

# LEP Deep Submergence Light



BIRNS, headquartered in the USA, has launched a powerful underwater vehicle light: the BIRNS Aurora. This high-intensity Light Emitting Plasma (LEP) deep submergence light provides electronically dimmable, 14,000 lumen brilliance to usher in the next generation of extreme depth subsea lighting systems.

LEP is a new lighting technology that is a more powerful and efficient alternative to LED, tungsten halogen and metal-halide lighting. Its light sources use a solid-state device to generate Radio Frequency (RF) energy to power a plasma light source. Unlike traditional metal halide lights, the BIRNS Aurora does not require metal electrodes to drive power into the source, thus has a more robust quartz vessel. This unique LEP light has a 30,000 hour lamp life, and produces a continuous spectrum, and delivers an exceptionally high

lumen density—in fact, the single bulb (approximately 2 mm long) produces a blazing 14,000 lumens of brilliant white light at 5,300K, at a Colour Rendering Index (CRI) of 94.

A new development since the prototype shown last year is the seamless electronic dimming software (operable on any PC) which permits continuous slide-bar dimming down to 20% without reduction in colour temperature or colour rendering index (CRI) performance. The software also has pre-set 10% dimming increments (at 90%, 80%, 70%, etc.) enabling the BIRNS Aurora to be dimmed with a single mouse click. The luminaire also has a hot-restrike feature which immediately brings the lamp to full brightness from any dimmed setting.

The potent BIRNS Aurora offers physical dimensions that are smaller and more efficient than costly metal halide systems, and is engineered with a robust aluminium housing with a tempered 6km borosilicate glass lens. It has an overall length of 15", suited for a wide range of applications. With a mounting diameter of 4 inches, it can be tailored to fit large or small vehicles, and runs on 28Vdc with a 9.3A power draw, with a weight of 12 lbs in air and 7.5 lbs in sea [water](#).

The connector for the system is a BIRNS Millennium 3M-9-BR, an electrical connector with nine pins, with an open face pressure rating of 6km. The connector series is a miniature, high-density metal shell line, with contacts with 50 microns of hard gold plating, with standard exclusive features such as dual self-guiding stainless steel keys and keyways for positive indexing. The connectors are engineered with a 15° molded internal O-ring leading chamfer that's specially angled to ensure the dual O-rings' longevity and reliability.

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