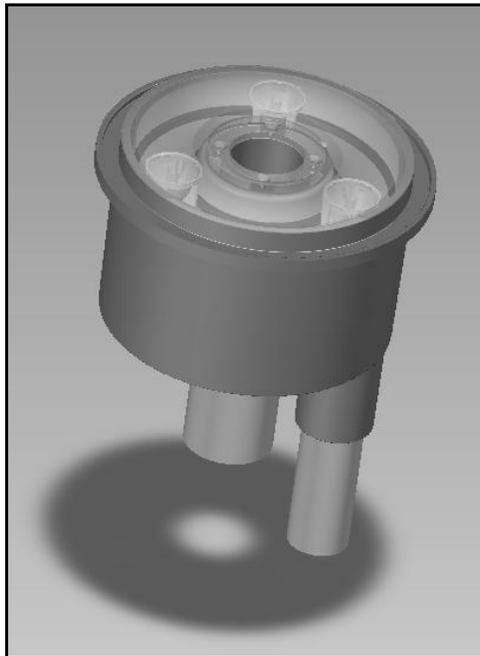


ColorCascade™
Underwater Sun Shelf
LED Color-Changing Light



Installation and User's Manual

KBK Technologies, Inc.
1310 South Powerline Road
Deerfield Beach, Florida 33442

WWW.POOLWORLDSUPPLIES.COM

Safety Warnings

Before installing the LED ColorCascade underwater 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 (954) 596-0458 for additional free copies of these instructions.

Warning

Risk of Electrical Shock or Electrocutation!

This underwater light must be installed by a licensed or certified electrician or a qualified pool serviceman in accordance with the National Electrical Code and all applicable local codes and ordinances. 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 property. 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 serviceman, pool users or others due to electrical shock. **READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL.**

- All Niche and Light installations must conform to all codes.
- Under no circumstances replace lights by splicing wire under water or behind niche.

Niche and fixture Installation (new pool construction)



Warning

**Pool must meet the requirements of the current National Code (N.E.C.)
Article 680-22 and all codes and Ordinances.**

1. A licensed or certified electrician must install the electrical system to meet or exceed those requirements before the ColorCascade is installed.
2. Some of the requirements of the National Electrical Code which the pool's electrical system must meet are as follows:
 - a. The lighting circuit has a Ground Fault Circuit Interrupter (GFCI) for line voltage models, and has an appropriately rated circuit breaker.
 - b. The Junction Box (or, for 12 volt models, the low voltage transformer) is located at least 8 inches above the maximum water level of the pool and at least 48 inches from the edge of the pool; see Figure 1.
 - c. The light fixture and all metal items within 5 feet of the pool are properly electrically bonded.
 - d. The wet niche is properly installed at least 3 inches below the surface of the water in the pool.
 - e. The wet niche is properly electrically bonded and grounded via the No. 8 AWG ground connector located at the rear of the niche (if required) see Figure 1.
3. To be certain that the pool's electrical system meets all applicable requirements, the electrician should also consult the local building department.

Installing the LED ColorCascade light



Warning

Never operate ColorCascade for more than ten (10) seconds unless it is totally submerged in water

1. Feed cord through Niche and then through conduit to Junction Box or 12 Volt Transformer. The LED ColorCascade Light has no serviceable parts, so leave approximately 12 to 18 inches of cord to allow the light to be easily removed if replacement is required.



NOTE: This is a 12 volt system ONLY. An approved 12 volt AC transformer, sold separately **must be used**. If a Junction Box is used, it would be for 12 volt AC connections. Never wire the LED ColorCascade Light directly to high voltage lines.

2. Cut the cord at the Junction Box or 12 volt transformer, leaving at least six (6) inches of cord to make connections.
3. Strip back three (3) inches of the outer cord jacket to expose the two insulated wires (be careful not to damage the insulation on the two (2) inner wires).
4. Connect both (2) wires to the corresponding circuit wires in the Junction Box or 12 Volt AC Transformer and secure the Junction Box cover in place.
5. Install the LED ColorCascade Light assembly into the ColorCascade niche and tighten the four screws provided.
6. Install the return line fitting included with the Light assembly by firmly pressing it into the center hole. Make sure it is pressed all the way down to provide a smooth transition. Adjust the ball for proper water direction.
7. Fill the pool until the underwater light is completely submerged in water before operating the light for more than ten (10) seconds. To check for proper operation, switch on the main switch or circuit breaker, as well as the switch which operates the LED ColorCascade Light itself.

Operating the LED ColorCascade lights

The LED ColorCascade lights can be controlled using a standard wall-mount light switch. Multiple LED ColorCascade lights can be connected via a junction box to a single switch so that all lights can be switched on and off together. LED ColorCascade lights are controlled by cycling the AC power to the 12 volt power supply and from there to the LED ColorCascade Lights from a standard wall switch. By turning the switch on and off a specific number of times, the light activates one of the three light show modes or locks a chosen color.

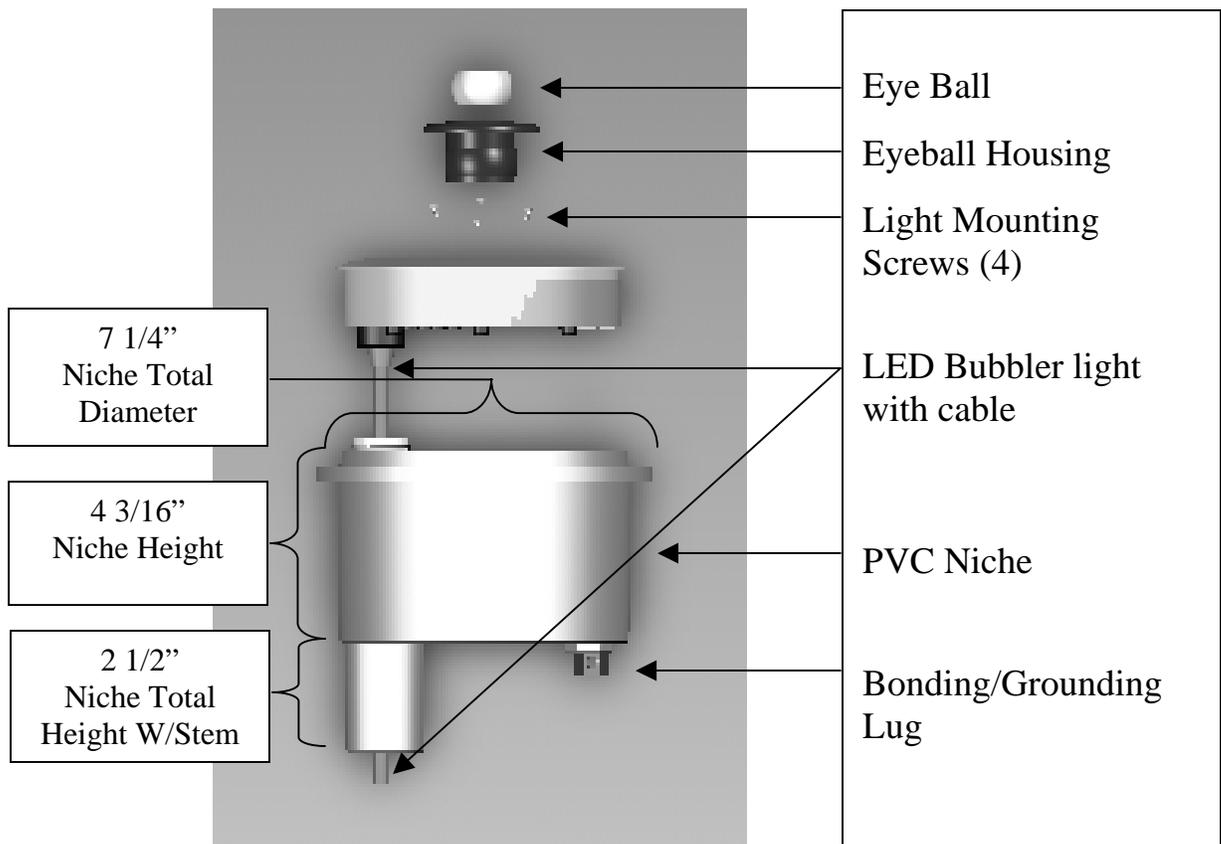
Selecting a light show mode or fixed color

Switch power on to the LED ColorCascade light. A random color will flash indicating the program you are in, followed by the previously selected program mode. To select a color show mode (1-3) or fixed color, turn the wall switch off/on a specific number of times. Please review the chart below and follow the power cycle sequence to activate the various show feature effects while in “show” modes.

1. **Fixed Color:** Turn power off and then on to “Hold” the Light on that specific color (no matter what color show you are in). If you keep the unit on that color for at least 5 seconds, the LED ColorCascade Light will “remember” this color and keep it in that mode until you release it with an additional power off/on sequence. In “Fixed Color” mode the light when powered on, will not flash its program, but immediately go to the “Fixed Color” chosen.
2. **Color Show Mode:** Turn power off and then on twice (off/on, off/on) to cycle through the following three color modes.
 - a. **Synchronized Mode:** All ColorCascade lights on the same circuit will synchronize and cycle on the same colors. When the units are in this mode, when powered up, the light will flash a random color one time and then turn all units on white and then start cycling through the eight colors. The single flash of a random color is the visual confirmation what color show you have activated. The light will stay in this mode each time the system is powered on until a program change is made.
 - b. **Random Mode:** Turn the power on and then off twice (off/on, off/on) and the light will cycle to the next program, Random Mode. In this mode each of the LED ColorCascade lights will cycle together, but in random colors. When this mode is selected, the light will flash twice to indicate it is in random mode and then start up in a random color sequence.
 - c. **Party Mode:** Turn the power on and then off twice (off/on, off/on) and the light will cycle to the next program, Party Mode. In this mode each of the LED ColorCascade lights will cycle together, but in random colors and in ever increasing cycle speeds until the last ten seconds at which time the ColorCascades will randomly flash different colors at different times. When this mode is selected, the light will flash three times to indicate it is in Party Mode and then start up in a random color sequence.
3. Turning the power on and off twice (off/on, off/on) will continue to cycle through the programs
4. In the event due to power interruption or power loss and the units become out of sequence, turn the light switch on and then off four times (off/on, off/on, off/on, off/on). The unit will reset all of the lights and start them in Random Mode (two light flashes as described in 2.b.).

LED ColorCascade Light Part Numbers

Parts List		
Part #	Description	QTY
207	ColorCascade Complete	1
20245	PVC Niche Complete	1
20246	LED Light Housing Complete	1
20247	Eyeball Complete	1
18012	Mounting Screws	4



Nozzle Size	GPM	Pressure Diff	----- Water Depth -----			
			4"	6"	8"	10"
			----- Plume Height -----			
3/4"	15	1	20"	15"	12"	10"
3/4"	20	1.5	24"	16"	13"	11"
3/4"	25	2.5	30"	20"	15"	13"
3/4"	30	5		24"	18"	14"
3/4"	35	9			24"	20"
3/4"	40	12				24"

Limited Warranty

The *Limited Warranty* set forth below is given by KBK Technologies, INC with respect to the ColorCascade (lighted underwater bubbler) product packaged with this limited warranty (the “Product”). The *Limited Warranty* is extended to the original purchaser of the Product, manufactured by KBK, Inc, 1310 Powerline Rd. Deerfield beach, FL. 33442

Your Product, when delivered to you in new condition, in its original packaging, including all parts and components thereof, is warranted against defects in materials or workmanship as follows: for a period of one (1) year from the date of original purchase. The *Limited Warranty* does not apply if the failure is caused or contributed by any of the following:

- a) Improper installation, storage or failure to follow operating instructions
- b) Improper maintenance
- c) Repairs or alterations not authorized or performed by KBK
- d) Accident, damage, abuse or misuse including environmental applications
- e) Abnormal or unusual operating conditions or applications
- f) Electrical current fluctuations
- g) A purpose or application in any way different from that for which the product was designed.

KBK TECHNOLOGIES, INC or its authorized service provider will repair or replace, at its option, a unit proved to be defective within the warranty period and under the conditions of the warranty.

KBK TECHNOLOGIES, INC is not responsible for the cost of removal of the unit, damages due to removal or installation, any shipping charges to or from the factory, or the installation of a repaired or replacement unit.

This is the only warranty provided by KBK TECHNOLOGIES and no other parties are authorized to provide warranties on KBK TECHNOLOGIES’s behalf. This warranty gives you specific legal rights and you may have other rights which vary from state to state.

Warranty Card

Name _____
Date of Purchase _____
Serial Number _____
Purchase from _____
E-mail _____
Phone _____

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954.596.8781**