

Lighting Parameters

Lights

Intensity

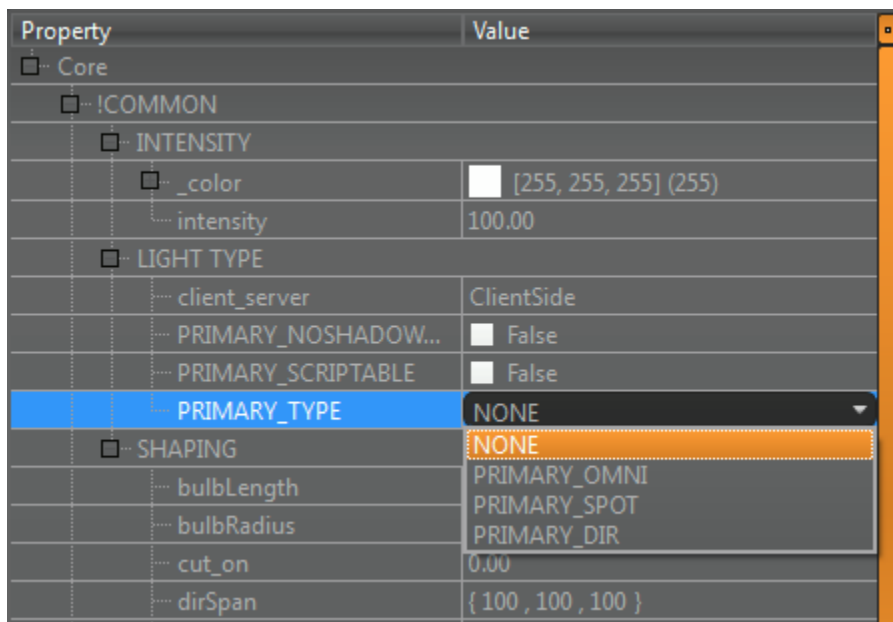
Color:

Description: Sets the color of the light. Default Value: 1 1 1 (white)

Stops:

Description: Controls the starting intensity of a light. Lighting units are in stops. Default Value:"11"

Lighting Type



Property	Value
Core	
!COMMON	
INTENSITY	
_color	[255, 255, 255] (255)
intensity	100.00
LIGHT TYPE	
client_server	ClientSide
PRIMARY_NOSHADOWMAP	<input type="checkbox"/> False
PRIMARY_SCRIPTABLE	<input type="checkbox"/> False
PRIMARY_TYPE	NONE
SHAPING	
bulbLength	NONE
bulbRadius	PRIMARY_OMNI PRIMARY_SPOT PRIMARY_DIR
cut_on	0.00
dirSpan	{ 100, 100, 100 }

PRIMARY_SCRIPTABLE:

Description: Makes a primary light show up as an entity to script.

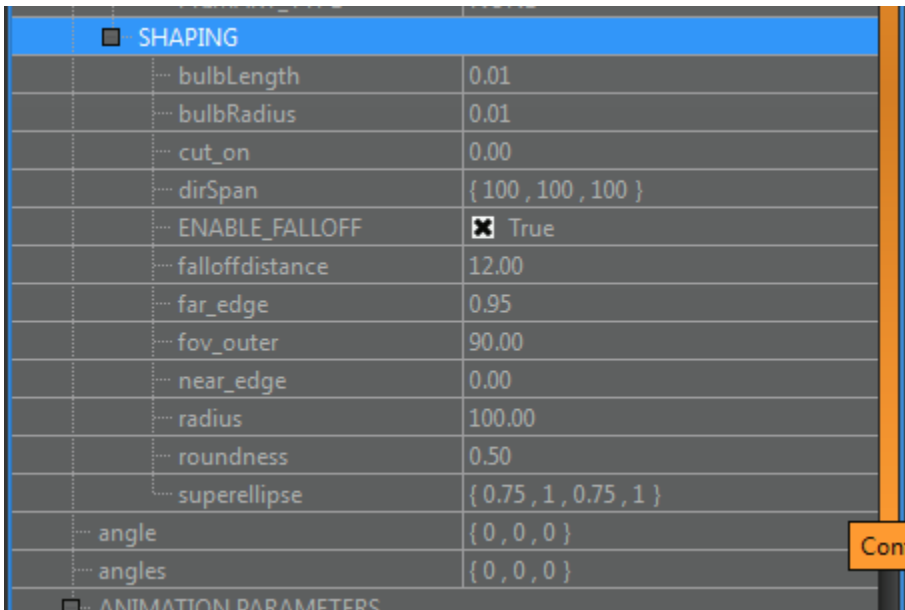
PRIMARY_NOSHADOWMAP:

Description: Disables shadows.

PRIMARY_TYPE:

- PRIMARY_OMNI: Shines light in 360 and casts shadows. (this option is very useful but can be expensive to shadow)
- PRIMARY_SPOT: Classic shadow casting spot-light.

Shaping



SHAPING	
bulbLength	0.01
bulbRadius	0.01
cut_on	0.00
dirSpan	{ 100 , 100 , 100 }
ENABLE_FALLOFF	<input checked="" type="checkbox"/> True
falloffdistance	12.00
far_edge	0.95
fov_outer	90.00
near_edge	0.00
radius	100.00
roundness	0.50
superellipse	{ 0.75 , 1 , 0.75 , 1 }
angle	{ 0 , 0 , 0 }
angles	{ 0 , 0 , 0 }

fov_outer:

- *Description:* Controls the cone-size of a light. smaller value give a more focused beam, larger value gives you a wider beam. Lights larger than 120 degrees tend to suffer from artifacts and low-res shadows.
- *Default Value:* 90

cut_on:

- *Description:* Controls distance at which light will start. This feature is useful when you want to bury the origin of a light inside of a prop but want the effects of the light to start later.
- *Default Value:* 0

ENABLE_FALLOFF:

- *Description:* Controls the attenuation falloff.

falloffdistance:

- *Description:* Distance at which inverse square distance attenuation starts to take effect. Enable_falloff needs to be "true" for this to take effect.
- *Default Value:* 12

near_edge:

- *Description:* Define the width of the transition region for cut-on. Valid range is 0 to 1. A value of 0 give you a hard edge at the start of your light, a value of 1 would give you a very soft transition at the beginning of your light.
- *Default Value:* 0

far_edge:

- *Description:* Define the width of the transition region for cut-off, valid value is between 0.0 and 1.0. A value of 1 will give you a hard edge at the end of your light if your radius is too small for the falloff / intensity you have created. A value of 0 would give a very long fade at the end of the light. This is often used in conjunction with performance optimizations and falloff adjustments. Ideally a very large-radius light is created with falloff enabled. This will result in a very natural and realistic decay on a light. If it doesn't make sense to have a large radius on your light, (usually this is performance related) you can use the far edge to tastefully fade the far edge of the light off.
- *Default Value:* 0.95

radius:

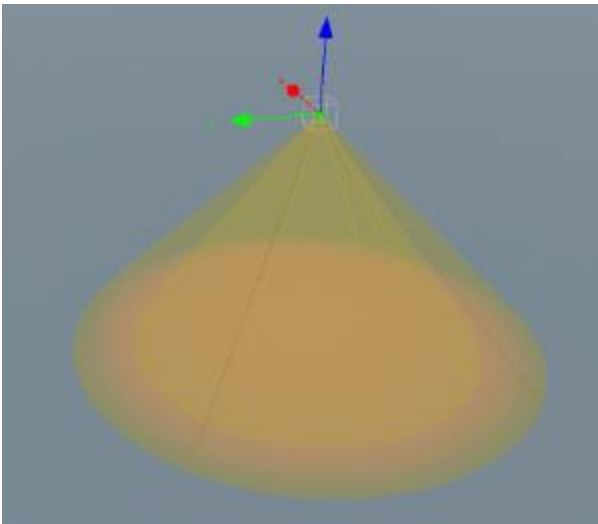
- *Description:* Controls the distance at which the light will end.
- *Default Value:* 100

roundness:

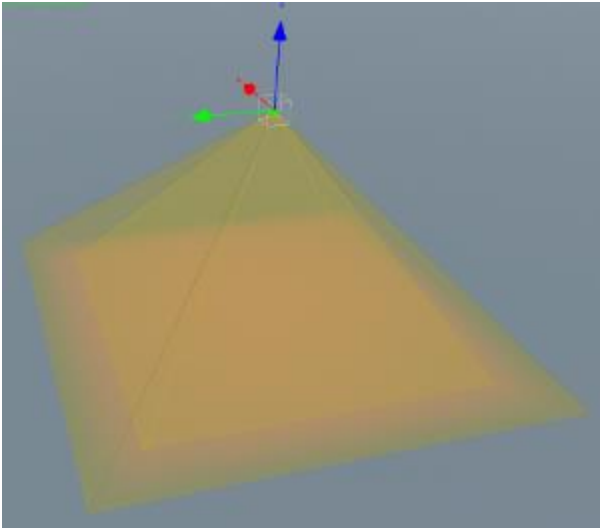
- *Description:* Controls how rounded the corners of the superellipse for spotlights are. If this value is 0, the cross-section will be a perfect rectangle. If the value is 1, the cross-section will be a perfect circle. In between values will result is a square shape with round corners.
- *Default Value:* .5

roundness examples:

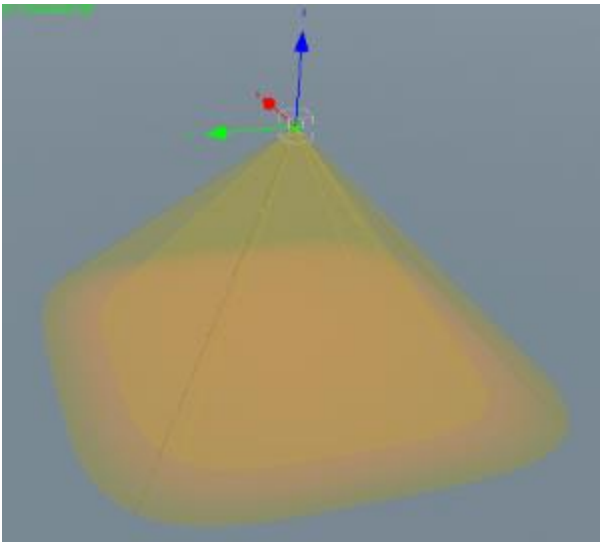
- roundness 1:



- roundness 0



- roundness 0.5

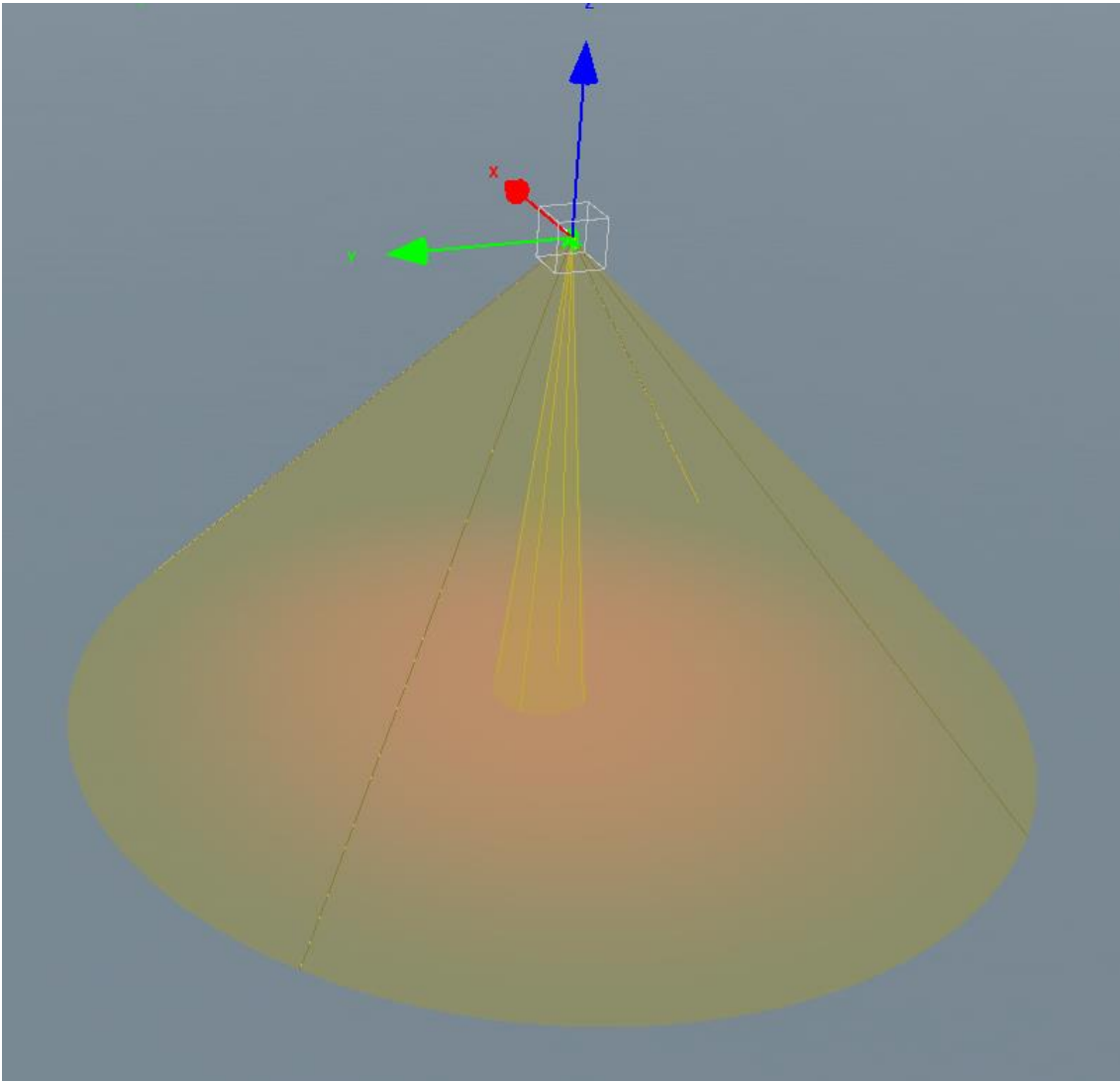


superellipse:

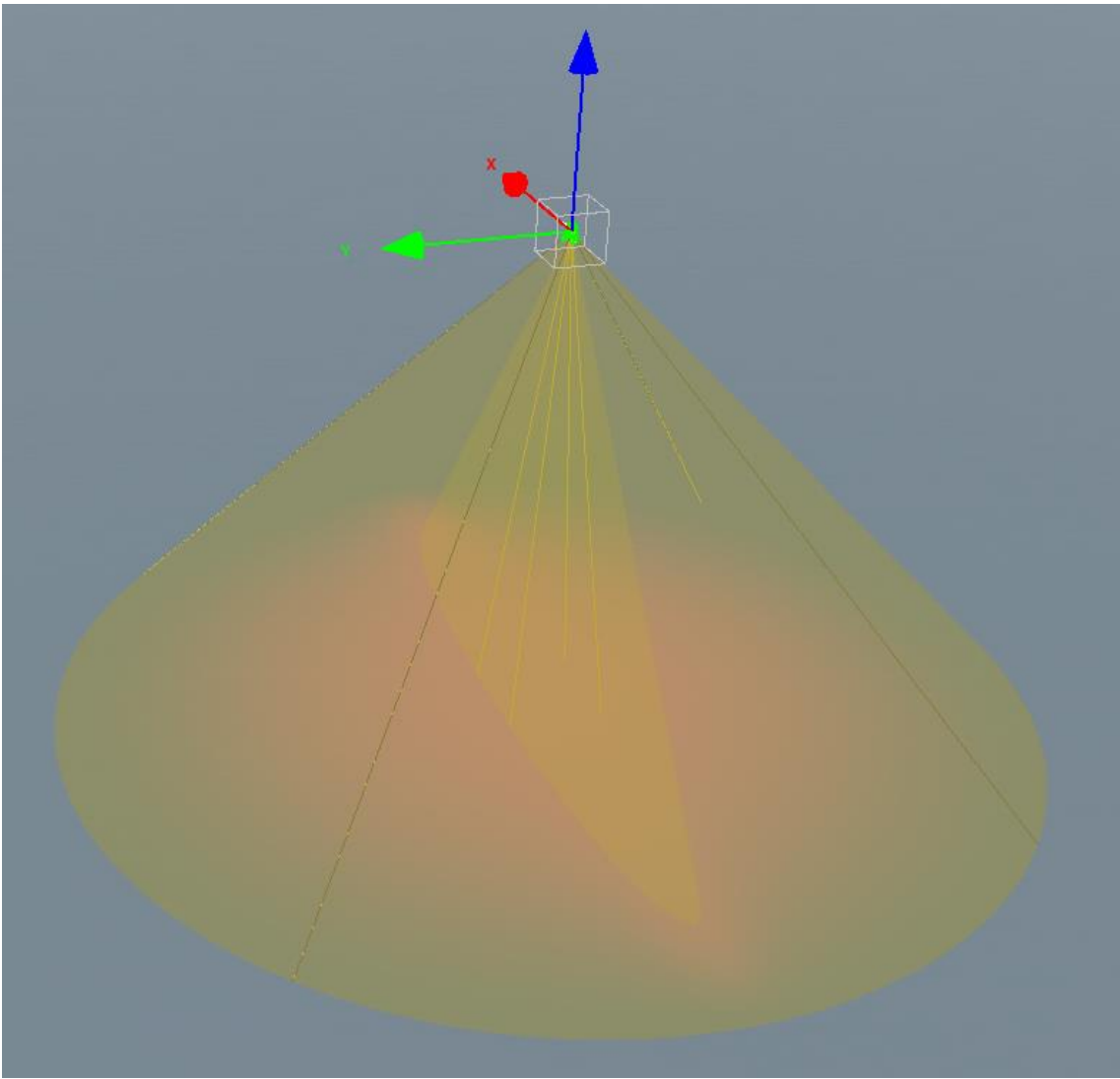
- *Description:* Controls the overall shape and feathering on a spotlight. The default values give you a soft circle or square shape depending on how you have your roundness attribute adjusted. The first two values control the inner and outer length of the spot-shape. The second two numbers control the inner and outer height of the spot-shape.
- *Default Value:* 0.75 1.0 0.75 1.0

Super Ellipse examples:

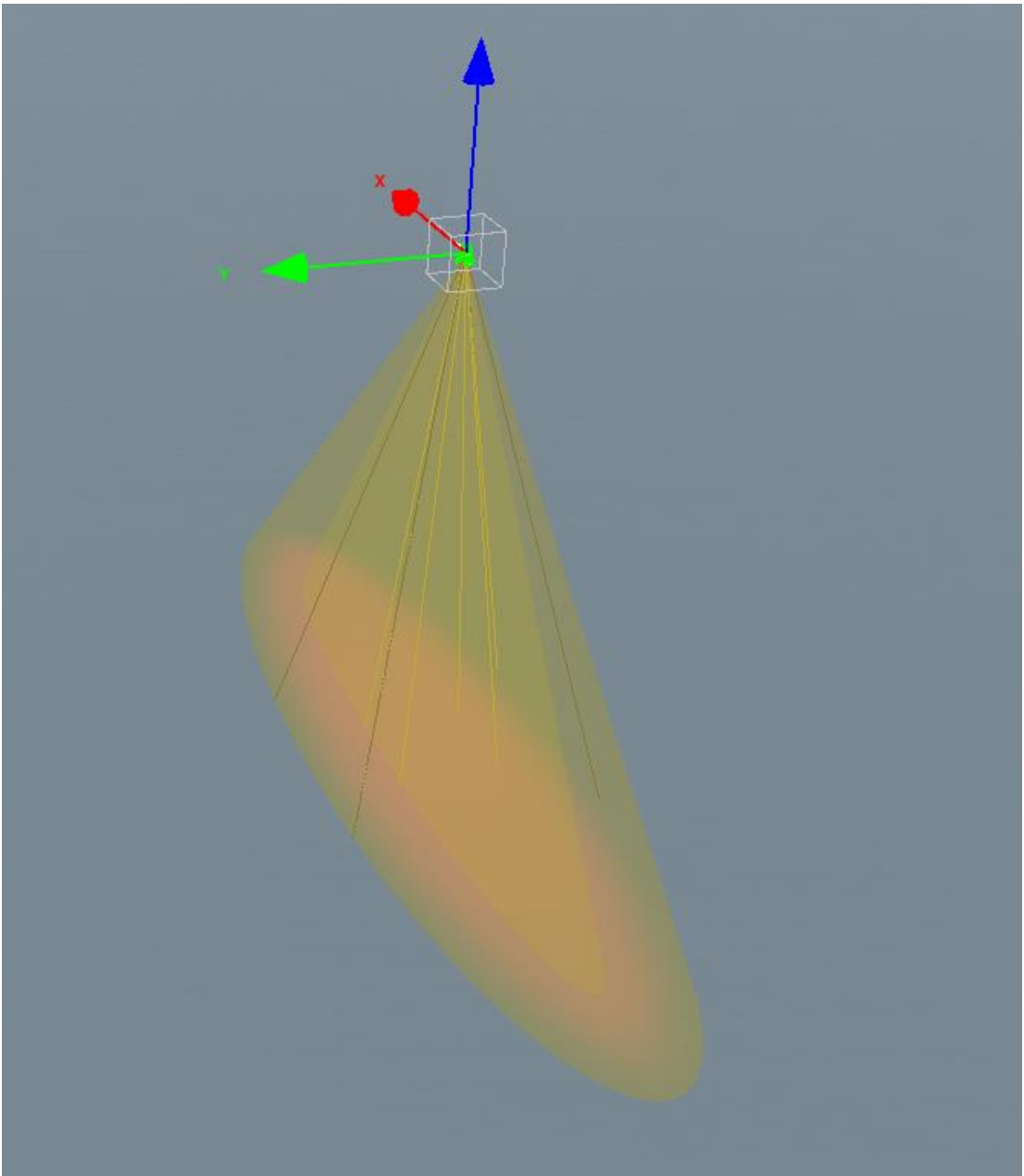
0.1 1 0.1 1



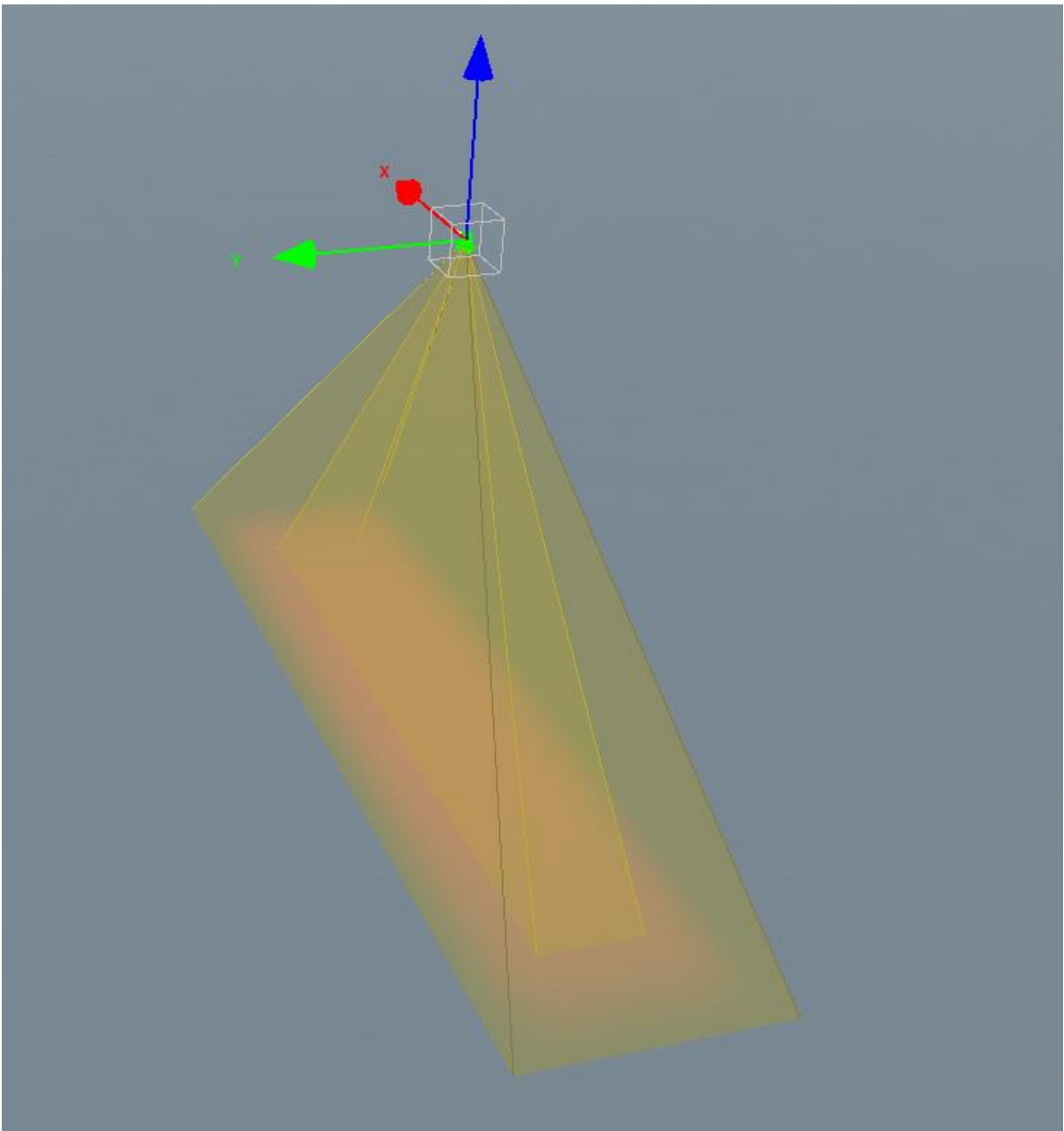
0.1 1 0.75 1



0.1 0.25 0.75 1



0.1 0.25 0.75 1 with roundness at 0.0



Cookie Parameters

COOKIE PARAMETERS	
def	white_light
def_angle	0.00
def_center	{ 0 , 0 }
def_offset	{ 0 , 0 }
def_rotation	0.00
def_scroll	{ 0 , 0 }
def_shear	{ 0 , 0 }
def_tile	{ 1 , 1 }

- def:**
- Description:* Sets which light definition asset to use for the cookie/slide projection. These entries are created in APE

- *Default Value:* white_light

def_tile:

- *Description:* Allows you to tile the texture in the x and y direction so smaller textures can be used. The x and y number will determine the number of times that the texture will be tiled. def_tile 1.0 1.0 would result in no tiling (default behavior). def_tile 2.0 1.0 would result in the x direction being tiled twice.
- *Default Value:* 1 1

def_offset:

- *Description:* When tiling textures you may need to shift the texture in the x or y direction to get the required alignment you need. Numbers in the range of -1.0 to 1.0 in the x and y should suffice. -1 or 1 will appear to have no effect as it just shifts the whole texture over by 1.
- *Default Value:* "0 0"

def_shear:

- *Description:* When tiling textures you may need to shift the texture in the x or y direction to get the required alignment you need. Numbers in the range of -1.0 to 1.0 in the x and y should suffice. -1 or 1 will appear to have no effect as it just shifts the whole texture over by 1.
- *Default Value:* 0 0

def_angle:

- *Description:* Base rotation angle for the texture. def_rotation should be used to animate rotation. def_angle is a static offset
- *Default Value:* "0"

def_center:

- *Description:* Controls the center of rotation; 0 0 will be in the middle of the light with -1 to 1 being at the edges.
- *Default Value:* 0 0

def_scroll:

- *Description:* Scroll the texture in the required direction, you enter a time in seconds which is how long it will take for the texture to travel across the full width / height of the light. 1.0 would take 1 second, 2.0 would take 2.0 etc. To reverse the direction of the scroll use a negative number.
- *Default Value:* 0 0

def_rotation:

- *Description:* Rotate the texture 360 degrees in the seconds time specified, thus 1.0 will take 1 second to do a full 360 degree rotation. Use a negative number to reverse the direction of rotation.
- *Default Value:* 0

Lighting States

LIGHTING_STATES	
lightingstate1	<input checked="" type="checkbox"/> True
lightingstate2	<input checked="" type="checkbox"/> True
lightingstate3	<input checked="" type="checkbox"/> True
lightingstate4	<input checked="" type="checkbox"/> True

Each map can have up to 4 lighting states. The lighting-state toggles will control which lights belong to which state. If state 1 is morning and state 2 is nighttime, your light only has state 2 marked true, then your light will only show up at nighttime. Global lighting states can be toggled from the camera window.

Performance

PERFORMANCE	
cull_dist	0.00
min_light_cutoff	0.00

min_light_cutoff:

- *min:* 0
- *max:* 100000
- *Description:* Automatically compute cut_off, (radius) based on the minimum amount of light specified, dependent on ENABLE_FALLOFF and falloffdistance. A value of 100 would result in the radius being positioned at the distance from the light where the intensity hit 100.
- *Default Value:* 0

LOD

- *Description:* This is a control on each light that will manually fade out the light based on its size in screenspace. The numbers are based on the radius of the light in pixels based on a 1080p image. Entering 30 would mean the light starts doing something when the radius of the light in screenspace hits 30 pixels. The LOD will fade out and ultimately cutoff the light and its shadows based on the values you enter.

culling_cutoff:

Defines the threshold for when the light is completely invisible or turned off.

- *Default Value:* 0

culling_falloff:

Defines the radius at which the light starts to fade out.

- *Default Value:* 0

Shadows

SHADOWS	
pcss_max	0.000
pcss_min	0.000
penumbraRadius	3.00
shadowmapScale	1
shadowUpdate	Never

PCSS is currently disabled due to performance constraints

PenumbraRadius:

- *default value:* 3
- *Description:* Adjusts the filtering on the shadows for a light. Larger number creates softer shadows. High values will result in some performance loss.

ShadowmapScale

- *default value:* 1
- *Description:* shadowmapScale adjust the shadow resolution of a light. default value is 512x512, (scale 1). Setting the light to half or double scale will half or double the resolution of your shadow map. Scale 2 = 1024x1024. Setting the scale to double res will eat 4 times the shadow maps. At normal res we can update 12 live shadows, with double res you could update 3 live shadows. Conversely you could do 4x as many shadows at half-scale. Shadowmap Scale is not currently supported on omni-lights.

SUN GOBO PARAMETERS

sunCookieIntensity [1.0]

sunCookieLightDefName [cookie_sun_mp_apartments]

sunCookieAngle [0]

sunCookieScale [0.001]

sunCookieRotation [0.0]

sunCookieOffset [0 0]

sunCookieScroll [0.1 0.1]

- Sun Gobo material examples can be found in t7_light_gobo.gdt / "sunCookieLightDefName" is the gobo material you create in the GDT.
- These same sun gobo materials and parameters can be used on lights in game. Material goes in "def" and "ENABLE_COOKIE" set to "true".

AUTO EXPOSURE PARAMETERS

evauto [1] (*set only in the worldspawn* / This turns on the Auto Exposure in your map. Eventually this will be automatically set and go away)

evmin (minimum global exposure value)

evmax (maximum global exposure value)

evcmp (global exposure compensation amount pushes the auto exposure target value up or down by the x number of stops)

evmin1,2,3,4 (minimum exposure value of lighting state 1, 2, 3, or 4)

evmax1, 2, 3, 4 (maximum exposure value of lighting state 1, 2, 3, or 4)

evcmp1, 2, 3, 4 (exposure compensation value of lighting state 1, 2, 3, or 4)

feather [0.0] (feather the interior of an exposure volume by x number of radiant units)