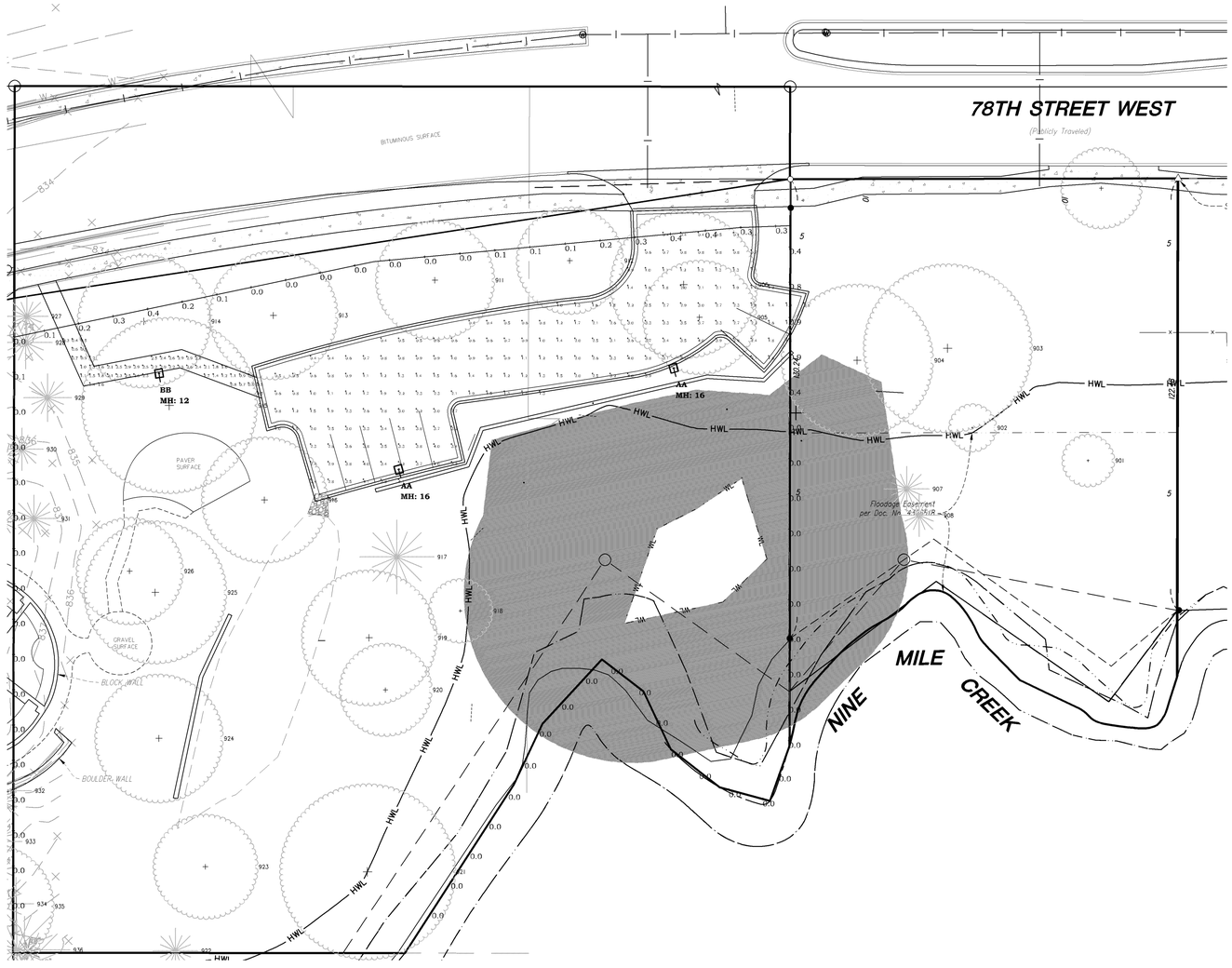
CASE FILE #PL201800241



All Luminaires Are Fully Shielded Full Cutoff Type.

Luminaire Schedule								
Symbol	Qty	Label	Arrangement	LLF	Description	Lum. Watts	Lum. Lumens	BUG Rating
	2	AA	SINGLE	1.000	Leotek #AR13-10M2-MV-NW-3-XX-530 Single Mounted At A Height Of 16' On Square Steel Pole	63	7781	B2-U0-G2
	1	BB	SINGLE	1.000	Leotek #AR13-4M2-MV-NW-2-XX-350 Single Mounted At A Height Of 12' On Square Steel Pole	20	2317	B1-U0-G1

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Parking Lot	Illuminance	Fc	1.95	4.1	0.4	4.88	10.25
Pathway	Illuminance	Fc	1.67	2.9	0.3	5.57	9.67
Property Line	Illuminance	Fc	0.08	0.9	0.0	N.A.	N.A.

All Luminaires Are Equipped With Dimming Drivers.
Electrical Contractor Shall Provide Dimming & Time Of Day Control.

Lighting by:
Charlie Leavitt, LC, MIES
Lighting Fundamentals, LLC
PO Box 50827
Mendota, MN 55150-0877
charlie@lightingfundamentalsllc.net
651-399-7768

CREEKVIEW EAST PARKING LOT

7001 W. 78TH ST.

FRAUENSHUH

7101 West 78th Street
Minneapolis, MN 55439

LOUCKS

PLANNING
CIVIL ENGINEERING
LAND SURVEYING
LANDSCAPE ARCHITECTURE
ENVIRONMENTAL

7200 Hemlock Lane, Suite 300
Maple Grove, MN 55369
763.424.5505
www.loucksinc.com

CADD QUALIFICATION

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SUBMITTAL/REVISIONS

PROFESSIONAL SIGNATURE

QUALITY CONTROL

CALL BEFORE YOU DIG!
Gopher State One Call
TWIN CITY AREA: 651-454-0002
TOLL FREE: 1-800-252-1166

WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND / OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

INITIAL PHOTOMETRIC PLAN

P1-1

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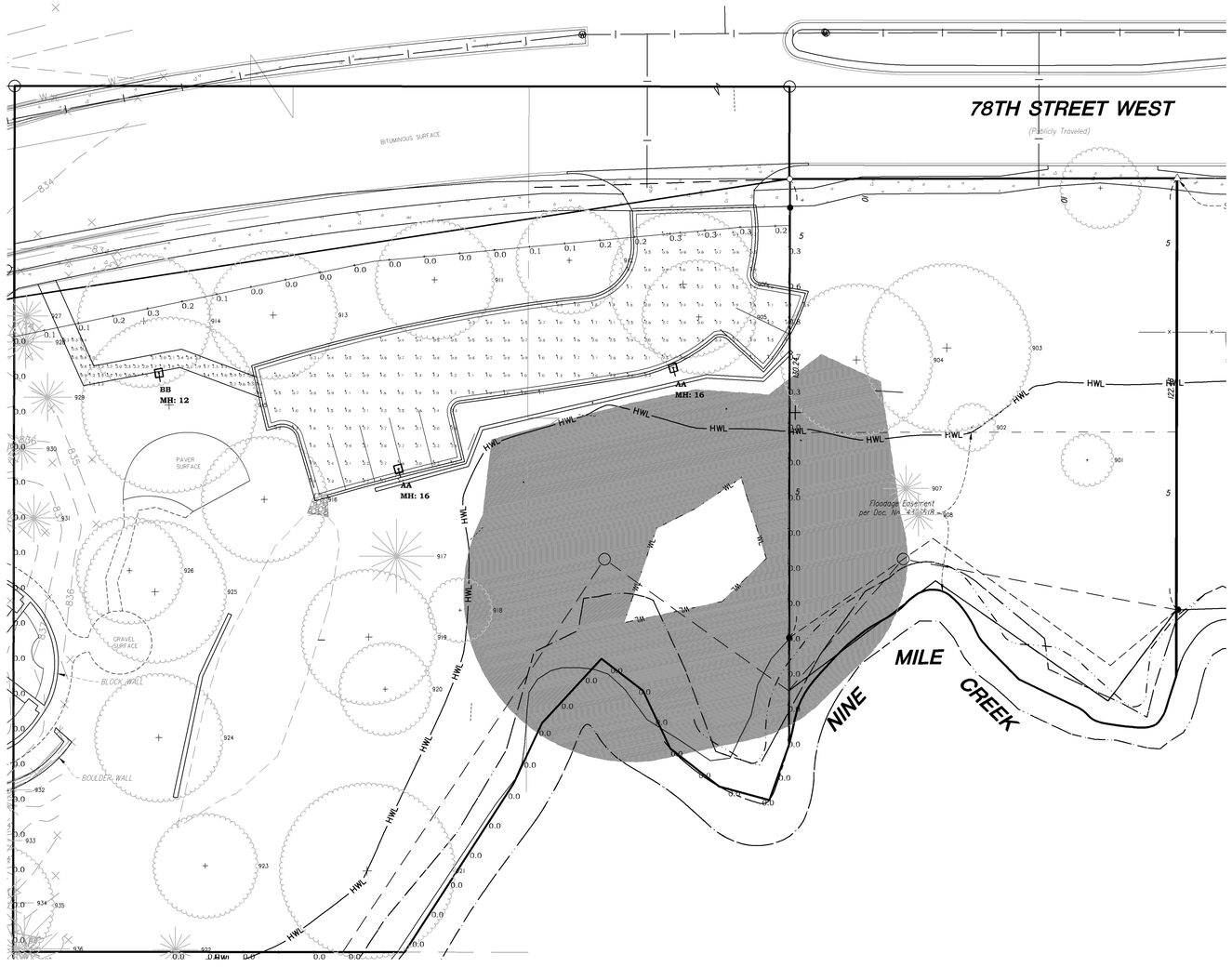

All Luminaires Are Fully Shielded Full Cutoff Type.

Luminaire Schedule						
Symbol	Qty	Label	Arrangement	LLF	Description	Lum. Watts
	2	AA	SINGLE	0.810	Leotek #AR13-10M2-MV-NW-3-XX-530 Single Mounted At A Height Of 16' On Square Steel Pole	63
	1	BB	SINGLE	0.810	Leotek #AR13-4M2-MV-NW-2-XX-350 Single Mounted At A Height Of 12' On Square Steel Pole	20

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Parking Lot	Illuminance	Fc	1.58	3.3	0.3	5.27	11.00
Pathway	Illuminance	Fc	1.36	2.4	0.2	6.80	12.00
Property Line	Illuminance	Fc	0.06	0.8	0.0	N.A.	N.A.

All Luminaires Are Equipped With Dimming Drivers.
Electrical Contractor Shall Provide Dimming & Time Of Day Control.

Lighting by:
Charlie Leavitt, LC, MIES
Lighting Fundamentals, LLC
PO Box 50827
Mendota, MN 55150-0877
charlie@lightingfundamentalsllc.net
651-399-7768

CREEKVIEW EAST PARKING LOT

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FRAUENSHUH

7101 West 78th Street
Minneapolis, MN 55439

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MAINTAINED PHOTOMETRIC PLAN

P1-2

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CASE FILE #PL201800241

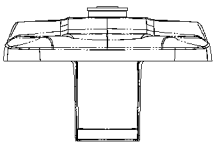
LEOTEK®
LITE-ON GROUP

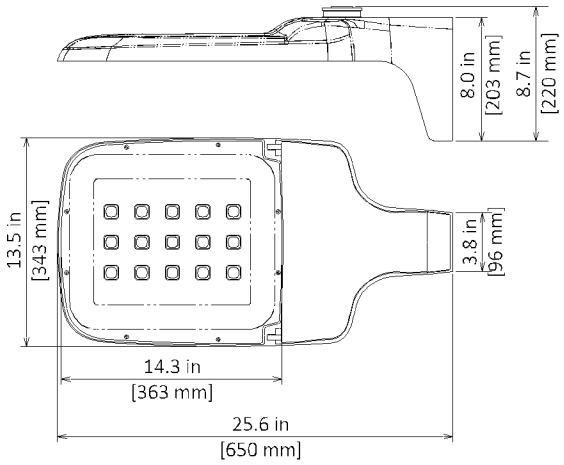
Project Creekview - Frauenshuh Parking Lot
Type AA
Catalog No. AR13-10M2-MV-NW-3-XX-530
Mounted At A Height Of 16'
On A Square Steel Pole

ARIETA™13 Architectural LED Area Luminaire
AR13 M2 Series Specification Data Sheet

Luminaire Data

Weight 15.4 lbs [7 kg]
EPA 0.47 ft²





Ordering Information

Sample Catalog No. AR13 6M2 MV NW 5 BK 700 MSL3

					Select		
Product	**LED Code**	**Voltage**	**Nominal Color Temperature**	**Distribution**	**Finish[1]**	**Drive Current Code [2]**	**Options**
AR13	**4M2** **6M2** **10M2** **15M2** **18M2** **20M2**	**MV** 120-277V **HV** 347-480V	**WW** 3000K **NW** 4000K **CW** 5000K	**2** Type 2 **3** Type 3 **4** Type 4 **5** Type 5	**BK** Black **DB** Dark Bronze **WH** White **GY** Gray **NA** Natural Aluminum	**350** **530** **700**	**HSS**[3] House Side Shield (Factory Installed) **FDC**[4] Fixed Drive Current **FFA**[5] Full Field Adjustability **PCR**[6] NEMA Photocontrol Receptacle **PCR7**[6] ANSI 7-wire Photocontrol Receptacle **PCR7-CR**[7] Control Ready 7-wire Photocontrol Receptacle **MSL7**[8] Motion Sensor with L7 Lens **MSL3**[8] Motion Sensor with L3 Lens **PND1**[9] Part-Night Dimming **PND2**[9] Part-Night Dimming **PND3**[9] Part-Night Dimming **ORR** Optics Rotated Right **ORL** Optics Rotated Left **WL** Utility Wattage Label

Notes:
1 Black, Dark Bronze, White, Gray, or Natural Aluminum standard. Consult factory for other finishes.
2 Specified drive current code is the factory set maximum drive current. Field adjustable current selector enables standard dimming to lower wattage drive currents only. Consult factory if wattage limits require a special drive current.
3 Flush mounted shield factory installed, also available for field installion. House Side Shield cuts light off at 1/2 mounting height behind luminaire.
4 Non-field adjustable drive current. Specify 350mA, 530mA or 700mA setting.
5 The FFA option enables full field adjustability from the specified drive current code to all drive currents available. This option is not DLC qualified.
6 Field adjustable current selector included to enable standard dimming to lower wattage drive currents only. Field changeable connectors included to enable connection to PCR7 (wireless node dimming is disabled by default).
7 Control-ready wired at factory for wireless node dimming. Supplied at maximum drive current. If lower drive current is required, consult factory.
8 Motion Sensor available with MV. See L7 or L3 Lens coverage details on page 5. Consult factory for MS specified with ANSI 7-wire Photocontrol Receptacle. PCR option is required for On/Off control using light detection.
9 For PND profile options see page 6. Only available with MV (120-277V).
10 Specify Color (GY, DB, BK, WH, NA)
11 Specify MV (120-277V) or HV (347V or 480V)

Accessories*	
HSSAR13[8,10]	House Side Shield
RPA[10]	Round Pole Adapter
PTF1[10]	Square Pole Top Fitter Single
PTF2[10]	Square Pole Top Fitter Twin at 180°
PTF4[10]	Square Pole Top Fitter Quad
WM[10]	Wall Mount
BSK	Bird Deterrent Spider Kit
LLPC[11]	Long-Life Twist Lock Photocontrol
SC	Twist Lock Shorting Cap
FSIR100	Motion Sensor Configuration Tool

*Accessories are ordered separately and not to be included in the catalog number

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ARIETA™13 Architectural LED Area Luminaire
AR13 M2 Series Specification Data Sheet

Luminaire Specifications

Housing
Die cast aluminum housing with universal mounting design allows for attachment to existing pole without redrilling for retrofit applications. Aluminum housing provides passive heat-sinking of the LEDs and has upper surfaces that shed precipitation. Mounting provisions meet 3G vibration per ANSI C136.31-2010 Normal Application, Bridge & Overpass. Electrical components are accessed without tools and are mounted on removable power door.

Light Emitting Diodes
Hi-flux/Hi-power white LEDs produce a minimum of 90% of initial intensity at 100,000 hours of life based on IES TM-21. LEDs are tested in accordance with IES LM-80 testing procedures. LEDs have correlated color temperature of 3000K (WW), 4000K (NW), or 5000K (CW) and 70 CRI minimum. LEDs are 100% mercury and lead free.

Field Adjustability
LED drive current can be changed in the field to adjust light output for local conditions (not available with PCR7-CR option). The specified drive current code will be the factory set maximum drive current and field adjustments can only be made to available lower wattage drive currents. Select the FFA option if full field adjustability to all available drive currents (700mA max) is desired. The FFA option is not DLC qualified.

Quality Control
Every luminaire is performance tested before and after a 2-hour burn-in period. Assembled in the USA.

Optical Systems
Micro-lens optical systems produce IESNA Type 2, Type 3, Type 4 or Type 5 distributions and are fully sealed to maintain an IP66 rating. Luminaire produces 0% total lumens above 90° (BUG Rating, U=0). Optional house side shield (HSS) cuts light off at 1/2 mounting height behind luminaire. Optics may be rotated right or left with options ORR/ORL, respectively.

Electrical
Rated life of electrical components is 100,000 hours. Uses isolated power supply that is 1-10V dimmable. Power supply is wired with quick-disconnect terminals. Power supply features a minimum power factor of .90 and <20% Total Harmonic Distortion (THD). EMC meets or exceeds FCC CFR Part 15. Terminal block accommodates 6 to 14 gauge wire. Surge protection complies with IEEE/ANSI C62.41 Category C High, 20kV/10kA and ANSI C136.2-2015, 20kV/10kA.

Controls
3-Wire photocontrol receptacle (PCR) is available. ANSI C136.41 7-wire (PCR7) photocontrol receptacles are available. All photocontrol receptacles have tool-less rotatable bases. Wireless control module is provided by others.

Finish
Housing receives a fade and abrasion resistant polyester powder coat finish with 3.0 mil nominal thickness. Finish tested to withstand 5000 hours in salt spray exposure per ASTM B117. Finish meets scribe creepage rating 8 per ASTM D1654. Finish tested 500 hours in UV exposure per ASTM G154 and meets ASTM D523 gloss retention.

Listings/Ratings/Labels
Luminaires are UL listed for use in wet locations in the United States and Canada. DesignLights Consortium™ qualified product. Consult DLC QPL for Standard and Premium Classification Listings. International Dark Sky Association listed. Luminaire is qualified to operate at ambient temperatures of -40°C to 40°C.

Photometry
Luminaires photometrics are tested by certified independent testing laboratories in accordance with IES LM-79 testing procedures.

Warranty
10-year limited warranty is standard on luminaire and components. 5-year limited warranty on luminaires and components with a motion sensor.

Standards
Luminaire complies with:
ANSI: C136.2, C136.3, C136.10, C136.13, C136.15, C136.22, C136.31, C136.35, C136.37, C136.41, C62.41, C78.377, C82.77
Other: FCC 47 CFR, IEC 60598, ROHS II, UL 1449, UL 1598

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ARIETA™13 Architectural LED Area Luminaire
AR13 M2 Series Specification Data Sheet

Performance Data 3000K (WW)

All data nominal. IES files are available at leotek.com.

			Type 2, 3, 4		Type 5	
LED Code	**Current Code**	**System Wattage (W)**	**Delivered Lumens (Lm)[1]**	**Efficacy (Lm/W)**	**Delivered Lumens (Lm) [1]**	**Efficacy (Lm/W)**
4M2	350	20	2000	100	1930	96
	530	28	2720	97	2630	94
	700	36	3410	94	3300	91
6M2	350	29	2930	101	2750	95
	530	41	4110	99	3860	93
	700	54	5040	94	4950	92
10M2	350	41	4600	112	4500	109
	530	63	6700	106	6600	104
	700	87	8500	97	8400	96
15M2	350	63	7400	117	7300	116
	530	90	9600	107	9500	106
	700	124	12900	104	12700	102
18M2	350	81	9000	111	9100	112
	530	122	12800	105	13000	107
	700	160	16400	103	16700	104
20M2	350	84	10700	127	10800	129
	530	132	15300	116	15500	117
	700	172	18200	106	18500	108

Notes:
1 Normal tolerance ± 10% due to factors including distribution type, LED bin variance, driver variance, and ambient temperatures.

Performance Data 4000K (NW) & 5000K (CW)

All data nominal. IES files are available at leotek.com.

			Type 2, 3, 4		Type 5	
LED Code	**Current Code**	**System Wattage (W)**	**Delivered Lumens (Lm) [1]**	**Efficacy (Lm/W)**	**Delivered Lumens (Lm) [1]**	**Efficacy (Lm/W)**
4M2	350	20	2330	116	2290	114
	530	28	3170	113	3110	111
	700	36	3990	111	3920	109
6M2	350	29	3490	120	3480	120
	530	41	4810	116	4850	117
	700	54	5980	111	5880	109
10M2	350	41	5400	132	5300	129
	530	63	7800	124	7700	122
	700	87	10000	115	9800	113
15M2	350	63	8400	133	8300	132
	530	90	11500	128	11300	126
	700	124	15000	121	14700	119
18M2	350	81	9600	119	9700	120
	530	122	13700	112	13900	114
	700	160	17500	109	17800	111
20M2	350	84	10600	126	10800	129
	530	132	15200	115	15500	117
	700	172	19500	114	19800	115

Notes:
1 Normal tolerance ± 10% due to factors including distribution type, LED bin variance, driver variance, and ambient temperatures.

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ARIETA™13 Architectural LED Area Luminaire
AR13 M2 Series Specification Data Sheet

BUG Ratings: 3000K (WW)

All data nominal. IES files for all CCTs are available at leotek.com.

LED Code	Current Code	Type 2	Type 3	Type 4	Type 5
4M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G0	B1 U0 G0
	530	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G0
	700	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
6M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G0
	530	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
	700	B1 U0 G1	B1 U0 G1	B1 U0 G1	B3 U0 G1
10M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
	530	B1 U0 G1	B1 U0 G1	B2 U0 G1	B3 U0 G1
	700	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G1
15M2	350	B1 U0 G1	B1 U0 G2	B2 U0 G2	B3 U0 G1
	530	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	700	B2 U0 G2	B2 U0 G2	B3 U0 G2	B4 U0 G2
18M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	530	B2 U0 G2	B2 U0 G2	B3 U0 G2	B4 U0 G2
	700	B2 U0 G2	B2 U0 G2	B3 U0 G2	B4 U0 G2
20M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	530	B3 U0 G3	B2 U0 G2	B3 U0 G2	B4 U0 G2
	700	B3 U0 G3	B3 U0 G3	B3 U0 G2	B4 U0 G2

BUG Ratings: 4000K (NW) & 5000K (CW)

All data nominal. IES files for all CCTs are available at leotek.com.

LED Code	Current Code	Type 2	Type 3	Type 4	Type 5
4M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G0	B1 U0 G0
	530	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G0
	700	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
6M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
	530	B1 U0 G1	B1 U0 G1	B1 U0 G1	B3 U0 G1
	700	B1 U0 G1	B1 U0 G1	B1 U0 G1	B3 U0 G1
10M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B3 U0 G1
	530	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G1
	700	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
15M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G1
	530	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	700	B2 U0 G2*	B2 U0 G2	B3 U0 G2	B4 U0 G2
18M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	530	B2 U0 G2	B2 U0 G2	B3 U0 G2	B4 U0 G2
	700	B3 U0 G3	B3 U0 G2*	B3 U0 G2	B4 U0 G2
20M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	530	B2 U0 G2*	B2 U0 G2	B3 U0 G2	B4 U0 G2
	700	B3 U0 G3	B3 U0 G3	B3 U0 G3	B4 U0 G2

* These BUG ratings are slightly different for 5000K (CW). Refer to IES files for actual CW rating.

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LEOTEK® LITE-ON GROUP

ARIETA™13 Architectural LED Area Luminaire
AR13 M2 Series Specification Data Sheet

Motion Sensor (Optional) Specifications

Description
Digital passive infrared luminaire integrated outdoor occupancy sensor provides high/low/off control based on motion detection. Initial setup and subsequent sensor adjustments are made using a handheld configuration tool. PCR option is required for On/Off control using light detection. Available with MV input voltage only.

Operation
Standard factory setting will dim the luminaire to 50% until motion is sensed and then it will power to 100%. When motion is not detected for five minutes, the luminaire will dim back to 50%. Ramp up and fade down times are adjustable, but initially set to NONE. The percent dimming and time durations may be field adjusted as required using FSIR-100 configuration tool. FSIR-100 user guide available at: www.wattstopper.com.

Optical System
Multi-cell, multi-tier Fresnel lens with a 360 degree view detects unobstructed motion within one mounting height, up to 20 ft. maximum (MSL3) or 40 ft. maximum (MSL7). Consult factory for higher mounting height requirements.

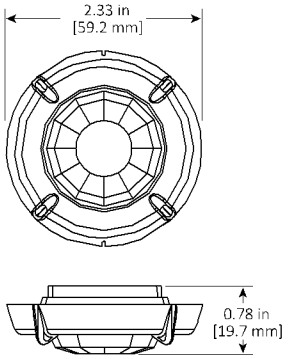
Finish
Sensor exterior ring and lens are white polycarbonate, UV and impact resistant.

Listings/Ratings
Sensor is TUV, UL and cUL listed, IP66 rated and CE compliant.

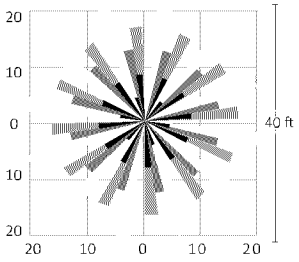
Warranty
5-year limited warranty on luminaires and components with a motion sensor.

Motion Sensor (Optional) Data

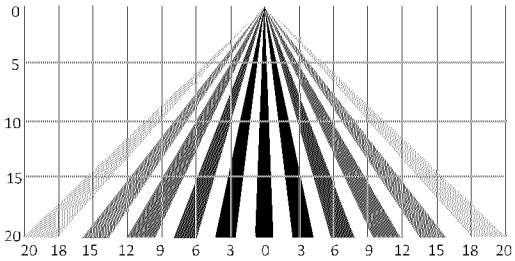
MSL3 Lens Dimensions



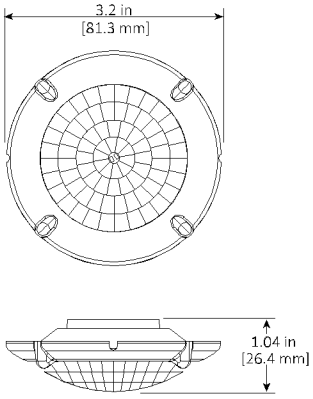
MSL3 Lens Coverage Top View



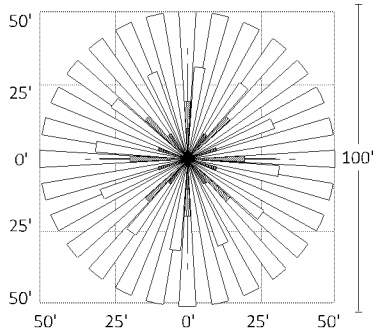
MSL3 Lens Coverage Side View



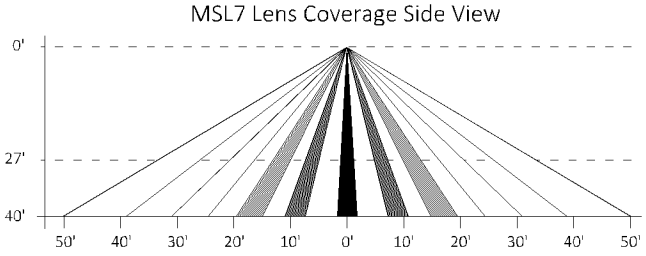
MSL7 Lens Dimensions



MSL7 Lens Coverage Top View



MSL7 Lens Coverage Side View



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ARIETA™13 Architectural LED Area Luminaire
AR13 M2 Series Specification Data Sheet

Part-Night Dimming Specifications

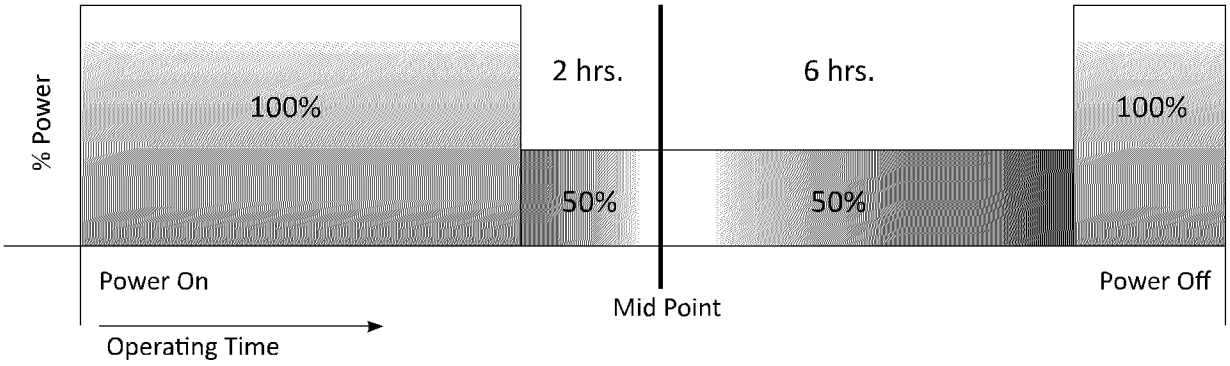
Description

Arieta's Part-Night Dimming (PND) option enables significant energy savings by automatically dimming the luminaire during early morning hours when infrequent use is expected. Factory programmed dimming profiles automatically take into account seasonal changes based on geographical location by continuously monitoring the nighttime midpoint. This option is fully compatible with photocells and time clock devices, but is not field adjustable.

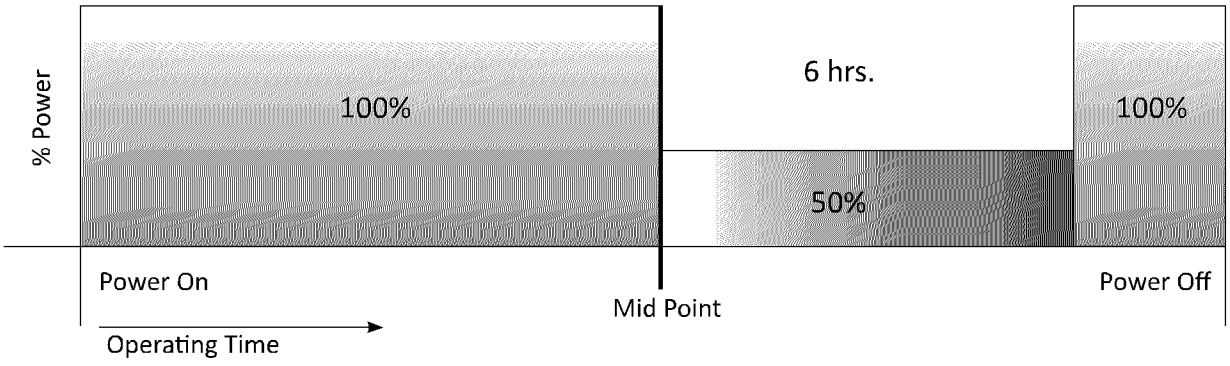
Operation

Based on the PND profile that is selected, the luminaire dims to the corresponding % power for the corresponding length of time (based on the nighttime mid-point) as shown below. Mid-point is continuously recalculated in the luminaire by monitoring the average length of time between when the light turns on (power on) and turns off (power off) over the previous two days. In effect, this functionality will take two days to initialize after installation before any dimming will occur. Power interruptions are ignored and do not affect the determination of mid-point. A motion sensor (MSL3 or MSL7) can be used with PND to temporarily override the dimming profile when motion is detected. Three factory programmed PND profiles are available for selection:

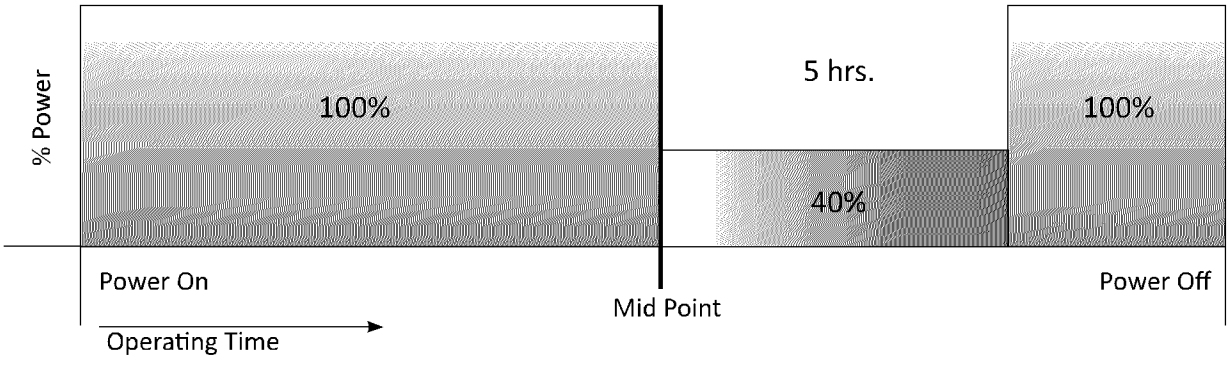
PND1



PND2



PND3



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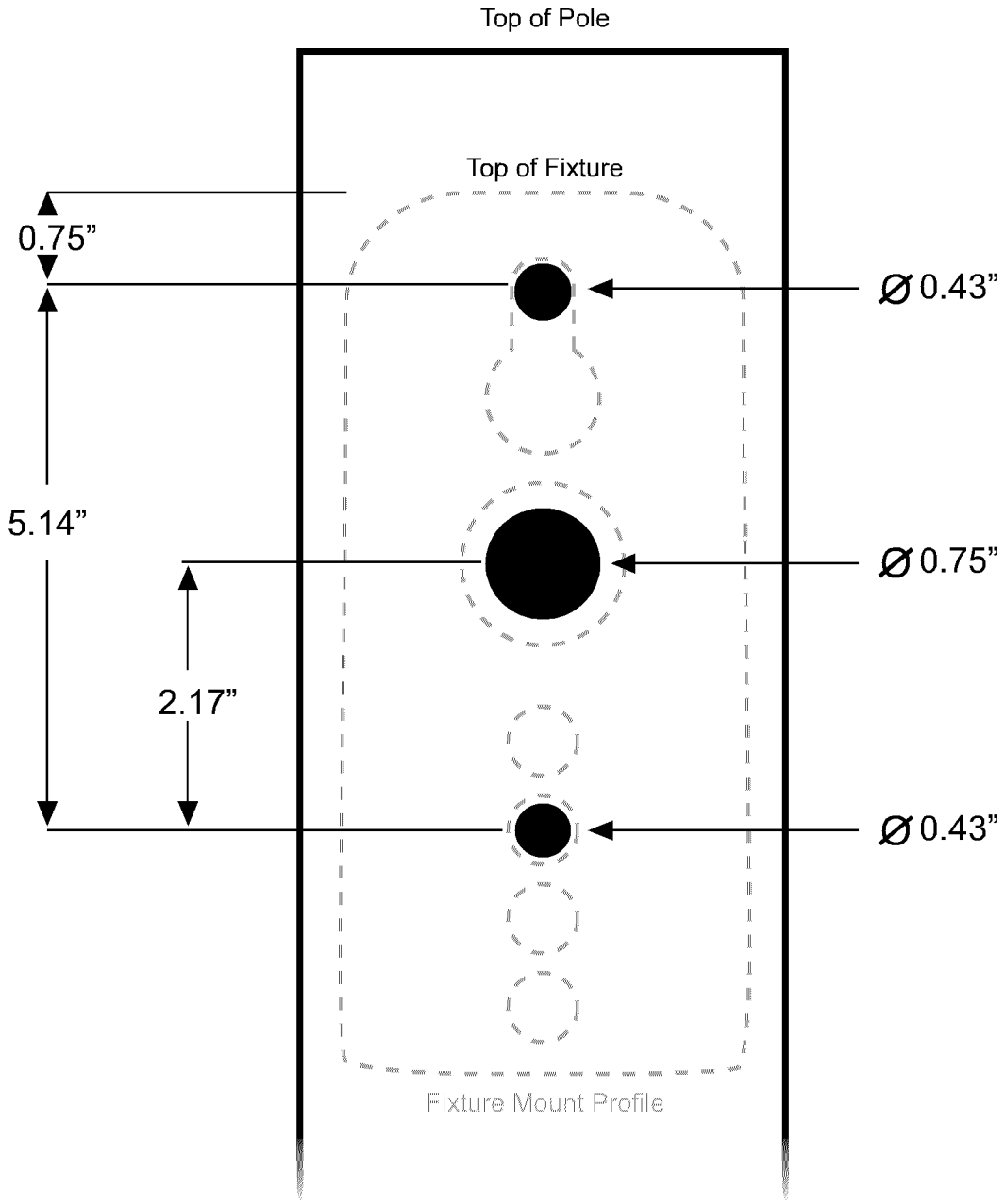
Pole Mount Drilling Specifications



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CASE FILE #PL201800241

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Project Creekview - Frauenshuh Parking Lot
Type BB
Catalog No. AR13-4M2-MV-NW-2-XX-350
Mounted At A Height Of 12'
On A Square Steel Pole.

ARIETA™13 Architectural LED Area Luminaire
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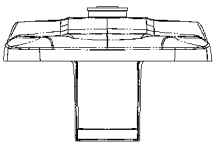
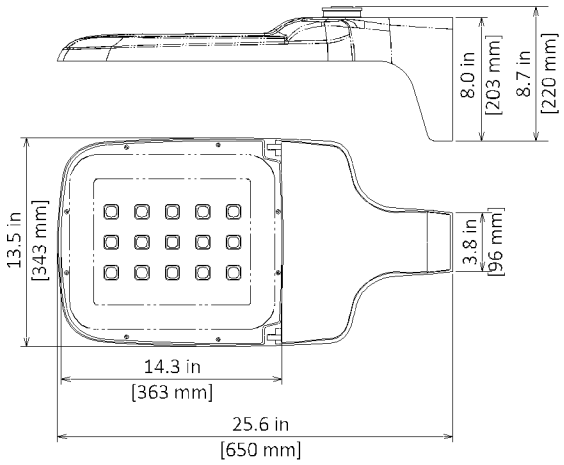
Luminaire Data

Weight 15.4 lbs [7 kg]
EPA 0.47 ft²





Ordering Information

Sample Catalog No. AR13 6M2 MV NW 5 BK 700 MSL3

					Select		
Product	**LED Code**	**Voltage**	**Nominal Color Temperature**	**Distribution**	**Finish[1]**	**Drive Current Code [2]**	**Options**
AR13	**4M2**	**MV** 120-277V	**WW** 3000K	**2** Type 2	**BK** Black	**350**	**HSS**[3] House Side Shield (Factory Installed)
	6M2	**HV** 347-480V	**NW** 4000K	**3** Type 3	**DB** Dark Bronze	**530**	**FDC**[4] Fixed Drive Current
	10M2		**CW** 5000K	**4** Type 4	**WH** White	**700**	**FFA**[5] Full Field Adjustability
	15M2			**5** Type 5	**GY** Gray		**PCR**[6] NEMA Photocontrol Receptacle
	18M2				**NA** Natural Aluminum		**PCR7**[6] ANSI 7-wire Photocontrol Receptacle
	20M2						**PCR7-CR**[7] Control Ready 7-wire Photocontrol Receptacle
							MSL7[8] Motion Sensor with L7 Lens
							MSL3[8] Motion Sensor with L3 Lens
							PND1[9] Part-Night Dimming
							PND2[9] Part-Night Dimming
							PND3[9] Part-Night Dimming
							ORR Optics Rotated Right
							ORL Optics Rotated Left
							WL Utility Wattage Label

Notes:
1 Black, Dark Bronze, White, Gray, or Natural Aluminum standard. Consult factory for other finishes.
2 Specified drive current code is the factory set maximum drive current. Field adjustable current selector enables standard dimming to lower wattage drive currents only. Consult factory if wattage limits require a special drive current.
3 Flush mounted shield factory installed, also available for field installion. House Side Shield cuts light off at 1/2 mounting height behind luminaire.
4 Non-field adjustable drive current. Specify 350mA, 530mA or 700mA setting.
5 The FFA option enables full field adjustability from the specified drive current code to all drive currents available. This option is not DLC qualified.
6 Field adjustable current selector included to enable standard dimming to lower wattage drive currents only. Field changeable connectors included to enable connection to PCR7 (wireless node dimming is disabled by default).
7 Control-ready wired at factory for wireless node dimming. Supplied at maximum drive current. If lower drive current is required, consult factory.
8 Motion Sensor available with MV. See L7 or L3 Lens coverage details on page 5. Consult factory for MS specified with ANSI 7-wire Photocontrol Receptacle. PCR option is required for On/Off control using light detection.
9 For PND profile options see page 6. Only available with MV (120-277V).
10 Specify Color (GY, DB, BK, WH, NA)
11 Specify MV (120-277V) or HV (347V or 480V)

Accessories*	
HSSAR13[8,10]	House Side Shield
RPA[10]	Round Pole Adapter
PTF1[10]	Square Pole Top Fitter Single
PTF2[10]	Square Pole Top Fitter Twin at 180°
PTF4[10]	Square Pole Top Fitter Quad
WM[10]	Wall Mount
BSK	Bird Deterrent Spider Kit
LLPC[11]	Long-Life Twist Lock Photocontrol
SC	Twist Lock Shorting Cap
FSIR100	Motion Sensor Configuration Tool

*Accessories are ordered separately and not to be included in the catalog number

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ARIETA™13 Architectural LED Area Luminaire
AR13 M2 Series Specification Data Sheet

Luminaire Specifications

Housing
Die cast aluminum housing with universal mounting design allows for attachment to existing pole without redrilling for retrofit applications. Aluminum housing provides passive heat-sinking of the LEDs and has upper surfaces that shed precipitation. Mounting provisions meet 3G vibration per ANSI C136.31-2010 Normal Application, Bridge & Overpass. Electrical components are accessed without tools and are mounted on removable power door.

Light Emitting Diodes
Hi-flux/Hi-power white LEDs produce a minimum of 90% of initial intensity at 100,000 hours of life based on IES TM-21. LEDs are tested in accordance with IES LM-80 testing procedures. LEDs have correlated color temperature of 3000K (WW), 4000K (NW), or 5000K (CW) and 70 CRI minimum. LEDs are 100% mercury and lead free.

Field Adjustability
LED drive current can be changed in the field to adjust light output for local conditions (not available with PCR7-CR option). The specified drive current code will be the factory set maximum drive current and field adjustments can only be made to available lower wattage drive currents. Select the FFA option if full field adjustability to all available drive currents (700mA max) is desired. The FFA option is not DLC qualified.

Quality Control
Every luminaire is performance tested before and after a 2-hour burn-in period. Assembled in the USA.

Optical Systems
Micro-lens optical systems produce IESNA Type 2, Type 3, Type 4 or Type 5 distributions and are fully sealed to maintain an IP66 rating. Luminaire produces 0% total lumens above 90° (BUG Rating, U=0). Optional house side shield (HSS) cuts light off at 1/2 mounting height behind luminaire. Optics may be rotated right or left with options ORR/ORL, respectively.

Electrical
Rated life of electrical components is 100,000 hours. Uses isolated power supply that is 1-10V dimmable. Power supply is wired with quick-disconnect terminals. Power supply features a minimum power factor of .90 and <20% Total Harmonic Distortion (THD). EMC meets or exceeds FCC CFR Part 15. Terminal block accommodates 6 to 14 gauge wire. Surge protection complies with IEEE/ANSI C62.41 Category C High, 20kV/10kA and ANSI C136.2-2015, 20kV/10kA.

Controls
3-Wire photocontrol receptacle (PCR) is available. ANSI C136.41 7-wire (PCR7) photocontrol receptacles are available. All photocontrol receptacles have tool-less rotatable bases. Wireless control module is provided by others.

Finish
Housing receives a fade and abrasion resistant polyester powder coat finish with 3.0 mil nominal thickness. Finish tested to withstand 5000 hours in salt spray exposure per ASTM B117. Finish meets scribe creepage rating 8 per ASTM D1654. Finish tested 500 hours in UV exposure per ASTM G154 and meets ASTM D523 gloss retention.

Listings/Ratings/Labels
Luminaires are UL listed for use in wet locations in the United States and Canada. DesignLights Consortium™ qualified product. Consult DLC QPL for Standard and Premium Classification Listings. International Dark Sky Association listed. Luminaire is qualified to operate at ambient temperatures of -40°C to 40°C.

Photometry
Luminaires photometrics are tested by certified independent testing laboratories in accordance with IES LM-79 testing procedures.

Warranty
10-year limited warranty is standard on luminaire and components. 5-year limited warranty on luminaires and components with a motion sensor.

Standards
Luminaire complies with:
ANSI: C136.2, C136.3, C136.10, C136.13, C136.15, C136.22, C136.31, C136.35, C136.37, C136.41, C62.41, C78.377, C82.77
Other: FCC 47 CFR, IEC 60598, ROHS II, UL 1449, UL 1598

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ARIETA™13 Architectural LED Area Luminaire
AR13 M2 Series Specification Data Sheet

Performance Data 3000K (WW)

All data nominal. IES files are available at leotek.com.

			Type 2, 3, 4		Type 5	
LED Code	**Current Code**	**System Wattage (W)**	**Delivered Lumens (Lm)[1]**	**Efficacy (Lm/W)**	**Delivered Lumens (Lm) [1]**	**Efficacy (Lm/W)**
4M2	350	20	2000	100	1930	96
	530	28	2720	97	2630	94
	700	36	3410	94	3300	91
6M2	350	29	2930	101	2750	95
	530	41	4110	99	3860	93
	700	54	5040	94	4950	92
10M2	350	41	4600	112	4500	109
	530	63	6700	106	6600	104
	700	87	8500	97	8400	96
15M2	350	63	7400	117	7300	116
	530	90	9600	107	9500	106
	700	124	12900	104	12700	102
18M2	350	81	9000	111	9100	112
	530	122	12800	105	13000	107
	700	160	16400	103	16700	104
20M2	350	84	10700	127	10800	129
	530	132	15300	116	15500	117
	700	172	18200	106	18500	108

Notes:
1 Normal tolerance ± 10% due to factors including distribution type, LED bin variance, driver variance, and ambient temperatures.

Performance Data 4000K (NW) & 5000K (CW)

All data nominal. IES files are available at leotek.com.

			Type 2, 3, 4		Type 5	
LED Code	**Current Code**	**System Wattage (W)**	**Delivered Lumens (Lm) [1]**	**Efficacy (Lm/W)**	**Delivered Lumens (Lm) [1]**	**Efficacy (Lm/W)**
4M2	350	20	2330	116	2290	114
	530	28	3170	113	3110	111
	700	36	3990	111	3920	109
6M2	350	29	3490	120	3480	120
	530	41	4810	116	4850	117
	700	54	5980	111	5880	109
10M2	350	41	5400	132	5300	129
	530	63	7800	124	7700	122
	700	87	10000	115	9800	113
15M2	350	63	8400	133	8300	132
	530	90	11500	128	11300	126
	700	124	15000	121	14700	119
18M2	350	81	9600	119	9700	120
	530	122	13700	112	13900	114
	700	160	17500	109	17800	111
20M2	350	84	10600	126	10800	129
	530	132	15200	115	15500	117
	700	172	19500	114	19800	115

Notes:
1 Normal tolerance ± 10% due to factors including distribution type, LED bin variance, driver variance, and ambient temperatures.

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ARIETA™13 Architectural LED Area Luminaire
AR13 M2 Series Specification Data Sheet

BUG Ratings: 3000K (WW)

All data nominal. IES files for all CCTs are available at leotek.com.

LED Code	Current Code	Type 2	Type 3	Type 4	Type 5
4M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G0	B1 U0 G0
	530	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G0
	700	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
6M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G0
	530	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
	700	B1 U0 G1	B1 U0 G1	B1 U0 G1	B3 U0 G1
10M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
	530	B1 U0 G1	B1 U0 G1	B2 U0 G1	B3 U0 G1
	700	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G1
15M2	350	B1 U0 G1	B1 U0 G2	B2 U0 G2	B3 U0 G1
	530	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	700	B2 U0 G2	B2 U0 G2	B3 U0 G2	B4 U0 G2
18M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	530	B2 U0 G2	B2 U0 G2	B3 U0 G2	B4 U0 G2
	700	B2 U0 G2	B2 U0 G2	B3 U0 G2	B4 U0 G2
20M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	530	B3 U0 G3	B2 U0 G2	B3 U0 G2	B4 U0 G2
	700	B3 U0 G3	B3 U0 G3	B3 U0 G2	B4 U0 G2

BUG Ratings: 4000K (NW) & 5000K (CW)

All data nominal. IES files for all CCTs are available at leotek.com.

LED Code	Current Code	Type 2	Type 3	Type 4	Type 5
4M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G0	B1 U0 G0
	530	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G0
	700	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
6M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B2 U0 G1
	530	B1 U0 G1	B1 U0 G1	B1 U0 G1	B3 U0 G1
	700	B1 U0 G1	B1 U0 G1	B1 U0 G1	B3 U0 G1
10M2	350	B1 U0 G1	B1 U0 G1	B1 U0 G1	B3 U0 G1
	530	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G1
	700	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
15M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G1
	530	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	700	B2 U0 G2*	B2 U0 G2	B3 U0 G2	B4 U0 G2
18M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	530	B2 U0 G2	B2 U0 G2	B3 U0 G2	B4 U0 G2
	700	B3 U0 G3	B3 U0 G2*	B3 U0 G2	B4 U0 G2
20M2	350	B2 U0 G2	B2 U0 G2	B2 U0 G2	B3 U0 G2
	530	B2 U0 G2*	B2 U0 G2	B3 U0 G2	B4 U0 G2
	700	B3 U0 G3	B3 U0 G3	B3 U0 G3	B4 U0 G2

* These BUG ratings are slightly different for 5000K (CW). Refer to IES files for actual CW rating.

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ARIETA™13 Architectural LED Area Luminaire
AR13 M2 Series Specification Data Sheet

Motion Sensor (Optional) Specifications

Description
Digital passive infrared luminaire integrated outdoor occupancy sensor provides high/low/off control based on motion detection. Initial setup and subsequent sensor adjustments are made using a handheld configuration tool. PCR option is required for On/Off control using light detection. Available with MV input voltage only.

Operation
Standard factory setting will dim the luminaire to 50% until motion is sensed and then it will power to 100%. When motion is not detected for five minutes, the luminaire will dim back to 50%. Ramp up and fade down times are adjustable, but initially set to NONE. The percent dimming and time durations may be field adjusted as required using FSIR-100 configuration tool. FSIR-100 user guide available at: www.wattstopper.com.

Optical System
Multi-cell, multi-tier Fresnel lens with a 360 degree view detects unobstructed motion within one mounting height, up to 20 ft. maximum (MSL3) or 40 ft. maximum (MSL7). Consult factory for higher mounting height requirements.

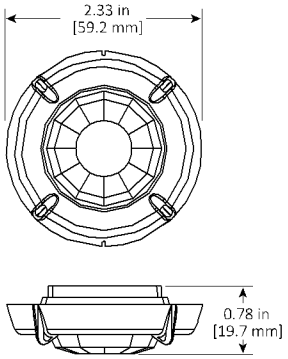
Finish
Sensor exterior ring and lens are white polycarbonate, UV and impact resistant.

Listings/Ratings
Sensor is TUV, UL and cUL listed, IP66 rated and CE compliant.

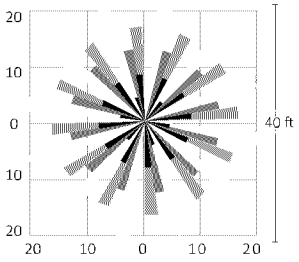
Warranty
5-year limited warranty on luminaires and components with a motion sensor.

Motion Sensor (Optional) Data

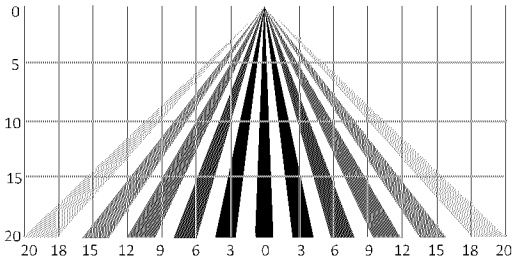
MSL3 Lens Dimensions



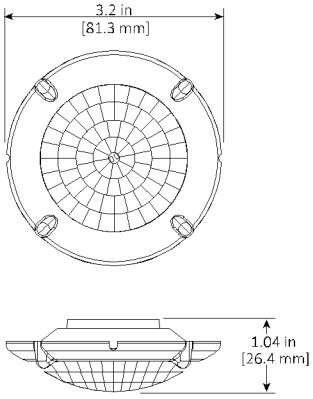
MSL3 Lens Coverage Top View



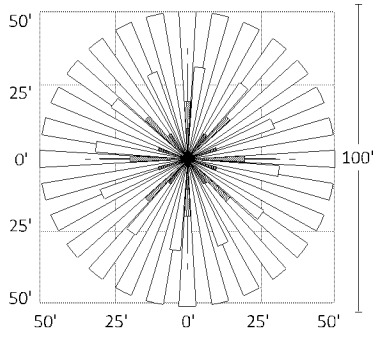
MSL3 Lens Coverage Side View



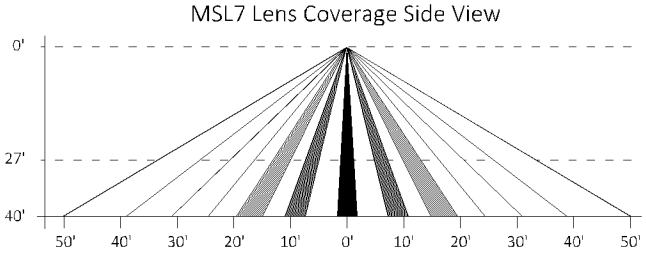
MSL7 Lens Dimensions



MSL7 Lens Coverage Top View



MSL7 Lens Coverage Side View



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Part-Night Dimming Specifications

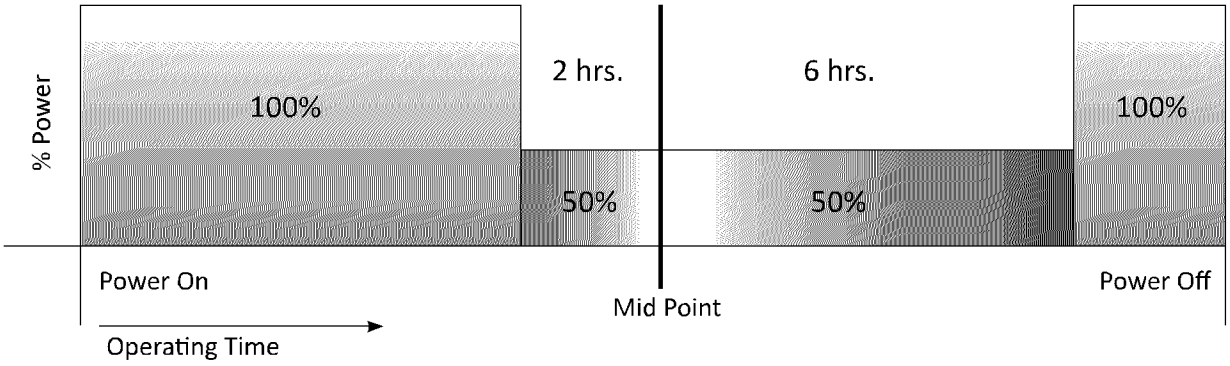
Description

Arieta's Part-Night Dimming (PND) option enables significant energy savings by automatically dimming the luminaire during early morning hours when infrequent use is expected. Factory programmed dimming profiles automatically take into account seasonal changes based on geographical location by continuously monitoring the nighttime midpoint. This option is fully compatible with photocells and time clock devices, but is not field adjustable.

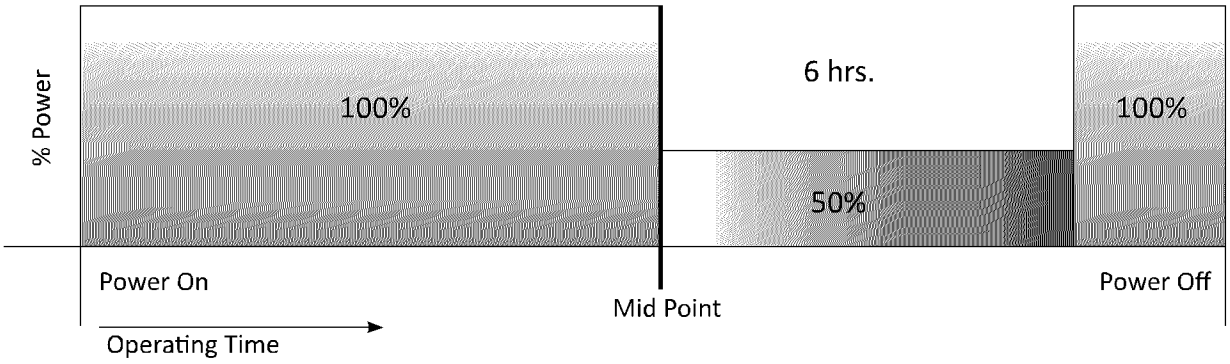
Operation

Based on the PND profile that is selected, the luminaire dims to the corresponding % power for the corresponding length of time (based on the nighttime mid-point) as shown below. Mid-point is continuously recalculated in the luminaire by monitoring the average length of time between when the light turns on (power on) and turns off (power off) over the previous two days. In effect, this functionality will take two days to initialize after installation before any dimming will occur. Power interruptions are ignored and do not affect the determination of mid-point. A motion sensor (MSL3 or MSL7) can be used with PND to temporarily override the dimming profile when motion is detected. Three factory programmed PND profiles are available for selection:

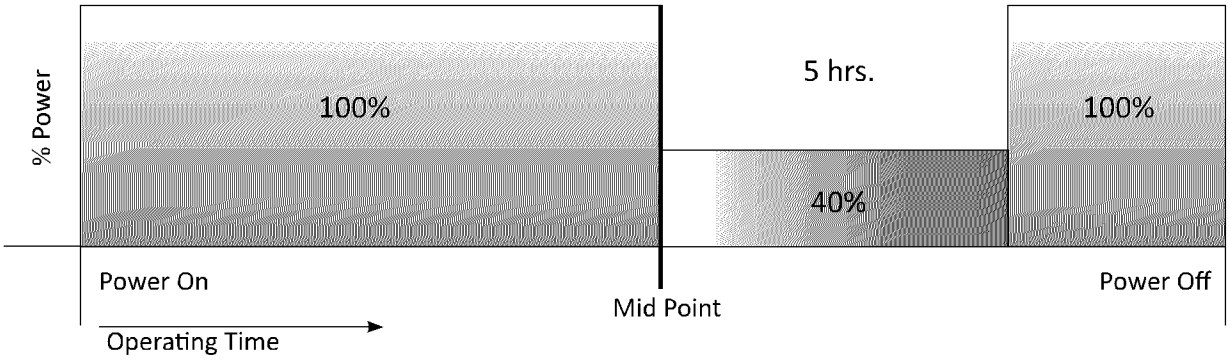
PND1



PND2



PND3



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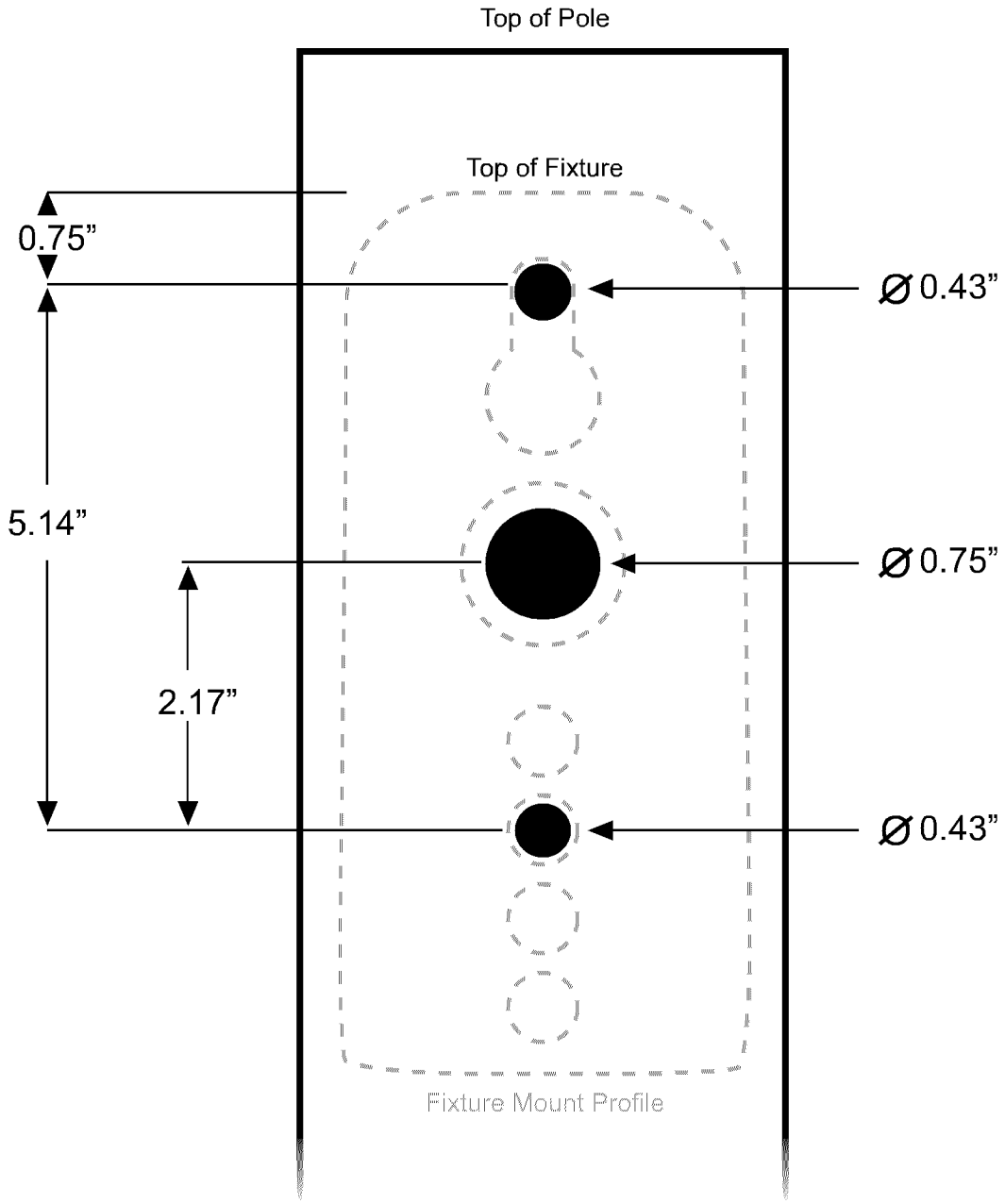
Pole Mount Drilling Specifications



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