

Review: Light & Motion's SOLA600 focus light

Alex Mustard's - 5 country test

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****Field Review: Light & Motion's SOLA600 focus light****

Regular readers of my reviews will know that I try and cast a critical eye over products. Despite the high quality of most gear these days, I don't see the benefit to readers of writing reviews that say every product is totally wonderful. I adopt a similar approach with my photos, always looking for areas for improvement. So it might be a surprise to hear straight off that the [Light and Motion](#) SOLA600 focus and video light is my favourite underwater photography accessory of the last 12 months. Let me explain.



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The SOLA600 features a six LED array for white light which is adjustable through three output levels, and a four LED red light array. White light produces 679 lumens, red light 225 lumens.

The importance of a focus light for underwater photography is entirely dependent on what you shoot. If you favour shooting large pelagic in the open ocean or wide angle scenic's on a shallow Red Sea reef, they are thoroughly unnecessary. But if you like macro, murky water or night diving then a good focus light can make the fundamental difference between getting and shot and missing out. Norwegian underwater photographer Christian Skauge tells me that in his home waters, he always encourages new shooters to purchase a decent focus light for their compact cameras, before even buying a strobe. There is no point taking photos if the camera cannot focus!



Underwater photographer Neil Roseworn using the red mode in the Maldives, note how wide a field (on the whip coral) that the light illuminates.

Standard diving torches can be used for focusing, but with narrow beams we find we spend as much dive time adjusting their aim as concentrating on our photography. Also with a focussed bright spot of light, we are more likely to spook critters as they are suddenly exposed to the full glare on our approach. They are not the right tool for the job. Another common solution is using the aiming lights from your strobe, however this relies on having to aim the centre of your strobe beam directly at the subject, which is not always ideal. It also requires constant fiddling with your strobe positions making it an inefficient use of dive time.

The big revolution in focus lights came with the introduction of Fisheye FIX light range (highly recommend in James Wiseman's [Wetpixel review in 2004](#), which was the product that caused a mainstream switch from small diving torches to dedicated focus lights among serious shooters. The FIX lights first used standard bulbs and in the last 18 months or so, have switched over to excellent LED based units. These lights produce a really wide, soft beam meaning basically meaning there is no need to re-aim them during a dive. The wide pool of light also seems to be less shocking to subjects. The FIX lights also raised the financial stakes, taking focus lights from the sub \$100 USD realm to that of several 100. The current range topper, the FIX LED 1000, retails around \$599 and the FIX LED 500 at £299. This is the high-end market that the SOLA600 is aimed at, retailing at \$579 (all prices: Backscatter.com).



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Comparison between SOLA600 and my FIX LED 500, photographed side by side, note that my FIX light runs on AA batteries, so is slightly longer than rechargeable units.

I own a FIX LED500 and since many underwater photographers have experience of them it seems an ideal comparison for the key features of the SOLA600. The most obvious difference is size, the SOLA600 is about half the size and lightweight (0.54lbs/245g), a considerable bonus for the travelling photographer. To pretty much eliminate the risk of flooding, the SOLA600 is a completely sealed unit, charged through gold plated connectors on the back and turned on and off via a lockable magnetic switch. You push it forward and release to turn on the torch, pull it back and release to switch on the red light mode (more about this below) and pull or push it to either end and hold to switch it off.

Both lights produce excellent white light illumination, with wide soft illumination. My tests show the SOLA600 produces a marginally wider and softer beam, but this is not a deal breaking difference. The FIX LED lights have a dial to vary the power output, while the SOLA600 has just three set powers for the white light, and a single power for the red light. The battery can last for several dives. I found a typical 60-70 minute night dive, not using full power, would drain it to only 50-70% on the built in battery monitor. A recharge from this point took about an hour, so it is easily topped up between dives.



Comparison of light output of SOLA600 (top) and my FIX LED 500 (bottom). Light spots on wall, photographed with fisheye lens. SOLA600 produces a wider and softer pool of light, but both are impressive performers.

It is hard to talk about focus lights and not mention reliability. At the price, one could expect the top models to be bullet proof, but in the past, they have certainly not all been. A quick search of the Wetpixel forums will flesh out the facts. It is always tough to assess reliability during a short review period. Being such a fan of the SOLA, I have been

stretching out this review period to extend its stay with me! I have tested it in the Maldives, Florida, Bahamas, UK and Holland. It has worked faultlessly, throughout. I have even lent it out to five other photographers, without problems.

I have a couple of reliability concerns in the design, which are worth commenting on. I should restate, I have had no problems during my tests, but I feel I should mention them as areas to watch. I feel that there is a potential for the magnetic gliding switch to get clogged by sand or salt if not washed out regularly, particularly in a black sand location, like Lembeh. Light and Motion tell me that it has been designed with a wide tolerance to aid flushing of any debris. I found it could get a bit sticky if not washed well. I also feel there is a potential problem with wear on the exposed charging contacts, if a lazy user regularly didn't wash and dry away salt water before charging. Again, on my test unit, they still look like new. Given the price most of us will be expecting a long life of active service. Nothing I saw made me doubt that the SOLA600 will oblige in this respect.



A good quality of focus light makes photography at night a much more pleasant and efficient process. Taken with a Nikon D700 + 105mm VR + 1.4x TC + 5T dioptr. Subal housing. Twin Subtronic strobes and SOLA600 focus light in red mode.

Perhaps the most exciting feature of the SOLA600 is the red light mode. It is often quoted that using a red light for focusing is beneficial because many species of marine life cannot see it. So you don't scare your subject in the process of focusing on it. The SOLA really works in this regard, but using it also really taught me that not all red lights are created. I have often added red filters to my diving lights, but have failed to notice any real advantage. This is because many red filters, while turning the light red, let through other colours too, which marine life can see. The SOLA600's red LEDs produce a very narrow spectrum of red light. You can see the difference by shining it on the cover of a magazine, a poorly filtered light will allow you to differentiate far more colours than the very pure red LEDs. The less colours you can see, the more effective the light.



The red light mode of the SOLA600 focus light, produces a narrow spectrum of red light, making the light less visible to marine life, but well suited to help our cameras focus.

The SOLA600 is the first red light that I have used that you can clearly see works in not spooking many marine species. I found the red light was most effective on invertebrates: molluscs, crustaceans, coral polyps, echinoderms etc. Another benefit is that this includes worms and other plankton that enjoy swarming around our dive lights at night - these are definitely reduced by the red mode. However, many shallow water fish are clearly able to see red light, but when asleep (on night dives) it didn't wake them. It is also worth noting that while the light may be hard for critters to see, they will still detect an ungainly approach. It is not a licence to race or trash around. All of the photographers who tried this also commented positively on this aspect. In the Netherlands, one shooter even told me that they thought it even seemed to attract lobsters to the camera. Perhaps the lobsters were confused about the meaning of a red light in Holland?



The red light mode was particularly useful for invertebrates, which, in general, seem less able to see red light than fishes. This clawed lobster photographed at night in Holland. Taken with a Nikon D700 + 105mm VR + 500D dioptre. Subal housing. Single Inon strobe with snoot and SOLA600 focus light in red mode.

The other important advantage of the red light mode of the SOLA600 over using a filter is that it allows us to easily to switch modes. The red light mode provides enough light to dive comfortably, but the big disadvantage of staying red is that you don't see the colour of subjects. Many of the best macro pictures celebrate the beauty of a fabulous creature on a beautiful background. Like the majority of photographers, I don't believe in moving subjects for the sake of my photos (and as a biologist nothing is more annoying than seeing a critter on a background it would actively avoid in the wild). So to find the best natural compositions, we need to be searching in full colour. It is important that the SOLA600 lets us switch instantly back to white.



The ability of instantly switching between white and red light is ideal for searching for subjects and then approaching them. Taken with a Nikon D700 + 105mm VR + 1.4x TC + 5T dioptre. Subal housing. Twin Subtronic strobes and SOLA600 focus light in red mode.

Many focus lights are now made powerful enough and white enough to be used for video. Both the SOLA600 and FIX LED lights are designed to also function as video lights for vid-SLRs. I can confirm that both are bright, soft and white. But I am I am not a videoist, so I won't comment in detail about their suitability for this function. I know plenty of people have used them for this, so please add your comments below.

I have a couple of general comments to add about focus lights. In clear waters, a wide soft beam is highly desirable. It saves us having to re-aim the light constantly and is less likely to scare a critter than a narrow spot of light. However, when visibility is low you need a narrower beam. Otherwise it is like driving in the fog with your headlights on full beam. This issue becomes significant when the visibility is less than 5m/15ft. I would like to see focus light manufacturers providing beam-restricting snoots with their lights for low viz diving. The SOLA600 would benefit in this regard. Secondly, some focus lights have sensors to switch them off when they detect the flash firing. I have never been convinced this is a useful feature. When we shoot macro, we tend to use a small aperture and the fastest shutter speed, so the light beam will not be visible in the shot. We will see the light beam in long exposure wide angle shots, but in this case we should be using rear/second curtain flash synch (so the fish don't look like they are swimming backwards) and if we do then the torch will not cut out during the exposure, but after it! The SOLA600 and FIX LED lights do not have this feature.

So to conclude, I have been really impressed with the SOLA600. It is an expensive piece of kit (at just under \$600 USD,) but is an excellent performer. It produces a wide, soft pool of light, ideal for helping us focus, without having to constantly re-aim our torch. It has been a pleasure to use. The small size is a big plus for travel and for mounting on my housing. The red light mode has undoubtedly enabled me to get close encounters with marine wildlife that I have previously struggled with, ultimately helping me bag shots I hadn't been able to before. But given the price we should expect it to last and from my tests its fully sealed design seems bomb-proof. If it turns out not to be, you'll hear about it on the forums.



A good focus light really helps us achieve precise focus in dark conditions, especially for high magnification macro photography. Taken with a Nikon D700 + 105mm VR. Subal housing. Twin Subtronic strobes and SOLA600 focus light in red mode.

If you already own a high quality LED focus light, it is hard to justify the purchase of the SOLA600. But if you are a serious macro and night dive shooter then Light and Motion's new light should be high on your wish list. All the photographers who tried the one I had have already bought one or are planning to soon. Me included. It is the best focus light I have used and my standout underwater photography accessory of the last 12 months. **Highly Recommended.**