

#### LIGHTING RELATED CREW —

### Director of Photography

The person in charge of capturing the images on a film set, including the camera, lens, and lighting setup. Also known as a Cinematographer.

#### Gaffer

The person working directly under the Cinematographer to help plan and execute light setups, including the necessary gear and lighting equipment.

#### TYPES OF LIGHT —

#### Light

A portion of the electromagnetic spectrum that is perceivable by the human eye.

#### Natural Light

Any light that emanates from a natural light source (sun, moon, fire, etc.).

#### **Ambient Light**

Any light that exists in a location that the crew does not add or provide.

### Practical Light

Lighting sources that are built into the set that provides illumination.

### **Motivated Light**

When a light source on-screen justifies additional lighting of the same direction and color temperature.

### Incidental Light

The light that hits the subject.

### Reflective Light

The light that reflects off the subject and is registered by the camera.

### Daylight

The color temperature we associate with pure sunlight, typically around 5,900K.

### Tungsten Light

The color temperature we associate with incandescent light, typically around 3,200K.

## Hard Light

Light that hits the subject directly from the source, creating sharp shadows.

### Soft Light

Light that is diffused before hitting the subject, creating soft shadows.

#### LIGHTING TERMS

#### Watts

A measurement of how much power a light source requires.

#### Lumens

A measurement of how much light a source produces.

#### Lux or Foot Candles

A measurement of how much light hits the subject (lux uses the metric system while foot candles use the imperial system).

#### Inverse Square Law

A scientific law that measures how much light is lost at specific distances from the source with an equation: intensity equals one over the distance squared.

#### Color Temperature

The color of light emitted at a particular temperature.

#### Kelvins

The unit of measurement used to describe color temperature.

#### Light Falloff

The loss of a light's intensity the further it gets away from the source.

### Exposure

The amount of light that hits the camera's sensor or film stock.

### ISO

Short for the International Organization for Standardization, but in photography and cinematography is the light sensitivity of film stock or the equivalent "sensitivity" in digital sensors.

## Aperture

The adjustable opening in a camera lens that dictates how much light passes into it.

### Shutter Speed

The speed at which a camera's shutter opens and closes to determine how long the film or sensor is exposed to light.

### F-stop

Aperture settings that either double or halve the amount of light with each "stop."

### T-stop

Lens setting similar to f-stops that accurately measures how much light actually hits the film or sensor.

## Spill

Unwanted light that "spills" onto a subject or background, often remedied with flags.

#### **Contrast Ratio**

The ratio that measures the difference in brightness between two parts of an image, often both sides of the subject's face or between the subject and the background.

#### Dynamic Range

The range between the darkest and brightest parts of an image that a particular camera can capture while still registering visual information.

#### High Key Lighting

When the subject and background are lit relatively evenly.

#### Low Key Lighting

When the subject and background are lit unevenly with greater contrast.

#### Chiaroscuro

A style of lighting defined by extreme contrast between light and shadow to separate subjects from the background while giving depth and dimension to the image.

## Magic Hour (Golden Hour)

The time of day (just before sunset and just after sunrise) when the sunlight is softer and more colorful.

## Short Side (Dumb Side)

When the camera is positioned on the same side of a subject's face as the key light.

### Broad Side (Smart Side)

When the camera is positioned on the opposite side of a subject's face from the key light.

### Lens Flare

A visual artifact that occurs when a light source hits the camera lens directly, the shape and color of which depends on the lens and its construction.

### Bokeh

Any out-of-focus element but usually used to describe points of light that appear as glowing dots or shapes.

### **Book Lighting**

A technique where light is bounced into diffusion before hitting the subject.

### **Bounce Lighting**

A technique where is light is bounced off various surfaces onto the subject, usually to fill in shadows.

### — LIGHTING GEAR

#### Fluorescent Lights

A type of light that uses electrical current to excite the mercury vapor inside the tube, usually producing soft light.

#### Kino Flos

A bank of tube lights coming in a variety of color temperatures and can be placed in inconvenient places likes on a wall or the ceiling where traditional lights would not fit.

#### **LED Lights**

A grid of tiny lights with a vast array of color and intensity settings that also produce much less heat.

#### Light Meter

A handheld device that is used to measure incidental light hitting a subject or background for the purpose of determining exposure settings on the camera.

## **Spot Meter**

A tool that pinpoints a particular spot in an image to determine the exposure.

#### Waveform

A monitor that measures the amount of overall brightness in an image displayed in a 1:1 relationship (top left of the waveform = top left of the image) using the IRE scale 0-100.

### Histogram

A monitor that graphs the brightness of an image with brightness on the y-axis and the number of pixels along the x-axis, also using the IRE scale 0-100.

### False Color

A monitor that colors the actual image with colors determined by the IRE scale so you can see exactly what the exposure levels are in the image itself.

### Diffusion

A technique of placing translucent material in between a light source and the subject for the purpose of scattering and softening the light.

### Soft Box

A box that wraps around a light with a translucent front to create diffusion.

## Diffusion Paper

Translucent paper that can be attached to the front of a light to create diffusion.

### Silk

Stretched, translucent material used to diffuse larger light sources.

#### Reflector

Any material used to "bounce" light from the source onto the subject.

#### Beadboard

A reflector with an uneven surface to further diffuse the bounced light.

#### Foamcore

A reflector with a smooth surface to bounce light.

#### Gel

Thin, plastic, colored sheets placed in front of a light source to manipulate the color temperature.

#### Neutral Density Gels

Thin, plastic sheets placed on lights or windows to cut the amount of light coming from the source.

#### Flags

Opaque material, usually black, to block or shape light from unwanted areas of the shot.

## Barn Doors

Adjustable metal flaps on a light to help shape and control the direction of light.

## Egg Crates

Adjustable metal flaps on a light to help shape and control the direction of light.

### Cookie (Cucoloris)

A panel with specific shapes cut into it and placed in front of a light to create a dappled or shadow pattern.

## Light Stand

Metal stands designed to hold lights in position.

### C-stands

Dimmer

All-purpose stands that can be used to hold lights, diffusion, flags, or any other piece of gear in a fixed position.

A device that adjusts the power to a light

# source to lower or raise its intensity.

Scrim

A wire mesh insert placed in front of a light to reduce its intensity without adjusting the color temperature.

## Eyelight

a small light dedicated to adding a glint to the subject's eyes.