

Comments on my entry for the LDD/LDraw Rendering Contest 2014 on Eurobricks

by Papacharly

My entry:



1. General Remarks

My rendering is based on the LDraw system: It is built with SR 3D and transferred to Pov-Ray by LDView using the LGEO parts library. So my comments refer to the LDraw system too. For LDD, respectively for LDD2Povray, things may be different.

By the way: You will find lots of useful information about Pov-Ray here:

http://www.f-lohmueller.de/pov_tut/pov_eng.htm.

All my renderings are pretty much inspired by these sites.

2. Radiosity

If you wish to get some pretty nice renderings you have to enable radiosity.

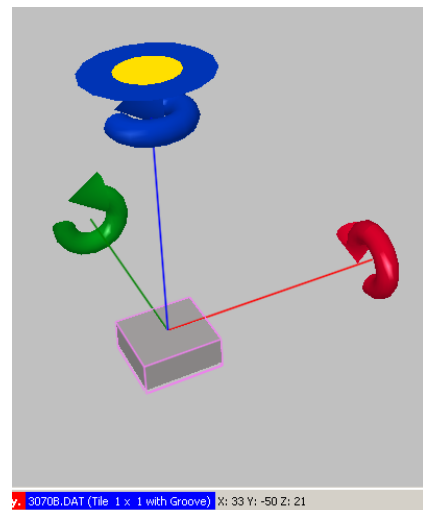
These are the radiosity settings I used:

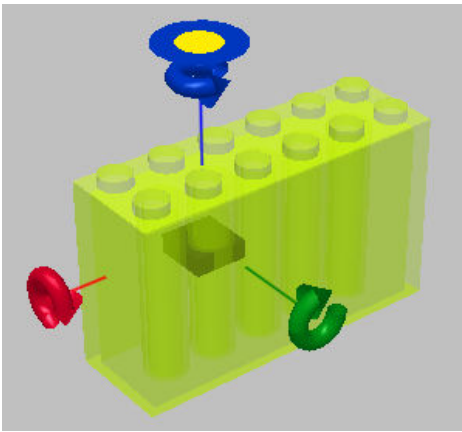
```
//radiosity settings -----  
#declare RAD = on;  
global_settings {  
  #if(RAD)  
    radiosity {  
      pretrace_start 0.08  
      pretrace_end 0.01  
      count 50 |  
      nearest_count 10  
      error_bound 0.5  
      recursion_limit 3  
      low_error_factor 0.5  
      gray_threshold 0.0  
      minimum_reuse 0.005  
      maximum_reuse 0.2  
      brightness 1  
      adc_bailout 0.005  
    }  
  #end  
}
```

3. Lamps & Light Sources

3.1 Positioning light sources

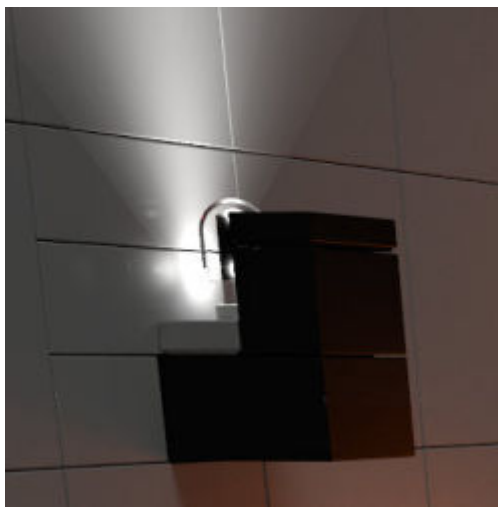
For applying light sources to your virtual model it is essential to know where you have to position a light source and in which direction (e.g. for spotlights) to point the beam at. Using SR 3D you easily can investigate the required information by just “clicking” a brick: The coordinates are displayed at the bottom of the GUI.





If you wish to position a light source inside a transparent brick you get the coordinates by moving a “probe brick” inside the transparent brick.

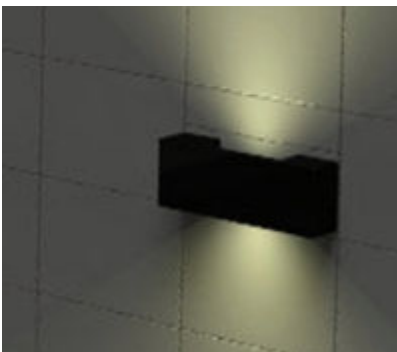
3.2 Wall Light “single”



There are two light sources inside the transparent brick: The vertical spotlight is for enlightening the wall, the short range light (fade_distance/fade_power) is for enlightening the transparent brick itself.

```
light_source {< 830,-260,800 > color rgb <1,1,1>*5 fade_distance 10 fade_power 5}
light_source {< 830,-248,800 > color rgb <1,1,1>*8 spotlight point_at< 830,-500,800 >
radius 110 tightness 10 falloff 140 }
```

3.3 Wall Light „double“



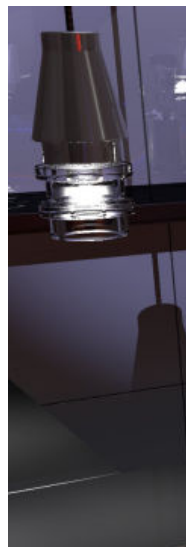
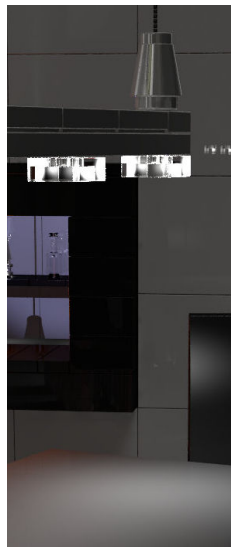
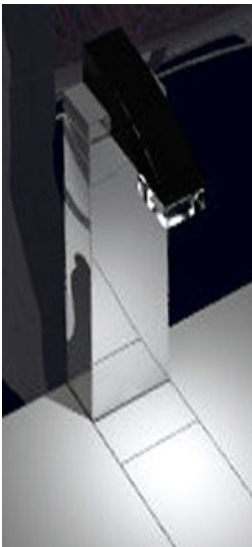
There are two vertical spotlights (yellowish light) positioned inside the gap. Only the downward beam is damped (fade_distance/fade_power).

```

light_source {< 2358,-752, 250 > color rgb <1,1,.5>*6 spotlight point_at< 2358,-1000, 250 >
radius 120 tightness 10 falloff 200 }
light_source {< 2358,-752, 250 > color rgb <1,1,.5>*6 spotlight point_at< 2358, 0, 250 >
radius 120 tightness 10 falloff 200 fade_distance 50 fade_power 1}

```

3.4 Pool Lights / Table Lights / Bar Lights



One light source (short range light) inside each transparent brick. Additionally one vertical spotlight aligned downwards:

```

light_source {< 650,-64,-40 > color rgb <1,1,1>*6 fade_distance 10 fade_power 5}
light_source {< 650,-64,-40 > color rgb <1,1,1>*2 spotlight point_at< 650,0,-40 >
radius 50 tightness 10 falloff 75 }

```

or

```

light_source {< 892.521,-284,556.621 > color rgb <1,1,1>*40 fade_distance 10 fade_power 5}
light_source {< 892.521,-280,556.621 > color rgb <1,1,1>*30 spotlight point_at< 892.521,0,556.621 >
radius 110 tightness 10 falloff 140 fade_distance 170 fade_power 5}

```

Regarding the last codeline of the second example I positioned the spotlight not inside the transparent brick but a little bit underneath.

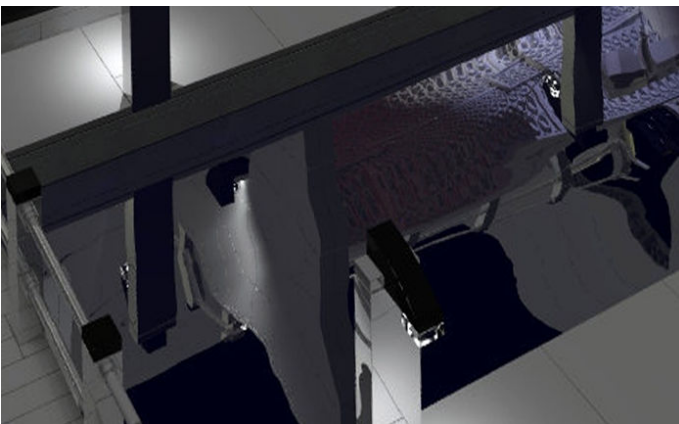
3.5 Bar



There is one blueish light source inside each transparent brick.

```
light_source {< 2120,-96,371 > color rgb <1,1,16>*5 fade_distance 44 fade_power 100}
```

4. Pool



It's a box having a water like texture. The box matches the boundaries of the pool.

The slightly blueish water was generated by the following code:

```
// Pool |
object {
  box {<2449,88,-24>, <-50, 90,-561>}
    texture{pigment{ rgb <0.0, 0.0, 0.06> }
    normal { bumps 0.1 scale <2,0.15,0.5>*100 turbulence 0.3 }
    finish { ambient 0.05 diffuse 0.55 brilliance 6.0 phong 0.8 phong_size 120 reflection 0.6 }
  }}
}}
```

5. Fireplace



The glowing of the flames was generated by increasing the ambient value of the `transparent_neon_finish` declaration (see `LDraw/LGEO/lg/lg_color.inc`):

```
#declare lg_transparent_neon_finish =  
  finish {  
    ambient 11 #if (version >= 3.7) emission 0.05 #end // default ambient is 0.05  
    #if (lg_quality > 1)  
      diffuse 2  
      brilliance 1  
      reflection { 0.01 falloff 1 exponent 1 }  
      phong 1  
      phong_size 40  
      conserve_energy  
    #end  
  }  
}
```

Additionally I positioned an orange area light inside the fireplace for getting some reflections on the wall:

```
// Fireplace  
light_source {< 1500,-200,660 > color rgb <1,0.2,0>*2 area_light <0,0,150> <0,-40,0> 3, 3  
  adaptive 1 jitter circular orient fade_distance 80 fade_power 2}
```

6. Background Lighting

Additionally there is a weak area light above the whole scenery.