Lights

Lights are used to light up the environment, and also to create the right mood for a level.

The following are shared by the three kinds of lights. General Parameters:

- **Name**: Name for the light. Should be unique for all objects on the map.
- **Position**: 3D vector indicating position in World-space
- **Gobo**: 2D or CubeMap texture that the light will project onto surfaces. 2D for SpotLights, CubeMap for PointLights, BoxLights don't support Gobos)
- **Falloff Map**: 1D texture that will map how the light gets attenuated.
- **Diffuse color**: color of the light. Will tint everything in its boundaries with it.

Flicker Parameters:

- **Active**: if the flickering for this light should be off or not.
- **On Min Time** / **On Max Time**: time the light will be on will be picked everytime at random inside this range.
- **On Sound**: sound that will be played when the light turns on.
- **On PS**: particle system that will be spawned when the light turns on.
- **Off Min Time** / **On Max Time**: time the light will be off, will be picked everytime at random inside this range.
- **Off Sound**: sound that will be played when the light turns off.
- **Off PS**: particle system that will be spawned when the light turns on.
- **Off Radius**: radius the light will use when turned off.
- **Off Color**: diffuse color the light will use when turned off.
- **Fade Active**: if fading should be used.
- **Fade On Min Time** / **On Max Time**: how long the light should be fading from off to on, randomly picked.
- **Fade Off Min Time** / **Off Max Time**: how long the light should be fading from on to off, randomly picked.

Specific description and parameters for each type are next.

Box Light

This type pretty much resembles an ambient light, but limited to a box in the world.

- **Size**: 3D vector determining the size of the box in the world.
- **Blend Function**: function that will determine how the illumination should apply. Available options are:
    - Replace: boxlights with this function enabled will impose their diffuse color over all their extension. If intersections are found, the one with highest priority will be used.
    - Add: boxlights with this function enabled will add their diffuse color on the place where they intersect.

Point Light

This type matches an omnidirectional light, that is, a light that will light up its surroundings bounded by a sphere.

- **Rotation**: 3D vector indicating the rotation of the light. Will not have much effect unless there is a gobo assigned to the light.
- **Radius**: real value indicating the radius of the bounding sphere.

Spot Light

- **Rotation**: 3D vector indicating the rotation of the light. Will determine where the light points at.
- **Cast Shadows**: sets if the light should affect shadow casters.
- **Shadow Resolution**
- **Shadows affect static**
- **Shadows affect dynamic**
- **Radius**: real value that will determine the distance that the spotlight will reach from its position.
- **Near clip plane**: real value determining the distance between the light position and its frustum near plane.
- **FOV**: real value determining the angle formed between the imaginary line going from the light position to its frustum
- **Aspect**: real value that determines the ratio FarClipPlane.width/FarClipPlane.height.
- **Spot Falloff Map**: 1D texture that will map how the spot will attenuate over distance to the center.