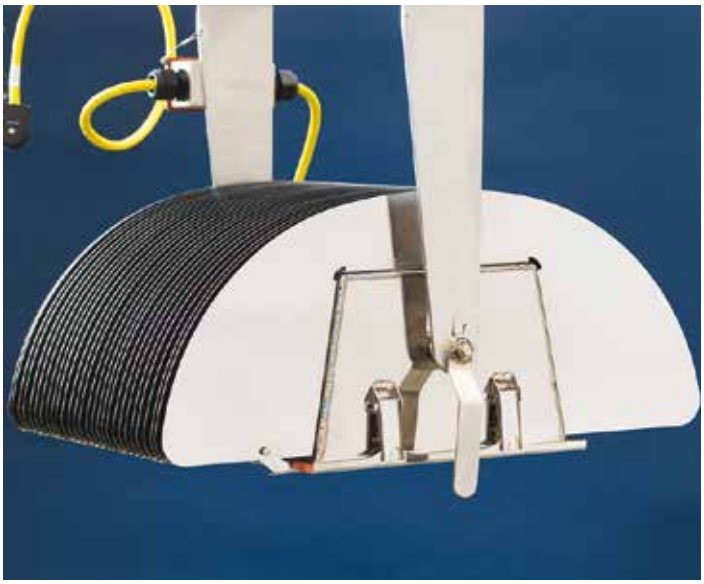
Powerful and Reliable Lighting Solutions

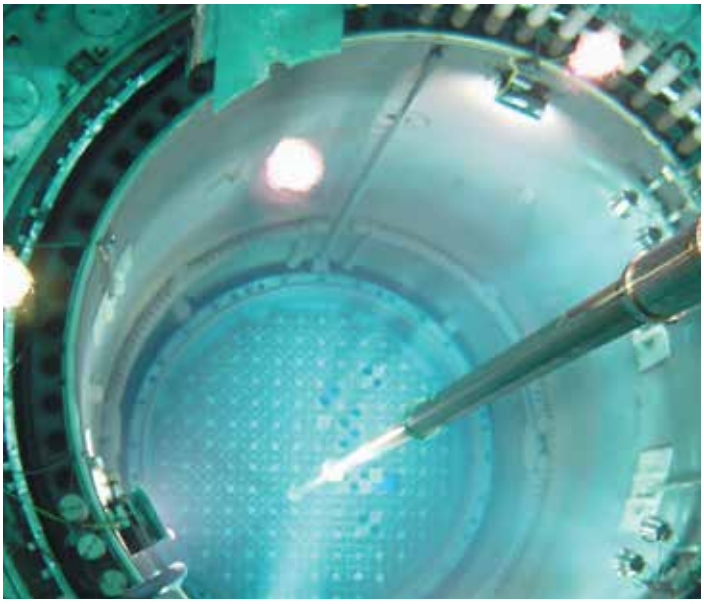
Challenge

In order to meet the industry's need for safe, powerful, high-performance nuclear lighting systems, AREVA is now the exclusive channel to the market for BIRNS lighting. BIRNS established its Nuclear Lighting Division in 1980, and is a world leader in brilliant, robust lighting products that are used in more than 80% of the U.S. nuclear power stations.



Solution

BIRNS field-proven lighting products are trusted across the globe — they are custom engineered and stringently tested — including seismic qualification per IEEE-344. They enhance safety and radically decrease downtimes during fuel movement, inspection and maintenance, as well as help nuclear stations achieve B.5.b. (EA-02-026) Post-Fire Safe-Shutdown. All of BIRNS' sophisticated lights feature top nuclear-grade materials, as well as captivated hardware, and smooth, rounded surfaces for workers' safety. These versatile LED, incandescent, HPSV and tungsten halogen systems provide intense illumination with extremely long lamp lives, and allow simple 60 second re-lamping, usually without tools.



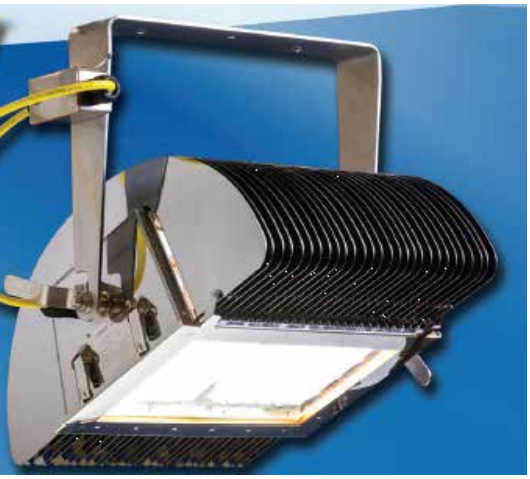
BIRNS offerings include:

- High Bay LED Lights
- Emergency Lights
- Underwater Floodlights
- Underwater 360° Lights

AREVA NP

BIRNS®

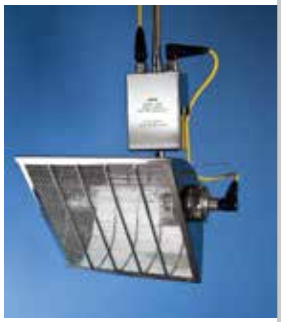
AREVA



High Bay LED Lights

BIRNS Quantum LED

The new BIRNS Quantum LED floodlight delivers powerful illumination for demanding high ceiling applications inside containment. With a 21,383 lumen output of 5,000K white light, it provides safer, more comfortable and efficient working conditions. It has a low 210W power draw and a 109,000 hour lamp life — along with high optical efficiency of 102 lumens per Watt — delivering huge energy savings over metal halide and tungsten halogen lamp options.



Underwater Floodlights

BIRNS Kelvin and BIRNS Screened Kelvin

The BIRNS Kelvin and BIRNS Screened Kelvin are powerful 16,000 lumen tungsten halogen lights that are trusted worldwide in nuclear power stations, and are seismically qualified per IEEE-344. Innovative features such as rugged stainless steel mesh coverings and a Lexan polycarbonate protector with specially designed Lexan plugs for the finger holes enhance safety in a variety of high performance nuclear illumination applications.

BIRNS Corona

The BIRNS Corona is an advanced, high-intensity nuclear-grade floodlight — a brilliant, high pressure sodium vapor system with 132,000 lumens and a 24,000 hour lamp life. Its unique mirror-finish parabolic reflector maximizes light output, and the system can be operated indefinitely in air, immersed in cold water without damage, and relamped, tool-free by hand in 60 seconds.

BIRNS Corona Major

The BIRNS Corona Major is an exceptionally durable and dependable tungsten halogen fuel pool lighting fixture. It delivers 50,000 lumens of 3200K white light, yet is easily decontaminated and relamps in 60 seconds, tool-free. It requires no heavy ballast to operate, and is designed for underwater use in areas with high levels of radiation and nuclear contamination.

Emergency Lights

BIRNS Emergency Lighting Fixture-LED (ELF-LED)

The BIRNS Emergency Lighting Fixture-LED (ELF-LED) is the world's most advanced seismically qualified (tested to IEEE 344) nuclear-grade emergency light. It delivers up to five times more standby illumination than required by 10CFR50, App. R Sect. III.J., in case of Station Black Out or loss of AC power, and helps nuclear stations achieve B.5.b (EA-02-026) Post-Fire Safe-Shutdown.

Underwater 360° Lights

BIRNS Refueling Light

The BIRNS Refueling Light is compatible with all Class A GFCI/ELCB systems. It allows for 60-second tool-free relamping and easy decontamination. It is Ø109mm in diameter and available in 1,000 W (120V) or 500 W (240V).

BIRNS Curie II

The BIRNS Curie II is the world's most advanced general purpose underwater 360° droplight. Only 89mm in diameter, its 120V/2,000W lamp emits a powerful 59,000 lumens of 3200K light, using ballast-less mercury-free lamps. With 304 stainless construction throughout, it also features a redundantly-sealed stainless steel electrical connector.

BIRNS TubeLight

The BIRNS TubeLight delivers powerful 10,000+ lumen brilliance for 360° drop-light use in confined spaces. It is compact (only 48mm in diameter) and versatile, 100W to 500W, with a wide range of accessories to tailor it to a variety of demanding nuclear applications.

Customer Benefits

- All nuclear-grade materials
- Fast relamping and maintenance, often tool-free
- Safe: all captivated parts, no sharp edges or corners
- Easy to clean and decontaminate
- High radiation tolerance

Technical Information

BIRNS' Quality Management System is certified to ISO 9001:2008 and complies to the requirements of NRC 10CFR50, Appendix B- "Quality Assurance Criteria For Nuclear Power Plants and Fuel Reprocessing Plants."

Innovation

No other company has BIRNS' length of experience or depth of understanding in the development, manufacturing and testing of lighting solutions for severe nuclear environments. With a long, proven heritage of providing the most powerful, trusted lights in the nuclear power industry, BIRNS is constantly innovating to meet the changing needs of this demanding market.

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