

## Powerful and Reliable Lighting Solutions

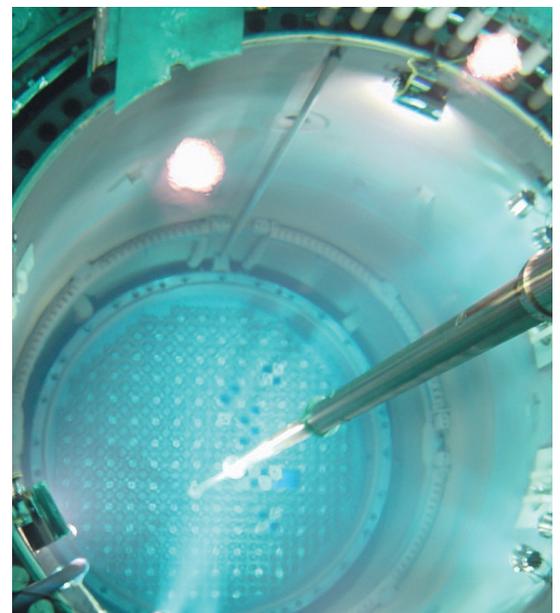
Rugged, brilliant, nuclear-grade lighting from the Nuclear Parts Center that increases safety and lowers maintenance costs.

### Challenge

The nuclear industry requires a wide range of complex, powerful lighting solutions to facilitate safe and effective operations. There are numerous intricate engineering considerations for such systems, given the rigorous demands of the environment. Those responsible for specifying lighting systems must take into account issues like energy draw, rad-waste and effects on performance due to exposure to fuel.

### Solution

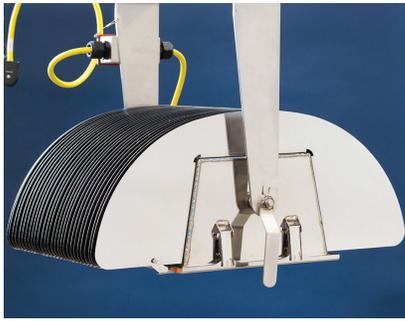
BIRNS field-proven lighting products are trusted across the globe. They are custom engineered and stringently tested, including for seismic qualification per IEEE-344. They enhance safety and radically decrease downtimes during fuel movement, inspection and maintenance, as well as help nuclear stations 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.



### Customer benefits

- All BIRNS lights are designed with safety in mind, featuring smooth edges, and captivated parts
- Decreased maintenance costs due to fast relamping and minimal upkeep — set it and forget it
- Lower costs overall as most BIRNS lights are made to work with commercially-available lamps and provide low power draws
- Less radiation waste due to longer lamp lifetimes

**Your performance**  
is **our** everyday **commitment**



## High Bay LED Lights

### **BIRNS Quantum LED**

The BIRNS Quantum LED floodlight delivers powerful illumination for demanding high ceiling applications. Designed for inside containment with seismic qualification per IEEE-344, the Quantum can be utilized anywhere high-bay lighting is required. 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.

### **BIRNS Quantum-C**

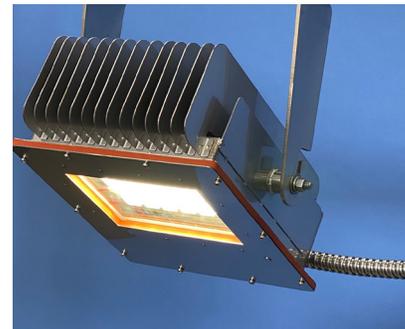
The new BIRNS Quantum-C provides the same high-quality lighting as the Quantum, but with a smaller footprint. The Quantum-C is designed for applications where an immense amount of light is required, but there is limited space. It is ideal for use on polar cranes.



## Low Bay LED Lights

### **BIRNS Quantum-Q**

The BIRNS Quantum-Q is an LED floodlight for any low-bay applications. Like the Quantum and Quantum-C, it is designed to withstand the challenging environment found within containment, but can be used anywhere throughout the plant. With a 5,300 lumen output and 60,000 hour lamp life, the Quantum-Q helps to provide safer, more comfortable working conditions throughout nuclear facilities, while significantly reducing labor and power costs.



## 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. With sealed, maintenance-free batteries and a factory-programmable PCB, this robust, UL-listed system's LEDs have 35,000 lamp lives. The BIRNS ELF-LED provides cutting-edge design and performance features that are unmatched.





## Underwater Floodlights

### **BIRNS Lumena-6**

The BIRNS Lumena-6 is an advanced, intensely bright nuclear underwater LED floodlight, which reduces nuclear fuel handling costs by bringing daylight illumination to reactor cores, fuel transfer canals and storage pools. This 85,000 lumen, low maintenance system provides immense light output, efficiency and quality. It provides extended long-term use with an 80,000-hour lamp life. The plug-and-play BIRNS Lumena-6 operates on any standard mains outlet from 90-300 VAC and draws only 600W.

### **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 lighting fixture designed for fuel pool use. 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.

## 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, this 120V/2,000W system emits a powerful 59,000 lumens of 3200K light using ballastless 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.



## Technical Information

BIRNS' Quality Management System is certified to ISO 9001:2015 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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