

Introduction:

One of the most exciting things about Iray is how easy it is to work with emissive lighting. This set was created to help you add emissive effects to a wide variety of surfaces. Some will have an obvious use and others I hope will inspire you to think out of the box about using them.

Included in this set are:

- 70 multi colored presets that are texture driven. They span from a simple star field to almost organic patterns.
- 10 presets based on the color temperature of everything from candle light, to sunshine.
- 1 preset that will convert a surface to the uber Iray shader with emission turned on, but will not remove any of the maps that are already attached to the surface. This makes it easier to “turn on” surfaces.
- 5 luminosity adjustments for quick changes to the light level.
- 20 Simple solid colors to do quick changes on surfaces for effects like neon and simple LED lights.
- 120 tone on tone presets consisting of 6 different patterns each in the 20 solid colors.
- 9 tiling settings for quick tiling adjustments.

In the PDF I'll go over things you need to know to get the most out of emissive lighting in Daz Studio Iray.

- A quick explanation of light decay
- How size influences the strength of lighting
- How brightness influences how the texture looks
- Working with the presets
- Tone Mapping
- Emissive on primitives

Getting the most from your emissive presets:

All of these presets are set at luminance 100 with the units set for kcd/m^2 . That makes them fairly bright as they load and it is easier to make adjustments with these settings. There are presets to make light level changes with a click but you need to understand when and why you will want to make those changes. There are times when you may want to increase the light level into the 1000's for large spaces and brighter lighting or lower the setting to 10 for less dramatic illumination.

Decay:

Just like in the real world lights in Iray decay. This means that the further something is from a light source the less light it will receive. Illustration 1 shows a cylinder with the white solid shader preset on it. Notice how the sphere nearest it is lit the most and the one at the end of the line has very little lighting? You can hardly see the back walls of the space because they are so far away from the light source.

If I wanted light in the back corners of that scene I would need to add additional light sources or I would need to increase the light level from the cylinder. The simplest way to increase that light level is to increase the amount of light that the cylinder is casting.

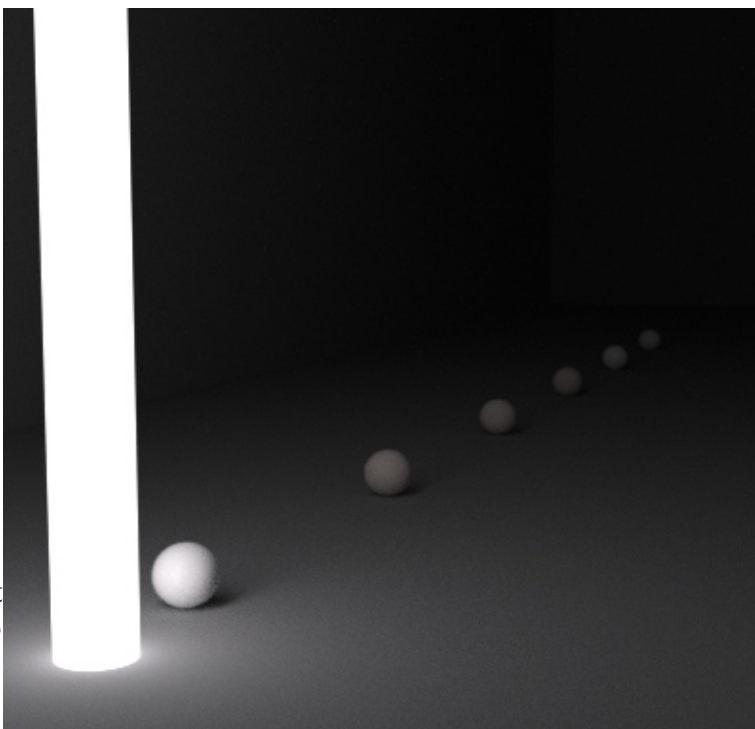


Illustration 1: Light decay example

Changing settings is done in the Surfaces tab. It is opened via window/panes (tabs). To adjust the strength of the lighting be sure that you have the editor tab selected and scroll down to Luminance (cd/m^2). See illustration 2.

The setting will say 100. Anything lower than 100 will decrease the amount of light cast and anything over will increase it. If you lower it too dramatically there may not be any perceptible light cast. At about 10 you will simply have a bright surface with little or no discernible light. There will be times when you may want a very bright light cast by a single emissive. Don't be afraid to keep increasing the amount till you get the light you want.

One example of when you might want to have a dramatically higher number for luminance would be

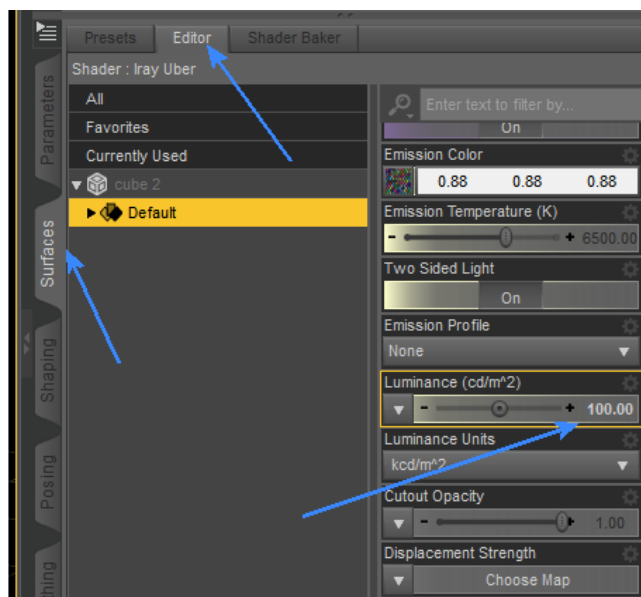


Illustration 2: Surface tab

if you were putting a plane outside a window and wanted it to mimic sunlight or if you have a large space to light. While in some instances the 100 that the presets load with will seem bright, I've used 3000 on a primitive plane in portrait lighting and it was not too strong. Be prepared to play with light levels until you have a feel for how they will look in different types of renders.

Brighter light, including the 100 that these presets load with, can wash out the color of the light at times. This can be particularly noticeable if the light casts a reflection or highlight from something in the scene. You may have to lower the intensity (luminosity) to temper the reflection.

Size influences Strength:

Another reason why you may have to adjust the strength of the light is due to the amount of surface area that has the emissive preset on it. A small area will cast much less light than a larger area will. So if you have a large area that has been converted to emissive you may need to turn the light down in order to keep the lighting in the scene balanced. Or you may need to turn it up to get the effect you need depending on how large the surface is. You should also note that the larger or further the size of the emissive surface from

your subject the the softer the shadows will be. Just something to keep in mind as you set up your scenes.

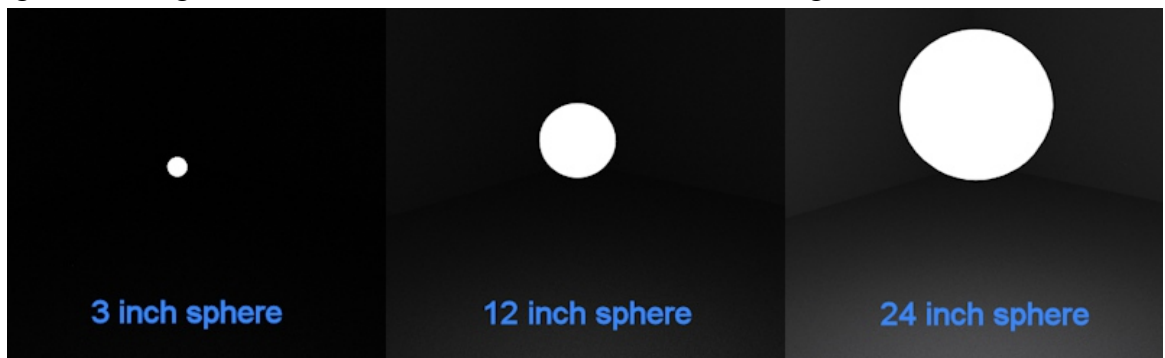


Illustration 3: Size influencing brightness

Brightness influences texture:

There are also aesthetic reasons why you may want to make adjustments to the strength. Light can have a veritable effect on how a textured and illuminated surface looks. If the room that your using the effect is very bright then it may “wash out” the effect.

Having the illuminated surface very bright can also alter how the texture looks. Lighter colors also can be “lost” when they are used as a bright light. The light will still retain its color but the object will be faded and images may not be apparent when viewed.

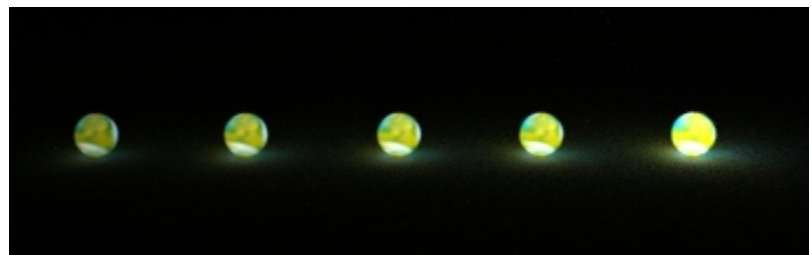


Illustration 4: Luminance strength examples

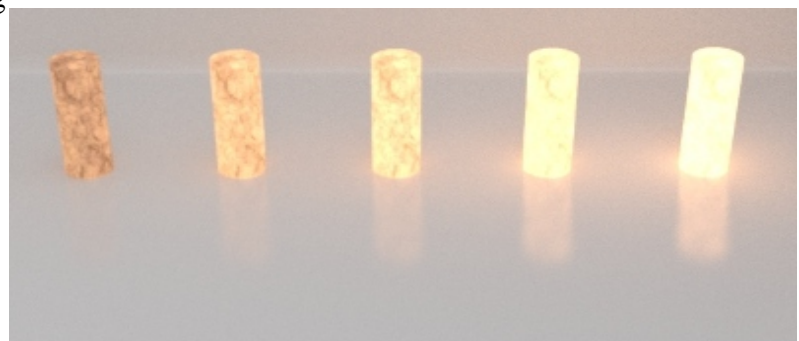
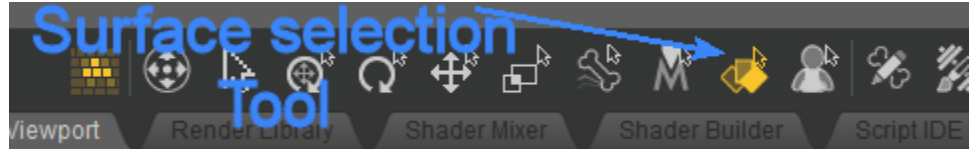


Illustration 5: Strength example with texture blown out

Working with the presets:

Any time you are working with a non iray set up you should go ahead and at the very least make all the surfaces Iray compatible. It will increase your odds of surfaces looking good with out much adjustment and it will help speed up your renders.

The simplest thing to do is to go to your scene tab and select every object in the scene. If you use windows



you can select the top item in *Illustration 6: Surface Selection Tool*

the scene and then hold down

the shift key while you select the bottom item have all of them selected. Then go to the surface tab and select all of the surfaces the same way. Then all you need to do is double click the !Iray Uber Base. It will not remove any of the textures. All it does is convert the shader to Iray and give approximations for the settings. Some surface will not need any further adjustment. Others you may have to play with.

You can add emissive lighting to any surface and most PA's are good about adding surfaces that can act as lighting even if they were not lit in the original project. For example: you can add light to light bulb and candle flames with easy just by selecting one of the presets. You can also look around the scene and see if there are extra surfaces you can add lighting to like wiring or tubes for a bit of extra pop in the scene.

Some surfaces you will want to keep the textures on when you add the light to them. For example, if you have a monitor that has an image on it you would want that image to be lit rather than a new texture to be added.

In order to make that easier I have included a setting called "Add Emissive only" that is located in the utility files. This will convert your surface to Iray without removing any of the maps and will change the emissive surface to white with the same luminosity settings as the other shader presets.

I have used Technopolis by petipet as my example. It loads as a whole "scene" and has two types of light able components. The lamps are easiest to light



Illustration 7: Technopolis lit with emissive light

because they are a solid surface. You simply select the lamp and the light surface (the surface selection tool will do both at the same time) and apply one of the “Temperatures light bulbs and sun” presets. Incandescent or Fluorescent would be good options. The second set of lighting is on the tower and called “lights”.

The lights surface covers all the lights on the tower. To select it I can use the surface selection tool to select any of the lights on the tower because they are all driven by the same texture. If you have multiple places that have textures and you want to light them then you would need to do them per main map.

Then I applied the “Add Emissive only” to the surface. That got me half of the way to having them work properly. But in order for them to look exactly like they should you will need to move a texture map into the emissive property slot. Because the preset to add the emissive light does not change any of the other maps it is easy to find the map that you need to put into the slot. Simply go up to Base

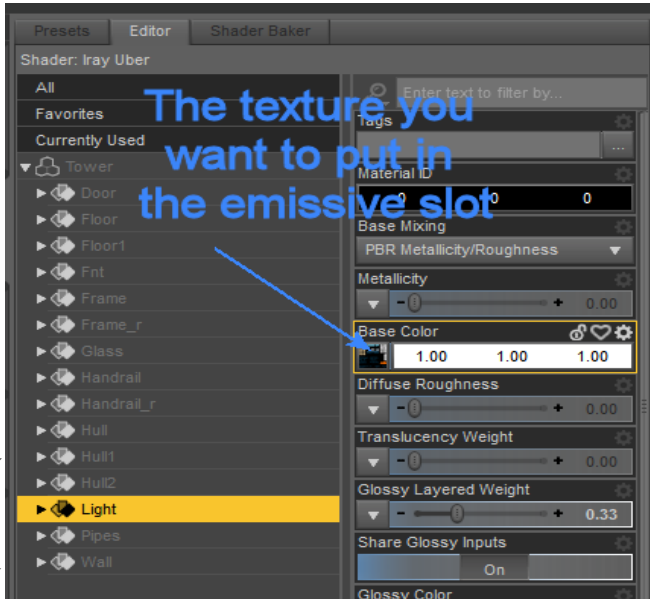


Illustration 8: Texture location

Color and hover over the image (See Illustration 8). When you hover like that it will show you the location and name of the texture. All you really need to pay attention to is the name of the .jpg. In this case it is PtTp_Light.jpg. Once you have the name of the jpg you will input it down in the Emission color slot (See Illustration 9). Simply clicking on the slot for the image will open up a drop down list and the texture your looking for will already be on that list.

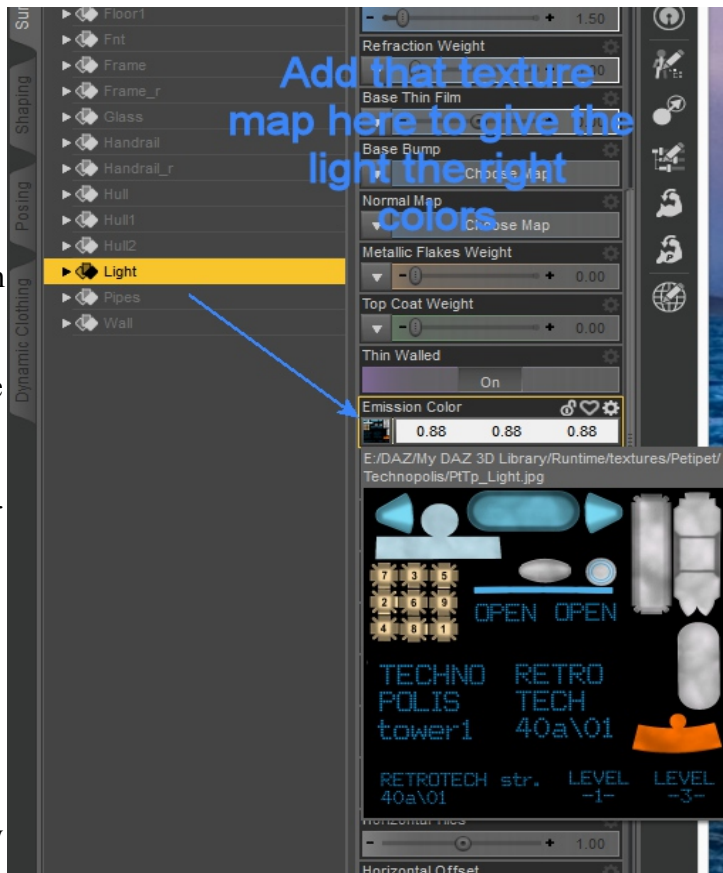


Illustration 9: Texture placement

After you have moved the texture down to the Emission color slot you will want to do a test render to check the light level. If the light is set too bright it can make the texture too light. If that is the case you can lower the luminosity with one of the one click options or by adjusting it yourself.

Tone Mapping:

When you use emissive lighting you often are working in spaces that are not optimally lit. That means two things. The first is that it may take longer for your render to converge to a point where you are happy with it. The less lighting in the scene the more likely that is to happen. And the other thing is that the scene itself may

not be bright enough. You can adjust the tone mapping to brighten the image without adding more lights that may not give you the outcome you want with your render.

To do that go to the render settings tab and select tone mapping. The first thing I do is adjust the film. If it is an indoor scene but fairly bright I will change the film ISO to 200. For a night scene I would change it to 400. You can make other adjustments as well. But don't go to far however as it will have the same effect as too much light would.

Emissives on primitives:

I use primitives in studio all the time. I use planes to make floors and walls for quick partial rooms for example. They can be used to light portraits and other scenes. I used them in the pool in my main promo for this product and as tables in others. You also can use them as regular lighting. All you need to do is load in a primitive plane and apply the lighting preset that you want to use. Depending on how large you make the primitive you may need to scale it to adjust lighting or turn the light level down or up via luminance. Just be sure that you have them outside camera view if you don't want them seen. You will find that emissive lights often have a different feel from regular lights and can add new depth to your images.

If you have never used a primitive the process to create them is very easy. From the Create menu, choose New Primitive. Different primitives will give you different options as far as size, divisions, and sides. They are something you should explore to see how the different primitives look set up different ways.

If your going to use primitives that will show in the scene you will need to find a balance between enough segments/sides/divisions to give the object the right look and not having so many that it increases render time. '(Each polygon of an emissive surface is treated like an individual light source, so the higher the polygons, the longer the render time.) For example if your using a primitive plane as a light source you would only want one division because more would not show anyway. On the other hand a sphere needs enough so that it looks smooth in the final render. You will want to explore that to get a feel for how it all works if you have never used primitives before.

I hope that I have covered everything you will need to get the most out of these presets. They can be loads of fun and you should experiment with them. Try using them in unexpected ways and see what happens.