Mirada Large (MRL)
Outdoor LED Area Light

OVERVIEW

Lumen Package	40,000 - 78,000
Wattage Range	293 - 653
Efficacy Range (LPW)	105 - 146
Weight lbs(kg)	60 (27.2)

QUICK LINKS

Ordering Guide   **Performance**   **Photometrics**   **Dimensions**

FEATURES & SPECIFICATIONS

Construction

- Rugged die-cast aluminum housing, optical frame, and driver access cover.
- Designed to mount to round or square poles without need for pole adapters.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: 60 lbs in carton.

Optical System

- State-of-the-Art one piece silicone optic sheet delivers industry leading optical control with an integrated gasket to provide IP66 rated sealed optical chamber in 1 component.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in IES Types 2, 3, 5W, FT, FTA and AM.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93%.
- Zero uplight.
- Available in 5000K, 4000K, and 3000K color temperatures per ANSI C78.377.
- Minimum CRI of 70. Optional 80 CRI available, consult factory for lead time.
- Integral louver (IL) and house-side shield (IH) options available for improved backlight control without sacrificing street side performance. See page 5 for more details.

Electrical

- High-performance programmable driver features over-voltage, under-voltage, short-circuit and over temperature protection. Custom lumen and wattage packages available.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 Vac) Input 50/60 Hz or optional High Voltage (347-480 Vac).
- L90 Calculated Life: >100k Hours (See Lumen Maintenance on Page 2)
- Total harmonic distortion: <20%
- Operating temperature: -40°C to +50°C (-40°F to +122°F). 65L and 78L lumen packages rated to +40ºC.
- Power factor: >.90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Components are fully encased in potting material for moisture resistance. Driver complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls

- Optional integral passive infrared Bluetooth™ motion and photocell sensor (see page 5 for more details). Fixtures operate independently and can be commissioned via iOS or Android configuration app.
- LSI's AirLink™ wireless control system options reduce energy and maintenance

costs while optimizing light quality 24/7. (see page 5 for more details).

Installation

- A single fastener secures the hinged door, underneath the housing and provides quick & easy access to the electrical compartment for installing/servicing.
- Included terminal block accepts up to 12 ga. wire.
- Utilizes both B3 and B5 drill patterns for easy fastening of LSI products. (See drawing on page 1)

Warranty

- LSI LED Fixtures carry a 5-year warranty.

Listings

- Listed to UL 1598 and UL 8750.
- State of California Title 24 Compliant; with IMSBT, ALSC, or ALSCH Options.
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- Meets Buy American Act requirements.
- IDA compliant; with 3000K color temperature selection.
- Suitable for wet locations.
- IP66 rated Luminaire per IEC 60598.
- 3G rated for ANSI C136.31 high vibration applications are qualified.

Specifications and dimensions subject to change without notice.

TYPICAL ORDER EXAMPLE: **MRL LED 40L SIL FTA L UNV DIM 50 70CRI ALSCS04 BRZ IL**

Prefix	Lens	Lumen Package	Lens	Distribution	Orientation[2]	Voltage
MRL - Mirada Large	LED	40L - 40,000 lms 50L - 50,000 lms 65L - 65,000 lms 78L - 78,000 lms **Custom Lumen Packages[1]**	SIL - Silicone	**2** - Type 2 **3** - Type 3 **5W** - Type 5 Wide **FT** - Forward Throw **FTA** - Forward Throw Automotive **AM** - Automotive Merchandise	**(blank)** - Standard **L** - Optics rotated left 90° **R** - Optics rotated right 90°	UNV - Universal Voltage (120-277V) HV - High Voltage (347 - 480V)

Driver	Color Temperature	Color Rendering	Controls	Finish	Options
DIM - 0-10v Dimming (10-100%)	50 - 5,000 CCT 40 - 4,000 CCT 30 - 3,000 CCT	70CRI - 70 CRI	**(Blank)** - None **Wireless Controls System** **ALSC** - AirLink Synapse Control System **ALSCH** - AirLink Synapse Control System Host/Satellite[3] **ALSCS02** - AirLink Synapse Control System with 12-20' Motion Sensor **ALSCH02** - AirLink Synapse Control System Host / Satellite with 12-20' Motion Sensor[3] **ALSCS04** - AirLink Synapse Control System with 20-40' Motion Sensor **ALSCH04** - AirLink Synapse Control System Host / Satellite with 20-40' Motion Sensor[3] **ALBCS1** - AirLink Blue Wireless Motion & Photo Sensor Controller (8-24'mounting height)[4] **ALBCS2** - AirLink Blue Wireless Motion & Photo Sensor Controller (25-40' mounting height)[4] **Stand-Alone Controls** **EXT** - 0-10v Dimming leads extended to housing exterior **CR7P** - 7 Pin Control Receptacle ANSI C136.41[6] **IMSBT1**- Integral Bluetooth™ Motion and Photocell Sensor max 8-24' mounting height [4,5] **IMSBT2**- Integral Bluetooth Motion and Photocell Sensor max 25-40' mounting height [4,5] **Button Type Photocells** **PCI120** - 120V **PCI208-277** - 208 -277V **PCI347** - 347V	**WHT** - White **BRZ** - Bronze **BLK** - Black **GPT** - Graphite **MSV** - Metallic Silver **PLP** - Platinum Plus **SVG** - Satin Verde Green	**(Blank)** - None **IH** - Integral Houseside Shield[2] **IL** - Integral Louver (Sharp Spill Light Cutoff)[2]

Accessory Ordering Information[7]

Controls Accessories

Description	Order Number
Twist Lock Photocell (120V) for use with CR7P[8]	122514
Twist Lock Photocell (208-277) for use with CR7P[8]	122515
Twist Lock Photocell (347V) for use with CR7P[8]	122516
Twist Lock Photocell (480V) for use with CR7P[8]	1225180
AirLink 5 Pin Twist Lock Controller[8]	661409
AirLink 5 Pin Twist Lock Controller[8]	661410
Pole-Mounted Occupancy Sensor (24V)[9,10]	663284CLR
Shorting Cap for use with CR7P[8]	149328

Mounting Accessories[9]

Description	Order Number
Universal Mounting Bracket	684616CLR
Adjustable Slip Fitter (2" - 2 3/8" Tenon)	688138CLR
Quick Mount Pole Bracket (Square Pole)	687073CLR
Quick Mount Pole Bracket (4-5" Round Pole)	689903CLR
15 Tilt Quick Mount Pole Bracket (Square Pole)	688003CLR
15 Tilt Quick Mount Pole Bracket (4-5" Round Pole)	689905CLR
Wall Mount Bracket	382132CLR
Wood Pole Bracket (6" Minimum Pole Diameter)	751219CLR

Fusing Accessories[11]

Description	Order Number
Single Fusing (120V)	FK120
Single Fusing (120V)	FK277
Double Fusing (480V)	DFK480
Double Fusing (347V)	DFK347

Shielding & Miscellaneous Accessories

Description	Order Number
IH - Integral House Side Shield[2]	743416
IL - Integral Louver (Sharp Spill Light Cutoff)[2]	686485
10' Linear Bird Spike Kit (4' Recommended per Luminaire)	736795

FOOTNOTES:
1. Custom lumen and wattage packages available, consult factory. Values are within industry standard tolerances but not DLC listed.
2. Not available with 5W distribution
3. Consult Factory for Site Layout
4. Not Available in HV
5. IMSBT is field configurable via the LSI app that can be downloaded from your smartphone's native app store
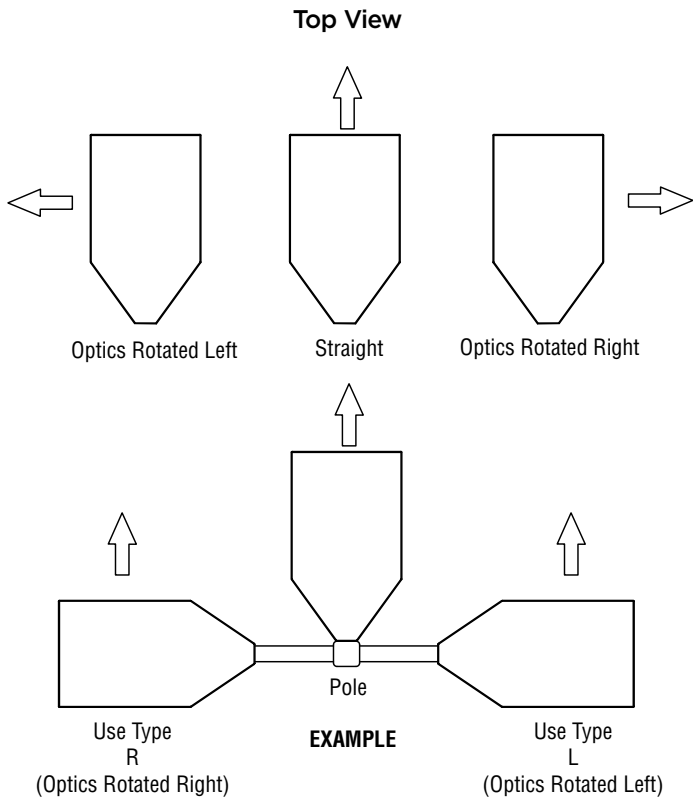
6. Control device or shorting cap must be ordered separately. See Accessory Ordering Information.
7. Accessories are shipped separately and field installed.
8. Factory installed CR7P option required. See Options.
9. "CLR" denotes finish. See Finish options.
10. Only available with ALSC/ALSCH control options.
11. Fusing must be located in hand hole of pole.

Mirada Large Outdoor LED Area Light

OPTICS ROTATION

Top View

Optics Rotated Left   Straight   Optics Rotated Right

Pole

EXAMPLE

Use Type R
(Optics Rotated Right)

Use Type L
(Optics Rotated Left)

ACCESSORIES/OPTIONS

Integral Louver (IL) and House-Side Shield (IH)

Accessory louver and shield available for improved backlight control without sacrificing street side performance. LSI's Integral Louver (L) and Integral House-Side Shield (IH) options deliver backlight control that significantly reduces spill light behind the poles for applications with pole locations close to adjacent properties. The design maximizes forward reflected light while reducing glare, maintaining the optical distribution selected, and most importantly eliminating light trespass. Both options rotate with the optical distribution.

**Luminaire Shown with Integral Louver (IL)**
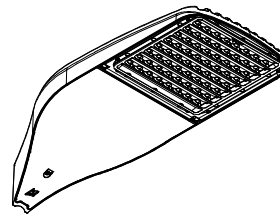
Luminaire Shown with IMSBT Option

7 Pin Photoelectric Control

7-pin ANSI C136.41-2013 control receptacle option available for twist lock photocontrols or wireless control modules. Control accessories sold separately. Dimming leads from the receptacle will be connected to the driver dimming leads (Consult factory for alternate wiring).

Luminaire Shown with PCR 7P
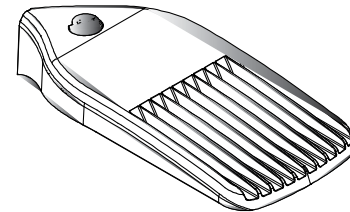
PERFORMANCE

Delivered Lumens*

Lumen Package	Distribution	CRI	3000K CCT			4000K CCT			5000K CCT			Wattage
			Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	
40L	2	70	37640	129	B4-U0-G3	39051	133	B5-U0-G4	40818	139	B4-U0-G3	285zzzz
	3		39521	135	B4-U0-G5	41003	140	B4-U0-G5	42857	146	B4-U0-G5	
	5W		36839	126	B5-U0-G4	40072	140	B5-U0-G4	39949	136	B5-U0-G4	
	FT		38264	131	B4-U0-G5	39698	136	B4-U0-G5	41494	142	B4-U0-G5	
	FTA		38764	132	B4-U0-G4	40217	137	B4-U0-G4	42037	144	B4-U0-G4	
	AM		36932	126	B3-U0-G3	41670	147	B3-U0-G3	40009	137	B3-U0-G3	
50L	2	70	48717	121	B5-U0-G4	50543	125	B5-U0-G4	52829	131	B5-U0-G4	404
	3		51152	127	B4-U0-G5	53069	131	B4-U0-G5	55470	137	B4-U0-G5	
	5W		47680	118	B5-U0-G4	50260	134	B5-U0-G4	51705	128	B5-U0-G4	
	FT		49524	123	B4-U0-G5	51380	127	B4-U0-G5	53704	133	B4-U0-G5	
	FTA		50172	124	B5-U0-G4	52052	129	B5-U0-G4	54407	135	B5-U0-G4	
	AM		48036	119	B4-U0-G4	51344	138	B4-U0-G4	52039	129	B4-U0-G4	
65L	2	70	63549	107	B5-U0-G4	63818	123	B5-U0-G4	68913	116	B5-U0-G4	592
	3		66725	113	B4-U0-G5	65478	126	B4-U0-G5	72358	122	B4-U0-G5	
	5W		62197	105	B5-U0-G5	65163	125	B5-U0-G5	67447	114	B5-U0-G5	
	FT		64602	109	B5-U0-G5	66279	128	B5-U0-G5	70055	118	B5-U0-G5	
	FTA		65447	111	B5-U0-G4	65046	125	B5-U0-G4	70972	120	B5-U0-G4	
	AM		62384	106	B4-U0-G4	66030	128	B4-U0-G4	67583	115	B4-U0-G4	
78L	2	70	73274	112	B5-U0-G5	75853	116	B5-U0-G5	77825	119	B5-U0-G5	653
	3		75180	115	B5-U0-G5	77826	119	B5-U0-G5	79849	122	B5-U0-G5	
	5W		74818	114	B5-U0-G5	77452	118	B5-U0-G5	79465	122	B5-U0-G5	
	FT		76100	116	B5-U0-G5	78778	120	B5-U0-G5	80826	124	B5-U0-G5	
	FTA		74684	114	B5-U0-G5	77312	118	B5-U0-G5	79323	121	B5-U0-G5	
	AM		75814	116	B4-U0-G4	78482	120	B4-U0-G4	80523	123	B4-U0-G4	

*LEDs are frequently updated therefore values are nominal.

ELECTRICAL DATA (AMPS)*

Lumens	120V	208V	240V	277V	347V	480V
40L	2.44A	1.41A	1.22A	1.06A	0.84A	.61A
50L	3.37A	1.94A	1.68A	1.46A	1.16A	0.84A
65L	4.93A	2.85A	2.47A	2.14A	1.71A	1.23A
78L	5.44A	3.14A	2.72A	2.36A	1.88A	1.36A

*Electrical data at 25°C (77°F). Actual wattage may differ by +/-10%

RECOMMENDED LUMEN MAINTENANCE[1]

Ambient	Intial[2]	25h[2]	50hr[2]	75hr[2]	100hr[2]
0 C - 40C	100%	100%	97%	94%	92%

FOOTNOTES:
1. Lumen maintenance values at 25C are calculated per TM-21 based on LM-80 data and in-situ testing.
2. In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times the IESNA LM-80-08 total test duration for the device under testing.
3. In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times the IESNA LM-80-08 total test duration for the device under testing.

Mirada Large Outdoor LED Area Light

PHOTOMETRICS

All published luminaire photometric testing performed to IESNA LM-79 standards by NVLAP, certified laboratory. ISO footcandle plots below demonstrate the Mirada Large (MRL) light patterns only. Not for total fixture output. For complete specifications and IES files, see website.
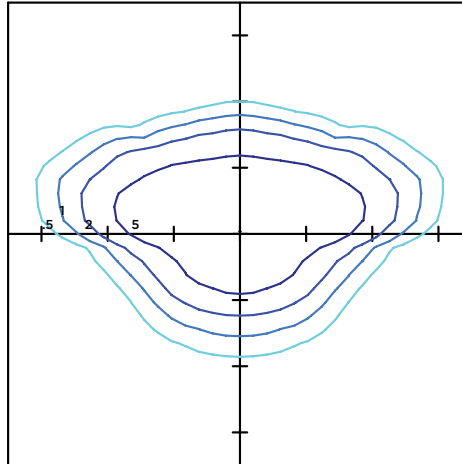
MRL-LED-65L-SIL-2-40-70CRI

LUMINAIRE DATA

Type 2 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	65,931
Watts	592
Efficacy	111
IES Type	Type II - Short
BUG Rating	B5-U0-G4

Zonal Lumen Summary

Zone	Lumens	%Luminaire
Low (0-30)°	9410	14%
Medium (30-60)°	41800	63%
High (60-80)°	14169	21%
Very High (80-90)°	551	1%
Uplight (90-180)°	0	0%
Total Flux	65931	100%

ISO FOOTCANDLE

30' Mounting Height/ 30' Grid Spacing
■ 5 FC ■ 2 FC ■ 1 FC ■ 0.5 FC

POLAR CURVE
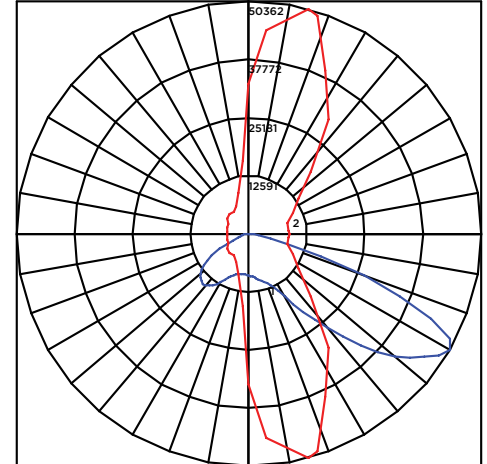
MRL-LED-65L-SIL-3-40-70CRI

LUMINAIRE DATA

Type 3 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	69,226
Watts	592
Efficacy	117
IES Type	Type III - Short
BUG Rating	B5-U0-G5

Zonal Lumen Summary

Zone	Lumens	%Luminaire
Low (0-30)°	7101	14%
Medium (30-60)°	35628	63%
High (60-80)°	25826	21%
Very High (80-90)°	672	1%
Uplight (90-180)°	0	0%
Total Flux	69226	100%

ISO FOOTCANDLE
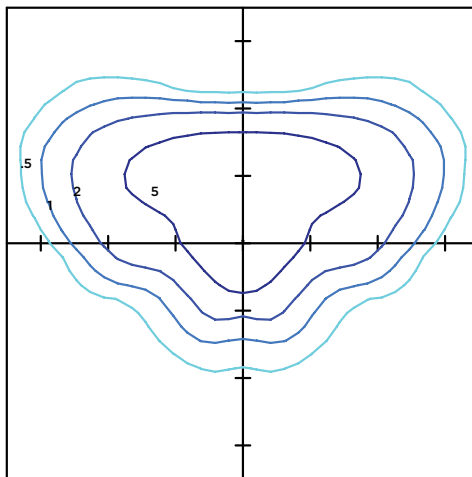
30' Mounting Height/ 30' Grid Spacing
■ 5 FC ■ 2 FC ■ 1 FC ■ 0.5 FC

POLAR CURVE
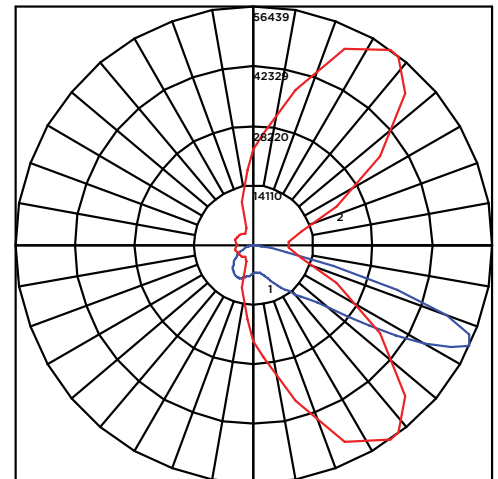
Mirada Large Outdoor LED Area Light

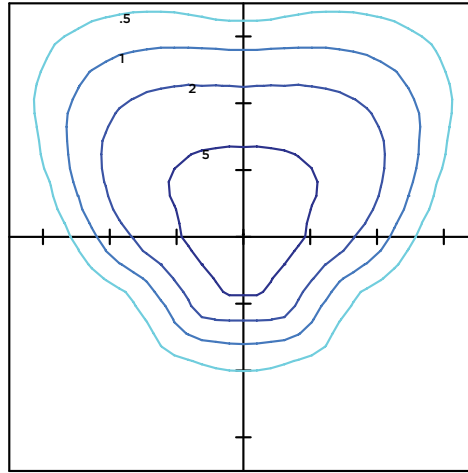## PHOTOMETRICS (CONT)

MRL-LED-65L-SIL-FT-40-70CRI

LUMINAIRE DATA

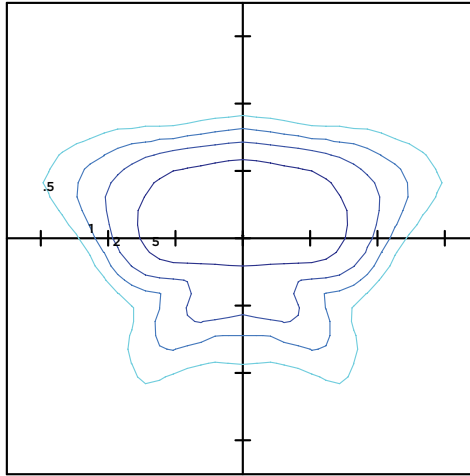| Type FT Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	67,023
Watts	592
Efficacy	113
IES Type	Type IV - Short
BUG Rating	B5-U0-G5

Zonal Lumen Summary

Zone	Lumens	%Luminaire
Low (0-30)°	8506	13%
Medium (30-60)°	29057	43%
High (60-80)°	27943	42%
Very High (80-90)°	1517	2%
Uplight (90-180)°	0	0%
Total Flux	67023	100%

ISO FOOTCANDLE

30' Mounting Height/ 30' Grid Spacing

5 FC **2 FC** **1 FC** **0.5 FC**

POLAR CURVE
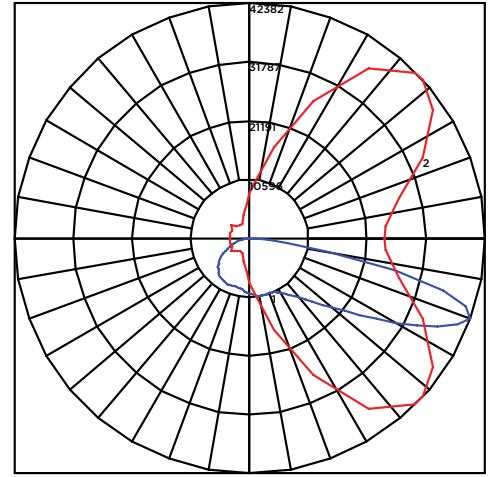
MRL-LED-65L-SIL-5W-40-70CRI

LUMINAIRE DATA

Type 5W Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	64,528
Watts	592
Efficacy	109
IES Type	Type VS - Medium
BUG Rating	B5-U0-G5

Zonal Lumen Summary

Zone	Lumens	%Luminaire
Low (0-30)°	6714	10%
Medium (30-60)°	25936	40%
High (60-80)°	31316	49%
Very High (80-90)°	562	1%
Uplight (90-180)°	0	0%
Total Flux	64528	100%

ISO FOOTCANDLE
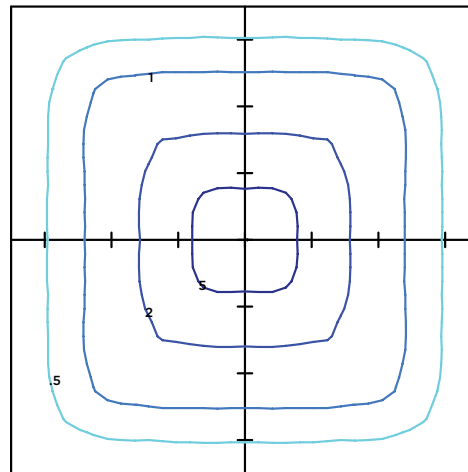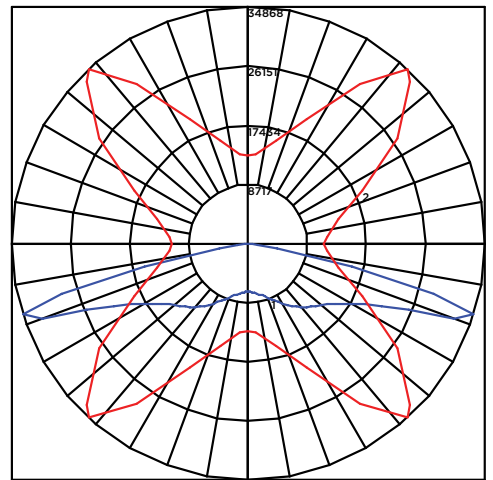
30' Mounting Height/ 30' Grid Spacing

5 FC **2 FC** **1 FC** **0.5 FC**

POLAR CURVE

Mirada Large Outdoor LED Area Light

PHOTOMETRICS (CONT)

MRL-LED-65L-SIL-FTA-40-70CRI

LUMINAIRE DATA

Type FTA Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	67,900
Watts	592
Efficacy	115
IES Type	Type II - Short
BUG Rating	B5-U0-G4

Zonal Lumen Summary

Zone	Lumens	%Luminaire
Low (0-30)°	14225	21%
Medium (30-60)°	40764	60%
High (60-80)°	12171	18%
Very High (80-90)°	741	1%
Uplight (90-180)°	0	0%
Total Flux	67900	100%

ISO FOOTCANDLE

30' Mounting Height/ 30' Grid Spacing
5 FC **2 FC** **1 FC** **0.5 FC**

POLAR CURVE
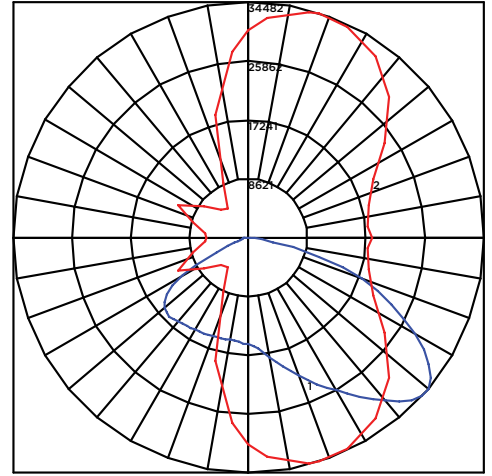
MRL-LED-65L-SIL-AM-40-70CRI

LUMINAIRE DATA

Type AM Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	64,984
Watts	589
Efficacy	111
IES Type	Type III - Very Short
BUG Rating	B4-U0-G4

Zonal Lumen Summary

Zone	Lumens	%Luminaire
Low (0-30)°	10868	17%
Medium (30-60)°	40765	63%
High (60-80)°	12537	19%
Very High (80-90)°	814	1%
Uplight (90-180)°	0	0%
Total Flux	64984	100%

ISO FOOTCANDLE
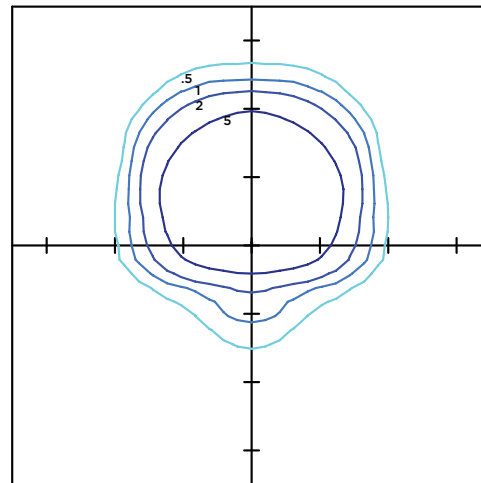
30' Mounting Height/ 30' Grid Spacing
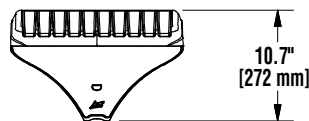**5 FC** **2 FC** **1 FC** **0.5 FC**

POLAR CURVE
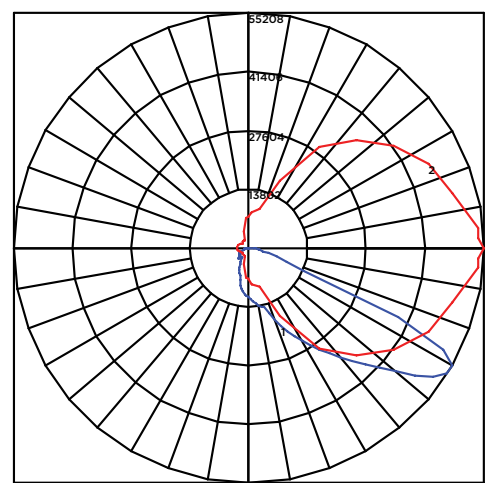
Mirada Large Outdoor LED Area Light

PRODUCT DIMENSIONS

38.2" [970 mm]

16.6" [423 mm]

B5 or B3 Pole Drill Pattern

2.422
1.211
4.625
ø0.875
ø0.563

10.7" [272 mm]
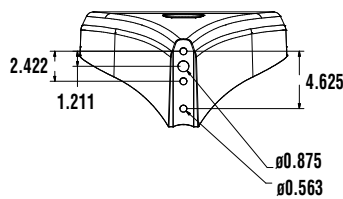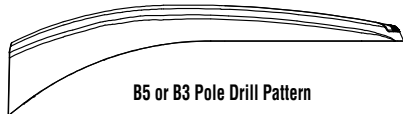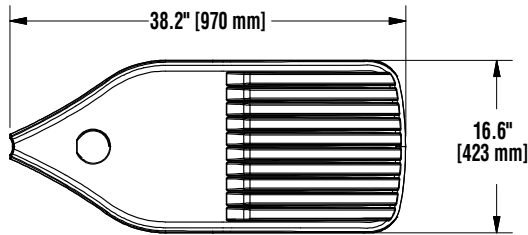
LUMINAIRE EPA CHART - MRL									
Tilt Degree		0º	30º	45º	Tilt Degree		0º	30º	45º
	Single	0.8	2.2	2.9		T90°	2.0	3.8	4.5
	D180°	1.6	2.2	2.9		TN120°	2.0	5.0	6.0
	D90°	1.2	3.0	3.7		Q90°	2.0	3.8	4.5

CONTROLS

AirLink Wireless Lighting Controller

The AirLink integrated controller is a California Title 24 compliant lighting controller that provides real-time light monitoring and control with utility-grade power monitoring. It includes a 24V sensor input and power supply to connect a sensor into the outdoor AirLink wireless lighting system. The wireless integrated controller is compatible with this fixture.

Click the link below to learn more details about AirLink.

https://www.lsicorp.com/documents/datasheets/airlink-outdoor-specsheet.pdf

Integral Bluetooth™ Motion and Photocell Sensor (IMSBT)

Slim low profile sensor provides multi-level control based on motion and/or daylight. Sensor controls 0-10 VDC LED drivers and is rated for cold and wet locations (-30° C to 70° C). Two unique PIR lenses are available and used based on fixture mounting height. All control parameters are adjustable via an iOS or Android App capable of storing and transmitting sensor profiles.

Click the link below to learn more details about IMSBT.

https://www.lsicorp.com/documents/datasheets/imsbt-specsheet.pdf

AirLink Blue

Wireless Bluetooth Mesh Outdoor Lighting Control System that provides energy savings, code compliance and enhanced safety/security for parking lots and parking garages. Three key components; Bluetooth wireless radio/sensor controller, Time Keeper and an iOS App. Capable of grouping multiple fixtures and sensors as well as scheduling time-based events by zone. Radio/Sensor Controller is factory integrated into Area/Site, Wall Mounted, Parking Garage and Canopy luminaires.

Click the link below to learn more details about AirLink Blue.

https://www.lsi-airlink.com/airlink-blue/

Mirada Large Outdoor LED Area Light

POLES & BRACKETS

LSI offers a full line of poles and mounting accessories to complete your lighting assembly. Aluminum and steel in both square and round shafts. In addition, LSI offers round tapered, fluted and hinge based poles. Designed and engineered for durability and protected with our oven baked DuraGrip Protection System. Also available with our DuraGrip+ Protection system for unmatched corrosion resistance and an extended warranty. American made in our Ohio facility with industry leading lead times.

Click the link below to learn more details about poles & brackets.

https://www.lsicorp.com/products/poles-and-brackets-area-street.aspx

BKA UMB CLR

The 3G rated UMB allows for seamless integration of LSI luminaires onto existing/ retrofit or new construction poles. The UMB was designed for square or round (tapered or straight) poles with two mounting hole spacings between 3.5" – 5".

BKA ASF CLR

The adjustable Slip Fitter is a 3G rated rugged die cast aluminum adapter to mount LSI luminaires onto a onto a 2" iron pipe , 2 3/8 OD tenon. The Adjustable Slip Fitter can be rotated 180° allowing for tilting LSI luminaires up to 45° and 90° when using a vertical tenon.

BKS PQM15 CLR

The Pole Quick Mount Bracket allows for preset 15° uptilt of LSI luminaires for greater throw of light and increased vertical illumination as well as fast installation onto poles with LSI's 3" or 5" bolt pattern.
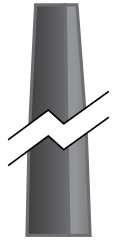
BKS PQMH CLR

The Pole Quick Mount Bracket allows for lightning fast installation of LSI luminaires onto existing and new construction poles with LSI's B3 or B5 standard pole bolt patterns.

Square Pole
14'-39'

Round Pole
10'-30'

Tapered Pole
20'-39'