

## Topic 016

### Lighting Design - Use of reflector in outdoor

#### Outdoor lighting Design

Lighting for the outdoor stage includes both open air and semi-enclosed facilities. Productions may include dramas, pageants, , operas, dance, concerts, rock shows, ceremonies, parades, and other variety or theatrical events. The outdoor facility may vary from an open field, to a semi-enclosed stadium, to a special facility constructed for theatre or music. Often the stage is enclosed or covered and the audience is not. Sometimes just the reverse is true.

Many outdoor facilities are orientated so that the sun illuminates the stage, from behind the audience. This usually promotes maximum visibility and usually keeps the direct vision of the sun from the audience. More sophisticated facilities will enclosed the stage with a 'stagehouse', some offering full 'flying' facilities. Often outdoor events are 'timed' to begin in the evening before sunset, and end in the dark of night.

The one fundamental concept that the lighting designer working on an outdoor stage must learn is: IT ISN'T EASY TO COMPETE WITH MOTHER NATURE. Stage lighting during a bright sunny day is almost impossible and has no impact. Stage lighting during a cloudy or overcast day may have some impact but usually at best provides basic illumination. During the day, the designer may need to provide 100's of kilowatts of lighting to provide even a minor impression on a stage. The lighting may only tend to fill in the shadows at best. If suddenly a cloud passes over the sun, the stage lighting levels will seem to rise drastically. Once the sun has started to set however, a fixture of just 1 kilowatt can appear brighter to the audience than the 100's of kilowatts previously required to provide the same visual impression. I regularly design the lighting at Canada's largest outdoor professional musical theatre - Rainbow Stage (stage is enclosed). The facility is located in one of Winnipeg's largest and nicest parks, not far from the city center. The 2500 seat facility is semi-enclosed under a 200 foot diameter geodesic dome, with a view of the trees, below. Act 1 usually starts at 8:00 pm and requires almost all lighting to be at FULL due to the high ambient daylight levels in the auditorium - and the lighting is hardly even noticeable. Slowly - but steadily as the sun starts to set, the lighting becomes more and more noticeable. It is necessary to make constant adjustments to compensate for the darkening ambient daylight. By the time the sun has set, much less light is required to give the same impression as was needed, minutes earlier.

Outdoor events usually involve large venues with large audiences. In this respect the most powerful and efficient stage lighting fixtures are used. The 1000 watt Par64 fixture is one popular choice for outdoor lighting applications, due to its compact size, low weight and high efficiency. H.I.D. (high intensity discharge) fixtures are also used, with automated color changers and mechanical dimmers. High power follow spots are also quite common for outdoor events.

#### Display Lighting Design

Display lighting includes all lighting for commercial merchandising, including lighting for store windows and for in-store displays. This discipline is discussed here because there are probably more individuals practicing display lighting than stage lighting - it's just that most of them don't know it.

The display lighting designer is usually not a lighting designer at all, simply the person that 'does the lights'. In this respect training, goals and approaches vary drastically. Display lighting is often performed by the 'Display Department' of large department stores or by individual members of the merchandising team, and in this respect there are no particular standards.

The world of display lighting and stage lighting are both totally dissimilar yet quite similar. They are dissimilar in that the stage and display lighting designer seldom if ever communicate with each other. Stage display lighting and stage lighting are similar however in that most of the objectives and methods are the same. The only fundamental difference is in the smaller scale and lower wattage fixtures, frequently encountered in the display lighting field.

The goals are similar to the goals of stage lighting in that display lighting must create visibility, mood, interest, and impact and it must communicate something - even if the concept is to Sell!.

### **Display Lighting Techniques:**

Typical display lighting distances vary from 6-20 feet - short in comparison to distances encountered in stage lighting applications. For this reason display lighting typically makes use of comparatively wide angle fixtures.

Display lighting fixtures are generally smaller and more compact than their theatre counterparts. Typical display fixtures include the 3.5" ellipsoidal reflector, the 3" fresnel and a wide range of speciality display fixtures. Specialty display fixtures consist of both line voltage (120/240) and low voltage 'R' (reflector) and 'Par' (parabolic aluminized reflector) lamps, mounted in small housings. Pin Spots are also quite common. Typical wattages of display lighting fixtures range from about 100-300 watts.

Often 'track lighting' is used for general window display and in-store display lighting. A variety of different fixture types are available that simply 'clip' to the track, so the lighting may be rapidly changed as the display changes. Make sure that whichever fixtures are used that they allow the use of an accessory color filter. Most do not.