IRAY LIGHT MANAGER PRO

Recommended installation :

If you plan to use regularly "Light Control", you can install it and access it in the top menu of your Daz Studio interface. This way, you will be able to launch it in the blink of an eye.

In order to install it in the "Scripts" menu, you have to access the file once only in the content library. You will find it in the "Product" category in the content library. Right Click on the "V3D Iray Light Manager Pro.dse" file and choose create custom action. Now the script can be launched directly from the "Scripts" menu at the top of Daz Studio Interface.

Even more efficient : if you want, you can copy the "V3D Iray Light Manager Pro.dse" file script on your desktop, and when you need it, you simply drag and drop it in your viewport!

Product Description

The goal of this product is help you to set up your Iray lights more efficiently than ever. It consists of a Daz Studio script that consolidates many light controls into a single tabbed interface. No longer will you have to change back and forth between Scene Selection, Parameters, Surfaces, Render Settings, Lights, and Viewport to control the Iray light sources provided in Daz Studio. A major time savings, even for small scenes!

This product usage is limited to Iray renders, Iray sources of light, and Iray Uber Material as emitting surfaces. Within this document and the script, the term "Daz Studio Lights" refers to Spotlights, Linear Point Lights, Point Lights, and Distant lights. They are scene lights. Within this document and the script, the term "Surfaces Lights" refers to surfaces with the Iray Uber Shader in which the emission color is not black. They are also considered as scene lights, even though they are also rendered when you are using "Dome Only" or "Sun-Sky Only" Environment Mode.

This product provides a consolidated view and the key controls for all the light sources used in your scene:
- Daz Studio Lights
- Emitting Surfaces
- Environment Light
It does not provide support for Sun Light other than the ability to select Sun-Sky Only environment mode and to change the environment intensity.

The script interface has one top box controlling:
- Exposure Value
- Camera Selection (User Cameras and Perspective view)
- Draw Style (Texture Shaded, NVIDIA Iray...)
- Environment Mode (Dome Only, Dome And Scene...)

The script interface has one bottom box containing 6 tabs controlling:
- Collective Actions : several lights simultaneously
- DS lights : individual Daz Studio lights in an "Array" view
- Environment Light : Render Settings Environment parameters
- Surfaces Lights : Iray Uber Emissive surfaces properties
- DS Lights Placement : Move and rotate Daz Studio Lights
- Orbit Perspective View : allows selecting an orbit node in the scene and orbiting the perspective view around its bounding box.

This documentation will explain what each box and tab does to your lights or render settings.

- If you want to change several lights at the same time with the same color, or power, or you want to balance environment vs. scene light (including emitting surfaces) differently, use the "Collective Actions" tab.
 - If you want to change individual Daz Studio Spotlights, Point Lights, or Distant Lights, properties use the "DS Lights" tab.
- If you want to change individual emitting surfaces, use the "Surfaces Lights".
- If you want to work on the environment light, use the "Environment Light" tab.
- If you want to move Daz Studio Lights, use the "DS Lights Placement tab".
- If you want to preview the result with various points of view, use the "Orbit Perspective view" tab.

If you want to undo the modifications that you have made, you have to close the script, and in Daz Studio, click "Edit/Undo" in the Top Menu.

1. Top Box

The "More Information About This Tool" is a very short summary of this document. I would recommend using this document instead, for more complete information.
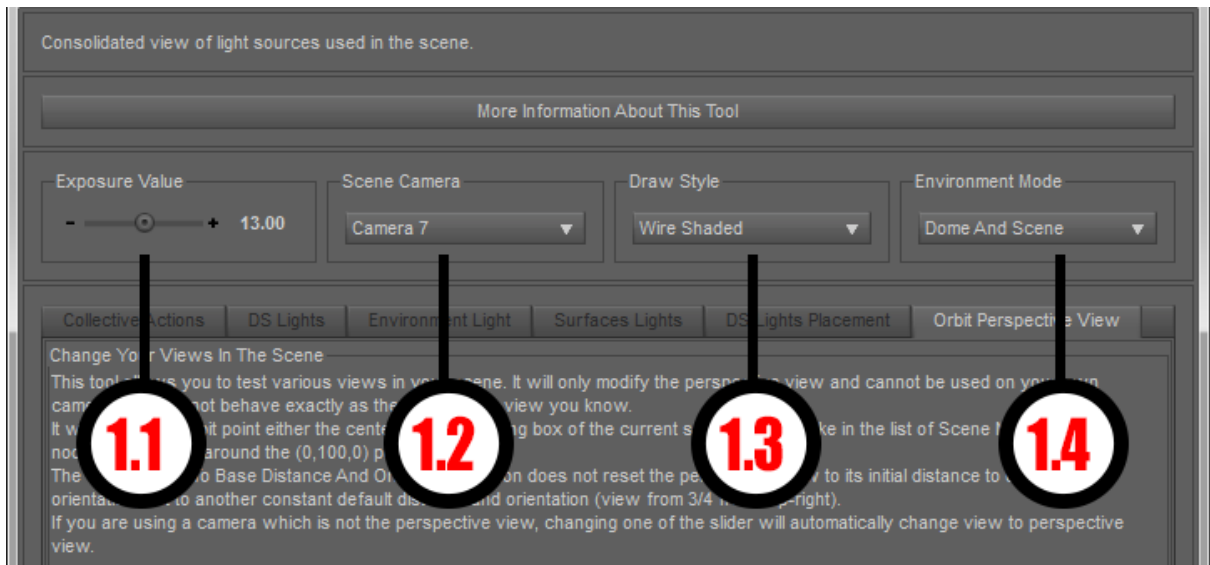

Image 01 : Top Box

1.1 Exposure Value is the same as the one available in Daz Studio Render settings. In real world, it is linked to camera settings. The amount of light received by the camera depends on this. Values of 12-16 correspond to exterior daylight, values of 5-12 correspond more to interior with artificial lights, or exterior night scenes with artificial lights.

1.2 Scene Camera allows you to select any camera that you have created in your scene, plus the perspective view, to control the viewport. If you had not created any camera, only the perspective view is available. Please note that if you start from another view (Right, Left, Top, Bottom), the name of this view will replace "Perspective View". In general, it is better to start with either perspective view, or a user camera view. If you use the functions of the "Orbit Perspective View" Tab, then the Camera will be automatically set to "Perspective view". Of course you can come back to any of the cameras that you created after that.

1.3 Draw Style is the draw style you want to use for the viewport. Depending on the complexity of your scene, you may want to temporarily disable "NVIDIA Iray", for instance, while you change the perspective view of your scene. The Draw Style Initially displayed will be the one currently in your scene only for Daz Studio Version above 4.9.2.23.

1.4 Environment Mode will control what you include in the render and the preview : Dome Only, Scene Only, Dome and Scene, or Sun-Sky Only. This allows you to swap rapidly from Dome Only to Scene Only to adjust the relative amount and properties of each contribution (scene lights vs. environment light). It is particularly useful when you tweak lights to be able to set "Scene Only" rapidly. Take care here : if you are using, for instance "Scene Only", all the modifications you make to the environment will be taken into account by Daz Studio, but not rendered in the viewport. In brief, take care to match the choice of the Environment mode to what you want to see.

2. Bottom Box, tab "Collective Actions"

The Collective Actions Tab can be used for several purposes.
- Initialize all your lights powers and colors (or only the ones selected in the list)
- Initialize all the spots angle and exponent (or only the ones selected in list)
- Decrease or increase separately the environment light, and all the scene lights (or only the ones selected in the list), allowing as a consequence control over the total power and scene vs environment balance in the blink of an eye.

The top part of the Collective Actions Tab includes the actions you can do. The bottom part includes the list of all lights in the scene (Daz Studio Lights and Emissive Surfaces). All the actions of the top part will act only on the elements checked in the bottom list.

When the script opens, the values in this top section do NOT represent values in your scene, since it is unlikely that your scene starts with identical values for all lighting elements. The values displayed in this section have no effect until you change the displayed value.
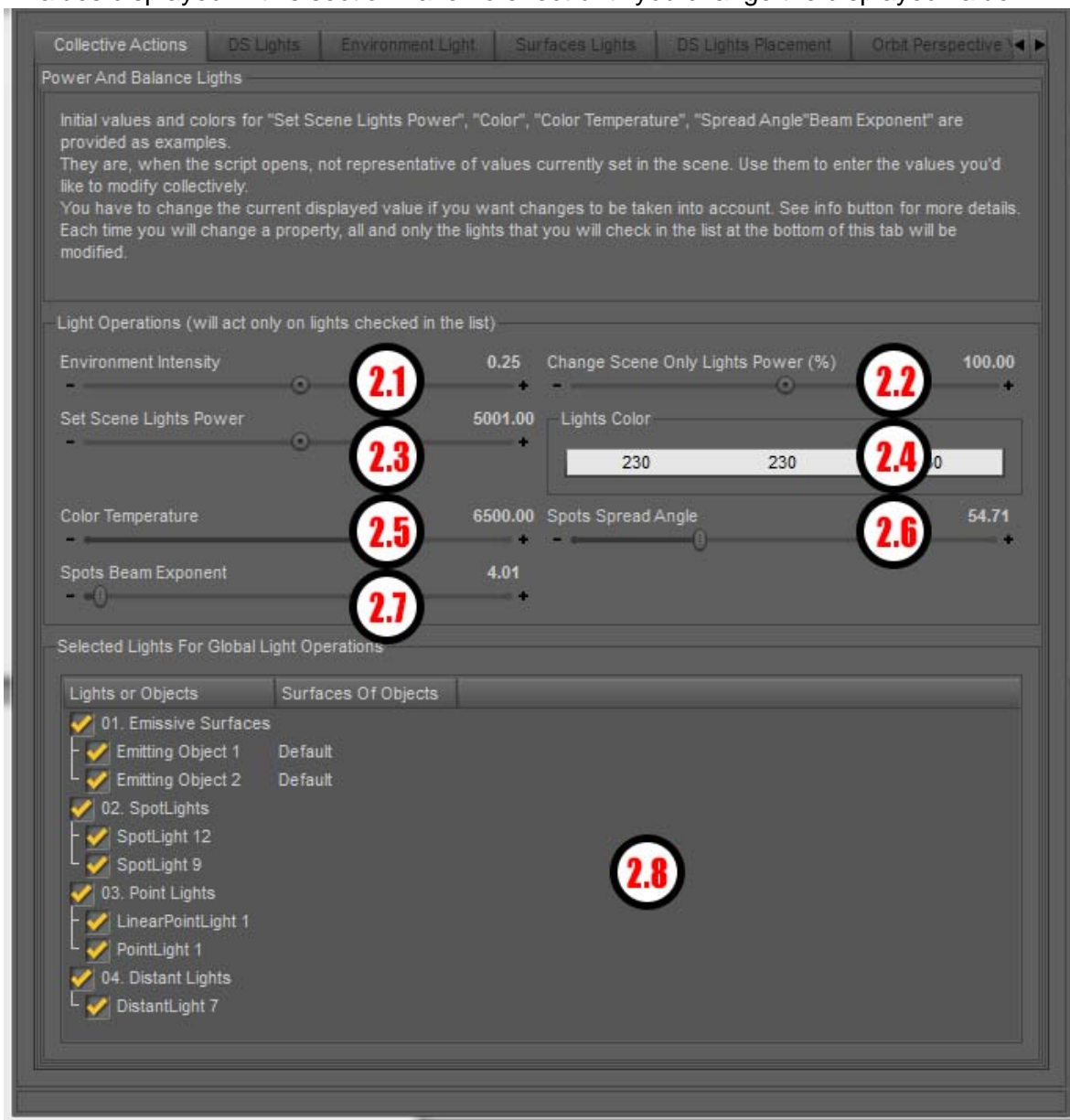

Image 02 : Tab "Collective Actions"

The bottom list is organized in 4 sub-lists :
01. Emissive surfaces (Iray Uber only)
02. Spot Lights
03. Point Lights (and Linear Point Lights)
04. Distant Lights.
This way you can easily make your selection to set up properties group by group of lights.

WARNING : For all these elements (2.1 up to 2.7), the new values will be taken into account ONLY if you change the value of the dial or the color. For instance if the dial initially displays a "Set Scene Light Power" at 6000, then you write "6000" again, nothing will be done, because the script, does not see this this as a change.

2.1 Environment Intensity :
This will adjust the environment intensity. If you are using a map, the intensity of the light of the environment map will be increased or decreased by this control. The "Environment Intensity" property also changes Sun Light intensity. You can combine it with the "Environment Map Intensity" of the "Environment Light Tab". They multiply.

2.2 Change Scene Only Lights Power (%) :
Increase or decrease the current power of all the lights selected in the bottom list. Increase the value to increase power, and decrease the value to decrease the power. It includes the Emissive surfaces if they are checked. It is a proportional increase or decrease, meaning that if a light A has twice the power of a light B, then at the end, the power of the light A will remain twice the power of a light B. The Power balance between the various Scene Lights does not change, only the total amount of scene light changes. Please see Annex 1 page 15 for more details concerning Scene Only Light Power and its interaction with other dials.

2.3 Set Scene Lights Power :
The value you enter will be used for all Daz Studio Lights checked in the list as the flux in lumen, and for all the Emissive Surfaces checked as the Luminance (with a unit for the luminance that you can specify in the "Surfaces Lights" tab).

2.4 Lights Color :
This color will be used for all Daz Studio lights checked in the list as the "Color" of the light, and for all the Emissive Surfaces checked as the Emission Color. Take care : if you set a black color (0,0,0) for emissive surfaces, next time you open the script, they will not be seen any more. If you want to turn them off but temporarily, use a "0" for "Set Scene Light power" for them.

2.5 Color Temperature :
This value will be used for all Daz Studio lights checked in the list as the "Temperature (K)" of the light, and for all the Emissive Surfaces checked as the "Emission Temperature (K)".

2.6 Spots Spread Angle :
This value will be used for all Daz Studio Spot Lights checked in the list as the "Spread Angle" of the light of the spot.

2.7 Spots Beam Exponent :
This value will be used for all Daz Studio Spot Lights checked in the list as the "Beam Exponent" of the light of the spot.

2.8 List of lights on which the changes can apply. You can uncheck the ones which you want to exclude from the changes. To select or deselect a full category (01., 02...) once unselected, you may have to click the parent of the category 2 or 3 times (depending on what you did before).

3. Bottom Box, tab "DS Lights"

Type	Label	Flux (lm)	Color	Geometry	Height	Width	On/Off	CCT (K)	Sp. Angle	Beam Expo.	Visible	Profile
Spot	SpotLight 4	12000	230 230 230	Point ▼	10	10	On ▼	6500	- 76.30	✦ 19.66	On ▼	N/A
Spot	SpotLight 5	17000	230 161 221	Rect. ▼	40.7	100	On ▼	6700	- 76.30	✦ 19.66	On ▼	N/A
Spot	SpotLight 7	700000	230 229 220	Point ▼	120	180	On ▼	5800	- 76.30	✦ 19.66	On ▼	N/A
Spot	SpotLight 9	12000	230 189 117	Point ▼	10	10	On ▼	3200	- 76.30	✦ 19.66	On ▼	N/A
Spot	SpotLight 12	80000	214 230 209	Disc ▼	10	10	On ▼	7800	- 76.30	✦ 19.66	On ▼	N/A
Points	PointLight 1	20000	230 207 229	Point ▼	60	40	On ▼	8361.2	N/A	N/A	Off ▼	Bulb Ligh ▼
Points	LinearPointLight 1	18000	105 203 230	Rect. ▼	10	10	On ▼	10000	N/A	N/A	Off ▼	None ▼
Points	PointLight 2	15000	224 230 228	Point ▼	10	10	On ▼	10000	N/A	N/A	Off ▼	None ▼
Distant	DistantLight 1	200	217 230 216	N/A			On ▼	10000	N/A	N/A	On ▼	N/A
Distant	DistantLight 5	10200	209 230 212	N/A			On ▼	5450	N/A	N/A	On ▼	N/A
Distant	DistantLight 7	12000	230 223 228	N/A			On ▼	4125	N/A	N/A	On ▼	N/A

Image 03 : Tab "DS Lights"

This Tab will gather by category of lights, and by order of addition in your scene, all your Spotlights, Point and Linear Point Lights, and Distant Lights. It will allow you to act on the 11 most commonly used properties for these lights.

3.1. Type :
This column displays the type of Daz Studio light you are using. Depending on the lights, not all the options are accessible. For instance a Distant light has no geometry, and only point lights can load intensity profiles.

3.2. Label :
This columns displays the Label (the name) of your lights in the scene.

3.3. Flux (lm) :
This column gives you access to the flux in lumen (the power) of your light. You can enter a number here. This will directly apply the power entered to the corresponding light in your scene.

3.4. Color :
This column gives you access to the color emitted by the light. You can change the color here. This will directly apply the new color to the corresponding light in your scene.

3.5. Geometry :
This column allows you to change the geometry of the light.

3.6. Height :
This column allows you to change the Height of the light "object" as soon as its geometry is not a point. In case the light is a cylinder, a sphere or a disc, this drives the diameter.

3.7. Width :
This column allows you to change the Width of the light "object" as soon as its geometry is not a point. In case the light is a sphere or a disc, this has no effect.

3.8. On/Off :
This column allows you to switch the corresponding light "On/Off". This corresponds to the light setting "Illumination" of the "Lights" Tab of Daz Studio.

3.9 CCT(K) :
CCT (K) stands for the Correlated Color Temperature of the light. Its effect will be visible essentially if you start from a light color close to white. It corresponds to the "Temperature (K)" of the "Lights" Tab of Daz Studio, and is limited to the range 1-10000. In real world, sources of light rarely go lower than 1800 K, (warm lights). 6504 K corresponds to the correlated color temperature of the D65 daylight illuminant of the CIE (International Commission on Illumination), i.e. the CCT of an average mid-day light in Western Europe. 10000 K corresponds to cold lights.

3.10. Sp. Angle :
The Spread Angle will give you access to the solid angle of emission of the Spot Lights only, represented by an angle (it supposes the diagram of emission presents a rotational symmetry). It can be coupled with the Beam Exponent for more precision.

3.11. Beam Expo. :
The beam exponent is also limited to Spot Lights, and will represent how fast, within the Spread Angle of the Spot, the intensity will decrease. The higher the value, the faster the decrease.

3.12. Visible :
The "Visible" column allows you to show or hide in your scene the corresponding light. This can be useful for instance if some of your lights were hidden and you want to see them. This is what you would do with the "eye" icon on the scene Tab of Daz Studio.

3.13. Profile:
The "Profile" column can be used only for point lights. It allows you to load or remove an IES file containing the intensity diagram of the light source. You can remove the file by clicking "None". The path you choose to load the file will be remembered by Daz Studio, and proposed to you as the default path for Loading IES files for point lights using this script.

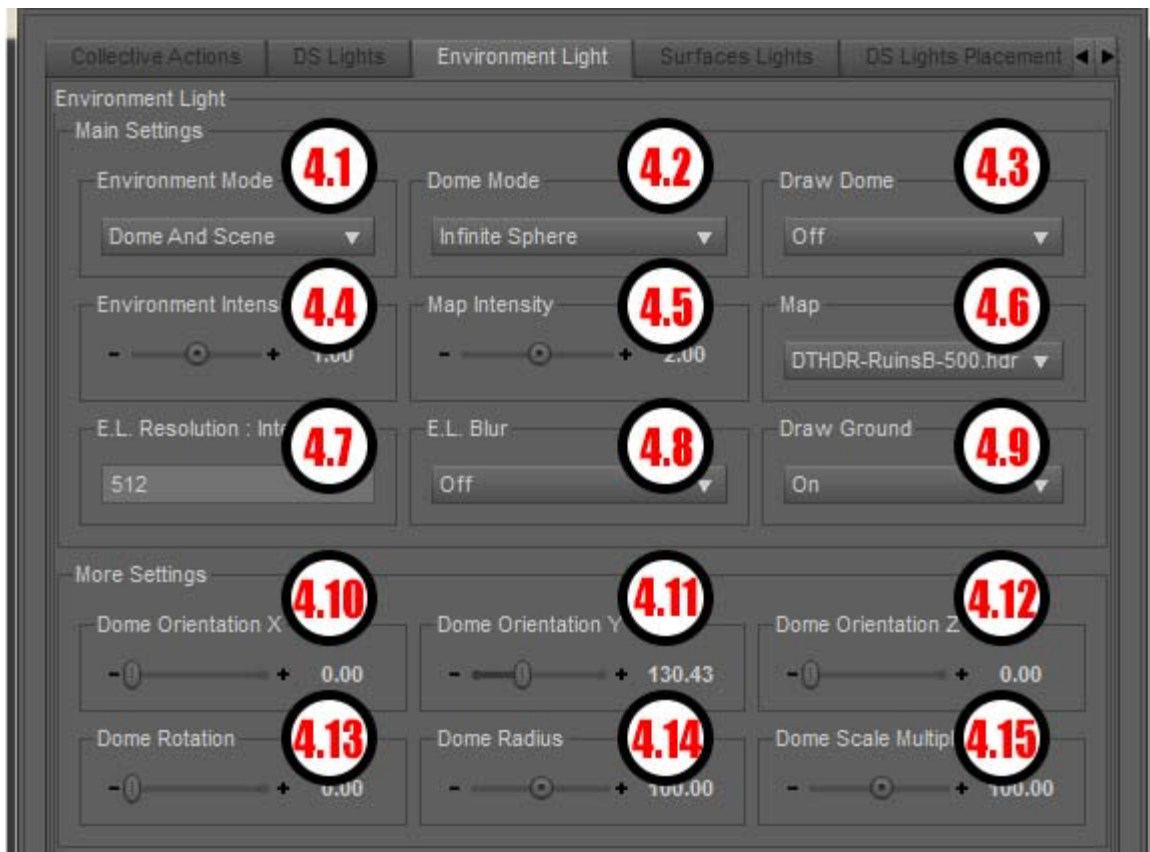## 4. Bottom Box, tab "Environment Light"

Image 04 : Tab "Environment Light"

This Tab will allow you to act on the 15 most commonly used settings for the environment light.

4.1 Environment Mode :
You can swap between the various environment modes. Take care : at this stage, if you want to see the results of the Environment Mode changes, you have to select either "Dome Only", or "Dome and Scene". If you want to see only the effect of the environment light, then select "Dome Only". But if you select "Scene Only" or "Sun-Sky Only", then you will not see the changes you made.

4.2. Dome Mode :
 You can choose the type of Dome you want to use.

4.3 Draw Dome :
You can choose to render or not render the image of the Dome.

4.4. Environment Intensity :
You can change the Environment (Sun / Map) intensity.

4.5. Map Intensity :
You can change the intensity of the environment Map. This won't change the Sunlight intensity.

4.6. Map :

You can remove the map used by the Dome, choose again to use the map which you just removed via this script, or load another Map using "Browse...".
- If you load a map, Daz Studio will remember the path that you used to load this map and will propose it as the default load path for environment maps for this script, except if you open this script with another environment map already loaded.
- In any case, if a map was already used when you open this script, the default path proposed will then be the one of this map.

4.7. E.L. Resolution :
Change the Environment Light Resolution here. Please use integers (no "."). If you use a floating point number, then Daz Studio will use the closest integer instead.

4.8. E.L Blur :
Define if you want or not to blur the Environment Lighting.

4.9. Draw Ground :
Define if you want to ground to be drawn or not.

4.10 : Dome Orientation X :
Angle of rotation of the Dome around the X axis.

4.11 : Dome Orientation Y :
Angle of rotation of the Dome around the Y axis.

4.12 : Dome Orientation Z :
Angle of rotation of the Dome around the Z axis.

4.13 : Dome Rotation:
Rotation of the Dome.

4.14. : Dome Radius :
Change the radius of the Sphere shaped finite Dome. It multiplies with the Dome Scale Multiplier. Useful only for "finite" Domes.

4.15. : Dome Scale Multiplier :
Adjust the NVIDIA unit size (1 m) to the Daz Studio unit size (1 cm). Useful only for "finite" Domes.
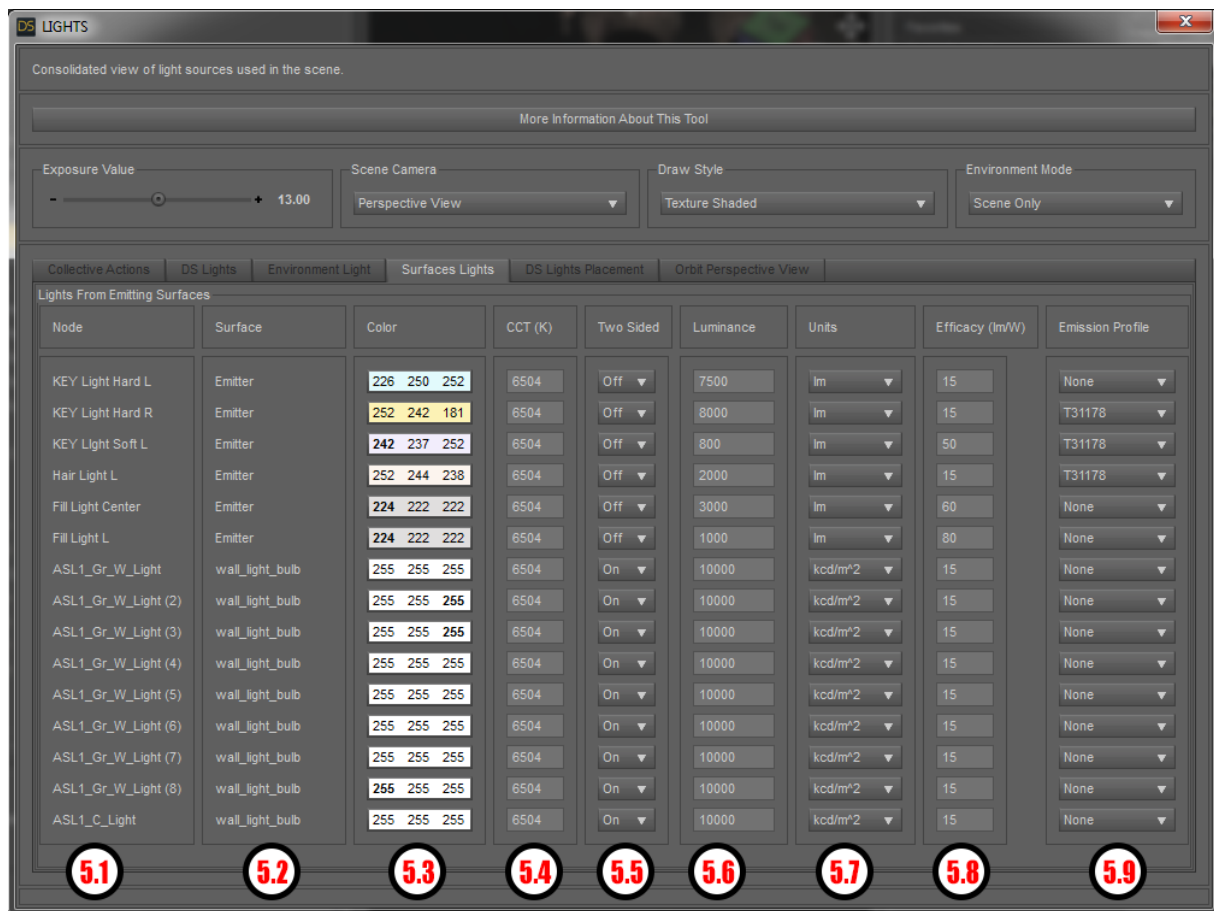
5. Bottom Box, tab "Surfaces Light"

Image 05 : Tab "Surfaces Lights"

5.1 Node :
In this column, the label (name) of the object using emitting surfaces will be displayed.

5.2 Surface :
In this column, you will find the name of the emitting surface in this object. If you have several emitting surfaces per object, you will have one line per surface.

5.3 Color :
This column allows you to enter the "Emission Color" parameter of the material. This determines the color of the emitted light. Take care : if you enter a black color, then next time you open this interface, the surface will not be considered as emissive any more. If you want to temporarily turn it of, use a 0 Luminance instead.

5.4. CCT (K) :
In this column you can enter the Emission Temperature (Correlated Color Temperature) of the light. Its effect will be visible essentially if you start from a light color close to white. It is limited to the range 1-10000. In real world, CCT of sources of light rarely go lower than 1800 K, (warm lights). 6504 K corresponds to the correlated color temperature of the D65 daylight illuminant of the CIE (International Commission on Illumination), i.e. the CCT of an average mid-day light in Western Europe. 10000 K corresponds to cold lights.

5.5 Two Sided :
Define in this column whether the emission source is single sided or two sided.

5.6 Luminance :

In this column, you can change the "Luminance" of the emitting surface. Luminance is not the rigorous name for this because the real name of this column should depend on the "Unit" you are using in column 5.7, but what you set in the column 5.6 will be at the end proportional to the total optical power of the light source.

The Unit which will be used for the luminance you set here is defined in the column 5.7. If the unit you set is W, then the total power of the source then also depends upon efficacy.

What you have to remember is : increase Luminance value if you want more visible light, decrease it if you want less visible light out of the surface.

5.7 Units :

In this column you can change the unit of the Luminance you defined in column 5.6.
- $Cd.m^{-2}$ is the official unit for intensity.
- $kCd.m^{-2}$, $Cd.f^{-2}$, $Cd.cm^{-2}$ are also "intensity" of the source but converted to other systems of units.
- lm is the official unit for total amount of visible light, or luminous flux: for a fixed surface, a fixed diagram of intensity (repartition of intensity in space) and a given spectral exitance (repartition of optical power in wavelengths - i.e. color), luminous flux and intensity are proportional. This proportion will vary <u>only</u> if the intensity diagram changes. This can be done by using specific intensity diagram, in a IES format, which you can load column 5.9.
- W is the electrical power of the optical source. It is useful if you refer for real life sources of lights for which the technical characteristics are often provided in term of consumption (W) and efficacy (lm/W). Guess why our old bulb (almost) disappeared? With a 15 lm/w they were one of the less efficient electrical light source in the world.

5.8 Efficacy (lm/W) :

This defines the efficacy of the light source you use. It will have an effect only if for this surface you set at the unit as "W" (electrical Watts). In this case the total amount of lumen (visible light perceived by human people) is the product of the "Luminance" column set in W by the this luminous efficacy.

Please remember that, except for Gas Discharge lamps (max 200) and the most recent LEDs (max 150), luminous efficacy is in general lower than 100 lm/W.

Incandescent lights are in general bellow 20 lm/W, whereas general LEDs, arc lamps, and fluorescent lights cover the range 30-100 lm/W.

Now you are not forced to respect these orders of magnitude, what matters is that the render is great at the end!

5.9 Emission Profile :

You can load here IES files. The use of these intensity diagrams allow you to "shape" the repartition of light in space.

6. Bottom Box, tab "DS Lights Placement"

Image 06 : Tab "DS Lights Placement"

In this tab, all the Daz Studio lights (Spot Lights, Point and Linear Point Lights, Distant Lights) will be represented by a box allowing to change their location (X Translate, Y Translate, Z Translate) and their orientation (X Rotate, Y Rotate, Z Rotate) in the scene.

At the top you will find all the Spot Lights by order of addition to your scene, then all the point lights, and at the end, all the distant lights, always by order of addition to your scene.

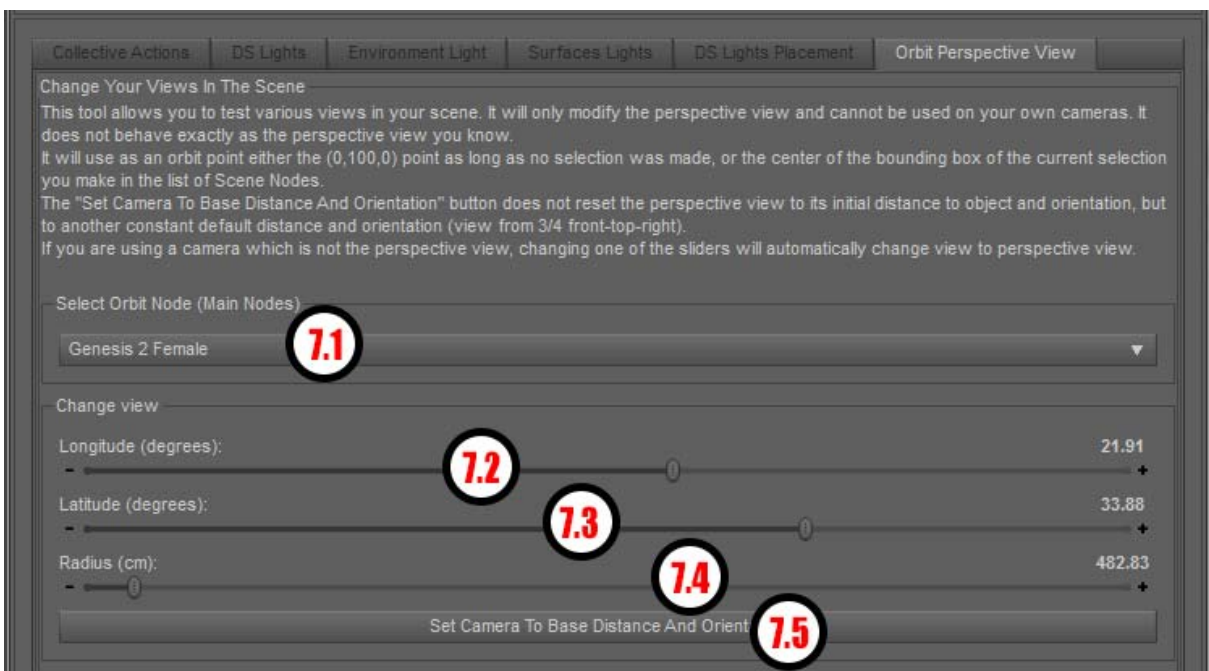## 7. Bottom Box, tab "Orbit Perspective View"

Image 07 : Tab "Orbit Perspective View"

This tab, "Orbit Perspective view", will allow you to orbit the "Perspective view" around any Node (object / bone) of the scene. This is useful to see how the various elements of your scene reacts to the light set that you made.

Initially, if no Node is selected, and as long as no Node is selected using this script, the perspective view will rotate around a point located at (X=0, Y=100, Z=0) of the viewport.

The main remarks concern the "first time" you use the dials or buttons of this tab when you start the script :

Take care : as soon as you will move one of the dials, or click the button or the selection list, the perspective view that you are using in the scene will be modified. So if the perspective view you had is important for you, the best thing you have to do is create a new camera copying the perspective view before using this script.

The first time you will click on "each" the controls of this tab, it will modify your perspective view. This happens in order to initialize the right Node and to initialize the Longitude, Latitude and Radius settings to the perspective view. This happens only once for the node selection, once for the Longitude/Latitude dials once for the radius dial.
Then once they have been modified once, the perspective view normally will "jump to and aim at" any selected node using "Select Orbit Node", will change normally of angle of view using the latitude longitude dials, and the distance using the radius.
Said differently the script does not now which element of the scene was initially framed or aimed at. This is why when you will change, for the first time, the selected Node, the Latitude or Longitude and the Radius of the camera there will be a strong variation between what you had before and after in term of perspective view. Then, when everything has been initialized once, all the perspective view changes are completely "the way they should be".
In order to avoid this, you can use the "Set Camera to Base Distance and Orientation" to initialize the Latitude, Longitude and Radius settings.

REMARK :
in order to "reset" the perspective view after you come back to Daz Studio, simply select a surface in the scene using the surface selection tool, then click on the "Reset" button of the viewport (the one looking like an arrow pointing top), before clicking on the "Frame" button.

7.1. Select Orbit Node :

Here you can select the Node you want to orbit around.

If you were using another camera in the viewport, clicking on any control on this area will swap the viewport from "camera" to perspective view. Selecting an item in the list will then aim the perspective view on this item.
Changing the selection area will make the camera "jump and aim" at the new node, keeping the same latitude, longitude, and radius as the ones used for the previous selected Node.
When you open the script :
if you had one or several nodes selected in your scene : only one of the selected nodes will be set as the current selection.
Remark : the selection Area is a bit "sticky" : once you click on it, to select a new node or not, it will close only if you move the mouse out of its area.

7.2 Longitude :
Here you can rotate the perspective view front-right-back-left around the selected Node. As soon as you

7.3 Latitude :

Here you can rotate the perspective view front-top-back-bottom around the selected Node.

7.4 Radius :
Here you can move the perspective view closer or further from the selected Node.

7.5 Set Camera to Base Distance and Orientation :
Set the perspective view to the settings Longitude : 25.55, Latitude : 21.40, Radius : 440.48, still framing the selected Node. This is simply here to help you to reach "secure settings" in case you get lost, or to initialize the dials.

Once done, remember that at the top of the interface, you can come back to any other user camera you have created.

Conclusion :

I hope this product will help you to reach better light with less time and less effort than usually. For any questions, remarks, feedback, please use the thread dedicated to this product on Daz Commercial Forums.

The results of all the modifications you make via this script are immediately visible in the viewport tab of Daz Studio. Yet, if your scene is heavy, because for instance you have very heavy meshes or textures, it could take longer to be able to see the result, which is sad because the purpose of this product is to be fast and efficient. In this case, what you can do is, while you set up your lights, hide some of the most heavy meshes via the scene tab (such as some hair or some high resolutions outfits), and/or set the resolution of your Genesis 2 and 3 figures to base resolution (subdivision level 0 via the parameters tab) - just the time for you to optimize the lighting. This should allow you to see your result very rapidly in the viewport.

Annex 1 : Focus on "Change Scene Only Lights Power (%)" behavior

I wanted to write a few words concerning this dial that you can find on the first tab "Collective Actions". This slider is a way to increase of decrease the total amount of light coming from the scene (Daz Studio Lights and surfaces lights), while maintaining the proportion of the lights.
Let's take for instance a simple 2 lights system. Light A has a power of 1000, and light B a power of 1600. Light A or B can be any kind of light (except environment light).

If you want twice more scene light and keep light B 1.6 times more powerful than light A, you will keep them all selected in the "Selected Lights For Global Light Operation" so that both are impacted by this change, and increase the dial "Change Scene Only Lights Power (%)" at 200. If you want half you would decrease this dial to 50.

So where's the trick? After changing this "Scene Light Power", you may want to adjust the Power of each light in the other tabs in the interface, and then re-use scene light power. This works perfectly, no worry, but the logic of it can be a bit confusing if it is not explained.

So let's say you had initially Light A at 1000, light B at 1600, and you set your this dial to 200. Now in the other tabs, and in Daz Studio, the lights will be shown at 2000 (1000x2) and 3200 (1600x2). You consider for instance that your light B is too powerful. You go in the "DS lights" tab and reduce it power from 3200 to 2800 for instance. Then in the scene and in the interface, the light B power will be 2800. And this change is taken into account by the "Change Scene Only Lights Power (%)".

The "Change Scene Only Lights Power (%)" remained at 200, the value that you set. It means that now the "Change Scene Only Lights Power (%)" considers that, when light A is increase at 200% its power is 2000 (for light A there is no change), and that when light B is at 200% of its power, its value is 2800.

So after you modified the light(s) in the other tab, if you want, for instance, to come back to 100% for "Change Scene Only Lights Power (%)", light A will have, as initially, a power of 1000 (2000/2) but light B will have a power of 1400 (2800/2). The same way, if you want then to go to 50% then the power of the light A will be 500 and light B 700.

This is the only way to ensure that, whatever the modifications you make to the power of the lights in the other tabs, all the powers of all the lights will remain in the same proportions when you increase or decrease Scene Lights power.

But you don't have to worry about that. The way this slider should be used is :
- look at the current value of the slider.
- If you want X% more light, increase "Change Scene Only Lights Power (%)" value by X%
- If you want more light but you don't know how much, increase progressively "Change Scene Only Lights Power (%)" until you reach the amount of Scene lights you want.
- If you want Y% less light, decrease "Change Scene Only Lights Power (%)" value by Y%
- If you want less light but you don't know how much, decrease progressively "Change Scene Only Lights Power (%)" until you reach the amount of Scene lights you want.