

# WP9LK2

LED UPGRADE KIT

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

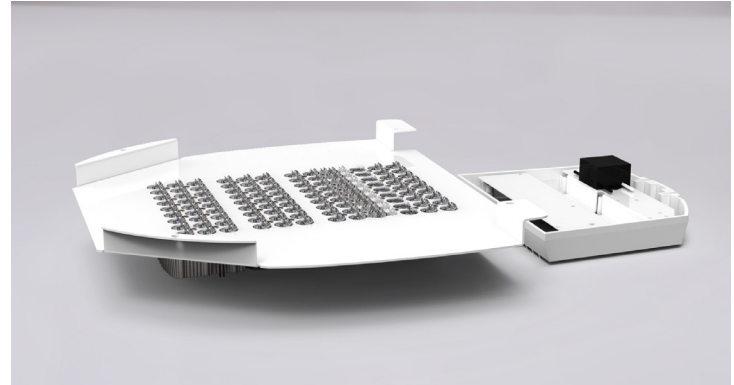
Warp9®

## FEATURES

- TIR Strike Optics
- Available in Monochromatic Amber, 2700K, 3000K, 3500K, 4000K and 5000K
- Type 1, 2, 3, 4, 4W, 5Q, L, and R distributions
- 0 - 10V dimming drivers standard
- IP65 optical assembly



3000K and warmer CCTs only



## RELATED PRODUCTS

[Ouro](#)

[Pavilion](#)

[PGL8](#)

## SPECIFICATIONS

### CONSTRUCTION

- One piece die-cast housing, low copper (<0.6% Cu) Aluminum Alloy with integral cooling ribs over the optical chamber and electrical compartment
- All hardware is stainless steel or electro-zinc plated steel
- Finish: fade and abrasion resistant, electrostatically applied, thermally cured, triglycidic isocyanurate (TGIC) polyester powdercoat

### INSTALLATION

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury

### OPTICS

- Optical cartridge system consisting of a die cast heat sink, LED Total Internal Reflection (TIR) optics, gasket and bezel plate

### OPTICS (CONTINUED)

- Molded silicone gasket ensures a weather-proof seal around each individual LED
- Features revolutionary individual LED optical control based on high performance TIR optical designs
- Optional BackLight Control for complete control of unwanted backlight
- IP65 Optical assembly
- Type 1, 2, 3, 4, 4W, 5Q, L, and R standard distributions
- Available in Monochromatic Amber, 2700K, 3000K, 3500K, 4000K and 5000K
- Die-cast, low copper aluminum heat sink modules provide thermal transfer at PCB level
- Anodized aluminum heat sink modules

### ELECTRICAL

- Dimming range from 10% to 100% through the use of standard 0-10V interface on the programmable driver
- Modular wiring harness in the service area provides user access to the dimming circuitry
- Optional factory programmed dimming profile
- Surge protection: 10kV surge suppression
- SF for 120, 277, 347 Line volts  
DF for 208, 240, 480 Line volts

### CERTIFICATIONS AND LISTINGS

- Listed to UL1598 and CSA C22.2#250.0-24 for wet location and 40°C ambient temperatures
- RoHS compliant

### WARRANTY

- 5 year warranty
- See [HLI Standard Warranty](#) for additional information

**WP9LK2**

LED UPGRADE KIT

**ORDERING GUIDE**

WP9LK2						
Model	LED Engine	CCT/CRI <sup>3</sup>	Distribution	Voltage	Fixture Finish	
<b>WP9LK2</b> Warp9 2.0 Large Kit	<b>81L-550</b> 81 LEDs - 15,000 Lumens	<b>AM<sup>1,4</sup></b> Monochromatic Amber	<b>1</b> Type I	<b>UNV</b> 120-277V	<b>BLS</b> Black Gloss Smooth	
	<b>108L-550</b> 54 LEDs - 20,000 Lumens	<b>27K8<sup>2</sup></b> 2700K, 80CRI	<b>2</b> Type II	<b>347</b> 347V	<b>BLT</b> Black Matte Textured	
	<b>108L-700</b> 81 LEDs - 25,000 Lumens	<b>27K9<sup>2</sup></b> 2700K, 90CRI	<b>3</b> Type III	<b>480</b> 480V	<b>DBS</b> Dark Bronze Gloss Smooth	
	<i>Equivalent</i> WP9L-P35 = 81L-550 WP9L-P70 = 108L-550 WP9L-E35 = 81L-550	<b>3K7</b> 3000K, 70CRI	<b>4</b> Type IV Forward	<b>5QM</b> Type V Square Medium		<b>DBT</b> Dark Bronze Matte Textured
		<b>3K8<sup>2</sup></b> 3000K, 80CRI	<b>4W</b> Type IV Wide	<b>R</b> Corner Right		<b>GTT</b> Graphite Matte Textured
		<b>3K9<sup>2</sup></b> 3000K, 90CRI	<b>L</b> Corner Left	<b>LGS</b> Light Grey Gloss Smooth		
		<b>35K8<sup>2</sup></b> 3500K, 80CRI		<b>LGT</b> Light Grey Matte Textured		
		<b>35K9<sup>2</sup></b> 3500K, 90CRI		<b>PSS</b> Platinum Silver Smooth		
		<b>4K7</b> 4000K, 70CRI		<b>VGT</b> Verde Green Matte Textured		
		<b>4K8<sup>2</sup></b> 4000K, 80CRI		<b>WHS</b> White Gloss Smooth		
		<b>4K9<sup>2</sup></b> 4000K, 90CRI		<b>WHT</b> White Matte Textured		
		<b>5K7</b> 5000K, 70CRI				
		<b>5K8<sup>2</sup></b> 5000K, 80CRI				
	<b>5K9<sup>2</sup></b> 5000K, 90CRI					
						<b>Color Option</b>
						<b>CC</b> Custom Color

House Side Shield	Fuse Options
<b>BC<sup>1</sup></b> Backlight Control	<b>SF</b> 120, 277, 347 Line Volts <b>DF</b> 208, 240, 480 Line Volts

Notes:

- 1 Back Light Control not available for Type 5Q and Type 5W
- 2 See Lumen Multiplier chart on [Page 11](#) for lumen scaling factor. Consult factory for additional details.
- 3 5-step MacAdam Ellipse Binning is standard. Consult factory for 3-step MacAdam Ellipse Binning
- 4 Turtle Friendly.

**DELIVERED LUMENS**

**NO LENS**

LED #	Nominal Lumen Package	Drive Current	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
				Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w
					B	U	G			B	U	G			B	U	G	
81	15,000	550	1	16511	2	0	1	119.6	17135	2	0	1	124.1	17841	2	0	1	129.3
			1-BC	10571	0	0	1	76.6	10970	0	0	1	79.5	11423	0	0	1	82.8
			2	15496	2	0	2	112.3	16081	2	0	2	116.5	16745	2	0	2	121.3
			2-BC	9870	0	0	2	71.5	10243	0	0	2	74.2	10666	0	0	2	77.3
			3	15369	2	0	3	111.3	15949	2	0	3	115.5	16607	2	0	3	120.3
			3-BC	9555	0	0	2	69.2	9915	0	0	2	71.8	10325	0	0	2	74.8
			4	16147	1	0	3	117.0	16757	1	0	3	121.4	17448	1	0	4	126.4
			4-BC	11679	0	0	3	84.6	12120	0	0	3	87.8	12620	0	0	3	91.4
			4W	15395	2	0	3	111.5	15976	2	0	4	115.7	16635	2	0	4	120.5
			4W-BC	9875	1	0	2	71.5	10248	1	0	2	74.2	10671	1	0	2	77.3
			5Q	15963	4	0	2	115.6	16565	4	0	2	120.0	17249	4	0	2	125.0
			R	15323	2	0	3	111.0	15902	2	0	3	115.2	16558	2	0	3	120.0
			L	15323	2	0	3	111.0	15902	2	0	3	115.2	16558	2	0	3	120.0
108	20,000	550	1	21901	2	0	2	118.5	22728	2	0	2	122.9	23665	2	0	2	128.0
			1-BC	14021	0	0	1	75.8	14551	0	0	1	78.7	15151	0	0	1	81.9
			2	20555	3	0	3	111.2	21331	3	0	3	115.4	22211	3	0	3	120.1
			2-BC	13092	1	0	2	70.8	13587	1	0	2	73.5	14147	1	0	2	76.5
			3	20386	2	0	4	110.3	21155	2	0	4	114.4	22028	2	0	4	119.1
			3-BC	12674	1	0	3	68.5	13152	1	0	3	71.1	13695	1	0	3	74.1
			4	21418	2	0	4	115.8	22227	2	0	4	120.2	23144	2	0	4	125.2
			4-BC	15492	1	0	4	83.8	16076	1	0	4	87.0	16740	1	0	4	90.5
			4W	20420	2	0	4	110.4	21191	2	0	4	114.6	22065	2	0	4	119.3
			4W-BC	13099	1	0	3	70.8	13593	1	0	3	73.5	14154	1	0	3	76.6
			5Q	21173	4	0	2	114.5	21973	4	0	2	118.8	22879	4	0	2	123.7
			R	20325	2	0	3	109.9	21092	2	0	4	114.1	21962	3	0	4	118.8
			L	20325	2	0	3	109.9	21092	2	0	4	114.1	21962	3	0	4	118.8
	25,000	700	1	26376	2	0	2	112.0	27372	2	0	2	116.2	28501	2	0	2	121.1
			1-BC	16887	1	0	2	71.7	17524	1	0	2	74.4	18247	1	0	2	77.7
			2	24755	3	0	3	105.1	25689	3	0	3	109.1	26749	3	0	3	113.9
			2-BC	15768	1	0	2	66.9	16363	1	0	2	69.5	17038	1	0	2	72.6
			3	24551	2	0	4	103.8	25478	2	0	4	107.6	26529	3	0	4	112.3
			3-BC	15263	1	0	3	64.8	15840	1	0	3	67.2	16493	1	0	3	70.5
			4	25795	2	0	4	109.5	26769	2	0	4	113.6	27873	2	0	5	118.3
			4-BC	18657	1	0	4	79.2	19361	1	0	4	82.2	20160	1	0	4	85.6
4W			24593	3	0	4	104.4	25521	3	0	5	108.4	26574	3	0	5	112.9	
4W-BC			15775	1	0	3	67.0	16371	1	0	4	69.5	17046	1	0	4	72.6	
5Q	25500	5	0	2	108.3	26462	5	0	2	112.3	27554	5	0	2	116.5			
R	24478	3	0	4	103.9	25402	3	0	4	107.8	26450	3	0	4	111.8			
L	24478	3	0	4	103.9	25402	3	0	4	107.8	26450	3	0	4	111.8			

**DELIVERED LUMENS (CONTINUED)**

**CLR LENS**

LED #	Nominal Lumen Package	Drive Current	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
				Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w
					B	U	G			B	U	G			B	U	G	
81	15,000	550	1	14100	1	0	1	102.2	14632	1	0	1	106.0	15236	1	0	1	110.4
			1-BC	9027	0	0	1	65.4	9368	0	0	1	67.9	9754	0	0	1	70.7
			2	13233	2	0	2	95.9	13733	2	0	2	99.5	14300	2	0	2	103.6
			2-BC	8429	0	0	2	61.1	8747	0	0	2	63.4	9108	0	0	2	66.0
			3	13124	2	0	2	95.1	13620	2	0	3	98.7	14182	2	0	3	102.7
			3-BC	8159	0	0	2	59.1	8468	0	0	2	61.3	8817	0	0	2	63.9
			4	13789	1	0	3	99.9	14310	1	0	3	103.7	14900	1	0	3	107.9
			4-BC	9974	0	0	2	72.3	10350	0	0	3	75.0	10777	0	0	3	78.1
			4W	13147	2	0	3	95.2	13643	2	0	3	98.8	14206	2	0	3	102.9
			4W-BC	8433	1	0	2	61.1	8751	1	0	2	63.4	9112	1	0	2	66.0
			5Q	13632	3	0	1	98.8	14146	3	0	1	102.5	14730	3	0	2	106.7
			R	13085	2	0	2	94.8	13579	2	0	2	98.4	14140	2	0	3	102.4
			L	13085	2	0	2	94.8	13579	2	0	2	98.4	14140	2	0	3	102.4
108	20,000	550	1	18703	2	0	1	101.2	19409	2	0	1	105.0	20210	2	0	2	109.3
			1-BC	11974	0	0	1	64.8	12426	0	0	1	67.2	12939	0	0	1	70.0
			2	17553	2	0	2	94.9	18216	2	0	2	98.5	18967	2	0	2	102.6
			2-BC	11181	0	0	2	60.5	11603	0	0	2	62.8	12081	0	0	2	65.3
			3	17409	2	0	3	94.2	18066	2	0	3	97.7	18811	2	0	3	101.7
			3-BC	10823	1	0	2	58.5	11232	1	0	2	60.7	11695	1	0	2	63.3
			4	18290	2	0	4	98.9	18981	2	0	4	102.7	19764	2	0	4	106.9
			4-BC	13229	0	0	3	71.6	13729	0	0	3	74.3	14295	0	0	3	77.3
			4W	17438	2	0	4	94.3	18097	2	0	4	97.9	18843	2	0	4	101.9
			4W-BC	11186	1	0	3	60.5	11608	1	0	3	62.8	12087	1	0	3	65.4
			5Q	18081	4	0	2	97.8	18764	4	0	2	101.5	19538	1	0	2	105.7
			R	17357	2	0	3	93.9	18012	2	0	3	97.4	18755	2	0	3	101.4
			L	17357	2	0	3	93.9	18012	2	0	3	97.4	18755	2	0	3	101.4
	25,000	700	1	22524	2	0	2	95.6	23375	2	0	2	99.2	24339	2	0	2	103.3
			1-BC	14421	0	0	1	61.2	14965	0	0	1	63.5	15582	0	0	1	66.1
			2	21140	3	0	3	89.7	21938	3	0	3	93.1	22843	3	0	3	97.0
			2-BC	13465	1	0	2	57.2	13974	1	0	2	59.3	14550	1	0	2	61.8
			3	20966	2	0	4	89.0	21757	2	0	4	92.4	22655	2	0	3	97.0
			3-BC	13034	1	0	3	55.3	13527	1	0	3	57.4	14085	1	0	3	59.8
			4	22028	2	0	4	93.5	22859	2	0	4	97.0	23802	2	0	4	101.0
			4-BC	15932	1	0	4	67.6	16534	1	0	4	70.2	17216	1	0	4	73.1
			4W	21001	2	0	4	89.1	21794	2	0	4	92.5	22693	2	0	4	96.3
			4W-BC	13471	1	0	3	57.2	13980	1	0	3	59.3	14557	1	0	3	61.8
5Q	21776	4	0	2	92.4	22598	4	0	2	95.9	23530	4	0	2	99.9			
R	20903	2	0	4	88.7	21693	3	0	4	92.1	22588	3	0	4	95.9			
L	20903	2	0	4	88.7	21693	3	0	4	92.1	22588	3	0	4	95.9			

**DELIVERED LUMENS (CONTINUED)**

**PL LENS**

LED #	Nominal Lumen Package	Drive Current	Distribution	3000K 70CRI					4000K 70CRI					5000K 70CRI				
				Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w	Lumen	BUG Rating			lm/w
					B	U	G			B	U	G			B	U	G	
81	15,000	550	1	12880	1	0	1	93.3	13367	1	0	1	96.8	13918	1	0	1	100.8
			1-BC	8246	0	0	1	59.7	8558	0	0	1	62.0	8911	0	0	1	64.6
			2	12088	2	0	2	87.6	12545	2	0	2	90.9	13062	2	0	2	94.6
			2-BC	7700	0	0	2	55.8	7991	0	0	2	57.9	8320	0	0	2	60.3
			3	11989	1	0	2	86.9	12442	1	0	2	90.1	12955	1	0	2	93.9
			3-BC	7454	0	0	2	54.0	7735	0	0	2	56.0	8054	0	0	2	58.4
			4	12596	1	0	3	91.3	13072	1	0	3	94.7	13611	1	0	3	98.6
			4-BC	9111	0	0	2	66.0	9455	0	0	2	68.5	9845	0	0	2	71.3
			4W	12009	2	0	3	87.0	12463	2	0	3	90.3	12977	2	0	3	94.0
			4W-BC	7703	0	0	2	55.8	7994	0	0	2	57.9	8324	1	0	2	60.3
			5Q	12452	3	0	1	90.2	12922	3	0	1	93.6	13455	3	0	1	97.5
			R	11953	2	0	2	86.6	12405	2	0	2	89.9	12916	2	0	2	93.6
			L	11953	2	0	2	86.6	12405	2	0	2	89.9	12916	2	0	2	93.6
108	20,000	550	1	17085	2	0	1	92.4	17730	2	0	1	95.9	18461	2	0	1	99.8
			1-BC	10938	0	0	1	59.2	11351	0	0	1	61.4	11819	0	0	1	63.9
			2	16034	2	0	2	86.7	16640	2	0	2	90.0	17326	2	0	2	93.7
			2-BC	10213	0	0	2	55.2	10599	0	0	2	57.3	11036	0	0	2	59.7
			3	15903	2	0	3	86.0	16503	2	0	3	89.3	17184	2	0	3	92.9
			3-BC	9887	0	0	2	53.5	10260	0	0	2	55.5	10683	1	0	2	57.8
			4	16708	1	0	3	90.4	17339	1	0	4	93.8	18054	2	0	4	97.6
			4-BC	12085	0	0	3	65.4	12541	0	0	3	67.8	13058	0	0	3	70.6
			4W	15930	2	0	4	86.2	16531	2	0	4	89.4	17213	2	0	4	93.1
			4W-BC	10218	1	0	2	55.3	10604	1	0	2	57.4	11041	1	0	3	59.7
			5Q	16517	4	0	2	89.3	17141	4	0	2	92.7	17848	4	0	2	96.5
			R	15855	2	0	3	85.8	16454	2	0	3	89.0	17133	2	0	3	92.7
			L	15855	2	0	3	85.8	16454	2	0	3	89.0	17133	2	0	3	92.7
	25,000	700	1	20576	2	0	2	87.3	21353	2	0	2	90.6	22233	2	0	2	94.4
			1-BC	13173	0	0	1	55.9	13670	0	0	1	58.0	14234	0	0	1	60.4
			2	19311	2	0	2	82.0	20040	3	0	3	85.1	20867	3	0	3	88.6
			2-BC	12300	0	0	2	52.2	12765	0	0	2	54.2	13291	1	0	2	56.4
			3	19152	2	0	3	81.3	19875	2	0	4	84.4	20695	2	0	3	88.2
			3-BC	11907	1	0	2	50.5	12356	1	0	3	52.4	12866	1	0	3	54.6
			4	20122	2	0	4	85.4	20882	2	0	4	88.6	21743	2	0	4	92.3
			4-BC	14554	0	0	3	61.8	15104	0	0	3	64.1	15727	1	0	4	66.8
4W			19184	2	0	4	81.4	19909	2	0	4	84.5	20730	2	0	4	88.0	
4W-BC			12306	1	0	3	52.2	12771	1	0	3	54.2	13297	1	0	3	56.4	
5Q	19892	4	0	2	84.4	20643	4	0	2	87.6	21495	4	0	2	91.2			
R	19095	2	0	3	81.1	19816	2	0	3	84.1	20633	2	0	3	87.6			
L	19095	2	0	3	81.1	19816	2	0	3	84.1	20633	2	0	3	87.6			

# WP9LK2

LED UPGRADE KIT

## PHOTOMETRY

WP9L2-108L-550-4K7-1

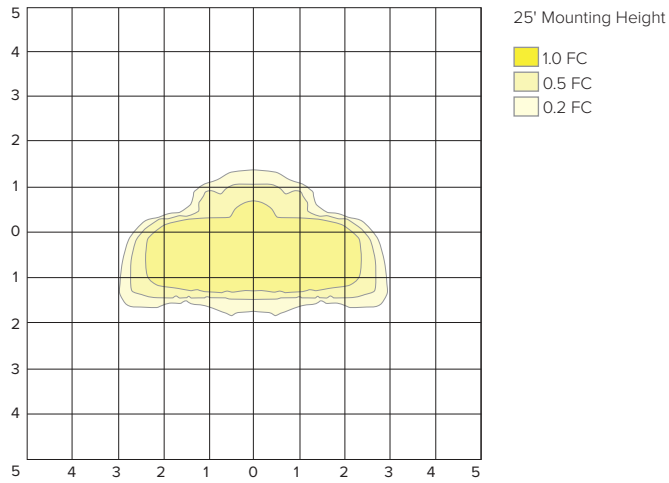
### LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	22728
Watts	184.89
Efficacy	122.9
IES Type	1
BUG Rating	B2-U0-G2
Mounting Height	25 ft
Grid Scale	10 ft

### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	20268	89.2%
Downward House Side	2460	10.8%
Downward Total	22728	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	22728	100%

### ISOFOOT CANDLE PLOT



WP9L2-108L-550-4K7-1-B

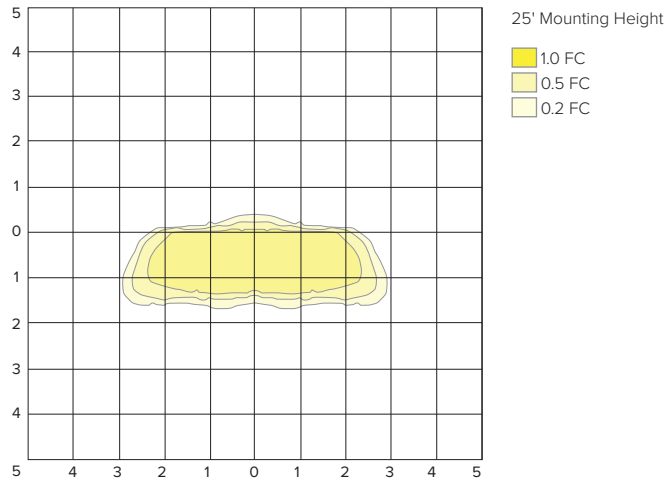
### LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	14551
Watts	184.89
Efficacy	78.7
IES Type	1
BUG Rating	B0-U0-G1
Mounting Height	25 ft
Grid Scale	10 ft

### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	14216	97.7%
Downward House Side	335	2.3%
Downward Total	14551	99.9%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	14551	100%

### ISOFOOT CANDLE PLOT



WP9L2-108L-550-4K7-2

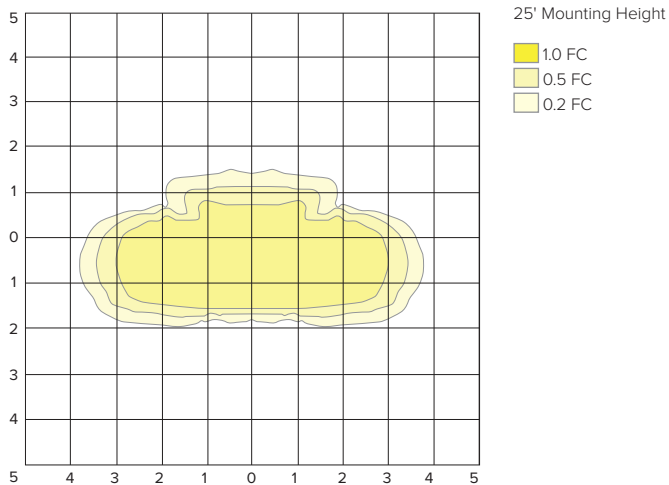
### LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	21331
Watts	184.89
Efficacy	115.4
IES Type	2
BUG Rating	B3-U0-G3
Mounting Height	25 ft
Grid Scale	10 ft

### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	17798	83.4%
Downward House Side	3533	16.6%
Downward Total	21331	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	21331	100%

### ISOFOOT CANDLE PLOT



# WP9LK2

LED UPGRADE KIT

## PHOTOMETRY

WP9L2-108L-550-4K7-2-BC

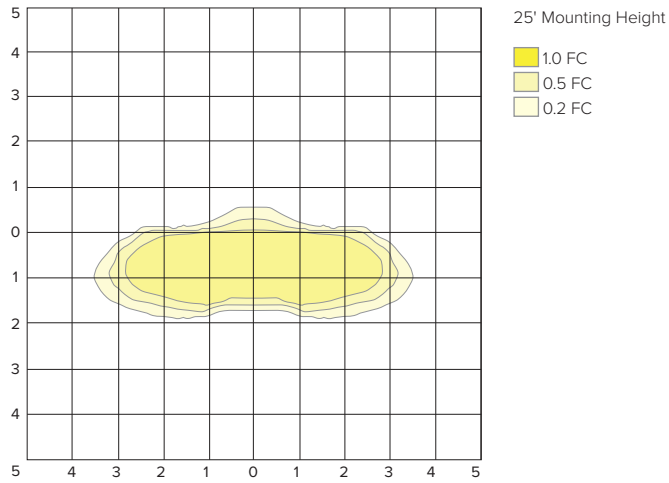
### LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	13587
Watts	184.89
Efficacy	73.5
IES Type	2
BUG Rating	B1-U0-G2
Mounting Height	25 ft
Grid Scale	10 ft

### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	13164	96.9%
Downward House Side	423	3.1%
Downward Total	13587	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	13587	100%

### ISOFOOT CANDLE PLOT



WP9L2-108L-550-4K7-3

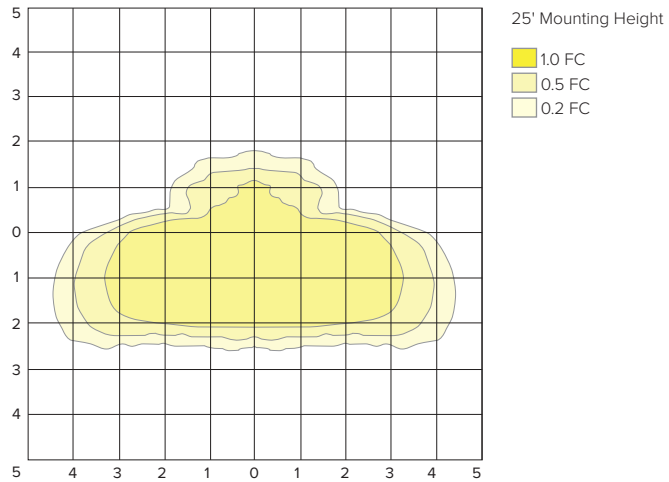
### LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	21155
Watts	184.89
Efficacy	114.4
IES Type	3
BUG Rating	B2-U0-G4
Mounting Height	25 ft
Grid Scale	10 ft

### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	18326	86.6%
Downward House Side	2829	13.3%
Downward Total	21155	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	21155	100%

### ISOFOOT CANDLE PLOT



WP9L2-108L-550-4K7-3-BC

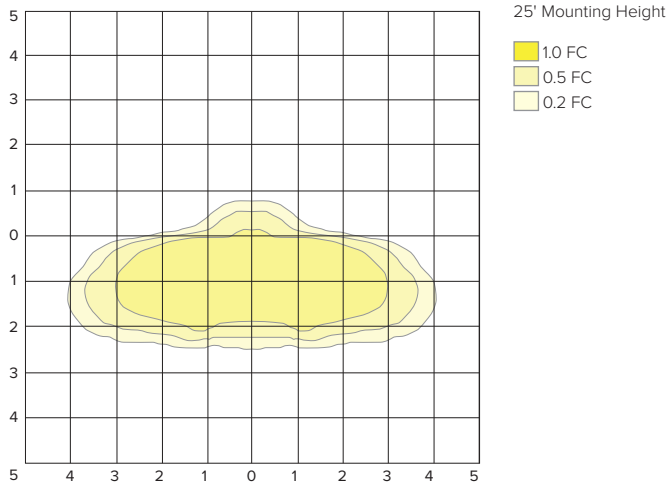
### LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	13152
Watts	184.89
Efficacy	71.1
IES Type	3
BUG Rating	B1-U0-G3
Mounting Height	25 ft
Grid Scale	10 ft

### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	12634	96.0%
Downward House Side	519	3.9%
Downward Total	13152	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	13152	100%

### ISOFOOT CANDLE PLOT



# WP9LK2

LED UPGRADE KIT

## PHOTOMETRY

WP9L2-108L-550-4K7-4

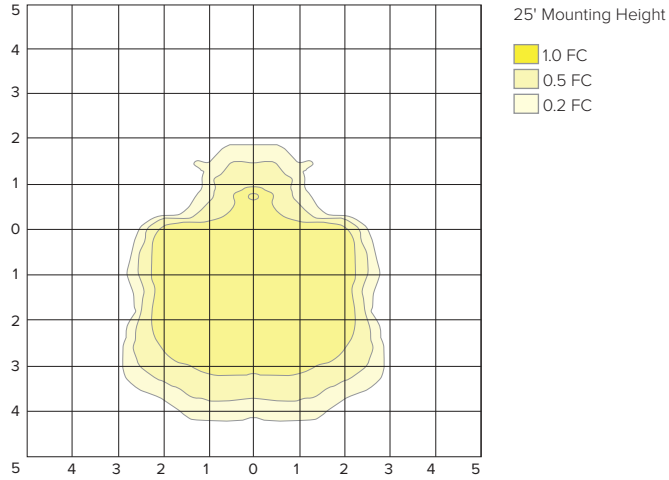
### LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	22227
Watts	184.89
Efficacy	120.2
IES Type	4
BUG Rating	B2-U0-G4
Mounting Height	25 ft
Grid Scale	10 ft

### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	20144	90.6%
Downward House Side	2083	9.4%
Downward Total	22227	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	22227	100%

### ISOFOOT CANDLE PLOT



WP9L2-108L-550-4K7-4-BC

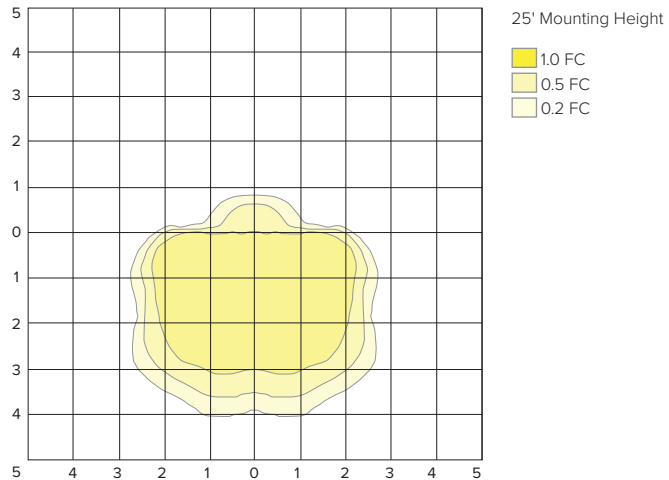
### LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	16077
Watts	184.89
Efficacy	87.0
IES Type	4
BUG Rating	B1-U0-G4
Mounting Height	25 ft
Grid Scale	10 ft

### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	15598	97.0%
Downward House Side	480	3.0%
Downward Total	16078	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	16078	100%

### ISOFOOT CANDLE PLOT



WP9L2-108L-550-4K7-4W

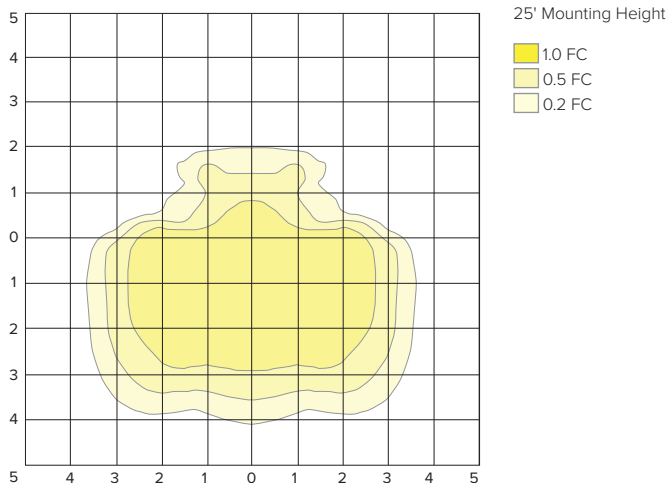
### LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	21192
Watts	184.89
Efficacy	114.6
IES Type	4
BUG Rating	B2-U0-G4
Mounting Height	25 ft
Grid Scale	10 ft

### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	18722	88.4%
Downward House Side	2470	11.6%
Downward Total	21191	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	21191	100%

### ISOFOOT CANDLE PLOT





# WP9LK2

LED UPGRADE KIT

## PHOTOMETRY

WP9L2-108L-550-4K7-4W-BC

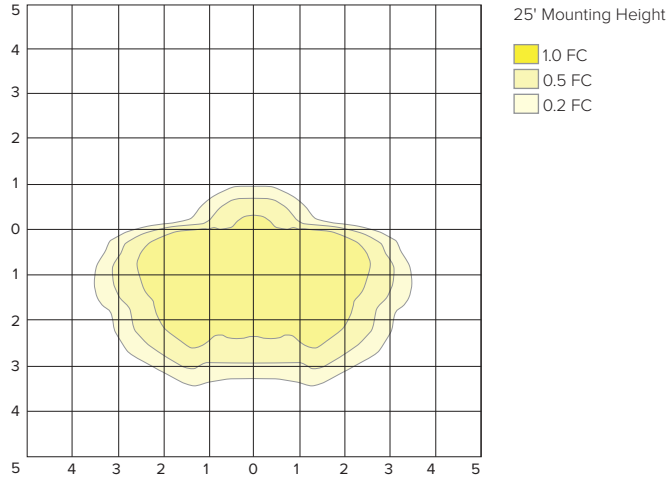
### LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	13594
Watts	184.89
Efficacy	73.5
IES Type	4
BUG Rating	B1-U0-G3
Mounting Height	25 ft
Grid Scale	10 ft

### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	12923	95.1%
Downward House Side	670	4.9%
Downward Total	13594	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	13594	100%

### ISOFOOT CANDLE PLOT



WP9L2-108L-550-4K7-5Q

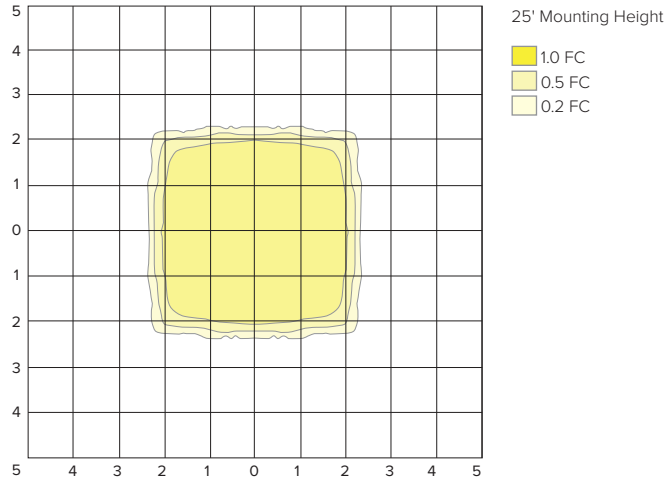
### LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	21973
Watts	184.89
Efficacy	118.8
IES Type	5
BUG Rating	B4-U0-G2
Mounting Height	25 ft
Grid Scale	10 ft

### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	10987	50.0%
Downward House Side	10987	50.0%
Downward Total	21974	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	21974	100%

### ISOFOOT CANDLE PLOT



WP9L2-108L-550-4K7-L

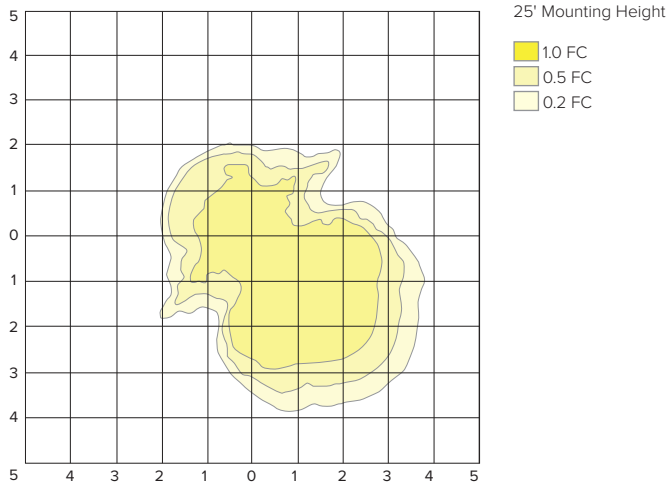
### LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	21092
Watts	184.89
Efficacy	114.1
IES Type	L
BUG Rating	B2-U0-G4
Mounting Height	25 ft
Grid Scale	10 ft

### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	3339	15.8%
Downward House Side	17753	84.2%
Downward Total	21092	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	21092	100%

### ISOFOOT CANDLE PLOT



# WP9LK2

LED UPGRADE KIT

## PHOTOMETRY

WP9L2-108L-550-4K7-R

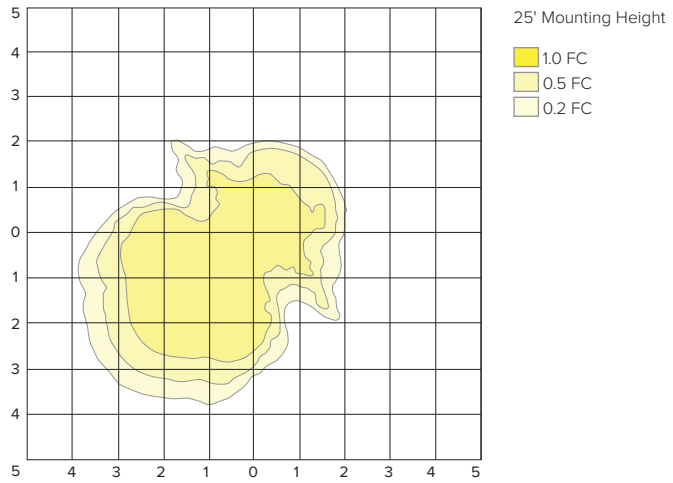
### LUMINAIRE DATA

Description	4000K, 70CRI
Delivered Lumens	21092
Watts	184.89
Efficacy	114.1
IES Type	R
BUG Rating	B2-U0-G4
Mounting Height	25 ft
Grid Scale	10 ft

### ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
Downward Street Side	17618	83.6%
Downward House Side	3474	16.4%
Downward Total	21092	100.0%
Upward Street Side	0	0.0%
Upward House Side	0	0.0%
Upward Total	0	0.0%
Total Flux	21092	100%

### ISOFOOT CANDLE PLOT

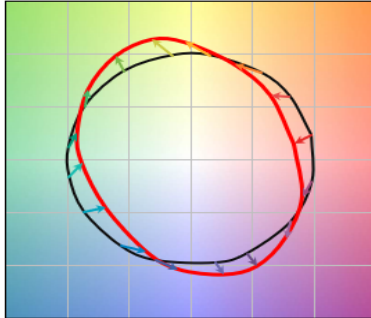


**WP9LK2**

LED UPGRADE KIT

**TM-30 DATA**

**COLOR VECTOR GRAPHIC**

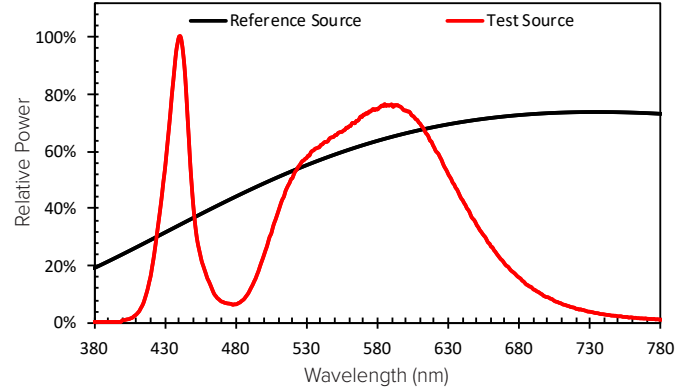


— Reference Illuminant — Test Source

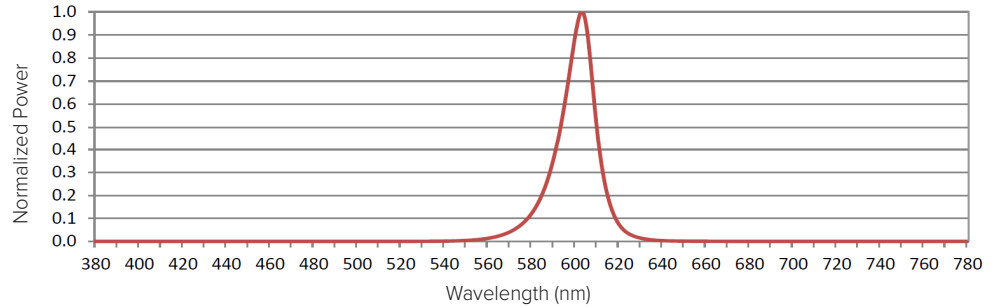
**TEST SOURCE**

R <sub>f</sub>	68
R <sub>g</sub>	99
CCT(K)	3947
D <sub>uv</sub>	0.0004
x	0.3831
y	0.3793
CIE R <sub>a</sub>	72

**SPECTRAL POWER DISTRIBUTION COMPARISON**



**AMBER SPECTRAL POWER DISTRIBUTION**



**ELECTRICAL DATA**

LED Count	System Watts	Current	Line Voltage		Amps AC						Min Power Factor	Max. THD (%)	Dimming				
			VAC	Hz	120	208	240	277	347	480			Dimming Range	Source Current Out		Absolute Voltage	
														Min	Max	Min	Max
81 LEDs	138.0	550 mA	120-480	50/60	1.15	0.66	0.58	0.50	0.40	0.29	>0.9	20	10% to 100%	0mA	1mA	0V	10V
108 LEDs	184.9	550 mA			1.54	0.89	0.77	0.67	0.53	0.39							
	235.6	700 mA			1.96	1.13	0.98	0.85	0.68	0.49							

TM-21 Lifetime Calculation - Projected Lumen Maintenance (25°C / 77°C)						
Ambient Temp.	0	25,000	36,000	50,000	100,000	Reported L70
25°C / 77°F	100%	93.41%	91.12%	88.30%	78.90%	>60khrs

CRI Lumen Multiplier for 80 and 90 CRI		
CCT	80 CRI	90 CRI
2700K	0.859	0.655
3000K	0.919	.7033
3500K	0.906	0.732
4000K	0.8941	.734
5000K	0.879	.7712
Scaling factor of 5000K 70CRI lumen packages		