

framatome

BIRNS Quantum-C

Robust, field-proven compact LED floodlight for containment and cranes

Challenge

Nuclear power plants require an efficient, long-life floodlight with wide-range illumination. Certain applications on ceilings, wall or polar cranes require a smaller footprint to fit the available space.

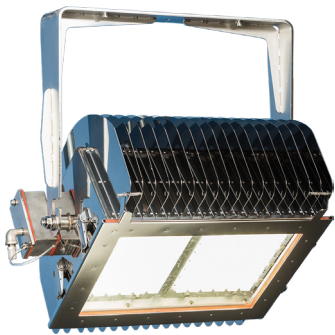
Solution

Framatome is the exclusive channel to the nuclear market for the BIRNS Quantum-C LED floodlight, a powerful, energy-efficient system created for wide-range illumination in reactor halls and fuel buildings. The Quantum-C provides powerful, extended use LED illumination for a wide work area. This durable, brilliant system is engineered with low profile cooling fins and a compact footprint, so it is ideal for upper containment and crane applications.



Customer benefits

- Meet requirements with all nuclear-grade materials
- Save time with fast relamping and maintenance, often tool-free
- Increase safety with all captivated parts, no sharp edges or corners
- Increase efficiency of use with easy to clean and decontaminate light
- Reduce dose from less maintenance from longer life due to high radiation tolerance



It is seismically qualified per IEEE-344 and has a 21,383 lumen output to enhance safety and productivity, along with an approximately 100,000 hour lamp life, which drastically minimizes maintenance.

With a low 210 watt power draw, along with optical efficiency of nearly 83 percent — 102 lumens per watt — it offers huge energy and cost savings over metal halide and tungsten-halogen lamp options, and delivers a near-daylight color

temperature of approximately 5,000K. The versatile BIRNS Quantum-C accepts a wide range of input voltages, from 110V to 277V. It comes with an adjustable universal mount for ceiling, wall and crane mount configurations, and captivated flex-top nuts make it easy to securely lock the fixture in place.

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

Key Features

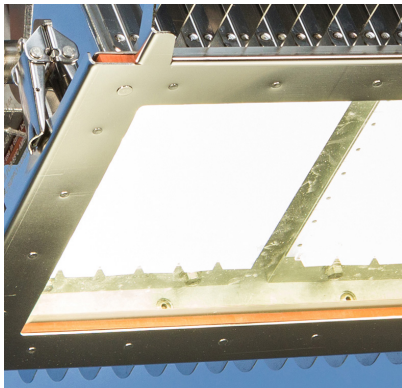
- Powerful, wide area lighting with > 21,000 lumens
- Approximately 100,000 hour lamp life; low 210W power draw
- UL listed
- Near daylight 4,872K color temperature
- Seismically qualified per IEEE-344
- Wide input voltage range (110, 120, 220, 240, 277)
- Compact housing; containment grade materials
- Extremely robust 430 stainless steel housing
- High radiation tolerance 2.5 x 10⁵ Gy (2.5 x 10⁷ R)
- Exclusive breather system allows fixture to withstand containment integrated leak rate testing at full pressure
- Versatile installation options with universal mount
- Lexan window shield for complete glass captivation



This unique light is precision manufactured in the United States, and has a robust, all stainless steel exterior housing. It is well suited for extended use in nuclear environments. It features an exclusive breather system, so it withstands containment integrated leak rate testing at full pressure.



This powerful system emits 21,383 lumens, with an extended lamp life that can run 12 hours a day for more than 20 years before needing replacement. The BIRNS Quantum-C has an optical efficiency of approximately 83 percent with a near daylight color temperature for comfortable, productive working conditions.



Like all field-proven BIRNS nuclear lighting fixtures, the BIRNS Quantum-C is designed with safety and productivity in mind, so all corners and edges are rounded for worker safety, and all surfaces are smooth for easy cleaning and decontamination. It is constructed of nuclear-compatible materials, and is designed with fully captivated parts for safety and efficiency of use.

Specifications

ELECTRICAL

Mains Input (VAC):	110-277
Frequency:	50 Hz or 60 Hz
Power:	210W
Power Factor:	.96

LIGHTING/PHOTOMETRIC

Lamp Type:	High-power LED
Luminous Flux:	21,383 lm
Correlated Color Temperature:	4,872K
CRI (Ra):	77
LED Lumen Maintenance (L70):	~100,000 hours
Lumens per Watt (LPW):	101.8
Optical Efficiency (%):	83
Operating Position:	Universal
Fixture Type:	Flood

MATERIALS

Housing:	430 Stainless
Mounting Hardware:	300-series stainless steel
Gaskets:	Silicone rubber
Window:	Tempered glass
Window Frame:	300-series stainless steel
Window Shield:	Polycarbonate

ENVIRONMENTAL & QUALIFICATIONS

Protection Level:	IP5X
Radiation Tolerance:	2.5 x 10 ⁵ Gy (2.5 x 10 ⁷ R)
Operating Temperature:	55°C
Certifications:	UL 1598, UL 8750 (UL file E469037)
Seismic Qualifications:	IEEE 696-2005 High Required Response Spectrum, ICC-ES AC156, IEEE-323-1974, IEEE-344-1987, IEEE-382-1996, and NRC Guides 1.89 and 1.100

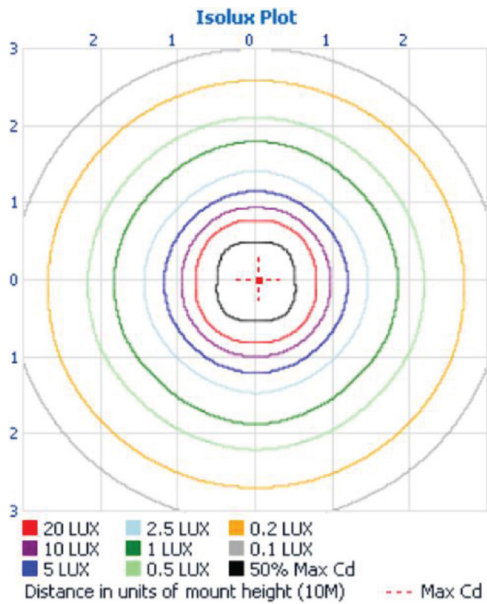
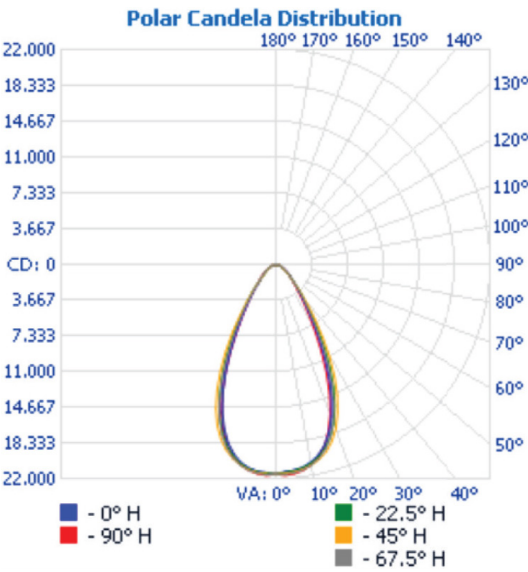
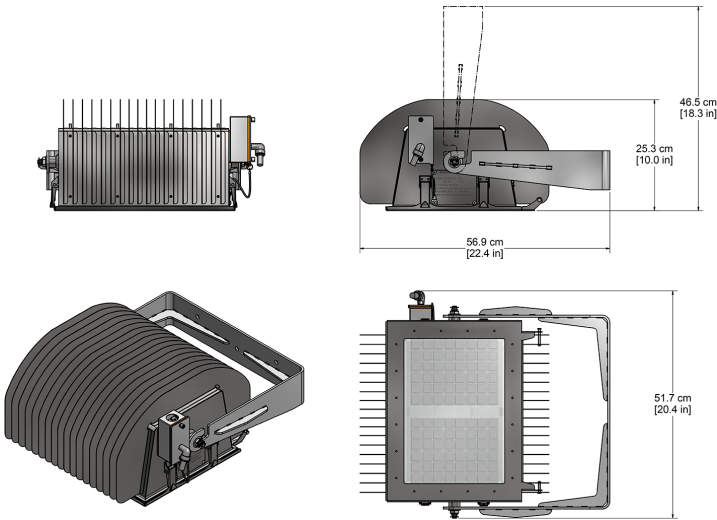
MOUNTING

Mount Style:	Universal wall/ceiling bracket
Weight:	24.5 kg (54 lbs)

MODEL NUMBER

Model Number:	4301-C
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BIRNS Quantum-C



BIRNS' Quality Management System is
ISO 9001:2015 Certified;
NRC 10CFR50, App. B Compliant

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