



**HAYWARD®**

1011257 RevA

# Universal ColorLogic® and CrystaLogic™ LED Spa Light

## Owner's Manual



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LSCUS22xxx  
LSLUS22xxx

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## IMPORTANT SAFETY INSTRUCTIONS

The ColorLogic and CrystaLogic LED Light Fixtures are low voltage Submersible Luminaires.

**SAFETY WARNING:** Do not open. Light has no user serviceable parts inside. Improper installation may result in death or serious injury to bathers or service personnel or others by way of electric shock. Disconnect electrical power before installing or servicing this equipment. Read and follow all instructions. This product to be installed by qualified personnel only.

**INSTALLATION DEPTH REQUIREMENT:** Except when the fixture is installed in an area of the swimming pool that is not used for swimming and the lens is adequately guarded to keep any person from contacting it, the fixture must be installed in a wall or on a floor of a pool, spa, or water feature with the top of the lens opening not less than 18 in. and no more than 72 in. below the normal water level of the pool.

Model	Input (Volts, Frequency, Amps, Watts)
LS	14VAC, 60Hz, 2.5A, 35W Max

## IMPORTANT WIRING CHECKLIST

Do not skip any steps in this or any section of the manual.

- ☐ The above safety warnings and the complete installation instructions in this manual have been read and followed.
- ☐ A SAFETY LISTED POOL/SPA ISOLATION TRANSFORMER HAS BEEN USED TO SUPPLY 14 VOLTS TO THE FIXTURE.
- ☐ The transformer output wiring HAS NOT been tied or shorted to ground.
- ☐ The cord length has not been extended beyond the guidelines in this manual.
- ☐ The cord jacket is not damaged, cut or spliced except as noted below.
- ☐ Extensions or splices to the cord are only made in a safety listed Pool/Spa junction box or junction box transformer system.
- ☐ The luminaire is firmly secured to the niche and cannot be removed without the use of a tool.
- ☐ The niche is properly bonded UNLESS a Hayward Universal ColorLogic Niche (LGGUY1000) is used.
- ☐ The luminaire has been installed by qualified personnel in compliance with the National Electrical Code (NEC) or Canadian Electric Code (CE Code) and any applicable local codes/regulations.
- ☐ Cord has been attached and secured to the light.

Installed by: \_\_\_\_\_ of company \_\_\_\_\_ Date: \_\_\_\_\_

LEAVE THESE INSTRUCTIONS WITH PROPERTY OWNER



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## Introduction

Congratulations on your purchase of a Hayward® Universal ColorLogic®/CrystaLogic™ LED Light. Welcome to a more colorful world, brought to you by Hayward, that generates colored light and effects using a microprocessor to control red, green, blue, and white LED's!

1. Long-lasting LED's (light-emitting diodes) which can last up to 10 times longer than current incandescent or halogen pool and spa lights.
2. Multi color capability without any color wheels or moving parts to wear out.
3. In stand-alone mode, Universal ColorLogic lights offer 17 different programs; 10 fixed colors, and 7 color shows.
4. In Omni Direct mode (requires a Hayward Omni pool control), LSCUS22xxx Universal ColorLogic lights offer 27 different programs; 20 fixed colors and 7 color shows with full control over speed and brightness.
5. CrystaLogic models offer programmable dimming (page 9).
6. Universal ColorLogic/CrystaLogic lights offer spectacular brilliant light with low power consumption. Uses up to 86% less energy than a typical incandescent pool light.

The 12 volt Hayward Universal ColorLogic and CrystaLogic LED (light-emitting diode) underwater lighting fixtures you have purchased are UL Listed to be installed in all Hayward or any other manufacturer's light fixture housing (niche).

Installation of light and niche must be in accordance with Article 680 of the National Electrical Code (NEC) and any applicable local codes. Ensure that your niche is properly grounded and bonded. NOTE: the Hayward LGGUY1000 low profile, all plastic niche does not require bonding or grounding.

### **Important Note When Installing LGGUY1000 Niches in Concrete/Gunite Pools:**

LGGUY1000 Niche: A gunite/plaster shield is provided to protect the niche and ring during construction. The shield is designed to be installed during the gunite and plastering process. When finished guniting, pull on the tab and remove the outer ring of the shield. Keep the shield in place while plastering and until the light is ready to be installed.

**GIVE THESE INSTRUCTIONS TO POOL/SPA OWNER AFTER INSTALLATION**



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## Installation

If replacing an existing light, remove power to the light at the panel before starting this installation. Installation must be performed in accordance with Local and NEC codes.

### Cord Length and Minimum Required Voltage

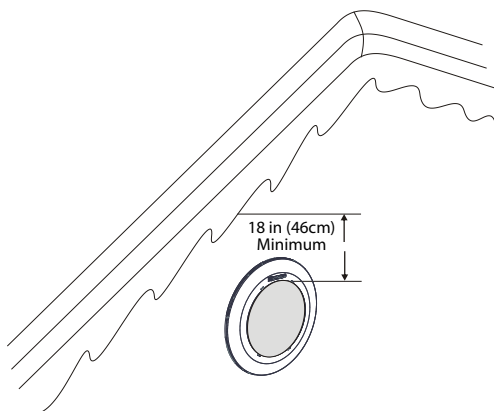
When installing Universal ColorLogic/CrystalLogic low voltage lights, the length of the cord has an effect on performance. To prevent performance problems, verify the transformer is providing the minimum required voltage according to the table below. To check this voltage, measure the voltage at the transformer while the light is “on” and operating in “white” mode. In some cases, a voltage greater than 12 volts is required due to a long cord run. Some transformers provide higher voltage taps for this purpose; check your transformer manufacturer’s installation instructions for details. When using Hayward or other transformers that offer a 14V option, we suggest that you always use the 14 volt tap.

Product	Total Cord Length from Transformer to Light	Minimum Required Voltage at Transformer
12V Universal ColorLogic or CrystalLogic Spa Light	30 ft	12 - 14 Volts
	50 ft	13 - 14 Volts
	100 ft	14 Volts

### Install Niche (new installations)

**NOTE: For installation of Hayward niches, see installation instructions provided with the unit.**

The light fixture must be installed in a wall or on a floor of the pool or spa with the top of the lens not less than 18 inches (46 cm) below the normal water level of the pool except when the fixture is installed in an area of the swimming pool that is not used for swimming. Select a location for the light fixture(s) that will give optimum light dispersion for the pool or spa design. Be sure to consider the direction of emitted light and take care not to point lights directly at the house or outdoor living spaces.



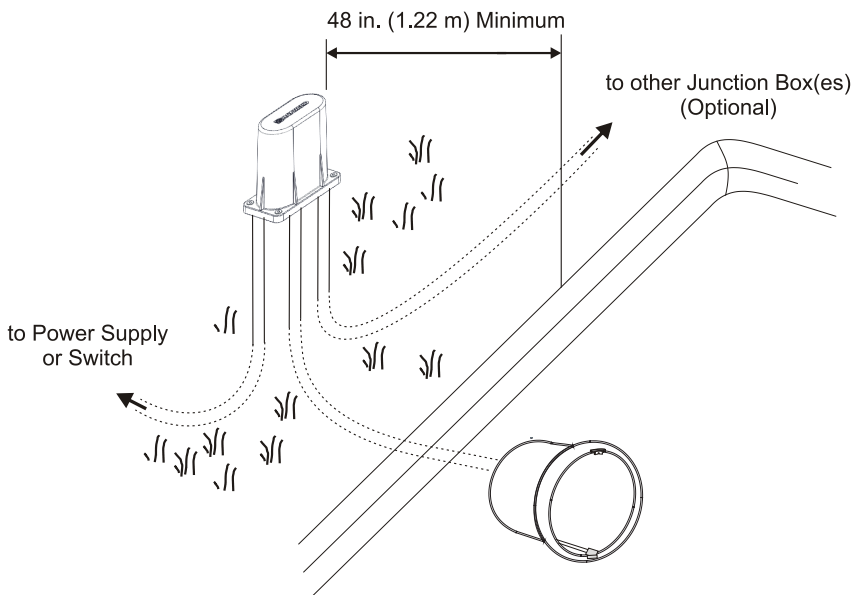


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## Install Junction Box or Junction Box Transformer

When using a wallmount low voltage transformer, a junction box should be installed to make the connection to the spa light. If using more than one light, an adequate amount of single or double outlet junction boxes will be required. Alternatively, Hayward low voltage junction box transformer kits (LTBUY11H65) can be used when in-line transformers are desired. Refer to page 7 for more information.

Junction boxes must be installed not less than 48 inches (1.22 m) from the edge of the pool or spa. Run conduit from the niche up to the junction box such that the junction box is not less than 8 inches (20 cm) above the maximum pool or spa water level, or not less than 4 inches (10 cm) above the ground, whichever is greater. Additional conduit should be run from the junction box to the power supply, switch panel, pool/spa controller, etc.





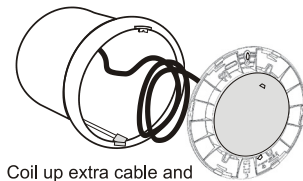
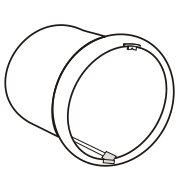
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## Mounting the Light into the Niche

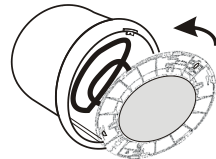
Before starting the installation, remove the trim ring from the light fixture by holding the light fixture firmly and rotating the outer trim ring counterclockwise until it detaches.

The Universal ColorLogic/CrystalLogic lights have multiple screw and clip positions to fit most every niche. For typical Hayward LGGUY1000 niche installations, follow the instructions below:

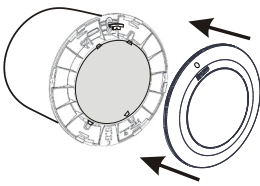
1. With the trim ring removed, coil up the extra cord and insert it in the niche behind the light fixture.
2. Position the fixture with the mounting screw hole at the top (12 o'clock position).
3. Insert the bottom hook of the light into the niche (6 o'clock position), then pivot the top of the fixture up. Be sure the hook on the bottom catches on the niche.
4. Install the trim ring onto the light fixture by placing it onto over the front of the light fixture in the 11 o'clock position then rotating clockwise until it locks in place.
5. Use the provided mounting screw to secure the light fixture to the niche.



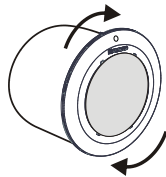
Coil up extra cable and insert in niche.



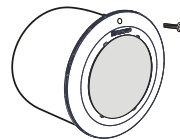
Place hook on bottom of light into niche at 6 o'clock position then pivot top of light into niche.



Install Trim Ring with logo positioned at 11 o'clock



Rotate Trim Ring clockwise until it locks.



Fasten with included screw.

When removing the fixture from the niche, unscrew the mounting screw, remove the trim ring, tilt the top of the fixture out, and lift it up and out.

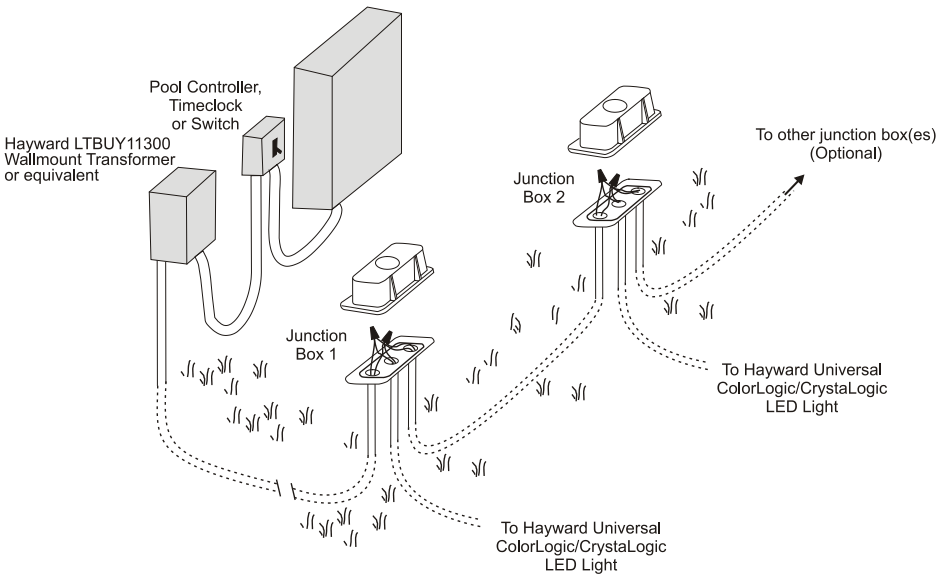


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## Install Wiring using a Wallmount Transformer

A suitable transformer must be installed which is agency listed for low-voltage swimming pool and spa lights (Hayward LTBUY11300, Intermatic® model PX100/PX300, or equivalent). The transformer must be rated at or above the total wattage used by all attached light fixtures.

Run conduit from the junction box to the low voltage transformer, pool/spa controller, or switch box. Snake 2 wires through the conduit from the junction box to the power supply. If multiple lights are being installed, run additional conduit/wires from the junction box to the additional junction box(es). When wiring multiple lights to the same 12 volt source, do not exceed the transformers's total rated wattage. Refer to the manufacturer's specifications and instructions for run length and wiring size. Use wire nuts to connect the field-installed wiring to the light fixture cord in the junction box.





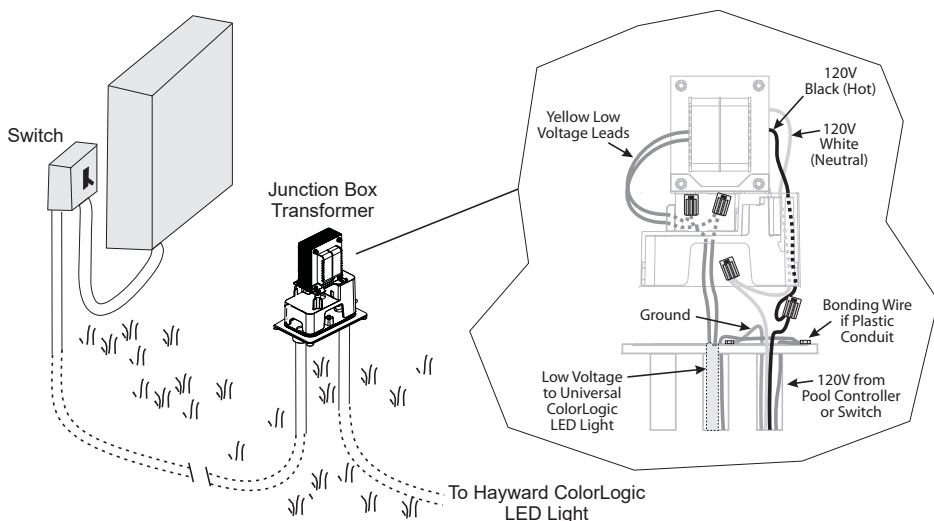
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## Install Wiring using a Hayward Junction Box Transformer

Hayward offers pool/spa light transformers designed to fit into various manufacturer's junction boxes. Refer to the table on this page to determine which model transformer will fit your type of junction box. These transformers are designed to power a single Hayward ColorLogic/CrystalLogic LED light. If more than one light is installed, multiple junction box transformers must be used.

Run conduit from the junction box transformer to the pool/spa controller or switch box. Snake 3 wires through the conduit. Connect the ground wires to the ground terminal connections inside the junction box. Use wire nuts to connect the field-installed wiring to the 120V side of the transformer and the spa light cord to the low voltage side of the transformer. Refer to wiring diagram below.

Junction Box Manufacturer	Junction Box Model	Hayward Transformer	Rating	Gang
Hayward®	Sp680 Sp681 LTBUY11H65	LRBUY11H65	70 watt	single
Pentair®	78310500 78310600 78310700	LRBUY11P65	70 watt	single
ThermoCraft®	JBP75175	LRBUY11T65	70 watt	single







## Operation

### Universal ColorLogic Light modes

The Hayward Universal ColorLogic light is designed to operate in one of four modes; Universal ColorLogic, ColorLogic 4.0, ColorLogic 2.5 & earlier and Pentair SAM.

ColorLogic lights can also be used in Omni Direct mode. For Omni Direct mode, the lights must be built after June 2018 and used with a Hayward Omni pool control (page 10).

**Universal ColorLogic mode (default):** The light is shipped in this mode. Use this mode for new installations and for installations with other Universal ColorLogic lights.

**ColorLogic 4.0 mode:** Use this mode when installing your new light in systems with ColorLogic 4.0 lights. The Universal ColorLogic light will be “seen” as another ColorLogic 4.0 light and will operate in the same manner as the others.

**ColorLogic 2.5 & earlier mode:** Use this mode when installing your new light in systems with ColorLogic 2.5 & below lights. The Universal ColorLogic light will be “seen” as another ColorLogic 2.5 & earlier light and will operate in the same manner as the others.

**Pentair SAM:** Use this mode when installing your new light in systems with Pentair SAM® or SAL® lights. The Universal ColorLogic light will be “seen” as another Pentair SAM®/SAL® light and will operate in the same manner as the others.

**Omni Direct mode:** Omni Direct mode offers unique colors as well as speed and brightness control. This mode of operation is only available if the light is configured and controlled by a Hayward Omni pool control. Refer to your Omni control manual for more information.

How to change modes:

1. Turn on lights and then turn off for between 11-15 seconds.
2. Turn on lights and then turn off for between 11-15 seconds.
3. Turn on lights and then turn off for between 11-15 seconds.
4. The light should blink one of 5 colors indicating which mode it is currently in. Refer to the table below to determine which mode the Universal ColorLogic is in. Note that new lights are shipped from the factory in Universal ColorLogic mode (blinking red).

MODE	COLOR
Universal ColorLogic	Red
ColorLogic 4.0	Green
ColorLogic 2.5	Blue
Pentair SAM	White
Omni Direct	Purple



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5. To change modes, turn light off and back on. The light will then advance to the next mode. Continue this method until you arrive at the desired mode.
6. When the light is in the desired mode, remove power from the lights for at least one minute.
7. The light will restart in the new mode the next time it is turned on.

## CrystaLogic Light Dimming (White Light)

The CrystaLogic light can be adjusted to operate at different light intensities. To change light intensity, follow the procedure below.

1. Turn on lights and then turn off for between 11-15 seconds.
2. Turn on lights and then turn off for between 11-15 seconds.
3. Turn on lights and then turn off for between 11-15 seconds.
4. The light will blink indicating which mode it is currently in:
  - Mode 1 (1 blink) - 100% intensity
  - Mode 2 (2 blinks) - 60% intensity
  - Mode 3 (3 blinks) - Variable intensity, Once the desired mode is saved, the user may select among 5 brightness levels by briefly toggling power (100%, 80%, 60%, 40%, 20%, 40%, 60%, 80%, 100%, 80%, etc.)
5. To change modes, turn light off and back on. The light will then advance to the next mode. Continue this method until you arrive at the desired mode.
6. To save, remove power from the lights for at least one minute.
7. The light will restart in the new mode the next time it is turned on.

## Operating the Universal ColorLogic

The Universal ColorLogic light is controlled through power-cycling: a method of changing light programs which requires no special controller or interface. To activate the light, simply turn on the switch. To deactivate the light, turn off the switch. To advance to the next light program (fixed color or color show), turn the switch off, then back on within 10 seconds.

When the light has been off for over 60 seconds, and is first turned on, it will come on to white for 15 seconds for quick clear view of your pool, then go to the last fixed color or color show it was running.

## Light Synchronization

If your pool or spa has multiple Hayward Universal ColorLogic LED lights, they may be operated independently, or they can be easily synchronized so they will all display the same colors and shows at the same time. For light synchronization, all lights must be wired to the same switch. Once installed, all lights should be automatically synchronized, however, if they get out of sync, they can be re-synchronized easily. To re-synchronize your lights, turn the switch on, then back off, then wait between 11 and 14 seconds and turn the switch back on. When the lights come back on, they should enter program #1, and be synchronized.



## Programs

When in Universal ColorLogic mode (default), the Universal ColorLogic light has the capability to display 17 different programs; 10 fixed colors and 7 color-changing shows. These programs are advanced using power-cycling (quickly powering the lights on, then off, then back on). The programs are listed below:

- |                          |                        |
|--------------------------|------------------------|
| 1. Show-Voodoo Lounge    | 10. Fixed-Vivid Violet |
| 2. Fixed-Deep Blue Sea   | 11. Fixed-Sangria      |
| 3. Fixed-Royal Blue      | 12. Show-Twilight      |
| 4. Fixed-Afternoon Skies | 13. Show-Tranquility   |
| 5. Fixed-Aqua Green      | 14. Show-Gemstone      |
| 6. Fixed-Emerald         | 15. Show-USA           |
| 7. Fixed-Cloud White     | 16. Show-Mardi Gras    |
| 8. Fixed-Warm Red        | 17. Show-Cool Cabaret  |
| 9. Fixed-Flamingo        |                        |

Refer to the included color card as a quick reference to the available programs.

## Omni Direct (Lights built after June, 2018)

LSCUS22xxx Universal ColorLogic lights must be configured and controlled by a Hayward Omni pool control to use Omni Direct mode. This mode offers some unique colors as well as speed and brightness control. The programs are listed below.

- |                          |                        |                         |
|--------------------------|------------------------|-------------------------|
| 1. Show-Voodoo Lounge    | 10. Fixed-Vivid Violet | 19. Fixed-Orange        |
| 2. Fixed-Deep Blue Sea   | 11. Fixed-Sangria      | 20. Fixed-Gold          |
| 3. Fixed-Royal Blue      | 12. Show-Twilight      | 21. Fixed-Mint          |
| 4. Fixed-Afternoon Skies | 13. Show-Tranquility   | 22. Fixed-Teal          |
| 5. Fixed-Aqua Green      | 14. Show-Gemstone      | 23. Fixed-Burnt Orange  |
| 6. Fixed-Emerald         | 15. Show-USA           | 24. Fixed-Pure White    |
| 7. Fixed-Cloud White     | 16. Show-Mardi Gras    | 25. Fixed-Crisp White   |
| 8. Fixed-Warm Red        | 17. Show-Cool Cabaret  | 26. Fixed-Warm White    |
| 9. Fixed-Flamingo        | 18. Fixed-Yellow       | 27. Fixed-Bright Yellow |

Refer to your Omni pool control manual for Omni Direct configuration and operation information.



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## Troubleshooting

If you have a problem with your Hayward Universal ColorLogic/CrystalLogic light, please try the following tips before calling for service:

**PROBLEM:** Universal ColorLogic Light will not advance to the next program when it is power-cycled (turned “off” and then back “on”).

**SOLUTION1:** Do not power-cycle the switch too rapidly. Leave it off for at least 1 second before turning it back on.

**SOLUTION2:** Make sure that the light is in the proper mode (page 8).

**PROBLEM:** Universal ColorLogic Light goes to white whenever it is power-cycled (turned “off” and then back “on”).

**SOLUTION:** Be sure that you power-cycle the light for less than 10 seconds.

**PROBLEM:** Multiple Universal ColorLogic Lights are not correctly synchronized.

**SOLUTION:** Verify that the Universal ColorLogic light is in the proper mode (page 8). Follow the steps in these instructions to re-synchronize the lights.

**PROBLEM:** Light will not come on.

**SOLUTION:** Check input power to transformer and then light. Check ground fault and reset if necessary.

**PROBLEM:** Light will not come on or light cycles on and off.

**SOLUTION:** Depending on cord length and operating voltage, automatic thermal switch may be cycling due to excessive air/pool water temperatures (over 105°F). Temporarily switch to a cooler color (Deep Blue Sea, Royal Blue, etc.) until air/water temperatures cool off.

**PROBLEM:** GFCI trips when lights are turned on or off.

**SOLUTION:** Install a Hayward GLX-HAL-XSNUB snubber capacitor across the primary leads (line to neutral) of the transformer on the load side of the light switch or relay.

## Replacement Parts

Item	Part Number	Description	Qty
1	LQ(x)UY1000	Spa Trim Rings	1
2	SPX0800Z1	Metal Light Screw Kit	1







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## **Hayward® Pool Products Limited Warranty**

To original purchasers of this equipment, Hayward Pool Products, Inc. warrants its Universal ColorLogic® and CrystaLogic™ pool and spa lights, niches, pool light transformers, and couplers to be free from defects in materials and workmanship for a period of ONE (1) year from the date of purchase, when used in single family residential applications.

The limited warranty excludes damage from freezing, negligence, improper installation, improper use or care or any Acts of God. Parts that fail or become defective during the warranty period shall be repaired or replaced, at our option, within 90 days of the receipt of defective product, barring unforeseen delays, without charge.

Proof of purchase is required for warranty service. In the event proof of purchase is not available, the manufacturing date of the product will be the sole determination of the purchase date.

To obtain warranty service, please contact the place of purchase or the nearest Hayward Authorized Service Center. For assistance on your nearest Hayward Authorized Service Center please visit us at [www.hayward.com](http://www.hayward.com).

Hayward shall not be responsible for cartage, removal, repair or installation labor or any other such costs incurred in obtaining warranty replacements or repair.

The Hayward Pool products warranty does not apply to components manufactured by others. For such products, the warranty established by the respective manufacturer will apply.

The express limited warranty above constitutes the entire warranty of Hayward Pool Products with respect to its' pool products and is in lieu of all other warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose. In no event shall Hayward Pool products be responsible for any consequential, special or incidental damages of any nature.

Some states do not allow a limitation on how long an implied warranty lasts, or the exclusion of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

FOR FURTHER INFORMATION OR CONSUMER  
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