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Elation Professional Proteus Hybrid

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I think it was Dale Polansky, Candace Brightman's lighting console programmer on The Grateful Dead's shows, who told me that the group played a show during a rain shower, and even though water was pouring out of the moving lights, they worked fine. Then there's the story that Phil Ealy told about the Guns N' Roses lighting rig that fell off a pier in Atlantic City and into the ocean. After using a blow-dryer to dry out the strobe lights, they came back to life.

I suspect that, in both cases, the lights probably suffered from corrosion and, eventually, premature failure—not to mention the electrical hazards involved. Water and lighting ordinary don't mix, but that's changing, thanks to a new generation of high-IP-rated moving lights. Elation's Proteus Hybrid, for example, has an IP rating of 65, for outdoor use.

IP ratings are an international standard, and each consists of two numbers. The first indicates the degree to which it protects against the ingress of solid particles; the second indicates the degree to which it protects against the ingress of water or moisture. An IP65 rating means the unit is completely dust-tight and protects against high-pressure water jets sprayed from any direction.

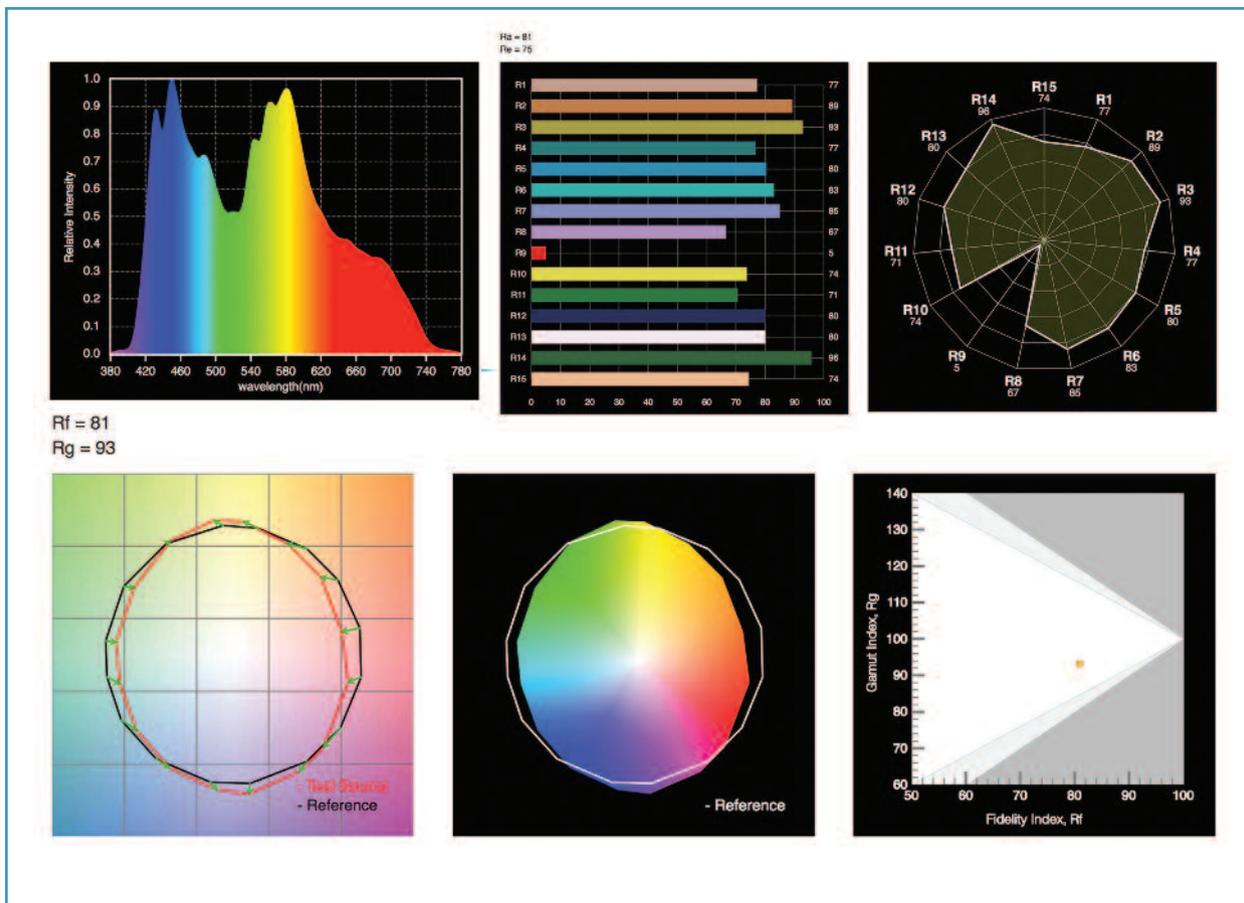
You might expect that a moving yoke fixture like this would have to make compromises to seal the unit well enough for an IP65 rating. Not true—at least, not that I can tell. The Proteus Hybrid has all the features you would expect from a modern-day profile beam fixture, is very bright, and is well-built.

One of the most prominent features of the Proteus Hybrid is its 6"-diameter (15.24cm) output lens. The beam it produces looks impressive and the light output is substantial. I measured 7,930fc (85,354 lux) in the center of the beam with a 16' throw in the tightest zoom position, which produced a 10" (25.4cm) diameter beam and a 3° beam angle (without the beam-reducing gobo). In the widest zoom position, I measured a peak of 476fc (5,125 lux) in the center of the beam with a 16' throw, which produced a 132"-diameter (about 3.35m) beam and a 40° beam angle. In the tightest zoom position, I had to put on sunglasses to look at the beam reflecting off my white garage door; I could also feel the heat on my hand when holding the light meter in the center of the beam.

The hot spot in the beam's center is more noticeable in a narrow-to-medium zoom position. The unit uses a Philips MSD 21R 470W arc lamp; because it has an integral reflector, there is no adjustment to flatten the beam. I thought this



The Proteus Hybrid has an IP rating of 65, meaning it is dust-tight and protects against the ingress of water jets sprayed from any direction.



The unit's spectral power distribution, CRI, and TM-30 readings are illustrated in the graphics.

might affect the image projection, but I was wrong. The center-to-edge focus looks pretty good.

According to my AsenseTek Essence spectrometer, the correlated color temperature is about 6,100K with a CRI of about 81. On the color quality scale, it reads 77, and the TLCI is 59. As far as the TM-30 reading, Rf is 81, while the TM-30 Rg is 93. It's a little deficient in red and orange, compared to yellow and blue. While there are better light sources for uniformity and rendering skin tones on video or television, to the eye, it looks great.

According to the manufacturer, the lamp has an average life of 1,500 hours. To replace it, you have to first remove the rear quarter housing by taking out four hex-head screws to reveal three modular exchangers with integral heat pipes. The center radiator can be removed with four screws, which reveals the lamp. Changing the lamp took me about five minutes.

It's interesting that this fixture is rated for outdoor use and is designed to protect against the ingress of powerful water jets at any direction. The head is basically a sealed unit, yet it has four fans. Two are inside the sealed head, one of which circulates air around the optics and the other

around the lamp; two are mounted on the outside of the sealed head, but inside of the housing. The latter two, which are rated IP68, help remove heat from the three heat exchangers. They are fairly loud, which make this fixture less suitable for theatre than for rock concerts or architectural exterior lighting projects.

From an electrical standpoint, the Proteus Hybrid is well-designed. I measured 5.6A at 119V with a power factor of 0.99. The fixture has a kVA of 670 (660W and 80VAR), and the total harmonic distortion of the current waveform is only 7.7%. I measured an inrush current of 16A peak, and watched the turn-on current rise, in very linear fashion, from 0A to 5.6A in about three minutes and 15 seconds. Well-built switch-mode power supplies regulate the current very well.

Besides a remote zoom, the Proteus Hybrid also has the ability to switch between a beam and a spot, using zoom, focus, and beam-reducing gobos. The color system has CMY color mixing, linear CTO color correction, and a wheel with 14 dichroic colors including CTB, CTO, and UV. There are eight rotating, interchangeable gobos and 14 non-rotating, stamped metal gobos; a 360° bi-directional animation



The Proteus Hybrid includes Elation's E-Fly wireless DMX transceiver.



One of the most prominent features of the Proteus Hybrid, besides its IP rating, is its large-aperture exit lens.



The head is sealed and three heat exchangers help keep the unit cooled.



The connectors are kept sealed when they are not in use.

wheel; rotating eight-facet prism; linear prism; frost filter; motorized focus with an auto-focus function; and a high-speed mechanical shutter/strobe. All are very fast. I videotaped the color and gobo change and at 30fps, the colors and gobos move the furthest distance in about three video frames or one-tenth of a second.

Besides DMX, the fixture can accept Art-Net or sACN directly, and it has RDM as well. It also has a built-in E-Fly wireless DMX transceiver.

Until fairly recently, you had to have a weatherized enclosure to permanently install automated moving fixtures out-

doors; this is not the ideal solution. Thanks to some brilliant engineering, you no longer have to. Just for fun, I took this light out on my driveway one foggy night; it looked like a searchlight, reaching up to the low cloud ceiling. Some neighbors drove by very slowly, trying to figure out what was going on. One of them stopped and asked. He was amazed that the little package in the drive could be so bright. Me too. 📶