

SY 300 Series Underwater lights

INSTALLATION OF A LIGHT MODULE TO THE WELD-IN FLANGE (SUPRA AND EOS MODELS)

Please read ALL the following pages before attempting installation to ensure complete understanding of what is required

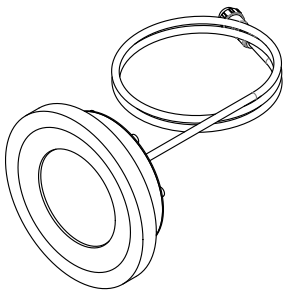
BEFORE YOU START

This document describes the recommended method for installing the light module of Lumishore SY 300 series lights in order to provide a water tight seal between the flange (previously welded in) and the light.

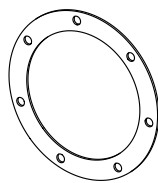
CAUTION

- DO NOT use any adhesives, sealants, gaskets, cleaning agents or chemicals other than those specified in this manual. Using any materials in the installation that are not specified in this manual will invalidate the warranty
- The light module is a factory sealed unit. DO NOT attempt to take the light apart or remove any bolts from the light
- The flange and the light must be electrically isolated - ensure the check described in the manual is carried out
- The flange / light installation must be pressure checked to ensure it has been installed correctly. Ensure this check is carried out as specified

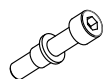
Parts Supplied



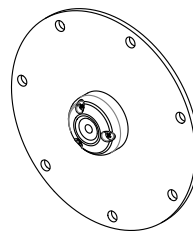
SY 300 Light
and Cable



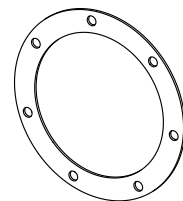
Light Sealing
Gasket



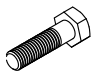
Light Securing
Bolt with
Insulating
Washer (x7)



Flange Plate
Assembly



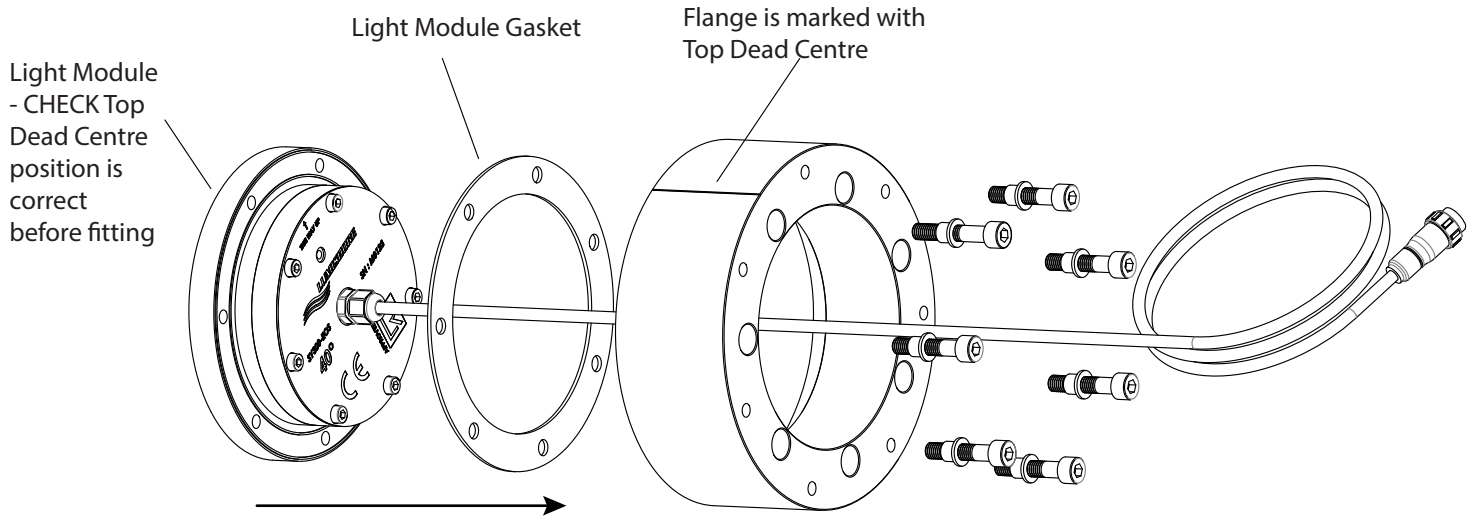
Flange plate
Sealing Gasket



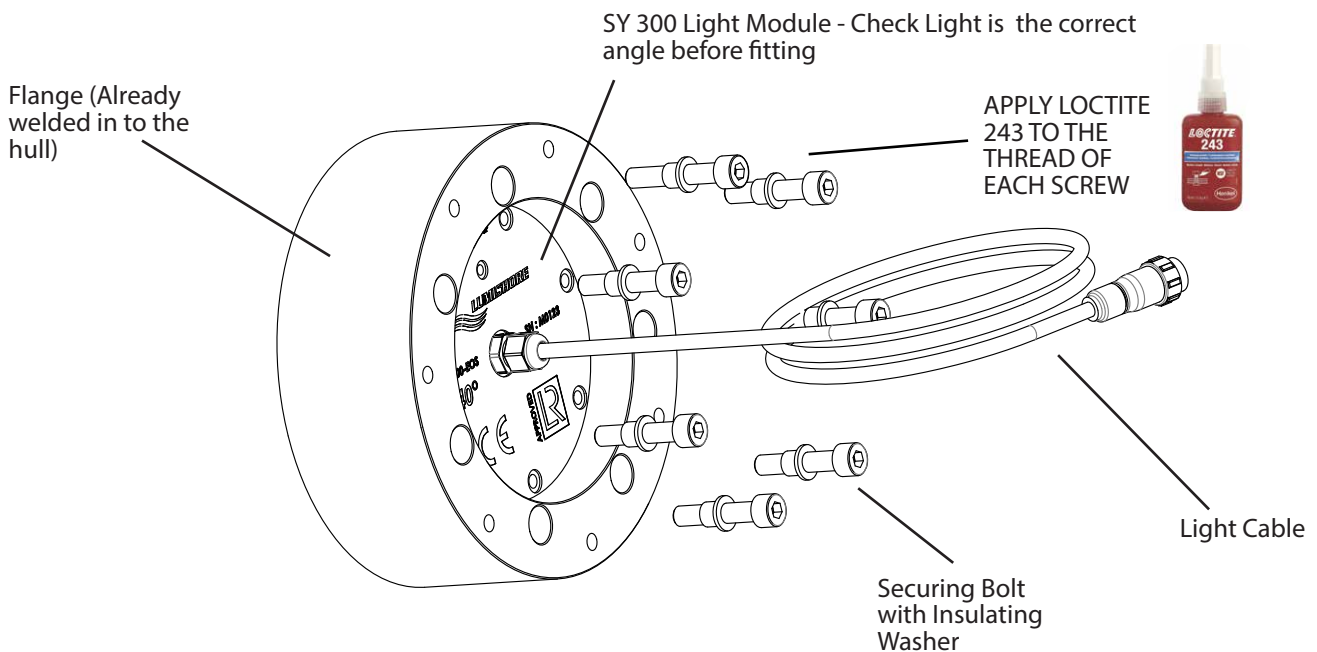
Flange plate
Securing Bolt
(x7)

LIGHT MODULE INSTALLATION

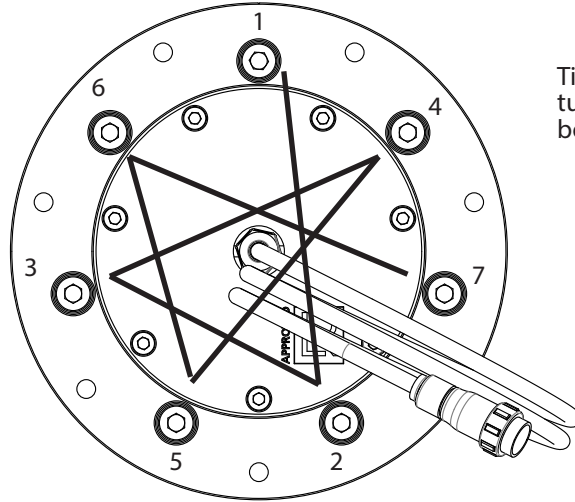
- 1) Clean the weld-in flange thoroughly with IPA, and a clean rag. Check the flange for any damage, debris or weld splatter. The gasket mating surfaces must be clean and flat before the light can be fitted.
- 2) The light MUST be fitted in the correct orientation - ALIGN THE TOP DEAD CENTRE OF THE LIGHT TO THE LINE ON THE FLANGE - check this before proceeding.
- 3) There are several different light modules, depending on the hull angle they are to be fitted to. CHECK THE LIGHT MODULE IS THE CORRECT ANGLE FOR THE HULL POSITION before fitting. The angle of the light will be clearly marked on the label on the back of the light.
- 4) Place the light module gasket over the light and align the holes.



- 5) Apply a small amount of Loctite 243 (supplied) to the thread of each bolt before fitting. Fit the light module to the flange, and secure in place using the bolts - MAKE SURE that the bolts have the insulating washers fitted.



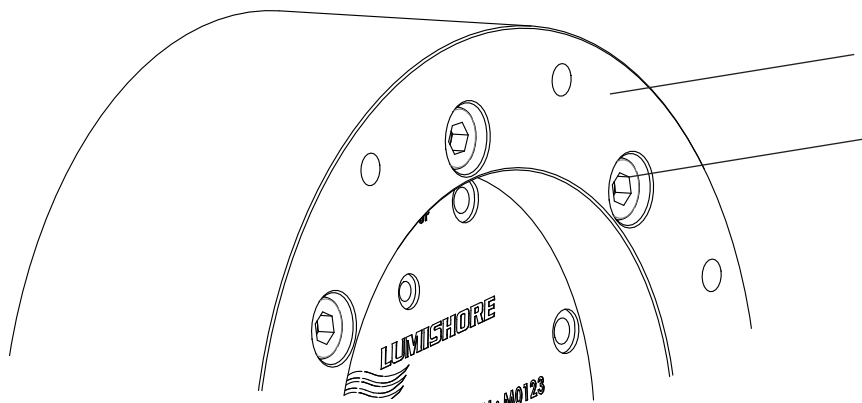
6) Tighten the bolts in a circular pattern (as shown in the diagram). Tighten the bolts half a turn at a time, then move on to the next bolt. USING A TORQUE WRENCH tighten the bolts to a torque of 15 Nm.



Tighten each bolt half a turn at a time until ALL bolts are fully torqued

7) The water tightness of the light fitting should be tested from outside the vessel. The test should be carried out using the yards normal method for testing water-tightness of seals - e.g. Ultrasonic testing.

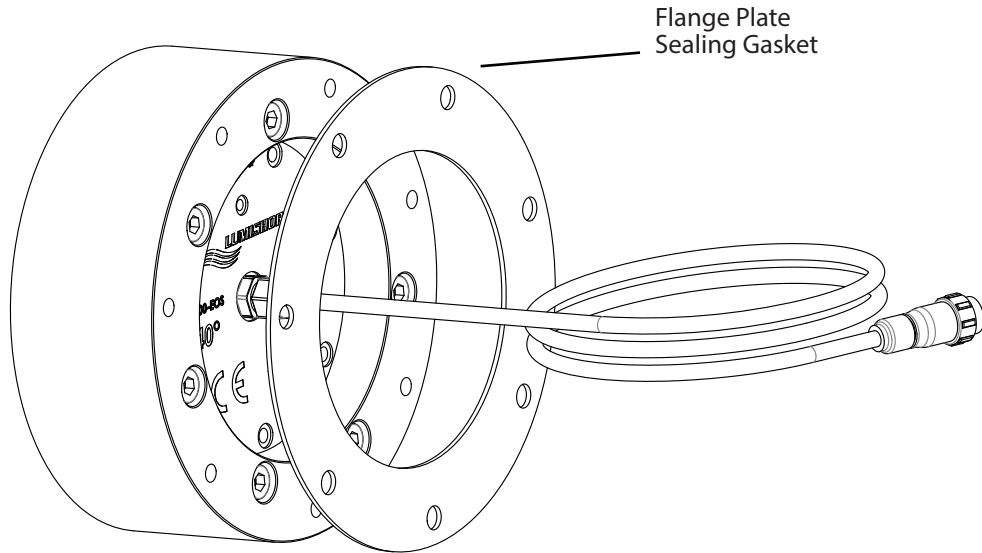
8) Using a Voltmeter, set to check continuity, check there is NO continuity between the securing bolts and the flange. This means the light is electrically isolated. CHECK THE CONTINUITY FROM THE FLANGE TO EVERY BOLT.



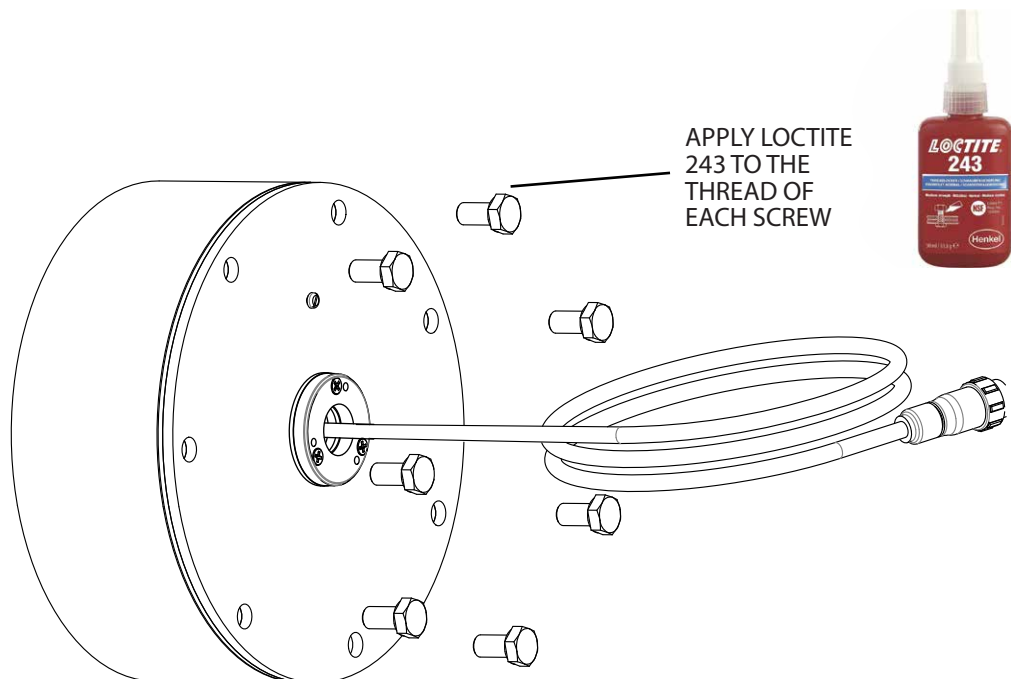
Check for continuity between the head of EVERY light securing bolt and the flange

9) Remove the top part of the gland, and the rubber grommet from the flange plate - KEEP THESE PARTS SAFE as they will be needed later

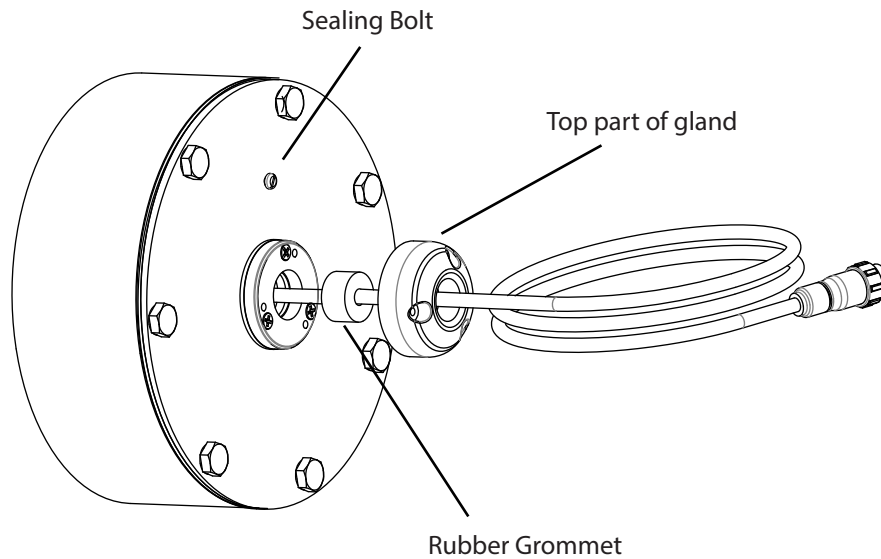
10) Place the flange plate gasket onto the flange. Feed the light cable through the hole in the flange plate, and position the flange plate over the flange.



11) Apply a small amount of Loctite 243 (supplied) to the thread of the bolt before fitting. Secure the flange plate using the bolts - tighten the bolts in a circular pattern in the same way as for the light (as shown in the diagram from Step 5). Tighten the bolts half a turn at a time, then move on to the next bolt. USING A TORQUE WRENCH tighten the bolts to a torque of 15 Nm



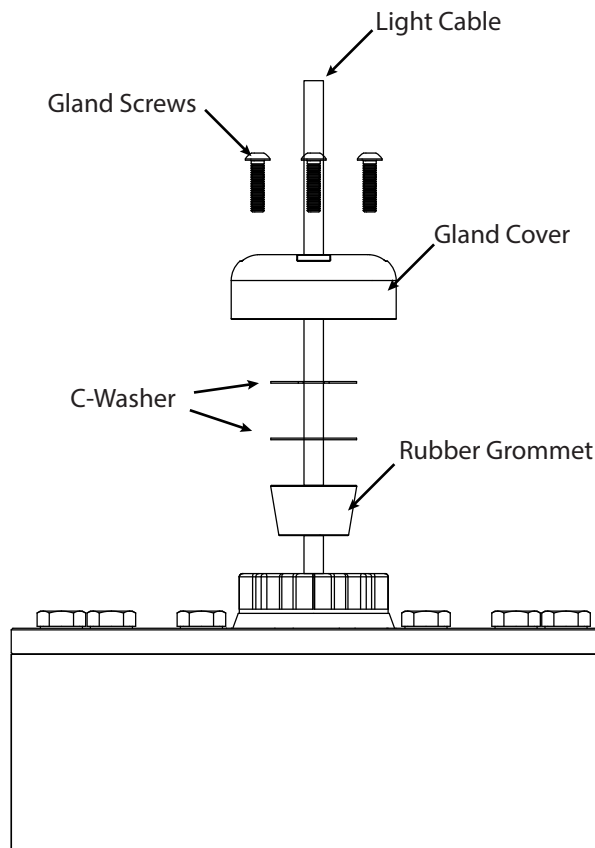
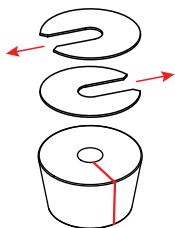
11) Place the grommet over the cable - make sure the larger diameter end is towards the flange plate. Feed the cable through the top part of the gland. Place the top part of the gland into position, making sure that grommet is well fitted, and not pinched. Secure the gland using the screws removed earlier.



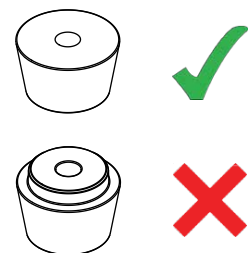
ICE CLASS INSTALLATION

For Ice Class installations the addition of two C-shaped washers are included along with a modified rubber grommet. Please follow the diagram below for correct assembly order.

Note : Position C-Washers with opening perpendicular to grommet cut line as shown below



Ensure correct grommet is used for Ice Class installation



PRESSURE TEST

- 1) Remove the sealing bolt from the flange plate - KEEP THIS SAFE AS IT WILL BE RE-FITTED LATER.
- 2) Fit the test valve to the flange plate, and tighten down to provide a good seal.
- 3) Fit the tube from the pressure test pump to the test valve.



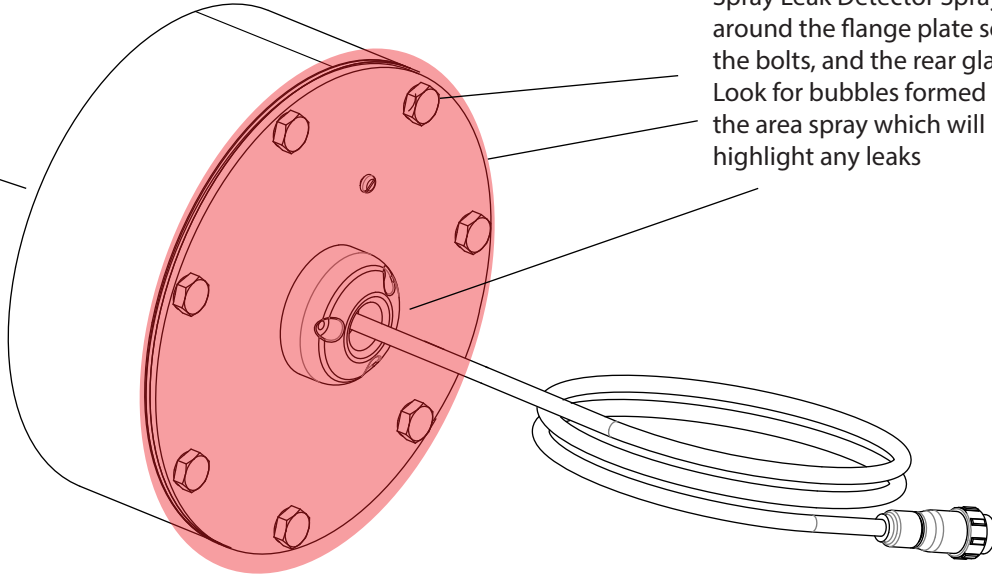
- 4) Using the test pump provided, pressurise the flange until it reaches a pressure of 30 PSI.



- 5) Close the valve, and monitor the pressure for 30 seconds. Check that there is NO DROP IN PRESSURE.



Spray Leak Detector
Spray around the
edge of the glass lens
at the front of the
light



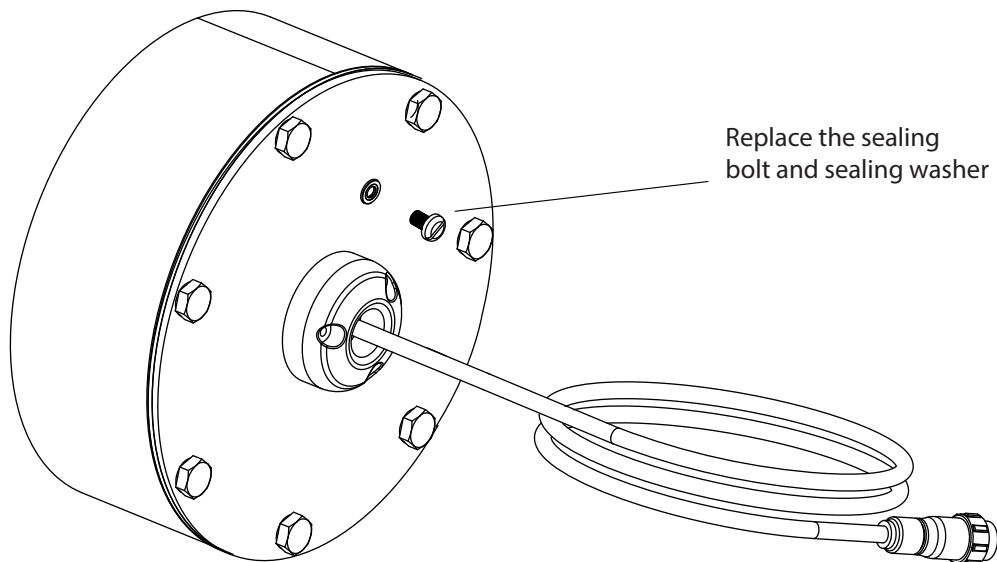
Spray Leak Detector Spray
around the flange plate seal,
the bolts, and the rear gland.
Look for bubbles formed in
the area spray which will
highlight any leaks



6) Whilst the fitting is pressurised for the pressure test, using a leak detector spray, spray the rear gland, the bolts, and the seal of the light. Also spray around the front lens.

7) IF the pressure cannot be maintained then the seal is not adequate. **DO NOT LAUNCH THE VESSEL** until this issue has been resolved, and the light can maintain pressure.

8) Once the test is complete, release the pressure. Remove the test valve, and replace the sealing bolt.



Replace the sealing
bolt and sealing washer



For set up and commissioning of lights refer the Light / Driver Operation Instructions