



# RiteLite P/N 710-050-601 User Manual, Rev. 03/11/04



## DeepSea Power & Light, Inc.

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### GENERAL NOTES AND WARNINGS

- Do not operate a lamp at higher than recommended voltage. The lamp filament will melt with severe over-voltage, and slight over-voltage drastically reduces lamp life.
- Be sure that any fingerprints are cleaned off the lamp with isopropyl alcohol before use (Use reagent grade alcohol if possible, contaminated alcohol will damage the lamp – insure that all alcohol has evaporated before reassembling the lamp).
- Do not burn a RiteLite out of water for more than about 20 seconds.
- Do not operate any high voltage electrical equipment without using a Ground Fault Interrupt circuit for safety, especially when divers are in the water!

### RITELITE PRE- AND POST-DEPLOYMENT CHECKLIST:

Each RiteLite is shipped ready for immediate use. To ensure that the light will perform reliably, please observe the following maintenance guidelines:

- Rinse the light with fresh water after use in salt water.
- After each deployment, examine the power cable and rear connector for damage.

**Warning:** After each deployment, carefully check to make sure the light has not flooded. It is possible for the light to partially flood and then reseal itself while underwater. Upon surfacing, the light can become internally pressurized, which may be potentially dangerous. Additionally, if the power remains on when the light has partially flooded, it is possible for electrolytic generation of an explosive mixture of hydrogen and oxygen gases. **If a light appears flooded upon removal from the water, it should be treated as potentially dangerous. Point the light away from persons and valuable equipment and verify whether or not it is internally pressurized. Make sure that the power is disconnected as soon as a flooded condition is suspected.**

**ELECTRICAL AND THERMAL WARNINGS:** A Ground Fault Interrupt should be used whenever high voltage lights are being utilized; when divers are in the water this is especially critical! **Do not operate AC-powered lights without a GFI!** Additionally, all high voltage lights should be case grounded for safety. It is also important not to burn the RiteLite in air for more than 20 seconds, as it relies on the surrounding water to provide cooling. When an underwater light is burned in air, the resulting heat buildup can pose a fire hazard. If the light is operated for testing purposes in air, be sure to let it cool down for a couple of minutes before immersing it in water. It is also a good idea to turn the light off a few seconds prior to removing it from the water.

### RITELITE SPECIFICATIONS

#### MECHANICAL

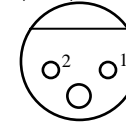
Length: 11.6 cm (4.6 in.)  
 Diameter: 7.9 cm (3.1 in.)  
 Housing Material: Glass reinforced epoxy body and Ultem plastic cowl  
 Lens: Clear tempered borosilicate  
 Reflectors: Proprietary design spot, medium flood, or wide flood  
 Weight in Air: 0.3 kg (0.7 lbs.)  
 Weight in Water: Neutral  
 Depth Rating: 1,000 meters (3,250 feet) of seawater

#### ELECTRICAL

Operating Voltages: 12 or 24 DC

Available Wattage:  
 Connector Pin-out:

50, 100, and 150 (see below)



RC2FS

1 = Hot  
 2 = Neutral

### FLOODED LIGHT REPAIR

If the light is leaking, first suspect that there is a damaged O-ring, or that the glass envelope is cracked or has a chipped edge. Check for a sliced or otherwise damaged O-ring; make sure the O-ring sealing surfaces are clean. If there is no apparently damaged O-ring, remove the glass dome and inspect the edge of the glass. If the edge is chipped, this is probably the source of the leak, and the dome should be replaced. If a light is flooded and/or damaged, we recommend that the light be returned to DeepSea Power & Light for repair or replacement; DeepSea Power & Light cannot be responsible for any damage incurred during emergency field repairs. Such repairs should be undertaken only as a last resort and by qualified personnel. Spares kits are available from DeepSea Power & Light.

### RITELITE EMERGENCY FIELD REPAIR PROCEDURE

Before any field replacement of a RiteLite component is initiated, the work area must be made as clean as possible. The surface used to work on should be dirt and lint free. Once a suitable work space has been established, use the following procedure:

- Remove the plastic cowl.
- Once the cowl has been removed, the dome is readily accessed. Remove the existing dome from the RiteLite body.
- Clean out any broken glass and debris from the body and cowl before installing the new dome. A very small piece of debris between the dome and body can cause the glass dome to crack when pressurized.
- Inspect and clean the O-ring under the dome. Check very closely for slices, tears, cracks, or rough spots. It is recommended to replace the O-ring with a new one, however the old O-ring may be reused if it is still in good condition. Be sure to coat the o-ring with silicone sealant prior to installation.
- Make sure the inside of the dome is clean before reassembling the cowl onto the body of the light.
- With a fresh O-ring in place, carefully place the new dome into position on the front of the cowl.
- When the dome is fully seated on the body, put the cowl in place and screw it onto the body.

### TROUBLESHOOTING:

PROBLEM	POSSIBLE CAUSE	RECOMMENDED ACTION
Light doesn't turn on.	Not plugged in.	Secure all connections.
	GFI tripped.	Reset GFI.
	Lamp burned out.	Change lamp.
	Cable defective.	Check continuity from one end to the other. Meg test if possible.
Light flooded.	Insufficient voltage	Make sure battery is fully charged. Verify power supply is adequate.
	Connector loose.	Tighten. If still leaking, replace.
	Damaged O-ring.	Replace as required.
	Glass cracked or chipped.	Return to DeepSea.

### SPARE LAMPS (BI-PIN BASE)

Model Number	Part Number	Volts	Watts	Hours	Color Temp	Lumens
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B6-12/50	460-00115	12	50	2000	3000K	850
B6-BRL	460-00019	12	50	50	3300K	1,400
B6-12/100	460-00027	12	100	1000	3100K	2,200
B6-FCR	460-00113	12	100	70	3350K	2,800
B6-24/100	460-00114	24	100	2000	3000K	1,800
B6-FCS	460-00035	24	150	70	3400K	4,700

**OPTIONS**

Model Number	Part Number	Description
UHMB	774-000-013	Helmet mounting bracket, formerly RL-HMB

**SPARE PARTS**

Model Number	Part Number	Description
RL-BOD	710-05008	Body (includes connector)
RL-CWL	710-04065	Cowl (Ultem)
RL-OR	710-050-603	O-ring kit
RL-GD	772-002-054	Glass dome
RL-FGD	772-002-053	Frosted glass dome
RL-SP	710-03002-01	Spot reflector
RL-MFL	710-03002-02	Medium flood reflector
RL-WFL	710-03002-03	Wide flood reflector
RL-RS	400-00004	Reflector spring
RL-SMC (RC-2-FS)	705-00060	Straight (in-line) mating connector with female locking sleeve
RL-LS-F	705-00018	Delrin locking sleeve (female)

**REPLACEMENT RITELITE ORDERING INFORMATION**

All RiteLites include choices of reflector, and lamp. To order a RiteLite, please use the following code, substituting values listed below for the following variables: *model number-r-v/w*, where *model number* = model number, *r* = reflector, and *v/w* = volts/wattage of the lamp.

Base Model Number	Cable Connector	Reflector	Volts	Watts*	Other
RL-1050	Bulkhead	F = Flood M = Medium S = Spot	12	50, BRL (50), 100, FCR (100)	Includes mating whip, 1000m
			24	100, FCS (150)	

\* BRL, FCR, and FCS are installed for a given wattage unless customer requests otherwise.

