

VARI\*LITE ©Strand

# LIGHTING DESIGN FOR HOUSE OF WORSHIP

A TECH DIRECTOR'S GUIDE



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## EXECUTIVE SUMMARY

In this definitive guide from Vari-Lite and Strand, the originators of modern performance lighting, discover how technical directors can put together a lighting design that enhances the worship experience. Houses of worship have lighting needs that range as widely as the needs of their parishioners, and typically require some combination of theatrical, performance, and studio lighting. Learn how to layout a lighting plot that offers the flexibility to address everything from weekly services to dramatic productions, concerts, speaking events, and more. Once you have designed your system, this guide provides the tips you need to create the perfect lighting “looks” that give the right visuals for both those in the audience and anyone watching on a broadcast or online stream.

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# THE THREE DISCIPLINES IN WORSHIP LIGHTING

Worship leaders can enhance their congregation's experience by adding theatrical lighting into their services. Modern lighting techniques add to the atmosphere, inspiring the congregation in addition to providing illumination for the worship leader, choir, band, or soloists when required during services.

The term "lighting design" is a broad one, and even within entertainment lighting there are multiple disciplines depending on the application. Worship lighting is unique because it combines elements from all these different disciplines, and the exact mix of lighting technology needed for a house of worship will vary depending on what the day-to-day needs are. Church lighting can be used to light live music, sermons or homilies, and dramatic holiday productions and other events, and the church may also film the services and other events for TV or online broadcast as well. Because of these varying needs, worship lighting systems require some combination of theatrical, performance, and studio lighting.



## THEATRICAL LIGHTING

Theatrical lighting can be defined as the use of light to create a sense of visibility, naturalism, composition and mood, (or atmosphere). In traditional theatre, although the acting can give an idea of the mood, lighting can give an idea of the mood when there are no words spoken. The primary goal of theatrical lighting is to ensure the audience sees everything that is happening, so the priority is to illuminate the actor's face. In a worship service, theatrical lighting concepts are used to highlight a speaker, such as during the sermon or homily, and are also applied during any dramatic presentations.





## PERFORMANCE LIGHTING

Performance lighting is used in the worship portion of the service and establishes the mood for each song. Unlike theatrical lighting, performance lighting prioritizes effect and accent over visibility and mood. With performance lighting, heavy back light is often used, with light concentrating on the stage and audience to punctuate the music with heavy color or intensity with less focus on the musician's face.



## STUDIO LIGHTING

Studio lighting specifically addresses the need to light suitably so a subject can be seen properly on camera. Unlike theatrical lighting, which prioritizes visibility by the human eye, studio lighting is concerned with how the camera picks up light. The contrast ratio between light and dark for a camera is a lot lower than the human eye, so it's important that items in near darkness are lit well enough that the camera can pick them up. There are also other technical considerations as well, such as compensating for camera frame rates and shifting the color green to aide in white balance.



# BASIC LIGHTING TECHNIQUES

No matter your service style, the following lighting techniques are foundational to good lighting design:



Subject



## FRONT LIGHTING

Front lighting is used mostly for visibility and color. It is also used to isolate an individual person or set piece and provides most of the 'key' lighting when video is being utilized. Front lighting generally works better if placed at an angle between 30 -45 degrees.



Subject



## SIDE LIGHTING

The most common use of side lighting is for effect. Side lighting is often used with bolder colors to accent movements and contrasting colors coming from the opposite sides.



Subject

## BACK LIGHTING

As with side lighting, illuminating the subject from the back is used for effect. Back lighting is often used to create depth on the stage as well. When used from low angles, back lighting can also give a sense of a silhouette. One thing to remember when using back lighting is that the lights must be relaxing to the audience.





### DOWN LIGHTING

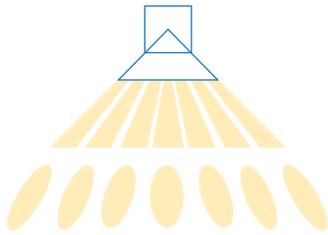
Light that shines down from the ceiling is often used to create the illusion of depth. Down lighting also works very well to isolate one person from another in a worship band or for a choir solo.



Subject

### BACKGROUND LIGHTING

Background lighting is a very bold style of lighting and is often brighter than the rest of the stage. It is a very powerful way to create a picture and mood. Simply using a bold color to light a back wall can create a dynamic effect.

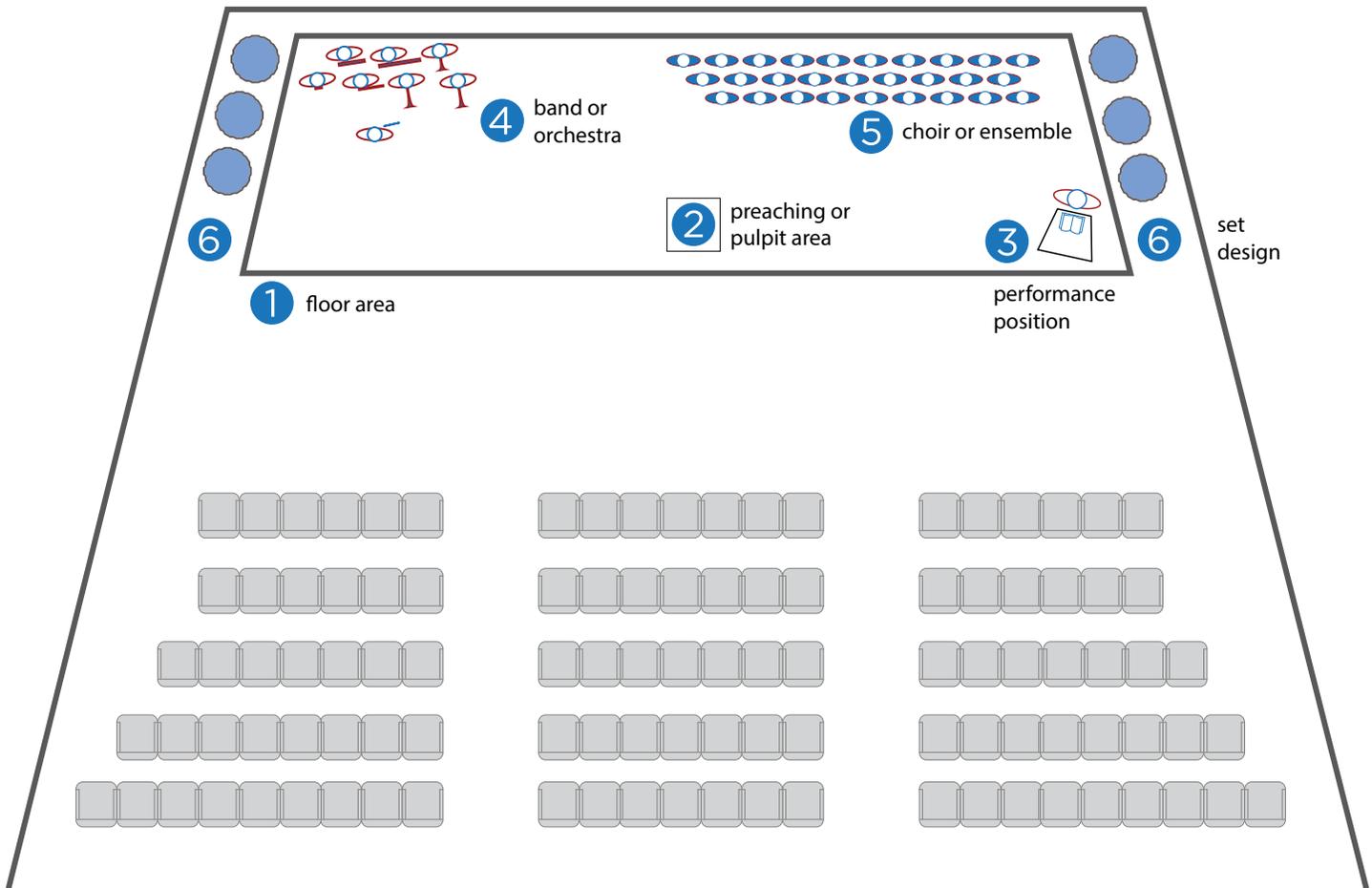


### EFFECT LIGHTING

Use of color and gobos helps add texture and depth to a scene. These effects can be used on a surface such as a floor or wall, but they can also create beautiful mid-air effects when you add a hazer to allow you to see the beams of light in the air. This is where you can get creative with your lighting design and can add dimensionality to the architecture of the space.



# LIGHTING KEY AREAS OF THE SANCTUARY



Understanding your production space is key to ensuring a smooth design and budget process. Once you know the limitations and advantages of your space, you can start to create the look and feel. The easiest way to start this process is to break your production space down into layers. Each layer should be managed independently from one another giving you as much control as possible.



- 1 The **floor area** is necessary for altar calls and to light those pastors and speakers who like to get intimate with the congregation. This area can be lit with modern LED wash lights such as PARs and Fresnels, which give you the ability to light large areas evenly with fewer fixtures.
- 2 The **preaching or pulpit area** is the key position, and consistent lighting is needed since this is where the pastor or speakers will spend most of their time. Like the floor area, the preaching area can be lit with wash lights for a softer look using less fixtures.
- 3 The **performance position** is the area where the worship leaders will work. Depending on whether the preaching/pulpit area utilizes a fixed pulpit or not, this area can be either mid-stage or downstage. This area is often lit with wash lights in combination with profile fixtures to create isolation or 'spotlights' during intimate moments. Profiles are hard edged fixtures which have shutters for shaping the light beam and can either be static or moving head.
- 4 The **band or orchestra** is usually placed upstage behind the worship leader. If possible with your design, light each band member in their own spotlight for better control, then add color with front and back washes. This creates a sense of depth between layers. For example, with the band washed in a deep blue, you can spot the piano during an interlude or the guitar during a solo. You need to be able to direct the attention at the appropriate times.
- 5 The **choir or ensemble** can be set to either side of the platform on risers or placed above on a loft. In either location, it is essential to see the choir's faces. Using the same techniques as the other layers, wash lights create a softer feel, and color can be used to help make the choir disappear during moments when they are not the focus. If the choir is not wearing robes, it is best to use blues and lavenders due to the various colors of attire.
- 6 The **set design** will reflect the vision, idea, or message. In a traditional setting, architecture such as pillars, columns, or organ pipes can be lit by several different fixture types. Using patterns or gobos to create texture along with color washes enhances these elements. In a contemporary setting, curtains, trussing, and set pieces can be lit with any combination of static luminaires and moving heads to give some variation.



# FIND AND CREATE YOUR LIGHTING “LOOKS”



## BE PATIENT

Creating the right look can take time and evolves over several services. Be sure to leave enough time to create what you (and your pastor) want and to rehearse it. Once you have some looks to experiment with, a general rule of thumb is to reserve one rehearsal hour per scene or song.



## LISTEN TO THE MUSIC

When programming a song, first sit and listen to it a few times. Start to recognize how it makes you feel. Visualize the colors of those feelings. Remember colors are very subliminal and help to create emotions. After listening to the song a few times, what colors come to mind? Is the color of the song happy (consider bright orange or sun yellow or silk pink)? Or is your color moody or melancholic (midnight blue or lavender)? Or is the song fiery (consider deep red or burnt orange) or calm and tranquil (robin egg blue or forest green)?



## START BASIC AND BUILD

Translate the song into a primary color first to help set the tone of the song, and then build your selection of complimentary colors from there; using a preset color palette is helpful. It is best to start with a “less is more” approach and build from there and see what result best suits your vision.



## KNOW YOUR COLORS

Using specific colors can draw the audience to a deeper level. As the music starts to transition from praise into worship, you can feel the atmosphere shift, so change the lighting into more saturated/deeper colors. Cool colors tend to pull you into a more thoughtful frame of mind.





### **ADD VARIETY**

Changing colors, texture, and brightness during the service can reflect the mood and mind frame of the parishioners. You can bring the house lights down to enhance the feeling of closeness in the congregation, or use textured light to achieve different “looks” for different songs. To vary textures, use gobos to not only add dimension to surfaces, but also to change the look of the light beams themselves. It’s good practice to change colors, direction or symmetry between songs to avoid repetition. For example, if you are using a lavender backlight for the first song, then you could use a lavender sidelight or spot for the next song.



### **SET UP CUES BEFOREHAND**

Programming cues (“looks”) into a lighting controller before the service makes your lighting design much more professional and your job easier. With predefined cues in a lighting console such as the Strand NEO Series, there is less opportunity for mistakes, and you can playback more intricate looks in less time.

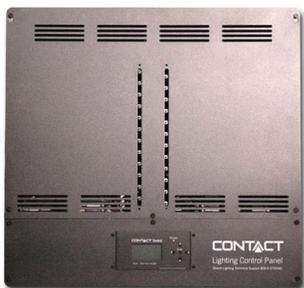


### **LIGHT FOR BROADCAST**

If you are lighting for broadcast, remember to take extra care to ensure everything will look good on camera as well in the room. For broadcast, it is important that not all areas are lit at the same intensity otherwise the picture would look very flat. You should take extra care when lighting faces to ensure the camera can zoom in to be just be a head shot. To ensure proper skin tone, modern LED fixtures have green and magenta adjustments that you can use to achieve a good color for faces.

# LIGHTING CONTROL AND POWER

## BUILDING YOUR LIGHTING INFRASTRUCTURE



STRAND CONTACT  
RELAY PANEL

### POWER DISTRIBUTION & CONTROL

This equipment is used to distribute the power and control signals going to your lighting fixtures. Traditionally, lighting fixtures used lamps, and dimming systems controlled the brightness of the fixtures by turning the power going to them up and down. Modern LED fixtures control all their attributes including brightness using a control signal known as DMX that interfaces with the lighting console.

It is still important to control the power going to modern lighting fixtures. Shutting off the power to a fixture saves electricity when it is not in use and prolongs the life of the electronics. Instead of dimmers, relay-controlled power systems like the Strand Contact Relay Panel allow you to control the power from the lighting console or architectural lighting control stations.



STRAND NEO  
COMPACT 10 CONSOLE

### LIGHTING CONSOLE

The lighting console is used to program the lighting fixtures beforehand and then control the show during the service. Consoles like the Strand NEO Series can control anything from a basic lighting system to a large lighting rig with thousands of fixtures, with onboard effects and capabilities to make programming a service quick and easy.





STRAND VISION.NET  
TOUCHSCREEN

## ARCHITECTURAL LIGHTING CONTROL

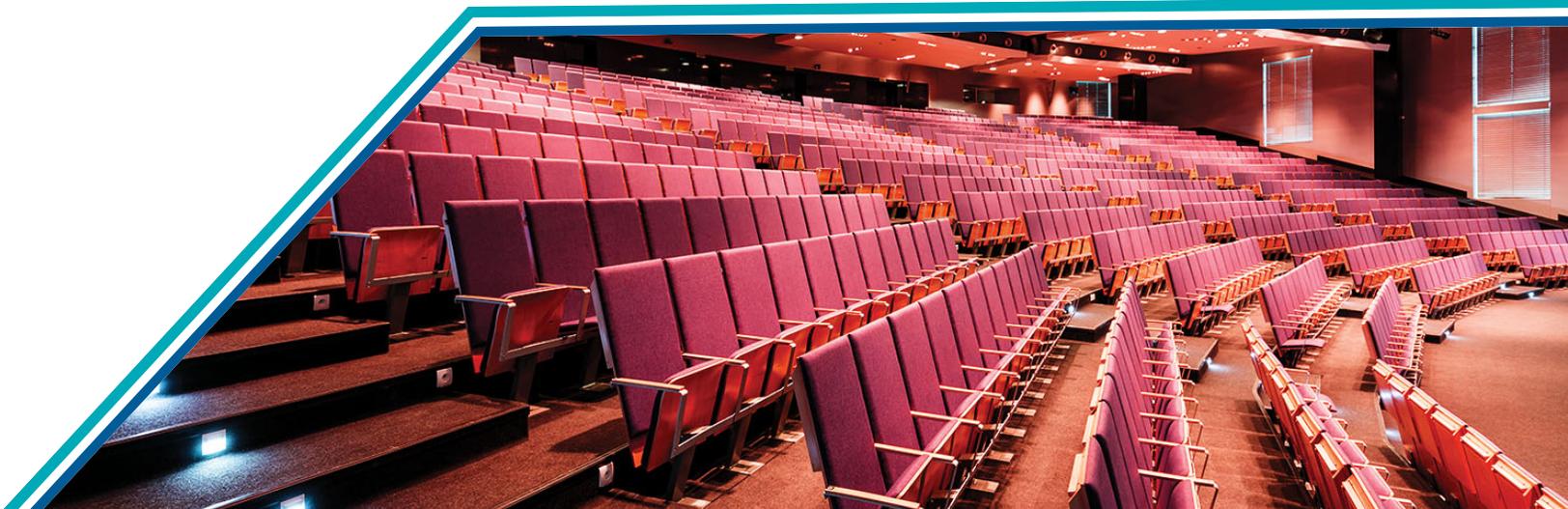
Architectural lighting systems like Strand Vision.Net provide easy-to-operate controls for architectural lighting, such as house and work lights. You can use a touchscreen or button station to manually control the lighting system or recall preset lighting cues with programmable fade times, offering convenient lighting control for non-technical users such as volunteers or pastoral staff. To save energy and lamp life, stations can be programmed to operate selected lighting loads when the full capability of the lighting system is not required.



STRAND DMX 512  
NETWORKING NODES

## DATA DISTRIBUTION

To control your lighting fixtures, you need a way to connect them to your lighting console or architectural lighting control system. Data distribution solutions route the control signals from the console over standard Ethernet or 5-pin DMX to your fixtures. Your data distribution solution should be designed to ensure you have the infrastructure for the lighting system you have today while providing enough expansion capabilities for special events and future changes.



# TYPES OF LUMINAIRES

## TOOLS FOR ILLUMINATION AND ENHANCEMENT



STRAND CANTATA  
LED FRESNEL

### FRESNELS

Fresnel fixtures like the Strand Cantata LED are wash lights with a “soft” quality to the edge of the light. The fixture allows you to control the diameter of the beam from narrow to wide, and it is generally used for shorter throw distances. In houses of worship, it is commonly used for an even wash of the platform from overhead lighting pipes. There are different sizes and output options, and which one you choose will differ depending upon mounting location, application, and required light coverage.



STRAND LEKO®  
LED FRESNEL

### PROFILES

Profile luminaires (sometimes called ellipsoidals) like the Strand Leko® LED are used in spot / beam applications or to project pictures (“Gobo” images) because they provide excellent definition and shape control over the beam pattern and focus. The fixtures include framing shutters to control precisely where the light goes and churches often use them as a front light for longer throw applications. Like Fresnels, there are different sizes and output options based upon mounting location, application, and required light coverage.



STRAND CODA  
LED CYC

### BACKDROP & ARCHITECTURAL

Cyclorama luminaires provide a high intensity, even field of light over a vertical surface, such as a back wall or backdrop, scenery, or architectural elements such as pillars. Cyc luminaires are used to achieve an even wash of high intensity colored light that “grazes” over the entire surface, and careful placement and orientation of the fixture is required to achieve this. Depending on the application and coverage needs, there are different styles and sizes of luminaires, including strip lights such as the Strand Aurora LED as well as asymmetrical cyc luminaires such as the Strand Coda LED that can accommodate short and long throw distances in a single fixture.





VARI-LITE VL800  
EVENTPAR

## PARS

PAR luminaires are wash lights commonly used in concert lighting that produce an intense, circular pool of light with unfocused edges. Named after the parabolic aluminized reflector (PAR) lamp in the original luminaires, modern LED versions come in a variety of options. Some models, such as the Vari-Lite VL800 EVENTPAR, offer the vintage styling of traditional PARs, with manual zoom and a traditional look and color palette. Other models, such as the Vari-Lite VL800 PROPAR, have advanced features such as electronic zoom as well as more modern styling and color range.



VARI-LITE VL2600  
PROFILE

## MOVING HEADS AND EFFECTS

An automated moving head luminaire is designed to replace multiple conventional, non-moving lights. It is a versatile and economical addition to a stock of traditional lights and can be used to create a variety of unique visuals and mid-air effects. There are several types and sizes of moving heads designed for different applications, as well as multi-functional hybrid fixtures. For example, the Vari-Lite VL2600 Series includes a profile, wash, and spot (beam), as well as hybrid fixtures. There are even event special effect luminaires such as the Vari-Lite SL Nitro 510C STROBE that can provide even further diverse looks and moods.

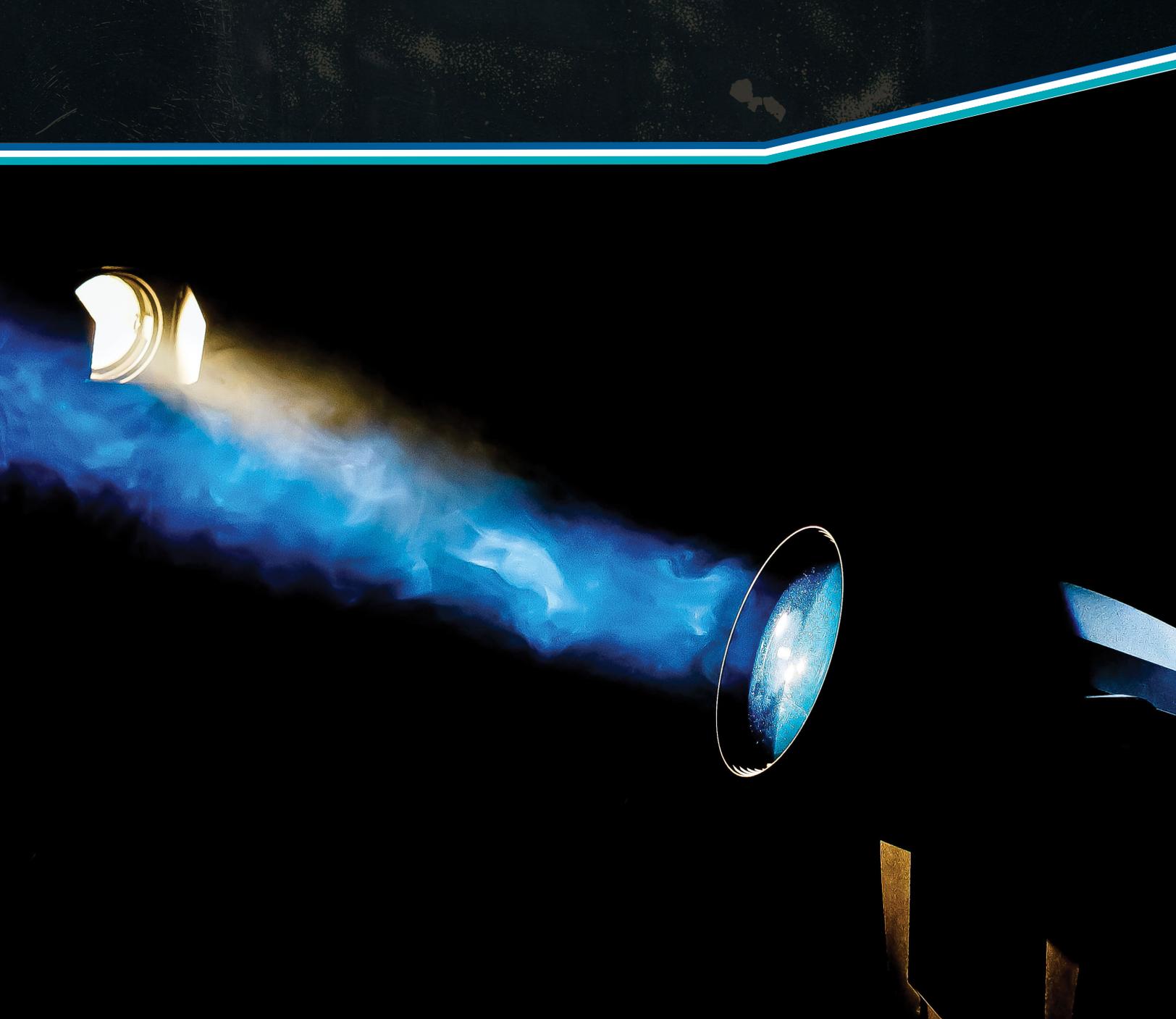


STRAND 150S  
SOFTLIGHT

## STUDIO LUMINAIRES

Studio luminaires are specially designed to meet the needs of broadcast and are most often found in studios and on-location video shoots. Fixtures like the Strand 150S Softlight provide soft, diffused lighting that replicates the appearance of natural light and offer capabilities that ensure everything looks smooth and natural on camera.





### **ABOUT VARI-LITE AND STRAND**

For over a hundred years, we've been blending innovative engineering and a love of performance to create the high-quality solutions that help drive some of the world's most extraordinary experiences. With advanced optics, innovative control, and complete end-to-end lighting system solutions for installation and production, Vari-Lite and Strand enhance the passion and performance of artists around the globe, whether that's a school play or a world tour.