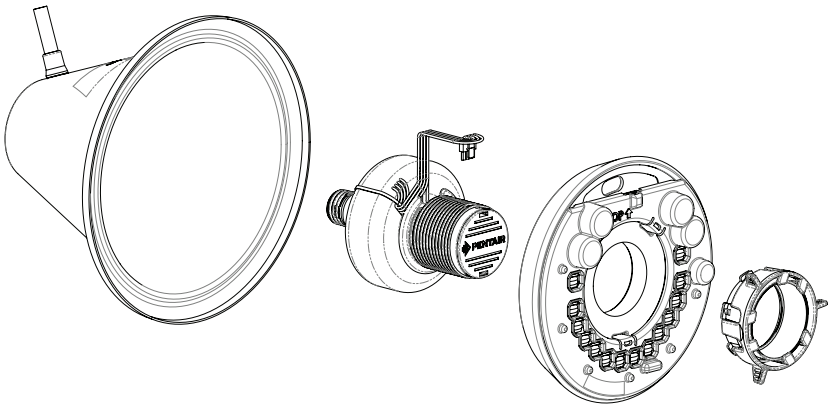# PENTAIR

AMERBRITE™
UNDERWATER COLOR CHANGING
LED POOL LAMP
FOR USE ONLY WITH PENTAIR® AMERLITE® LUMINAIRE

INSTALLATION
AND
USER'S GUIDE

IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

Technical Support

Phone: **(800) 831-7133 -** Fax: **(800) 284-4151**

Web sites: www.pentairpool.com and www.staritepool.com:

Contents

READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL.

IMPORTANT WARNING AND SAFETY INSTRUCTIONS

⚠ **DANGER**

⚠ **DANGER**

SERIOUS BODILY INJURY OR DEATH CAN RESULT IF THIS LAMP IS NOT INSTALLED AND USED CORRECTLY.
INSTALLERS, POOL OPERATORS AND POOL OWNERS MUST READ THESE WARNINGS AND ALL INSTRUCTIONS BEFORE USING THE POOL AND/OR SPA LIGHT.

⚠ **WARNING**
Most states and local codes regulate the construction, installation, and operation of public pools and spas, and the construction of residential pools and spas. It is important to comply with these codes, many of which directly regulate the installation and use of this product. Consult your local building and health codes for more information.

IMPORTANT NOTICE - Attention Installer: This Installation and User's Guide ("Guide") contains important information about the installation, operation and safe use of this underwater pool and spa lamp. This Guide should be given to the owner and/or operator of this equipment.

⚠ **WARNING**
Before installing this product, read and follow all warning notices and instructions in this Guide. Failure to follow warnings and instructions can result in severe injury, death, or property damage.
Call (800) 831-7133 for additional free copies of these instructions. Please refer to www.pentairpool.com for more information related to this products.

⚠ **DANGER**

RISK OF ELECTRICAL SHOCK OR ELECTROCUTION:
THE AMERBRITE™ LAMP MAY REQUIRE HIGH VOLTAGE WHICH CAN SHOCK, BURN, OR CAUSE DEATH.
BEFORE WORKING ON the AMERBRITE™ Color Lamp always disconnect power to the pool and/or spa lights, at the source circuit breaker, from the light before servicing the light. Failure to do so could result in death or serious injury to service person, pool users or others due to electric shock. When installing and using this electrical equipment, basic safety precautions should always be followed, include the following:

This underwater light must be installed by a licensed or certified electrician or a qualified pool professional in accordance with the current National Electrical Code (NEC), NFPA 70 or the Canadian Electrical Code (CEC), CSA C22.1. All applicable local installation codes and ordinances must also be adhered to. Improper installation will create an electrical hazard which could result in death or serious injury to pool users, installers or others due to electrical shock, and may also cause damage to power source. Always disconnect the power to the pool light at the circuit breaker before servicing the light. Failure to do so could result in death or serious injury to service person, pool users or others due to electrical shock.

⚠ **WARNING**
For countries in compliance with International Electrotechnical Commission (IEC) regulatory standards: The light fixture must be installed by a licensed or certified electrician or a qualified pool service person, in accordance with current IEC 364-7-702 and all applicable local codes and ordinance. Improper installation will create an electrical hazard, which could result in death or serious injury to pool user, installer or other due to electrical shock and may also cause damage to the property.

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IMPORTANT WARNING AND SAFETY INSTRUCTIONS

⚠ WARNING **Risk of Electrical Shock. Connect only to a branch circuit protected by a ground-fault circuit-interrupter (GFCI). Contact a qualified electrician if you cannot verify that the circuit is protected by a GFCI.**

This light must be connected only to a supply circuit that is protected by a ground-fault circuit-interrupter (GFCI). Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the light without the test button being pushed, a ground current is present, indicating the possibility of an electric shock. Do not use this light. Disconnect the light and have the problem corrected by a qualified service representative before using.

⚠ WARNING **Important Safety Information for Pentair Niche and Light Installation**
- All Niche and Light installations must conform with all codes. If local codes mandate a cord seal, use Pentair plastic niches (P/N 79206600 and P/N 79206700) and Cord Seal Kit (P/N 670044).
- Under no circumstances replace lights by splicing wire under water or behind niche.

⚠ CAUTION

THE AMERBRITE® COLOR LED LAMP, CANNOT BE USED ON A DIMMER CIRCUIT. USING A DIMMER SWITCH WILL RESULT IN PERMANENT DAMAGE TO THE LAMP.

AmerBrite™ Underwater Color Changing LED Pool Lamp Overview

This manual describes how to replace the Amerlite® Incandescent Lamp with the AmerBrite™ underwater color changing LED pool lamp. The AmerBrite lamp provides brilliant vivid multi-colors with spectacular effects for your pool. The energy efficient colored LED array utilizes IntelliBrite® Color LED Light technology and can cycle through colors at varying speeds and in different sequences of color. Choose one of the seven pre-programmed color light shows or select one of the five fixed colors to create virtually endless range of dramatic underwater lighting effects for a spectacular effect in your pool and spa.

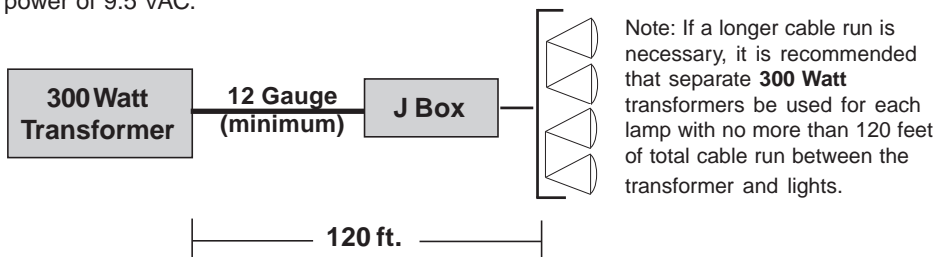### Operating AmerBrite Color LED Lamps Using a Wall Switch

The AmerBrite lamp can be manually controlled using a standard wall-mount light switch. Multiple AmerBrite lamps can be connected via a junction box to a single switch so that all lamps can be switched on and off together.

Operating AmerBrite Color LED Lamps Using a Control System

AmerBrite lamps can also be automatically controlled using the Pentair IntelliTouch®, EasyTouch® and SunTouch® Control Systems. For more information refer to the IntelliTouch Control System User's Guide (P/N 521075), EasyTouch Control System User's Guide (P/N 521044), and SunTouch® Control System User's Guide (P/N 520785).

Using an External Transformer for Multiple 12 VAC AmerBrite Lamps

When using a 300 Watt transformer (set at 12 VAC) with multiple 12 VAC AmerBrite lamps, it is recommended that no more than four (4) AmerBrite lamps be used with a maximum of 75 feet 12 gauge cable run, between the transformer and the junction box. There should be no more than 45 feet of cable between the junction box and the AmerBrite lamp. This will ensure that the AmerBrite lamps receive a minimum operating power of 9.5 VAC.

Note: If a longer cable run is necessary, it is recommended that separate **300 Watt** transformers be used for each lamp with no more than 120 feet of total cable run between the transformer and lights.

Maximum Wattage Using multiple AmerBrite Color LED Lamps (with a 300 Watt Transformer)

IMPORTANT! When using multiple 12 VAC Pentair® LED color pool and spa lights the total allowable light wattage is 300 Watts maximum. The individual light wattage is as follows:

- One AmerBrite White LED pool light is 51 Watts maximum
- One AmerBrite Color LED pool light is 36 Watts maximum
- One IntelliBrite Color LED pool light is 35 Watts maximum
- One IntelliBrite Color LED spa light is 18 Watts maximum
- One IntelliBrite Color LED landscape light is 15 Watts maximum
- One ColorCascade pool/spa color LED light is 16 Watts maximum

Operating AmerBrite™ Color Lamps Using a Wall Switch

AmerBrite™ Color Lamps can be controlled using a standard wall-mount light switch or by the IntelliBrite® Color Light Controller (see page 3). Multiple AmerBrite lamps can be connected via a junction box to a single switch so that all lights can be switched on and off together. AmerBrite lamps are controlled by cycling AC power from a standard wall switch. By turning the switch on and off a specific number of times, the light activates one of the seven light show modes, fixed colors, or enables the "Hold" and "Recall" feature.

Powering on the AmerBrite Color Lamps

When the AmerBrite lamp is powered on, the previously selected color is displayed.
Note: If power to the lamp is off for more than five (5) seconds, the last color show mode or fixed color that was saved will be displayed.

> *Note: When the AmerBrite lamps are powered on, the previously selected color will be displayed, unless the HOLD or RECALL feature was previously enabled.*

Selecting a AmerBrite Light Show Mode or Fixed Color using a Wall Switch

AmerBrite color lamps are compatible with IntelliBrite light colors and shows and can be synchronized with IntelliBrite color lights.

First switch power on to the light, the previously selected color is displayed. To select a color show mode (1-7) or fixed color
(8-12), turn the wall switch off/on a specific number of times. Each number (1-12) shown below corresponds to the number of times to power-cycle the switch to activate a color light show or fixed color. For details about saving color effects while in "show" modes, see "Hold" and "Recall" feature on page 3.

Number of times to cycle power (1-14)

1 **SAm Mode:** Cycles through white, magenta, blue and green colors (emulates the Pentair® SAm® Color Changing Light).
2 **Party Mode:** Rapid color changing building energy and excitement.
3 **Romance Mode:** Slow color transitions creating a mesmerizing and calming effect.
4 **Caribbean Mode:** Transitions between a variety of blues and greens.
5 **American Mode:** Patriotic red, white and blue transition.
6 **California Sunset Mode:** Dramatic transitions of orange, red and magenta tones.
7 **Royal Mode:** Richer, deeper color tones.
8 **Blue:** Fixed color.
9 **Green:** Fixed color.
10 **Red:** Fixed color.
11 **White:** Fixed color.
12 **Magenta:** Fixed color.
13 **Hold:** Save the current color effect during a color light show.
14 **Recall:** Activate the last saved color effect.

Example: To select **California Sunset Mode**; turn the light on, then turn off and on six times. During the off/on switching process, no illumination will occur,

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⚠ WARNING

During the off/on switching process, before the selected color is displayed, no illumination will occur for a brief second. This operating mode is normal during the switching process. During this period the pool and spa will be dark and precautions should be taken to avoid unforeseen accidents. Failure to observe this warning may result in serious injury or death to anyone in or around the pool or spa.

Saving a Color Mode or Fixed Color

When power is switched off to the AmerBrite™ Color Lights, the last color show mode or fixed color will be saved. The next time the light is powered on, the previously saved color show mode or fixed color will be displayed. For example, while in "Party Mode" switch the light off. Wait more than 10 seconds, switch the light back on to resume "Party Mode."

Selecting a AmerBrite Light Color and Show Modes or Fixed Color Using an IntelliBrite® Controller

Instead of using a wall switch, AmerBrite lamps can be controlled with the IntelliBrite Controller (p/n 600054), sold separately. The IntelliBrite Controller provides complete control of your AmerBrite lamps. It's easy to select a lighting feature, just dial in any one of the pre-programmed color light shows or fixed colors. Using the Hold and Recall buttons you can also create special lighting effects. The IntelliBrite Controller can control individual or multiple AmerBrite lamps. Multiple AmerBrite lamps can be connected via a junction box to the Controller so that all lights can be switched on and off together. The IntelliBrite Controller can also control multiple AmerBrite lamps and IntelliBrite Lights.

Using the IntelliBrite Color Light Controller: AmerBrite lights are compatible with IntelliBrite light colors and shows and can be synchronized with IntelliBrite color pool/spa and landscape lights. To select a color light show mode or fixed color mode, rotate the dial so that it points to the desired selection. The color mode selections start in a clockwise direction from the 9 o'clock position (see page 2).

Hold and Recall Feature

Note: When AmerBrite lights are powered on, the previously selected color will be displayed, unless the HOLD or RECALL feature was previously enabled.

Hold button/LED: Press this button (LED on) to capture and save a color effect while displaying one of the light show modes. When the button is pressed, the LED will be on, indicating that the color effect is captured.

Recall Button/LED: Use this button (LED on) to activate the last saved color effect. When the button is pressed, the LED will be on, indicating that the color effect is being displayed.

BEFORE REPLACING THE AMERLITE® INCANDESCENT LAMP READ THE FOLLOWING INFORMATION

⚠ WARNING Be sure that the pool or spa meets the requirements of the current National Electrical Code (N.E.C.) Article 680-22 and all local codes and ordinances. A licensed or certified electrician must install the electrical system to meet or exceed those requirements before the underwater light is installed. Some of the requirements of the National Electrical Code which the pool's electrical system must meet are as follows:

- The lighting circuit has a Ground Fault Circuit Interrupter (GFCI) for 120 VAC line voltage models, and has an appropriately rated circuit breaker. The conductors on the load side of the GFCI circuit shall not occupy conduit, boxes, or enclosures containing other conductors unless the additional conductors are also protected by a GFCI. Refer to local codes for complete details.

- The Junction Box (or, for 12 volt models, the low voltage transformer) is located at least eight (8) inches (20.3 cm) above water level and at least 48 inches (1.22 m) from the edge of the pool. See Figure 1 below.

- The light fixture and all metal items within five (5) feet (1.524 m) of the pool are properly electrically bonded.

- The wet niche is properly electrically bonded and grounded via the No. 8 AWG ground connector located at the rear of the niche; see Figure 1.

- The wet niche is properly installed so that the top edge of the underwater light's lens is at least 18 inches below the surface of the water in the pool; see Figure 1.

- The Amerlite® Incandescent Light niche must be properly installed so that the top edge of the Amerlite light's lens is at least 18" below (not more than 48 inches below in Canada) the surface of the water in the pool or spa.

- Be certain that the pool or spa electrical system meets all applicable requirements, the electrician should also consult the local building department.
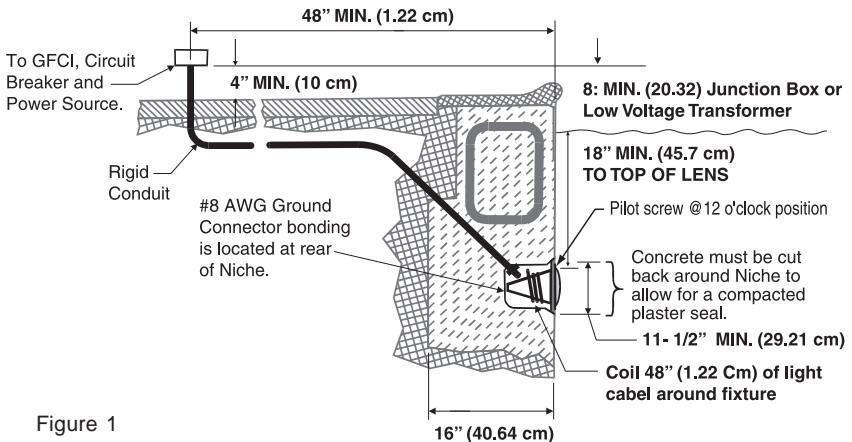

Figure 1

# AMERBRITE™ COLOR LAMP INSTALLATION INSTRUCTIONS

⚠ **DANGER**

RISK OF ELECTRICAL SHOCK OR ELECTROCUTION: THE AMERBRITE COLOR LAMP MAY REQUIRE HIGH VOLTAGE WHICH CAN SHOCK, BURN, OR CAUSE DEATH.

Before working on the AmerBrite color lamp, always disconnect power to the pool and/or spa lights at the source circuit breaker from the light before servicing the light. Failure to do so could result in death or serious injury to service person, pool users or others due to electric shock. When installing and using this electrical equipment, basic safety precautions should always be followed, include the following:

⚠ **WARNING**

Be sure to use the special pilot screw provided with the Amerlite® Light. This screw mounts and electrically grounds the housing securely to the mounting ring and wet niche. Failure to use the screw provided could create an electrical hazard which could result in death or serious injury to pool users, installers or others due to electrical shock.

**PILOT SCREW
(12 O'clock)**
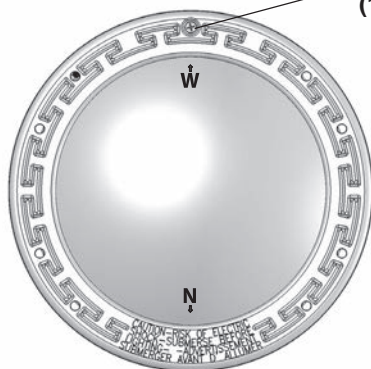
Always install a new lens gasket (part number 79101601) whenever disassembling the Amerlite incandescent light fixture assembly. Failure to do so may permit water to leak into the assembly which could cause; (a) an electrical hazard resulting in death or serious injury to pool users, installers or others due to electrical shock; or; (b) breakage of the lamp or lens, which could result in serious injury to pool users, installers, bystanders, or property damage.

AMERBRITE™ COLOR LAMP INSTALLATION INSTRUCTIONS
(CONTINUED)

The following describes how to replace the Amerlite® Incandescent Lamp with the "screw-in" AmerBrite™ Color Changing LED Lamp.

1. **Turn off main electrical switch or circuit breaker**, as well as the switch which operates the underwater Amerlite incandescent lamp. Note: It is not necessary to drain down the pool to replace the lamp.
2. **When replacing or reassembling the pool light assembly, the Gasket (P/N 79101601) or Gasket and Lens (P/N 619864) which is included in the AmerBrite Lamp kit must also be replaced. See page 11 for part numbers.**

   Before starting make sure that you have the AmerBrite color pool lamp assembly (12 VAC P/N 602060, or 120 VAC P/N 602065) ready to install.

3. **Remove the Amerlite incandescent light assembly**: Remove the PILOT screw at top of face ring, then remove the light assembly from the niche by tilting the top away from the niche and then lifting the light assembly from the locking tab at the bottom of the niche.
4. Place the light assembly on the pool deck.
5. Place a cloth on the ground. Turn the light over so the lens is resting on the cloth. Using a 3/8" nut driver or #3 Phillips screwdriver and a 7/16" wrench, remove the nut and uni-tension wire clamp.
6. Remove the face ring from wire clamp from the light housing.
7. With the light resting on its base, carefully pry off the gasket to remove the lens.
8. Unscrew and remove the Amerlite lamp.
9. Discard the uni-tension wire clamp.
10. Inspect the inside of the Amerlite light housing. Be sure the inside is clean and dry.
11. Discard the lens, gasket and Amerlite lamp.
12. Using a clean dry cloth, thoroughly wipe the inside of the light housing. Be sure the light housing is clean and dry. Residual moisture and humidity inside the light housing may reduce the life of the AmerBrite lamp LED assembly.

Uni-tension 7/16" nut and bolt

Lock lever
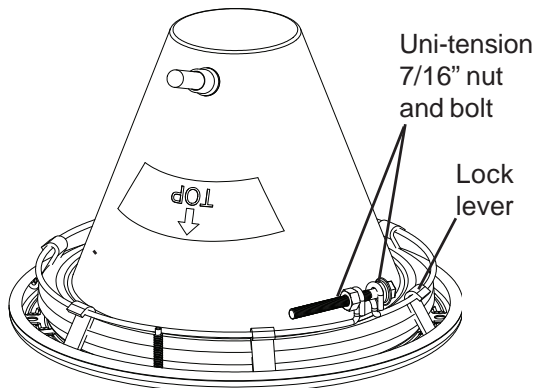
13. **Install the "Screw-in" AmerBrite™ Color LED Lamp (120 VAC or 12 VAC):** Insert the threaded end of the AmerBrite lamp stem assembly into the lamp socket. Rotate the stem assembly to secure it into the socket. Do not over tighten.

(120 VAC AmerBrite Color LED Lamp shown)

Lamp Stem assembly

Threaded end of light stem

Lamp socket (inside niche)
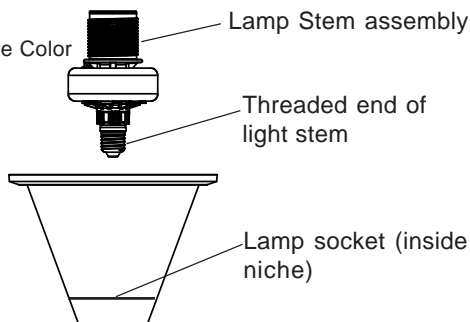
14. While holding the AmerBrite LED Lamp assembly, route the lamp power cord connector through the hole in the top of the LED assembly.
15. Install the assembly onto the light housing. Carefully align the "TOP" indicator arrow on the LED assembly with the "TOP" indicator on the Amerlite® Stainless Steel Light housing. Be sure the LED assembly is level with the lamp housing. **CAUTION: If the LED assembly is not level, the LED assembly may interfere with the lens installation and/or have improper lighting performance.**
16. Connect the lamp power cord plug to the LED assembly socket.

Route light power cord connector through the hole in LED assembly
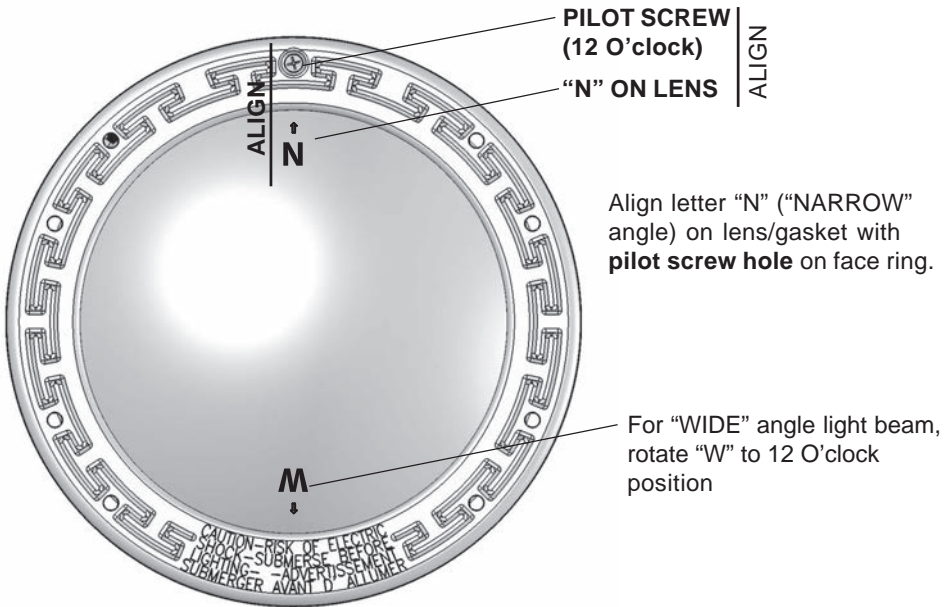
Connect light power cord plug to LED assembly socket
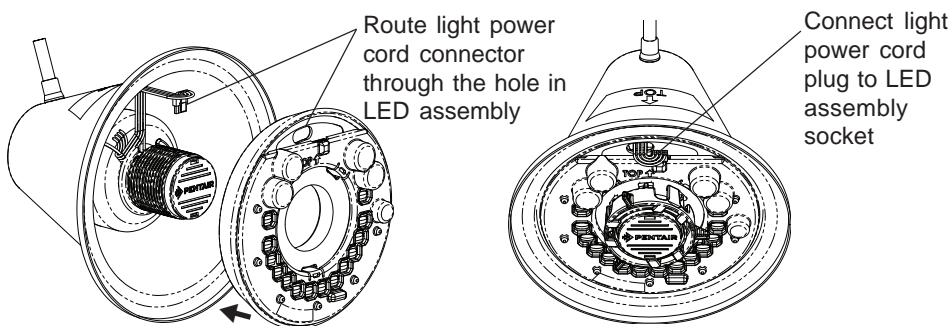
17. Install the torque-limiting nut onto the top of the stem. Rotate the top section of the torque-limiting nut until it continues to "click" with each rotation (similar to a car gas cap), this indicates the nut is secured in place.

Stem

Rotate Torque-limiting nut

Torque-limiting nut installed
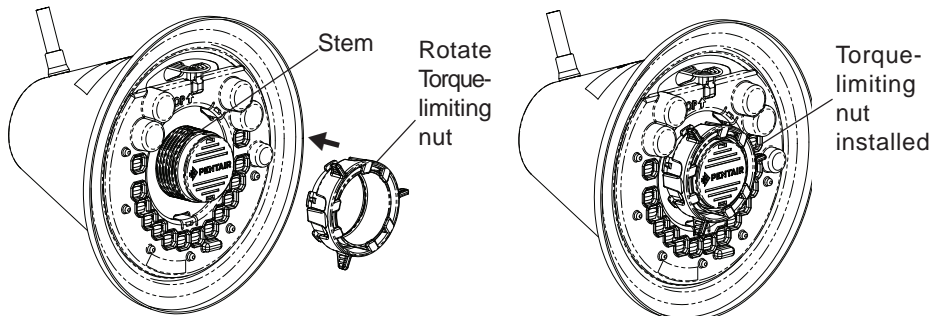
18. **Install NEW LENS and GASKET:** Align the lens and gasket onto the light housing. Note: The gasket is shipped installed on the lens.
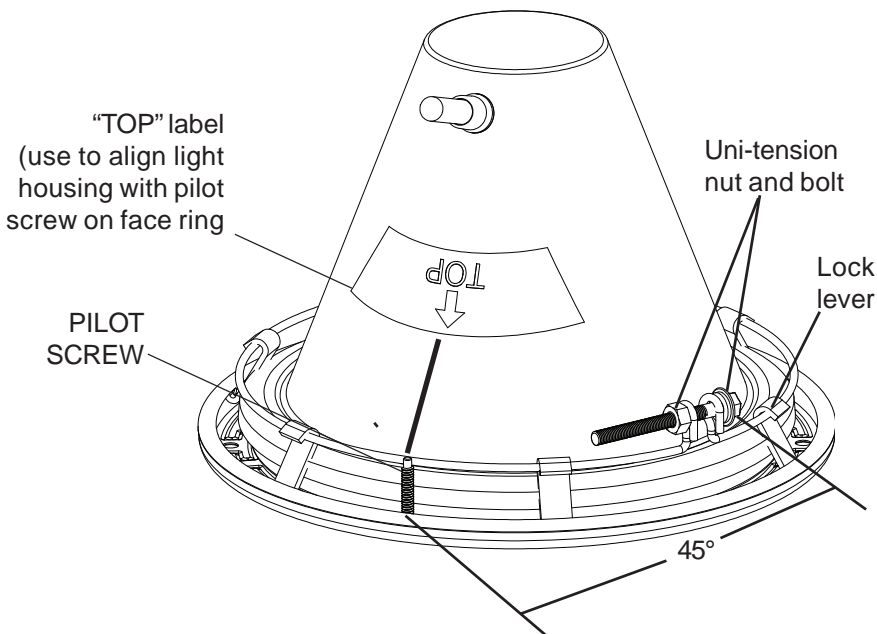
   a) With the lamp housing resting on its base, place the lens/gasket on top of the Amerlite® light housing.

   b) Rotate the lens/gasket to align the letter "N" ("NARROW" angle for installing light at either end of pool length) on the lens to the UP arrow on the LED assembly. **See page 10 to determine the best option**.

PILOT SCREW (12 O'clock)
"N" ON LENS
ALIGN

Align letter "N" ("NARROW" angle) on lens/gasket with **pilot screw hole** on face ring.

For "WIDE" angle light beam, rotate "W" to 12 O'clock position

19. **INSTALL FACE RING:** Place the face ring on top of the lens/gasket/housing. Rotate the face ring so the **pilot screw hole** is aligned in the 12 O'clock position, with the lens letter "N" (or "W"). Note: Also, verify the "TOP" position arrow indicator label (see page 9) on the rear of the housing is aligned with the pilot screw on the face ring.

20. **INSTALL UNI-TENSION CLAMP:** With the hook ends of the circular uni-tension clamp pointing down, spread the clamp and place it in the "U" recesses of the locking levers. Be sure the hook ends of the clamp are located between the pair of locking levers as shown on page 9 and that the wire clamp is properly engaged with all of the lock levers.

21. Place a cloth on the ground to protect the lens. Turn the light over so the lens is resting on the cloth. Be sure the orientation of the wire clamp and the bolt connection is positioned at 45°.

22. Tighten the bolt and nut until the distance between the ends of the clamp equals ¼-inch or less.

23. Install the special bronze pilot screw at the top of face ring to secure the light to the niche.

"TOP" label (use to align light housing with pilot screw on face ring

Uni-tension nut and bolt

Lock lever

PILOT SCREW

45°

Position the wire clamp (nut and bolt) about 45° between the PILOT SCREW and NUT/BOLT.

24. **Final check for proper AmerBrite™ Color Lamp operation:** Switch on the main switch or circuit breaker to the system, and the switch that operates the AmerBrite lamp itself. The lamp should illuminate when power is applied. If not recheck the installation steps starting with Step 1 (page 6).

25. Reinstall the Amerlite® Light housing back into the niche by wrapping the cord around the body. Then engage the bottom locking tab and tighten the pilot screw.
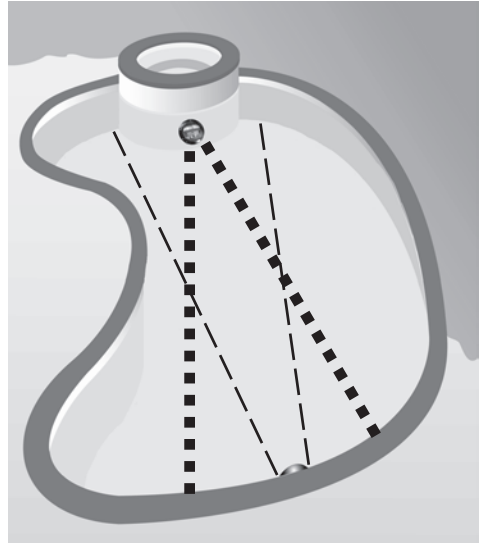
Wide and Narrow Angle Lens Adjustment

Wide and Narrow Angle Lens Feature

The AmerBrite™ Color LED Lamp lens geometry provides a choice of "wide" or "narrow" angle light beams to suit various size pools. For lights located on either side of the pool, rotate the lens to the 'wide' (W) angle position, which will provide a wider angle light beam for greater underwater coverage and light reflection the width of the pool. For lights located either end of the pool, rotate the lens to the 'narrow' (N) angle light beam position for increased underwater light intensity and distance.
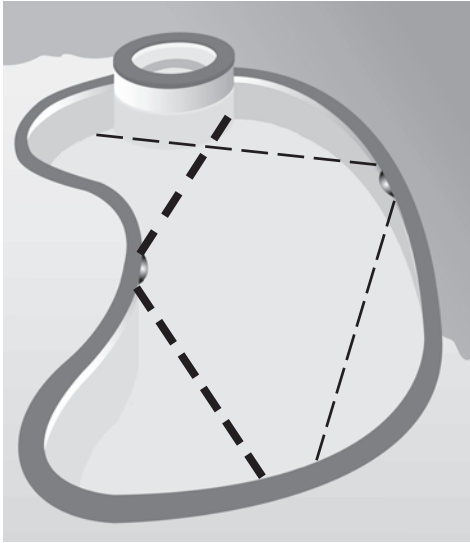
**WIDE ANGLE LIGHT BEAM
(FOR SIDES OF POOL)**

**NARROW ANGLE LIGHT BEAM
(FOR ENDS OF POOL)**

Troubleshooting

Problem	Cause/Action
The light will not illuminate.	Check the GFCI ground fault wiring and reset if necessary.
Light does not function properly.	Check the light wiring connection to the junction box at the pool side and to the AC power switch.
	Be sure that there is proper AC power applied to the light.
	For AmerBrite lamp (12 VAC) - Check transformer and connections.

AmerBrite™ Color LED Pool Lamp Replacement Parts

Note: A 120 VAC to 12 VAC external transformer is required for the 12 VAC model AmerBrite color pool lamp. See page 1 for more information.
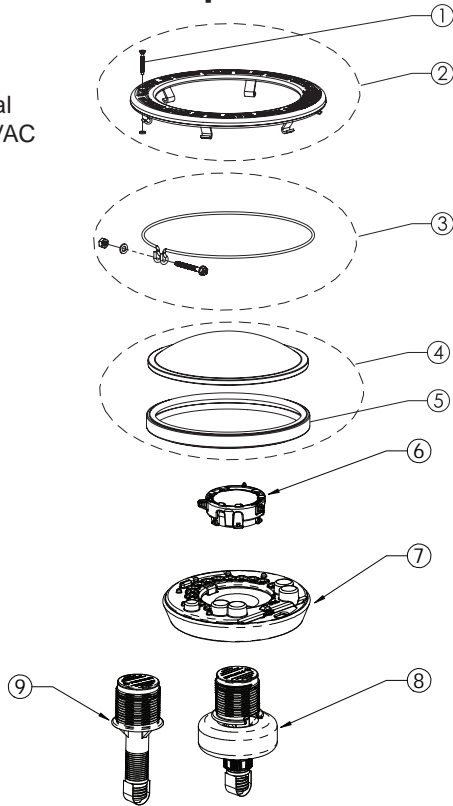
⚠ CAUTION

Each time the Amerlite® Light is opened, a new gasket and clamp ring (P/N 602097) must be used to reseal the light. Not doing so may allow the light to leak and damage the AmerBrite

Item No.	Kit Part No.	Description
2, 3, 5	600095	Face Ring assembly, stainless steel.
		- Uni-tension wire clamp assembly.
		- Gasket, 8-3/8 in. diameter, off white.
4	619864Z	Replacement Lens Kit.
		- Gasket, 8-3/8 in. diameter, silicone.
		- Lens, IntelliBrite 5g, Pool, 8-3/8 in. diameter, tempered.
1	79104800	Pilot screw, with captive gum washer.
5	7910160Z	Gasket, 8-3/8 in. diameter, silicone.
3, 5	602097	Kit, Gasket and Clamp.
6	620026Z	Kit nut handle assembly AmerBrite
7	620062Z	Kit Disc Assembly Amerbrite Color 120/12 VAC
8	620060Z	Kit stem, transformer assembly 120 VAC AmerBrite
9	620061Z	Kit stem, harness assembly 12 VAC AmerBrite
10	602060	AmerBrite Color Lamp Assembly, 12 VAC (not shown)
11	602065	AmerBrite Color Lamp Assembly, 120 VAC (not shown)

Note: The 120 VAC AmerBrite color pool lamp has an integrated 12 VAC transformer.

⟫⟫ PENTAIR

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