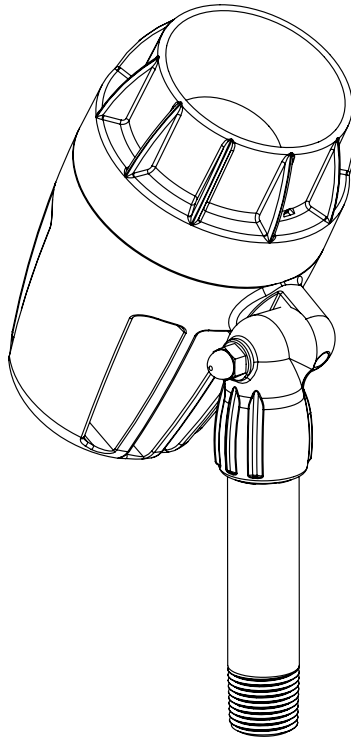




IntelliBrite® Outdoor Landscape LED Color-Changing Light



User's and Installation Guide

IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL
INSTRUCTIONS
SAVE THESE INSTRUCTIONS

IMPORTANT SAFETY WARNINGS AND PRECAUTIONS



Important Notice: Attention Installer: This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner and/or operator of this product. **READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL.**



WARNING Before installing the IntelliBrite® landscape LED light, read and follow all warning notices and instructions which are included.

Failure to follow safety warnings and instructions can result in severe injury, death, or property damage. Call (800) 831-7133 for additional free copies of these instructions.



WARNING TRANSFORMER CONNECTION: Connecting the high voltage side of the outdoor IntelliBrite LED landscape light transformer to an IntelliTouch® or EasyTouch® control system **must be** installed by a qualified electrician, according to the National Electrical Code (including article 680-22) or Canadian Electrical Code (including section 68) and local codes and ordinances. The electrician should also consult the local building department regarding local codes.



- Do not exceed the maximum ratings of individual components, wiring devices, and current carrying capacity of conductors (see page 7).
- The LED landscape lighting supply circuit must be protected by a **Ground Fault Circuit Interrupter (GFCI)** of the CLASS A type with an appropriately rated circuit breaker.



WARNING RISK OF ELECTRIC SHOCK! INSTALL ALL LUMINAIRES TEN (10) Feet (3.05 Meters) OR MORE FROM THE POOL, SPA, OR FOUNTAIN.



WARNING THE PENTAIR WATER POOL AND SPA INTELLIBRITE OUTDOOR LANDSCAPE LIGHT LOW VOLTAGE CABLE SHALL:
A) BE PROTECTED BY ROUTING IN CLOSE PROXIMITY TO THE LUMINAIRE OR FITTING, OR NEXT TO A BUILDING STRUCTURE SUCH AS A HOUSE OR DECK; B) NOT BE BURIED EXCEPT FOR A MAXIMUM OF SIX (6) INCHES (15.2 CM) IN ORDER TO CONNECT TO THE MAIN LOW VOLTAGE CABLE; AND C) HAVE THE LENGTH CUT OFF SO THAT IT IS CONNECTED TO A CONNECTOR WITHIN SIX (6) IN (15.2 CM) FROM A BUILDING STRUCTURE, A LUMINAIRE, OR FITTING.

Notice: The IntelliBrite® outdoor landscape LED color-changing lights are for outdoor use **ONLY**.

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1620 Hawkins Ave., Sanford, NC 27330 • (919) 566-8000

10951 West Los Angeles Ave., Moorpark, CA 93021 • (800) 553-5000

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IMPORTANT SAFETY WARNINGS AND PRECAUTIONS

Notice:

1. FOR USE WITH LANDSCAPE LIGHTING SYSTEMS ONLY.
2. THE DEVICE (INTELLIBRITE® LANDSCAPE LIGHTS) IS ACCEPTED AS A COMPONENT OF A LANDSCAPE LIGHTING SYSTEM WHERE THE SUITABILITY OF THE COMBINATION SHALL BE DETERMINED BY CSA OR LOCAL INSPECTION AUTHORITIES HAVING JURISDICTION.

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Technical Support: Sanford, North Carolina (8 A.M. to 5 P.M. ET) - Moorpark, California (8 A.M. to 5 P.M. PT) - Phone: (800) 831-7133 - Fax: (800) 284-4151

Related manuals: IntelliTouch User’s Guide (P/N 520102), EasyTouch User’s Guide (P/N 520584), IntelliBrite Controller (P/N 619751).

IntelliBrite Landscape LED Color-Changing Light kit contents

The following items are included:

- LED Light assembly and ground stake
- 1/2” pipe, 4” post and Installation and User’s Guide (this manual)

IntelliBrite Landscape LED Light Replaceable Parts

Description	Part No.
Lens cap	619790Z
O-ring, 2-150 (elbow joint)	620013Z
Elbow joint	690018Z
Pipe, 1/2” NPT x 4”, Post	619790Z
Stake	620017Z

IntelliBrite® Landscape Lights Overview

IntelliBrite Landscape LED Color-Changing Lights

The IntelliBrite landscape LED lights are for outdoor use only. The landscape lights provides an economical and energy efficient way to enhance your home's outside landscaping. Use the outside IntelliBrite lights as accent "up" lighting of trees and shrubs, for the outside garden, backyard pool area, driveway, deck/patios area. Lights can be connected together to achieve multicolored, synchronized spectacular lighting effects.

Controlling IntelliBrite Landscape Lights

The "IntelliBrite" light shows and "Landscape" light shows can be activated by cycling AC power to a standard landscape light magnetic transformer. By turning the transformer switch off and on a specific number of times, the light activates one of the seven light show modes or five fixed colors. IntelliBrite landscape lights can also be controlled using the wall mounted IntelliBrite Controller (P/N 600054), or by IntelliTouch® or EasyTouch® control systems.

Connecting IntelliBrite Landscape Lights

The IntelliBrite landscape LED lights easily connects to an existing 12 VAC lighting landscape magnetic transformer. When using multiple lights, refer to the "Recommended Minimum Wire Gauge" tables on page 7 for recommended wire gauge and length. Also "Number of Lights vs Required Transformer Rating" for transformer wattage requirements (page 6).

Selecting IntelliBrite and Landscape Color Light Shows

There are two synchronized sets of color light shows that can be selected via the light fixture toggle switch:

- "IntelliBrite" color light shows and fixed colors (default) (page 3)
- "Landscape" color light shows and fixed colors (page 4).

For more about the switch settings and descriptions for the "IntelliBrite" and "Landscape" color light shows, see "Light Toggle Switch Settings" on page 12.

Color Swim Effect Feature

The "Color Swim" effect feature synchronizes with any of the IntelliBrite or Landscape color shows. The color swim effect starts from the first light, then the color change is delayed across to the adjacent lights creating a wave effect. The Color Swim effect is used with multiple lights. Each light is set with its own address number. For more information, see "Set Light Address for Color Swim Effect" on page 13.

Selecting High/Low Brightness or High/Low Luminance

The landscape light brightness and luminance can be set to high or low. The default setting is high brightness and luminance. For more information, see "Light Toggle Switch Description" on page 12.

OPERATING THE “INTELLIBRITE” COLOR LIGHT SHOWS

The “IntelliBrite” color show set is the default setting. For more information about selecting the “Landscape” color light shows, see “Light Toggle Switch Settings” on page 12. The “IntelliBrite” color light shows are described below.

Select an IntelliBrite color light show or fixed color

1. Switch power on to the transformer. The previously selected color or color show will start.
2. To select one of the IntelliBrite color light shows (1-7) or fixed colors (8-12), turn the transformer 120 Volt AC power switch OFF and ON a specific number of times. Each number (1-14) shown below, corresponds to the number of times to cycle power to activate a color show or fixed color. 13 and 14 activate the **Hold** and **Recall** feature.

Cycle Power Times	IntelliBrite Color Light Shows and Fixed Colors
1	SAM mode: Cycles through white, magenta, blue and green colors. Emulates Pentair Water Pool and Spa SAm® 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 Feature: Capture and save a color effect while displaying one of the light show effects.
14	Recall Feature: Activate the last saved color effect.

OPERATING THE “LANDSCAPE” COLOR LIGHT SHOWS

The “Landscape” color light show is selected via the light’s toggle switch. For more information about selecting the “IntelliBrite” color light shows, see “Light Toggle Switch Settings” on page 12. The “Landscape” color light show set is described below.

Select a Landscape light show or fixed color

1. Switch power on to the transformer. The previously selected color or color show will start.
2. To select one of the IntelliBrite color light shows (1-7) or fixed colors (8-12), turn the transformer 120 Volt AC power switch OFF and ON a specific number of times. Each number (1-14) shown below, corresponds to the number of times to cycle power to activate a color show or fixed color. 13 and 14 activate the **Hold** and **Recall** feature.

Cycle Power Times	Landscape Light Shows and Fixed Colors
1	Cape Cod: Cycles through colors of amber, blue, teal, gold and white.
2	Denali: Transitions between various shades of green colors.
3	Borealis: Cycles through colors of violet, teal, yellow, amber.
4	Sedona: Cycles through colors of blue, orange, purple, green, and magenta.
5	Lawrence: Transitions between various shades of amber colors.
6	Kauai: Cycles through all colors (red, orange, yellow, green, teal, blue, purple and pink).
7	Vancouver: Colors transitions from dark green gradient to light green, from light blue gradient to dark blue.
8	Light Blue: Fixed color.
9	Teal: Fixed color.
10	Amber: Fixed color.
11	Warm White: Fixed color.
12	Gold: Fixed color.
13	Hold Feature: Capture and save a color effect while displaying one of the light show effects.
14	Recall Feature: Activate the last saved color effect.

CONNECTING THE LIGHT WIRES TO THE TRANSFORMER

IntelliBrite landscape LED lights are powered by a standard 12 VAC to 12 VAC landscape transformer (purchased separately). Select the correct transformer rating (Wattage) which is able to power the number of IntelliBrite landscape LED lights installed. For example, a maximum of 15 IntelliBrite lights requires a 300 Watt transformer. Refer to “**Number of Lights vs Required Transformer Rating**” **page 6** for transformer wattage requirements. If your lighting system is powering other lights, add all the light wattage together to select the correct transformer wattage. All lights can be connected together using a landscape direct-burial cable (purchased separately).

Transformer Location

Select a location for the transformer near the exterior AC power outlet. Mount the transformer using suitable wall anchors. There usually are slots or brackets on the back of the transformer for this purpose.

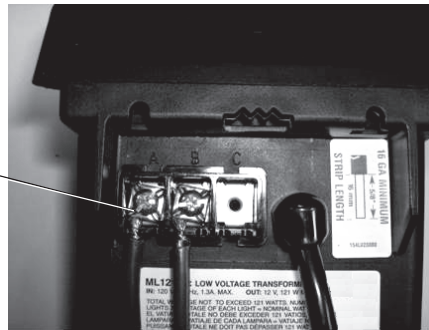
Wiring the Lights to the Transformer

⚠ WARNING Before wiring lights, **DISCONNECT TRANSFORMER PLUG FROM AC POWER.**

Strip back the direct-burial landscape wires of the main cable. Connect each wire to the output terminals on the transformer (typical is shown below). Switch AC power on to the transformer.

Note: For complete wiring information regarding your transformer, refer to the manufacturers documentation provided with the transformer.

Connect light wires (2)
to transformer
output terminals



STANDARD LANDSCAPE TRANSFORMER

Transformer Timer Settings

Most transformers have a dial-type timer. Set the timer to the approximate current time. A typical transformer may use red tab(s) for start off/on time, and black tab(s) for time to turn off. A digital timer may also be used.

Using an Electronic Transformer with the Landscape Light

A standard magnetic transformer is recommended for use with the IntelliBrite landscape light. If an electronic transformer is being used, an additional halogen or incandescent light is required. The wattage of this light must be at least equal to or greater than the minimum wattage requirement recommended by the electronic transformer manufacturer (see page 7).

IntelliBrite Landscape Lights Transformer Wiring (when connected to IntelliTouch® or EasyTouch® pool and spa control system)



WARNING Wiring the high voltage side of the landscape light transformer to an IntelliTouch or EasyTouch control system must be performed by a licensed or certified electrician and must conform with the National Electrical Code (NEC), all local codes and ordinances.

- The 120 VAC power cord from the landscape lights transformer, must be wired to a relay in the IntelliTouch or EasyTouch load center.
- When using IntelliBrite landscape LED lights with an IntelliTouch or EasyTouch pool and spa control system, the transformer must always be set to 'ON'. Also, select the light circuit as an "IntelliBrite" light from the automation control panel,
- If a manual switch is being used to turn on existing pool light(s), connect the switch to the relay in the automation load center.

Note: For IntelliBrite landscape light setup information, refer to the *IntelliTouch User's Guide (P/N 520102)*, and *EasyTouch User's Guide (P/N 520584)*.

Number of Lights vs Required Transformer Wattage (see Table 1 and Table 2 on page 7)

IntelliBrite landscape LED lights are powered by a standard 12 VAC landscape transformer (purchased separately). Use the following table to determine the correct transformer rating (Wattage) which is able to power the number of IntelliBrite landscape LED lights installed. Add all the light wattage together to select the correct transformer to power the lights. There can be a maximum of 15 IntelliBrite LED lights connected to one 300 Watt transformer. Five (5) lights requires a 100 Watt (minimum) transformer and 10 lights require a 200 Watt transformer. Each light uses 20 Watts (which includes the cabling).

Purchasing a Transformer for IntelliBrite Landscape Lights

A 120 VAC standard magnetic safety isolated transformer must be purchased separately. To determine the transformer rating for number of lights being used, see page 7, Table 1 and Table 2 "Transformer (VA)" rating (bottom row).

Main Low Voltage Cable and Additional Wiring

The IntelliBrite landscape lights require the purchase of main low voltage cable for initial hookup. Additional lengths of main low voltage cable may be needed at a later date. This cable is widely available at home improvement stores. Before purchasing additional wiring, refer to recommended wire gauge and length specification tables on page 7.

**Table 1: Recommended Minimum Wire Gauge (AWG)*
(for use with 11.5 VAC transformer output)**

Cable Length in Feet	Number of Lights														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
30'	18	18	18	18	16	16	16	16	16	16	14	14	14	14	14
50'	18	18	16	16	14	14	14	14	14	12	12	12	12	12	12
75'	18	16	14	14	12	12	12	12	12	12	10	10	10	10	10
100'	18	16	14	12	12	12	10	10	10	10	10	10	8	8	8
150'	16	14	12	10	10	8	8	8	8	8	8				
200'	14	12	10	10	8	8	8								
250'	14	10	10	8	8										
300'	14	10	8	8											
Transformer (VA) *	60	60	60	100	100	200	200	200	200	300	300	300	300	300	300

Note: (*) Use the "Transformer (VA)" rating (bottom row) to determine transformer rating.

Table 2: Recommended Minimum Wire Gauge (AWG)
(for use with 14.5 VAC transformer output)**

Cable Length in Feet	Number of Lights														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
30'	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
50'	18	18	18	18	18	18	18	16	16	16	16	16	16	16	16
75'	18	18	18	18	16	16	16	16	14	14	14	14	14	14	14
100'	18	18	18	16	16	14	14	14	14	14	12	12	12	12	12
150'	18	16	16	14	14	12	12	12	12	12	10	10	10	10	10
200'	18	16	14	12	12	12	10	10	10	10	10	8	8	8	8
250'	18	14	12	12	10	10	10	10	8	8	8	8	8	8	
300'	16	14	12	10	10	10	8	8	8	8					
Transformer (VA) *	60	60	60	100	100	200	200	200	200	300	300	300	300	300	300

Note: (**) Use the "Transformer (VA)" rating (bottom row) to determine transformer rating.

Note: (**) A transformer rating of 20 Volt-amperes per light will cover losses in the wiring.

INTELLIBRITE CONTROLLER (ACCESSORY)

Instead of a wall switch, use an IntelliBrite Controller (sold separately) to control your IntelliBrite landscape LED lights

Instead of a wall switch, using an IntelliBrite Controller (p/n 600054, sold separately) to operate the IntelliBrite landscape LED lights makes it easy to dial in any of the various color light shows or fixed colors. The controller's Hold and Recall buttons also allow you to create endless unique lighting effects. The IntelliBrite Controller can control individual or multiple IntelliBrite LED landscape lights. Multiple IntelliBrite landscape lights can be connected via a junction box to the IntelliBrite Controller so that all lights can be switched on and off together.



IntelliBrite Controller

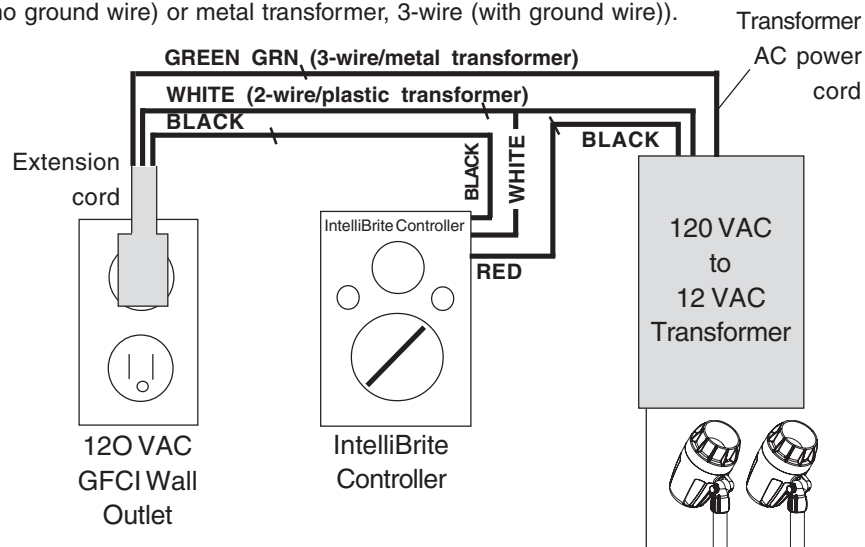
Maximum wattage when using multiple IntelliBrite LED lights with an IntelliBrite Controller

When using multiple IntelliBrite LED lights, the total allowable light wattage is **300 Watts maximum**. The following example combination of IntelliBrite LED lights can be connected to the IntelliBrite Controller:

- Two (2) IntelliBrite LED pool lights (each light 70 Watt maximum)
- One (1) IntelliBrite LED spa light (each light 40 Watt maximum)
- Six (6) IntelliBrite LED landscape lights (each light 20 Watt maximum)

Wiring the IntelliBrite Controller to a 12 VAC Transformer

The following diagram shows how to connect the IntelliBrite LED lights to a 120 VAC wall outlet using a 12 VAC transformer (plastic transformer, 2-wire (no ground wire) or metal transformer, 3-wire (with ground wire)).



INSTALLING INTELLIBRITE LANDSCAPE LIGHTS

Landscape Lights Recommended Wire Gauge and Length

Depending on the number of landscape lights being used and the transformer rating (11.5 VAC to 14.5 VAC loaded output), be sure to use the correct wire gauge and length. Before installation, refer to the "RECOMMENDED MINIMUM WIRE GAUGE" table on page 7.

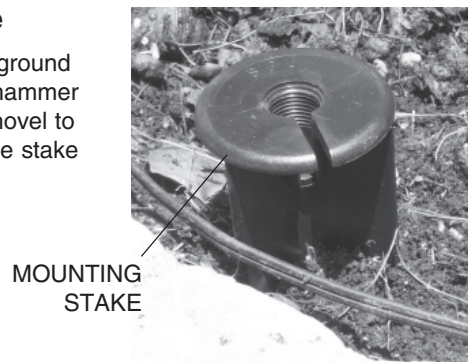
Light Placement and Orientation

Position the IntelliBrite landscape LED light in the desired location. The light can be mounted in any orientation (pointing upward or downward). The ½" mounting pipe can be attached to other mounts instead of the supplied ground stake.

Dig Hole for Ground Stake

Depending on the type of soil, the ground mounting stake may be difficult to hammer into the ground. If needed, use a shovel to loosen the earth before inserting the stake into the ground.

Note: If needed, use a rubber mallet (not a metal hammer) to hammer stake into ground.



Attach Light Fixture to Ground Stake

CAUTION DO NOT use the rubber hammer to drive the stake into the ground with the light fixture attached.

With the ground stake inserted into the ground, mount the light into the top of the stake as follows:

1. Route the light's two wires through the slot in the top of the stake base.
2. Screw the light fixture mounting pipe into the thread in the stake base. Hand tighten until the light fixture is seated firmly into the stake base.



WARNING **RISK OF ELECTRIC SHOCK!** Install each landscape light a minimum of 10 feet (3.05 meters) from the pool, spa or fountain.

Splice Light Wires

With the light positioned in the ground stake, connect the light's wires to the main lighting cable as follows:

⚠ WARNING The main low voltage cable and the short landscape light wires (6 in max) should be buried a maximum of six (6) in (15.2 cm) in the ground when connecting to the main low voltage cable. Be sure the short wire from the light is within six (6) in (15.2 cm) from a building structure, a luminaire, or fitting. The main cable and short wire must be protected by routing it in close proximity to the luminaire or fitting, or next to a building structure such as a house or deck.

1. Leaving enough cable length to adjust the light, strip the ends of the light's wires and splice into the main lighting cable.
2. Secure the wires using silicone pre-filled wire nuts to seal the wire connections or apply silicone to the inside of wire nuts. Leave enough cable length to adjust the light. **DO NOT BURY THE WIRE NUTS UNTIL THE SILICONE IS DRY.**
3. Cable installation: It's recommended to bury the outdoor light cables (maximum of 6 inches) for protection against the elements. The cables can also be covered with chips, dirt, or placed on the ground against a wall.



Tilt and Horizontal Light Adjustment

The IntelliBrite landscape light can be adjusted to position the light beam for “up” lighting of trees and shrubs, or “down” lighting for paths, driveway, deck and patio areas.

⚠ WARNING TO PREVENT PERMANENT DAMAGE TO THE INSIDE THREAD OF THE LIGHT’S ELBOW JOINT, NEVER TRY TO ADJUST THE ANGLE OF THE LIGHT FIXTURE BEFORE LOOSENING THE ACORN NUT.

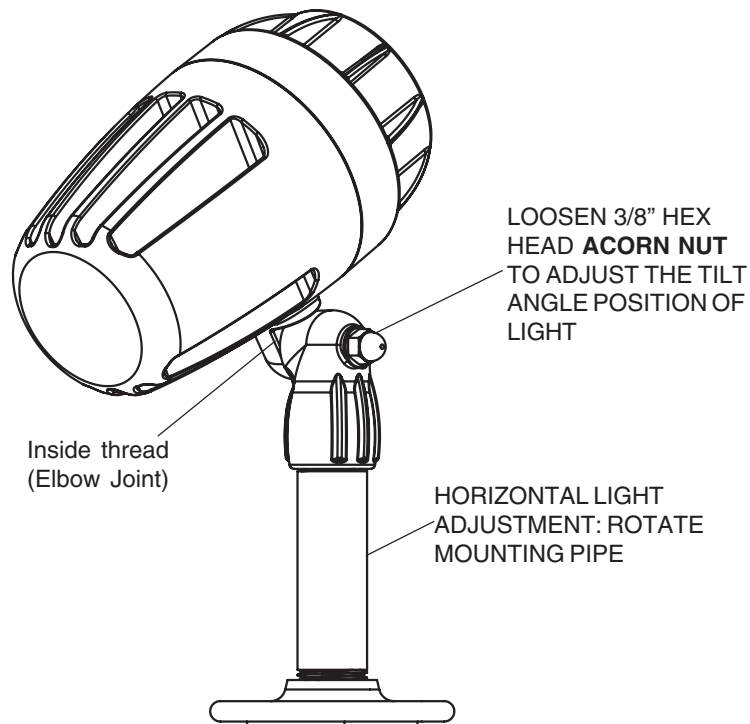
To adjust the tilt angle of the light fixture:

1. While holding the light, using a 3/8" hex head nut wrench, loosen the acorn nut.
2. Position the light fixture’s tilt angle (up or down) as desired.
3. Hold the light in the desired position and tighten the acorn nut to secure the light’s position.

Note: *DO NOT overtighten the acorn nut, permanent damage to the inside thread of the light’s elbow joint can occur.*

To adjust the horizontal angle of the light fixture:

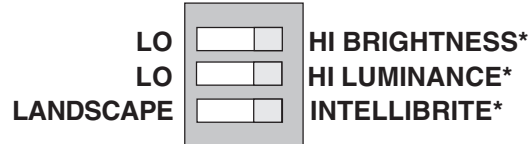
- Position the light fixture’s horizontal angle by rotating the vertical mounting pipe mounted in the ground stake.



Light Toggle Switch Settings

The landscape light toggle switch is located on the front side of the light fixture circuit board (see picture below). To access the toggle switch, remove the cap (see “Lens Cap Removal/Replacement” below for instructions).

Light toggle switch settings



Note: (*) default light switch settings

Light toggle switch description

IntelliBrite mode (see page 3). Landscape mode (see page 4)

High Luminance: Bolder color tones

Low Luminance: Softer color tones

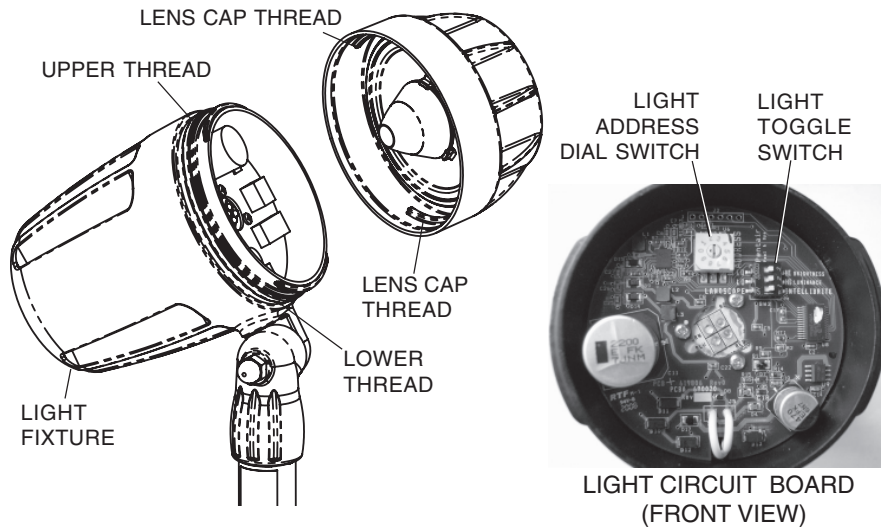
High Brightness: Equivalent to a 20 Watt halogen bulb (approximately).

Low Brightness: Equivalent to a 10 Watt halogen bulb (approximately).

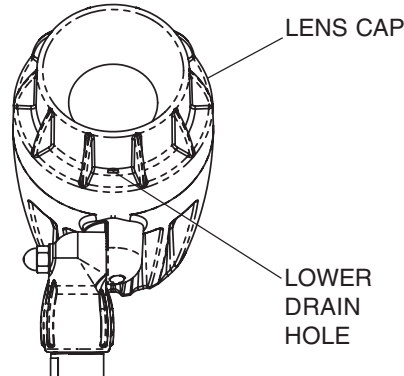
Lens Cap Removal/Replacement

To access the light configuration switch, first remove the light lens cap:

1. Rotate the lens cap **counterclockwise** about half a turn, then pull outward to remove the lens cap from the light fixture.
2. **Reinstall the cap:** Align the upper and lower lens cap threads with the light fixture thread gaps. Gently press the lens cap onto the top of the light fixture and rotate the lens cap **clockwise** (about half a turn) to lock in place.



3. **Align the Lens Cap Drain-Hole:** Rotate the lens cap to vertically align the lower drain hole with the top of the light mounting pipe. This will allow water to drain out of the lens cap.
4. The lens cap installation is complete.



Setting the Color Swim Effect (optional)

The additional “Color Swim” effect feature works with any of the “IntelliBrite” or “Landscape” color shows. The color effect starts from the first light, then the color change is delayed across to the adjacent lights creating a wave effect. The color swim effect is used with multiple lights. Each light is set to its own address number. The Color Swim effect is automatically activated when each light is assigned its own address number, as described below.

To set a light address number

The address dial switch is located on the front side of the light fixture circuit board. To access the light address dial switch, first remove the lens cap (see “Lens Cap Removal/Replacement” on page 12).

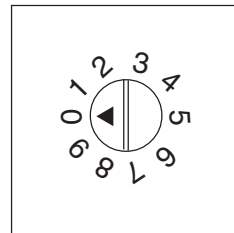
Assigning address numbers to multiple lights

1 to 10 lights: Set each light with its own address number. The default light address is set to **Address 0**. Set the first light to address 0, second light address 1, and so on.

20 lights (even number of lights - more than 10): Pair adjacent lights with the same address number; lights 1 & 2 (address 0), 3 & 4 (address 1) and so on.

15 lights (odd number of lights - more than 10): Pair adjacent lights with the same address number. Assign the odd numbered single lights with their own address number as follows:

Paired Lights	Address	Single Light	Address
1 - 2	(address 0)	3	(address 1)
4 - 5	(address 2)	6	(address 3)
7 - 8	(address 4)	9	(address 5)
10 - 11	(address 6)	12	(address 7)
13 - 14	(address 8)	15	(address 9)



LIGHT ADDRESS DIAL SWITCH



P/N 690034 - Rev C