October 30, 2024

ADDENDUM NO. 1

TO THE CONTRACT DOCUMENTS FOR LAKE WILSON WALKING TRAIL PROJECT INVITATION BID # ITB#2425-10 AND

LAKE WILSON WALKING TRAIL LIGHTING PROJECT INVITATION BID # ITB#2425-12 CITY OF WILSON, NORTH CAROLINA

Bid Date: October 31, 2024 at 2:00 P.M.

REVISED - Bid Date: November 6, 2024 at 10:00 A.M.

From: Green Engineering, P.L.L.C.

Consulting Engineers Wilson, North Carolina

NOTICE TO BIDDERS:

This Addendum is issued prior to the receipt of bids for the above project and **must be** acknowledged on **Page 3 of 6 of the BID FORM** where indicated.

Bid Date and Time

The Bid Date and Time have been changed from <u>October 31, 2024, at 2:00 P.M.</u> to <u>November 6, 2024</u> at 10:00 A.M.

The CONTRACT DOCUMENTS for this work are modified as follows:

I. LAKE WILSON WALKING TRAIL PROJECT INVITATION BID # ITB#2425-10

A. General: Request for Information

The following questions have been provided by prospective Bidders:

- 1. Are we responsible for the purposed lights poles shown on the drawings? If so, we need specs. The Specifications are attached to this Addendum.
- 2. Who is responsible for subgrade, ABC and asphalt testing? The subgrade and ABC will be proof rolled with both Green Engineering and the City of Wilson present.

ADDENDUM NO. 1: 1 OF 3

- 3. Is the alternate option for the trail an alternate price? It has been determined that the proposed Alternate Trail will be the selected Trail and the Unit Quantities on the Bid Form reflect this option.
- 4. How is pedestrian control going to be handled? There are a lot of pedestrians using the existing walking trail. Carefully. Initial thoughts will be to direct pedestrians to the lakeside of the silt fence outside the limits of construction. Green Engineering and the City of Wilson will work with the selected Contractor on this effort.
- 5. Is this a lump sum contract or a unit price contract? The Walking Trail (Bid No. ITB# 2425-10 is a Unit Price Bid/Contract and the Walking Trail Lighting (Bid No. ITB# 2425-12) is a Lump Sum Bid that includes all light poles, electrical and all other items shown on the project drawings and specifications.
- 6. Which tree is being removed? It is not known at this time which trees will be identified to be removed; however, it is anticipated that there may be a few trees that will require removal in order to pave the new trail. We are just trying to establish a unit price in case we end up having to remove some trees. The Bidder is instructed to enter the cost of a single tree removal. If more than one tree is removed the City will compensate accordingly.
- 7. During the Prebid, it was mentioned that the bid dates would be changed on both of these. Has the new bid date been announced? The new Bid Date is Wednesday, November 6, 2024, at 10:00 AM at the Park and Recreation Managers Office located at 4017 Hwy 42 W., Wilson, North Carolina.
- 8. Are a Bid Bond and Performance and Payment Bond required on both? Yes.
- 9. Is there a minority requirement on both? The Minority Participation Goal, not requirement, is 10%. You are required to follow the MBE/WBE (DBE) Compliance Statement Instructions and provide both your Good Faith Efforts Form and Table A.

ADDENDUM NO. 1: 2 OF 3

II. LAKE WILSON WALKING TRAIL LIGHTING PROJECT INVITATION BID # ITB#2425-12

A. General: Request for Information

The following questions have been provided by prospective Bidders:

- 1. I was told there were going to be 2 services on this project. The drawings only shows 1. What size panel is needed for the second service and where will it be located. Is it only feeding the bridge lights? There will be an electrical service on the opposite side of the bridge. The power company transformer is in place, and it will feed 120/208V 1 phase 3 wire, 24 space, 200-amp Main Breaker electrical panel which will have (3) total 20 amp branch circuit breakers. The panel shall be service entrance rated and in Nema 4X enclosure. (1) 20-amp circuit will feed half of the bridge lights and (1) 20amp circuit will feed the remaining half of the bridge lights. The third circuit will feed a "GFCI" type receptacle in a weather-proof cover below the electrical panel. The wire size for each of the lighting circuits shall be 3-1/0 & 1-#6G, 1 1/4"C. The electrical panel will be approximately 450 feet from the end of the bridge and the exact location shall be coordinated with the City prior to installation. The electrical panel will be mounted on a unistrut rack or 4x4's and plywood all pressure treated (coordinate materials with the City). A riser diagram showing all the above will be provided at a later date.
- 2. What does the stand for the panels need to be made of? Is Unistrut rack fine or wood 4 x 4s? Either is acceptable but should be coordinated with the City.
- 3. What type of conduit do we need to use on the bridge for the lights? Is PVC acceptable? PVC is acceptable but should be mounted in a way where it's out of visual sight. The City has requested that the routing should be from below the bridge and supported in a way to reduce potential sagging and per code.
- 4. The lighting schedule says we are using direct burial fiber poles. But there is an anchor pole diagram on the drawings. Which 1 are we using. If we are doing the direct burial pole is there an install diagram on that pole for us to use. Does it get concrete? Direct burial is correct. Install per manufacturer's instruction.
- 5. Is PVC acceptable for the pole lights wiring? Yes.
- 6. The panel schedule says the panel is NEMA 4X. Will NEMA 3R be acceptable? Nema 3R is acceptable per code but Nema 4X has been requested by the City.
- 7. Do we need to have a bid bond for the electrical work? Performance Bond? Yes.

END OF ADDENDUM NO. 1

ADDENDUM NO. 1: 3 OF 3



Catalog # :	Project :	Type :
Dranarad Du :		Data :

Mirada Medium (MRM)

Outdoor LED Area Light













OVERVIEW							
Lumen Package	7,000 - 55,000						
Wattage Range	48 - 438						
Efficacy Range (LPW)	115 - 162						
Weight lbs(kg)	30 (13.6)						
Control Options	IMSBT, ALB, ALS, 7-Pin, PCI						



QUICK LINKS

Ordering Guide

Performance

Photometrics

Dimensions

FEATURES & SPECIFICATIONS

Construction

- · Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Cast aluminum wiring access door located underneath.
- Designed to mount to square or round poles.
- 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: 37 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, 4, 5W, FT, FTA, AM, and LC/RC.
- · Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93-95%.
- · Zero uplight.
- Available in 5000K, 4000K, and 3000K color temperatures per ANSI C78.377. Also Available in Phosphor Converted Amber with Peak intensity at 610nm.
- Minimum CRI of 70.
- Integral louver (IL) and integral half louver (IH) options available for enhanced backlight control.

Electrical

- High-performance programmable driver features over-voltage, under-voltage, shortcircuit and over temperature protection. Custom lumen and wattage packages
- 0-10V dimming (10% 100%) standard.
- Standard Universal Voltage (120-277 Vac) Input 50/60 Hz or optional High Voltage (347-480 Vac).
- L80 Calculated Life: >100k Hours (See Lumen Maintenance chart)
- Total harmonic distortion: <20%
- Operating temperature: -40°C to +50°C (-40°F to +122°F). 42L and 48L lumen packages rated to +40°C. 55L lumen package rate to +35°C.
- 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. 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 controls section for more details).

Installation

- Designed to mount to square or round
- A single fastener secures the hinged door, underneath the housing and provides quick & easy access to the electrical compartment.
- Included terminal block accepts up to 12 ga.
- Utilizes LSI's traditional 3" drill pattern B3 for easy fastening of LSI products.

• LSI LED Fixtures carry a 5-year warranty.

Listings

- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- IDA compliant: with 3000K color temperature selection.
- Title 24 Compliant: see local ordinance for qualification information.
- Suitable for wet Locations.
- IP66 rated Luminaire per IEC 60598.
- 3G rated for ANSI C136.31 high vibration applications are qualified.
- 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 aualified.
- Patented Silicone Optics (US Patent NO. 10,816,165 B2)
- IK08 rated luminiare per IEC 66262 mechanical impact code



A Have questions? Call us at (800) 436-7800

ORDERING GUIDE Back to Quick Links

TYPICAL ORDER EXAMPLE: MRM LED 36L SIL FTA UNV DIM 50 70CRI ALSCS04 BRZ IL **Prefix Light Source Lumen Package** Lens Distribution Orientation² **Voltage** MRM - Mirada Medium LED **UNV** - Universal Voltage (120-277V) **DIM** - 0-10V Dimming (0-10%) 7L - 7,000 lms, 48W SIL - Silicone 2 - Type 2 (blank) - standard HV - High Voltage (347-480V) Area Light 9L - 9,000 lms, 62W **3** - Type 3 L- Optics rotated left 90° 12L - 12,000 lms, 85W R - Optics rotated right 90° 4 - Type 4 18L - 18,000 lms, 135W 5W - Type 5 Wide **24L** - 24.000 lms, 176W FT - Forward Throw **30L** - 30,000 lms, 232W FTA - Forward Throw Automotive 36L - 36,000 lms, 288W AM - Automotive Merchandise 42L - 42,000 lms, 314W LC - Left Corner 48L - 48,000 lms, 401W RC - Right Corner 55L - 55,000 lms, 438W Custom Lumen Packages1 **Color Temp Color Rendering Finish Options 50** - 5,000 CCT **70CRI** - 70 CRI **BLK** - Black MSV - Metallic Silver (Blank) - None 40 - 4,000 CCT **BRZ** - Dark Bronze **PLP** - Platinum Plus **SVG** - Satin Verde Green IH - Integral Half Louver (Moderate Spill Light Cutoff)² **30** - 3.000 CCT GMG - Gun Metal Grav AMB - Phosphor Converted Amber 12 **GPT** - Graphite WHT - White IL - Integral Louver (Sharp Spill Light Cutoff)²

Controls (Choose One)

(Blank) - None

Wireless Controls System

ALSC - AirLink Synapse Control System¹³

ALSCS02 - AirLink Synapse Control System with 12-20' Motion Sensor¹³ ALSCS04 - AirLink Synapse Control System with 20-40' Motion Sensor¹³

ALBCS1 - AirLink Blue Wireless Motion & Photo Sensor Controller (8-24' mounting height) 5 ALBCS2 - AirLink Blue Wireless Motion & Photo Sensor Controller (25-40' mounting height) 5 Stand-Alone Controls

EXT - 0-10v Dimming leads extended to housing exterior

CR7P - 7 Pin Control Receptacle ANSI C136.416

IMSBTL1- Integral Bluetooth™ Motion and Photocell Sensor (8-24' MH)⁵ IMSBTL2- Integral Bluetooth™ Motion and Photocell Sensor (25-40' MH)⁵ **Button Type Photocells**

PCI120 - 120V

Type: _

PCI208-277 - 208 -277V

PCI347 - 347V

Need more information? Click here for our glossary

Have additional questions? Call us at (800) 436-7800



ACCESSORY ORDERING INFORMATION7

CONTROLS ACCESSORIES							
Description	Order Number						
PC120 Photocell for use with CR7P option (120V) ⁸	122514						
PC208-277 Photocell for use with CR7P option (208V, 240V, 277V) 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 7 Pin Twist Lock Controller ⁸	661410						
Shorting Cap for use with CR7P	149328						

FUSING OPTIONS ¹¹						
Single Fusing (120V)						
Single Fusing (277V)	See Fusina					
Double Fusing (208V, 240V)	Accessory					
Double Fusing (480V)	<u>Guide</u>					
Double Fusing (347V)						

SHIELDING OPTIONS							
Mirada Small							
Mirada Medium							
Mirada Large	See Shielding						
Zone Medium	<u>Guide</u>						
Zone Large							
Slice Medium							

- 1. Custom lumen and wattage packages available, consult factory. Values are within industry standard tolerances but not DLC listed. Not available with 5W distribution
- Consult Factory for availability.
- Not available in HV.
- Motion sensors are field configurable via an app that can be downloaded from your smartphone's native app store. See controls section
- 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. See Fusing Accessory Guide for compatability.
- 12. Only available in 9L, 12L, 18L and 24L Lumen Packages. Consult factory for lead time and availability.
- 13. Not available with 55L Lumen Package.



Have questions? Call us at (800) 436-7800

ACCESSORIES

MOI	UNTING ACCESSORIES	
	Universal Mounting Bracket Mounts to ≥ 3" square or round (tapered/straight) poles with (2) mounting hole spaces between 3.5" to 5" Part Number: BKA UMB CLR	
Side Arm	Ouick Mount Plate True one person installation to existing/new contruction poles with hole spaces beteen 2.4 to 4.6" Part Number: BKS PQM B3B5 XX CLR	
	15° Tilt Quick Mount Plate True one person installation to existing/new contruction poles with hole spaces beteen 2.4 to 4.6" Part Number: BKS PQ15 B3B5 XX CLR	
	Adjustable Slipfitter Mounts onto a 2" (51mm) IP, 2.375" (60mm) 0.D. tenon and provides 180° of tilt (max 45° above horizontal) Part Number: BKA ASF CLR	
Tenon / Slipfitter	Square Tenon Top Mounts onto a 2" (51mm) IP, 2.375" (60mm) 0.D. tenon and allows for mounting up to 4 luminaires Part Number: BKA XNM *	
	Square Internal Slipfitter Mounts inside 4" or 5" square pole and allows for mounting up to 4 lumianires Part Number: BKA X_ISF * CLR	
Wood Pole	Wall Mount Bracket Mounts onto vertical wall surface (hardware/anchors not included) Part Number: BKS XBO WM CLR	
Wall Mount/ Wood Pole	Wood Pole Bracket Mounts onto wooden poles (6" minimum OD, hardware/anchors not inlcuded) Part Number: BKS XBO WP CLR	

ZHII	ELDING, POLES & MISC. ACCESSORIES	
	Integral Louver Field Install Integral Louver provides maximum backlight control by shiedling each individual row of LEDS Part Number: 690981	
Shielding	Integral Half Louver Field Install Integral Half Louver provides great backlight control without impacting front side distribution. Part Number: 743415	
	External Shield External shield blocks view of light source from anyside of luminaire, additional shielding configurations available Part Number: 783607BLK (3") / 776538BLK (6")	2
	Square Poles 14 - 39" steel and aluminum poles in 4", 5" and 6" sizes for retrofit and new construction Part Number: 4SQ/SSQ/6SQ	~
Poles	Round Poles 10 - 30' steel and aluminum poles in 4" and 5" sizes for retrofit and new construction Part Number: 4RP/5RP	~
	Tapered Poles 20' - 39' steel and aluminum poles for retrofit and new construction Part Number: RTP	
Misc.	Bird Spikes 10' Linear Bird Spike Kit, 4' recommended per luminaire, includes silcone adhesive and application tool	ZZZZENIMINIKIKI

Replace CLR with paint finish description

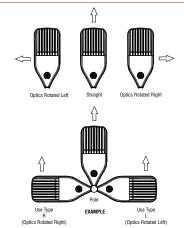
Repleace XX with SQ for square pole or RD for round pole (≥3" OD)

Replace * with S (Single), D180 (Double @180°), D90 (Double @90°), T90 (Triple), Q90 (Quad)

Replace _ with 4 (4" square pole) or 5 (5" square pole)

OPTICS ROTATION

Top View



ACCESSORIES/OPTIONS

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

Integral louver (IL) and half louver (IH) accessory shields available for improved backlight control without sacrificing street side performance. LSI's Integral Louver (IL) 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

Luminaire Shown with Integral Louver (IL)



Luminaire Shown with IMSBTL Option

Type: _____



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).







PERFORMANCE Back to Quick Links

			3	OOOK CCT		40	DOK CCT		5	OOOK CCT		
Lumen Package	Distribution	CRI	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Wattage
	2		9853	159	B2-U0-G2	9853	159	B2-U0-G2	9853	159	B2-U0-G2	
	3	1	9926	160	B2-U0-G2	9926	160	B2-U0-G2	9926	160	B2-U0-G2	
	4	1	9178	148	B2-U0-G3	9713	157	B2-U0-G3	9498	153	B2-U0-G3	
9L	5W	70	9504	153	B3-U0-G2	9504	153	B3-U0-G2	9504	153	B3-U0-G2]
	FT	70	9856	159	B2-U0-G3	9856	159	B2-U0-G3	9856	159	B2-U0-G3	62
	FTA]	9900	160	B2-U0-G2	9900	160	B2-U0-G2	9900	160	B2-U0-G2	
	AM		10019	162	B2-U0-G1	10019	162	B2-U0-G1	10019	162	B2-U0-G1	
	LC/RC		9008	145	B2-U0-G3	9533	154	B2-U0-G3	9321	150	B2-U0-G3	
	2		13135	155	B3-U0-G2	13135	155	B3-U0-G2	13135	155	B3-U0-G2	
	3		13232	156	B2-U0-G2	13232	156	B2-U0-G2	13232	156	B2-U0-G2	
	4		12223	144	B2-U0-G3	12935	152	B2-U0-G4	12648	149	B2-U0-G4	
12L	5W	70	12669	149	B4-U0-G2	12669	149	B4-U0-G2	12669	149	B4-U0-G2	0.5
IZL	FT		13138	155	B2-U0-G3	13138	155	B2-U0-G3	13138	155	B2-U0-G3	- 85 - -
	FTA		13196	155	B2-U0-G2	13196	155	B2-U0-G2	13196	155	B2-U0-G2	
	AM		13355	157	B2-U0-G2	13355	157	B2-U0-G2	13355	157	B2-U0-G2	
	LC/RC		11996	141	B2-U0-G3	12695	149	B2-U0-G3	12414	146	B2-U0-G3	
	2		19318	143	B3-U0-G3	19318	143	B3-U0-G3	19318	143	B3-U0-G3	135 155 162 135 135 135 135
	3		19461	144	B3-U0-G3	19461	144	B3-U0-G3	19461	144	B3-U0-G3	
	4		18013	133	B2-U0-G4	19063	141	B3-U0-G5	18640	138	B3-U0-G5	
18L	5W	70	18633	138	B4-U0-G2	18633	138	B4-U0-G2	18633	138	B4-U0-G2	
IOL	FT		19324	143	B3-U0-G3	19324	143	B3-U0-G3	19324	143	B3-U0-G3	
	FTA		19408	144	B3-U0-G3	19408	144	B3-U0-G3	19408	144	B3-U0-G3	
	AM		19641	145	B3-U0-G2	19641	145	B3-U0-G2	19641	145	B3-U0-G2	
	LC/RC		17679	131	B2-U0-G3	18710	139	B2-U0-G3	18295	136	B2-U0-G3	
	2		23361	145	B4-U0-G3	24506	152	B4-U0-G3	24414	152	B4-U0-G3	
	3		23998	149	B3-U0-G3	25174	156	B3-U0-G3	25079	156	B3-U0-G3	
	4		24397	152	B3-U0-G5	25600	160	B3-U0-G5	25457	159	B3-U0-G5	
24L	5W	70	23788	148	B5-U0-G3	24953	155	B5-U0-G3	24859	154	B5-U0-G3	161
241	FT		24059	149	B3-U0-G3	25238	157	B3-U0-G3	25143	156	B3-U0-G3	101
	FTA		23079	143	B3-U0-G3	24210	150	B4-U0-G3	24119	150	B4-U0-G3	
	AM		24051	149	B3-U0-G2	25229	157	B3-U0-G2	25134	156	B3-U0-G2	
	LC/RC		25884	162	B3-U0-G4	25884	162	B3-U0-G4	25310	158	B3-U0-G4	
	2		29464	138	B4-U0-G3	30908	145	B4-U0-G3	30791	145	B4-U0-G3	
	3		30268	142	B3-U0-G4	31751	149	B3-U0-G4	31631	149	B3-U0-G4	
	4		30631	144	B3-U0-G5	32141	151	B3-U0-G5	31961	150	B3-U0-G5	
30L	5W	70	30002	141	B5-U0-G3	31472	148	B5-U0-G3	31353	147	B5-U0-G3	213
JUL	FT		30345	142	B4-U0-G4	31832	149	B4-U0-G4	31712	149	B4-U0-G4	
	FTA		29109	137	B4-U0-G4	30535	143	B4-U0-G4	30420	143	B4-U0-G4	
	AM		30334	142	B4-U0-G3	31820	149	B4-U0-G3	31700	149	B4-U0-G3	
	LC/RC		32498	153	B3-U0-G5	32498	153	B3-U0-G5	31777	149	B3-U0-G5	

 $^{^{*}\}mbox{LEDs}$ are frequently updated therefore values are nominal.



Туре: ____





PERFORMANCE (CONT.)

			3	000K CCT		40	OOK CCT		5	000K CCT		Wattage
Lumen Package	Distribution	CRI	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	Delivered Lumens	Efficacy	BUG Rating	
	2		34123	134	B4-U0-G3	35795	140	B4-U0-G3	35660	140	B4-U0-G3	
	3		35053	137	B4-U0-G4	36771	144	B4-U0-G4	36632	144	B4-U0-G4	
36L	4		35402	139	B3-U0-G5	37148	146	B4-U0-G5	36940	145	B4-U0-G5	
	5W		34745	136	B5-U0-G4	36448	143	B5-U0-G4	36311	142	B5-U0-G4	255
	FT	70	35142	138	B4-U0-G4	36864	145	B4-U0-G4	36725	144	B4-U0-G4	255
	FTA		33711	132	B4-U0-G4	35363	139	B4-U0-G4	35230	138	B4-U0-G4	
	AM		35130	138	B4-U0-G3	36851	145	B4-U0-G3	36712	144	B4-U0-G3	
	LC/RC		37561	147	B3-U0-G5	37561	147	B3-U0-G5	36727	144	B3-U0-G5	
	2		39966	127	B5-U0-G4	41925	134	B5-U0-G4	41767	133	B5-U0-G4	
	3		41056	131	B4-U0-G5	43068	137	B4-U0-G5	42905	137	B4-U0-G5	314
	4		41453	132	B4-U0-G5	43497	138	B4-U0-G5	43254	138	B4-U0-G5	
431	5W	70	40696	130	B5-U0-G4	42690	136	B5-U0-G4	42529	135	B5-U0-G4	
42L	FT	70	41161	131	B4-U0-G4	43178	138	B4-U0-G4	43015	137	B4-U0-G4	
	FTA		39484	126	B4-U0-G4	41419	132	B5-U0-G4	41263	131	B5-U0-G4	
	AM		41146	131	B4-U0-G3	43162	137	B4-U0-G3	43000	137	B4-U0-G3	
	LC/RC		43980	140	B3-U0-G5	43980	140	B3-U0-G5	43004	137	B3-U0-G5	
	2		44390	121	B5-U0-G4	46565	127	B5-U0-G4	46389	126	B5-U0-G4	
	3		45325	124	B4-U0-G5	47547	130	B4-U0-G5	47367	129	B4-U0-G5	367
	4		46006	126	B4-U0-G5	48275	132	B4-U0-G5	48005	131	B4-U0-G5	
401	5W	70	45002	123	B5-U0-G4	47435	129	B5-U0-G4	47302	129	B5-U0-G4	
48L	FT	70	44799	122	B4-U0-G5	46994	128	B4-U0-G5	46817	128	B4-U0-G5	
	FTA		44590	121	B5-U0-G4	46775	127	B5-U0-G4	46599	128	B5-U0-G4	
	AM		46310	126	B4-U0-G3	48579	132	B4-U0-G3	48396	132	B4-U0-G3	
	LC/RC		48811	133	B4-U0-G5	48811	133	B4-U0-G5	47728	130	B4-U0-G5	
	2		49583	114	B5-U0-G4	52012	119	B5-U0-G4	51816	119	B5-U0-G4	
	3		50934	117	B4-U0-G5	53430	123	B4-U0-G5	53229	122	B4-U0-G5	
	4		51635	119	B4-U0-G5	54181	125	B4-U0-G5	53878	124	B4-U0-G5	
55L	5W	70	50487	116	B5-U0-G4	52961	121	B5-U0-G4	52761	121	B5-U0-G4	43
))L	FT	/0	51064	117	B4-U0-G5	53566	123	B4-U0-G5	53364	122	B4-U0-G5	43
	FTA		48984	112	B5-U0-G4	51384	118	B5-U0-G4	51191	117	B5-U0-G4	
	AM		51045	117	B4-U0-G3	53546	123	B4-U0-G3	53344	122	B4-U0-G3	
	LC/RC		54113	124	B4-U0-G5	54113	124	B4-U0-G5	52912	121	B4-U0-G5	

^{*}LEDs are frequently updated therefore values are nominal.



Type : _____



PERFORMANCE (CONT.)

ELECTRICAL I	ELECTRICAL DATA (AMPS)*									
Lumens	120V	208V	240V	277V	347V	480V				
9L	0.52	0.30	0.26	0.22	0.18	0.13				
12L	0.71	0.41	0.35	0.31	0.24	0.18				
18L	1.13	0.65	0.56	0.49	0.39	0.28				
24L	1.33	0.77	0.67	0.58	0.46	0.33				
30L	1.78	1.02	0.89	0.77	0.61	0.44				
36L	2.12	1.22	1.06	0.92	0.73	0.53				
42L	2.62	1.51	1.31	1.13	0.90	0.65				
48L	3.05	1.76	1.53	1.32	1.05	0.76				
55L	3.65	2.11	1.83	1.58	1.26	0.91				

RECOMMENDED LUMEN MAINTENANCE ¹ (0-25°C)									
Ambient	Intial ²	25h²	50hr²	75hr²	100hr ²				
9L - 18L	100%	97%	93%	90%	86%				
24L - 48L	100%	95%	89%	84%	79%				
55L	100%	91%	82%	74%	67%				

RECOMMENDED LUMEN MAINTENANCE¹ (40°C)								
Ambient	Intial ²	25h²	50hr²	75hr²	100hr ²			
9L - 18L	100%	97%	92%	88%	84%			
24L - 48L	100%	94%	87%	80%	74%			

RECOMMENDED LUMEN MAINTENANCE¹ (50°C)					
Ambient	Intial ²	25h²	50hr ²	75hr²	100hr ²
9L - 18L C	100%	96%	91%	87%	83%

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

DELIVERED LUMENS*						
		Phosphor Convert	Phosphor Converted Amber (Peak 610mm)			
Lumen Package	Lumen Package Distribution	Delivered Lumens	Efficacy	BUG Rating	Wattage	
	2	5848	80	B2-U0-G2		
	3	6018	82	B1-U0-G2		
9L	5W	5471	74	B3-U0-G1	74	
9L	FT	5801	79	B1-U0-G2	/4	
	FTA	5924	81	B1-U0-G1		
	AM	5995	81	B1-U0-G1		
	2	7530	74	B2-U0-G2		
	3	7749	76	B1-U0-G2		
12L	5W	7045	69	B3-U0-G2	102	
IZL	FT	7470	73	B2-U0-G2		
	FTA	7628	75	B2-U0-G2		
	AM	7720	76	B1-U0-G1		
	2	9311	69	B2-U0-G2	135	
	3	9582	71	B2-U0-G2		
18L	5W	8712	65	B3-U0-G2		
IOL	FT	9237	68	B2-U0-G2	133	
	FTA	9433	70	B2-U0-G2		
	AM	9546	71	B2-U0-G1		
	2	10955	63	B2-U0-G2		
	3	11273	64	B2-U0-G2		
24L	5W	10249	59	B3-U0-G2	175	
24L	FT	10867	62	B2-U0-G2	1/3	
	FTA	11097	63	B2-U0-G2		
	AM	11230	64	B2-U0-G1		

Type: _____

LECTRICAL DATA - PHOSPHOR CONVERTED AMBER (AMPS)*						
Lumens	120V	208V	240V	277V	347V	480V
9L	0.62	0.36	0.31	0.27	0.21	0.15
12L	0.85	0.50	0.43	0.38	0.30	0.22
18L	1.13	0.65	0.56	0.49	0.39	0.28
24L	1.47	0.85	0.73	0.64	0.51	0.37

^{*}LEDs are frequently updated therefore values are nominal.



^{1.} Lumen maintenance values at 25C are calculated per TM-21 based on LM-80 data and in-situ testing.

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.

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.



PHOTOMETRICS

Back to Quick Links

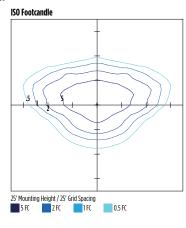
Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. As specified by IESNA LM-79-08 the entire luminaire is tested as the source resulting in a luminaire efficiency of 100%.

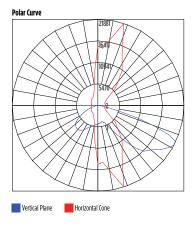
See the individual product page on https://www.lsicorp.com/ for detailed photometric data.

MRM-LED-30L-SIL-2-40-70CRI

Luminaire Data		
Type 2 Distribution		
Description	4000 Kelvin, 70 CRI	
Delivered Lumens	32,416	
Watts	232	
Efficacy	140	
IES Type	Type II - Short	
BUG Rating	B4-U0-G3	

Zonal Lumen Summary			
Zone	Lumens	% Luminaire	
Low (0-30°)	4796	15%	
Medium (30-60°)	19811	61%	
High (60-80°)	7474	23%	
Very High (80-90°)	335	1%	
Uplight (90-180°)	0	0%	
Total Flux	32416	100%	

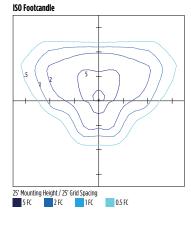


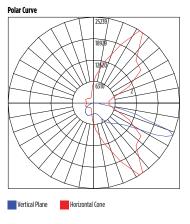


MRM-LED-30L-SIL-3-40-70CRI

Luminaire Data	
Type 3 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,656
Watts	232
Efficacy	141
IES Type	Type III - Short
BUG Rating	B3-U0-G4

Zonal Lumen Summary			
Zone Lumens % Luminaire			
Low (0-30°)	3385	10%	
Medium (30-60°)	16250	50%	
High (60-80°)	12430	38%	
Very High (80-90°)	591	2%	
Uplight (90-180°)	0	0%	
Total Flux	32656	100%	

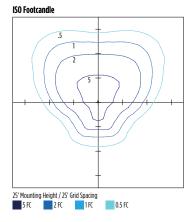


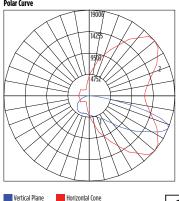


MRM-LED-30L-SIL-FT-40-70CRI

Luminaire Data	
Type FT Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,424
Watts	232
Efficacy	140
IES Type	Type IV - Short
BUG Rating	B3-U0-G4

Zonal Lumen Summary			
Zone	Lumens	% Luminaire	
Low (0-30°)	3952	12%	
Medium (30-60°)	15505	48%	
High (60-80°)	12279	38%	
Very High (80-90°)	688	2%	
Uplight (90-180°)	0	0%	
Total Flux	32424	100%	





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Mike Widerman
113 James Crule Eden, NC 27288
Ph. 336-635-3492 Fax 336-635-6090
e-mail: Intwo@finbw-acomo
e-mail: Intwo@finbw-acomo

Type: ____

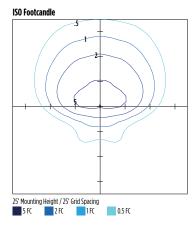


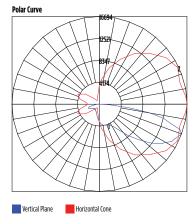
PHOTOMETRICS (CONT)

MRM-LED-30L-SIL-4-40-70CRI

Luminaire Data	
Type 4 Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,141
Watts	213
Efficacy	151
IES Type	Type IV - Very Short
BUG Rating	B3-U0-G5

Zonal Lumen Summary			
Zone	Lumens	% Luminaire	
Low (0-30°)	3119	10%	
Medium (30-60°)	13569	42%	
High (60-80°)	13649	42%	
Very High (80-90°)	1804	6%	
Uplight (90-180°)	0	0%	
Total Flux	32141	100%	

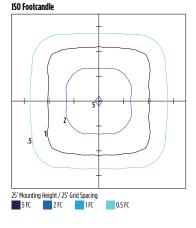


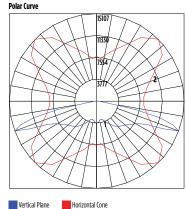


MRM-LED-30L-SIL-5W-40-70CRI

Luminaire Data		
Type 5W Distribution		
Description	4000 Kelvin, 70 CRI	
Delivered Lumens	31,267	
Watts	232	
Efficacy	135	
IES Type	Type VS - Short	
BUG Rating	B5-U0-G3	

Zonal Lumen Summary							
Zone Lumens % Luminaire							
Low (0-30°)	3138	10%					
Medium (30-60°)	13193	42%					
High (60-80°)	14641	47%					
Very High (80-90°)	296	1%					
Uplight (90-180°)	0	0%					
Total Flux	31267	100%					

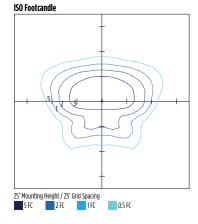


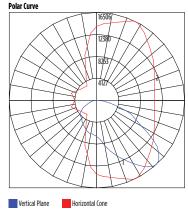


MRM-LED-30L-SIL-FTA-40-70CRI

Luminaire Data	
Type FTA Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,566
Watts	232
Efficacy	140
IES Type	Type VS - Short
BUG Rating	B4-U0-G3

Zonal Lumen Summary							
Zone Lumens % Luminaire							
Low (0-30°)	6986	21%					
Medium (30-60°)	19172	59%					
High (60-80°)	5875	18%					
Very High (80-90°)	534	2%					
Uplight (90-180°)	0	0%					
Total Flux	32566	100%					









Type:_____



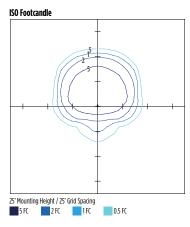
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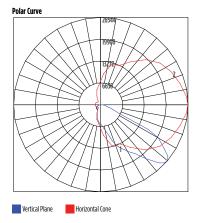
Back to Quick Links

MRM-LED-30L-SIL-AM-40-70CRI

Luminaire Data	
Type AM Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,960
Watts	232
Efficacy	142
IES Type	Type III - Very Short
BUG Rating	B3-U0-G3

Zonal Lumen Summary							
Zone Lumens % Luminaire							
Low (0-30°)	6363	19%					
Medium (30-60°)	22026	67%					
High (60-80°)	4192	13%					
Very High (80-90°) 379							
Uplight (90-180°)	0	0%					
Total Flux 32960 10							

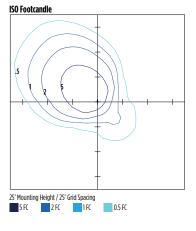


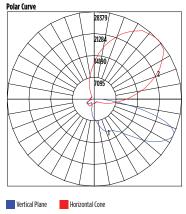


MRM-LED-30L-SIL-LC-40-70CRI

Luminaire Data	
Left Corner Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,498
Watts	213
Efficacy	153
IES Type	N/A
BUG Rating	B3-U0-G5

Zonal Lumen Summary								
Zone Lumens % Luminaire								
Low (0-30°)	5083	16%						
Medium (30-60°)	14808	46%						
High (60-80°)	11603	36%						
Very High (80-90°)	1005	3%						
Uplight (90-180°)	0	0%						
Total Flux	32498	100%						

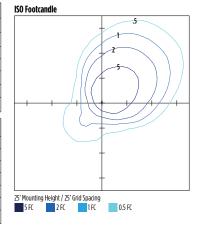


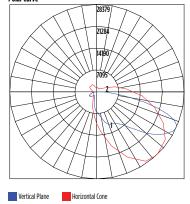


MRM-LED-30L-SIL-RC-40-70CRI

Luminaire Data	
Right Corner Distribution	
Description	4000 Kelvin, 70 CRI
Delivered Lumens	32,498
Watts	213
Efficacy	153
IES Type	N/A
BUG Rating	B3-U0-G5

Zonal Lumen Summary							
Zone Lumens % Luminaire							
Low (0-30°)	5083	16%					
Medium (30-60°)	14808	46%					
High (60-80°)	11603	36%					
Very High (80-90°)	1005	3%					
Uplight (90-180°)	0	0%					
Total Flux	32498	100%					







Type: ____



IMSBT Motion & Photocell Sensor

7.8" (198mm)

Bottom View



PRODUCT DIMENSIONS

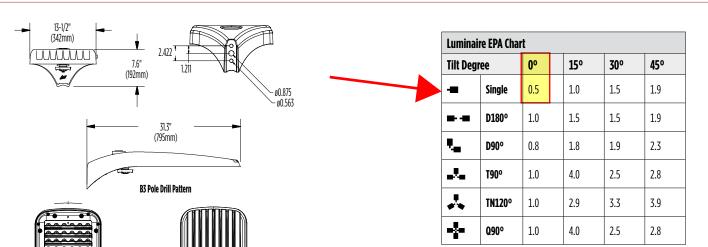


Photo Control Receptacle

(165mm)

Top View





Type: _____



CONTROLS Back to Quick Links

Integral Bluetooth™ Motion and Photocell Sensor (IMSBTxL)

Slim low profile sensor provides multi-level control based on motion and/or daylight. Sensor controls 0-10 VDC LED drivers and is IP66 rated for cold and wet locations (-40°F to 167°F). 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 here to learn more details about IMSBT







LEVITON App

Apple

Android

AirLink Blue (ALBCSx)

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 here to learn more details about AirLink Blue





AirLink Blue App

Apple

Sensor Sequence of Operations

Standard Programming	On Event	Off Event	On Light Level	Dim Light Level	Daylight Harvesting	Delay To Off	Sensitivity
OMSBTxL/IMSBTxL	Motion	No Motion	100%	N/A	On; Auto Calibration	20 minutes	High
OMS	Motion	No Motion	N/A	N/A	N/A	30 seconds	Auto

Operation	Description
On Event	Trigger that activates lights to turn on; either automatic via motion detected or manually activated via push of button.
Off Event	Trigger that activates lights to turn off; either automatic via no motion detected or manually activated via push of button.
On Light Level	The light level that the fixtures will turn on to when ON EVENT occurs.
Dim Light Level	The light level that the fixtures will dim down to when no motion is detected.
Delay to Dim	The amount of time after which no motion is detected that the fixtures will be triggered to dim down. This sequence is optional, and sensor can be programmed to only trigger the fixture to turn off by entering 100% in this field.
Delay to Off	The amount of time after which no motion is detected that the fixtures will be triggered to turn off. If delay to dim is part of the programmed functionality, this is the amount of time after which no motion is detected after the fixture have already dimmed down.
Sensitivity	The sensitivity can be set to high, medium, low, or auto where applicable. High will detect smaller, simple motions. Low will only detect larger more complex motions. Auto temperature calibration adjusts the PIR sensitivity as ambient temperature rises to increase detection of heat movement through the field of view.



Type: _



Composite Pole - TR34

Designed for Post Top or Area Lighting Luminaires

- Tapered composite pole shaft
- Direct embedded and anchor base models
- · Base cover provided with AB pole

Ordering Information

Sample Catalog Number Logic

	В	С	D	E	F	G
TR34	16	DE	BLK	TXT	23	•
TR34	20	AB	DGR	SMS	30	•
Pole	Above Grade Height	Installation Method	Color	Surface Finish	Tenon O.D.	Options

	ivietnoa	
B Above	Grade Height	
Cat No.	Description	
TR34-10	10 feet /3.0 M	
TR34-11	11 feet /3.4 M	
TR34-12	12 feet /3.7 M	
TR34-13	13 feet /4.0 M	
TR34-14	14 feet /4.3 M	
TR34-15	15 feet /4.6 M	
TR34-16	16 feet /4.9 M	
TR34-17	17 feet /5.2 M	
TR34-18	18 feet /5.5 M	
TR34-19	19 feet /5.8 M	
TR34-20	20 feet /6.1 M	
TR34-21	21 feet /6.4 M	
TR34-22	22 feet /6.7 M	
TR34-23	23 feet /7.0 M	
TR34-24	24 feet /7.3 M	
TR34-25	25 feet /7.6 M	
TR34-26	26 feet /7.9 M	
TR34-27	27 feet /8.3 M	
TR34-28	28 feet /8.5 M	
TR34-29	29 feet /8.8 M	_
TR34-30	30 feet /9.1 M	

С	Instal	lation	Me	thod
---	--------	--------	----	------

Cat No.	Description			
DE	Direct Embedded			
AB	Anchor Base			
D Color				
Cat No.	Description			
BLK	Black			
DBZ	Dark Bronze			
DGR	Dark Green			
SLV	Silver			
WHT	/HT White			
GRY	Grey			
CC Custom Color - Please provide a min. 3" x 3"				

color chip.

E Surface Finish

Cat No.	Description	
TXT	Natural texture of the reinforcing strands	
SMS	Smooth surface finish	

F Tenon O D

	Tenon G.B.				
Cat No. Description		Description			
	23	2 3/8" (60 mm) O.D.			
		3" (76 mm) O.D.			
		Custom Tenon O.D.			

G Options

Cat No.	Description
DTC	Top pole cap and drilling for a side mounted arm(s). Provide template or drawing for hole locations.
FLD	Top pole cap. Field drill to accept a luminaire.
RC	Receptacle housing and a NEC-approved cover with 15A GFCI receptacle. Standard location is 12"/305 mm below the top of the pole.

Other accessories are shown on the Accessories specification sheet.

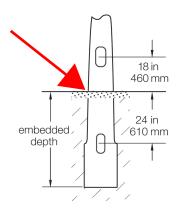
ABOVE GRADE HEIGHT 20' MODEL SHOWN





TR34 Tapered composite pole shaft

Direct Embedded - DE



Shaft Length	Embedded Depth			
10 to 13 ft	3 ft /.91 M			
14 to 24 ft	4 ft /1.2 M			
25 to 30 ft	5 ft /1.5 M			

* Embedded depths may vary per local codes, site soil conditions, drainage and very high wind conditions.

Hand hole is: 2.5"/62 mm x 5"/125 mm.

Specifications

POLE SHAFT

The pole shaft shall be round tapered, smooth with a .14"/3.5 mm per foot taper. The hand hole shall be 2.5"/62 mm x 5"/125 mm with a cover. The shaft shall be constructed of continuous fiberglass filament combined with a thermosetting resin. The glass filament shall be helically wound at alternating high and low angle layers for maximum compressive and bending strength. The hand hole area and hardware attachment areas shall be reinforced.

The butt end of the embedded-type post shall be enlarged and oval to increase the resistance to rotation and provide maximum ground bearing resistance (anti-lift). The post shall be non-conductive and chemically inert.

PERFORMANCE CRITERIA

The post shall be designed with a minimum safety factor of 1.5:1 and have no more than a 15% deflection at full wind loading. The post shall deflect no more than 2.5% of the above-ground length with 100 lbs of lateral top load. Poles shall be tested and rated per ANSI C136.20-2012.

DIRECT EMBEDDED INSTALLATION

Direct embedded poles shall have a 2.5 inch (62 mm) by 6 inch (152 mm) slot for conduit entrance 24 inches (610 mm) below finished grade. Embedded depths may vary per local codes, site soil conditions, drainage and very high wind conditions.

ANCHOR BASE

Anchor bases shall be constructed of primed and painted aluminum or galvanized steel. The base shall be factory bonded to the pole.

TENON

A painted galvanized steel or aluminum tenon shall be firmly bonded to the pole for mounting a post-top luminaire or arm.

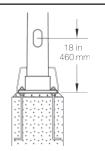
FINISH

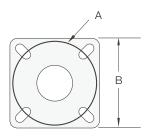
The surface of the post shall be uniform and consistent for the entire length of the post. A UV-resistant catalyzed urethane coating shall be extremely durable and retains its gloss after a 5000 hour exposure test per ASTM G154, with no dulling or chalking of the surface.

BASE COVER

For anchor-base poles, the standard base cover shall be a round or square two-piece molded ABS cover. This base cover shall be corrosion free and painted to match the pole. Base covers are not included with direct-embedded poles.

Anchor Base Installation - AB





Anchor Base Dimensions for TR34

- Hand hole is 2.5"/62 mm x 5"/125 mm
- Mounting slots are .75"/19 mm x 1.5"/38 mm for 8" bolt circle and 1"/25 mm x 1.5"/38 mm for 10" and 12" bolt circle
- Conduit entry hole in base plate is 4.0"/100 mm

Shaft	Bolt	Base Plate	Anchor Bolts		
Length	Circle (A)	Size (B)			
10' - 13'	8"/203 mm	7.5"/190 mm	5/8" x 21"		
14' - 26'	10"/254 mm	10"/254 mm	3/4" x 30"		
27' - 30'	12"/304 mm	11.5"/292 mm	3/4" x 30"		

Wind Loading Data

		= 0 0 0 0	9 - 0.11							
			WIND SPEED (MPH) WITH 3 SECOND GUST FACTOR							
Cat	No.	Description	n WT	90	100	110	120	130	140	150
10	10	feet/3.10 I	M 26	11.8	9.2	7.5	6.2	5.2	4.4	3.8
11	11	feet/3.35 I	M 29	11.3	8.8	7.2	5.9	5.0	4.2	3.6
12	12	feet/3.66 I	M 31	10.2	8.0	6.5	5.3	4.4	3.7	3.2
13	13	feet/3.96 I	M 34	9.4	7.4	5.9	4.9	4.1	3.4	2.9
14	14	feet/4.27 I	M 37	8.7	6.8	5.5	4.5	3.7	3.1	2.6
15	15	feet/4.57 I	M 38	9.2	8.0	6.5	5.3	4.4	3.7	3.1
16	16	feet/4.88 I	M 42	9.3	7.3	5.9	4.8	4.0	3.3	2.8
17	17	feet/5.18 I	M 45	8.6	6.7	5.4	4.4	3.6	3.0	2.5
18	18	feet/5.49 I	M 49	7.9	6.1	4.9	3.9	3.2	2.7	2.2
19	19	feet/5.79 I	M 51	7.2	5.6	4.4	3.6	2.9	2.4	2.0
20	20	feet/6.10 l	M 52	6.6	5.1	4.0	3.2	2.6	2.1	1.8
21	21	feet/6.40 I	M 75	8.2	6.4	5.1	4.1	3.4	2.8	2.3
22	22	feet/6.71 I	M 77	7.5	5.8	4.6	3.7	3.0	2.5	2.1
23	23	feet/7.01 N	08 N	6.9	5.3	4.2	3.3	2.7	2.2	1.8
24	24	feet/7.32 I	M 83	6.3	4.9	3.8	3.0	2.4	2.0	1.6
25	25	feet/7.62 I	M 85	5.8	4.4	3.4	2.7	2.1	1.7	1.3
26	26	feet/7.92 I	88 N	5.3	4.0	3.1	2.4	1.9	1.5	1.1
27	27	feet/8.32 I	M 91	4.9	3.6	2.8	2.1	1.7	1.3	0.9
28	28	feet/8.53 I	M 93	4.4	3.3	2.5	1.9	1.4	1.1	0.7
29	29	feet/8.84 I	M 96	3.9	2.9	2.1	1.6	1.2	0.9	0.5
30	30	feet/9.14 N	M 99	3.5	2.5	1.8	1.3	1.0	0.7	0.3
\//ir	nd sr	need values	are for a	3 seco	and a	ust ner	ASCE	Calc	ulated	ner

Wind speed values are for a 3 second gust per ASCE. Calculated per ANSI C136.20-2012. Assumes load 12 inches above the pole top. Safety factor = 1.5:1. Maximum weight for tenon mount is 100 lbs. Contact factory for AASHTO or specific local codes.



