

Marineland Double Bright LED Lighting System

Product Review by DAVE Unruh

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Marineland has a brand new line of aquarium lighting systems called “Marineland LED Double Bright Lighting System”. LED’s (light emitting diodes) are the latest rage in aquarium lighting. Marineland has made a few sizes that should fit most aquariums from 18” to 48”. I was able to get the largest one (fits from a 36” long tank to a 48” tank). *Thanks to Dan from M.O.P.S for providing the product.*



This strip light is quite an impressive light fixture, with 16 white one watt LED’s & 8 blue LED’s for a total of 24 LEDs. Each of the LEDs has a polycarbonate lens that enhances and protects the light and creates a shimmer effect in the water. Each white LED draws only 1 watt of power, and produce 75 lumens each. The blue LEDs are rated at 60mW, so it is a very power efficient light. Marineland rates it at 1200 lumens



Understanding lumens and lux go far beyond this review, but here are some definitions that may help you to understand these terms. Lux is the light level you get when you hold a lit candle one meter from the subject in a dark room. If you hold the candle just a foot away from the subject the illumination is brighter, and

that lighting level is called one foot-candle, or about 10.7 lux. (10 lux = 1 footcandle is close enough.). To light a surface of one square meter evenly at 1 lux requires one lumen of total light. Since the area of a sphere one meter in radius is 4pi square meters, the total light output of a candle is 4pi (about 12.6) lumens. So a candle is a little dimmer than a one watt light bulb.



I measured the light output using my Gossen Lunasix light meter set on the incidental setting at a distance of 12” from the light & found that it produced approximately 1400 lux. For comparison I tested a T5 high output light (2 - 48” tubes) & found that it produced a reading of about 2800 lux. Using the reflected light setting gave much higher readings at 88000 and 150,000 respectively. With that comparison I would expect that the LED lighting may not be suitable for a marine tank with corals, but for planted freshwater tanks it might be suitable. The LEDs are rated to last for 17,000 hrs, so if you used them for 10 hours a day they should last for about 4 ½ years.



The unit its self is very thin – about 2 cm thick, 12.7cm (5”) wide by 89cm (35”) long & not very heavy at a mere 1.4 Kg (3 lbs). There are metal extensions on the ends which can be pulled out to make it fit over a 122cm (48”) long aquarium. There is an on-off switch that allows one to turn the unit on with both white & blue LEDs on or just the blue LEDs. I would have preferred to have 2 power cords so that timers could be used to have daytime light & using the blue LEDs only there could be a nighttime or evening illumination. It does not matter that much though as the blue LEDs are not that bright.



I put the unit over a 136Litre (30 gallon) tank 91 x 40 x 30 cm (36 x 16 x 12”H) placed end to end (the long way). I did not have a glass cover over this tank. It was previously lit by two 48” daylight deluxe fluorescent tubes placed from side to side (the short way) rather than end to end. These tubes produced about 500 lux (incidental setting) & about 22,000 lux (reflected setting) using my light meter.

The LED strip looks very pleasing in both the amount of light falling in the tank and the color of the light, which I would describe as white rather than yellow, red or blue. The tank is heavily planted with lots of *Vallisneria spiralis* (Italian Val), some *Cryptocoryne nurii* and some *Anubias barteri* and *Anubias nana*. These plants all grew well with the fluorescent light

previously used. The plants looked very nice with the LED light, the light looked natural. There are a lot of wild Endlers livebeares in the tank & the males color looked bright and vibrant.

I am very favorably impressed with Marinelands Double Bright light strip, combining great economy with great color rendition. I placed one of these over a customer’s 200 gallon fish only marine tank (40” x 32 x 36”H) and was very surprised to find that it illuminated the tank very nicely – even to the bottom of that 36” deep tank. The fish’s color looked very bright, particularly the blue damsels.

What remains to be seen is will the LEDs last for 41/2 years, will the light spectrum change with time and how will the freshwater plants respond to the new light. Time will tell. I plan to leave this light on the tank for six months and then report back with the results. How did the plants grow? Was there more algae growth?

The cost of the product tested can be purchased from between \$160.00 to \$180.00

As for using this light on a reef tank, I think it is not bright enough for that. But I hear that Marineland has made a new LED light for reef tanks – called Reef Capable LED that is said to have more & brighter LEDs! I have not seen this product yet, but it sounds interesting.