

## Competencies

- Advantages and disadvantages of location shooting
- Planning and shooting on location
- Lighting instruments and techniques
- Color temperature and its effect on location lighting

## Location lighting problems

The studio environment has many advantages over location work. There is sufficient, controllable power. There is a grid system for hanging the instruments, leaving the floor clear for cameras and sets. The color temperature is balanced by using the same Kelvin temperature lamps. Finally, it is usually environmentally tight the studio is air-conditioned. In most instances, these advantages are not available when you go on location.

The biggest advantage of going on location is reality. It is hard to recreate reality in the studio, without great expense. Some things cannot be brought into the studio to shoot. Downtown Dallas would be hard to bring into the studio, but “Austin City Limits” has done a good job of recreating the Austin skyline at night in the studio.

## Planning the Shoot

Management functions come into play even more so than in studio work. It is easy to step into the next room and get a piece of equipment or tool. When you are miles from the studio, it is almost impossible to get something you have inadvertently left at the studio.

Preplanning is the most important part of location shooting. A visit to the location or “scouting” of the location will quickly tell you what you will need to do a successful shoot. Before you begin you location scouting, you should contact the person in charge of the facility.

## Determining Available Power

Unless you are shooting exterior shots, power for lighting instruments is the most important consideration. Most homes and commercial buildings were designed for a minimum electrical load. Most facilities will have 10 to 20 Amp circuits. This is only enough to power two 1,000-watt lamps, assuming that nothing else is plugged into the circuit. This is highly unlikely, however. Usually some lamp or piece of equipment is all ready attached. A good rule of thumb is to use no more than 1,000 watts per circuit. Older buildings traditionally have fewer circuits than newer ones. There are two methods of determining the number and location of specific circuits. The first is the “try and see” method. Just plug everything into the closest wall outlets and see if the circuit breaker or fuse pops. This method is not safe and is not recommended.

The best method is to trace the circuits. This is an inconvenience to the location owner and sometimes not available. It entails turning off all but one circuit at a time and checking to see which light fixtures and outlets are still powered.

An alternative method of procuring power is to use extension cords. They should be plugged into outlets some distance from the area you are shooting to insure that you are receiving power through different circuits. You must use extension cords that have large enough wire to carry the power safely. The extensions also create a safety hazard. They should be placed so that they cannot be tripped over.

As you make your location survey, you should use a light meter to measure existing light levels. Take the measurements at the same time of day you plan to shoot. Also look for fire alarms, which might be activated by the lighting instruments.

## Lighting the Location

The basic three-point lighting approach is appropriate for remote shoots as well as in the studio. With no grid available, the lighting instruments must be mounted on stands or attached to available structures. Often this is difficult or impossible to accomplish because of lack of space or because the light stands will be in the camera shot. The backlight is particularly tricky. It is usually impossible to position it without having the stand visible in a long shot.

Studio lighting instruments can be used on location but they are heavy, bulky and there is usually no convenient way of hanging them. Numerous lighting companies have developed portable lighting gear specifically designed for field use. The instruments are usually lightweight and can be easily mounted on stands. The original portable instruments consisted of a single-source, open-faced quartz lamp. This instrument produces a harsh spotlight and creates very distinct shadows on the subject. Recent innovations have created instruments similar to studio lighting. Soft lights and Fresnels have recently become available.

To overcome the harshness of the open-face instruments, diffusion material can be attached to instruments to disperse the light and create a softer light source. Light can be bounced off the ceiling to also create a softer illumination. Usually, location lighting quality can approach studio lighting if lighting principals are followed.

## Correcting for Color Temperature

### Interior Lighting

Studio lighting eliminates the problem of color correction because all the lamps are engineered to burn at 3,200 degrees Kelvin. Portable lighting instruments are also designed to burn at this temperature. The problem with going on location is that usually other light sources will also be on.

In a home, office or plant, lamps with varying kelvin temperatures are usually present. The camera is very sensitive to color temperature changes. A variance of only a few hundred degrees will cause the image to have a reddish or bluish tint. White balancing will bring the image back to a normal white in most cases. The biggest problem is when light sources of very different Kelvin temperatures are present. An office with fluorescent lighting has a temperature of over 5,000 degrees kelvin, while an incandescent bulb burns at 2,800 degrees K.

Color correction materials can be used to solve the problem. You can either color correct to the florescent by covering the incandescent with a blue filter or cover the florescent with an orange gel to reduce the color temperature. The determining factor in which way to go is the size of the task of covering the instruments. It is much easier to gel a few quartz lamps than a large number of florescent lamps.

Another factor that is usually present in interior location lighting is sunlight. Even though the shot is inside, most locations will have windows. Because normal sunlight has the range of florescent lamps, portable location sighting instruments should use color correction filters. If the temperature must be corrected in the other direction, you must cover the entire window with color correction gels.

## Exterior Lighting

The sun can be the best and worst source of illumination. Early motion picture production relied on the sun as the only source of light. Studios were built without roofs and on turntables to take advantage of the sun. Southern California developed as the motion picture center because of its abundance of sunlight.

The sun is the most powerful single-point light source available. Also, there is no falloff. If it is cloudy or there is an environmental haze caused by pollution, sunlight becomes like a floodlight creating a balanced, softlight.

The biggest problem with using the sun as light source is the changes in color temperature. Early in the morning and near sunset, the color temperature is similar to an incandescent lamp or about 2,800 degrees. At high noon, especially at high elevations, the Kelvin temperature can reach 20,000 degrees.

Sunlight can serve as your backlight or key, depending on how you position the talent. Pieces of sheeting material can be hung over the entire scene to defuse the sunlight.

Sunlight can be reflected by using flat boards. They usually have a smooth side to provide a spotlight-type single source beam. The other side is usually defused. Different color foil can be used to change the color temperature; blue foil to lower the temperature or silver to make it harsher. These reflectors usually range in size from two to four feet square.

Sometimes supplemental lighting is necessary even in direct sunlight. High contrast, harsh shadows can be softened by using lighting instruments designed to work in conjunction with the sun. These instruments are called HMI's and their color temperature matches daylight. They are very efficient in converting electrical energy to light but there are also disadvantages. Until recently, they have been very heavy and hard to use in the field. The light source is an arc and must have a power converter unit to operate. They are also prohibitively expensive to buy and are usually rented on a daily basis.