

Ring of Light Lux User Guide

Description: The Ring of Light is pretty much what is says on the tin. It is a gigantic ring that surrounds your scene. The surface of the Ring is divided into 36 different material zones. Each material zone has been set up as its own independent light source, giving you a ring made up of 36 connected but separate lights. In its default setting there is one primary light (the sun.) As we move around the ring, the intensity of the light in each of the adjoining material zones drops, roughly simulating a Sun/Sky. The Area Lights that comprise the Ring of Light have all been extensively modified from the standard Luxus Area Light default settings. These modifications help give the Lux Ring the same look and feel as original DAZ Studio and Poser versions without sacrificing the realism possible with LuxRender.

Compatibility with the Original Ring of Light: As much as I could, I tried to make the Ring of Light Lux as similar to the original as possible, but differences in how the render engines work required a completely new standalone version. The Lux Ring is still a fully functioning DAZ Studio Area Light and all of the light presets from the original Ring will work on the new Lux Ring but they will only effect how the Ring renders in DS, not in LuxRender. One significant change is the loss of the sky backgrounds. The new Ring of Light Lux can't be both an Area Light projector and a sky back drop at the same time as it could in the Poser version and it can't be a completely invisible Area Light with a separate sky prop as in the DS version. On the flip side, the ability to adjust the Ring while rendering in LuxRender makes the new Ring much more flexible and all around easier to set up and use.

How to Use: At its heart, the Ring is very easy to use. Just drop it into your scene, change your render engine to LuxRender and hit render. Unfortunately, the light created by the Ring doesn't show up in the DAZ Studio preview window. In its default position the primary direction of the light is from the left front. If the direction of the light isn't what you want you can manually rotate it, or use one of the included position presets.

IES vs. Non-IES: There are two versions of the Ring of Light Lux. The standard version uses an IES Data file to help control the light created by the 36 Area Lights. The second version is an unfiltered non-IES version. By default a flat Area Light will cast light evenly across the 180° arc in front of it. The IES Data allows us to focus and control the light created by each Area Light. In effect we are turning 36 soft lights into 36 beacons all focused on the center point of the Ring. While the IES version renders slightly faster and is significantly more efficient with the light it creates (it uses less than 1/10th of the light the non-IES version does) the non-IES version is better at lighting very large scenes and the light it creates is not as contrasting as the IES version.

Intensities: These presets allow you to adjust the relative balance between the sun/sky light in your scene. They automatically adjust the LuxRender Power (Wattage) setting of all 36 Area Lights. Also included are a set of ambient only intensity presets. These are a set of uniform intensity lights. Basically they are the sky without the sun. These are intended to be used with other light sets (like the Luxus default lighting or my Photo Studio Lux Lights or pretty much any other set of lights you want) The original version of the Ring had lots of presets to incrementally adjust the intensity of the light. These were not included in the Lux Ring since you can do the same thing from within LuxRender while you are in the middle of rendering.

Light Groups: Adjusting each of the 36 Area Lights individually in either DAZ Studio or LuxRender can be extremely tedious (and time consuming). To make things easier Luxus allows you to group different lights together so that LuxRender sees them as one single unit. Each light is still an individual light with its own initial settings but when you start rendering, LuxRender only creates one control slider for each Light Group. The default setting breaks the Ring into 4 groups or sectors, each containing 9 individual lights. Sector 1 contains the primary light source and includes lights #1-5

and 33-36. With the Ring in its default position Sector 1 is the left-front quarter of the Ring. Sector 2 includes lights #6-14 and is the right-front quarter of the Ring. Sector 3 includes lights # 15-23 and is the right-rear quarter of the Ring. Sector 4 includes lights #24-32 and is the left-rear quarter of the Ring. There are also presets to turn the entire Ring into one single group or to have no grouping and 36 individual light controls. Also included are 4 partial materials that will only group together one single Sector. You can also create your own custom light groups by changing the name in the LuxRender – Group Name entry (found on the Surfaces tab) for each light you want to group together.

Positions: These presets allow you to quickly change the direction of the light in your scene. You can also manually rotate the Ring to exactly position it how you need it. The light created by the Ring is ray-traced so anything you put in your scene that is in between your subject and the Ring is going to interact with, and affect the lighting in your scene. If you put your scene within an enclosed room, the walls, ceiling and floors are going to block the light the Ring creates. Using enclosed courtyards (like the Trinity Atrium or Stonemason’s Walled City) generally require that you tilt the Ring so that the light is being cast down from above, thus allowing it to enter the enclosed area.

Sizes: These presets change the overall size of the Ring. With a default diameter of 2km the Ring is huge. You can shrink it down to 1km, 200m or 40m. Also included are presets to adjust the height of the Ring. Adjusting the size of the Ring smaller will typically decrease render times and increase contrast and will have a small effect on the quality of the light. Shrinking the height of the Ring will slightly intensify the lighting in you scene while making it easier to hide the Ring from the camera. These presets are version specific for the standard (IES) and non-IES versions of the Lux Ring. Using the wrong set of presets can lead to unpredictable (and unwanted) results.

Visibility: Unlike DAZ Studio, in LuxRender an Area Light must be visible for it to be able to cast light in your scene. Generally with your average sized Area Light this isn’t a huge issue, but with something as big and all-encompassing as the Ring of Light, hiding the Ring isn’t as easy as moving a tiny light from here to there or adjusting the camera angle slightly. Hiding something that is 800m tall that completely surrounds your scene requires a little more work. Obviously if your scenery completely blocks your view of the sky behind your scene, you don’t need to worry about if the Ring is visible. On the other hand, if your scene has open areas behind it, there is a good chance the Ring is going to show up on your render once you start LuxRender. For technical and esthetic reasons the Lux Ring was left invisible in the DAZ Studio preview window (and 3Delight renders). So the 1st thing we need to do is make the Ring visible in DS. Apply the Surface Helper MAT ON preset. This applies a special helper texture to the Ring that makes the Ring visible in DS and also labels each material zone so you can see what zones need to be turned off. Then simply use the correct presets to turn off all the visible material zones. These presets make the named material zones invisible in both DS and LuxRender. Now the once visible sections of the Ring will be invisible when you render in LuxRender. There are also presets to turn each zone back on and to remove the Surface Helper MAT. These presets are version specific for the standard (IES) and non-IES versions of the Lux Ring.

Colors: The LuxRender interface allows you to adjust the color of each light (or light group) while you are rendering, allowing you to see the effect of each change immediately. You can also adjust the LuxRender color of each of the 36 lights in DS by adjusting the LuxRender Light – Color parameter on the Surfaces tab but color changes made here can’t be undone once you start rendering in LuxRender.

Render Settings: First and foremost you need to set the Render Engine to LuxRender via Luxus (on the Render Settings tab). To get the best results with the Ring of Light Lux I highly recommend using the following render settings. They should give you good results out of the box while maintaining a good balance between high quality renders and (relatively) short render times.

Use LuxRender GUI: **ON**
Renderer: **Sampler**
Sampler: **Metropolis**
Tone Mapping Kernel: **Linear**
Tone Linear Sensitivity: **1000**
Tone Linear Exposure: **0.016**
Tone Linear FStop: **5.6**
Surface Integrator: **bidirectional**
Surface Integrator - Light Strategy: **Importance**
Surface Integrator Path - RR Strategy: **efficiency**
Surface Integrator Bidirectional - Light Path Strategy: **Importance**
Surface Integrator Direct - RR Strategy: **efficiency**

LuxRender Notes: LuxRender hates many of the 3d rendering tricks, like Skydomes, backdrops, invisible Area Lights, objects excluded from Raytracing or occlusion or in any way invisible to lights but still visible to the camera, etc. Unfortunately the original Ring of Light relied heavily on some of these tricks (invisible Area Lights and backdrops not affected by light). Unfortunately bringing both the Ring's light and the backdrops into LuxRender at the same time proved to be too much, forcing us to drop the backdrops from the Lux Ring. While the Ring itself is now, and must be, visible when rendered in LuxRender using the visibility presets can help you get around having to have the Ring visible in the background of you render.

Note: at the time of release, a bug in the interaction between DAZ Studio and Luxus/LuxRender is preventing DAZ Studio from reading the relative path of the IES Data file correctly on distributed Area Lights (LuxRender Area Lights with IES Data created/saved on your computer will work correctly but LuxRender Area Lights with IES Data created on someone else's computer won't work correctly out of the box on your computer). To get around this problem the IES file path listing has also been added to LuxRender Extra Setting Parameter.