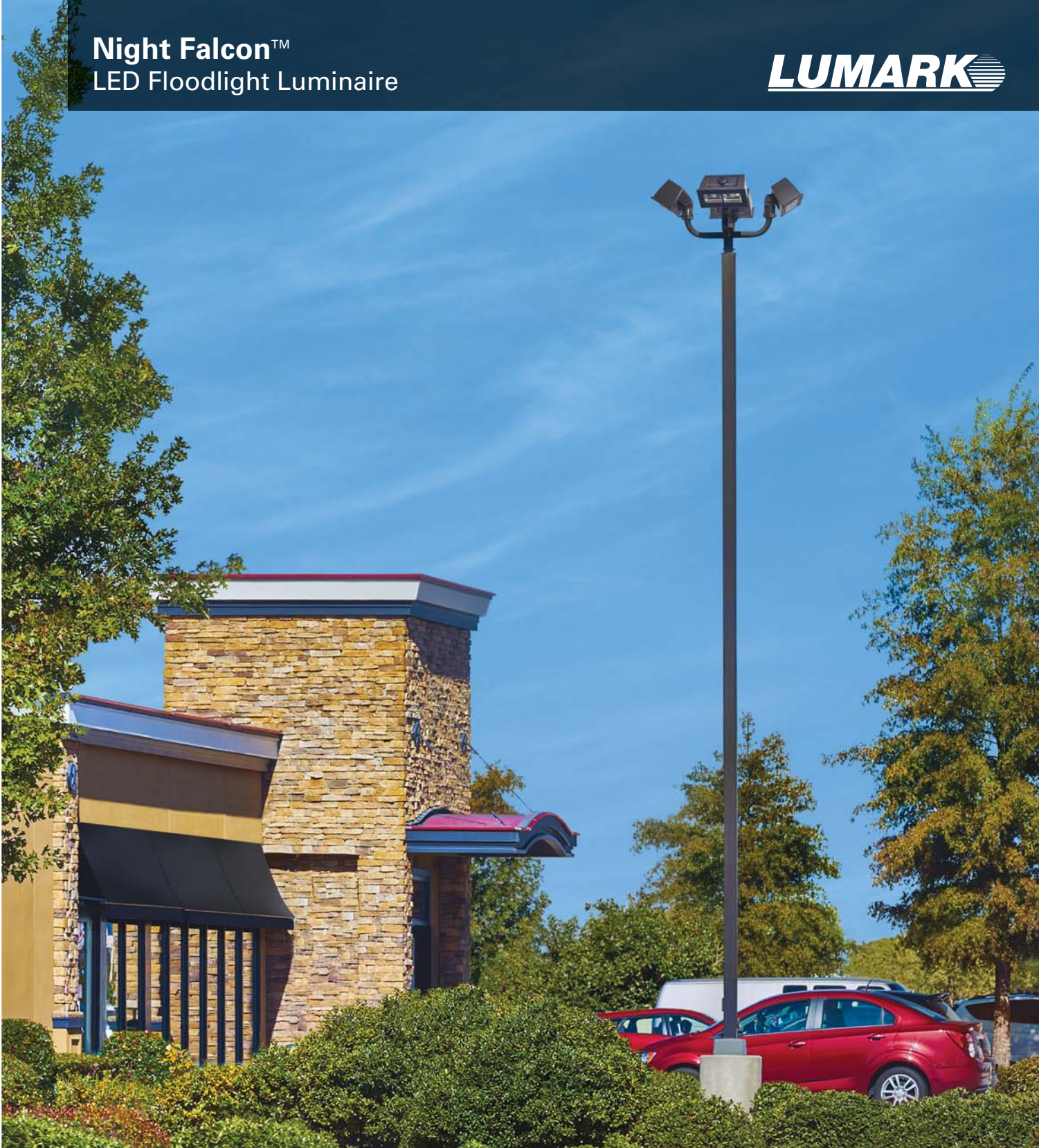


Night Falcon™
LED Floodlight Luminaire

LUMARK



Cooper Lighting
by **EAT•N**


ROYAL ELECTRIC SUPPLY
COMPANY

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WE GET IT
24/7 Emergency Material Access

Design Matters - Where Innovation Meets Sustainability.

Superior, Affordable Performance

Combining LED technology with forward thinking sustainability, the Night Falcon™ LED floodlight is lighting the way with a spotlight on superior performance. The Night Falcon LED floodlight utilizes precision engineered optics delivering superior uniformity and excellent illumination to the targeted application. Maximum fixture spacing is achieved utilizing a 6H x 6V NEMA wide distribution. Whether the project is lighting a large site or building facade for a low initial investment, the Night Falcon LED floodlight is the solution.

Significant Energy Savings

With lumen packages ranging from 9,400 to 14,600 nominal lumens, the Night Falcon LED floodlight provides greater than 75 percent in energy and maintenance savings over traditional HID systems. An optional integrated sensor allows the fixture to be dimmed to 50 percent lumen output when no activity is detected, providing additional energy savings by reducing light levels and power consumption, while complying with new provisions of California Title 24.

Mount. Aim. Done.

The Night Falcon LED floodlight is built with the installer in mind. Available in several mounting configurations and weighing less than 25 pounds, this fixture provides you with design flexibility while simplifying installation. With its integral die-cast aluminum slipfitter that fits standard 2-3/8" - 3" O.D. tenon, it can be bullhorn or tenon-mounted for site lighting. The trunnion mount is ideal for facade lighting applications. Both mounting options include cast-in angle increments to facilitate accuracy of aiming.

Long Term Reliability

Innovative thermal management design maximizes heat dissipation resulting in longer fixture and LED life. The rugged, die-cast housing is IP66 and 3G vibration rated for exceptional durability and long term reliability, along with lumen maintenance greater than 90 percent at 50,000 hours, the Night Falcon LED floodlight is built for years of maintenance-free service. Backed by a five-year limited warranty, the Night Falcon LED floodlight is the LED answer to your floodlighting needs.





Commercal Wall Mount



Building Facade



Industrial Wall Mount

The Night Falcon LED floodlight combines superior illumination and versatile mounting in an advanced engineering design that delivers significant energy savings at a fraction of the cost of traditional HID products. Typical applications include general area, security, and building facade lighting in commercial and industrial applications.

Design Excellence

Construction

- Heavy-duty, die-cast aluminum housing, driver compartment and driver door
- Separate driver compartment and external die-cast fins maximize heat dissipation
- One-piece silicone gasket seals the door to the fixture
- Housing, driver compartment and LED compartment are IP66 rated
- 3G vibration rated per ANSI C136.31
- UL/cUL listed for wet locations

Electrical

- 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation available
- Integral 6kV surge protection. Class C1 outdoor, low compliant per IEEE C62.41
- Optional 10kV/10kA UL 1449 Surge Protector
- Standard 3-PIN and 7-PIN NEMA twistlock photocontrol options
- -40°C to 40°C operating temperature range
- Optional 50°C high ambient available

Optics

- Clear glass tempered lens and full circumference form-in-place gasket, protects optics from damage
- Lumen packages of 9,400 and 14,600 nominal lumens
- 6H x 6V NEMA wide distribution
- Standard 4000K CCT, minimum 70 CRI
- Optional 5700K CCT and 3000K CCT minimum 70 CRI
- Greater than 90 percent lumen maintenance expected at 50,000 hours per IESNA TM-21

Mounting

- Integral die-cast aluminum slipfitter - preset to a tilt of 45° (fits 2-3/8" - 3" O.D. tenon)
- 3/16" galvanized steel trunnion mount with a 16/3 SOW cord

Controls

- Optional integrated sensor for occupancy and dimming ensures compliance with new provisions of California Title 24

Finish

- Five-stage super TGIC paint resists extreme weather conditions, while providing optimal color and gloss retention. Available in carbon bronze (standard), summit white, grey or black. RAL and custom colors matches available



Warranty

- Five-year warranty

Options / Accessories



Optimal Thermal Management

A separate driver compartment and external fins provide optimal thermal management that results in longer fixture and LED life.



Optical Distribution

Optics are precisely designed to shape the 6H x 6V NEMA wide distribution, maximizing efficiency and application spacing.



NEMA 3-PIN Photocontrol Receptacle

Gasketed receptacle for mounting standard 3-PIN NEMA photocontrol.



NEMA 7-PIN Photocontrol Receptacle

ANSI C136.41 compliant. Enables wireless dimming when used with compatible photocontrol.



Slipfitter Mount

Trunnion Mount

Fully Adjustable

Slipfitter: Knuckle base supplied with a tooth-lock adjustment that can be adjusted in 5° increments to provide flexibility in aiming the fixture from a variety of surfaces. The slipfitter fits standard 2-3/8" - 3" O.D. tenons. **Trunnion:** 3/16" polyester powder coated galvanized steel trunnion with a 16/3 SOW cord utilizes an interlocking slide adjustment that is locked in place with a set screw.



Integrated Sensor

Integrated sensor option provides occupancy and dimming for additional energy savings.



Top and Side Visors

Heavy-duty steel top and side visors control glare and spill light.



Wire Guard

Heavy-gauge welded construction with corrosion resistant, polyester powder coat finish, which protects glass lens from projected objects.



Vandal Shield

1/8" thick UV stabilized impact guard protects glass lens when mounted at low levels.

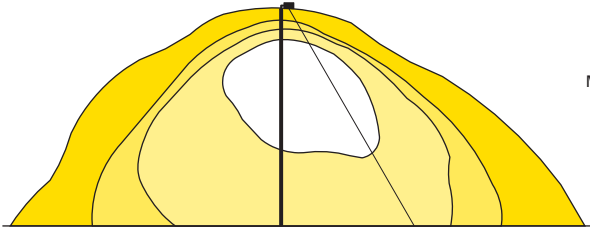
General Area Security Lighting

Optical Advantage

The unique, asymmetrical distribution of the Night Falcon LED floodlight luminaire is precisely designed to re-direct lumens from the back side of the fixture and push the light to the sides and front. Additionally, by eliminating the hot spot, the maximum candela output is optimized to disperse light out in front of the fixture when tilted at a standard 45° angle (luminaire is shipped at 45° tilt). This innovative distribution provides light distribution that reaches three times the mounting height in front of the fixture and allows for pole spacing up to six times the mounting height.

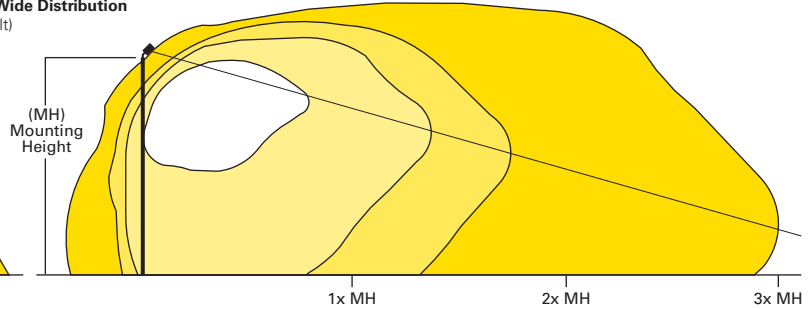
Distribution Comparison

Night Falcon LED - 129W
6 x 6 Wide Distribution
(0° Tilt)



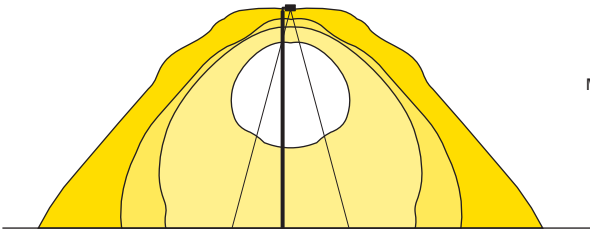
Light shifted from back side of luminaire with maximum candela pushed forward

Night Falcon LED - 129W
6 x 6 Wide Distribution
(45° Tilt)



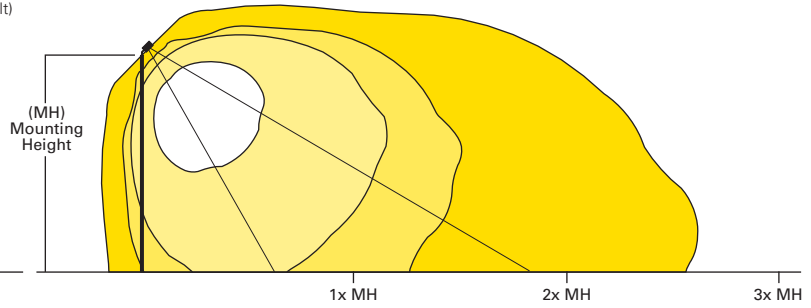
Re-distributed to front and sides creating optimal spacing and exceptional uniformity

Metal Halide Floodlight - 400W
7 x 6 Wide Distribution
(0° Tilt)



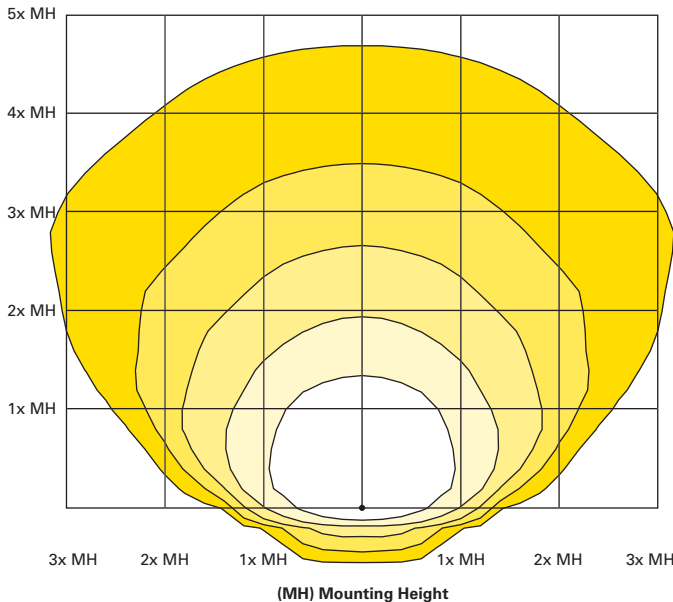
Symmetrical distribution

Metal Halide Floodlight - 400W
7 x 6 Wide Distribution
(45° Tilt)

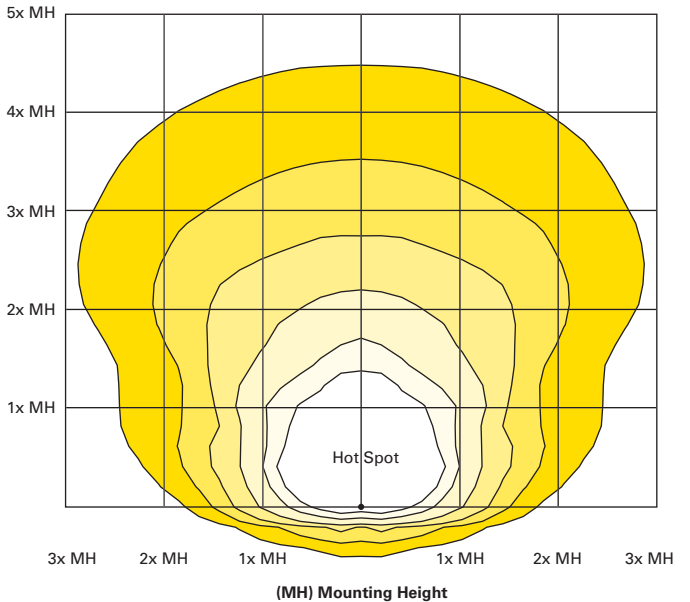


Creates "hot spot" directly in front of the fixture limiting forward throw and side distribution

Night Falcon LED 6 x 6 Distribution (45° Tilt)



Metal Halide Floodlight 7 x 6 Distribution (45° Tilt)

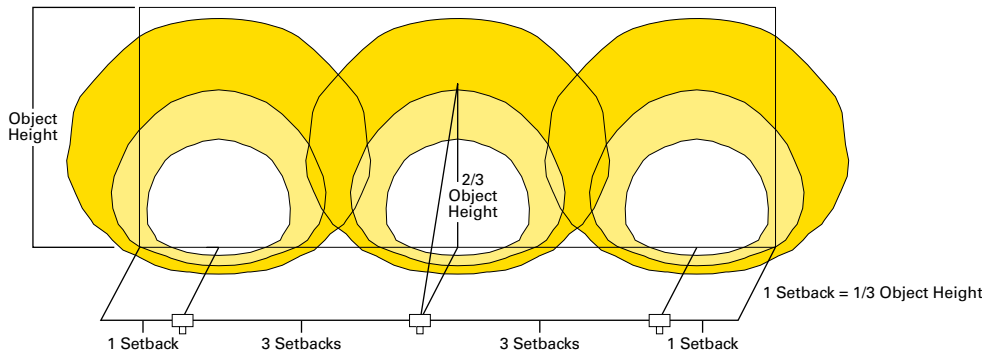


Vertical Lighting

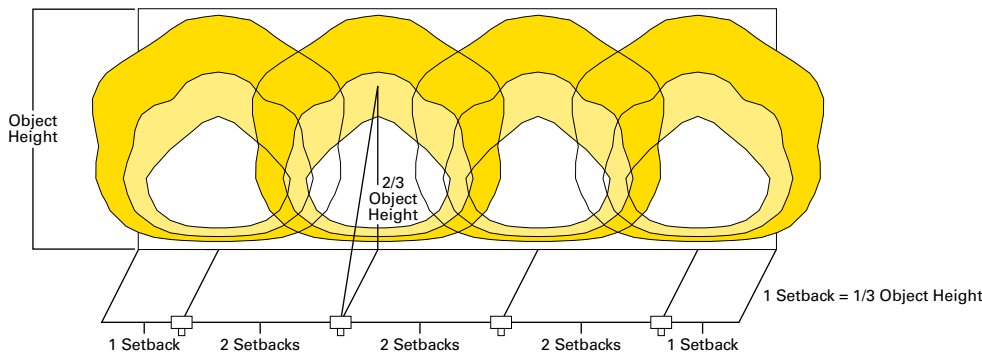
Uniform Illumination

Uniform floodlighting is commonly used for lighting building facade's, signs, or exterior vertical displays. The wide, even distribution of the Night Falcon LED floodlight luminaire makes it ideal for these applications. Typical vertical lighting using HID sources requires that fixtures are spaced at two setback distances apart per IESNA RP-33-99, Lighting for Exterior Environments. The recommended setback and fixture spacing is needed when using HID fixtures in order to even out the "hot spot" and create uniform illumination on the surface. The Night Falcon LED floodlight luminaire optics were designed to distribute light evenly in all directions allowing for fixture spacing up to three times the setback distance, resulting in a 33 percent reduction in fixtures. The precision optics provide uniform light distribution on the desired surface, at the same time extending the fixture spacing and reducing the number of fixtures required, resulting in lower installation cost and significant energy savings.

Distribution Comparison



Night Falcon LED
Setback = 1/3x Object Height
Spacing = 3x Setback
Max. / Min. Uniformity > 12:1



Wide Distribution Metal Halide
Setback = 1/3x Object Height
Spacing = 2x Setback
Max. / Min. Uniformity > 14:1

Vertical Object Lighting (Facade, sign and murals)

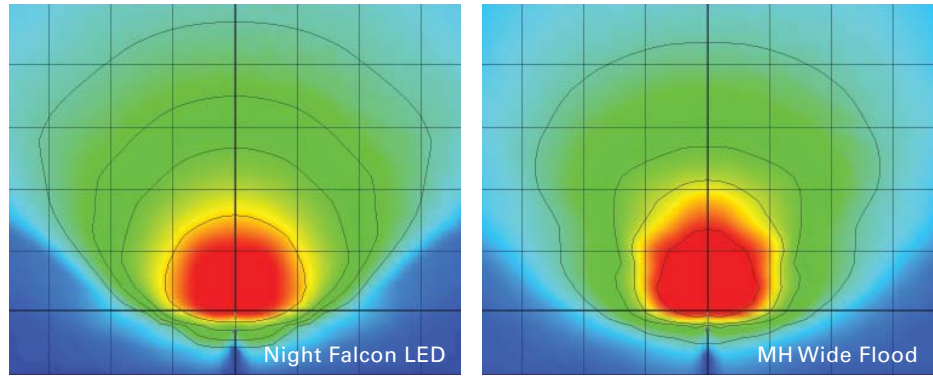
Fixture / Source	Fixture Watts	Fixture Lumens	Fixture Efficiency (LPW)	NEMA Distribution	Fixture Spacing*	Fixture Reduction Night Falcon vs. HID (Percentage)	Wattage Reduction Night Falcon vs. HID (Percentage)	Object Average (Footcandles)	Object Minimum (Footcandles)	Object Uniformity (Max./Min.)
A25 Night Falcon LED Floodlight	85W	9,432	110.9	6H x 6V	3x Setback	33%	78.10%	2.69	0.8	9.87
250W Metal Halide Wide Floodlight	290W	14,887	51.2	7H x 6V	2x Setback			3.28	0.8	10.13
A40 Night Falcon LED Floodlight	129W	14,683	113.8	6H x 6V	3x Setback	33%	78.90%	4.31	1.1	11.91
400W Metal Halide Wide Floodlight	485W	22,844	49.8	7H x 6V	2x Setback			4.98	1.1	13.18

* Setback = 1/3 x object height.

Application and Energy Comparison

Application Excellence

The asymmetrical optical distribution of the Night Falcon LED floodlight is designed to ensure that every lumen produced is distributed for optimal fixture spacing and forward light throw. The result is light distribution that meets and exceeds the HID equivalent fixture with energy savings greater than 75 percent.



Distribution Comparison (Night Falcon LED vs. Wide Distribution Metal Halide Flood) ¹

Fixture / Source	Mounting Height	Maximum Point (Footcandle)	Forward-Throw Distance (Feet)				Side-to-Side Distance (Feet)			
			0.1 Fc	0.25 Fc	0.5 Fc	1.0 Fc	0.1 Fc	0.25 Fc	0.5 Fc	1.0 Fc
A25 Night Falcon LED Floodlight	20'	5.81	95'	71'	54'	39'	126'	90'	72'	54'
250W Metal Halide Wide Floodlight		10.19	81'	67'	56'	44'	110'	80'	64'	48'
A25 Night Falcon LED Floodlight	25'	3.69	104'	74'	55'	39'	134'	100'	76'	54'
250W Metal Halide Wide Floodlight		6.39	95'	72'	55'	45'	116'	82'	64'	52'
A25 Night Falcon LED Floodlight	30'	2.57	110'	76'	56'	38'	142'	104'	82'	52'
250W Metal Halide Wide Floodlight		4.30	104'	74'	60'	44'	102'	84'	70'	50'
A40 Night Falcon LED Floodlight	20'	8.99	107'	80'	64'	47'	140'	104'	84'	66'
400W Metal Halide Wide Floodlight		14.96	98'	76'	64'	48'	122'	92'	72'	54'
A40 Night Falcon LED Floodlight	25'	5.74	117'	87'	66'	48'	154'	114'	90'	68'
400W Metal Halide Wide Floodlight		9.07	108'	85'	66'	53'	136'	102'	74'	60'
A40 Night Falcon LED Floodlight	30'	3.97	126'	91'	68'	49'	176'	120'	94'	70'
400W Metal Halide Wide Floodlight		6.92	118'	90'	68'	55'	146'	104'	78'	64'

NOTE: 1 45° tilt.

Reduced Energy Consumption

Operating and maintenance costs of a lighting system are dramatically impacted by the specified lamp source and electrical system. Total system input watts and fixture operating life should be the driving considerations when addressing energy consumption and total cost of ownership. Energy savings increase when energy consumption is reduced and maintenance intervals are extended.

Annualized Energy Savings / Cost Comparison

Fixture	Hours Day / Year	Fixture Input Watts	TM-21 Data / HID Life	Cost / Year ¹	Annual Fixture Maintenance ²	Annual Fixture Cost	Annual Fixture Cost Savings	Annual Fixture Cost Savings (Percent)
A25 Night Falcon LED Floodlight	9 / 3,285	85	50,000	\$27.92	--	\$27.92	\$126.68	82%
250W Metal Halide Wide Floodlight		290	10,000	\$95.27	\$59.33	\$154.60		
A40 Night Falcon LED Floodlight	9 / 3,285	129	50,000	\$42.38	--	\$42.38	\$137.91	76%
400W Metal Halide Wide Floodlight		458	20,000	\$150.45	\$29.83	\$180.29		

NOTE: 1 Cost = (Watts x 9 Hours Per Day x 365 Days Per Year / 1000 = Daily Kilowatt hour (kWh). kWh x 0.10 cents/kWh = Cost / Year. 2 Maintenance = number of re-lamps over 50,000 hours (15 years) x lamp cost and replacement labor /15 years.

Energy Savings / Equivalency / Cross Reference Guide

Night Falcon Series	HID Replacement Options	Lamp System	HID Wattage	HID Rated Average Life (Hours)	Night Falcon LED Wattage	Night Falcon LED Life (Hours) ¹	Energy Savings (Percent)
NFFLD-A25	200-250W HID	200W Metal Halide	232W	15,000	85W	> L90 @ 50,000	63%
		200W High Pressure Sodium	240W	24,000			65%
		250W Metal Halide	290W	12,000			71%
		250W High Pressure Sodium	295W	24,000			71%
NFFLD-A40	320-400W HID	320W Metal Halide	377W	20,000	129W	> L90 @ 50,000	66%
		350W Metal Halide	397W	20,000			68%
		400W Metal Halide	458W	20,000			72%
		400W High Pressure Sodium	464W	24,000			72%

NOTE: 1 Lumen maintenance for LED at 40° ambient temperature. TM-21 hour data based on six times number of hours LED chip test time.

Dimming and Occupancy Detection



Parking Area Applications

For outdoor parking area applications, lighting should be dimmed or turned off according to pedestrian traffic and safety requirements. Scheduled dimming and occupancy detection can be combined to reduce maximum lighting levels outside business hours. Upon occupancy detection, the luminaire returns to full lighting to maintain security lighting levels.

Minimize Power Consumption, Maximize Energy Savings

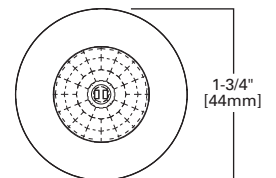
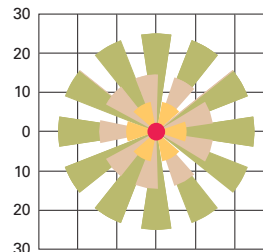
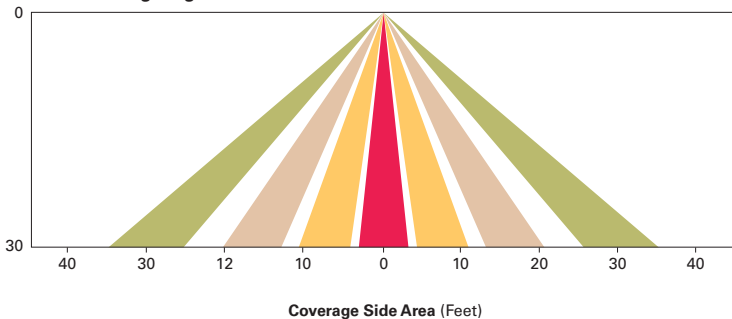
To further enhance energy savings, lighting management and control can reduce power consumption and energy costs by providing the appropriate light levels at the right place and time when required. Lighting can be reduced during low usage hours, saving energy, then raised on demand with occupancy detection. Adding motion sensor and dimming controls capabilities also extends the life of the luminaire due to reductions in electrical load and case temperatures on the LEDs and drivers. The Night Falcon LED floodlight control options are designed to be simple and cost-effective ASHRAE and California Title 24 compliant solutions.

On/Off or Bi-Level Motion Sensor (MSP)

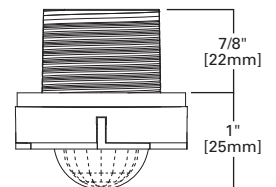
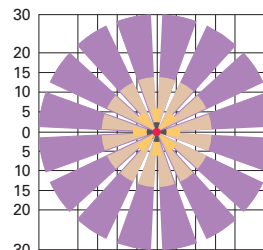
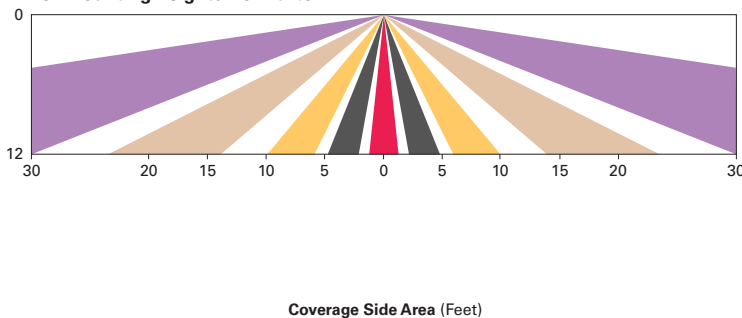
The Night Falcon LED floodlight integrated dimming and occupancy sensor is a standalone control option that can automatically dim the luminaire to 50 percent with a time delay of 10 minutes if no occupancy is detected. When activity is detected, the luminaire returns to full light output. This option is available in 12' - 30' mounting heights in on/off operation or bi-level operation. To change these settings, a hand held programmable remote can be purchased that allows the dimming level, sensitivity and time delay settings to be adjusted.

Occupancy Sensor Detection Patterns

For mounting heights from 0' to 30'

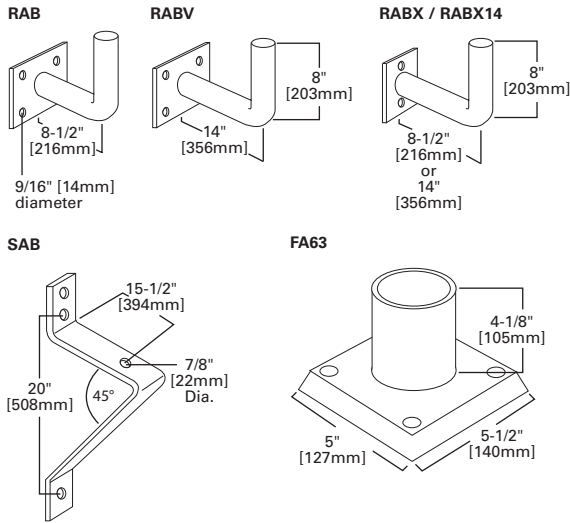


For mounting heights from 0' to 12'



Mounting Options and Accessories

Surface Mount Brackets



Right Angle Brackets

Catalog Number ¹	Tenon Size (Inches)	Bracket Length (Inches)
RAB	2-3/8" O.D.	8"
RAB-V	2-3/8" O.D.	14"
RABX ²	2-3/8" O.D.	8"
RABX14 ²	2-3/8" O.D.	14"

NOTES: **1** Standard finish is primed. Add suffix "G" for hot dip galvanize. Mounting hardware not included. **2** Steel pole mounting.

Steel Angle Bracket

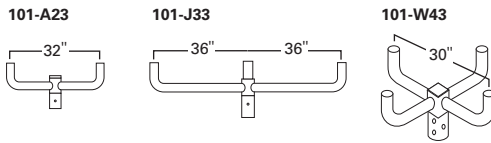
Catalog Number ¹
SAB

NOTES: Standard finish is hot dip galvanized. Mounting hardware not included.

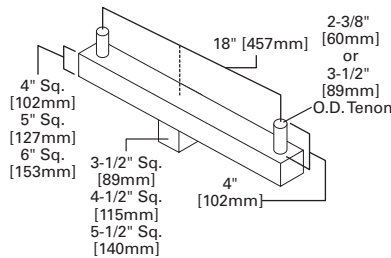
Parapet Bracket

Catalog Number	Tenon Size (Inches)	Fixture Configuration
FA63	3" O.D.	Single Parapet Mount

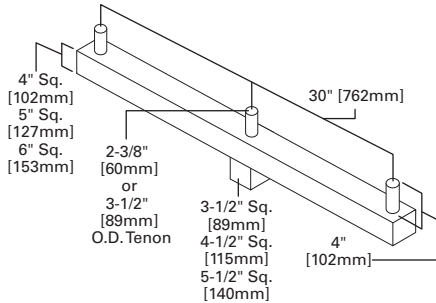
Pole Top Brackets



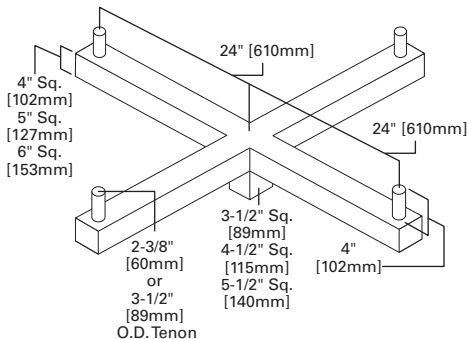
ISBT-4-2L, ISBT-5-2L or ISBT-6-2L (2 Tenon Mountings)



ISBT-4-3L, ISBT-5-3L or ISBT-6-3L (3 Tenon Mountings)



ISBT-4-4Q, ISBT-5-4Q or ISBT-6-4Q (4 Tenon Mountings)



Series 101 Steel Pole Mounting Brackets

Catalog Number ¹	Number of Stubs ²	Bracket EPA (Square Feet)	Bracket Weight (Pounds)	Maximum Floodlight EPA Per Stub (Square Feet)	
				75 mph	100 mph
101-A23	2	.60	20	9.0	4.5
101-J33 ³	3	.80	28	6.0	3.0
101-W43	4	.53	36	9.0	4.5

NOTES: **1** Brackets are designed for floodlights with 2" slipfitters. **2** Consult your Eaton's Cooper Lighting business representative regarding availability of brackets designed for more than four luminaires. Maximum floodlight weight allowed per stub is 100 pounds. **3** To slip 2-3/8" O.D. pole top tenon, change last digit from "3" to "2".

Internal Square Steel Slipfitter Brackets (Square Steel Poles Only)

Catalog Number	Pole Dimensions	Tenon Size	EPA	Bracket Weight (Pounds)
ISBT-4-2L-2-XX	4"	2-3/8"	1.33	39
ISBT-5-2L-2-XX	5"	2-3/8"	1.67	48
ISBT-6-2L-2-XX	6"	2-3/8"	2.00	60
ISBT-4-3L-2-XX	4"	2-3/8"	2.13	60
ISBT-5-3L-2-XX	5"	2-3/8"	2.67	77
ISBT-6-3L-2-XX	6"	2-3/8"	3.20	93
ISBT-4-4Q-2-XX	4"	2-3/8"	1.73	98
ISBT-5-4Q-2-XX	5"	2-3/8"	2.17	123
ISBT-6-4Q-2-XX	6"	2-3/8"	2.60	149
ISBT-4-2L-3-XX	4"	3-1/2"	1.33	39
ISBT-5-2L-3-XX	5"	3-1/2"	1.67	50
ISBT-6-2L-3-XX	6"	3-1/2"	2.00	60
ISBT-4-3L-3-XX	4"	3-1/2"	2.13	60
ISBT-5-3L-3-XX	5"	3-1/2"	2.67	77
ISBT-6-3L-3-XX	6"	3-1/2"	3.20	93
ISBT-4-4Q-3-XX	4"	3-1/2"	1.73	98
ISBT-5-4Q-3-XX	5"	3-1/2"	2.17	123
ISBT-6-4Q-3-XX	6"	3-1/2"	2.60	148

NOTE: See product selection guide for aluminum and wood pole mounting brackets and additional mounting options.

Ordering Information

Sample Number: NFFLD-A40-E-UNV-66-S-CB-PER

Product Family ¹	Light Engine ²	Driver ³	Voltage	Distribution	Mounting	Color
NFFLD=Night Falcon LED Floodlight	A25=9,400 Nominal Lumens A40=14,600 Nominal Lumens	E=Non-Dimming D=Dimming (0-10V)	UNV=120-277V 347=347V ⁴ 480=480V ⁴	66=NEMA 6H x 6V Wide	S=Slipfitter ⁵ T=Trunnion	CB=Carbon Bronze (Standard) BK=Black AP=Grey WHT=Summit White
Options (Add as Suffix)			Accessories (Order Separately) ⁹			
7030=70 CRI / 3000K ⁶ 7060=70 CRI / 5700K ⁶ PER=NEMA 3-PIN Twistlock Photocontrol Receptacle PER7=NEMA 7-PIN Twistlock Photocontrol Receptacle ⁷ 10K=10kV/10kA UL 1449 Surge Protective Device HA=50°C High Ambient Temperature D10=<10% Dimming ⁷			FA63=3" O.D. Surface Mount Bracket ⁹ OA1223=10kV/10kA UL 1449 Surge Protective Device Replacement OA/RA1013=Photocontrol Shorting Cap OA/RA1014=NEMA Photocontrol - 120V OA/RA1016=NEMA Photocontrol - Multi-Tap OA/RA1027=NEMA Photocontrol - 480V OA/RA1201=NEMA Photocontrol - 347V RAB-XX=Right Angle Pipe Bracket for Slipfitter SAB-XX=Steel Angle Bracket for Trunnion TYS-XX=Slipfitter Adapter for 2-3/8", 3" or 3-1/2" O.D. Tenon ¹⁰ TS2/NFFLD-XX=Top and Side Visors ¹¹ VS/NFFLD=Vandal Shield ¹¹ WG/NFFLD=Wire Guard ¹¹			

NOTES: 1 DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details. 2 Standard 4000K CCT and minimum 70 CRI. Consult IES file for actual lumen output. 3 Consult factory for driver surge protection values. 4 Not recommended for use with ungrounded, delta configured systems. 5 Fits 2-3/8" to 3" O.D. tenon, wire leads run through slipfitter. 6 Extended lead times apply. Use dedicated IES files for 3000K and 5700K when performing layouts. These files are published on the Night Falcon luminaire product page on the website. 7 Must order with dimming driver. 8 Replace XX with color designation. Additional brackets and adaptors available on the poles product page on the website. 9 Not available with tenon mount. 10 Not available with slipfitter mount. 11 Cannot combine TS2 (Top and Side Visor), VS (Vandal Shield), or WG (Wire Guard), limited to one external guard per fixture.

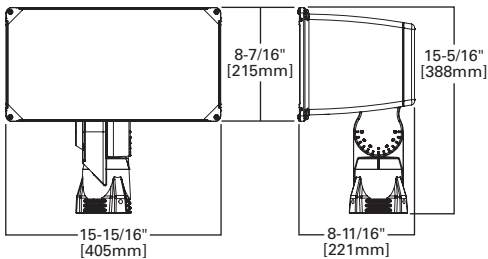
Stock Sample Number: NFFLD-A40-S

Product Family	Light Engine	Mounting	Voltage
NFFLD=Night Falcon	A25=9,400 Nominal Lumens A40=14,600 Nominal Lumens	S=Slipfitter T=Trunnion	[Blank]=120-277V 347=347V

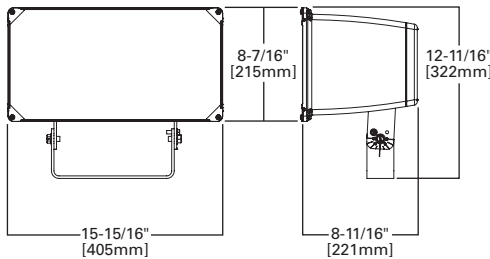
NOTES: Options not available with stock products. Order accessories as separate items for field installation. Refer to standard ordering information to add options. Refer to In-Stock Guide for availability. Stock fixture is 4000K, non-dimming, 120-277V or 347V, carbon bronze only.

Dimensions

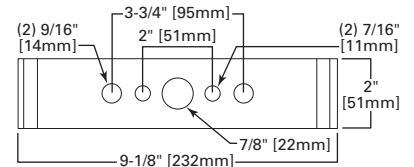
Slipfitter Mount



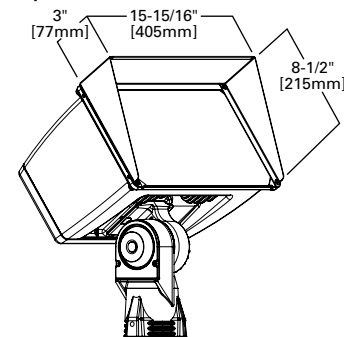
Trunnion Mount



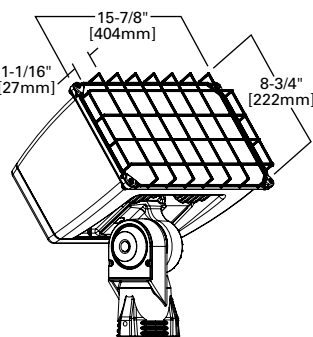
Trunnion Mount Drill Pattern



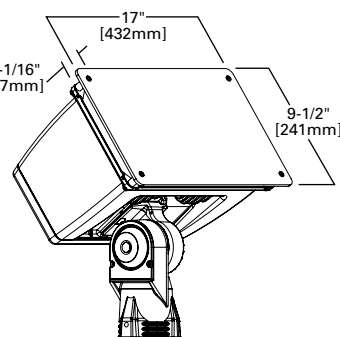
Top and Side Visors



Wire Guard



Vandal Shield



Additional Information

Compliances	Technical Data (Electronic Driver)	EPA (Effective Projected Area - Square Feet)	Shipping Data (Approximate Net Weight)
UL and cUL Wet Location Listed IP66 Fixture and Optical Chamber LM79/LM80 Compliant 3G Vibration Rated RoHS Compliant ISO 9001 DesignLights Consortium® Qualified*	>0.9 Power Factor <20% Total Harmonic Distortion 120-277V 50/60Hz, 347V 50Hz and 480V 50Hz +40°C (104°F) Ambient Temperature Rating -40°C (-40°F) Ambient Temperature Rating	1.25	20 lbs. (9.09 kgs.)

* DesignLights Consortium® Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.