Navion™
LED Area, Site and Roadway Luminaire

LUMARK

Cooper Lighting
by EATON

Innovation you can rely on™

Roadway Lighting Redefined

A New Performance Standard in LED Roadway Lighting

With industry-leading, patented optics in a scalable package, the Navion LED area, site and roadway luminaire delivers state-of-the-art optical control, low maintenance costs, rugged construction and modern styling. The Navion luminaire is designed for years of operation with minimal service requirements. Its superior performance and configurability provide uniform, glare-free, energy-efficient light for commercial, industrial and municipal parking lots as well as roadway applications.

Long Life with Low Maintenance Costs

Superior illumination, low maintenance, long life and low cost of ownership are critical factors when lighting roads and public spaces. Ideal for retrofit and new construction applications, the Navion fixture can be tailored to meet your most important needs without compromising on specification features. The five housing configurations of the Navion luminaire allow scalability from 2,582 to 33,732 delivered lumens. The 4000K/70 CRI is standard, with 6000K/70 CRI and 3000K/70 CRI options available. LED components are IP66 rated and the fixture is wet location listed, with an IP66 housing option available.

Customer-Focused Design

Designed to meet the full range of outdoor lighting challenges in area, site and roadway applications, the Navion luminaire is available with a wide array of optics and specification performance features. A tool-less, removable power tray door and quick electrical disconnects make installation and maintenance easy. The 10kV common surge (line-to-ground) and differential surge (line-to-line) protection is standard. Four-bolt mounting with cast-in leveling steps ensures simple installation, while a super TGIC polyester powder-coat finish provides years of worry-free ownership.

Design Excellence

Stepping Up to the Challenge

The Navion luminaire is designed to provide superior optical performance in a package that is easy to install and maintain. With HID equivalents from 70W HPS up to 750W Pulse Start MH, along with the industry-leading AccuLED Optics™ system from Eaton's Cooper Lighting business, the Navion fixture is designed to meet the toughest lighting challenges.

Construction

- Tool-less entry with hinged, removable power door for easy maintenance
- 3G vibration rated
- IP66-Rated LED Light Squares
- Wet location-rated housing (IP66 housing optional)
- Extruded aluminum heat sink scaled to lumen package
- Rugged, die-cast aluminum housing

Electrical

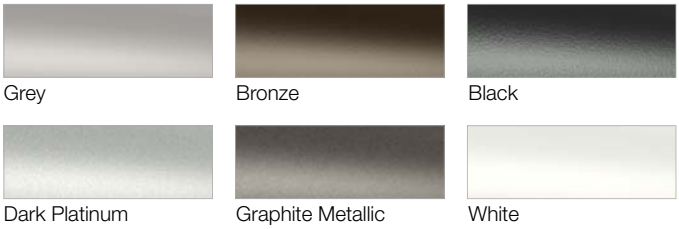
- Operates in -40°C to 40°C ambient temperatures (optional 50°C high ambient configuration)
- 10kV common surge (line-to-ground) and differential surge (line-to-line) protector
- >L90, 60,000 hours at 40°C, compliant with IESNA TM-21
- LED driver is mounted directly to removable door for optimal heat sinking
- 120-277V 50/60Hz, 347V 60Hz or 480V 60Hz operation
- Quick disconnects for tool-less removal of power door

Controls

- Standard with 0-10V dimming driver(s)
- Optional occupancy sensor
- Optional wireless control and monitoring system

Finish

- Five-stage super TGIC paint resists extreme weather conditions while providing optimal color and gloss retention. It's available in standard grey or optional bronze, black, dark platinum, graphite metallic or white.

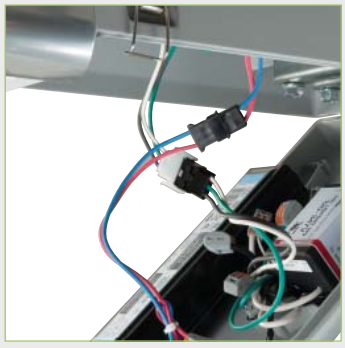


Warranty

- Five-year warranty

Tool-less Entry

Stainless steel latches provide easy, tool-less access to electrical compartment, even with lineman's gloves.



Quick Disconnects

Connections between power door and housing are made with tool-less quick disconnects. Power door removes in seconds.

Bird Guard

Standard bird guard fits securely around 1-1/4" and 2" pipe (1-5/8" to 2-3/8" O.D.).

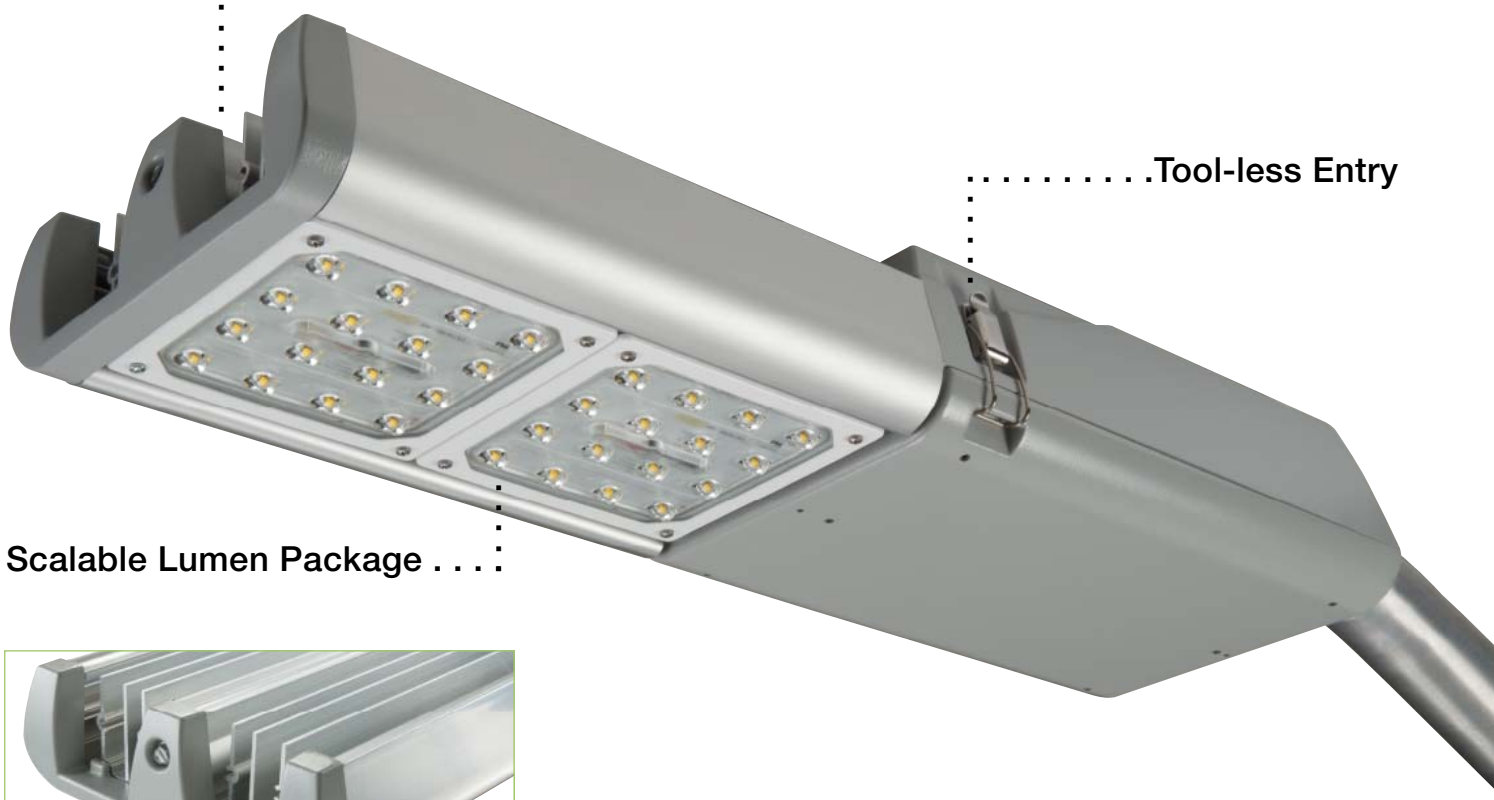
Four-Bolt Mounting

Sturdy four-bolt mounting brackets fit 1-1/4" to 2" pipe (1-5/8" to 2-3/8" O.D.). It's available with optional built-in level indicator for a secure, level installation.

Extruded Aluminum Heat Sinks

Tool-less Entry

Scalable Lumen Package



Self-Cleaning Heat Sinks

Optional Features

NEMA Photocontrol Receptacle

Gasketed receptacle for mounting standard NEMA photocontrol (order separately).

Surge Protection

A 10kV common surge (line-to-ground) and differential surge (line-to-line) mode protection is standard.

Occupancy Sensor

The optional motion sensor reduces energy use for site lighting applications.

IP66 Rating

Housing is available with IP66 rating for dust and water.

Scalable Illumination with LED Light Squares

Energy Savings and Environmental Stewardship

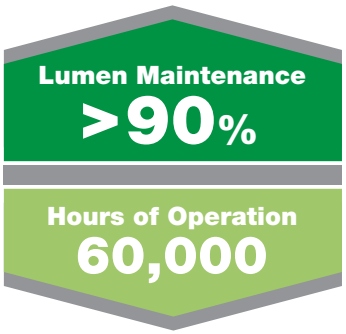
The simplest and most effective way to reduce a lighting fixture's impact on the environment is to minimize its energy consumption. By incorporating Light Squares from Eaton's Cooper Lighting business, the Navion LED luminaire provides energy savings up to 75 percent compared to standard HID solutions.

Long Life

With a 60,000+ hour rated life (at greater than 90 percent lumen maintenance), the Navion LED luminaire operates up to six times longer than traditional metal halide fixtures.

Low Maintenance

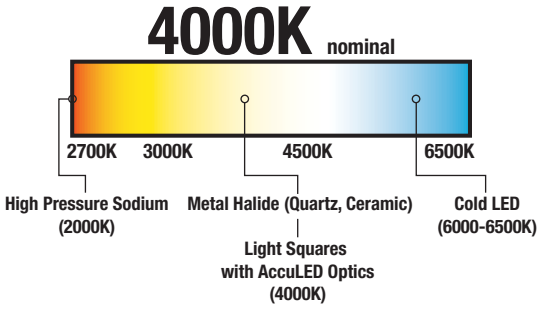
With simple quick disconnects, the Light Squares are easily removed in the field for replacement or for the rotation of the optics.



NOTE: Compliant with IESNA TM-21

Warm White Color

Lighting designers, architects and specifying engineers have long preferred light sources that provide a balanced spectral power distribution and warm white light. Many LED solutions standardize on a cool blue 5000-6000K correlated color temperature (CCT) to maximize lumen output. The Navion luminaire provides warm white light at a standard 4000K CCT with no sacrifice in lumen output.



Superior Efficiency and Control

With efficiencies as high as 95 percent, the patented AccuLED Optics™ system is up to 30 percent more efficient than traditional HID optical systems. Available in 16 optional distributions, this system provides the flexibility and performance required for outdoor applications.

House Side Shield

For stringent light trespass requirements and the ultimate level of backlight control, a house side shield accessory is available for factory or field installation. Designed to seamlessly integrate with the SL2, SL3, SL4 and AFL distributions, the house side shield virtually eliminates backlight and also enhances visual comfort.

Optical Performance Redefined

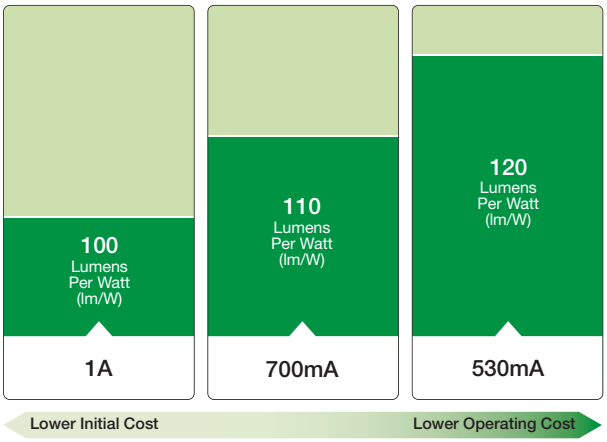
Performance and Scalability

The Navion luminaire is designed around superior optical performance and scalability. With a choice of 15 lumen packages and 16 optical distributions, the optimal configuration can be used to maximize light levels while minimizing operating costs.

Power Consumption (Watts)

Number of Light Squares	Drive Current		
	530mA	700mA	1A
1	30	38	56
2	54	72	107
3	80	105	157
4	105	138	213
6	159	210	315

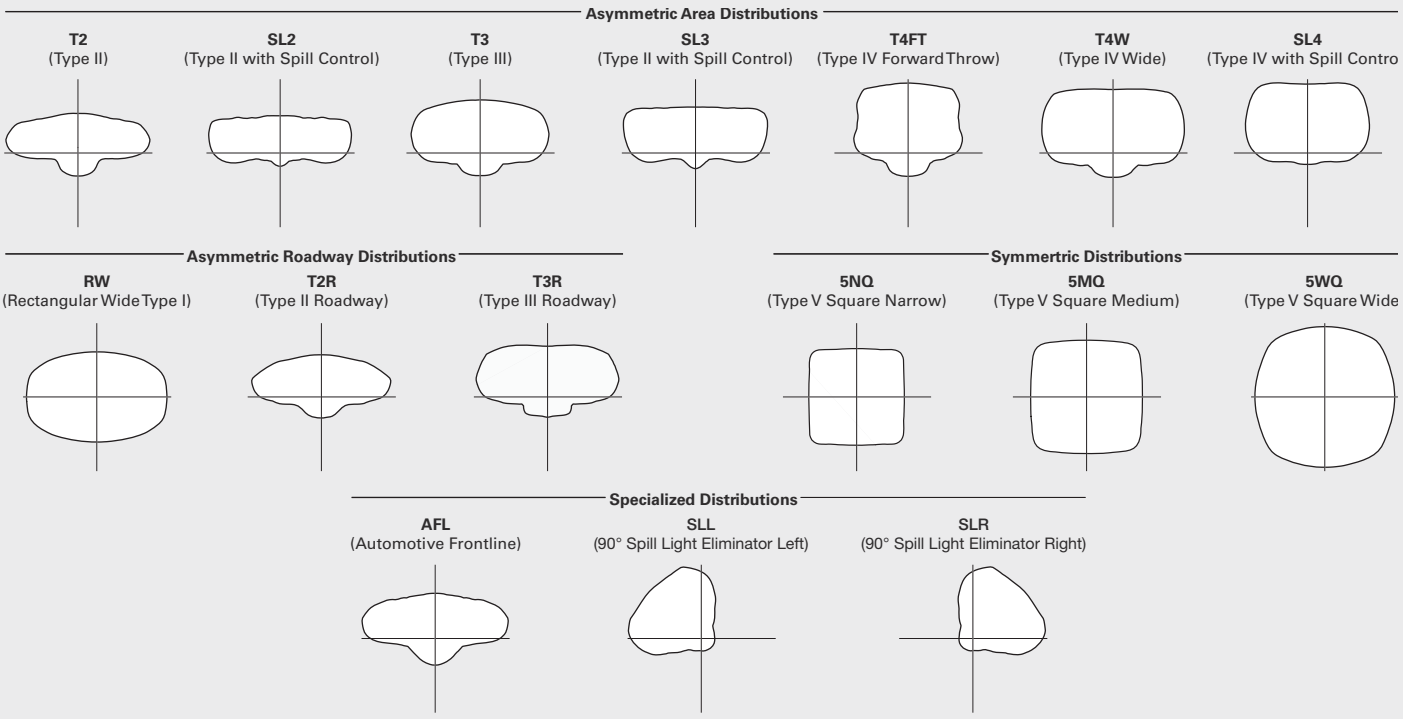
Efficacy (lm/W)



NOTE: Nominal efficacy at 4000K CCT

Optical Distributions

The Navion luminaire has a choice of seven asymmetric area, three asymmetric roadway, three symmetric and three specialized distributions.



Configuration Flexibility

Performance and Versatility

The Navion luminaire is built around LED technology and designed to accommodate ongoing improvements in LED chips and drivers, making it the ideal solution for both current and future lighting requirements.

Pedestrian Pathway

The Navion luminaire's enhanced lighting performance and uniformity provides a safe and secure environment for pedestrians while improving energy efficiency.

Commercial

The Navion luminaire offers a long life and additional savings in maintenance costs packaged in a modern design for commercial applications, such as office buildings and shopping centers.

Industrial

Illuminating large areas without unnecessary glare or light spillage, while controlling the light distribution, makes the Navion luminaire an ideal solution for industrial applications, such as manufacturing and distribution.

Versatility and Simplicity

The Navion luminaire is designed to meet a wide range of outdoor lighting needs, from single-fixture applications to large-scale parking lots. Commercial customers will find it ideal for office buildings and shopping centers. Its higher lumen configurations excel in large parking applications, such as institutions, retail, airports, manufacturing and distribution facilities.

Whatever the application, the Navion luminaire delivers superior optical performance in a durable, modern design, while providing up to 70 percent less energy usage compared to typical HID luminaires. With greater than 90 percent lumen maintenance at 60,000 hours (over 16 years at 10 hours daily use), the Navion fixture offers a long life and additional savings in maintenance costs.

The Navion luminaire is offered in 16 optical packages to meet the exact needs of the illuminated area. The fixture's size and construction are scaled to the specific lumen package. Designed to withstand harsh environments, its rugged, die-cast aluminum construction and 2.5-mil polyester powder-coat finish provide superior protection. The 3G vibration rating and 10kV dual-mode surge protection are standard.

Ease of Installation and Maintenance

The Navion luminaire's performance comes with years of low-cost, low-hassle ownership. With lumen maintenance and life expectancy far beyond traditional HID light sources, regular and time-consuming service visits are a thing of the past. The simple and spacious Navion fixture housing is designed to fit lineman's gloves and can be installed with simple tools. Key electrical components are mounted on the power door, so service is tool-less. The door is small enough to hold in one hand, making field replacement quick and easy.

Tool-less Access

Stainless steel latches provide easy, tool-less access to the electrical compartment, even with lineman's gloves.

Hinged, Removable Power Door

Driver and surge protector is mounted to door. Power door hangs securely and can be easily removed without the use of tools.

Occupancy Sensing

Accelerate Payback on your Investment

To further enhance energy savings, the Navion luminaire offers an optional occupancy sensor that is integral to each individual luminaire. When the area surrounding the luminaire is unoccupied, the sensor has the ability to reduce light levels and power consumption. In addition to financial benefits, all the control options for the Navion luminaire are designed to be simple and cost-effective ASHRAE and Title 24 compliant solutions.

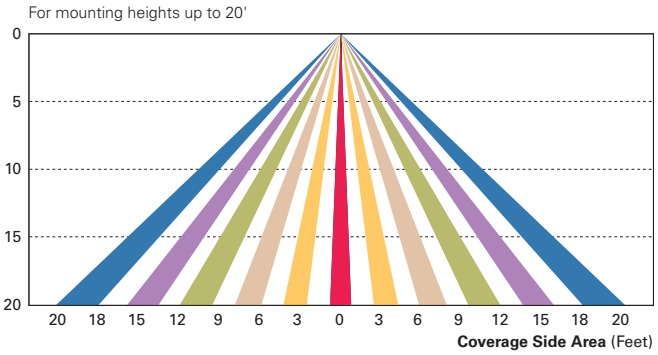
Dimming Occupancy Sensor (DOS)

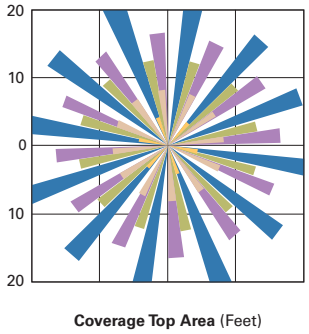
When the DOS option is selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The sensor is factory preset to dim down to approximately 50 percent lumen output with a time delay of five minutes. To change these settings, a FSIR-100 accessory can be purchased. The FSIR-100 is a wireless configuration tool that allows the dimming level, time delay, sensitivity and other parameters to be changed. Consult a representative from Eaton's Cooper Lighting business for additional details.

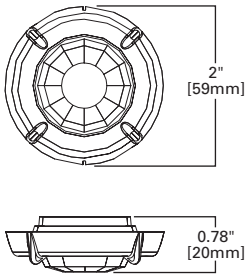
LumaWatt Wireless Control and Monitoring System (DIMRF-LW and DIMRF-LN)

The LumaWatt system is best described as a peer-to-peer wireless network of luminaire-integral sensors that operate in accordance with programmable profiles. The end user can create and manage sensor profiles with browser-based management software and broadcast to the sensors as necessary via wireless gateways. Each sensor is capable of motion and photo sensing, metering power consumption and wireless communication. For additional details, refer to www.cooperlighting.com.

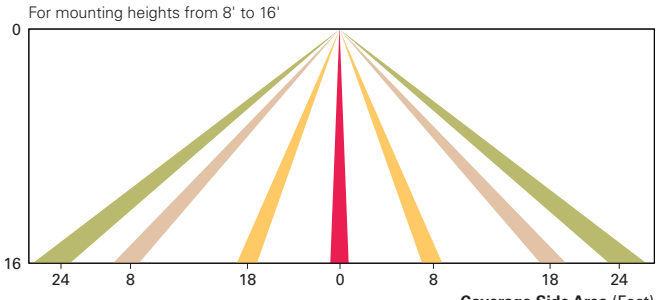
Dimming Occupancy Sensor (DOS)

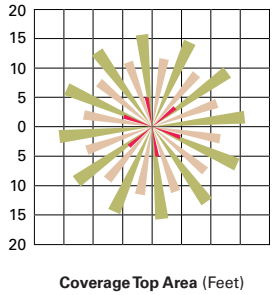


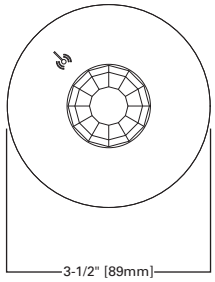


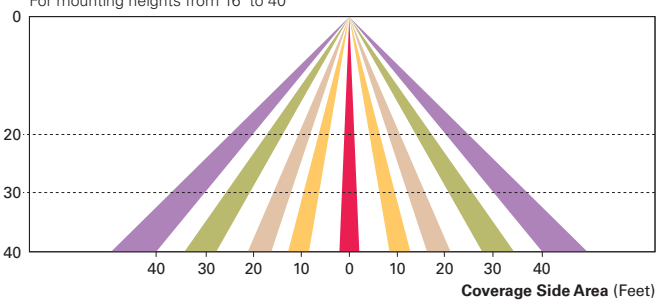


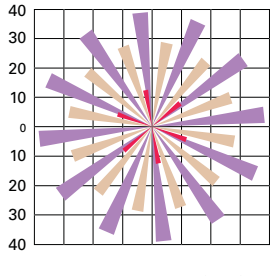
LumaWatt (DIMRF-LW and DIMRF-LN)

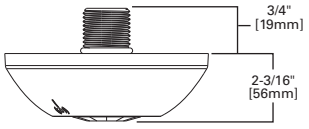












Ordering Information

Sample Number: NAV-AE-01-E-UNV-T3-10K-AI-AP

Product Family	Light Engine	Number of Light Squares [1]	Driver	Voltage	Distribution		Surge Protection
NAV=Navion	**AE**=1A Drive Current	**01**=1 **02**=2 **03**=3 **04**=4 **06**=6	**E**=Non-Dimming **D**=Dimming	**UNV**=Universal 120-277V **347**=347V **480**=480V	**T2**=Type II **T2R**=Type II Roadway **T3**=Type III **T3R**=Type III Roadway **T4FT**=Type IV Forward Throw **T4W**=Type IV Wide **5NQ**=Type V Square Narrow **5MQ**=Type V Square Medium **5WQ**=Type V Square Wide	**SL2**=Type II w/Spill Control **SL3**=Type III w/Spill Control **SL4**=Type IV w/Spill Control **SLL**=90° Spill Light Eliminator Left **SLR**=90° Spill Light Eliminator Right **RW**=Rectangular Wide Type I **AFL**=Automotive Frontline	**10K**=Cooper 10kV Surge Module (Standard) **X**=Driver Surge Protection Only [2]

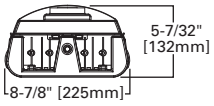
Options (Add as Suffix)		Color
2L=Two Circuits [3] **7030**=70 CRI 3000K [4] **7060**=70 CRI 6000K [4] **530**=Drive Current Factory Set to 530mA [5] **700**=Drive Current Factory Set to 700mA [5] **PER**=NEMA Twistlock Photocontrol Receptacle **IP66**=IP66 Rated **HA**=50°C High Ambient **L90**=Optics Rotated 90° Left **R90**=Optics Rotated 90° Right	**MS/DIM-L08**=Motion Sensor for Dimming Operation, Maximum 8' Mounting Height [6] **MS/DIM-L20**=Motion Sensor for Dimming Operation, 9' - 20' Mounting Height [6] **MS/DIM-L40**=Motion Sensor for Dimming Operation, 21' - 40' Mounting Height [6] **MS/X-L08**=Bi-Level Motion Sensor, Maximum 8' Mounting Height [7] **MS/X-L20**=Bi-Level Motion Sensor, 9' - 20' Mounting Height [7] **MS/X-L40**=Bi-Level Motion Sensor, 21' - 40' Mounting Height [7] **K**=Level Indicator **AI**=Arm Included [8] **LCF**=Light Square Trim Plate Matches Housing Color **HSS**=Factory Installed House Side Shield [9]	**AP**=Grey (Standard) **BZ**=Bronze **BK**=Black **DP**=Dark Platinum **GM**=Graphite Metallic **WH**=White

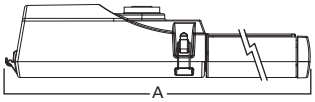
Accessories (Order Separately)		
OA1223=10kV Surge Module Replacement **OA/RA1013**=Photocontrol Shorting Cap **OA/RA1014**=NEMA Photocontrol - 120V **OA/RA1016**= NEMA Photocontrol - Multi-Tap **OA/RA1027**= NEMA Photocontrol - 480V **OA/RA1201**=NEMA Photocontrol - 347V **MA1010-XX**=Single Tenon Adapter for 3-1/2" O.D. Tenon	**MA1011-XX**=2 @ 180° Tenon Adapter for 3-1/2" O.D. Tenon **MA1012-XX**=3 @ 120° Tenon Adaptor for 3-1/2" O.D. Tenon **MA1013-XX**=4 @ 90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1014-XX**=2 @ 90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1015-XX**=2 @ 120° Tenon Adapter for 3-1/2" O.D. Tenon **MA1016-XX**=3 @ 90° Tenon Adapter for 3-1/2" O.D. Tenon **MA1017-XX**=Single Tenon Adapter for 2-3/8" O.D. Tenon	**MA1018-XX**=2 @ 180° Tenon Adapter for 2-3/8" O.D. Tenon **MA1019-XX**=3 @ 120° Tenon Adapter for 2-3/8" O.D. Tenon **MA1045-XX**=4 @ 90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1048-XX**=2 @ 90° Tenon Adapter for 2-3/8" O.D. Tenon **MA1049-XX**=3 @ 90° Tenon Adapter for 2-3/8" O.D. Tenon **FSIR-100**=Wireless Configuration Tool for Motion Sensor [10] **LS/HSS-XX**=Field Installed House Side Shield [11]

NOTES: **1** Standard 4000K CCT and minimum 70 CRI. **2** Consult factory for driver surge protection values. **3** Low-level output varies by number of light squares specified. Consult factory. Requires two or more light squares. No terminal block with 2L options. **4** Use dedicated IES files for 3000K and 6000K when performing layouts. These files are published on the Navion luminaire product page on the website. **5** 1 Amp standard. Use dedicated IES files for 530mA and 700mA when performing layouts. These files are published on the Navion luminaire product page on the website. **6** Sensor mounted externally. Must specify dimming driver. Consult factory for more information. **7** Sensor mounted externally. Available in 2, 3, 4 or 6 square configurations Replace "X" with number of squares in low output mode. For ON/OFF operation, replace "X" with "0". Maximum two squares in low output mode. Not available with dimming driver. No terminal block with ON/OFF sensor. **8** 22" upsweep arm. Round pole adapter and mounting hardware included, "M" Drill Pattern. **9** Only for use with SL2, SL3, SL4 and AFL distributions. The Light Square trim plate is painted black when the HSS option is selected. **10** This tool enables adjustment of parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your Eaton's Cooper Lighting business representative for additional details. **11** One required for each Light Square.

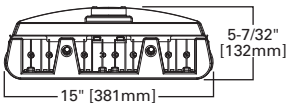
Dimensions

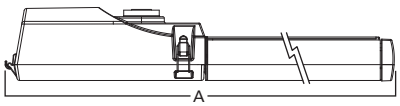
1, 2 or 3 Light Squares





4 or 6 Light Squares



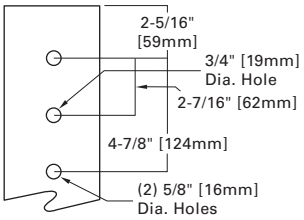


Dimensional Data

Number of Light Squares	"A" Length
1	21-1/2" (546mm)
2	27-5/8" (701mm)
3	33-5/8" (854mm)
4	27-5/8" (704mm)
6	33-5/8" (854mm)

Arm Drilling

Type "M"



Lumen Multiplier

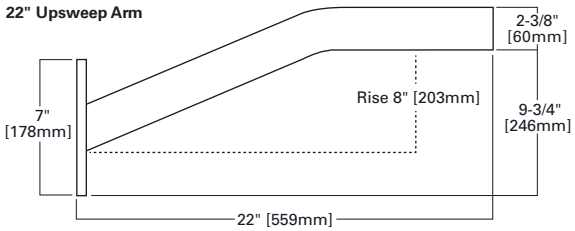
Ambient Temperature	Lumen Multiplier
0°C	1.02
10°C	1.01
25°C	1.00
40°C	0.99
50°C	0.97

Lumen Maintenance

Ambient Temperature	TM-21 Lumen Maintenance (60,000 Hours)	Theoretical L70 (Hours)
25°C	> 94%	> 350,000
40°C	> 93%	> 250,000
50°C	> 90%	> 170,000

Optional Arm

22" Upsweep Arm



Additional Information

Compliances	Technical Data (Electronic Driver)	EPA (Effective Projected Area - Square Feet)			Shipping Data (Approximate Net Weight)
		Number of Light Squares	Without Arm	With Arm	
UL and cUL Wet Location Listed IP66 Light Squares 3G Vibration Rated ARRA Compliant ISO9001	+40°C (104°F) Ambient Temperature Rating -40°C (-40°F) Ambient Temperature Rating Optional 50°C (HA) Ambient Temperature Rating >0.9 Power Factor <20% Total Harmonic Distortion 120-277V/50 and 60 Hz 347/60 Hz, 480V/60 Hz	1 Square 2 Squares 3 Squares 4 Squares 6 Squares	0.8 1.0 1.2 1.2 1.4	1.2 1.3 1.5 1.5 1.7	1 Square 17 lbs. (7.7 kgs.) 2 Squares 22 lbs. (10.0 kgs.) 3 Squares 26 lbs. (11.8 kgs.) 4 Squares 31 lbs. (14.1 kgs.) 6 Squares 36 lbs. (16.3 kgs.)

NOTE: Specification and dimensions subject to change without notice.

c UL us LISTED

RoHS Compliant

IP66 Rated

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Our Lighting Product Brands
Halo
Halo Commercial
Portfolio
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RSA
Metalux
Corelite
Neo-Ray
Fail-Safe
MWS
Ametrix
Shaper
io
Lumark
McGraw-Edison
Invue
Lumière
Streetworks
AtLite
Sure-Lites

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iLumin
Zero 88
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iLight (International Only)

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Printed in USA
Publication No. ADH140423
March 2014