



Online High School Technical Theater Course

5 Basic Lights Used at Bass Hall

In this video, we cover the basic lighting instruments that make up the bread and butter of theatrical lighting. Most of the shows you see here at Bass Hall and other theaters around the world will use many of these exact types of lighting fixtures in multiple combinations.

For full course video: <https://youtu.be/-tYEaceOTN4>

For full course materials: <https://www.basshall.com/techcourselighting>

For questions and comments: <https://www.basshall.com/techquestions>

Timecodes:

Ellipsoidals & How to Hang a Fixture: [0:35](#)

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Fresnel: [6:23](#)

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Follow Spots: [10:10](#)

Glossary

Ellipsoidal - Ellipsoidal reflector spotlights do a lot and can be very precise. They can accept gobos and irises and have built-in shutters for shaping the field of light. Ellipsoidals require a degree of maintenance and finesse; they are less easy to use than other types of instruments and are a bit more expensive. *Used often for front light or side light in dance.*

PAR (Parabolic Aluminized Reflector) lamp - The body of a PAR-can is nothing but a metal shell for the lamp, which includes a lens and reflector within it. A PAR lamp is a lot like a car headlight. By putting different versions of the lamp into the instrument, the beam can be wide, medium, narrow, or very narrow. *Used often for back light or stage wash.*

Fresnel – Pronounced *fre-NEL* - A Fresnel lens maintains the curvature and prescription of a large convex lens in a much thinner version. The curve of the lens is stepped back towards the flat side at regular intervals. This is less expensive to produce and allows more even heat distribution through the glass, protecting the lens from expansion and contraction. The trade-off is a fuzzier, softer field. *Used often for top light, backlight, and general washes.*

Cyc Light - A cyc light is an instrument specially designed for lighting cycloramas. They serve one of the same functions as a strip light. Their reflector, however, shapes the field in such a way that the cyc is illuminated as brightly at the bottom as it is at the top. Cyc lights are frequently used in sets of three cells, with a different color in each, allowing color mixing. Twelve single cell units might be hung with red, blue, and green alternating, with all of the reds controlled together, all of the blues, etc. *Used often to light a cyclorama, backdrop or background.*

Follow Spot - The most commonly known instrument. Follow spots are used to highlight and follow a single performer onstage. Spotlights are controlled by a spotlight operator (or Spot Op) who tracks actors around the stage. Follow spots require a certain amount of skill to operate smoothly. They typically have a variety of colors that can be inserted with the flip of a lever, as well as a gate, dowser, focus control, and an iris. *Used to follow a lead talent on stage.*

Source Four - An ellipsoidal reflector spotlight (ERS) used in stage lighting.

Yoke - Fixed at two points to the sides of the instrument, providing an axis of rotation. The base of the yoke is typically a single bolt around which the yoke can be rotated, providing a second axis of rotation. Combined together, these two axes allow the fixture to point nearly anywhere in a spherical range of motion encircling the yoke.

Safety Cable - Cable or chain to be attached between the fixture and its truss. Lighting fixtures often are suspended very high above performers heads and could cause serious injury or death if they fell by accident or due to incorrect attachment. The safety cable would halt the fall of the fixture before it could cause serious damage or injury.

Pre-focus – A preliminary or advance focus. If you know where the light will be focused, point it in that general directions to make sure it is tight, and the cable will reach.

Accessory Slot – On a Source Four, can hold multiple accessories for the light such as templates or template rotators.

Gel or Light Filter - A transparent colored material that is used in theater, event production, photography, videography and cinematography to color light and for color correction.

Gobo or Template - A small, stenciled, circular disc used in lighting fixtures to create a projected image or pattern. The term Gobo is short for “**Go Between Optics**”, describing the location where it needs to be positioned in the light path of a lighting fixture.

Shutters - A metal blade which can be used to shape the edge of the beam of light. Shutters (normally four) are located in the gate at the center of the light. The position of a shutter in the light beam is known as the **shutter cut**.

Moving Head or Moving Light - Remotely controllable "intelligent" lighting instrument. Each instrument is capable of a massive variety of effects which are operated live via a moving light control desk or can be pre-programmed by a standard memory lighting desk. The instruments require a power supply and a data cable (normally carrying DMX512 signal from the control desk).

Spot - To reduce the beam size of a Fresnel by moving the lamp further from the lens.

Flood - To increase the beam angle of a Fresnel or PC by moving the lamp and reflector towards the lens.

Cyclorama - Cyc for short. A background device employed to cover the back and sometimes the sides of the stage and used with special lighting to create the illusion of sky, open space, or great distance at the rear of the stage setting.

Iris - Adjustable aperture which, when placed in the gate of a profile lantern, varies the size of a beam of light. Originally, iris diaphragm. Most follow spots have an iris permanently installed.

Gate or Choppers - Two horizontal masking shutters used in follow spots to shape the beam above and below.

Douser - A metal flag used in larger follow spots and projection equipment to cut off the light beam without cutting off the electrical supply. Discharge lamps cannot be dimmed, so this is the only way of stopping light. Discharge lamps need a period of cooling down when they are turned off before they can be turned on again, so they should not be switched off if needed again within about two hours.

Boomerang - A color magazine or "boomerang" consisting of several gel frames which can be swung in front of the beam.

Links

[Working in Theater: Lighting Design \(Hamilton\)](#) - Video

[Wicked Lighting](#) - Video

[Associate Lighting Designer](#) - Web

[Vintage Stage Lighting Instruments](#) - Web

[Hamilton Spot Op](#) - Video