

# LIGHTING FIXTURE TYPES

A stage scene with silhouettes of people and spotlights. The scene is dark, with several bright spotlights shining down from above, creating a dramatic atmosphere. The silhouettes of people are visible on the stage, some standing and some sitting. The lighting is warm and golden, highlighting the contours of the people and the beams of light.

And some other lighting things

# ETC SOURCE 4



- The S4 is an ellipsoidal reflector spotlight (ERS)
- Good for sharp edges, shuttering, gobos, high intensity light
- First introduced as an incandescent light, now have many LED versions
- Can change their field angle by changing the barrel (lens tube)
- Lens tubes can be 90°, 70°, 50°, 36°, 26°, 19°, 14°, 10°, and 5°
- The most common barrels are 50°, 36°, 26°, 19°, and are what we use in our spaces
- Rotatable barrel
- Projected light/image is upside down and backwards due to nature of the reflectors
- Focuses to one, fixed position
- In use in Strong Theatre, May Room and Sloan Theatre.

# ETC SOURCE 4 ZOOM



- Same as Source Four but with variable field angle (15°-30° or 25°-50°)
- Good for sharp edges, shuttering, gobos, high intensity light
- Ours are lamped at 750w
- Barrels cannot be swapped on these units
- Projected light/image is upside down and backwards due to nature of the reflectors
- Focuses to one, fixed position
- We don't actually have any of these, but they are good to know about

# ETC SOURCE 4 ZOOM JR



- Same as Zooms but with 575w lamp and smaller housing
- Has variable field angle of 25°-50°
- Good for sharp edges, shuttering, gobos, high intensity light
- Rotatable barrel
- Projected light/image is upside down and backwards due to nature of the reflectors
- Focuses to one, fixed position
- In use in cove of Strong Theatre

# ETC COLOR SOURCE AND LUSTR



- An LED color changing ellipsoidal reflector spotlight (ERS)
- Good for sharp edges, shuttering, gobos, high intensity light
- Can change their field angle by changing the barrel (lens tube)
- Lens tubes can be 90°, 70°, 50°, 36°, 26°, 19°, 14°, 10°, and 5°
- The most common barrels are 50°, 36°, 26°, 19°, and are what we use in our spaces
- Rotatable barrel
- Projected light/image is upside down and backwards due to nature of the reflectors
- Focuses to one, fixed position
- The Colorsource units are in Strong in the box booms as front light.
- Lustr's are the main ellipsoidal fixture used in Sloan.

# PAR



- PAR stands for Parabolic Aluminized Reflector
- Can change the field size by changing the lamp (Very Narrow, Narrow, Medium, Wide)
- Somewhat outdated because of the difficulty to find lamps being made for the units. Theatre dept will occasionally still use “Old School” PARS for some productions in Sloan. (pictured up left)
- Has no shutters, but 'barndoor' accessory can be used for creating edges
- Little to adjust, are simple housings for lamps
- Focuses to one, fixed position
- There are many newer LED versions that can color mix
- LED Pars (ADJ Pars, picture bottom left) are used as back light in the May Room

# CHAUVET COLORado



- One type of an LED color mixing PAR
- LED color mixing allows more versatility with being able to change the color of the light instantly.
- Focuses to one, fixed position
- In use in Strong Theatre as back light. We also have extra units that will be put on the stage and used as part of the floor package.

# SOURCE 4 PAR



- Good for stage washes and softer-edged lighting
- Can change field size by changing the lens (Very Narrow, Narrow, Medium, Wide)
- Has no shutters, but 'barndoor' accessory can be used for creating edges
- Little to adjust, are simple housings for lamps
- Focuses to one, fixed position
- Beam angle can be adjusted by spinning the lens
- These are the lights in the orchestra shell in Strong



# ETC COLORSOURCE PAR



- Good for stage washes and softer-edged lighting
- LED color mixing
- Various types of diffusion can be placed in the gel slot to change the beam size
- Has no shutters, but 'barndoor' accessory can be used for creating edges
- Little to adjust, are simple housings for lamps
- Focuses to one, fixed position
- These lights are part of the Sloan inventory

# ETC PARNEL



- A PAR fixture with an adjustable focus (25°-45°)
- Identified by its spot-to-flood adjustment knob and wave lens
- Little to adjust, are simple housings for lamps
- Focuses to one, fixed position
- In use as top light specials in Strong

# CYCS



- Produces soft, very wide field
- Traditionally with a "J" shaped reflector
- Can be placed on floor, or hung close to the cyc (or backdrop) to create an even spread of light up and down
- Can be singular LED units with color mixing, or multiple cell units with different colors of gel used to create color mixing.
- Focuses to one, fixed position
- Top picture shows a 1000w incandescent unit with red, green and blue to color mix. We have these units hung in Strong.
- The bottom picture shows an ETC Colorsource Cyc unit, an LED color mixing light. These units are in the Sloan inventory.

# FRESNEL



- A lighting instrument that has a front lens element made of concentric circles that disperse the light in a directional manner
- Creates a wider soft beam of light
- The size of the beam can be adjusted by loosening a knob on the unit and then moving the lamp and reflector closer to or farther from the lens. ("flooding" or "spotting" the beam)
- Barndoors can be added to the front of the unit to shutter the light.
- Focuses to one, fixed position
- In use as top light in the May Room
- Fun Fact: the same type of stepped lens used in these lights are the same type of lens that are used in Lighthouses, just on a smaller scale.

# SPOTLIGHT/FOLLOWSPOT



- A spotlight (or followspot) is a powerful stage lighting instrument which projects a bright beam of light onto a performance space, usually from a great distance.
- Is usually a relatively flat shot from the front.
- Spotlights are controlled by a spotlight operator who tracks actors around the stage.
- intensity, beam size, softness of beam and color can all be controlled by the operator.
- Some new LED spotlights can have all parameters, except movement, controlled by the lighting console.
- Follow spots are in Strong and Sloan

# ADJ VIZI BSW 300



- An LED moving head light fixture
- A moving head fixture lets you use one light for many positions or create moving effects
- Able to change the field of the light to either beam, spot or wash
- Has built in gobos
- Has preset color wheel with 14 colors. Cannot color mix.
- In use in Douglass Ballroom

# ELATION FUZE Z120



- An LED moving head light fixture
- A moving head fixture lets you use one light for many positions or create moving effects
- RGBW color mixing
- Cannot change the field of light (beam size)
- In use in Douglass Ballroom

# ADJ MEGABARS



- An LED color mixing strip light.
- RGB color mixing
- Mostly used in Douglass Ballroom and May Room.



# ROGUE R1 WASH



- LED moving head light fixture
- A moving head fixture lets you use one light for many positions or create moving effects
- RGBW color mixing
- Has an adjustable zoom
- In use in Strong Theatre as overhead specials and used in the ground package when available

# ETC LONESTAR



- LED moving head light fixture
- A moving head fixture lets you use one light for many positions or create moving effects
- CMY color mixing
- Has an adjustable zoom, shutters, gobos, diffusion, strobe, color wheel and animation wheel
- These units are part of the Sloan inventory

# OTHER LIGHTING TERMS

**GOBO:** A Gobo is a small stenciled circular disc used in lighting fixtures to create a projected image or pattern. Gobos can be used conventional or moving lights, depending on the type.

Gobos can be made of

-steel: used in conventional lights to withstand the heat



Steel Gobo patterns



How the Gobo looks onstage

# OTHER LIGHTING TERMS

**GOBO:** A Gobo is a small stenciled circular disc used in lighting fixtures to create a projected image or pattern. Can be used conventional or moving lights, depending on the type.

Gobos can be made of

-glass: Offer more detail. Can be used in conventional, LED and moving lights. Moving light gobos are usually a custom size to the fixture. Can be black and white or color.



Example of detail on glass gobo, and a glass gobo being used



# OTHER LIGHTING TERMS

**GOBO:** A Gobo is a small stenciled circular disc used in lighting fixtures to create a projected image or pattern. Gobos can be used conventional or moving lights, depending on the type.

Gobos can be made of

- plastic: can be used in LED fixtures (and ONLY LED) for more detail

Example of detail and color in a plastic gobo



# OTHER LIGHTING TERMS

**LIGHTING CONSOLES:** also know as lighting desk, lightboard or lighting control. It is an electronic device that can control many lighting fixtures at once. There are many different brands and models, and each one may have it's own programming "language."

In all our spaces we have an ETC ION XE. Training for this and other ETC lightboards can be found at <https://www.etconnect.com/eoslearning/>

Add something else here about boards



# OTHER LIGHTING TERMS

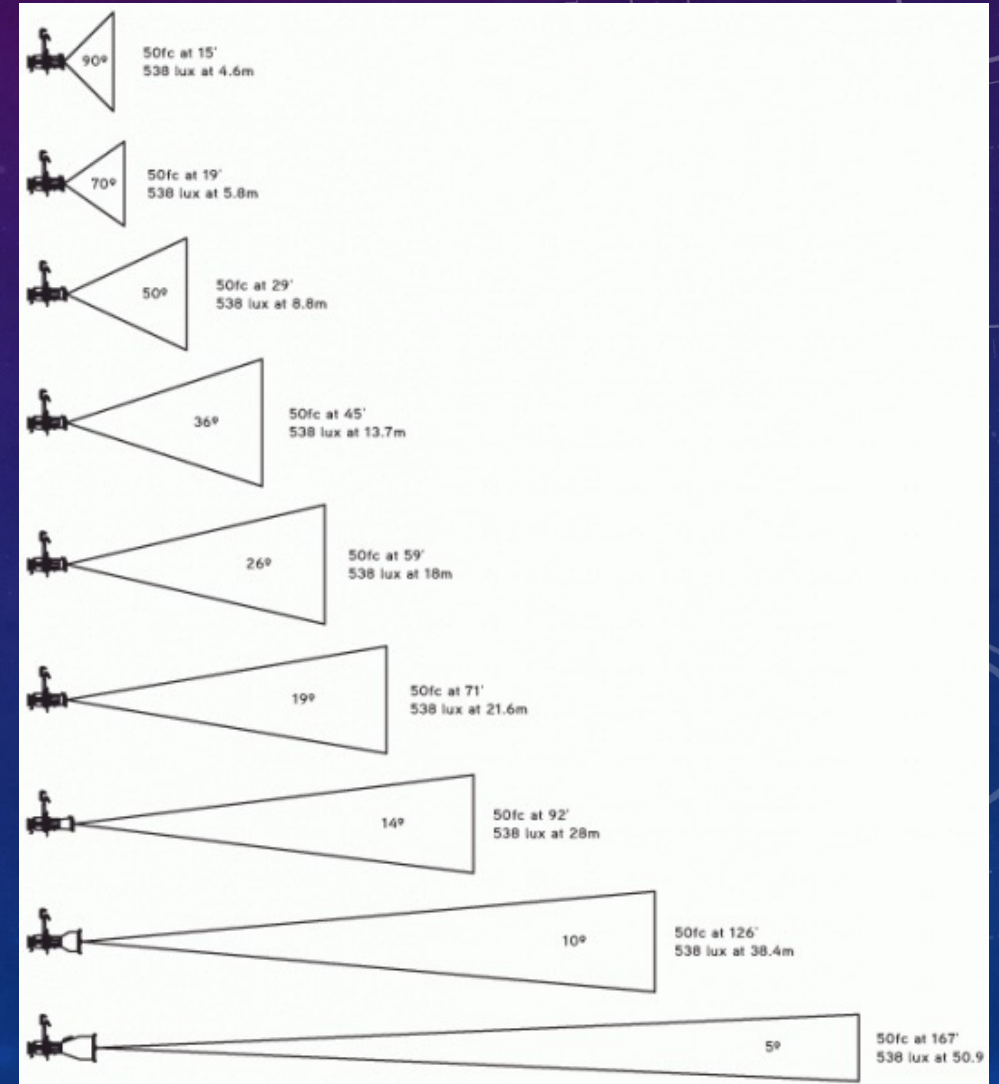
**BARRELS:** Also called Lens Tubes. This is the part of a lighting casing that holds the lenses. It is used with ellipsoidal lighting units, in our case, it will be used with ETC Source 4 units. These are swappable parts of the light that can be changed based on the shows needs.

The “degree” on the barrel will determine the size of the beam coming from the light. The beam size not only effects the size of the circle of light coming from the unit, but also the amount of light (lux) coming from the unit. The lens within the barrel change based on the degree.

Lux = unit of illumination. 1 Lux = 1 lumen per square meter.



A lens tube/barrel



# PARTS OF A LIGHT

Back of unit. On incandescent units this is where the lamp housing cap is. On LED units, there is a display screen



The C-clamp attaches to the top of the yoke and attaches to a pipe for hanging the light



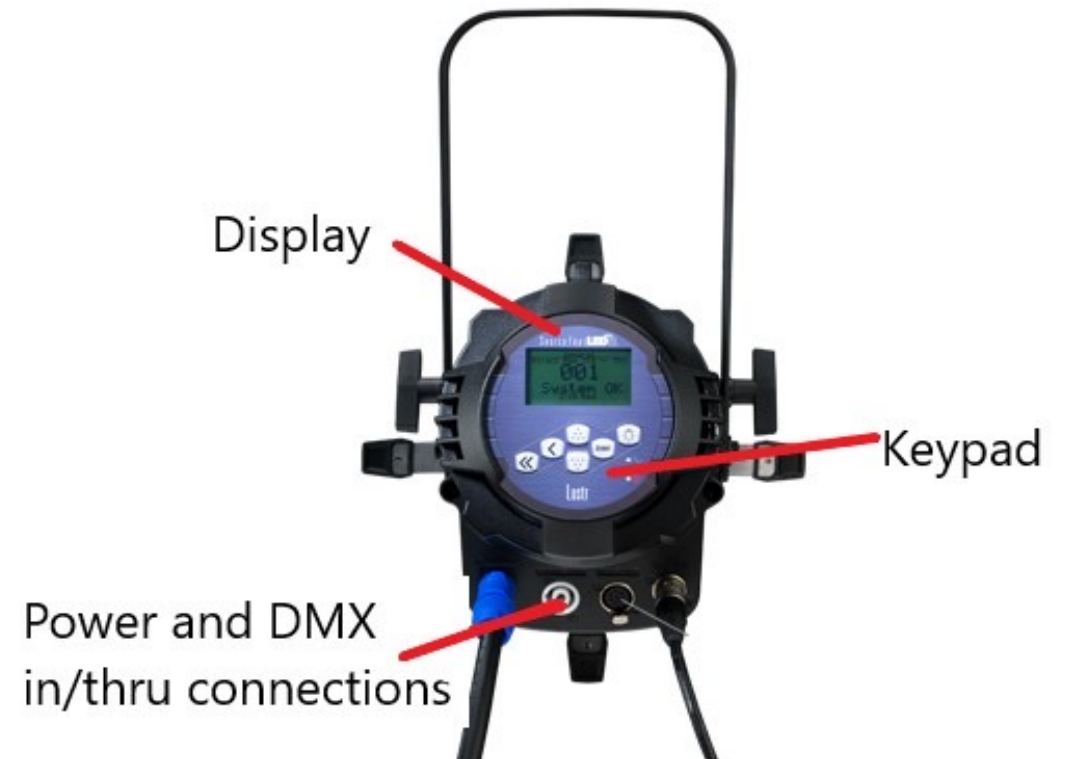


# PARTS OF A LIGHT

Back of incandescent light



Back of LED



# OTHER LIGHTING TERMS

**GEL:** A color gel, or color filter also known as lighting gel is a transparent colored material used in theatre, photography, Cinematography and more to color, or color correct light.

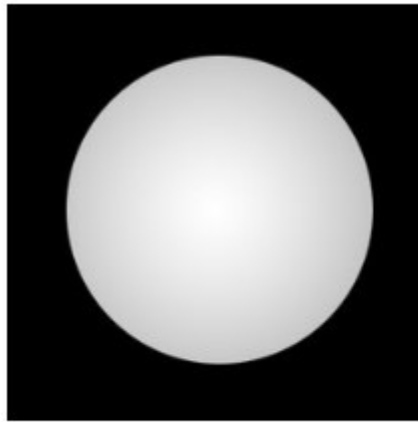


Depending on the light it was going in, the sheet of gel would be cut to size to fit in the proper gel frame for that unit, and placed in the gel frame slot at the front of the unit.



# OTHER LIGHTING TERMS

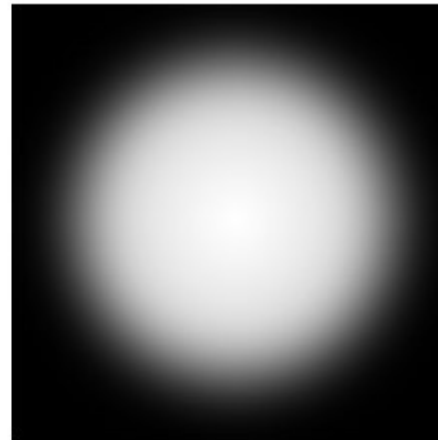
**DIFFUSION:** A colorless gel that changes the shape of a beam of light. While you can diffuse the edge of the light by “running the barrel”, using diffusion on sharp units will make sure you get a more even and uniform diffusion when using it on a system of lights.



Sharply focused without frost



Light Frost, such as R132



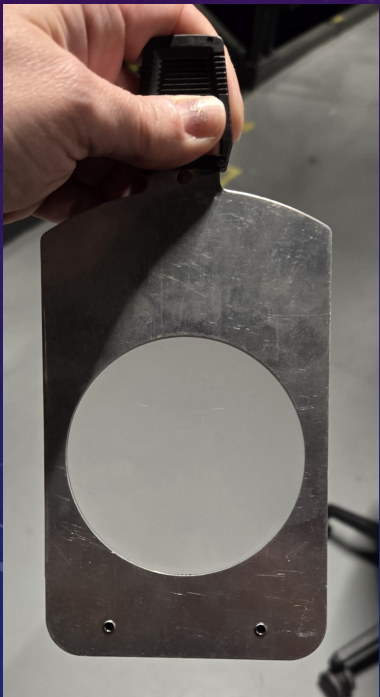
Heavier frost such as R119



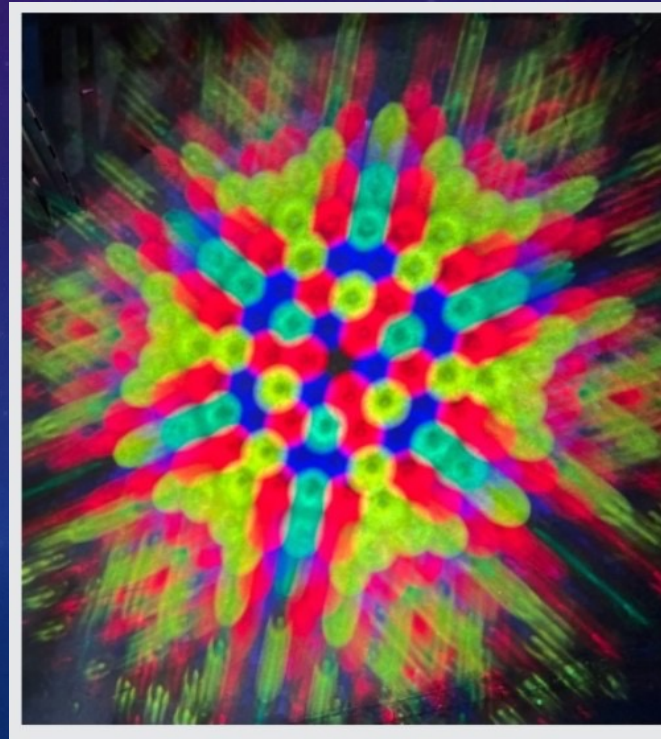
Very Heavy Frost such as R116

# OTHER LIGHTING TERMS

**HOMOGENIZER/SOFT FOCUS DIFFUSER:** A certain type of diffusion for LED lekos. This makes the intensity profile of a light beam more uniform. The lenses in the barrel will smooth out the light coming out of the unit, but if you look at the front of an LED leko when it's on, you can see the individual diodes. When you place the filter in the unit, it helps to smooth them all together, so that the beam that leaves the unit is smooth and blended. The diffusion comes in gobo frames and are placed in the gobo slot.



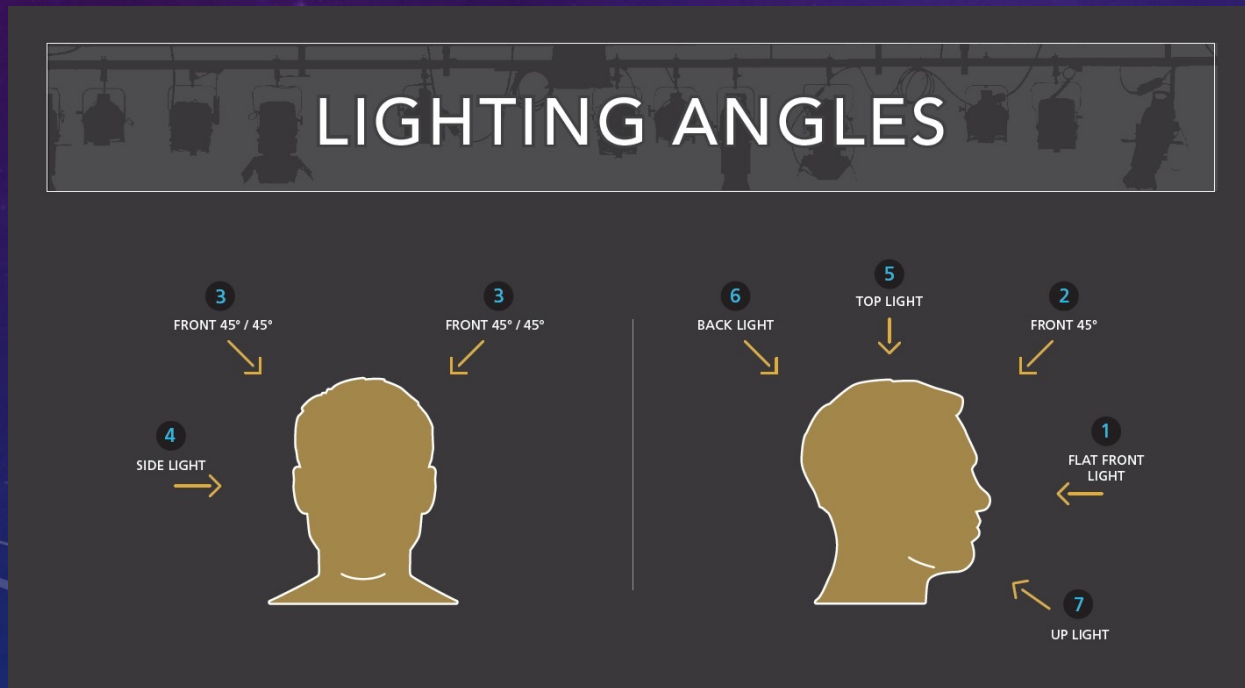
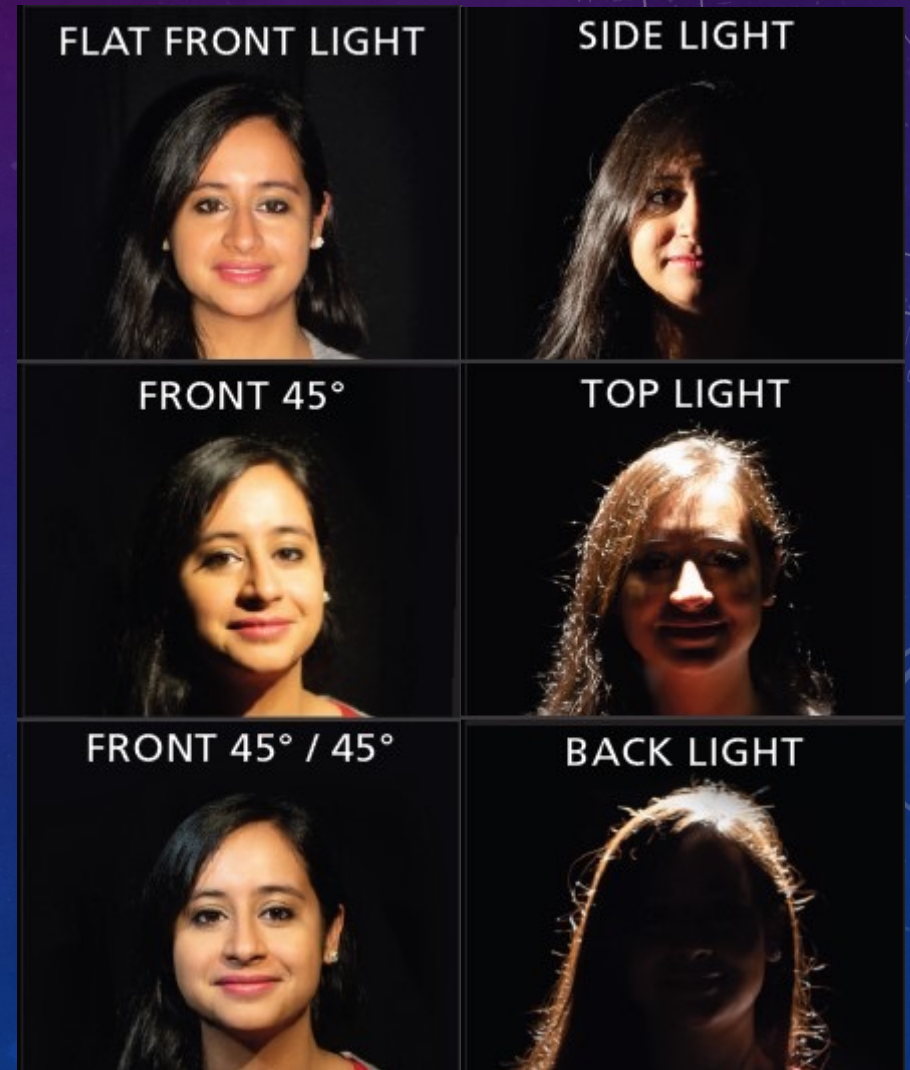
Left: An 'A size' gobo frame with the soft diffusion in it.  
Bottom: a zoom in of the frame to show the diffusion



To the left is what an LED leko looks like without a barrel in it. If you do not put the homogenizer in the unit, this is what you would see when you look at the front, even with a barrel. The barrel optics do smooth it out, but the diffusion just helps even more.

# OTHER LIGHTING TERMS

**LIGHTING ANGLES:** Just a quick reference to see what the different type of lights would look like on a person, depending on where they are shooting from. Different effects and feelings can be created based on what light you choose.



# OVERWHELMED?

This is just a brief intro/overview of some of the many things in the world of lighting. Depending which spaces you work in on campus, you may never need to know some of this stuff, or, you may end up being taught even more.

As always, we are happy to answer any questions you may have! Don't be afraid to ask!

Thanks!

Just for funsies, if you want to see what can be done when you have 44 really cool lights, a ton of haze and a loooooooot of time, watch the video. Of course, this goes more into programming, but it's still cool.

