# BOSS PRO LIGHT SET
FOR PORTRAITS & PROMOS

USER GUIDE
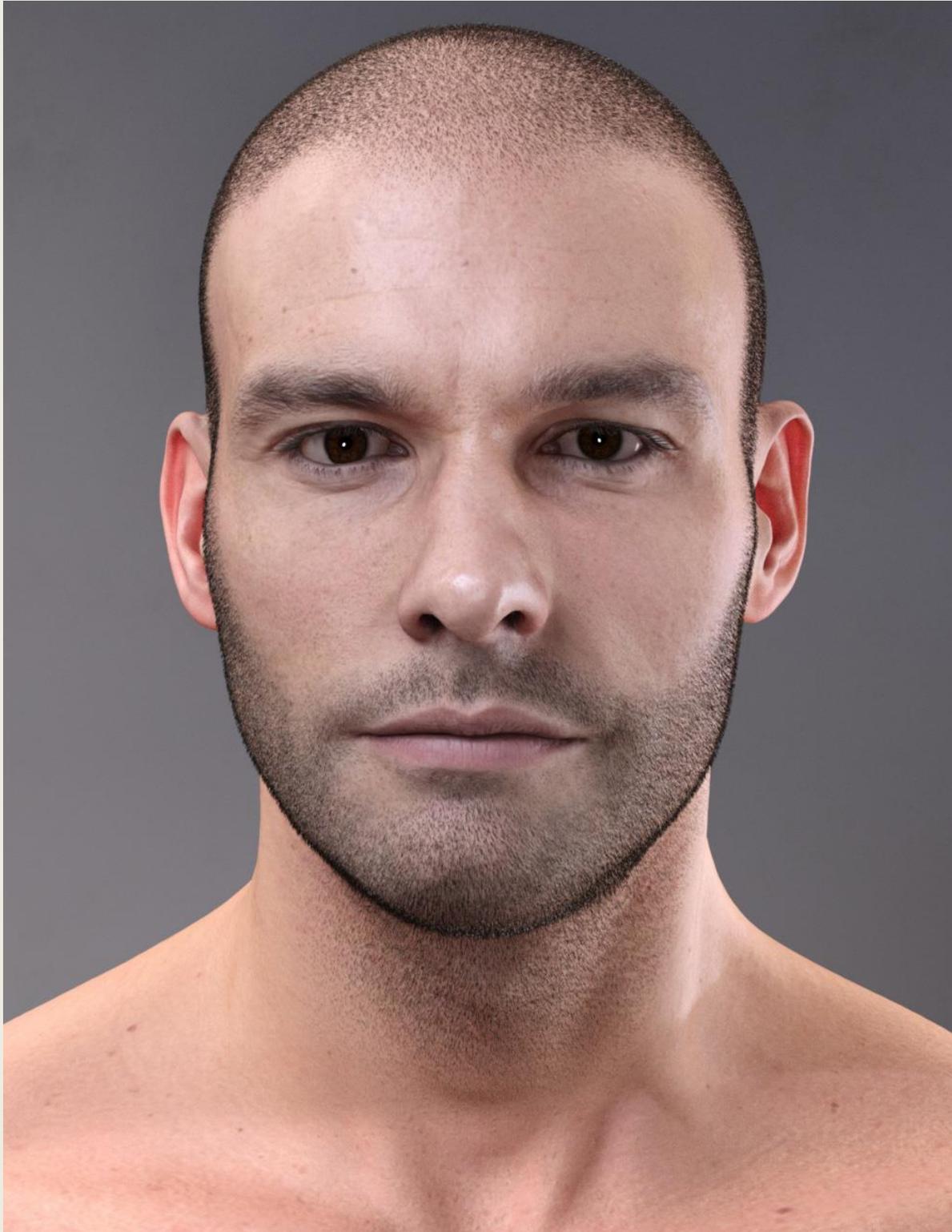
3-MINUTE CRASH COURSE IN IRAY LIGHTING

Ok, let's get started. First, this light set is designed to help you jump right in to rendering beautiful portraits in minutes. Even if you don't have a background in 3D at all, you can literally just load a model and press render, and get decent results. However, **despite being designed to be plug-and-play, it is important to know some basics, in order to get the most out of this set**... don't worry, nothing complex.... But yes, important. Ok so here we go;

- **LIGHT POSITIONS:** <u>A basic light set includes a key light (main light), a fill light (to compliment the key, but much lower intensity), and a rim light</u>. As shown in the photo below, the fill light is usually on the opposite the z-axis. And the rim light is typically behind the subject. This basic 3-point light setup is often enough to create a decent render Iray, and is far superior to the commonly used HDRI lighting for portraits. A set like this not only gives you more control over the light, but lets you produce a much more dynamic and vivid result, rather than the homogeneous lighting of HDRI .
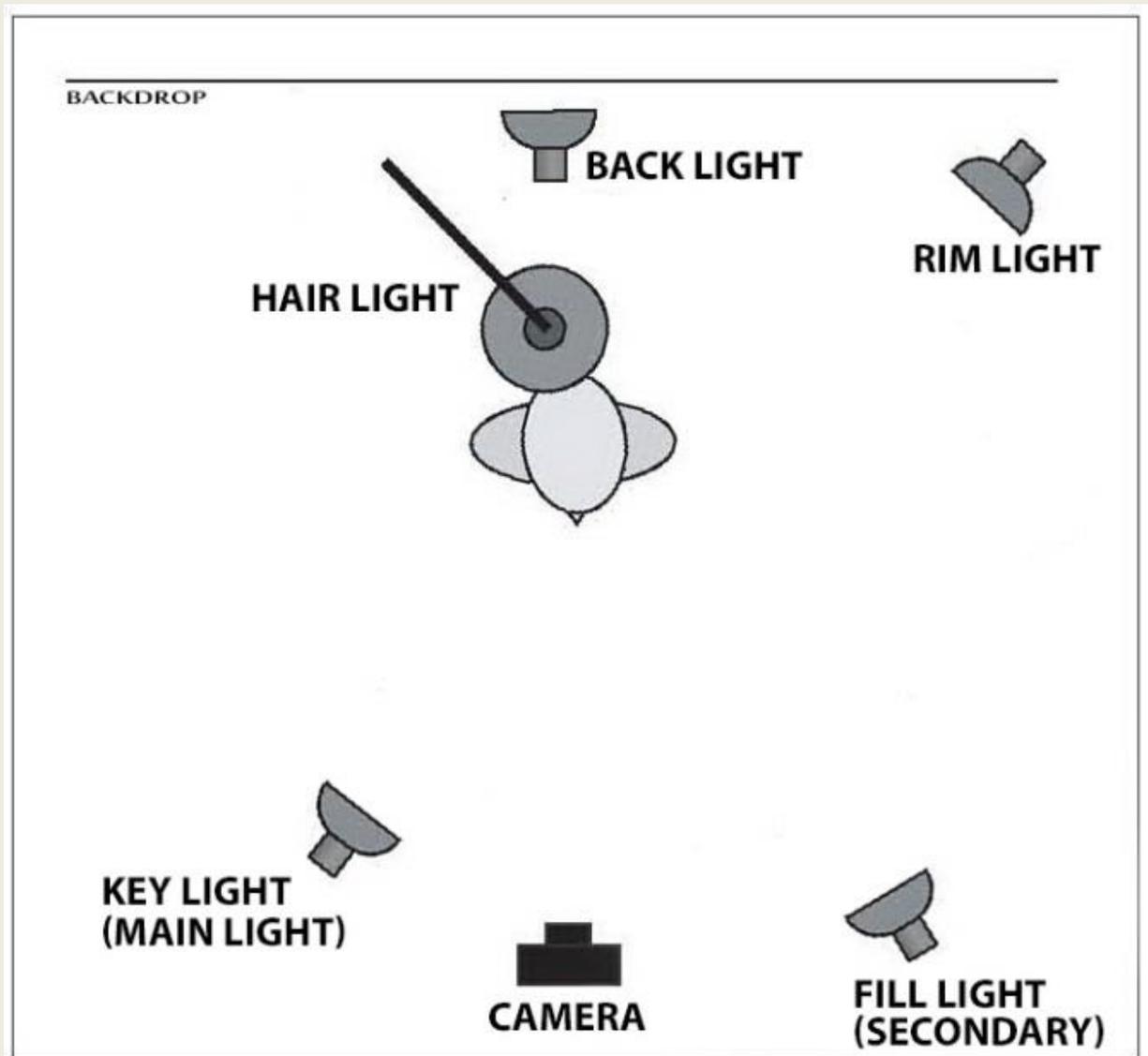
- **Rim Lights** (IMPORTANT!): You will shortly find out that I am a big proponent of rim lights. Rim lights provide that extra "pop" that make your model stand out, look more realistic---and definitely more professional. Below is an example of a single key light, followed by an example of a key+Fill, followed finally by a full 3-point setup;

KEY LIGHT ONLY: This first shot has one key light off to the right side (left in reference to the subject).

Key + Fill: This second shot has an added fill light on the other side, to fill in the shadows. The fill light, as I said, is generally a lower lumens than the key light.

Key + Fill + Rim: This last shot has an added rim light behind the subject's right ear. (note, this particular rim light is very soft. But if you want to create a sharper "halo" type rim, then you would simply move the rim further behind the subject).

As you can see, the rim light makes a big difference in the professionalism of most shots, and is one the most essential but least utilized lights in 3D. Let me give you a real life example.

Below is just one example from a major motion picture of how rim lights are used. These lights are pretty much an industry standard in film, and used all the time even in outdoor lighting (Next time you watch a movie, pay attention to the lighting. I bet you will find more rim lighting than you realize).
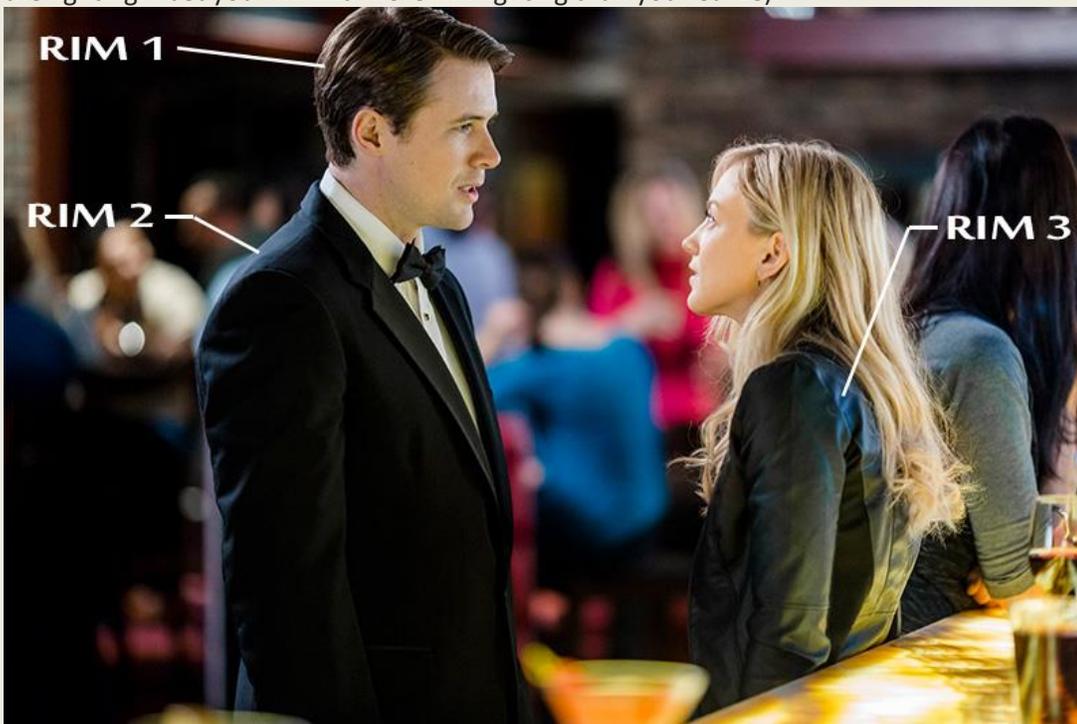
Notice also the blue hue in two of the lights above. This is a common practice to produce a seamless integration into the surrounding environment and provide a more vibrant and complex shot.
More on rim lights later.

Now let's quickly hop-scotch over a few important things;

- **KELVIN VALUES:** This is important. Remember the bluish hue in the rim #2 and #3 above? Well, a big mistake that beginners make is to forget about the color of their lights. They leave the K value at its default of 6500. **In real life, not every light is exactly the same. Changing your K values for each light helps to add to the complexity and realism of your shots, especially increasing the K values** (making it more blue/purple). Notice in the profile shot to the right, the front light has a high kelvin value (like 7500), and is more intense, versus the rear light with a lower number.

  Also, I like to add a slight blue'ish tint to my rim lights, which really helps boost the realism. Conversely, I use a slightly yellowish hue on the background lights for the wall, which helps distinguish the background from the foreground.

- **EMSSIVES VS. SPOTLIGHTS:** I have found that emissive tend to provide a superior light to spotlights, however are not as controllable in certain ways as spotlights are. Both have their strengths. So this set actually utilizes both spotlights and emissives together in a single set. When I need to focus light on a certain area and not have the source be visible (e.g., behind the subject), I use spotlights. In most other cases, I use emissives, especially when I need clear, fast-rendering light with dimensional and material flexibility.

- **SPOTLIGHTS ARE BETTER AS SECONDARY LIGHTS**: For whatever reason, spotlights tend to render a little more grainy initially (in Iray), and feel a bit more… how shall I say it…vague on surfaces (as of Daz Studio 4.9). For these reasons, and the reasons stated above, I have found that spotlights are best used as supplemental lights (for example, if you need to fill in a small area), whereas emissives are best for your main studio lights. As such, I typically keep the lumens of my spotlights relatively low (except if using as a rim light).

- **AVOID HARD SHADOWS**: By default, the Daz spotlights are set to "point" light, which creates a hard [and unrealistic] shadow. This is the first value I change when using spotlights. I typically change them to "disk" with a diameter of 50cm or more to soften the shadow a bit. (However, I should note, there may be times when a hard shadow may be desirable, such as when combining it with soft shadows to create a more complex shadow arrangement…. Or, when you want to highlight subtle surface details).

- **ADJUST LUMENS TO SKIN TONE**: A lot depends on the skin tone of your character. Lighter skin (such as G3M Base) may tend to look washed out and over-saturated under normal conditions. Thus lowering your lumens may be necessary. Darker skin (such as Victoria 7) will be able to handle more light, so cranking up the lumens may be beneficial. The first image below is G3M at default settings for the "Front Face Soft" preset. As you can see, it is a little too bright and washed out. Dialing down the main key lights a little will be helpful here, as shown in the second image;
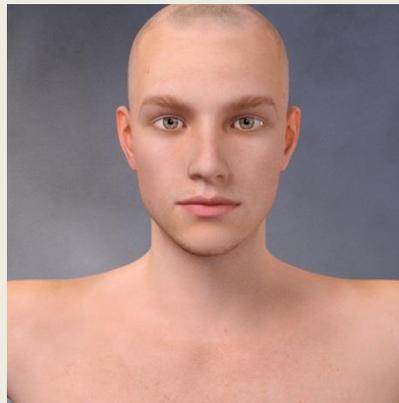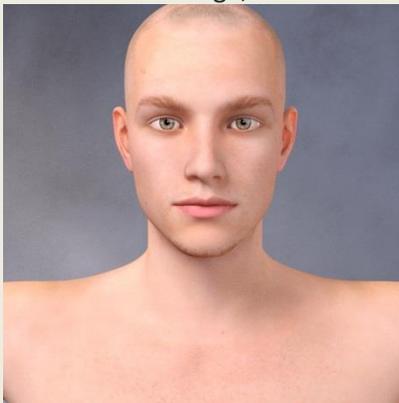
In most cases, you will want shots with a decent dynamic range, meaning, your brightest spots are almost to the point of saturation, while still maintaining some decent darks. **The lesson: Play with the lumen values, a lot. When everything looks crummy and you are at your wits end, I have found I often just needed to adjust my lumen values.** Just remember that if you crank up a main light, be sure to turn down your opposing light a little so that it can work as a proper fill and maintain nice depth and shadow.

- **A NOTE ON HDRI LIGHTING:** HDRI's are often used in skydomes, which are emissive spherical geometry that envelops the subject with light from all directions. For outdoor shots, HDR lighting is ideal. But alone, HDRI's are often insufficient (this is why even in outdoor photography and film, softboxes are still used). And when it comes to studio lighting, HDRI are definitely not suited, since they tend to cast a very bland and homogenous light (they are unable to produce a nice rim light, for example), nor are they as flexible as a softboxes, since they cannot be aimed or adjusted in X,Y,Z directions. **For this reason, local mesh lights like softboxes are superior to HDRI for studio lighting and portraits.**

HOW TO USE MY LIGHT SET

So, as I mentioned above, the light set is designed for you to jump right in and begin rendering right away. This will be your basic workflow;

1. **Load the default set.**
2. **Then choose a preset (based on your intended camera position).**
3. **Tweak further, as needed (i.e., hide/unhide lights or adjust lumens).**

Basically the presets will get you started in your desired direction. Then you can make further adjustments from there if desired. You will mostly be hiding/unhide lights, and adjust lumens values. If it is really needed, you can re-position the lights. But keep in mind, when you load a light preset, it replaces all the lights in your scene. This is just how Daz behaves (as of 4.9).

IMPORTANT: Please also note, **presets are designed for specific camera angles.** So, for example, the preset for "FLF-S" (Full Length, Front, Soft) is designed specifically for full length front-facing shots. This means that the back and sides of the subject probably won't look as nice as the front. But that's ok. Lighting should be specific to a specific camera angle. This is what is done in real life by professionals. And if you want good renders, you will have to do it in 3D as well.

ALSO IMPORTANT: Please also note, this is one light set, but with multiple presets. The presets merely hide/unhide lights, or change their lumen values. That's it. **In other words, creating different moods is merely a matter of turning off/on lights and adjusting their intensity.** So it cannot be more simple. All the lights work together to create all the different moods, from soft, to hard, to rimmed, to dramatic. So you can quickly change things up on the fly by simply hiding/unhiding different lights.

Something also to keep in mind: There is ultimately no one-size-fits all with lighting. [Good] lighting is a very complex art, not a science. So some tweaking will be required. The presets will point you in the right direction. But you will eventually need to venture out into experimentation, once you get comfortable with the set. The nice thing is, experimentation is easy with this set. It is just a matter of hiding/unhiding light and adjust their lumens. You can turn them all on, or just 3, or just one, and you will get drastically different effects.

So here is a shot of the light set at a glance;
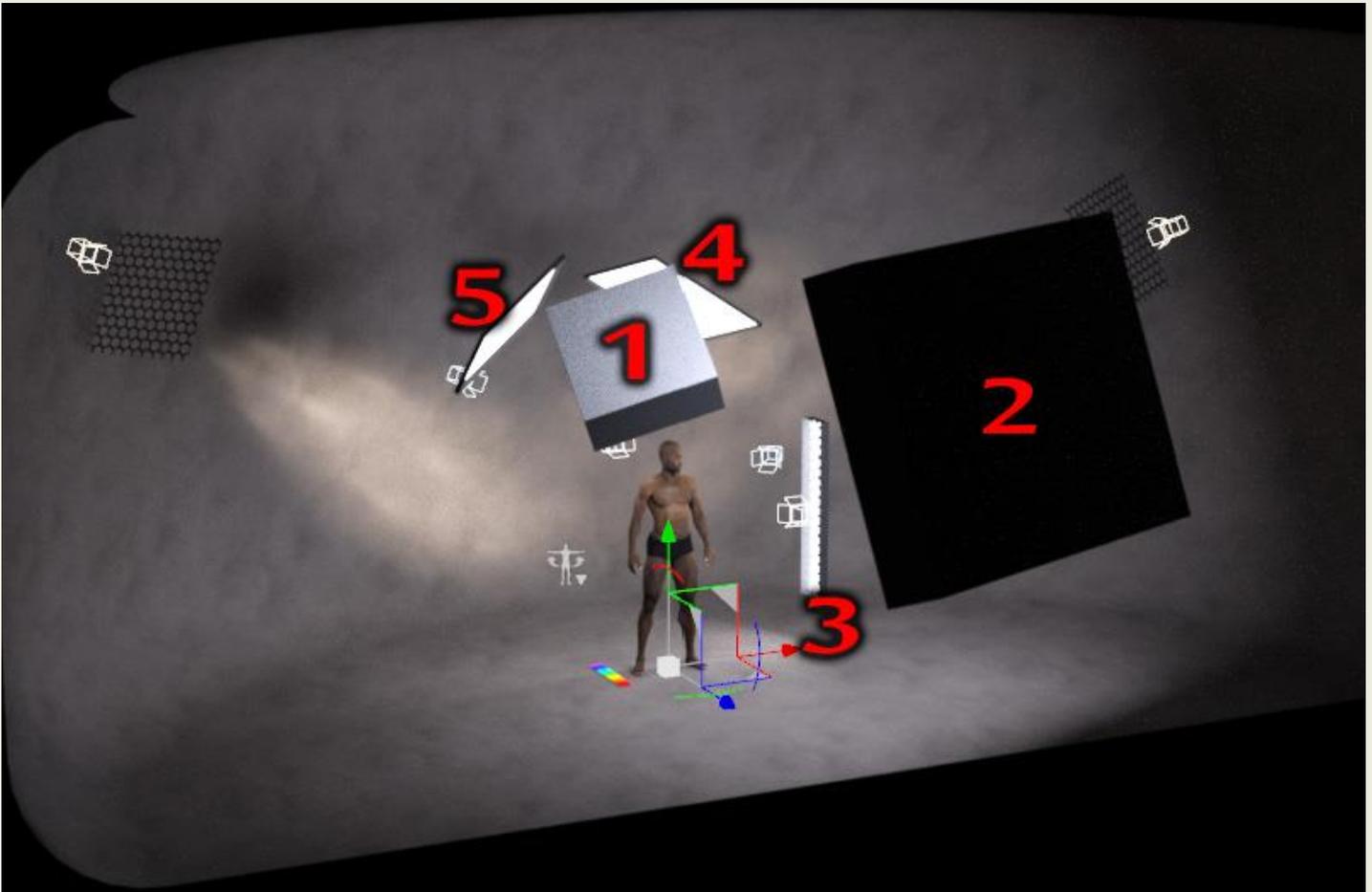
The most important lights in this set are #1, #2, and #3. The other lights are more or less complimentary, or to enhance certain features (4 and 5, for example, help bring out sheen in hair). Note, there are more lights not pictured above. I have only included the most important lights that you will use most often.

Light #1 is typically used as a key light (main light), meaning, most of the light output comes from it (although it is also used as a fill by turning it very low).
Light #2 is typically used as a fill light on very low intensity (although again, it can also double as a key light as well).
Light #3 helps to cast a very soft rim on the side of the subject, which can be used in almost any type of shot to make it look more dynamic and interesting. It is also ideal for dramatic/high-contrast lighting, due to its shape and material setting. (Most of the dramatic shots in my promos were made only with this light---all other lights turned off).

ABOUT VISUAL AIDS

Camera Angle Guide: This shows you the "best" camera angle for a given preset. Use this as a general guide, but don't feel like you have to adhere to it, as lighting is more subjective than objective.
Color Card: A color card is included by default with the set, which will help provide a reference for you if you start playing with light settings. This is helpful especially with light filters. A clear rainbow indicates that you lights are casting more or less a white light. When your color card looks too red, this mean your lights are casting too much red. And conversely, when it is heavily weighted toward blue, then your lights are casting a lot of blue… etc..
Mannequin: Simply a low-poly figure which offers a quick scale/light reference for setting up the initial shot. (since its low poly, it won't consume many resources).

CHANGING BACKDROP MATERIALS

Step #3, Backdrop Materials: Backdrop materials are changed like any material preset. Merely highlight the backdrop object in the scene tree, then double-click on the material of choice.

USING PRESETS

Step #2, loading the preset: There is no need to highlight anything to load the preset. Merely double-click on the preset, and it will automatically replace all the lights in your scene with the preset (which includes physical mesh lights and Daz Spotlights). Again, it is important to emphasize that light presets will replace all Daz lights in your scene. So if you are using this light set together with a scene, please be aware of this. This is just a limitation of the light preset function.

The following are explanations of the included presets. Please remember, each preset is intended to work with a specific camera angle/zone. Visual aids are included to show the optimal camera angles. However, feel free to experiment outside of these ranges, as lighting is not a dogmatic science but an art. Please also remember, presets are meant to guide you in a certain direction. More tweaking will likely be required.

Meaning of Nomenclature:

COMPLEX: Great for highlighting definition and subtle surface details, this preset creates complex play of shadow and light which can make for a more dynamic and interesting shot. The trend in Daz promo art is to use HDRI lighting. This is why I made the complex option, to stand out from the everyday. It's not quite dramatic, not quite soft, and uses shadows to an advantage (see image to right).

Creating it Manually: To create complex light, simply use one of the included presets. Or you may manually create them. In most cases, simply turning down the fill light (or turning it off completely), while turning up some secondary lights will do it. Light #2, the large fill, should be no brighter than 50 lumens. There is nothing set in stone though, just a general guide.

SOFT: The soft preset creates a very even and "smooth" shot, with subtle rims and minimal shadows, ideal for glamor shots where a soft lens is desired. When you add a bloom filter, this will help create a more dreamy atmosphere. This mimics the look of HDRI lighting, but gives you greater control over the direction and intensity of lights.

Creating it manually: As opposed to Complex lighting, soft lighting is created by turning **up** large fill lights (namely, Light #2), and balancing them where needed with subtle keys. Crank Light #2 up from 50 to 150+ Lumens, then unhide any complimentary lights as desired. Adjust lumens as needed.
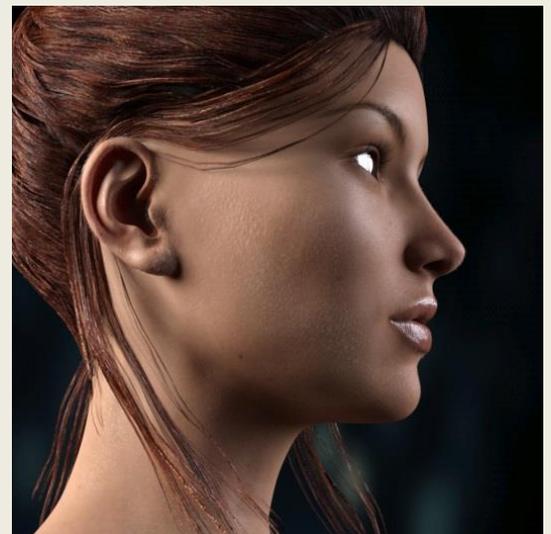
DRAMATIC: Dramatic lighting (i.e., High-Contrast lighting) creates a very intimate/edgy light, and is often used in advertising for intimate wear, for example, or in creating an epic hero shot. Since HC lighting tends to exaggerate features and curves, it can be helpful in, for example, making men look more muscular and masculine. **Notice the shot of G3M to the right. Normally, G3M does not have naturally masculine or muscular features. But with this light preset, he appears a little older and a little manlier**.

Creating it manually: Dramatic lighting is often created using a single key light, or a key light combined with a very slight fill or rim (on the opposite side). As you can see in the shot to the right, we have Light #1 as our main light source, which fills his front body. And secondarily, we have a rim light from behind which creates a halo around his back, thus outlining his profile.
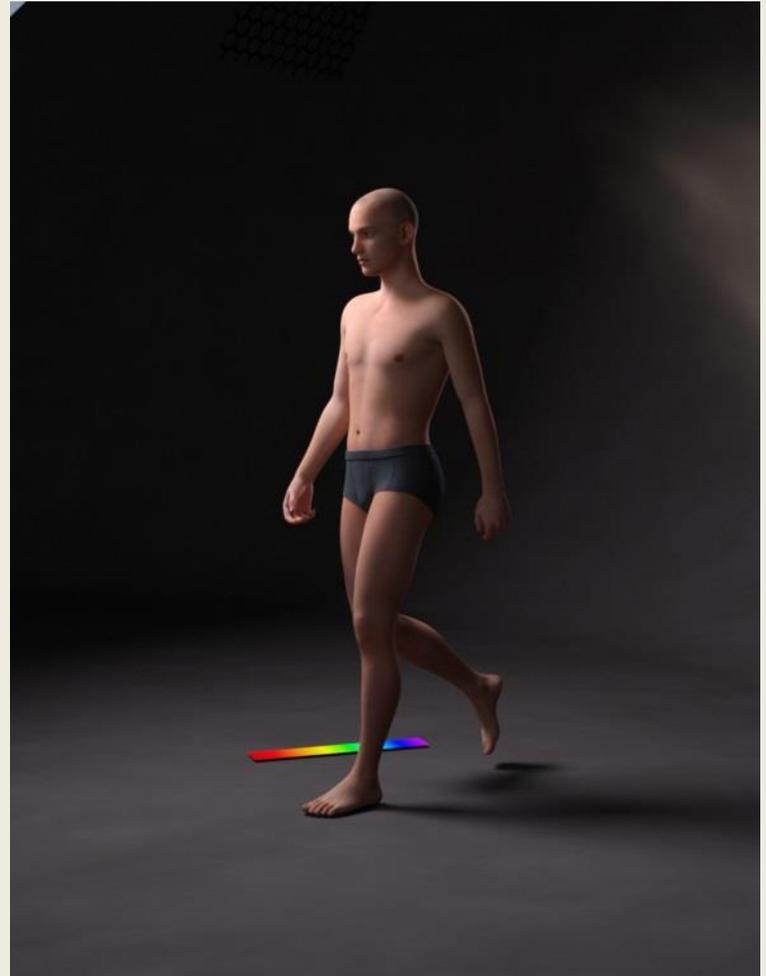
PRESET REFERENCE

1. FACIAL, FRONT SHOTS
Foundational Lights: 1,7 or 1,3,7
Complex LT: 1(500), 2(50/OFF), 3(4k), 4,5,7, 13, 14b(222), 15, 17(200)
Complex RT: same as above, but 1(900), 2(OFF), 3(3k), 6 instead of 7, 17(OFF)
SOFT: 1(1k), 2(200), 3(3k), 4,5,13,14b(222),15,17
        [also good, change 1(1400k), 2(100)]
        [also good, see 2. Complex below]
DRAMATIC: 7, 10(151), 13(22)

2. FACIAL, RIGHT PROFILE
SOFT: 1(500), 2(400), 4,5,7,15,17(400)
COMPLEX: 2(500), 4,5(500), 14,17(2k)
        [also good for 1-front face, with soft kick]

3. FULL LENGTH, FRONT/RIGHT
KICK LT (default): same as #1, but 1(750), remove 13,15, add 9, 14b(222), 15
SOFT (front only): 1(750), 2(250), 3(2k),4,5,6,6b,9,14b(128)

4. FULL LENGTH – RIGHT PROFILE
COMPLEX / Dramatic: 1(500), 2(600), 4, 5, 7
SOFT: same as #2 soft

5. FULL LENGTH - LEFT PROFILE
DRAMATIC: 1 (as key), 2 (as fill), 6, 11
        -ex. 1(2k), 2(50), 6

6. GENERAL, DRAMATIC:

-use rim only (such as 3), or rim+slight fill

FOR GENERAL USE, I RECOMMEND:
---use 1 (as key, 1k Lum), 2 (as fill, 50 Lum), 3 (as rim, 4k Lum),
---plus 4,5 (for hair), 7 (for sharp rim),13 (for ears or halo around hair), and
---14b (for complexity to backdrop),15 (for eye reflection)

REPRODUCING MY PROMO SHOTS

Don't worry. There is nothing special to my promo shots. It didn't take me hours of tweaking to achieve. All I did for them, in most cases, was simply load my model and choose a preset. That's it. I even surprised myself. It usually takes me hours or days to get a shot just right. But this light set has cut my workflow significantly. Honestly, I wish I had designed this set sooner. I had been using a rough version of this set for my past promos, but nothing as pre-packaged and polished and "plug-and-play" as this.

For example, the shot below was made using light preset #1 ("FF-CRT" i.e., Facial, Front, Complex, w/ Right Rim). That's it. No magical Photoshop editing or anything else like that. I just loaded the model into the scene, chose the option, and hit render. All the hard work of setting up the lights was already done by me over the span of many months. This light set is the fruit of all that work.

FOR DRAMATIC (HIGH-CONTRAST) SHOTS

Rim + Fill Light: Below is the original [unedited] render of one of my promo images (Notice I left the light, light #3, in the shot so you can see how I set it up). The scene consists of the one rim light, as seen on the left, plus a slight fill light above the subject (light #1). These are the only two lights used in this shot. Notice also the rim light has a honeycomb material applied. I have found that this helps add just a touch more complexity to the light.

In most cases, you will want to use this light for your high contrast shots like this. The long vertical length insures that your subject is covered from head to toe. And the narrow width helps prevent light from flooding around your subject too much;


Rim-Only Light: Here is another unedited render. This shot has only one light, the rim light seen on the left side (light #3 in the set). There is no other light in the scene. As you can see, this light is perfect for creating a more dramatic effect. This is where Victoria 7's skin really shines. Not every character has the kind of skin that can pull off this effect. (Darker skin helps here, as well as more "grainy" specularity maps).

The shot on the right is the same as the one above, but with a fill light added (#1 and #2… again, left in render for educational purposes). Since the fill lights are from slightly above, they help produce nice shadows in the skin, which again highlight Victoria 7's beautiful body tone. Look at how much movement there is on the skin. Incredible.

Notice also the balance with the rim on one side, and the fills on the other.

This next shot took a little more tweaking to make. I started with the default preset (Full Length, FrontRT, Complex), then I duplicated 2 of the rim lights and pointed them down toward the floor and changed their color and position a little. What gives this shot its nice effect, is mostly the color of the rim lights, one I made more red, the other more blue, the other more purple. As you can see in the render, there is a rich play of colors in the floor, which reflect also off the body of the phoenix. But it is not overdone. It is subtle and tasteful. Then I simply added a slight bloom filter, and that's it!

Well, that's it!
Hope you enjoyed this guide!

If you have any questions about this product, feel free to contact me personally at ThePhilosopher.PA@gmail.com

Enjoy!

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