lighting scene and also delivers a larger fov in a tight space.

Take a look at this Ski Chalet light above the bed. This is a very good light fixture as it can spread light across the bed, one of the best scene area in the room.



In the below examples you see near = 0.1 has the light “starting” right at the light source like it was coming from a source the size of a flashlight head. This is not good as the light does not reach the top of the bed and in front of the fireplace. In the real world this fixture would easily spread light across that whole area. The challenge is the light cone is starting at the position of the spotlight.

In order to get a more realistic effect we use near to mock that the light is coming from a much large source area. It expands the size light source however much you desire. Setting near to 1.0 spreads the light more realistically across the scene. The additional light coverage we achieve.



With near you are “pulling back” the position of the light but the light still starts at the position set in the level definition. The size of the light source is now more realistic. In the above diagram the **POS from level definition** would be the position values in the level definition file.

range



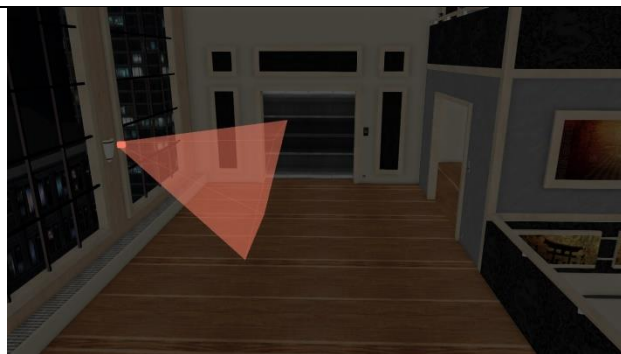
3DHouse [spot_bath] range = 4.0



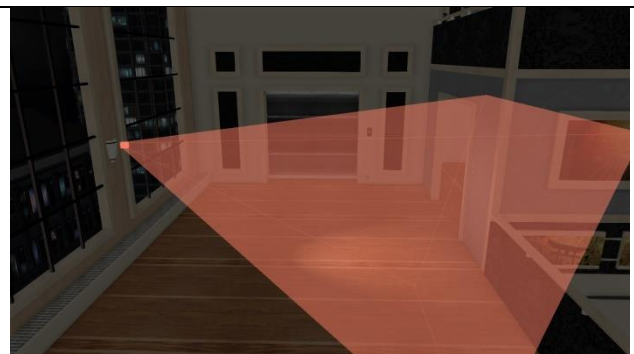
3DHouse [spot_bath] range = 5.0



3DHouse [spot_bath] range = **3.0** (the light doesn't quite make it to the desired destination)



range = 2



range = 5

fov fade



3DHouse [spot_bath] fov_fade = **1**

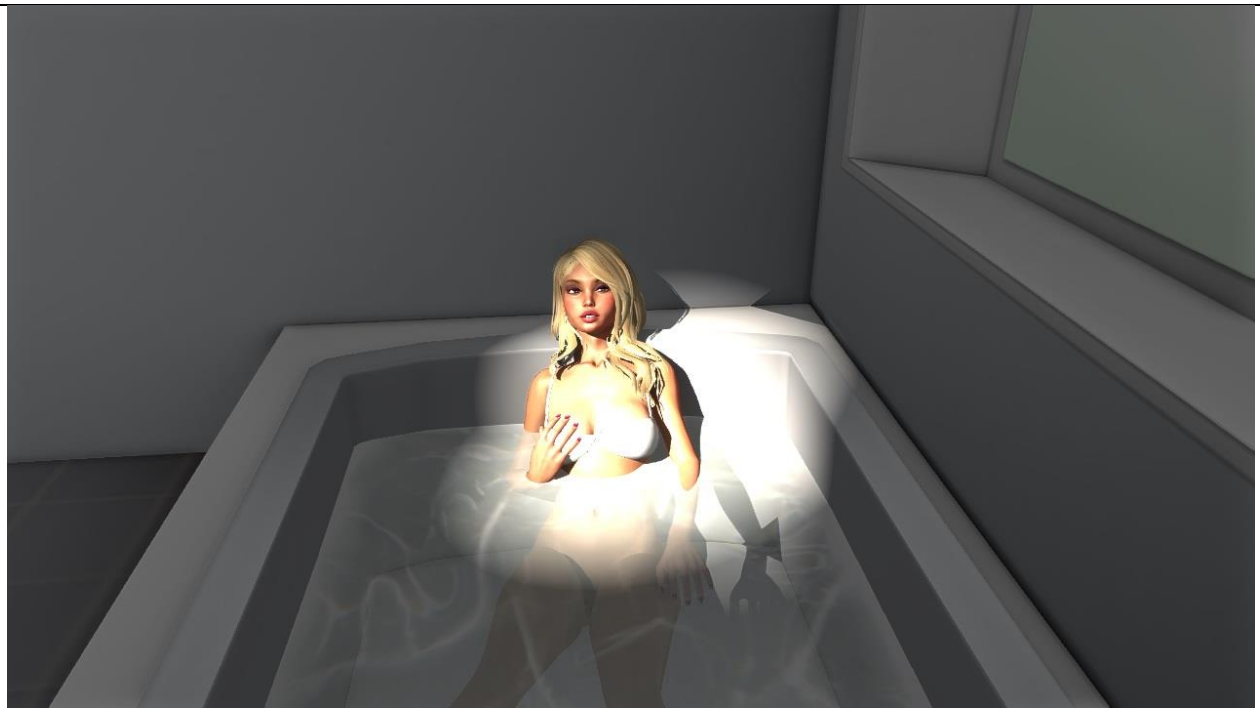


3DHouse [spot_bath] fov_fade = 0
Notice the light does not fade out as it reaches its full range

range fade



3DHouse [spot_bath] range_fade = 1
The light gets diluted the closer it gets to light source



3DHouse [spot_bath] range_fade = 0

The light source maintains its intensity, a stronger light source

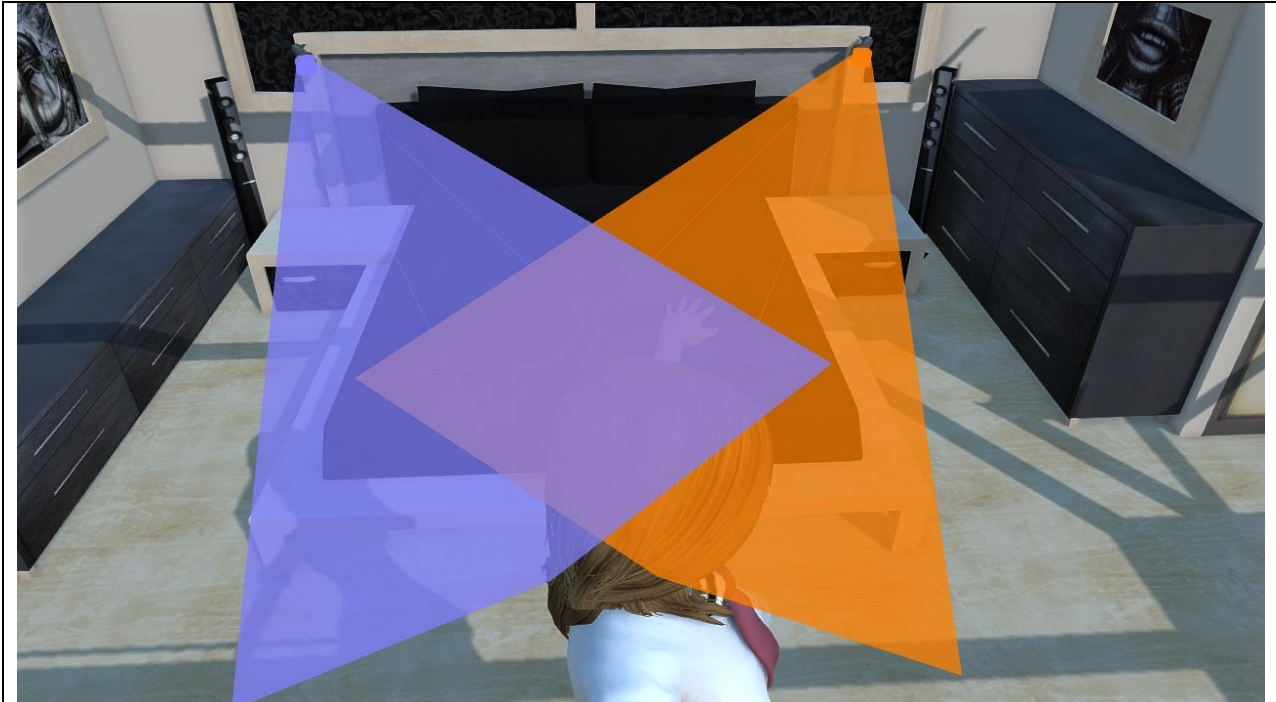


3DHouse [spot_bath]

fov = 0.3 creates a tight tunnel of light with a small fov value
 rotation = -48.0, 40, -75 rotated the light to point directly at the subject
 color = 1.0, 0.94, 0.86, 9.0 A white light with high intensity
 range = 5.0 allowed the light source to reach the subject
 Why is she wearing a bra in the bath? – don't ask.

Create Your Own Spotlight Light Source

1. **Press F4** to enable `bound_color` which applies a color to your spotlights or omnilights. This will then enable a feature to see the lights as colors, making it much easier to set the right position and rotation of the lights. Don't do this at your own peril!
2. **In the level definition file, add `bound_color` to each spotlight** (under color) and change each light source to a different bound color.



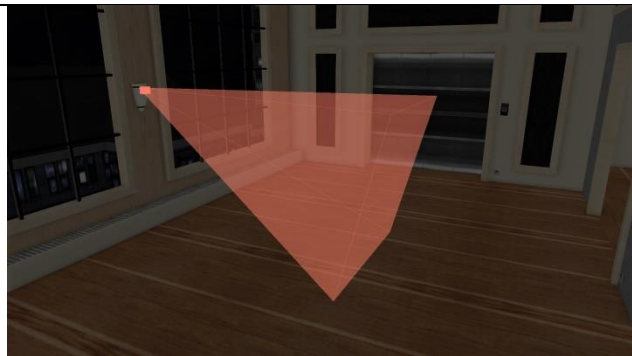
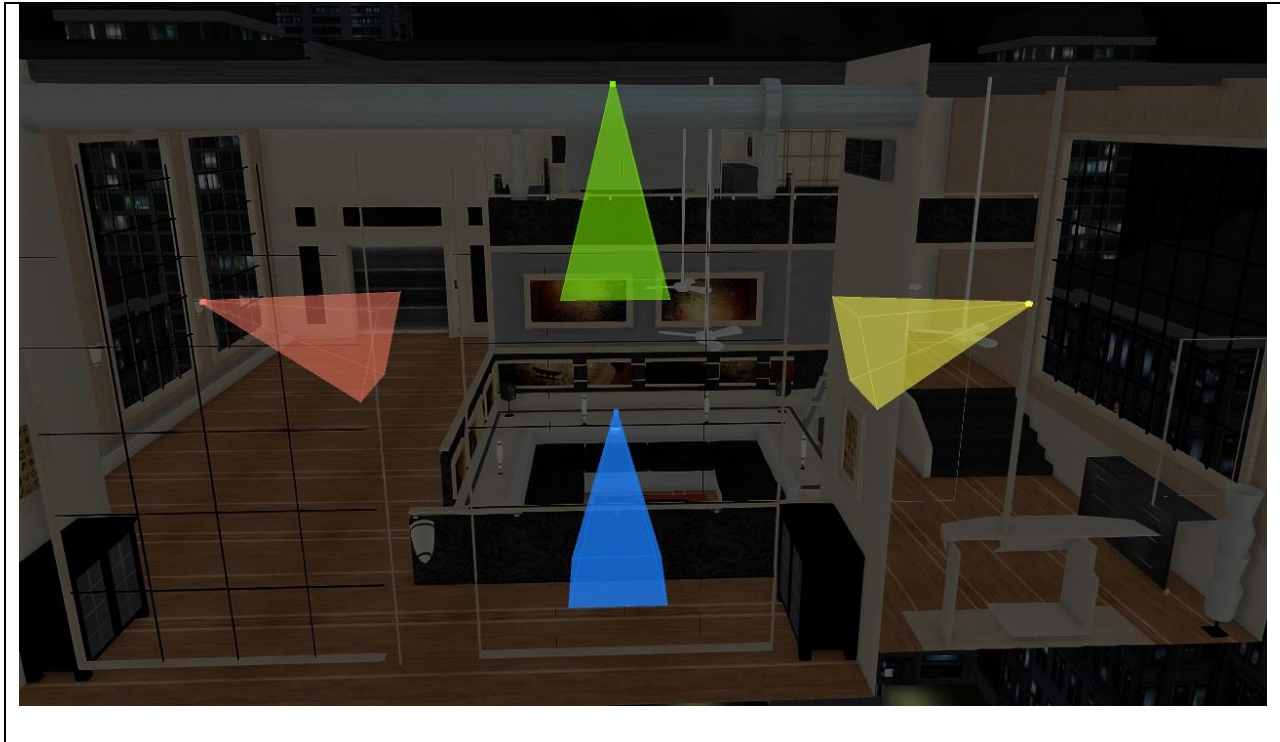
This is the bedroom of the loft. See that each light source placed on the bed is a different color. You do this by changing the bound color for each spotlight. Here is how it looks in the level definition file.

```
[spot_light_bedlight_1]
type = spotlight
position = 1.95, 3.73, -6.75
rotation = -45, 360, -45
color = 1.0, 0.7, 0.8, 2.0
bound_color = 1, 0.5, 0.0, 0.5 (orangish)
fov = .7
near = 0.1
range = 2.7
fov_fade = 1
range_fade = 1
```

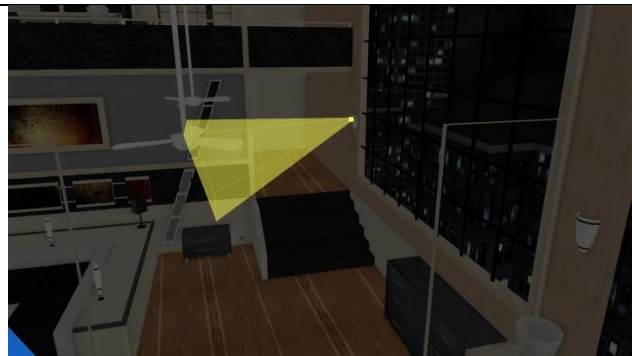
```
[spot_light_bedlight_2]
type = spotlight
position = -0.94, 3.73, -6.75
rotation = -45, 360, 45
color = 1.0, 0.7, 0.8, 2.0
bound_color = 0.5, 0.5, 1, 0.5 (blueish)
fov = .7
near = 0.1
range = 2.7
fov_fade = 1
range_fade = 1
```

3. **Position the Lights.** Remember that (0,0,0) is like (east/west, up/down, north/south) With a setting of (0,0,0) you'll be in the middle of the room. Start with a number you think works and think of each number as around a meter in length. Use negatives to go the other direction from the center point; -2.5 might be considered as 2.5 meters "east" of the center point where 2.5 is 2.5 meters "west" of the center point.
 - a. Great tip; the loft is 14 units of measurement wide x 14 units wide. I think that one unit looks like a meter but for the sake of argument consider 1 a unit of measurement. If you set your spotlight position at (0,1,0) the light will be in the center of the room. If you set it to (7,0,0) it will be on one wall as it is 7 units of measurement to one direction,

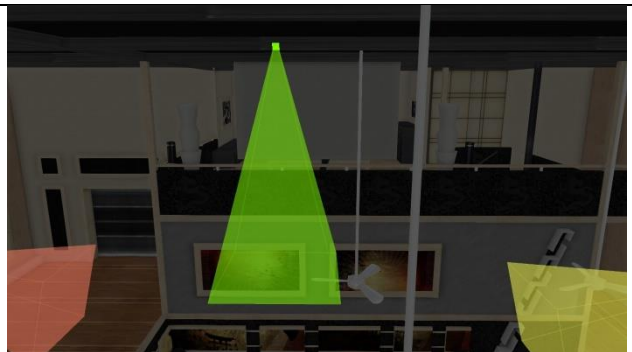
say east. If you set the position to (-7,1,0) it will be on the opposite side of the room right on the wall. BTW, the loft is also 10 units high.



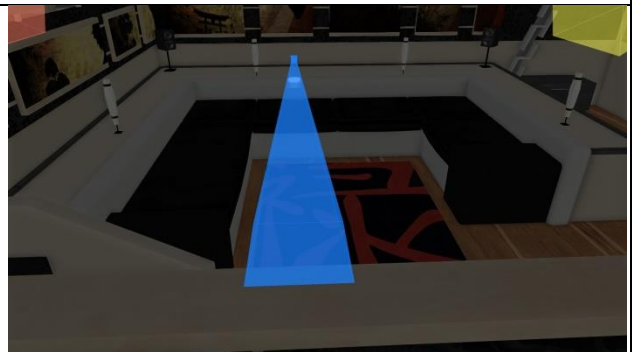
position = -7, 1.55, -1.48
rotation = 0, 360, 75
far "east" wall



position = 7, 1.55, -0.72
rotation = 0, 360.0, -75
far "west" wall



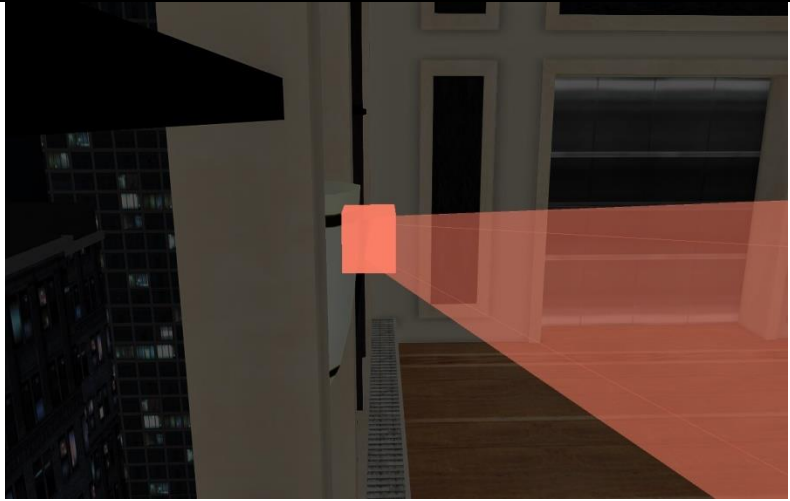
position = 0, 5, 0
rotation = 0, 360, 0



position = 0,0,0
rotation = 0, 360, 0

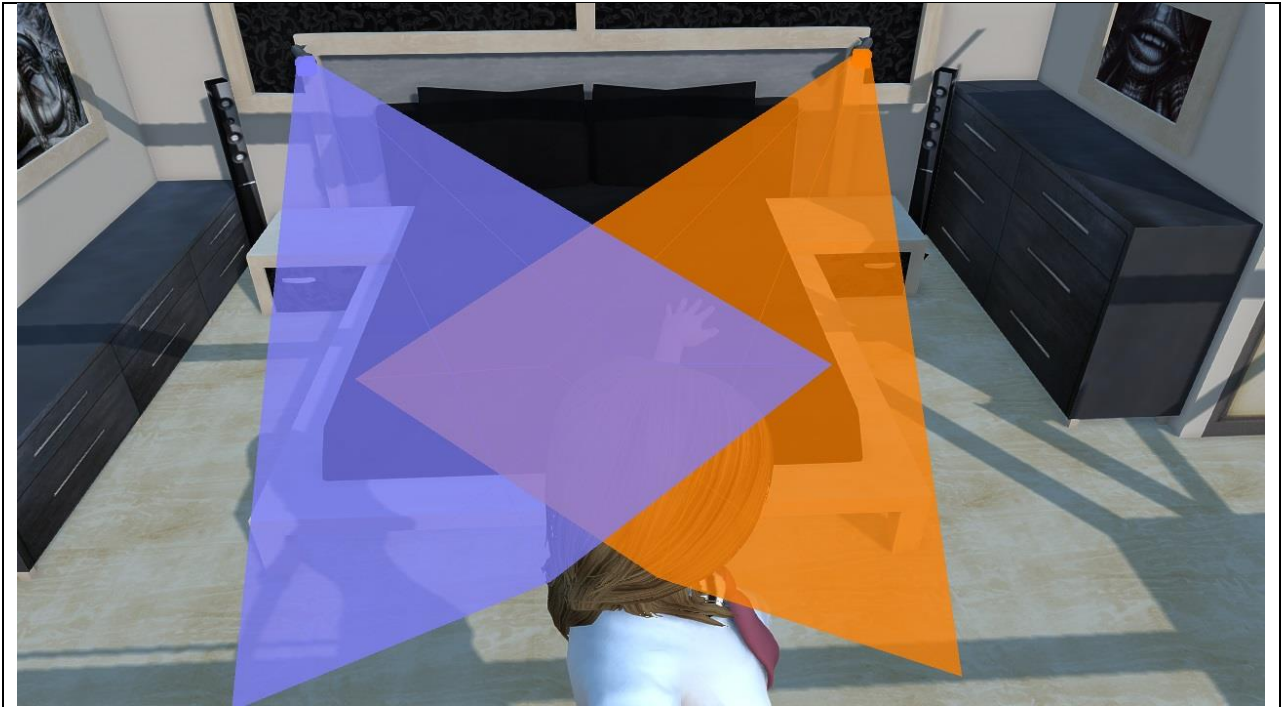
right at top of ceiling in the center	“centered” in room
---------------------------------------	--------------------

Important Tip: This light source is actually just off the wall. Instead of being at position -7 “east” wall it’s at -6.8 “east”. This is because the light fixture is opaque and the light cannot get through it so the light source needs to start just outside of it. This may change if someone creates a transparent light fixture or possibly changing the .txf setting in the room’s Active Mod folder.
 position = -6.8, 1.55, -1.48
 position = -7, 1.55, -1.48



4. Rotate the lights.

Change the east/west and north south values to get the right rotation; rotation = -45, 360, 45
 Note in the below example, the positions and rotations are the same aside from one change each.

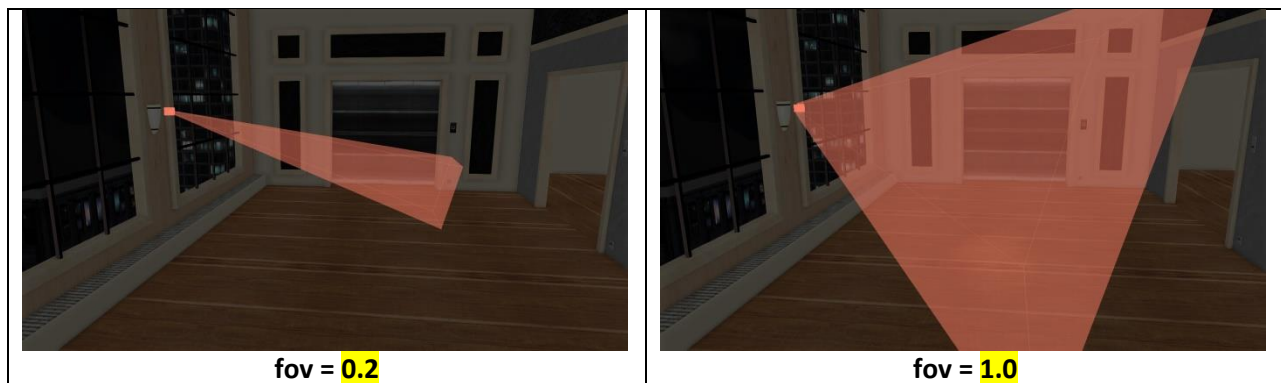


[spot_light_bedlight_1] (blue bound color)
 type = spotlight
 position = 1.95, 3.73, -6.75
 rotation = -45, 360, 45

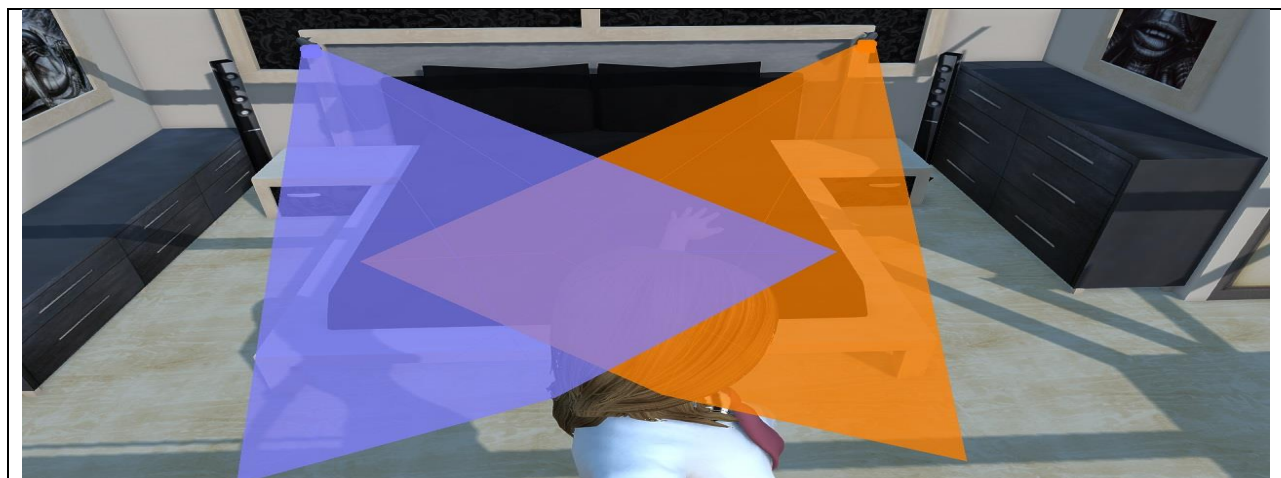
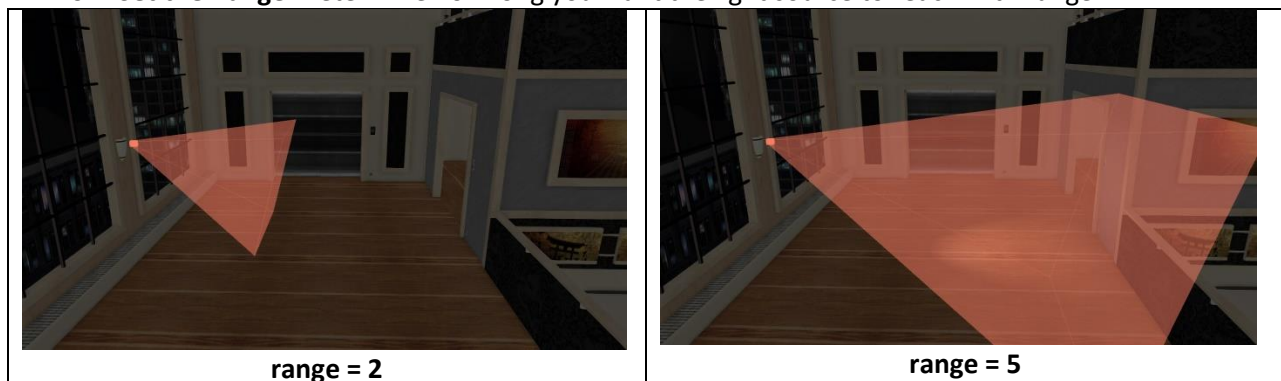
[spot_light_bedlight_2] (orange bound color)
 type = spotlight
 position = -0.94, 3.73, -6.75
 rotation = -45, 360, -45

5. Set the fov

How wide do you want the light to be?



6. Set the Range. Determine how long you want the light source to reach with range



```
[spot_light_bedlight_1]
type = spotlight
position = 1.95, 3.73, -6.75
rotation = -45, 360, -70
color = 1.0, 0.7, 0.8, 2.0
bound_color = 1, 0.5, 0.0, 0.5
fov = .9
near = 0.1
range = 2.7
fov_fade = 1
range_fade = 1
```

```
[spot_light_bedlight_2]
type = spotlight
position = -0.94, 3.73, -6.75
rotation = -45, 360, 70
color = 1.0, 0.7, 0.8, 2.0
bound_color = 0.5, 0.5, 1, 0.5
fov = .9
near = 0.1
range = 2.7
fov_fade = 1
range_fade = 1
```

Here's a level definition file for the Loft: <http://modsgarden.cc/user-created-threads/28/venrans-stuff-poses-models-guides/2680/msg=99316>



Here's a level definition file for the Living Room: <http://modsgarden.cc/user-created-threads/28/venrans-stuff-poses-models-guides/2680/msg=99190>



Here's a 3DHouse computer spotlight:

```
[spot_light_otaku_computer]
type = spotlight
position = 5.2, 4.7, 3.7
rotation = 90, 9, 12
color = 1.0, 1.0, 1.0, 6.0
fov = 0.5
near = 0.7
range = 3.2
fov_fade = 1
range_fade = 1
```



Installation Help

Room Lighting Installation

You need to add 2 files to the Room folder in order to be able to manage room lighting.

- ✓ One file is a .dds file named, examples: `_env_pool.dds` or `_env_yacht.dds`
 - Place this file in the room folder you are editing
- ✓ The other file is `_level_definition.txt`
 - The `_level_definition.txt` file must reference the same .dds file that is in the room folder you are editing. Place the text file containing this info in the Room folder you are editing.

```
[environment]
envmap = _env_pool.dds
ambcolor = 1.0, 1.0, 1.0, 4.5
skycolor = 0.5, 0.65, 1.0, 0.7
hdr_exposure = 1.2
hdr_bloom_clamp = 2.5
hdr_bloom_amount = 0.3
use_sun = 1
use_envcolor = 1
use_skycolor = 1
use_sun = 1
```

- ✓ And that is it, edit away! Press ALT-R to refresh your changes in game.

Adding Effects; Like Realistic Water

In order for effects like water to have a realistic look you need to add the bump folder containing the water effect files and then add bump files to the room you wish to edit. You can use the files located in hook 3.95 or the latest hook release.

- ✓ You need to get 3.95 bump files like the `Room_Pool_water01_pass.txt` from this post: <http://modsgarden.cc/graphics-enhancements/21/hook4project/1995/135;msg=84420>
- ✓ Make sure you have a `_bumptextures` folder in the root of the Active Mod folder
- ✓ You need to add the bumptexture `_pass.txt` files to the room folder

- ✓ Make sure that the Room_Pool_water01_pass.txt references:
 - stage2 = _bumptextures\water_ocean.dds
 - stage3 = _bumptextures\water_noise.dds

Sample Room Folder

Name	Date modified
 _env_pool.dds	2014-08-27 10:20 ...
 _level_definition.txt	2014-12-16 11:23 ...
 icon.png	2014-08-28 8:36 PM
 Room_Pool_clouds01.jp2	2009-07-14 7:40 PM
 Room_Pool_clouds01.txf	2011-02-02 11:03 ...
 Room_Pool_clouds01_pass.txt	2014-09-06 8:08 PM
 Room_Pool_metal01.jp2	2009-07-14 7:40 PM
 Room_Pool_metal01.txf	2011-02-02 11:03 ...
 Room_Pool_metal01_bump.dds	2014-09-06 11:15 ...
 Room_Pool_metal01_pass.txt	2014-09-06 11:33 ...
 Room_Pool_sky01.jp2	2009-07-14 7:40 PM
 Room_Pool_sky01.txf	2011-02-02 11:03 ...
 Room_Pool_sky01_pass.txt	2014-09-06 8:08 PM
 Room_Pool_water01.jp2	2009-07-14 7:40 PM
 Room_Pool_water01.txf	2011-02-02 11:03 ...
 Room_Pool_water01_pass.txt	2014-08-28 7:31 PM

I hope this helps!