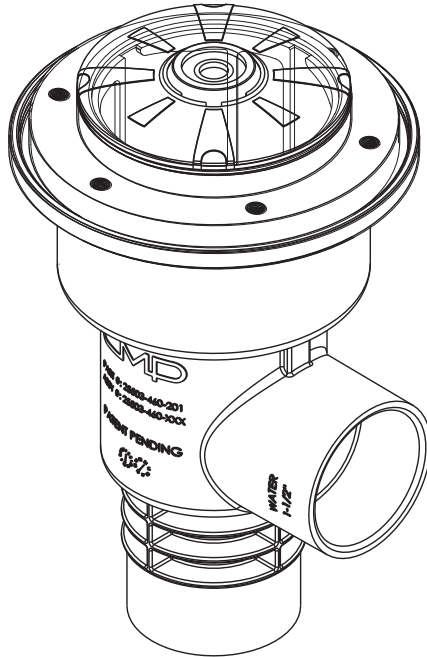




# BRILLIANT WONDERS<sup>®</sup> 4" LED BUBBLER INSTALLATION INSTRUCTIONS & PRODUCT MANUAL

25503-460-XXX  
25503-460-XXXP  
25503-460-XXXH

Cord Lengths Available:  
25', 50', 100', 150'



# Brilliant Wonders<sup>®</sup>

LED BUBBLERS

LED WATERFALL | LED BUBBLER | LED LIGHTS | LED LAMINAR

PATENT  
PENDING



CMP DOCUMENT 11120-000-000

# IMPORTANT WARNINGS & SAFETY INSTRUCTIONS

 **DANGER**

Serious bodily injury or death can result if these lights are not installed and used correctly.

 **WARNING**

Installers, pool operators and pool owners must read these warnings and all instructions before using these lights.

 **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 bodily injury, death, or property damage.

 **WARNING**

These underwater swimming pool lights must be installed by a licensed or certified electrician or a qualified pool professional in accordance with the National Electric Code (NEC) or Canadian Electric Code (CEC), CSA C22.1.

 **CAUTION**

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 electric shock. Always disconnect power to the pool lights before servicing.

 **WARNING**

Turn off power to light before installation/service. CMP Brilliant Wonders® LED Light Module is a low voltage light and should never be electrically connected to a power source other than an approved pool "Safety Rated," UL listed, outdoor rated, 12 VAC transformer. Failure to comply will either damage or destroy the light and will void the warranty.

**NOTICE**

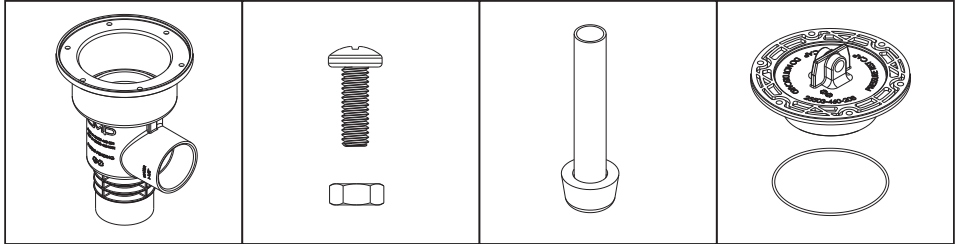
No separate ground or bonding wire is required for the CMP Brilliant Wonders® LED Light Module which have no exposed metal. They do not require a niche.

**NOTICE**

Save these instructions. This installation and user guide contains important information about the installation, operation, and safe use of this swimming pool/spa light. This guide should be given to the owner and/or operator of this equipment.

# PART LIST, TOOL LIST

## INCLUDED PARTS - 4" BUBBLER BOX

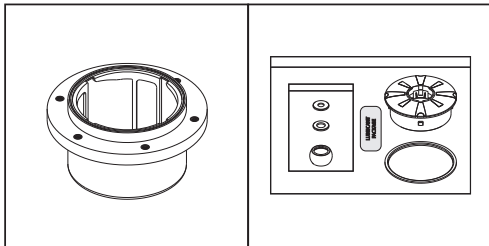


Main Body Assembly

Pressure Test Hardware  
6X M4 Machine Screws  
6X M4 Hex Nuts

Stopper Assembly

Protective Cap And  
Pressure O-Ring



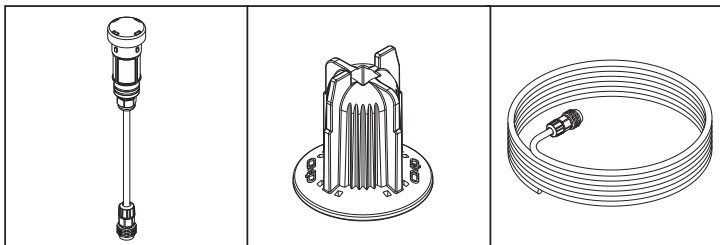
Floating Collar  
(Gunite Only)

Large Lens, L-Gasket, Eyeball,  
Orifice Discs, Lubricant

## REQUIRED TOOLS

1. 7 mm Wrench
2. 3/8" Socket Wrench
3. 3/8" Socket Extender
4. PVC Glue
5. Level
6. Phillips Head Screw Driver
7. O-Ring Lubricant

## INCLUDED PARTS - LED LIGHT BOX



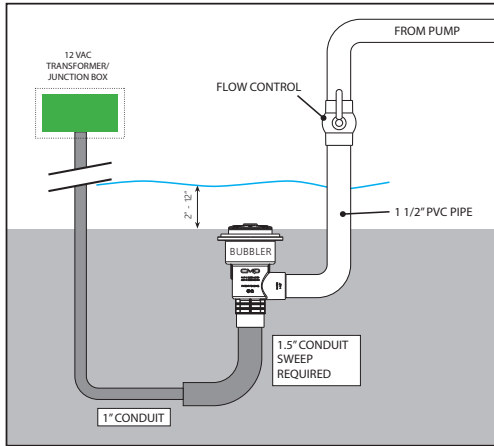
Led Light Module

Removal Tool

Electric Cable

# GUNITE INSTALLATION INSTRUCTIONS

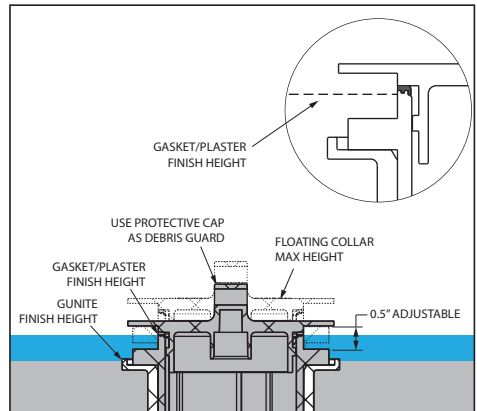
## GENERAL PLUMBING GUIDE



- Water inlet is 1.5" PVC socket.
- Power inlet is 1.5" conduit socket.
- A minimum of one (1.5" x 90°) sweep conduit required. After this, 1" conduit can be used to the junction box.
- Water depth must be between 2"-12".
- Beach entry slope must not exceed 1/12 grade to keep plume perpendicular with water surface.
- Pressure test all pipe fittings according to your local building codes.
- Your 4" Bubbler is shipped ready to pressure test.

## GUNITE INSTALLATION STEPS

1. Install gunite up to flange of the Main Body.
2. Use Protective Cap (25503-460-208) as a debris guard while installing gunite.
3. Determine finishing height of the plaster.
4. The finishing height of the plaster should line up just below the top of the Floating Collar.
5. The Floating Collar is designed to allow up to 0.5" of adjustability before gluing, to better match the final plaster height.
6. Glue Floating Collar into main body using PVC glue.
7. Wait for glue to dry then install the plaster to just below the top of the Floating Collar.



## NOTICE

Make certain that all screws and hex nuts are hand tight before pressure testing the unit

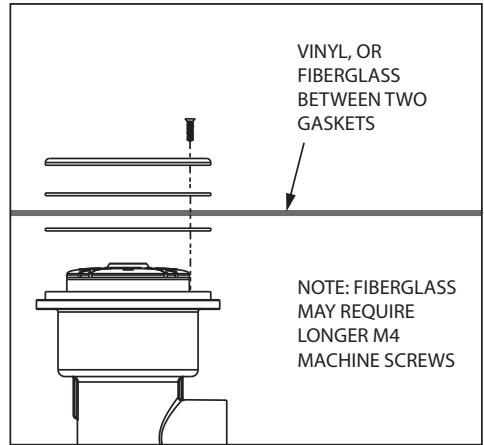
# VINYL/FIBERGLASS INSTALLATION & ELECTRICAL DIAGRAM

## VINYL/FIBERGLASS POOL INSTALLATION STEPS

1. Use a 3.5" hole saw and cut a hole in the desired location of the 4" Bubbler.
2. Use template included with your Vinyl Faceplate Kit to drill six holes around the 3.5" hole using an 11/64" or #17 drill bit.
3. Install one gasket under the vinyl, or fiberglass, and one on the water side.
4. Secure the Vinyl Trim Ring with the 6 x M4 Stainless Steel Screws included with your Vinyl Liner Kit.

### NOTICE

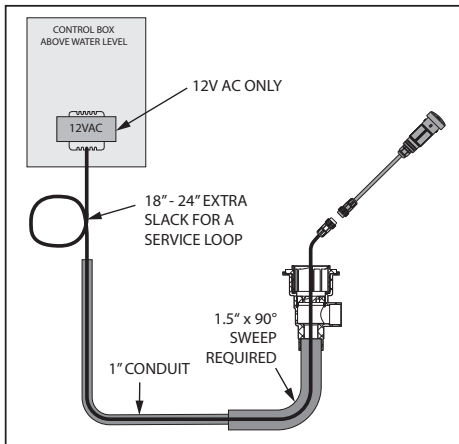
Fiberglass installation may require longer M4 Stainless Steel Screws (not included).



## VINYL LINER KIT PART LIST

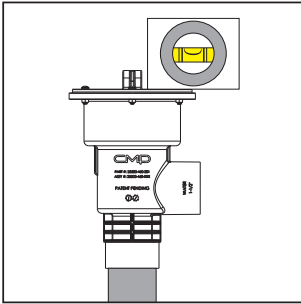
1. Decorative Ring
2. 2x Gaskets
3. 6x M4 Stainless Steel Screws
4. Cutting Template

## GENERAL ELECTRICAL DIAGRAM

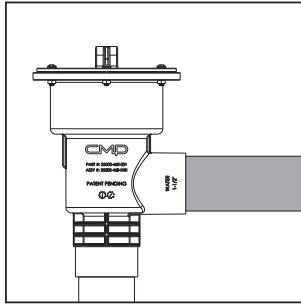


- Connect CMP 4" Bubbler LED Light Module to a 12V AC transformer. Any UL Listed, outdoor rated 12VAC transformer can be used provided the wattage and amperage is not exceeded by the total wattage and amperage in use.
- CMP 4" Bubbler LED Light Module (25503-460-900) final operating depth must be at least 2" underwater.
- A minimum of one (1.5" x 90°) sweep or 12" of straight conduit must be installed into the socket on the bottom of the 4" Bubbler.
- Use sweeps only in electrical conduit line. No 90° bends.

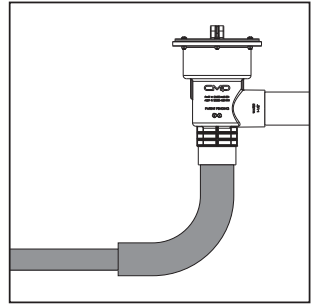
# STEP-BY-STEP INSTALLATION GUIDE



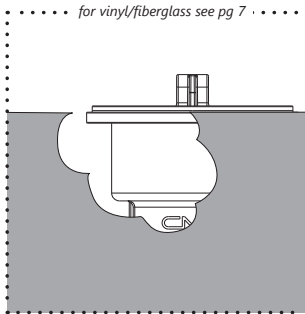
1. Post and level the 4" bubbler unit.



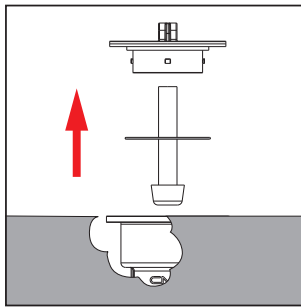
2. Install plumbing using pvc glue. Make sure screws are tight then pressure test the unit.



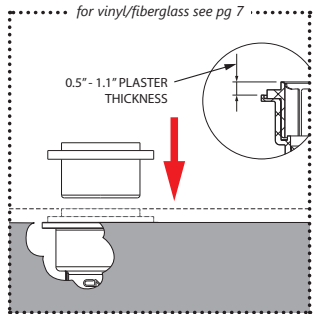
3. Install conduit. 1.5" X 90° sweep required. Can use 1" conduit to the junction box.



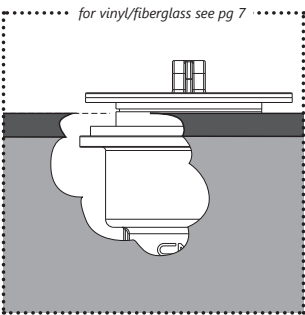
4. Remove screws and nuts. Leave cap for debris guard. Install concrete/gunite to top of unit.



5. Remove protective cap, pressure o-ring, and the stopper assembly.

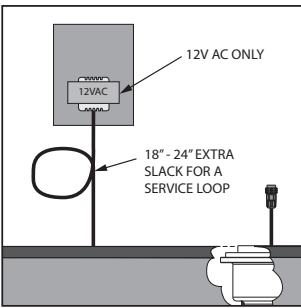


6. Determine plaster height. Use pvc glue and install collar with plaster height slightly below top of collar.

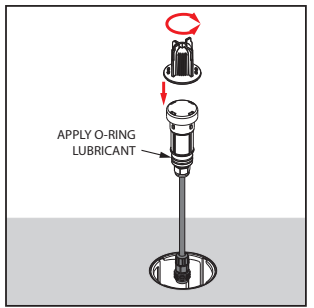


7. Replace protective cap as a debris guard. Install plaster up to slightly below the top of the collar.

6

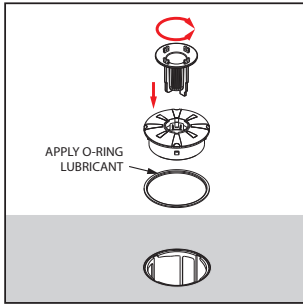


8. Install electric cable to a 12vac transformer. Leave 18"-24" service loop at the control box.

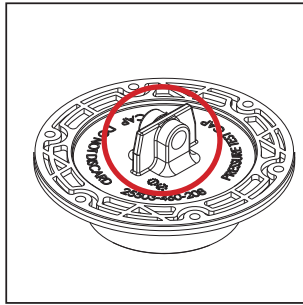


9. Apply lubricant to bottom of led module. Install led module with installation tool. Rotate clockwise until it clicks.

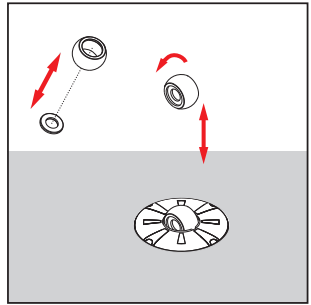
# STEP-BY-STEP INSTALLATION GUIDE CONTINUED



10a. Install L-gasket making sure it is seated properly in the groove. Apply lubricant to top of L-gasket. Install large lens using the installation tool. Rotate clockwise until you feel a "click" and the lens stops rotating.

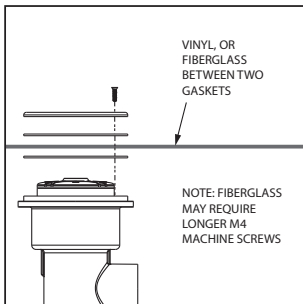


10b. The protective/winter cap can also be used as a tool to install the bubbler lens.



11. Install orifice disc into the eyeball. Install eyeball into large lens by rotating 90° and inserting. Rotate eyeball to desired position.

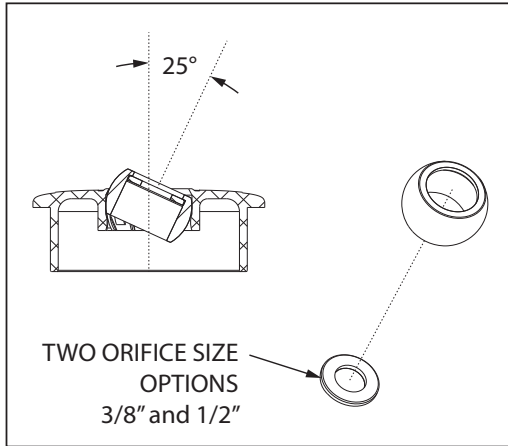
## VINYL/FIBERGLASS INSTALLATION



- All installation steps are the same for vinyl/fiberglass installation except the adjustable collar comes pre-glued from our factory.
- The vinyl/fiberglass units are sold ready to pressure test.

# OPERATING PROCEDURES

## WATER PATH OPERATING PROCEDURES



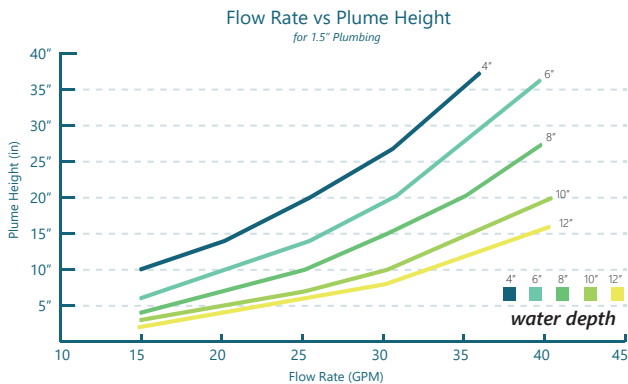
- The adjustable Eyeball can be angled up to 25° from vertical.
- The Orifice Disk snaps into the Eyeball.
- Two orifice size options are included with your 4" Bubbler: 3/8" and 1/2".
- A smaller orifice opening will increase the water pressure and increase the plume height.
- A larger orifice opening will decrease the water pressure and decrease the plume height.
- Adjusting the flow control valve will impact performance.

### NOTICE

The Stopper Assembly is a great tool for installing Orifice Discs. (see pg 3)

## PERFORMANCE CHART

1. Factors such as water flow rate, orifice size, and water depth above the orifice will all contribute to the final look of the plume height. The performance chart below can be used as a reference in deciding how to install your 4" Bubbler.



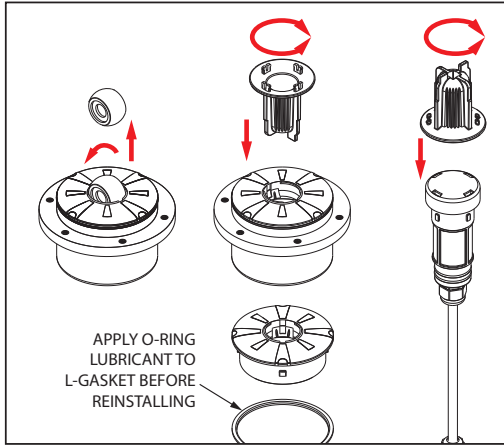
### NOTICE

Results may vary.



# MAINTENANCE INSTRUCTIONS

## GENERAL MAINTENANCE INSTRUCTIONS



- To remove the Eyeball, rotate 90° and lift out of the Large Lens vertically.
- To remove the Large Lens, insert top of Removal Tool (25500-104-007) into the Eyeball cavity like a key, and then rotate counter clockwise until you feel a click and it stops rotating. Lift the Large Lens out vertically.

### NOTICE

- Be sure not to damage or misplace the sealing L-Gasket that is underneath the Large Lens.
- To remove the LED Light Module, insert the four snaps on the Removal Tool into the four snap receptors on the Small LED Lens. Use a 3/8" Socket Extender to insert into the square hole in the top of the Removal Tool. Rotate counter-clockwise until you feel a click. Then keep rotating until the Light Module unseals itself from the conduit with help from plastic ramps in the Center Wheel. Pull the Removal Tool upwards and remove the LED Light Module.

## WINTERIZING STEPS

1. To prepare the 4" Bubbler for winter, start by removing the Eyeball from the Large Lens.
2. Remove the Large Lens from the Floating Collar using the Removal Tool then replace the Eyeball back into the Large Lens for storage.
3. Remove the L-Gasket that is directly below the Large Lens.
4. Remove the LED Light Module.
5. Secure the wire inside Main Body, use tape to prevent the cord from retracting back into the conduit.
6. Use an air compressor to blow the water line free of water.
7. Use the Pressure/Winter Cap (25503-460-208) to replace the Large Lens for the duration of winter.
8. Store the Large Lens with Eyeball, L-Gasket, and LED Light Module in a dry place for winter.

### CAUTION

When removing the LED Light Module, make sure to not let the power cable fall back down into the conduit. Use tape or a paper clip around the power cord to prevent this from happening prior to disconnecting.





# TROUBLE SHOOTING/FAQ

## TROUBLE SHOOTING

Problem	Solution 1	Solution 2
Large Lens is hard to install and/or remove.	Apply O-Ring lubricant to the top of the L-Shaped gasket under the large lens	Make sure L-Gasket is properly aligned and seated in the groove.
Light Module is hard to install and/or remove.	To install, push the module down with force to seal the bottom O-Rings in the electrical conduit socket. Use the removal tool, a 3/8" socket wrench, and a 3/8" socket extender to help turn the Light Module clockwise until it reaches the locked position.	To remove, use the removal tool, a 3/8" socket wrench, and a 3/8" socket extender to turn the Light Module counter-clockwise. Ramps in the Center Wheel will help un-seal the O-Rings from the conduit socket as it rotates.
LED Light Module flashes and then goes dark.	Make sure you are using a 12VAC transformer not 120V directly from a power outlet.	Make sure you are using a 12VAC transformer (not sold by CMP) and not the CMP 12V DC Power Supply (25650-110-200).
Can not pull the LED Light Module out of the Bubbler unit.	No slack was left in the line. Provide slack on the power cable by coiling some extra wire on the control box side of the installation.	Have another person help by pushing the electric cable from the control box side of the installation.
Swirling or sloshing water	The 4" Bubbler was installed too close to a wall or other feature in the pool which causes a harmonic wave to occur in the water. Angle the eyeball differently to change the water harmonics.	Try changing your GPM flow rate using a flow control valve.

# LED OPERATION INSTRUCTIONS

## NOTICE

When syncing multiple LED light products, color shows will match but cycle timings may vary.

### CMP/J-STYLE COLOR SELECTION AND SYNC INSTRUCTIONS

The CMP/J-STYLE Brilliant Wonders® 1.5" LED Light is preprogrammed with the following color sequence:

SEQUENCE ORDER	COLOR MODE
1	Alpine White
2	Sky Blue
3	Cobalt Blue
4	Caribbean Blue
5	Spring Green
6	Emerald Green
7	Emerald Rose
8	Magenta
9	Violet
10	Slow Color Splash
11	Fast Color Splash
12	America the Beautiful
13	Fat Tuesday
14	Disco Tech

#### To operate the light and change colors:

- Turn the light ON. The first time the light is turned on, the color sequence will begin with Alpine White. To change color, turn light OFF then back ON within three (3) seconds. Continue turning OFF and ON until the desired light color mode is reached.
- When the light is turned off for more than seven (7) seconds, it will remain in the color mode that was currently active when the light was turned off.
- To RESET the light to the beginning color sequence (Alpine White), turn the light OFF, wait four (4) to six (6) seconds, then turn the light ON.

## NOTICE

CMP Brilliant Wonders® LED Products can be used with Jandy® controls. Refer to operating instructions for your control box. "J-style" must be ordered for compatibility.

# LED OPERATION INSTRUCTIONS

## [CONTINUED]

### H-STYLE COLOR SELECTION AND SYNC INSTRUCTIONS

The H-STYLE Brilliant Wonders® 1.5" LED Light is preprogrammed with twelve light modes:

SEQUENCE ORDER	COLOR MODE
1	Voodoo Lounge
2	Deep Blue Sea
3	Afternoon Skies
4	Emerald
5	Sangria
6	Cloud White
7	Twilight
8	Tranquility
9	Gemstone
10	USA!
11	Mardi Gras
12	Cool Cabaret

#### To operate the light and change colors:

- The H-STYLE Brilliant Wonders® 1.5" LED Light is operated through power-cycling; a method of changing modes which requires no special controller or interface. To activate the light simply turn the power switch ON. To advance to the next programmed light mode, turn the switch OFF then back ON within ten (10) seconds. Whenever the light has been off for more than sixty (60) seconds, and it is first turned on, it will come on white for 15 seconds, then go back to the last programmed light mode it was running before being powered off.

#### To sync the light with additional H-STYLE lights:

- The H-STYLE Brilliant Wonders® 1.5" LED Light can easily be synced with additional H-STYLE lights. All lights should be wired to the same switch, this should automatically sync the lights. If the lights get out of sync on the same switch: turn the switch OFF, then wait between eleven (11) and fourteen (14) seconds and turn the switch back ON. When the lights come back on, they should enter program mode number one (1) and be synchronized.

### NOTICE

CMP Brilliant Wonders® LED Products can be used with Hayward® controls. Refer to operating instructions for your control box. "H-style" must be ordered for compatibility.

Not compatible with Hayward® Networked Lights.

# LED OPERATION INSTRUCTIONS

## [CONTINUED]

### P-STYLE COLOR SELECTION AND SYNC INSTRUCTIONS

The P-STYLE Brilliant Wonders® 1.5" LED Lights can be controlled using a standard wall-mount light switch. Multiple lights can be connected via a junction box to a single switch so that all lights can be switched ON and OFF together. P-STYLE Lights are controlled by cycling the 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 (7) light show modes, fixed colors, and enables the "Hold" and "Recall" feature.

**The P-STYLE Brilliant Wonders® 1.5" LED Light is preprogrammed with seven light show modes (1-7) and five fixed color modes (8-12). For saving color effects during the "show" modes the light also includes and "Hold" and "Recall" feature (13-14).**

SEQUENCE ORDER	COLOR MODE
1	SAm® Mode
2	Party Mode
3	Romance Mode
4	Caribbean Mode
5	American Mode
6	California Sunset Mode
7	Royal Mode
8	Blue
9	Green
10	Red
11	White
12	Magenta
13	Hold*
14	Recall*

#### Example to operate the light and change to "California Sunset" show mode:

- Turn the light switch ON and OFF six (6) times.
- During the ON/OFF switching process, no illumination will occur, then a white light will momentarily illuminate.
- The white light will immediately be followed by the selected "California Sunset" mode.

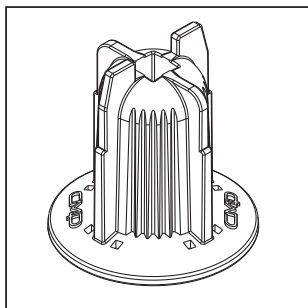
#### \*Hold and Recall Features Example (Designed for use with a controller. Can be done manually following these steps):

- Use the "Hold" feature to capture a unique color effect while any color show is active.
  - Turn switch on and off thirteen (13) times. Held color effect is activated.
- From any light show or fixed color mode...
  - Turn switch ON and OFF fourteen (14) times to activate last saved color effect.
  - Saved color effect is displayed.

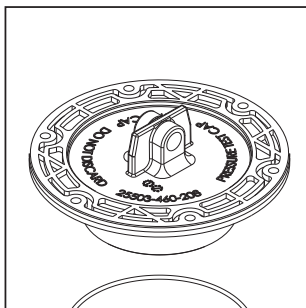
### NOTICE

CMP Brilliant Wonders® LED Products can be used with Pentair® controls. Refer to operating instructions for your control box. "P-style" must be ordered for compatibility.

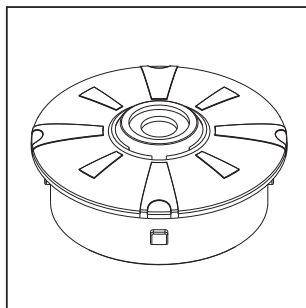
# AVAILABLE ACCESSORIES



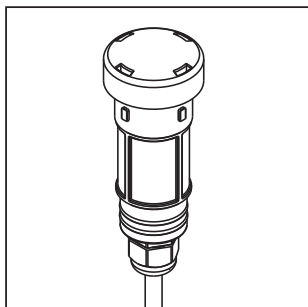
25500-104-007  
 (Included and Sold Separately)  
 Brilliant Wonders® 1.5" LED Light  
 Removal Tool



25503-460-223  
 (Included and Sold Separately)  
 Pressure Test/Winter Cap and  
 O-Ring

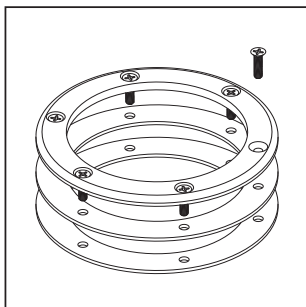


25503-469-253  
 (Included and Sold Separately)  
 Large Lens Kit



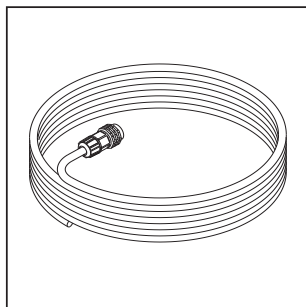
25503-460-900	CMP/J Style
25503-460-900H	H-Style
25503-460-900P	P-Style

Brilliant Wonders®  
 1.5" LED Light Module  
 (Included and Sold Separately)



25503-300-460	White
25503-301-460	Gray
25503-304-460	Black
25503-309-460	Tan
25503-369-460	Dark Blue

Vinyl Liner Kit  
 (Sold Separately)



25500-000-025	25 ft
25500-000-050	50 ft
25500-000-100	100 ft
25500-000-150	150 ft

Electric Cable  
 (Included and Sold Separately)

For the most recent instructions, videos and product information visit [www.c-m-p.com/brilliant-wonders-4-led-bubbler](http://www.c-m-p.com/brilliant-wonders-4-led-bubbler)