Light Select

Overview

The Light Select Render Element represents the lighting contribution from one or more user-selected lights in the scene. Each Light Select channel can output the selected lights' raw, diffuse, or specular contributions to the illumination, or the overall (normal) light contribution. When multiple lights are selected for one Light Select Render Element, all contributions from those lights are combined into that one render element. Multiple Light Select passes can be rendered for a single scene, and lights may be included in more than one Light Select pass.

This element is similar to the Lighting Render Element. However, the Lighting element combines the effect of all lights in the scene while the Light Select element allows for just a user-selected light or set of lights to be broken out; showing their own individual effect(s) on the scene's illumination. By using these render elements, specific lights in the resulting render can be adjusted (color, temperature, brightness, etc.) in a composite without the need for re-rendering.

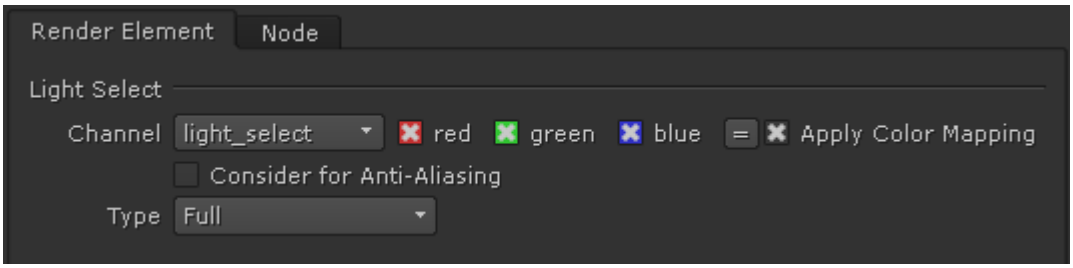
For example, by generating a Light Select element for all of the backlights in a scene, an artist may adjust the backlighting of the rendered scene easily in the composite, without affecting the rest of the scene's illumination.

UI Path: ||Toolbar|| > **V-Ray Menu icon > Render > VRayRenderElement > Type: Light Select**

Inputs

The Light Select Render Element node allows one or more lights to be connected as inputs.

Properties



Apply Color Mapping – When enabled, Color Mapping will be applied to the Render Element.

Consider for Anti-Aliasing – When enabled, anti-aliasing will be used where possible.

Type – Sets what type of lighting contribution is generated in the element as follows:

Direct illumination – Lighting within the Light Select element behaves as normal and contains diffuse and specular information.
Direct raw – Lighting within the Light Select element behaves as a raw render element.
Direct diffuse – Lights within the Light Select element output only their diffuse contribution and contain no specular information.
Direct specular – Lights within the Light Select element output only their specular contribution and contain no diffuse information.
Full – Lights within the Light Select element provide full output for all information available in the scene such as GI, SSS, reflection, refraction, etc.
Indirect illumination – Outputs all indirect light bounces, including indirect diffuse and specular information.
Indirect diffuse – Outputs only the indirect diffuse light bounces. This mode is similar to the GI render element.
Indirect specular – Outputs only the indirect specular light bounces. This mode is similar to the Reflection render element.
Subsurface – Outputs only the information calculated from Subsurface Scattering materials.
Light path expression – Allows capturing custom light transport paths with regular expressions. Right-click in the field for a list of presets. See the Light Path Expressions page for more information.

Common Use: Changing Lighting in Composite

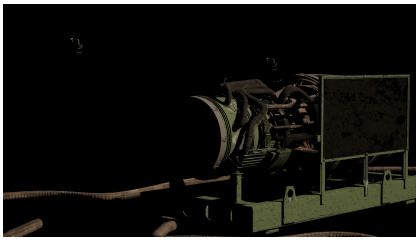
Below is an example of how to use the Light Select Render Element in a composite.

Both of the element's **Types** have been set to set to *Direct illumination.*

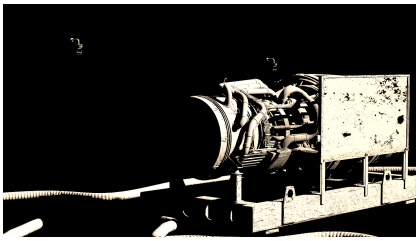
The scene used for the images below uses only two lights, a VRaySunSky and a VRayLightMesh and each has their own Light Select Render Element. The renders below show how the two Light Select Render Elements can be combined to give the same result as the Lighting Render Element, and combined with the Global Illumination Render Element to give the equivalent of the Total Lighting Render Element. This gives a finer level of control in the composite to change things such as the intensity, or color tinting for individual lights within separate passes.

For more information, see the video.

vrayRE_Light_Select Render Examples



Light Select 1 - with its **Type** set to *Direct diffuse*

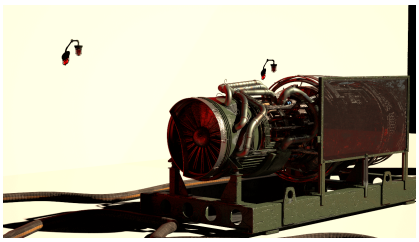


Light Select 1 - with its **Type** set to *Direct raw*

Light Select 1 - with its **Type** set to *Direct specular*

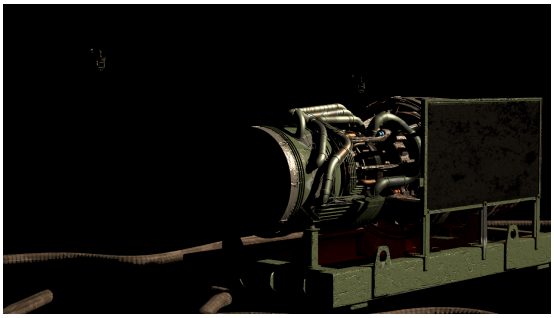
Light Select 2 - with its **Type** set to *Direct diffuse*

Light Select 2 - with its **Type** set to *Direct raw*

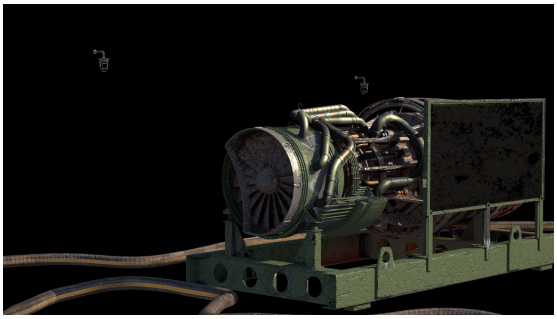


Light Select 2 - with its **Type** set to *Full*

As the second light (the VRayLightMesh) contains no specular contribution at all, it is not rendered out for Light Select 2.



Combined Light Select passes to recreate the Lighting render element (a mask from a Multimatte was used to remove the background lighting. This is as in this scenes case the back is camera projected onto simple geometry)

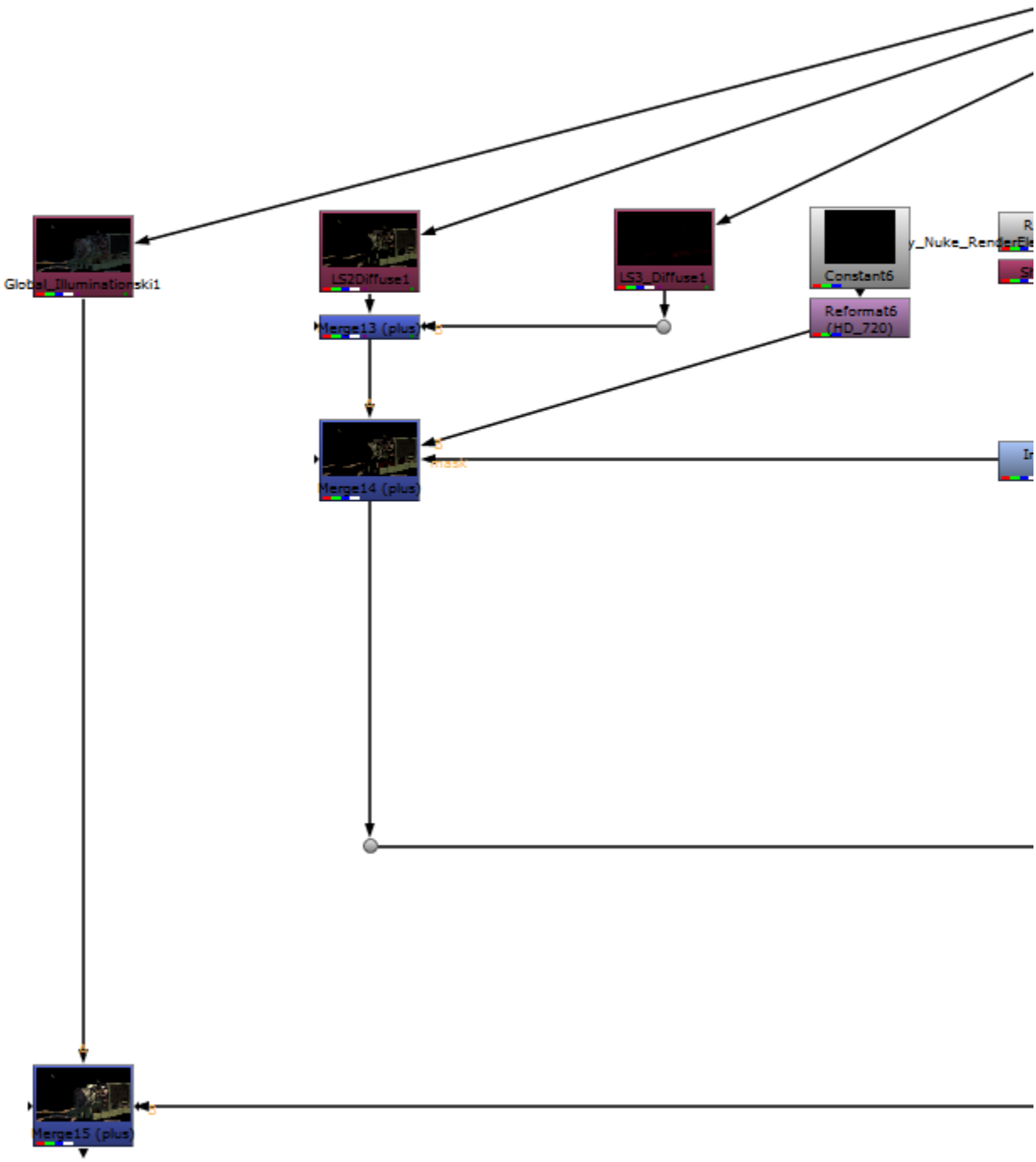


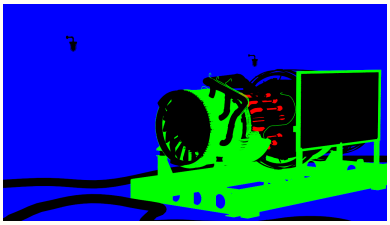
Combined Light Select passes combined with the GI render element to recreate the Total Lighting render element

Light Select Direct Diffuse, Direct Raw, and Direct Specular **Types** are combined by all Diffuse being merged together with a plus operation in the composite. The same is done to the Direct Raw and Direct Specular **Types.** The combined Direct Diffuse Light Select passes are then merged in composite with a Multiply operation with the Direct Raw Light Select passes. These are then merged with the Direct Specular **Type** Light Select passes, which then produces the same as the Lighting Render Element. If all these combined Light Select operations are then combined with the GI Render Element with a plus operation in composite the Light Total Render Element will be reproduced.

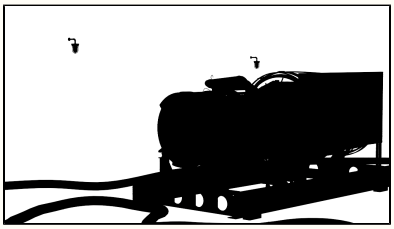
As the Specular component is already present in the Light Select Render Elements, no Specular Render Element is needed to be present in the final composite.

In the examples shown here, as the background is camera projected onto simple geometry and we do not need any extra lighting information added to it; A mask created from the inverted blue channel of a Multi Matte Render Element.

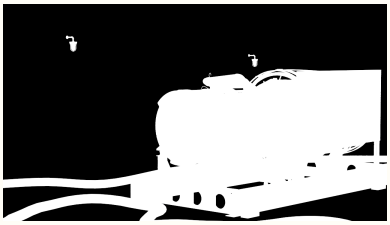

Global_Illuminationski1
LS2Diffuse1
LS3_Diffuse1
Constant6
Reformat6
(HD_720)
Merge13 (plus)
Merge14 (plus)
Merge15 (plus)



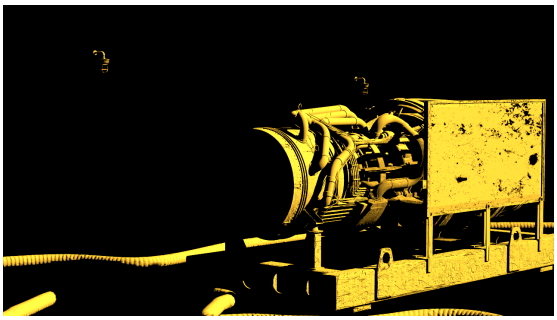
The Multi Matte Render Element



The Multi Matte Render Element isolating the blue channel



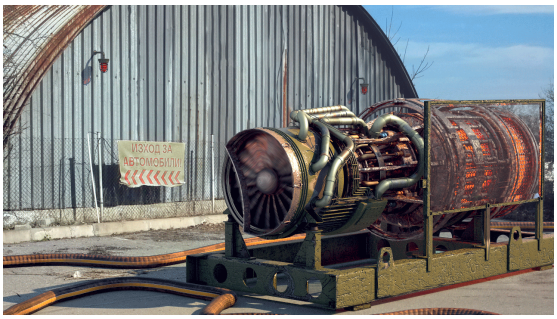
A mask made from the Multi Matte Render Element with the blue channel



Tinted Light Select 1 - with its **Type** set to *Direct raw*

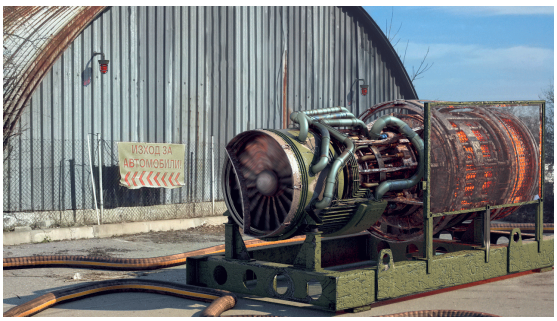
The Beauty composite with Tinted Light Select 1 - with its **Type** set to *Direct raw*

Tinted Light Select 1 - with its **Type** set to *Direct diffuse*

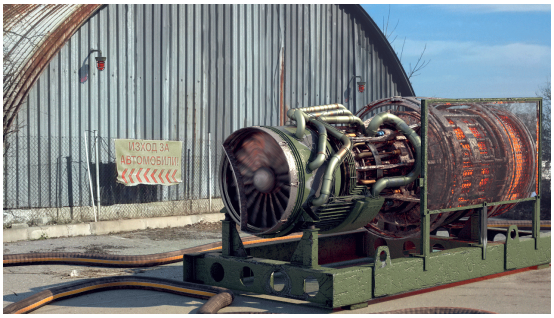


The Beauty composite with Tinted Light Select 1 - with its **Type** set to *Direct diffuse*

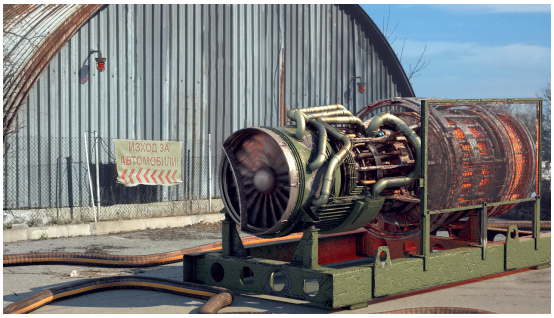
Tinted Light Select 1 - with its **Type** set to *Direct specular*



The Beauty composite with Tinted Light Select 1 - with its **Type** set to *Direct specular*



Beauty element prior to changes



VRaySunSky intensity has been increased and its color warmed slighting and The Engine VRayLightMesh has had its intensity increased

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Notes

- When using Light Select, a good practice is to have one Light Select pass for each light source in your scene. This way the Lighting element can be recreated from them, and adjusted as needed while compositing without re-rendering.
- If the Light Select element **type** is set to **Direct illumination**, the specular contribution is added to the render element. While this is perfect for simple compositing, a better workflow is for each light to be selected for two Light Select Render Elements, one with its **type** set to **Direct diffuse** and another with its **type** set to **Direct specular**. In this way, the specular and diffuse lighting can both be controlled independently at a composite level.