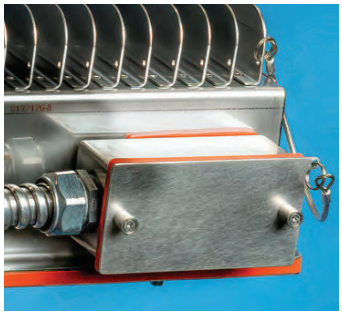
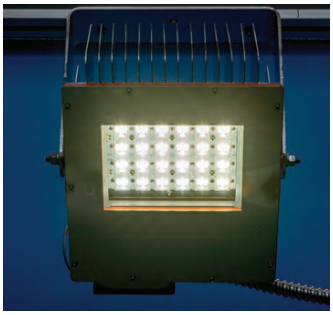
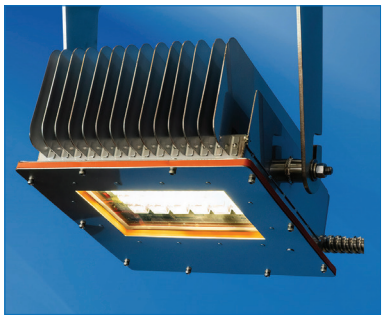
framatome

Low-Bay LED Floodlight

From the Nuclear Parts Center

Powerful low-bay LED floodlight for applications inside containment and throughout nuclear facilities

Challenge

Long-lasting, brilliant lighting can improve the safety, efficiency and lower the costs of nuclear operations. There are a wide range of low-bay lighting applications, including walkways, overhead cable trays, ceilings and mezzanines.

Solution

Framatome is the exclusive channel to the North American nuclear market for the BIRNS Quantum-Q. The BIRNS Quantum-Q nuclear LED floodlight delivers powerful illumination for demanding low-bay applications inside containment and throughout nuclear facilities. Emitting nearly 5,400 lumens of 5,000K daylight illumination, it provides safer, more comfortable and more efficient working conditions. Its low 55W power use, high 97.5 lm/W efficiency and long >51,000-hour lamp life all combine to deliver huge savings.

The BIRNS Quantum-Q provides superb illumination that dramatically improves the safety and productivity of important work areas inside nuclear power plants while significantly reducing labor and power costs. The BIRNS Quantum-Q is constructed of all nuclear-compatible materials and all-captivated parts. Its sealed (IP56) housing is made of Type 430 stainless steel that provides smooth surfaces for safe and easy cleaning and decontamination, and rounded corners and edges for worker safety. The fixture allows for wall or ceiling mount, is impervious to ILRT pressures and has an integral junction box for quick and easy electrical connection.

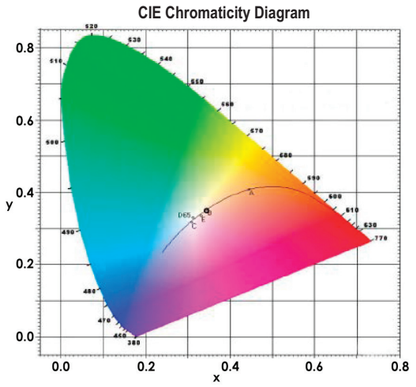
Customer benefits

- Powerful, low-bay 5,300+ lumen LED lighting
- >51,000-hour lamp life; low 55W power draw
- Daylight 5,000K color temperature
- Wide input voltage range (110, 120, 220, 240, 277)
- Radiation tolerance 2.5 x 105 Gy (2.5 x 107 R)
- Robust, compact 430 stainless steel housing
- Containment-grade materials and construction
- Versatile ceiling and wall installation
- Four lens options, two mount options
- Directly wired to site power, but can use a connector (17E-012)

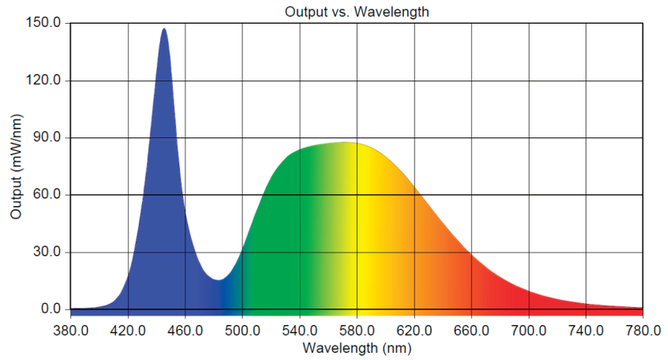
Your performance
is **our** everyday **commitment**

The BIRNS Quantum-Q operates in the hottest plant locations. Over 8,500 hours of ANSI/IES LM-80 testing at 25°C, 45°C, 50°C, 55°C and 57°C derived the IES TM-21 Lumen Maintenance data tabulated below, proving that the Quantum-Q still emits >92% of its initial light output even after 51,000 hours of operation. (BIRNS conforms to the most stringent IESNA standards, which restrict LED luminaire lifetime projection to 6 times the LM-80 test period.)

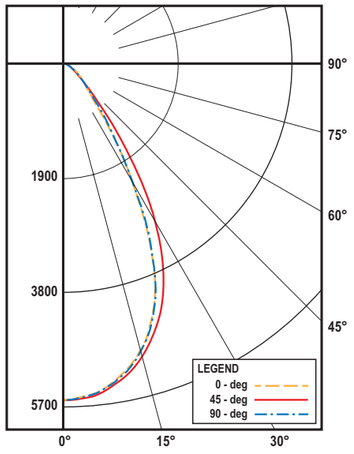
Ambient Temp. (° C):	25	45	50	55	57
Input Voltage (VAC):	120	120	120	120	120
Input Current (A):	0.469	0.461	0.458	0.456	0.455
Input Power (W):	55.3	54.4	54.1	53.7	53.7
Input Power Factor (%):	98.42	98.34	98.3	98.25	98.24
Input Current THD (%ATHD):	12.7	13.1	13.3	13.6	13.6
Input Voltage THD (%VTHD):	0.1	0.1	0.1	0.2	0.1
Lumen Maintenance @51,000 hours (%):	96.5	94.6	93.7	92.6	92.4



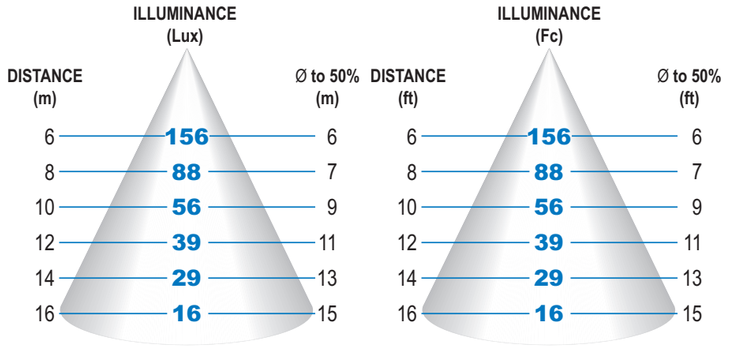
Chromaticity Coordinate data per ANSI C78.377. Color Rendering Index (CRI) data for indices Ra-R15 are available on request.



Spectral Power Distribution (SPD) data. Specific output values (mW/nm) in 5nm increments are available on request.



Goniophotometry data per IESNA LM-79-19. Candela distribution, Zonal lumen summary, Luminance and Coefficients of Utilization data are available on request.



Illuminance at a distance (data rounded to the nearest integer). The candela values used to generate this data were obtained by averaging the photometric data into a single plane.

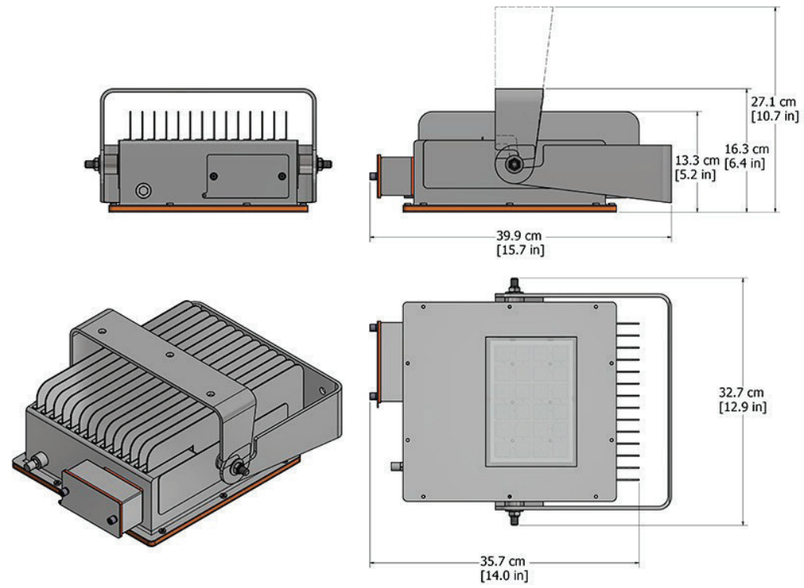
Quantum-Q Specifications

The BIRNS Quantum-Q's compact design—less than 33x36 cm (14"x13") and 16.3cm (6.4") high on low-profile mount—increases functionality in a wide range of low-bay applications such as walkways and under cable trays. Both tall and short mounts can be ceiling or wall mounted. The tall mount allows tilting in any angle, while the low-profile short mount is perfect for tight spaces. Further, the versatile BIRNS Quantum-Q is available with four different lens options to seamlessly integrate with the plant's specific needs.

4312-T S

MOUNT
T: Tall
S: Short

LENS
S: Tempered Borosilicate glass
P: Glass with Polycarbonate protector
L: Laminated safety glass
Q: Quartz



ELECTRICAL	
Mains Input (VAC):	110-277
Frequency (Hz):	50 or 60
Power (W):	55.3
Power Factor (%):	98.5
Input Current THD (%):	12.5
Input Voltage THD (%):	0.1
LIGHTING/PHOTOMETRIC	
Lamp Type:	High-power LED
Luminous Flux (lm):	5,389
Correlated Color Temperature:	5044 K
Lamp Life (hours):	>51,000
CRI (Ra):	73
Efficacy (lm/W):	97.5
Scotopic/Photopic Lumen Ratio:	1.795
Operating Position:	Universal (any position)
Fixture Type:	Flood
MODEL NUMBER	
Model Number:	4312

MATERIALS	
Housing:	430 Stainless
Mounting Hardware:	300-series stainless steel
Gaskets:	Silicone rubber
Window:	Tempered glass
Window Frame:	300-series stainless steel
ENVIRONMENTAL & QUALIFICATIONS	
Protection Level:	IP5X
Radiation Tolerance:	2.5×10^5 Gy (2.5×10^7 R)
Operating Temperature:	57°C
MOUNTING	
Mount Style:	Universal wall/ceiling bracket
Weight:	10.9 kg (24 lbs)
DIMENSIONS	
Length:	39.8 cm (15.7 in)
Height:	13.46 cm (5.3 in)
Width max:	32.76 cm (12.9 in)

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.

Framatome Advantage

Through the NPC's online customer inquiry system (npc.framatome.com), utilities can connect with Framatome for 24/7/365 access to our inventory, reducing lead-times and providing real-time pricing. As a premier provider of nuclear service, Framatome is committed to enhancing safety and efficiency for the world's nuclear power plants. We combine innovative technology with a tireless commitment to responsiveness and reliable performance — all to help you succeed.

For reliable, efficient inventory management, Framatome can help you manage obsolescence — with confidence.

Scan to view our parts on the web: **npc.framatome.com**
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