

## SPEC SHEET

# Essentials 5 (ES5)

## HIGH PERFORMANCE LED HIGH BAY



Aluminum heat sinks and wireway



Linmore LED  
**ULTRALINK**  
CONTROLS REIMAGINED



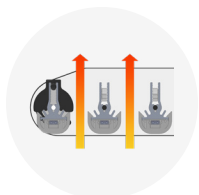
### KEY FEATURES

- 6,000 to 90,000 lumens
- Up to 214 LPW
- Up to 65°C ambient<sup>7</sup>
- New smaller design
- Aluminum construction (heat sinks and wireway)
- Dust-proof and wet location options
- Dimmable 0-10V (standard)
- IoT ready, UltraLink compatible
- 6KV surge protection (10KV & 20KV optional)



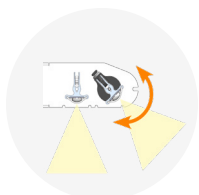
### Guaranteed Performance

Performance of the light fixture is guaranteed for 10 years, including lumen output (L70), color temperature, and LED driver.



### Superior Thermal Design

Vertical extruded aluminum heat sinks with ample separation for maximum heat dissipation and airflow through the fixture.



### Rotating Outer LED Modules

Optimize the light distribution at any time in the field to suit your lighting needs. Outer modules can be set to 0°, 45°, 90°, and 135°.

# TECHNICAL SPECS

**MODEL U** Ultra High Efficacy, up to **214 LPW**. Designed for ambient temperatures up to 65°C.<sup>7</sup>

Nominal Lumens	Frame Size	5000K - 80CRI - CL			5000K - 80CRI - FR			5000K - 70CRI - CC		
		Lumens	Watts	Efficacy	Lumens	Watts	Efficacy	Lumens	Watts	Efficacy
10K	4MS	9,703	53	183	9,218	53	174	10,576	53	199
13K	6MS	12,971	68	190	12,322	68	180	14,138	68	207
18K	8MS	17,921	94	191	17,025	94	181	19,534	94	208
21K	8MS	21,487	111	194	20,412	111	184	23,420	111	211
26K	6M	25,816	135	191	24,525	135	181	28,139	135	208
32K	6M	32,230	168	192	30,618	168	182	35,131	168	209
37K	8M	37,342	186	200	35,475	186	190	40,703	186	214
46K	8M	45,890	235	195	43,595	235	185	50,020	235	212
54K	8M	53,942	289	187	51,245	289	177	58,797	289	203

Typical lumen output (±10%) at 277V (LV) under 25°C ambient temperature.

**MODEL P** High Performance and Longest Life. Designed for ambient temperatures up to 65°C.<sup>7</sup>

Nominal Lumens	Frame Size	5000K - 80CRI - CL			5000K - 80CRI - FR			5000K - 70CRI - CC		
		Lumens	Watts	Efficacy	Lumens	Watts	Efficacy	Lumens	Watts	Efficacy
6K	2MS	6,030	35	172	5,729	35	164	6,573	35	188
9K	4MS	8,964	51	176	8,515	51	167	9,770	51	192
12K	6MS	12,584	69	181	11,955	69	172	13,717	69	198
16K	6MS	15,786	90	176	14,997	90	167	17,207	90	192
19K	6MS	18,978	104	183	18,029	104	174	20,686	104	199
21K	6MS	20,820	115	181	19,779	115	172	22,694	115	197
24K	8MS	24,030	141	170	22,829	141	161	26,193	141	185
32K	8MS	32,342	181	179	30,725	181	170	35,253	181	195
38K	6M	38,313	211	181	36,398	211	172	41,762	211	198
46K	6M	46,141	258	179	43,834	258	170	50,293	258	195
53K	6M	52,832	307	172	50,190	307	164	57,587	307	188
56K	6M	55,516	325	171	52,740	325	162	60,512	325	186
66K	8M	66,118	364	182	62,812	364	173	72,069	364	198
74K	8M	73,867	428	173	70,174	428	164	80,515	428	188

Typical lumen output (±10%) at 277V (LV) under 25°C ambient temperature.

# TECHNICAL SPECS

**MODEL S** Standard model. Widest lumen range. Designed for ambient temperatures up to 55°C.<sup>7</sup>

Nominal Lumens	Frame Size	5000K - 80CRI - CL			5000K - 80CRI - FR			5000K - 70CRI - CC		
		Lumens	Watts	Efficacy	Lumens	Watts	Efficacy	Lumens	Watts	Efficacy
9K	2MS	9,487	56	169	9,013	56	161	10,341	56	184
12K	4MS	12,603	72	175	11,973	72	167	13,737	72	191
15K	4MS	14,915	90	166	14,169	90	157	16,257	90	180
18K	4MS	18,498	110	168	17,573	110	159	20,163	110	182
20K	4MS	20,397	123	166	19,377	123	158	22,233	123	180
25K	6MS	25,381	146	173	24,112	146	165	27,665	146	189
27K	6MS	26,660	168	159	25,327	168	151	29,059	168	173
30K	8MS	29,830	180	166	28,339	180	157	32,515	180	180
38K	6M	37,931	214	177	36,034	214	168	41,345	214	193
44K	6M	44,336	257	173	42,119	257	164	48,326	257	188
49K	6M	48,636	298	163	46,204	298	155	53,013	298	177
53K	6M	53,333	327	163	50,666	327	155	58,133	327	177
61K	6M	61,191	369	166	58,131	369	158	66,698	369	180
67K	8M	67,405	418	161	64,034	418	153	73,471	418	176
77K	8M	76,684	449	171	72,850	449	162	83,586	449	186
82K	8M	82,691	502	165	78,556	502	156	90,133	502	179
90K	8M	90,321	547	165	85,805	547	157	98,450	547	180

Typical lumen output (±10%) at 277V (LV) under 25°C ambient temperature.

## Lumen Multipliers

Calculate the actual lumen output based on fixture configuration and measured ambient temperature at the height where fixtures will be installed.

LUMENS VS AMBIENT TEMP			COLOR TEMP		COLOR RENDERING		LIGHT DISTRIBUTION	
°C	°F	Multiplier	CCT	Multiplier	CRI	Multiplier	Lens	Multiplier
25	77	1.000	5000K	1.00	70+	1.07	CC	1.02
35	95	0.995	4000K	0.98	80+	1.00	CL	1.00
45	113	0.995	3500K <sup>3</sup>	0.97	90+ <sup>1</sup>	0.89	FR	0.95
55	131	0.980	3000K <sup>3</sup>	0.94			AL	0.93
65	149	0.970					NW	0.93

**Example:** Calculating the actual lumen output of Model S 44K at these conditions: 45°C measured ambient temp, 4000K, CRI80, Frosted Lens.

44,336

x

0.995

x

0.98

x

1.00

x

0.95

=

41,070

Lumens of

Temp.

CCT

CRI

Lens

Actual Lumens

5000K - CRI80 - CL

# PERFORMANCE WARRANTY



Our superior thermal management and high quality components allow us to offer the best warranty in the lighting industry.

Performance of the light fixture is guaranteed for 10 years, including lumen maintenance (L70), color temperature, and LED driver.<sup>8</sup> "Defective" is considered if ten percent (10%) or more of the LEDs, per product, are non-operating LEDs, total lumen depreciation exceeds 30% (L70), or color temperature has shifted more than 500° Kelvin within the warranty period. See terms and conditions at <https://linmoreled.com/warranty>

## LUMEN MAINTENANCE

Lumen Maintenance, also known as L70, is a lifetime measurement criteria developed by IESNA (Illuminating Engineering Society of North America) to evaluate the useful lifetime of an LED fixture in terms of the expected number of operating hours until the light output has diminished to 70% of initial levels. An LED fixture is considered to have reached its rated life when it emits 30% less light than it initially did. All values below are calculated in accordance to IESNA standards, per TM-21.

Reported Life (6X)	
Tested Time	Extrapolated
10,000 hrs	> 60,000 hrs

LEDs have been tested for 10,000 hrs based on LM-80. Extrapolating as per TM-21: 10,000 hrs x 6 = 60,000 hrs of reported life.

### Lumen Maintenance in Hours

Calculated time to reach 90%, 80% and 70% of initial lumen output.

Ambient Temp.		MODEL U			MODEL P			MODEL S		
		L90	L80	L70	L90	L80	L70	L90	L80	L70
25	77	47Khrs	99Khrs	158Khrs	70Khrs	152Khrs	245Khrs	68Khrs	147Khrs	236Khrs
35	95	47Khrs	100Khrs	159Khrs	65Khrs	141Khrs	227Khrs	63Khrs	136Khrs	219Khrs
45	113	47Khrs	100Khrs	159Khrs	57Khrs	125Khrs	201Khrs	47Khrs	103Khrs	137Khrs
55	131	47Khrs	100Khrs	159Khrs	39Khrs	84Khrs	136Khrs	32Khrs	70Khrs	113Khrs
65	149	37Khrs	77Khrs	123Khrs	29Khrs	62Khrs	100Khrs			

### Lumen Maintenance Factor

Lumen degradation multipliers at given times.

Ambient Temp.		MODEL U			MODEL P			MODEL S		
		50Khrs	75Khrs	100Khrs	50Khrs	75Khrs	100Khrs	50Khrs	75Khrs	100Khrs
25	77	0.89	0.85	0.80	0.93	0.90	0.87	0.92	0.89	0.86
35	95	0.89	0.85	0.80	0.92	0.89	0.86	0.92	0.89	0.85
45	113	0.89	0.85	0.80	0.92	0.89	0.85	0.90	0.86	0.81
55	131	0.89	0.85	0.80	0.90	0.84	0.77	0.85	0.79	0.73
65	149	0.87	0.81	0.75	0.83	0.77	0.70			

ORDERING

SERIES MODEL - COMPLIANCE - LUMENS - SIZE			COLOR TEMP	CRI	LENS	VOLTAGE	MOUNTING
Ultra (65°C) <sup>3</sup>	Performance (65°C)	Standard (55°C)	<b>50</b> 5000K  <b>40</b> 4000K  <b>35<sup>3</sup></b> 3500K  <b>30<sup>3</sup></b> 3000K  Other CCT available upon request	<b>70</b> 70+ CRI  <b>80</b> 80+ CRI (standard)  <b>90<sup>1,9</sup></b> 90+ CRI	<b>CL</b> Clear lens  <b>FR</b> Frosted lens  <b>AL</b> Aisle lens  <b>NW</b> Narrow lens  <b>CC<sup>9</sup></b> Conformal coating (no lens)	<b>LV</b> 120-277V  <b>HV<sup>17</sup></b> 347-480V	<b>CRM<sup>10</sup></b> Cable-ready (standard) for suspension mounting or 3/4" stem mount  <b>MBR<sup>17</sup></b> Factory installed mounting box and bracket for surface mount applications - adds 1 1/2" to fixture height  <b>STEM<sup>1</sup></b> Factory installed mounting box and bracket for stem mount applications - adds 1 1/2" to fixture height  <b>HOOK<sup>1</sup></b> Field installed mounting kit, includes hook and one leveling Y-cable Other options available, see Accessories
ES50U-A1-10K-4MS <sup>6</sup>	ES50P-A1-06K-2MS	ES50S-A1-09K-2MS					
ES50U-A1-13K-6MS	ES50P-A1-09K-4MS <sup>6</sup>	ES50S-A1-12K-4MS <sup>6</sup>					
ES50U-A1-18K-6MS	ES50P-A1-12K-6MS	ES50S-A1-15K-4MS <sup>6</sup>					
ES50U-A1-21K-8MS <sup>6</sup>	ES50P-A1-16K-6MS	ES50S-A1-18K-4MS <sup>6</sup>	Other CCT available upon request	90+ CRI	Aisle lens	347-480V	Factory installed mounting box and bracket for surface mount applications - adds 1 1/2" to fixture height
ES50U-A1-26K-6M	ES50P-A1-19K-6MS	ES50S-A1-20K-4MS <sup>6</sup>					
ES50U-A1-32K-6M	ES50P-A1-21K-6MS	ES50S-A1-25K-6MS					
ES50U-A1-37K-8M	ES50P-A1-24K-8MS <sup>6</sup>	ES50S-A1-27K-6MS					
ES50U-A1-46K-8M	ES50P-A1-32K-8MS <sup>6</sup>	ES50S-A1-30K-8MS <sup>6</sup>					
ES50U-A1-54K-8M	ES50P-A1-38K-6M	ES50S-A1-38K-6M					
	ES50P-A1-46K-6M	ES50S-A1-44K-6M					
	ES50P-A1-53K-6M	ES50S-A1-49K-6M					
	ES50P-A1-56K-6M <sup>7</sup>	ES50S-A1-53K-6M					
	ES50P-A1-66K-8M <sup>7</sup>	ES50S-A1-61K-6M					
	ES50P-A1-74K-8M <sup>7</sup>	ES50S-A1-67K-8M					
		ES50S-A1-77K-8M					
		ES50S-A1-82K-8M <sup>7</sup>					
		ES50S-A1-90K-8M <sup>7</sup>					

LIGHTING CONTROLS <sup>1,13,14,19,20</sup>		CORDS & PLUGS <sup>1,12</sup>		OPTIONS <sup>1</sup>	DIMMING
ULTRALINK					
<b>ULTRA</b> Linmore UltraLink Bluetooth mesh Controls installed		<b>6' 18AWG cord with the following:</b> <b>CW</b> Cord, 15A, 3-wire, no plug		<b>15' 18AWG Cord with the following:</b> <b>15CW</b> Cord, 15A, 3-wire, no plug	
<b>ULTRAHGA</b> Linmore UltraLink Bluetooth mesh Controls installed with High-Gain antenna		<b>DW</b> Dimming cord, 15A, 5-wire, no plug		<b>15DW</b> Dimming cord, 15A, 5-wire, no plug	
<b>ULTRAPIR20</b> Linmore UltraLink Bluetooth PIR sensor installed, 20' lens		<b>C515</b> Cord, 15A, straight plug 120V (5-15P)		<b>15C515</b> Cord, 15A, straight plug 120V (5-15P)	
<b>ULTRAPIR40</b> Linmore UltraLink Bluetooth PIR sensor installed, 40' lens		<b>CL515</b> Cord, 15A, locking plug 120V (L5-15P)		<b>15CL515</b> Cord, 15A, locking plug 120V (L5-15P)	
Contact factory. UltraLink controls require commissioning in the field via iOS app.		<b>CL715</b> Cord, 15A, locking plug 277V (L7-15P)		<b>15CL715</b> Cord, 15A, locking plug 277V (L7-15P)	
IR-TEC					
ON / OFF		DIMMING			
<b>TOCCWD (LV, 120-277V ONLY)<sup>1,13,19</sup></b> Occ sensor, w/photocell, wide distribution, LV only, up to 27' mounting height		<b>TOCCDIMWD (LV/HV)<sup>1,11,13,19</sup></b> Occ sensor, dimmable w/ photocell, wide distribution, up to 27' mounting height			
<b>TOCCNW (LV, 120-277V ONLY)<sup>1,13,19</sup></b> Occ sensor, w/photocell, narrow distribution, LV only, up to 49' mounting height		<b>TOCCDIMNW (LV/HV)<sup>1,11,13,19</sup></b> Occ sensor, dimmable w/ photocell, narrow distribution, up to 49' mounting height			
<b>TOCCAL (LV, 120-277V ONLY)<sup>1,13,19</sup></b> Occ sensor, w/photocell, aisle distribution, LV only, up to 40' mounting height		<b>TOCCDIMAL (LV/HV)<sup>1,11,13,19</sup></b> Occ sensor, dimmable w/ photocell, aisle distribution, up to 40' mounting height			
WATTSTOPPER					
<b>OCC8 (HV only)</b> Occ sensor, on/off, w/photocell, 8' mounting height		<b>OCCDIM8 (LV/HV)<sup>1,11,13,14,19</sup></b> Occ sensor, dimmable, w/photocell, 8' mounting height, programmable via remote			
<b>OCC30 (HV only)</b> Occ sensor, on/off, w/photocell, up to 30' mounting height		<b>OCCDIM30 (LV/HV)<sup>1,11,13,14,19</sup></b> Occ sensor, dimmable, w/photocell, 30' mounting height, programmable via remote			
<b>OCC40 (HV only)</b> Occ sensor, on/off, w/photocell, up to 40' mounting height		<b>OCCDIM40 (LV/HV)<sup>1,11,13,14,19</sup></b> Occ sensor, dimmable, w/photocell, 40' mounting height, programmable via remote			
		<b>10' 18AWG cord with the following:</b> <b>10CW</b> Cord, 15A, 3-wire, no plug		For other cord options, contact factory	
				<b>EMBB<sup>2,7,8,13,14,17</sup></b> Emergency battery back-up. Adds 1.25" to fixture height	<b>10V</b> 0-10V
				<b>EMBB<sup>2,7,8,13,14,17</sup></b> High lumen emergency battery back-up. Adds 1.25" to fixture height	
				<b>SRGOFF<sup>13,14,17</sup></b> Fixture installed 20kA surge suppression device, fails to OFF	
				<b>SRG<sup>13,17</sup></b> Fixture installed 10kA surge protector fails to ON	
				<b>DUST<sup>5,14</sup></b> Dust-proof (IP5X)	
				<b>WET<sup>5,13,14</sup></b> Wet location rated. No cord, CW or DW cord options only.	
				<b>QDC<sup>13</sup></b> Fixture Quick Disconnect	
				<b>BOX</b> Individual box packaging available	
				<b>CTRLR<sup>14,15</sup></b> Control Ready 5-wire harness (factory installed)	
				<b>WG<sup>2,16</sup></b> Fixture Wire Guard	
				<b>CTOPEND<sup>8</sup></b> Cord mounted on top edge of wireway	<b>INDR<sup>7,9,13</sup></b> LED modules factory inverted for indirect lighting
				<b>GTD<sup>14,18</sup></b> Generator transfer device	
				<b>R45<sup>21</sup></b> Both outer LED modules rotated 45°	
				<b>R90<sup>21</sup></b> Both outer LED modules rotated 90°	<b>R135<sup>7,21</sup></b> Both outer LED modules rotated 135°

# ORDERING EXAMPLES

**Standard:** ES50P-A1-16K-6MS-50-80-FR-LV-CRM-10V

**With Options:** ES50P-A1-16K-6MS-50-80-FR-LV-CRM-**ULTRA-CW-EMB**-10V

**With Configured Cord:** ES50P-A1-16K-6MS-50-80-FR-LV-CRM-**B20CL720**-10V

**DLC:** ES50P-A1-16K-6MS-40-80-FR-[LV, HV]-[ALL MOUNTING OPTIONS]-[ALL OCCUPANCY SENSORS]-[ALL CORDS]-[ALL OPTIONS]-10V

# ACCESSORIES

Must be ordered separately. Packaged separately.

FIXTURE ACCESSORIES <sup>1</sup>		
Part Number	Type	Description
SAFETYCABLE	Safety Kit	Kit includes (1) 10 ft. aircraft cable with single snap hook, L-bracket, screw and nut. For use with HOOK, MBR, PLATE MOUNT or stem mounting options.
CABLEKIT	Cable Kit	Kit includes (2) 10 ft. aircraft "Y" cables and (2) snap hooks.
HANGER	Hanger Mounting Option	Kit includes (2) wire V hangers. Order fixture with CRM mounting option.
PLATE	Plate Mounting Option	Kit includes (1) hanging plate with mounting hole for 3/4" conduit and (4) 5 ft. aircraft cables and snap hooks. Order fixture with CRM option.
SWG <sup>2</sup>	Occupancy Sensor Wire Guard	Wire guard for occupancy sensors, field install. Shipped in separate box.
	Power Supply Replacement	Power supply replacement available upon request. Contact factory for details.

LIGHTING CONTROLS <sup>1,13,14,20</sup>		
Part Number	Type	Description
ULTRAGATEWAY	UltraLink Bluetooth® Gateway	Optional wireless gateway for use with UltraLink. Needed for energy monitoring, scheduling, astronomical clock and heat mapping.
ULTRASR	UltraLink Bluetooth® Switch	Bluetooth Wireless, self-powered Dimming Wall Switch, Single Rocker, On/Off/Dim, for use with UltraLink.
ULTRADR	UltraLink Bluetooth® Switch	Bluetooth Wireless, self-powered Dimming Wall Switch, Double Rocker, On/Off/Dim/Scenes, for use with UltraLink.
ULTRAFACT	UltraLink Bluetooth® Service	UltraLink Factory Activation, Zone Identification on Packaging. For use with all Bluetooth Ready Fixtures / Systems.
ULTRADESIGN	UltraLink Bluetooth® Service	UltraLink System Design Services.
ULTRADASH	UltraLink Bluetooth® Service	Dashboards for Energy, Occupancy Heat Mapping, and Energy Heat Mapping. Gateway (ULTRAGATEWAY) required, Sold Separately.
ULTRATIME	UltraLink Bluetooth® Accessory	Battery Backup Bluetooth Node, includes outdoor rated enclosure and long range antenna. For use to keep time during a power outage and for in node scheduling.
TOCCDIMPROG <sup>11,19</sup>	IR-TEC Wireless Programmer for Dimmable Occupancy Sensors	Handheld wireless programmer for setup TOCCDIMXX dimmable occupancy sensors. Required with TOCCDIMWD/NW/AL selection.
OCCDIMPROG <sup>11,19</sup>	Wattstopper Wireless Programmer for Dimmable Occupancy Sensor(s)	Handheld wireless programmer for setup OCCDIMXX dimmable occupancy sensors. Required with OCCDIM8, OCCDIM30 and OCCDIM40 selection.

# FEATURES & SPECIFICATIONS

## CONSTRUCTION

- **Extruded Aluminum Heat Sinks:** Provide optimal thermal management by decreasing LED junction temperature, ensuring longer life and higher efficacy. LED boards attached to the heat sink using a high quality thermally conductive adhesive rather than screws or rivets. This ensures good contact between PCB and heat sinks for excellent thermal conductivity.
- **LED Boards:** FR4 PCB is used to limit stress on solder joints by matching coefficient of thermal expansion between the LED and the PCB more closely.
- **Power Supply Access:** Wireway cover allows easy access and quick wiring. Hole accepting 3/4" stem (not centered) and also 1/2" KO near top end of wire way. If center stem mount is required, select STEM in mounting options.
- **Wire Guards:** Optional factory-installed wire guards provide IK08 impact protection to acrylic lenses (FR). Polycarbonate lenses (CL, AL, NW) are rated IK10 without them but wire guards may provide additional protection.<sup>16</sup>

## ELECTRICAL

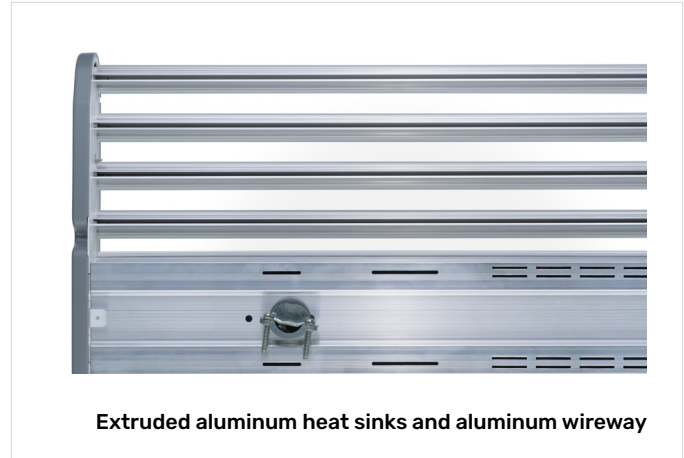
- **Power Input:** 120-277V or 347-480 (50/60Hz), typical, depending on model.
- **Power Factor:** Greater than 0.9 (0.96–0.99 typical).
- **Total Harmonic Distortion:** Less than 20%, 10% typical.
- **Surge Protection:** Standard is 6kV for drivers. Additional surge protection is available. All HV orders will have 10kV SRG automatically added (contact sales for questions).<sup>17</sup>
- **Fixture Quick Disconnect:** Available as an option.
- **Emergency Battery Backup (EMB and EMB2):** EMB produces ~2,700 lumens for a minimum of 90 minutes. EMB2 produces ~4,300 lumens for a minimum of 90 minutes. EMB has 15 watts output, EMB2 has 25 watts output. Factory installation only, not able to be field installed. Available in LV and HV. Contact factory for details.<sup>7,8</sup>

## OPERATION

- **Environment:** Dry/Damp, for interior applications (IP4X). Dust-resistant LED modules, dust-proof (IP5X) option available. Wet location available. Impact protection up to IK10.<sup>16</sup>
- **Ambient Range Operation:** -40°C up to 65°C (-40°F up to 149°F), depending on model.<sup>7</sup>

## OPTICS

- **CCT:** 3000K, 3500K, 4000K and 5000K standard, other CCT available (extended lead time).<sup>3</sup>
- **CRI:** 70+, 80+, 90+.<sup>1,9</sup>
- **Lenses:** UV stable polycarbonate Clear, Aisle and Narrow, Conformal Coating, and PMMA acrylic Frosted available.<sup>9</sup>



Extruded aluminum heat sinks and aluminum wireway

- **Field-Replaceable Lenses:** Clear, Frosted, Aisle, and Narrow.
- **Rotatable LED Modules:** Field adjustable rotating modules. Easily adjusted outer modules with stops at 45°, 90° and 135°. Allows for customizing light pattern to suit individual situations.<sup>5</sup> Factory set at 0°(standard) or at 45°, 90° or 135° as an option.<sup>21</sup>

## MOUNTING

- **Mounting:** Fixture is cable ready (CRM). Other options are STEM (comes with a 3/4" opening in the center of the STEM box), HOOK and surface mount (with optional MBR). MBR reduces ambient range by 5°C when mounted flush to junction box.<sup>7</sup>

## CONTROLS

- **Dimming:** 0-10V standard. Dimming range 100% to 10%.
- **UltraLink Bluetooth® Controls:** Advanced wireless controls available. Requires commissioning in the field, contact factory.
- **Occupancy and Dimming Occupancy Sensors:** Optional - factory installed photocell sensors. IR-TEC and Wattstopper available, other options available upon request.

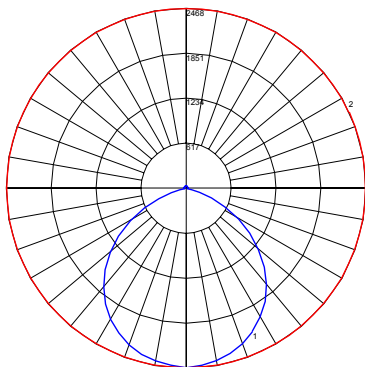
## LISTINGS & CERTIFICATIONS

- Conforms to ETL listed (UL 1598:2021 Ed. 5).
- UL Wet Location.
- RoHS compliant.
- EMI: FCC 47CFR 15:2022 and ICES-005:2018.
- CSA C22.2#250.0:2021 Ed. 5.
- DesignLights™ Consortium<sup>3</sup>.



# LIGHT DISTRIBUTION

## CLEAR

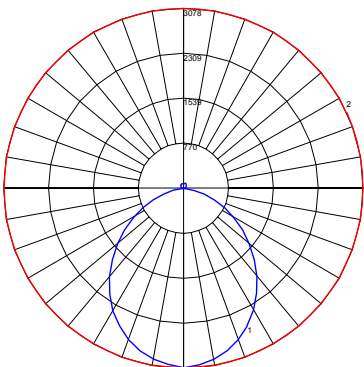


### Zonal Lumen Summary

ES50S-A1-09K-2MS-50-80-CL

Zone	Lumens	% Fixture
0-30	1,820.76	19.20
0-40	2,956.15	31.10
0-60	5,382.84	56.70
0-80	7,598.39	80.00
0-90	8,310.80	87.50
0-180	9,500.10	100.00

## FROSTED

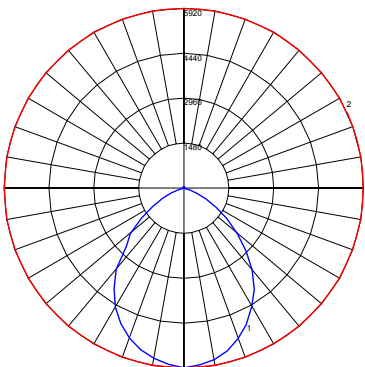


### Zonal Lumen Summary

ES50S-A1-09K-2MS-50-80-FR

Zone	Lumens	% Fixture
0-30	2,337.30	25.90
0-40	3,781.31	41.90
0-60	6,552.39	72.70
0-80	8,169.53	72.70
0-90	8,416.43	93.40
0-180	9,015.05	100.00

## NARROW

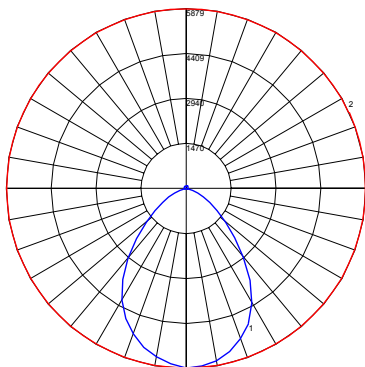


### Zonal Lumen Summary

ES50S-A1-09K-2MS-50-80-NW

Zone	Lumens	% Fixture
0-30	3,517.57	40.10
0-40	5,047.80	57.50
0-60	7,095.78	80.80
0-80	7,966.60	90.70
0-90	8,083.57	92.10
0-180	8,781.07	100.00

## AISLE

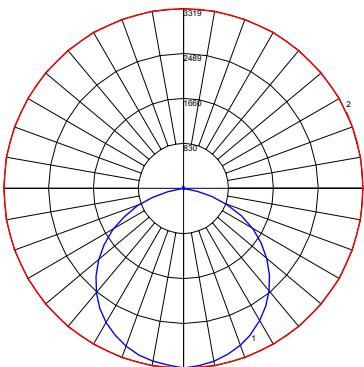


### Zonal Lumen Summary

ES50S-A1-09K-2MS-50-80-AL

Zone	Lumens	% Fixture
0-30	2,844.21	32.20
0-40	3,977.18	45.10
0-60	6,098.74	69.10
0-80	7,815.52	88.60
0-90	8,130.17	92.20
0-180	8,821.18	100.00

## CONFORMAL COATING



### Zonal Lumen Summary

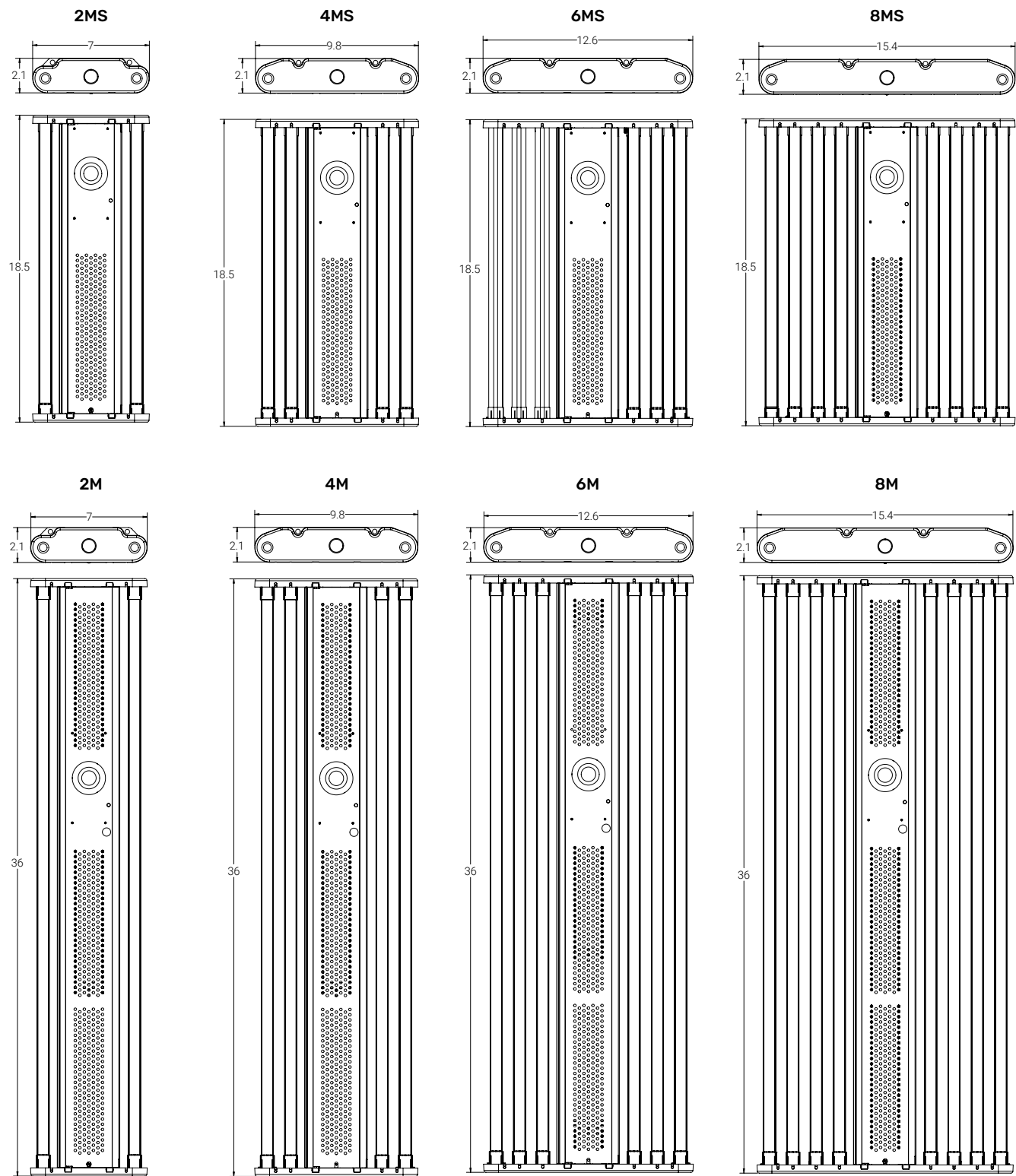
ES50S-A1-09K-2MS-50-80-CC

Zone	Lumens	% Fixture
0-30	2,598.80	26.90
0-40	4,287.37	44.40
0-60	7,684.17	79.60
0-80	9,403.63	97.40
0-90	9,521.65	98.60
0-180	9,659.19	100.00

[Download IES Files](#)



# DIMENSIONS & DRAWINGS



## Weight

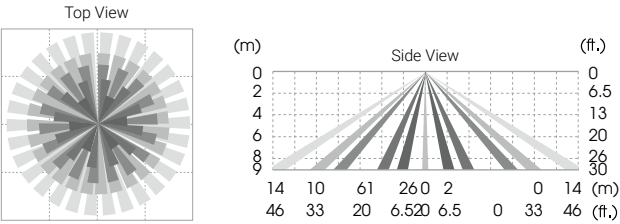
2MS	4MS	6MS	8MS	2M	4M	6M	8M
~8 lbs	~10 lbs	~14 lbs	~16 lbs	~18 lbs	~20.6 lbs	~22.6 lbs	~24.6 lbs

MBR, STEM and EMB mounting options adds 1 1/2" to fixture height. Weights are approximate and vary by model, if weight is a concern, please contact factory.

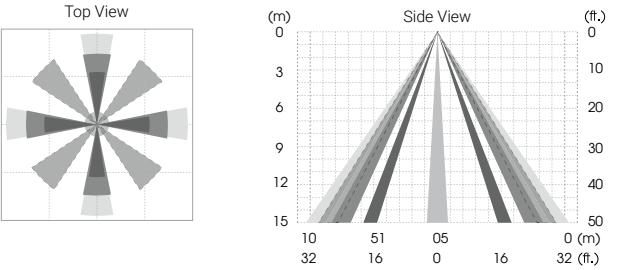
# OCCUPANCY SENSORS

## IR-TEC

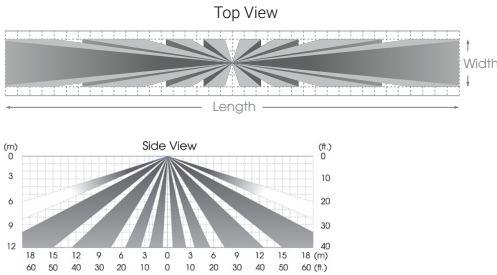
### TOCCWD / TOCCDIMWD



### TOCCNW / TOCCDIMNW

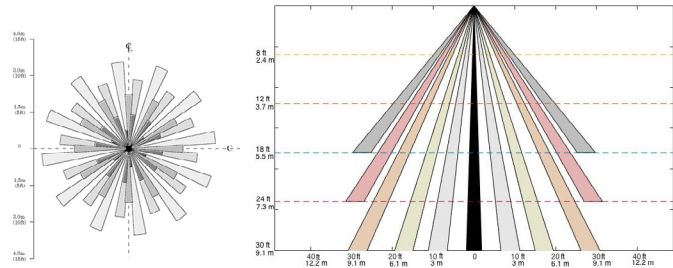


### TOCCAL / TOCCDIMAL

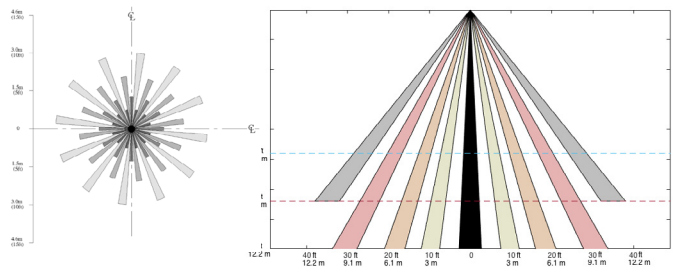


## ULTRALINK

### ULTRAPIR20

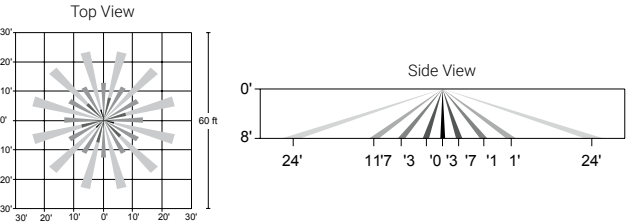


### ULTRAPIR40

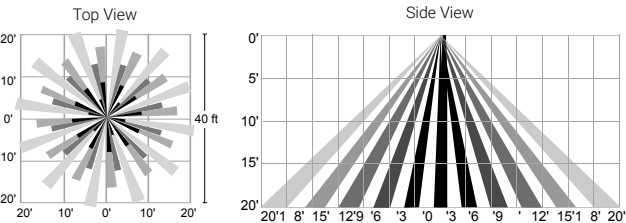


## WATTSTOPPER

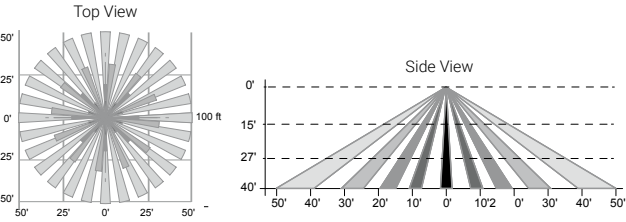
### OCC8 / OCCDIM8



### OCC30 / OCCDIM30



### OCC40 / OCCDIM40



# FOOTNOTES

1. Optional add-on. See price list for pricing.
2. Dimensions listed are for the fixture only. See dimensional drawings for measurements with mounting hardware. Weights are approximate and vary by model, if weight is a concern, please contact factory. Weight changes when battery backup is added.
3. 3000K CCT, 3500K CCT, and all 90 CRI versions are not DLC qualified. All fixtures 10,000 lumens and below in 70 CRI do not qualify due to their R9 value. ES50U models are under review process by DLC and will be listed soon. Contact factory if needed.
4. LM-79, LM 80 tests and reports are performed in accordance to IESNA standards, per TM-21. Lumen maintenance in hours (L70 via TM-21) based on 24/7 operation. Typical ( $\pm 10\%$ ) at 277V (LV), 25°C (77°F), 5000K, Clear Lens, CRI 80+. Lumen Multipliers: 5000K = 1.00; 4000K = 0.98; 3500K = 0.97; 3000K = 0.94; Frosted Lens = 0.95; Aisle Lens = 0.93; Narrow Lens = 0.93; CC (Conformal Coat) = 1.02; 70 CRI = 1.07; 80+ CRI = 1.00; 90+ CRI = 0.89.
5. Rotatable Modules will rotate when wire guards are installed. With WET and DUST options, the Rotatable Modules are not able to be set in the field; if custom settings are required, please consult factory.
6. All 4MS units can be configured in the 2M (longer) size and all 8MS units can be configured in the 4M (longer) size for additional cost, please contact factory.
7. MBR, 135° module setting and INDR fixtures max. temp 5°C less, typical. EMB fixtures 32°F to 121°F (0°C to 50°C). HV EMB max ambient 50°C. HV EMB includes step-down transformer. Temperatures below -20°C have limited switch cycles, consult factory. Mount minimum 6" from the ceiling, increase distance at higher ambient temperatures. ES50P-A1-53K, ES50-A1-56K and ES50-A1-74K are 63°C max ambient. ES50S-A1-82K and ES50S-A1-90K are 40°C max ambient.
8. EMB and EMB2 not available with CTOPEND or MBR mounting. EMB factory installation only, not able to be field installed. EMB driver, battery and components have a 5 year warranty only.
9. CC not available with INDR. CC has extended lead time.
10. Optional CABLEKIT ordered separately. See ACCESSORIES.
11. Wireless programmer required for final field setup. See ACCESSORIES.
12. All standard cords are 18/3 AWG, 600V and white. DW and 15DW are 18/5, 600V and white. Standard Cord Lengths are 6' and 15', with molded plugs. There is a 10' WHIP (18/3). Configured cords (MANUAL) are either White or Black, length from 1-30'. 18 AWG and can be a Whip or have NEMA plugs or a WINSTA connector attached. Configured cord Plugs will not be molded to the cord. WINSTA option must be a Configured Cord. WINSTA MIDI 770-104 female connector, for fixtures with corresponding WINSTA male connector. Consult factory on all custom configured cords. Custom configured cords not available with WET option.
13. WET rating covers the fixture and OCCDIMxx only (if ordered as an option). It does NOT include the following sensors or controls: CTRLR, ULTRA, ULTRAPIR20, ULTRAPIR40, OCCxx, TOCCxx or TOCCDIMxx. QDC, GTD, and EMB/EMB2 not available with WET option. Not compatible with INDR. Not compatible with WINSTA or any NON-Standard Cord configuration. SRG and SRGOFF are IP66 and will work with WET option when used with approved, WET LOCATION connectors (supplied by other). WET Location option not available with Narrow (NW) and Aisle (AL) lens options.
14. Consult factory for orders requiring EMB, EMB2, HVEMB, HVEMB2, DUST, WET, ULTRA, ULTRAPIR20, ULTRAPIR40, CTRLR, CTRLR, GTD and SRGOFF.
15. CTRLR includes 5 wires, capped off inside of fixture for use with field installed controls.
16. IK10 rating with all polycarbonate lenses (CL, AL, NW), IK08 rating with PMMA acrylic lenses (FR) with wire guard.
17. SRG (10kA protection) is a standard option on all HV fixtures. Controls and sensors should have optional SRG or SRGOFF added. They are not protected by the internal surge suppression provided by the driver. 20kA Surge suppression device in which, when triggered, the fixture will fail in the "Off" mode (fixture will not illuminate). SRGOFF not available with EMB fixtures.
18. Generator Transfer Device Ambient range is 0°C to +60°C (32°F to 140°F). Provides full fixture output on generator power. GTD is available on LV only; not available on HV fixtures. Requires separate line (supplied by other) for GTD to function.
19. Sensor settings from factory:
  - OCC (HV only) - If no movement for 15 mins, OFF (WS Factory Settings).
  - TOCC - If no movement for 10 mins, OFF (IR-TEC Factory Settings).Footcandle range from 1-20fc, factory setting to DISABLED.
  - OCCDIM - If no movement for 5 mins, dim to 10%, if no movement for 60 mins, OFF (WS Factory Settings).
  - TOCCDIM - If no movement for 10 mins, dim to 30%, if no movement for 10 minutes, OFF (IR-Tec Factory Settings).
20. ULTRA requires separate commissioning and ACCESSORIES, contact factory.
21. Can only select one rotation angle per fixture. Both outer LED modules are rotated at the same angle. Not compatible with INDR option.

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