



**Date: Mar 5, 2012**

Swaney Lighting Associates  
15 Pleasant Hill Rd  
Scarborough ME 04074  
Phone: (207) 883-7100  
Fax: (207) 885-9606

Job Name  
**Chau Gas Station**  
Portland ME

Bid Date  
Feb 7, 2012

Submittal Date  
Mar 5, 2012



# Transmittal

Swaney Lighting Associates  
 15 Pleasant Hill Rd  
 Scarborough ME 04074  
 Phone: (207) 883-7100  
**From: CINDY SHEPARD X 110**

**Project** **Chau Gas Station**  
**Location** Portland ME  
**To** SEBAGO TECHNICS  
 1 CHABOT STREET  
 PO BOX 1339  
 WESTBROOK ME 04092  
 Contact:

ATTACHED WE ARE SENDING YOU 0 COPIES OF THE FOLLOWING ITEMS:

- |                                   |  |        |
|-----------------------------------|--|--------|
| <input type="checkbox"/> Drawings | <input type="checkbox"/> Specifications        | Other: |
| <input type="checkbox"/> Prints   | <input type="checkbox"/> Information           |        |
| <input type="checkbox"/> Plans    | <input checked="" type="checkbox"/> Submittals |        |

THESE ARE TRANSMITTED FOR:

- |  |   |                                 |
|--|---|---------------------------------|
| <input type="checkbox"/> Prior Approval        | <input type="checkbox"/> Resubmittal for Approval | <input type="checkbox"/> Record |
| <input checked="" type="checkbox"/> Approval   | <input type="checkbox"/> Corrections              | Bids due on:                    |
| <input type="checkbox"/> Approval as Submitted | <input type="checkbox"/> Your Use                 | Other:                          |
| <input type="checkbox"/> Approval as Noted     | <input type="checkbox"/> Review and Comment       |                                 |

Type	MFG	Part
S2	KIM	1SA/WP9SE2/60L5K-VOLT/COLOR
S2	KIM	KRS14-4120/COLOR
S4	KIM	1SA/WP9SE4/60L5K-VOLT/COLOR
S4	KIM	KRS14-4120/COLOR
S5	KIM	1SA/WP9SE4/60L5K-VOLT/COLOR
S5	KIM	KRS14-4120/COLOR
L4-NB	KIM	1A/WP9LE4NB/120L5K-VOLT/COLOR
L4-NB	KIM	KRS20-4120/COLOR
L52	KIM	2SB/WP9LE5/120L5K-VOLT/COLOR
L52	KIM	KRS20-4120/COLOR
C1	SECURITY LIGHTING SYSTEMS	UCL-LED-60-G-700-UNV
C2	SECURITY LIGHTING SYSTEMS	UCL-LED-36-G-700-UNV
C3	PRESCOLITE	LF6LED-6LFLED540KTRG
WP	HUBBELL	LNC-5LU-5K

**Job Name:**  
Chau Gas Station**Catalog Number:**  
1SA/WP9SE2/60L5K-VOLT/COLOR**Type:****S2**

Notes:

SLA12-19480

**KIM LIGHTING****WP9SE-LED**

WARP9™ - Small, Electronic LED

revision 10-28-10 • kim\_wp9seled\_spec.pdf

**Type:****Job:****Catalog number:**

/	/	/	/
Mtg.	Fixture	Electrical Module	Finish
See page 2			Options See pages 3-4

**Approvals:****Date:**  
**Page: 1 of 5**

Select pole from Kim's Arms and Poles Selection Guide. If pole is provided by others indicate O.D. for arm fitting.

## Specifications

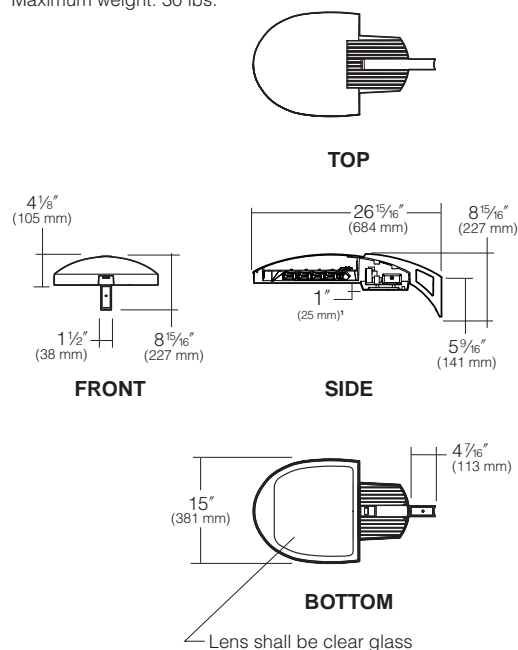
**WP9SE-LED**

Small Electronic

60 Light Emitting Diodes

Total Max System Watts = 73W

Maximum weight: 30 lbs.

**NOTE:** Driver compartment door extends down 1" on small housing to accommodate integral step-down transformer on 347V and 480V models only.**Listings and Ratings**

UL cUL 1598 <sup>2</sup>	CE	IP66 Rated	25°C Ambient
--------------------------	----	------------	--------------

<sup>2</sup>Suitable for wet locations.

KIM LIGHTING RESERVES THE RIGHT TO CHANGE SPECIFICATIONS WITHOUT NOTICE.

U.S. Patent D568,521,  
Patent Pending Optics

**Housing:** One-piece die-cast, low copper (<0.6% Cu) aluminum alloy with integral cooling ribs over the electrical compartment. Solid barrier wall separates optical and electrical compartments. A single die-cast aluminum cam-latch provides positive locking and sealing of the optical chamber. A one-piece extruded and vulcanized silicone gasket seals the housing against the lens surface.

**Lens:** Clear  $\frac{3}{16}$ " thick tempered glass lens retained by a stainless steel piano hinge and a single die-cast aluminum cam-latch. The edges are camouflaged to conceal the outer portion of the housing.

**Electronic Module:** All electrical components are UL and CSA recognized, mounted on a single plate and factory prewired with quick-disconnect plugs. Module includes a driver, thermal control device and surge protector. Electrical module attaches to housing with no-tool hinges and latches, accessible by opening the lens frame only. Driver is rated for -40°F starting and has a 0-10V dimming interface for multi-level illumination options.

**Optical Module:** Precision, replaceable MicroEmitters are positioned to achieve directional control toward desired task. The entire EmitterDeck fastens to the housing as a one-piece module

**Dimming:** The WARP9 LED luminaire can be dimmed from 0% to 100% by the use of its standard 0-10v Interface driver. To activate the dimming system, a wiring harness is supplied and attached to the DIM Port (DIM IN) on the LifeShield Protection System. This port allows the 0-10v Interface to bypass the LifeShield and control the driver. The LifeShield works in conjunction with the control system to assure that overheating will not harm the LEDs. The wiring harness is connected with the use of the Purple lead as the positive (+) and the Grey lead as the negative (-) to an available control signal (by others).

**Support Arm:** Heavy cast, low copper aluminum alloy with stainless steel mounting bolts. A pole reinforcing plate is provided with wire strain relief. Arm is circular cut for specified round pole.

**Finish:** Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness, applied over a titanated zirconium conversion coating; 2500 hour salt spray test endurance rating. Standard colors are Black, Dark Bronze, Stealth Gray™, Platinum Silver, or White. Custom colors are available.

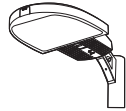
**Warranty:** Kim Lighting warrants Warp9 LED products ("Product(s)") sold by Kim Lighting to be free from defects in material and workmanship for (i) a period of five (5) years for metal parts, (ii) a period of ten (10) years for exterior housing paint finish(s), (iii) a period of six (6) years for LED Light Engines (MicroEmitters) and, (iv) a period of five (5) years for LED power components (LED Driver, LifeShield™ device, Surge Protector), from the date of sale of such goods to the buyer as specified in Kim Lighting shipment documents for each product.

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



**WP9SE-LED**  
WARP9™ - Small, Electronic LED  
revision 10-28-10 • kim\_wp9seled\_spec.pdf

**Type:**  
**Job:**



**Standard Features**

**Mounting**  
3Y configuration is available for round poles only.

Plan View:

EPA: 0.52 1.04 0.82 1.3 1.3 1.5 n/a  
Cat. No.:  1SA  2SB  2SL  3ST  3SY  4SC  1W

**Fixture**  
Cat. No. designates fixture and light distribution.  
See the Kim Warp9 Catalog for detailed information on reflector design and application.

WP9 S E x

**Housing:**  
WP9=WARP9

**Driver:**  
E=Electronic

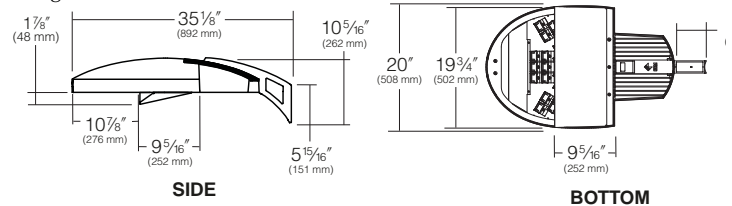
**Size:**  
S=Small, 60 LEDs, 75W

**Distribution:**

- 1=Type I Full Cutoff
- 2=Type II Full Cutoff
- 3=Type III Full Cutoff
- 4=Type IV Full Cutoff
- 4NB=Type IV-No Backlight
- 5=Type V Square Full Cutoff
- R=Type R Right Full Cutoff
- L=Type L Left Full Cutoff

Light Distribution:

\* Type IV-NB No Backlight - Dimension



**Electrical Module**

**Source:**  
60 = 60 LED'S

**Color Temperature:<sup>1</sup>**

- L3K=3500K
- L5K=5100K
- L2K = 580nm - Amber

**Voltage:**

- 120=120V
- 208=208V
- 240=240V
- 277=277V
- 347=347V<sup>2</sup>
- 480=480V<sup>2</sup>

**PLEASE SPECIFY**

<sup>2</sup>Due to current unavailability of 347V and 480V drivers, specification of these voltages may feature an integral step-down transformer. Driver compartment door extends down 1" on small housing to accommodate transformer.

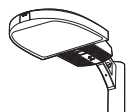
60 LxK x

Fixture	Total System Watts	Volt	Operating Amps
WP9-Small	73	120	0.61
WP9-Small	73	208	0.35
WP9-Small	73	240	0.30
WP9-Small	73	277	0.26
WP9-Small	73	347	0.21
WP9-Small	73	480	0.15

**Job Name:**  
Chau Gas Station**Catalog Number:**  
1SA/WP9SE2/60L5K-VOLT/COLOR**Type:****S2**

Notes:

SLA12-19480

**WP9SE-LED**  
WARP9™ - Small, Electronic LED  
revision 10-28-10 • kim\_wp9seled\_spec.pdf**Type:****Job:****Page: 3 of 5**

## Optional Features

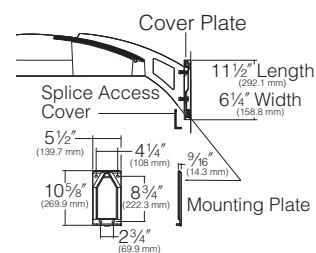
**PLEASE SPECIFY****Finish**

Super TGIC powder coat paint over a titanated zirconium conversion coating.

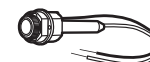
Color: Black Dark Bronze Stealth Gray™ Platinum Silver White Custom Color<sup>2</sup>  
Cat. No.:  **BL**  **DB**  **SG**  **PS**  **WH**  **CC**<sup>2</sup>Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: \_\_\_\_\_**Wall Mounting**Cat. No. **1W**

Select from Mounting on page 2.

A cast aluminum mounting plate is mounted to the wall with four bolts (by others). Fixture and arm are mounted to the cast aluminum cover plate before attaching to the wall mounting plate. The fixture-arm-cover plate assembly is hooked to the wall mounting plate and secured with stainless steel screws provided. Field splices are made at the opening in the cover plate. Cover is finished to match arm and fixture color.

**Fusing (internal only):**Cat. No. (see chart at right)  
 No Option

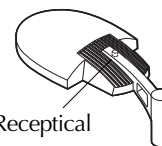
High temperature fuse holders factory installed inside the fixture housing. Fuse is included.

Line Volts: 120V 208V 240V 277V 347V 480V  
Cat. No.:  **SF**  **DF**  **DF**  **SF**  **SF**  **DF**

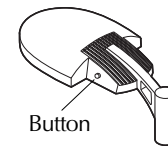
Single Fuse

**Photocell Controls**Cat. Nos. *receptacle* **A-25***Line Button Volts* **A-30** - 120V **A-31** - 208V **A-32** - 240V **A-33** - 277V **A-35** - 347V **A-34** - 480V No Option

Two types of photocell controls are available. A receptacle for a NEMA base photocell or an internal photocell button sensor on the side of the fixture.



Receptacle



Button

Mounting (see page 2)

\* - Fixture with Photocell Receptacle

S - slave unit(s)



1A, 1W



2L



2B



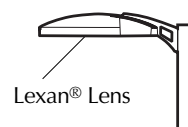
3T, 3Y



4C

**Lexan® Lens**Cat. No.  **LS** No Option

One-piece flat advanced polymer (Lexan®) replaces standard tempered glass lens.

**CAUTION:** Use only when vandalism is anticipated to be high. For LED use only.

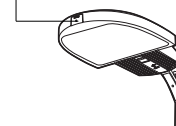
Lexan® Lens

**Tamper-Resistant Latch**Cat. No.  **TL** No Option

Standard die-cast latch is provided with a captive 10-32 stainless steel flat socket-head screw to prevent unauthorized opening.

**NOTE:** Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.

Tamper Resistant Latch



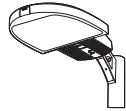


**WP9SE-LED**  
WARP9™ - Small, Electronic LED  
revision 10-28-10 • kim\_wp9seled\_spec.pdf

Type:

Job:

Page: 5 of 5

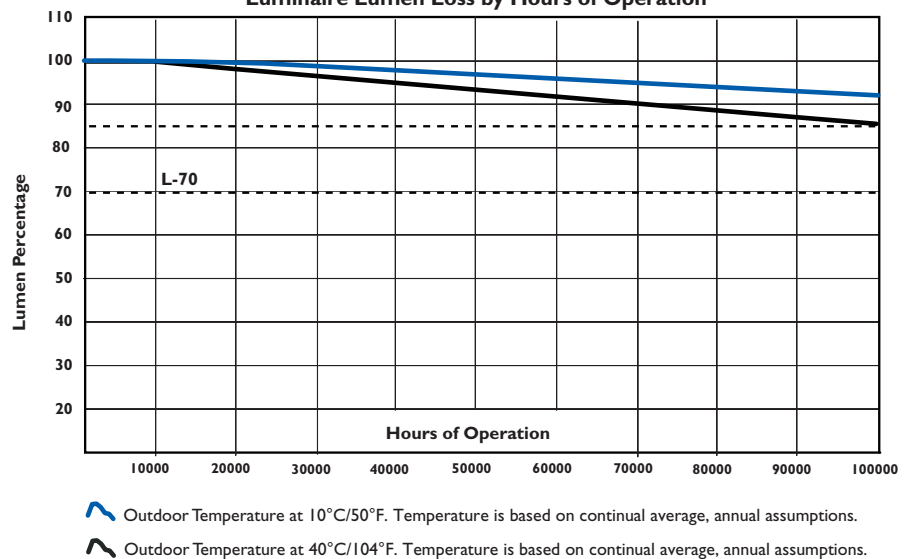


## Lumen Performance Charts

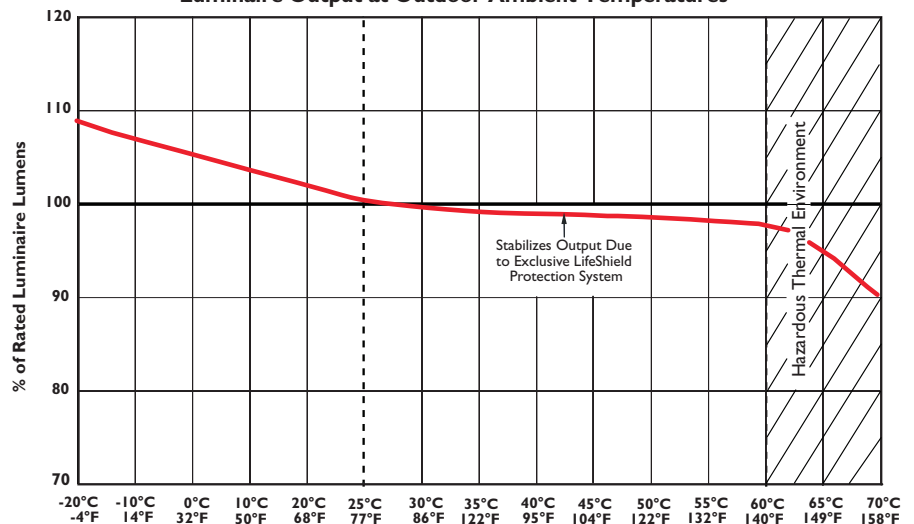
**NOTES:**

1. Lumen loss stabilization is a result of Kim Lighting's MicroEmitter™ luminaires exclusive LifeShield™ Protection System and Dual Heat Management.
2. The LifeShield™ Protection System will lower the current to the LEDs significantly if the luminaire is exposed to direct heat (sun) or excessive abnormal conditions.
3. Luminaire Lumen Loss assumptions are based on LM-80 results and an actual outdoor product testing based upon 5100K CCT, 350mA drive current, 25°C/77°F tab ambient and cathode temperature at 85°C/185°F. Assumptions past 6,000 hours are interpolated.
4. Cathode temperature baseline is at 85°C/185°F. If cathode temperature increases during ambient changes and abnormal environment conditions, % of rated lumens will slightly decrease.
5. Outdoor ambient temperatures are assumed SITU average by geographic region.
6. As Solid State Lighting technology and thermal management systems continually advance, lumen loss projections are subject to improvement.

**Luminaire Lumen Loss by Hours of Operation**



**Luminaire Output at Outdoor Ambient Temperatures**



**Job Name:**  
Chau Gas Station**Catalog Number:**  
KRS14-4120/COLOR

Notes:

**Type:****S2**

SLA12-19480

**KIM LIGHTING****KRS**

Round Steel Non-Tapered Pole

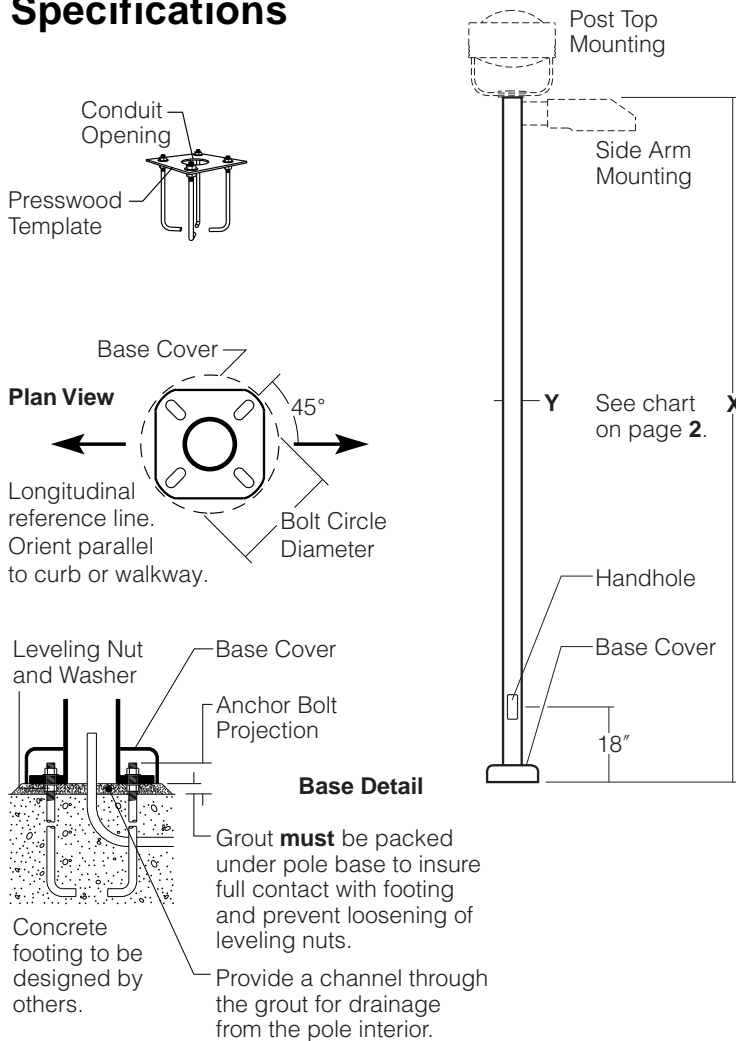
revision 10/8/08 • krs.pdf

**Type:****Job:****Catalog number:**

Pole	Mounting	Structural Luminaire Option	Finish	Optional Anchor Bolt Covers	Optional Duplex Receptacle
/	/	/	/	/	/
See page 2		See page 3			

**Approvals:****Date:****Page: 1 of 4**

## Specifications



**Pole Construction:** One-piece non-tapered round shaft of low carbon steel (ASTM-A500 Grade B, 42,000 PSI min. yield) with one flush-welded vertical seam. Shaft is welded to a flat steel anchor base (ASTM-36, 36,000 PSI min. yield).

**Base Cover:** Base has a two-piece cast aluminum full cover of 319 alloy, secured by stainless steel screws. Optional anchor bolt covers available (see page 3).

**Pole Cap:** A flush-sided cast aluminum pole cap is provided for side arm mounted luminaires. A rounded cast aluminum pole cap is provided for twin mounted luminaires (NS only).

**Handhole:** 18" up from base, with a gasketed cover and ground lug. 2" x 4" handhole provided on poles up to 16'. Reinforced 3" x 6" handhole provided on poles 20' and taller.

**Anchor Bolts:** Four fully galvanized anchor bolts provided (ASTM-36, 36,000 PSI min. yield), complete with eight galvanized nuts, eight galvanized flat washers, and a presswood template.

**Strength:** Poles will withstand wind loads as listed in chart (see page 2) when luminaires are mounted per fixture installation instructions.

**Finish:** Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness. 5 stage steel pretreatment to include phosphoric acid etch, followed by iron phosphate bath and chromate sealer for corrosion resistance. Standard colors are Black, Dark Bronze, Light Gray, Stealth Gray™, Platinum Silver, and White. Custom colors are available.

**CAUTION:** Installation of poles without luminaire(s) will compromise pole strength. Any accessories attached to pole, or other modifications will compromise pole strength and may result in pole failure.

**Maintenance:** A regularly scheduled maintenance program must be established to insure the protective paint coating is intact, corrosion or structural damage has not occurred, and anchor bolt nuts are tight. Failure to do so could lead to pole collapse and serious personal injury.



HUBBELL LIGHTING, INC.



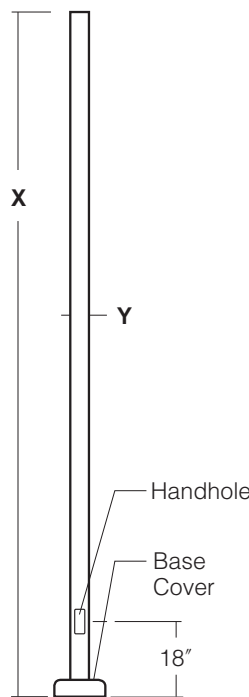


**KRS**  
Round Steel Non-Tapered Pole  
revision 10/8/08 • krs.pdf

Type:  
Job:

**Standard Features**

**NOTE:** All allowable pole and fixture EPAs are derived from the AASHTO standard. Responsibility lies with the specifier for correct pole selection based on local codes and standards for the job location. (See page 4).



Pole Catalog Number	X	Y	Allowable Pole EPA								Wind Map
			85	90	100	110	120	130	140	150	Steady Wind
<input type="checkbox"/> KRS10-4120	10'	4" x 11 ga.	21.61	19.07	17.41	14.07	11.53	9.63	8.22	7.09	
<input type="checkbox"/> KRS12-4120	12'	4" x 11 ga.	17.33	15.22	13.84	11.05	8.94	7.28	6.26	5.37	
<input type="checkbox"/> KRS14-4120	14'	4" x 11 ga.	14.18	12.37	11.18	8.79	6.98	5.67	4.78	4.06	
<input type="checkbox"/> KRS16-4120	16'	4" x 11 ga.	11.72	10.13	9.09	7.01	5.42	4.30	3.58	3.01	
<input type="checkbox"/> KRS20-4120	19.5'	4" x 11 ga.	7.77	6.55	5.75	4.13	2.91	2.10	1.65	1.31	
<input type="checkbox"/> KRS20-4180	19.5'	4" x 7 ga.	12.67	10.92	9.77	7.46	5.70	4.48	3.70	3.09	
<input type="checkbox"/> KRS20-5120	19.5'	5" x 11 ga.	13.57	11.62	10.35	8.26	6.73	5.56	4.65	3.93	
<input type="checkbox"/> KRS20-5180	19.5'	5" x 7 ga.	21.60	18.79	16.94	13.71	11.31	9.47	8.02	6.86	
<input type="checkbox"/> KRS25-5120	25'	5" x 11 ga.	8.46	6.97	6.00	4.61	3.63	2.88	2.31	1.87	
<input type="checkbox"/> KRS25-5180	25'	5" x 7 ga.	14.59	12.44	11.03	8.77	7.12	5.86	4.88	4.10	
<input type="checkbox"/> KRS30-5180	30'	5" x 7 ga.	9.84	8.12	6.99	5.37	4.23	3.36	2.70	2.18	

**Anchor Base and Bolt Detail**

Pole Height	Pole Diameter	Bolt Circle DIA	Anchor Bolt Projection	Anchor Bolts Size	Base Cover Size	Conduit Opening
10'-16'	4"	7"-8 1/2"	3 3/8"	3/4" x 15" + 3"	11.7/8" DIA	3" DIA
19.5'	4"	7"-8 1/2"	3 3/8"	3/4" x 30" + 4"	11.7/8" DIA	3" DIA
19.5' - 30'	5"	7 1/2"-8 1/2"	3 3/8"	3/4" x 30" + 4"	11.7/8" DIA	3" DIA

**Mounting**

Flush Mount

Post Top

Side Arm

Plan Views:



Mounting<sup>1</sup>:  FM  PT  A  SA  B  SB  L  SL  T  ST  Y  SY  C  SC

**NOTE:** Allowable Pole EPA for jobsite wind conditions must be equal to or greater than fixture mount EPA. Please refer to Kim luminaire catalog for specific fixture.

<sup>1</sup>See luminaire drilling requirements in specific Kim luminaire catalog.

**Structural Luminaires Only** - Examples

- TS:** Single Tension for small and large Structural - KRS20-5120B-TS
- TD:** Double Tension for small and large Structural - KRS20-5120B-TD
- TR:** Truss for small and large Structural - KRS20-5120SB-TR
- XTS:** Single Tension for 1000W Structural - KRS20-5120B-XTS
- XTD:** Double Tension for 1000W Structural - KRS20-5120B-XTD
- XTR:** Truss for 1000W Structural - KRS20-5120B-XTR



**Job Name:**  
Chau Gas Station**Catalog Number:**  
KRS14-4120/COLOR

Notes:

**Type:****S2**

SLA12-19480

**KIM LIGHTING****KRS**

Round Steel Non-Tapered Pole

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**Type:****Job:****Page: 3 of 4**

## Standard and Optional Features

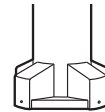
**Finish**

Super TGIC powder coat paint over an iron phosphate bath, chromate sealed metal pretreatment.

Color: Black Dark Bronze Light Gray Stealth Gray™ Platinum Silver White Custom Color<sup>1</sup>  
Cat. No.:  **BL**  **DB**  **LG**  **SG**  **PS**  **WH**  **CC****PLEASE ADVISE COLOR**<sup>1</sup>Custom color subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: \_\_\_\_\_**Optional Anchor Bolt Covers**Cat. No.  **BC4**  
 **BC5**  
 **No Option**

(Full base cover is standard.)

Four cast aluminum anchor bolt covers finished to match pole, fastened to base with stainless steel screws.

**4" pole Bolt Covers (BC4)**  
**5" pole Bolt Covers (BC5)****Optional Duplex Receptacle**Cat. No.  **DR**  
 **DR-GFI**  
 **No Option**

Mounted opposite the handhole, at 22½" from base of pole, in a cast aluminum box that is internally welded and sealed with a gasketed self-closing cover and locking bracket.

**Duplex Receptacle (DR)** rated 20A., 125V.**Duplex Receptacle with Ground Fault Circuit Interrupter (DR-GFI)** rated 20A., 125V.


**KIM LIGHTING**
**KRS**

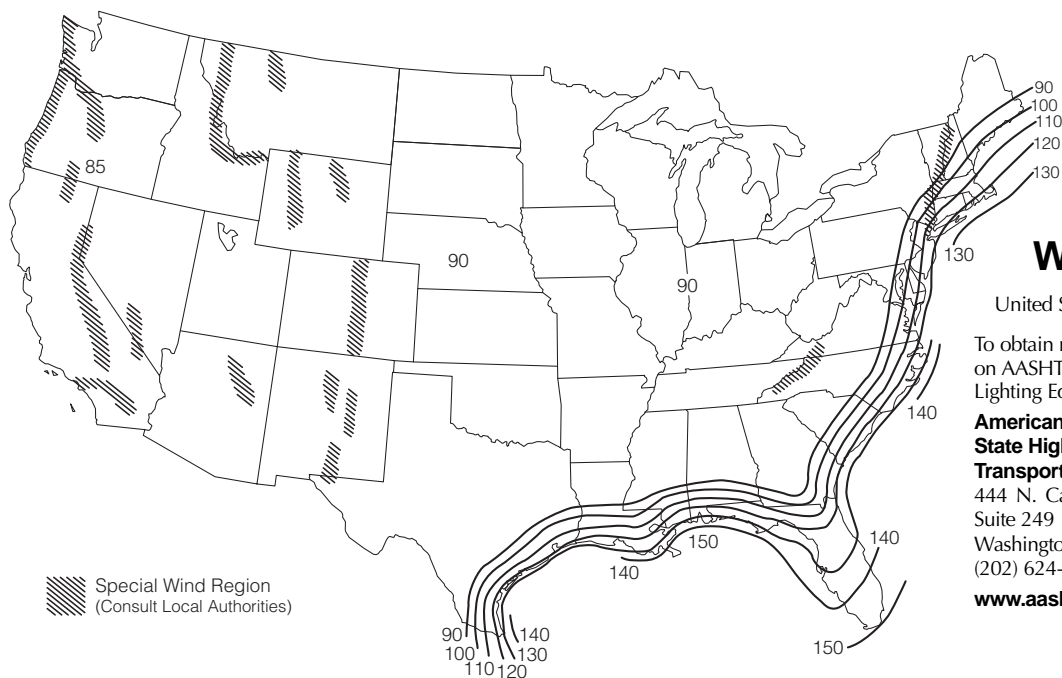
Round Steel Non-Tapered Pole

revision 10/8/08 • krs.pdf

Type:

Job:

Page: 4 of 4



## Wind Map

United States and Canada

To obtain more information on AASHTO Standards for Lighting Equipment contact:

**American Association of State Highway and Transportation Officials:**  
 444 N. Capitol Street, NW,  
 Suite 249  
 Washington, DC 20001  
 (202) 624-5800

[www.aashto.org](http://www.aashto.org)

### NOTES:

- Values are based on 50 year mean recurrence interval 30' above grade.
- Hawaii has an **105 mph** wind velocity.
- Puerto Rico has a **125 mph** wind velocity.
- Caution must be exercised in determining wind velocities in special wind areas such as:
  - Mountainous Regions
  - Areas surrounding the Great Lakes or other large bodies of water or open land.
  - Areas subject to extreme wind conditions, such as hurricanes, typhoons, cyclones, and tornadoes.
  - Areas adjacent to airports.
  - Any specific area with a known or suspected abnormally high intermittent wind condition caused by geography, adjacent structures, or other specific local conditions that may not be recorded in National Weather Service records.
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than fixture EPA. Responsibility lies with the specifier for correct pole selection based on AASHTO wind map and job location.
- The Wind Map is intended only as a general guide. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application.
- **CAUTION:** Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide. Consult AASHTO standards.
- Extreme Wind Events: Hurricanes, Typhoons, Cyclones, or Tornadoes expose poles to flying debris, wind shear, and other unpredictable aerodynamic forces not indicated by the wind velocity ratings.
- Pole Strength Limited Warranty: Standard, unmodified Kim lighting Poles installed as recommended, undamaged by corrosion, or lack of maintenance, shall withstand steady wind conditions as provided on page 2 (Allowable Pole EPA). Installation of poles without luminaires, or attachment of any unauthorized accessories to poles shall void this warranty.

**Job Name:**  
Chau Gas Station**Catalog Number:**  
1SA/WP9SE4/60L5K-VOLT/COLOR**Type:****S4**

Notes:

SLA12-19480

**KIM LIGHTING****WP9SE-LED**

WARP9™ - Small, Electronic LED

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**Type:****Job:****Catalog number:**

/	/	/	/
Mtg.	Fixture	Electrical Module	Finish
See page 2			Options See pages 3-4

**Approvals:****Date:**  
**Page: 1 of 5**

Select pole from Kim's Arms and Poles Selection Guide. If pole is provided by others indicate O.D. for arm fitting.

## Specifications

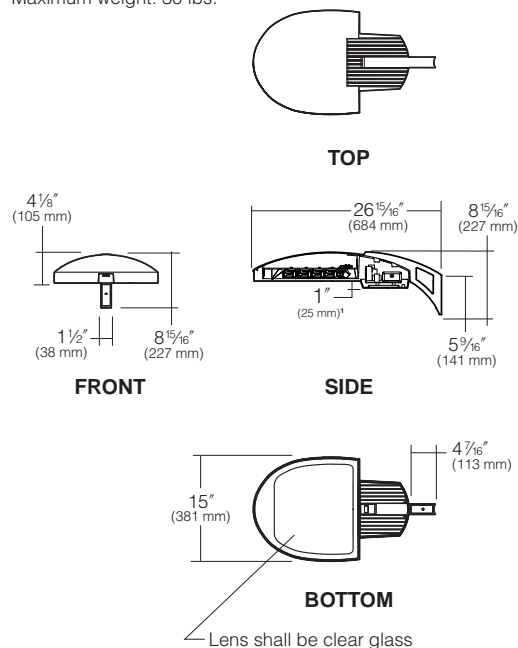
**WP9SE-LED**

Small Electronic

60 Light Emitting Diodes

Total Max System Watts = 73W

Maximum weight: 30 lbs.

**NOTE:** Driver compartment door extends down 1" on small housing to accommodate integral step-down transformer on 347V and 480V models only.**Listings and Ratings**

UL cUL 1598 <sup>2</sup>	CE	IP66 Rated	25°C Ambient
--------------------------	----	------------	--------------

<sup>2</sup>Suitable for wet locations.

KIM LIGHTING RESERVES THE RIGHT TO CHANGE SPECIFICATIONS WITHOUT NOTICE.

**U.S. Patent D568,521,**  
**Patent Pending Optics**

**Housing:** One-piece die-cast, low copper (<0.6% Cu) aluminum alloy with integral cooling ribs over the electrical compartment. Solid barrier wall separates optical and electrical compartments. A single die-cast aluminum cam-latch provides positive locking and sealing of the optical chamber. A one-piece extruded and vulcanized silicone gasket seals the housing against the lens surface.

**Lens:** Clear 3/16" thick tempered glass lens retained by a stainless steel piano hinge and a single die-cast aluminum cam-latch. The edges are camouflaged to conceal the outer portion of the housing.

**Electronic Module:** All electrical components are UL and CSA recognized, mounted on a single plate and factory prewired with quick-disconnect plugs. Module includes a driver, thermal control device and surge protector. Electrical module attaches to housing with no-tool hinges and latches, accessible by opening the lens frame only. Driver is rated for -40°F starting and has a 0-10V dimming interface for multi-level illumination options.

**Optical Module:** Precision, replaceable MicroEmitters are positioned to achieve directional control toward desired task. The entire EmitterDeck fastens to the housing as a one-piece module

**Dimming:** The WARP9 LED luminaire can be dimmed from 0% to 100% by the use of its standard 0-10v Interface driver. To activate the dimming system, a wiring harness is supplied and attached to the DIM Port (DIM IN) on the LifeShield Protection System. This port allows the 0-10v Interface to bypass the LifeShield and control the driver. The LifeShield works in conjunction with the control system to assure that overheating will not harm the LEDs. The wiring harness is connected with the use of the Purple lead as the positive (+) and the Grey lead as the negative (-) to an available control signal (by others).

**Support Arm:** Heavy cast, low copper aluminum alloy with stainless steel mounting bolts. A pole reinforcing plate is provided with wire strain relief. Arm is circular cut for specified round pole.

**Finish:** Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness, applied over a titanated zirconium conversion coating; 2500 hour salt spray test endurance rating. Standard colors are Black, Dark Bronze, Stealth Gray™, Platinum Silver, or White. Custom colors are available.

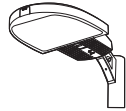
**Warranty:** Kim Lighting warrants Warp9 LED products ("Product(s)") sold by Kim Lighting to be free from defects in material and workmanship for (i) a period of five (5) years for metal parts, (ii) a period of ten (10) years for exterior housing paint finish(s), (iii) a period of six (6) years for LED Light Engines (MicroEmitters) and, (iv) a period of five (5) years for LED power components (LED Driver, LifeShield™ device, Surge Protector), from the date of sale of such goods to the buyer as specified in Kim Lighting shipment documents for each product.

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



**WP9SE-LED**  
WARP9™ - Small, Electronic LED  
revision 10-28-10 • kim\_wp9seled\_spec.pdf

**Type:**  
**Job:**



**Standard Features**

**Mounting**  
3Y configuration is available for round poles only.

Plan View:

EPA: 0.52 1.04 0.82 1.3 1.3 1.5 n/a  
Cat. No.:  1SA  2SB  2SL  3ST  3SY  4SC  1W

**Fixture**  
Cat. No. designates fixture and light distribution.  
See the Kim Warp9 Catalog for detailed information on reflector design and application.

WP9 S E x

**Housing:**  
WP9=WARP9

**Driver:**  
E=Electronic

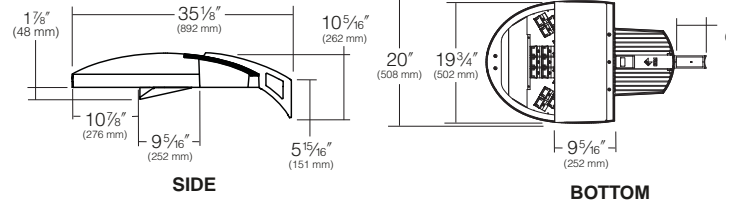
**Size:**  
S=Small, 60 LEDs, 75W

**Distribution:**

- 1=Type I Full Cutoff
- 2=Type II Full Cutoff
- 3=Type III Full Cutoff
- 4=Type IV Full Cutoff
- 4NB=Type IV-No Backlight
- 5=Type V Square Full Cutoff
- R=Type R Right Full Cutoff
- L=Type L Left Full Cutoff

**Light Distribution:**

\* Type IV-NB No Backlight - Dimension



**Electrical Module**

**Source:**  
60 = 60 LED's

**Color Temperature:<sup>1</sup>**

- L3K=3500K
- L5K=5100K
- L2K = 580nm - Amber

<sup>1</sup>4300K and 6500K are also available on an "Engineered-to-Order" (ETO) basis.

<sup>2</sup>Due to current unavailability of 347V and 480V drivers, specification of these voltages may feature an integral step-down transformer. Driver compartment door extends down 1" on small housing to accommodate transformer.

60      LxK      x

**Voltage:**

- 120=120V
- 208=208V
- 240=240V
- 277=277V
- 347=347V<sup>2</sup>
- 480=480V<sup>2</sup>

**PLEASE SPECIFY**

Fixture	Total System Watts	Volt	Operating Amps
WP9-Small	73	120	0.61
WP9-Small	73	208	0.35
WP9-Small	73	240	0.30
WP9-Small	73	277	0.26
WP9-Small	73	347	0.21
WP9-Small	73	480	0.15



**Job Name:**  
Chau Gas Station

**Catalog Number:**  
1SA/WP9SE4/60L5K-VOLT/COLOR

**Type:**  
**S4**

Notes:

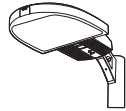
SLA12-19480



**WP9SE-LED**  
WARP9™ - Small, Electronic LED  
revision 10-28-10 • kim\_wp9seled\_spec.pdf

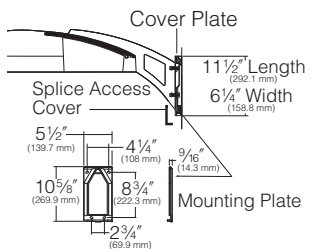
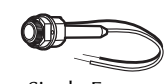
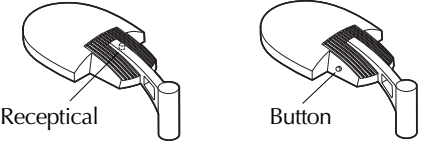
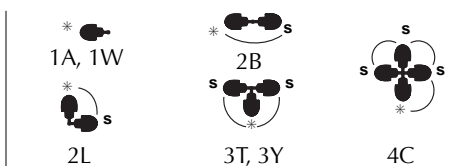
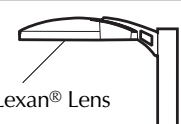
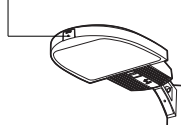
**Type:**  
**Job:**

Page: 3 of 5



### Optional Features

**PLEASE SPECIFY**

<p><b>Finish</b> Super TGIC powder coat paint over a titanated zirconium conversion coating.</p>	<p>Color: Black    Dark Bronze    Stealth Gray™    Platinum Silver    White    Custom Color<sup>2</sup>                  Cat. No.: <input type="checkbox"/> <b>BL</b>    <input type="checkbox"/> <b>DB</b>    <input type="checkbox"/> <b>SG</b>    <input type="checkbox"/> <b>PS</b>    <input type="checkbox"/> <b>WH</b>    <input type="checkbox"/> <b>CC</b></p> <p><sup>2</sup>Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: _____</p>																
<p><b>Wall Mounting</b> Cat. No. <b>1W</b> Select from Mounting on page 2.</p>	<p>A cast aluminum mounting plate is mounted to the wall with four bolts (by others). Fixture and arm are mounted to the cast aluminum cover plate before attaching to the wall mounting plate. The fixture-arm-cover plate assembly is hooked to the wall mounting plate and secured with stainless steel screws provided. Field splices are made at the opening in the cover plate. Cover is finished to match arm and fixture color.</p> 																
<p><b>Fusing (internal only):</b> Cat. No. (see chart at right) <input type="checkbox"/> No Option</p>	<p>High temperature fuse holders factory installed inside the fixture housing. Fuse is included.</p> <p>Line Volts: 120V    208V    240V    277V    347V    480V                  Cat. No.: <input type="checkbox"/> <b>SF</b>    <input type="checkbox"/> <b>DF</b>    <input type="checkbox"/> <b>DF</b>    <input type="checkbox"/> <b>SF</b>    <input type="checkbox"/> <b>SF</b>    <input type="checkbox"/> <b>DF</b></p>  <p>Single Fuse</p>																
<p><b>Photocell Controls</b> Cat. Nos. <i>receptacle</i> <input type="checkbox"/> <b>A-25</b></p> <table border="1" data-bbox="389 1305 552 1574"> <thead> <tr> <th>Button</th> <th>Line Volts</th> </tr> </thead> <tbody> <tr><td><input type="checkbox"/> <b>A-30</b></td><td>120V</td></tr> <tr><td><input type="checkbox"/> <b>A-31</b></td><td>208V</td></tr> <tr><td><input type="checkbox"/> <b>A-32</b></td><td>240V</td></tr> <tr><td><input type="checkbox"/> <b>A-33</b></td><td>277V</td></tr> <tr><td><input type="checkbox"/> <b>A-35</b></td><td>347V</td></tr> <tr><td><input type="checkbox"/> <b>A-34</b></td><td>480V</td></tr> <tr><td><input type="checkbox"/> <b>No Option</b></td><td></td></tr> </tbody> </table>	Button	Line Volts	<input type="checkbox"/> <b>A-30</b>	120V	<input type="checkbox"/> <b>A-31</b>	208V	<input type="checkbox"/> <b>A-32</b>	240V	<input type="checkbox"/> <b>A-33</b>	277V	<input type="checkbox"/> <b>A-35</b>	347V	<input type="checkbox"/> <b>A-34</b>	480V	<input type="checkbox"/> <b>No Option</b>		<p>Two types of photocell controls are available. A receptacle for a NEMA base photocell or an internal photocell button sensor on the side of the fixture.</p>  <p>Receptacle                      Button</p> <p>Mounting (see page 2)</p> <p>* – Fixture with Photocell Receptacle  <b>S</b> – slave unit(s)</p> 
Button	Line Volts																
<input type="checkbox"/> <b>A-30</b>	120V																
<input type="checkbox"/> <b>A-31</b>	208V																
<input type="checkbox"/> <b>A-32</b>	240V																
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<input type="checkbox"/> <b>A-35</b>	347V																
<input type="checkbox"/> <b>A-34</b>	480V																
<input type="checkbox"/> <b>No Option</b>																	
<p><b>Lexan® Lens</b> Cat. No. <input type="checkbox"/> <b>LS</b> <input type="checkbox"/> No Option</p>	<p>One-piece flat advanced polymer (Lexan®) replaces standard tempered glass lens.  <b>CAUTION:</b> Use only when vandalism is anticipated to be high. For LED use only.</p>  <p>Lexan® Lens</p>																
<p><b>Tamper-Resistant Latch</b> Cat. No. <input type="checkbox"/> <b>TL</b> <input type="checkbox"/> No Option</p>	<p>Standard die-cast latch is provided with a captive 10-32 stainless steel flat socket-head screw to prevent unauthorized opening.  <b>NOTE:</b> Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.</p>  <p>Tamper Resistant Latch</p>																

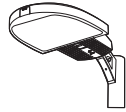


**WP9SE-LED**  
WARP9™ - Small, Electronic LED  
revision 10-28-10 • kim\_wp9seled\_spec.pdf

Type:

Job:

Page: 5 of 5

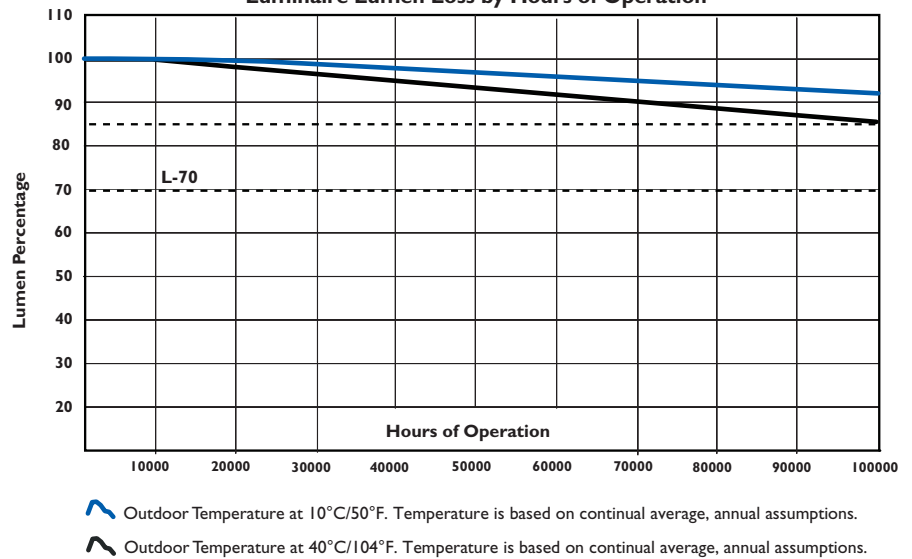


## Lumen Performance Charts

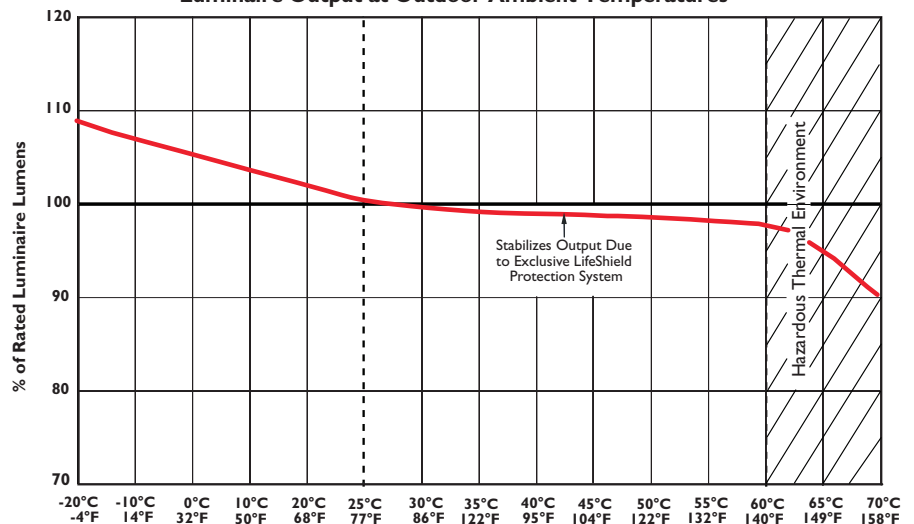
**NOTES:**

1. Lumen loss stabilization is a result of Kim Lighting's MicroEmitter™ luminaires exclusive LifeShield™ Protection System and Dual Heat Management.
2. The LifeShield™ Protection System will lower the current to the LEDs significantly if the luminaire is exposed to direct heat (sun) or excessive abnormal conditions.
3. Luminaire Lumen Loss assumptions are based on LM-80 results and an actual outdoor product testing based upon 5100K CCT, 350mA drive current, 25°C/77°F tab ambient and cathode temperature at 85°C/185°F. Assumptions past 6,000 hours are interpolated.
4. Cathode temperature baseline is at 85°C/185°F. If cathode temperature increases during ambient changes and abnormal environment conditions, % of rated lumens will slightly decrease.
5. Outdoor ambient temperatures are assumed SITU average by geographic region.
6. As Solid State Lighting technology and thermal management systems continually advance, lumen loss projections are subject to improvement.

**Luminaire Lumen Loss by Hours of Operation**



**Luminaire Output at Outdoor Ambient Temperatures**



**Job Name:**  
Chau Gas Station**Catalog Number:**  
KRS14-4120/COLOR

Notes:

**Type:****S4**

SLA12-19480

**KIM LIGHTING****KRS**

Round Steel Non-Tapered Pole

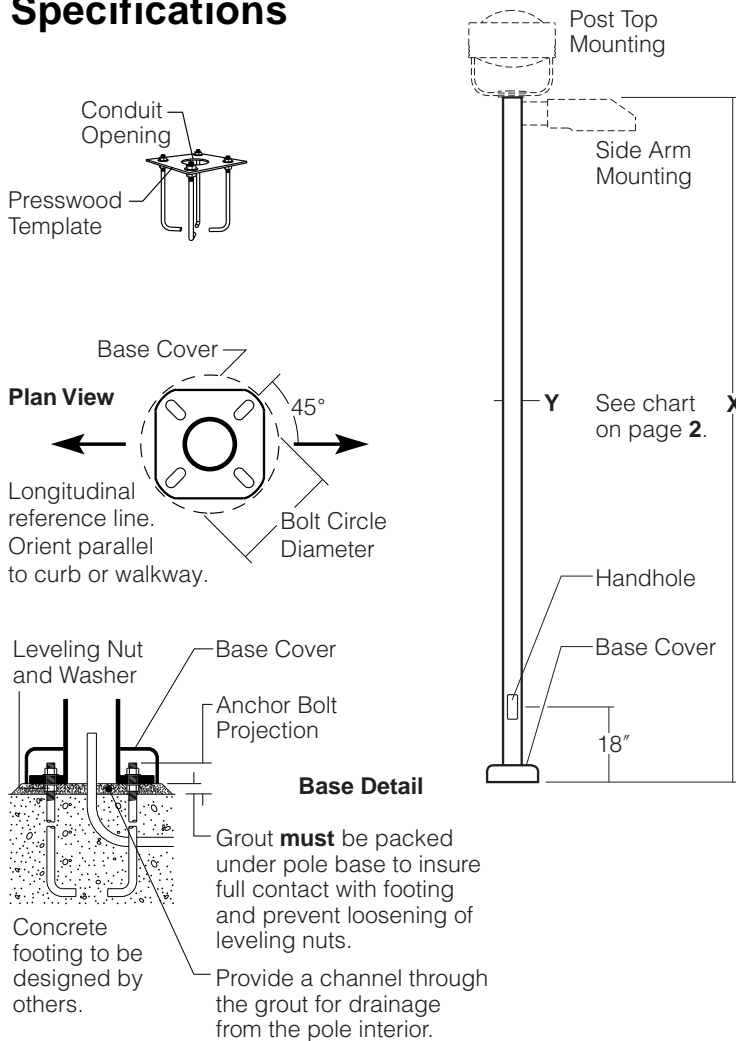
revision 10/8/08 • krs.pdf

**Type:****Job:****Catalog number:**

Pole	Mounting	Structural Luminaire Option	Finish	Optional Anchor Bolt Covers	Optional Duplex Receptacle
/	/	/	/	/	/
See page 2		See page 3			

**Approvals:****Date:****Page: 1 of 4**

## Specifications



**Pole Construction:** One-piece non-tapered round shaft of low carbon steel (ASTM-A500 Grade B, 42,000 PSI min. yield) with one flush-welded vertical seam. Shaft is welded to a flat steel anchor base (ASTM-36, 36,000 PSI min. yield).

**Base Cover:** Base has a two-piece cast aluminum full cover of 319 alloy, secured by stainless steel screws. Optional anchor bolt covers available (see page 3).

**Pole Cap:** A flush-sided cast aluminum pole cap is provided for side arm mounted luminaires. A rounded cast aluminum pole cap is provided for twin mounted luminaires (NS only).

**Handhole:** 18" up from base, with a gasketed cover and ground lug. 2" x 4" handhole provided on poles up to 16'. Reinforced 3" x 6" handhole provided on poles 20' and taller.

**Anchor Bolts:** Four fully galvanized anchor bolts provided (ASTM-36, 36,000 PSI min. yield), complete with eight galvanized nuts, eight galvanized flat washers, and a presswood template.

**Strength:** Poles will withstand wind loads as listed in chart (see page 2) when luminaires are mounted per fixture installation instructions.

**Finish:** Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness. 5 stage steel pretreatment to include phosphoric acid etch, followed by iron phosphate bath and chromate sealer for corrosion resistance. Standard colors are Black, Dark Bronze, Light Gray, Stealth Gray™, Platinum Silver, and White. Custom colors are available.

**CAUTION:** Installation of poles without luminaire(s) will compromise pole strength. Any accessories attached to pole, or other modifications will compromise pole strength and may result in pole failure.

**Maintenance:** A regularly scheduled maintenance program must be established to insure the protective paint coating is intact, corrosion or structural damage has not occurred, and anchor bolt nuts are tight. Failure to do so could lead to pole collapse and serious personal injury.



HUBBELL LIGHTING, INC.





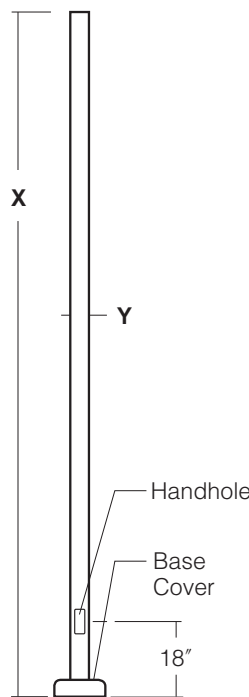


**KRS**  
Round Steel Non-Tapered Pole  
revision 10/8/08 • krs.pdf

Type:  
Job:

**Standard Features**

**NOTE:** All allowable pole and fixture EPAs are derived from the AASHTO standard. Responsibility lies with the specifier for correct pole selection based on local codes and standards for the job location. (See page 4).



Pole Catalog Number	X	Y	Allowable Pole EPA								Wind Map Steady Wind
			85	90	100	110	120	130	140	150	
<input type="checkbox"/> KRS10-4120	10'	4" x 11 ga.	21.61	19.07	17.41	14.07	11.53	9.63	8.22	7.09	
<input type="checkbox"/> KRS12-4120	12'	4" x 11 ga.	17.33	15.22	13.84	11.05	8.94	7.28	6.26	5.37	
<input type="checkbox"/> <b>KRS14-4120</b>	<b>14'</b>	<b>4" x 11 ga.</b>	<b>14.18</b>	<b>12.37</b>	<b>11.18</b>	<b>8.79</b>	<b>6.98</b>	<b>5.67</b>	<b>4.78</b>	<b>4.06</b>	
<input type="checkbox"/> KRS16-4120	16'	4" x 11 ga.	11.72	10.13	9.09	7.01	5.42	4.30	3.58	3.01	
<input type="checkbox"/> KRS20-4120	19.5'	4" x 11 ga.	7.77	6.55	5.75	4.13	2.91	2.10	1.65	1.31	
<input type="checkbox"/> KRS20-4180	19.5'	4" x 7 ga.	12.67	10.92	9.77	7.46	5.70	4.48	3.70	3.09	
<input type="checkbox"/> KRS20-5120	19.5'	5" x 11 ga.	13.57	11.62	10.35	8.26	6.73	5.56	4.65	3.93	
<input type="checkbox"/> KRS20-5180	19.5'	5" x 7 ga.	21.60	18.79	16.94	13.71	11.31	9.47	8.02	6.86	
<input type="checkbox"/> KRS25-5120	25'	5" x 11 ga.	8.46	6.97	6.00	4.61	3.63	2.88	2.31	1.87	
<input type="checkbox"/> KRS25-5180	25'	5" x 7 ga.	14.59	12.44	11.03	8.77	7.12	5.86	4.88	4.10	
<input type="checkbox"/> KRS30-5180	30'	5" x 7 ga.	9.84	8.12	6.99	5.37	4.23	3.36	2.70	2.18	

**Anchor Base and Bolt Detail**

Pole Height	Pole Diameter	Bolt Circle DIA	Anchor Bolt Projection	Anchor Bolts Size	Base Cover Size	Conduit Opening
10'-16'	4"	7"-8 1/2"	3 3/8"	3/4" x 15" + 3"	11.7/8" DIA	3" DIA
19.5'	4"	7"-8 1/2"	3 3/8"	3/4" x 30" + 4"	11.7/8" DIA	3" DIA
19.5' - 30'	5"	7 1/2"-8 1/2"	3 3/8"	3/4" x 30" + 4"	11.7/8" DIA	3" DIA

**Mounting**

Flush Mount

Post Top

Side Arm

Plan Views:



Mounting<sup>1</sup>:  FM  PT  A  SA  B  SB  L  SL  T  ST  Y  SY  C  SC

**NOTE:** Allowable Pole EPA for jobsite wind conditions must be equal to or greater than fixture mount EPA. Please refer to Kim luminaire catalog for specific fixture.

<sup>1</sup>See luminaire drilling requirements in specific Kim luminaire catalog.

**Structural Luminaires Only** - Examples

- TS:** Single Tension for small and large Structural - KRS20-5120B-TS
- TD:** Double Tension for small and large Structural - KRS20-5120B-TD
- TR:** Truss for small and large Structural - KRS20-5120SB-TR
- XTS:** Single Tension for 1000W Structural - KRS20-5120B-XTS
- XTD:** Double Tension for 1000W Structural - KRS20-5120B-XTD
- XTR:** Truss for 1000W Structural - KRS20-5120B-XTR



**Job Name:**  
Chau Gas Station**Catalog Number:**  
KRS14-4120/COLOR

Notes:

**Type:****S4**

SLA12-19480

**KIM LIGHTING****KRS**

Round Steel Non-Tapered Pole

revision 10/8/08 • krs.pdf

**Type:****Job:****Page: 3 of 4**

## Standard and Optional Features

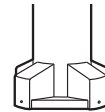
**Finish**

Super TGIC powder coat paint over an iron phosphate bath, chromate sealed metal pretreatment.

Color: Black Dark Bronze Light Gray Stealth Gray™ Platinum Silver White Custom Color<sup>1</sup>  
Cat. No.:  **BL**  **DB**  **LG**  **SG**  **PS**  **WH**  **CC****PLEASE ADVISE COLOR**<sup>1</sup>Custom color subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: \_\_\_\_\_**Optional Anchor Bolt Covers**Cat. No.  **BC4**  
 **BC5**  
 **No Option**

(Full base cover is standard.)

Four cast aluminum anchor bolt covers finished to match pole, fastened to base with stainless steel screws.

**4" pole Bolt Covers (BC4)**  
**5" pole Bolt Covers (BC5)****Optional Duplex Receptacle**Cat. No.  **DR**  
 **DR-GFI**  
 **No Option**

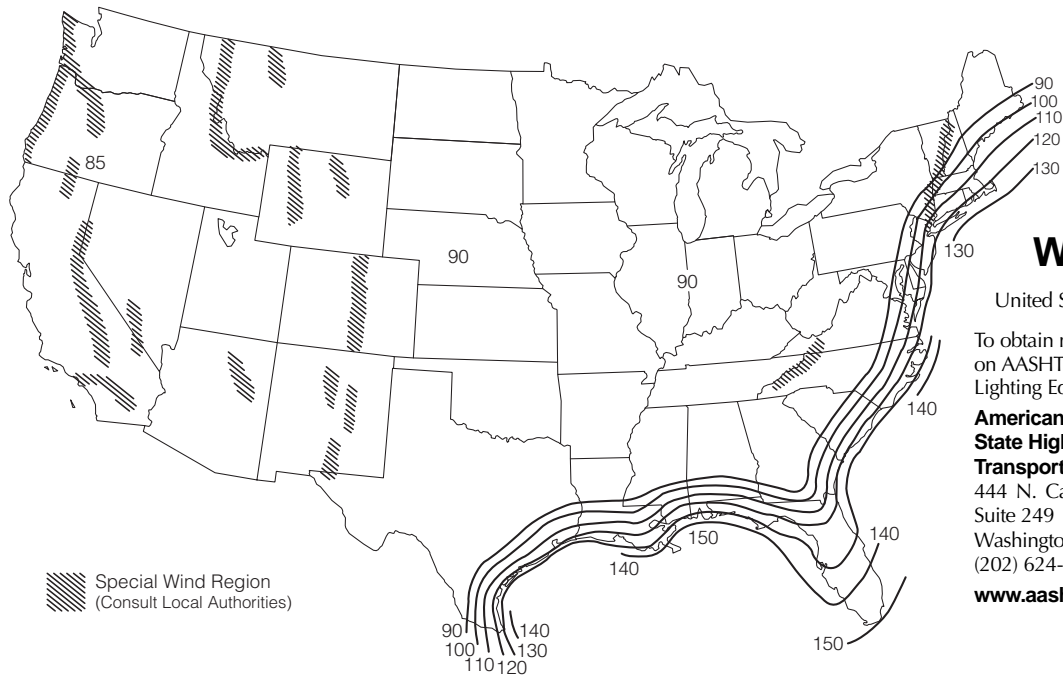
Mounted opposite the handhole, at 22½" from base of pole, in a cast aluminum box that is internally welded and sealed with a gasketed self-closing cover and locking bracket.

**Duplex Receptacle (DR)** rated 20A., 125V.**Duplex Receptacle with Ground Fault Circuit Interrupter (DR-GFI)** rated 20A., 125V.

**KIM LIGHTING****KRS**

Round Steel Non-Tapered Pole

revision 10/8/08 • krs.pdf

**Type:****Job:****Page: 4 of 4****Wind Map**

United States and Canada

To obtain more information on AASHTO Standards for Lighting Equipment contact:

**American Association of State Highway and Transportation Officials:**  
 444 N. Capitol Street, NW,  
 Suite 249  
 Washington, DC 20001  
 (202) 624-5800

[www.aashto.org](http://www.aashto.org)

**NOTES:**

- Values are based on 50 year mean recurrence interval 30' above grade.
- Hawaii has an **105 mph** wind velocity.
- Puerto Rico has a **125 mph** wind velocity.
- Caution must be exercised in determining wind velocities in special wind areas such as:
  - Mountainous Regions
  - Areas surrounding the Great Lakes or other large bodies of water or open land.
  - Areas subject to extreme wind conditions, such as hurricanes, typhoons, cyclones, and tornadoes.
  - Areas adjacent to airports.
  - Any specific area with a known or suspected abnormally high intermittent wind condition caused by geography, adjacent structures, or other specific local conditions that may not be recorded in National Weather Service records.
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than fixture EPA. Responsibility lies with the specifier for correct pole selection based on AASHTO wind map and job location.
- The Wind Map is intended only as a general guide. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application.
- **CAUTION:** Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide. Consult AASHTO standards.
- Extreme Wind Events: Hurricanes, Typhoons, Cyclones, or Tornadoes expose poles to flying debris, wind shear, and other unpredictable aerodynamic forces not indicated by the wind velocity ratings.
- Pole Strength Limited Warranty: Standard, unmodified Kim lighting Poles installed as recommended, undamaged by corrosion, or lack of maintenance, shall withstand steady wind conditions as provided on page 2 (Allowable Pole EPA). Installation of poles without luminaires, or attachment of any unauthorized accessories to poles shall void this warranty.

**Job Name:**  
Chau Gas Station**Catalog Number:**

1SA/WP9SE4/60L5K-VOLT/COLOR

**Type:****S5**

Notes:

SLA12-19480

**KIM LIGHTING****WP9SE-LED**

WARP9™ - Small, Electronic LED

revision 10-28-10 • kim\_wp9seled\_spec.pdf

**Type:****Job:****Catalog number:**

/	/	/	/
Mtg.	Fixture	Electrical Module	Finish
See page 2			Options See pages 3-4

**Approvals:****Date:****Page: 1 of 5**

Select pole from Kim's Arms and Poles Selection Guide. If pole is provided by others indicate O.D. for arm fitting.

## Specifications

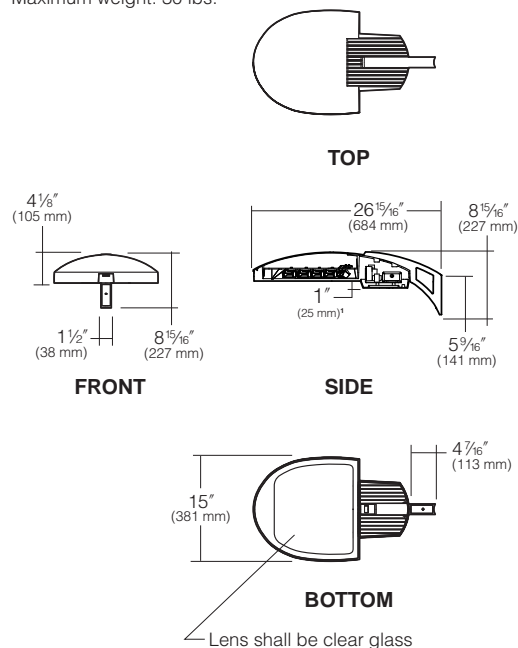
**WP9SE-LED**

Small Electronic

60 Light Emitting Diodes

Total Max System Watts = 73W

Maximum weight: 30 lbs.



**NOTE:** Driver compartment door extends down 1" on small housing to accommodate integral step-down transformer on 347V and 480V models only.

**Listings and Ratings**

UL cUL 1598 <sup>2</sup>	CE	IP66 Rated	25°C Ambient
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<sup>2</sup>Suitable for wet locations.

KIM LIGHTING RESERVES THE RIGHT TO CHANGE SPECIFICATIONS WITHOUT NOTICE.

U.S. Patent D568,521,  
Patent Pending Optics

**Housing:** One-piece die-cast, low copper (<0.6% Cu) aluminum alloy with integral cooling ribs over the electrical compartment. Solid barrier wall separates optical and electrical compartments. A single die-cast aluminum cam-latch provides positive locking and sealing of the optical chamber. A one-piece extruded and vulcanized silicone gasket seals the housing against the lens surface.

**Lens:** Clear 3/16" thick tempered glass lens retained by a stainless steel piano hinge and a single die-cast aluminum cam-latch. The edges are camouflaged to conceal the outer portion of the housing.

**Electronic Module:** All electrical components are UL and CSA recognized, mounted on a single plate and factory prewired with quick-disconnect plugs. Module includes a driver, thermal control device and surge protector. Electrical module attaches to housing with no-tool hinges and latches, accessible by opening the lens frame only. Driver is rated for -40°F starting and has a 0-10V dimming interface for multi-level illumination options.

**Optical Module:** Precision, replaceable MicroEmitters are positioned to achieve directional control toward desired task. The entire EmitterDeck fastens to the housing as a one-piece module

**Dimming:** The WARP9 LED luminaire can be dimmed from 0% to 100% by the use of its standard 0-10v Interface driver. To activate the dimming system, a wiring harness is supplied and attached to the DIM Port (DIM IN) on the LifeShield Protection System. This port allows the 0-10v Interface to bypass the LifeShield and control the driver. The LifeShield works in conjunction with the control system to assure that overheating will not harm the LEDs. The wiring harness is connected with the use of the Purple lead as the positive (+) and the Grey lead as the negative (-) to an available control signal (by others).

**Support Arm:** Heavy cast, low copper aluminum alloy with stainless steel mounting bolts. A pole reinforcing plate is provided with wire strain relief. Arm is circular cut for specified round pole.

**Finish:** Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness, applied over a titanated zirconium conversion coating; 2500 hour salt spray test endurance rating. Standard colors are Black, Dark Bronze, Stealth Gray™, Platinum Silver, or White. Custom colors are available.

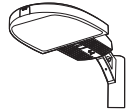
**Warranty:** Kim Lighting warrants Warp9 LED products ("Product(s)") sold by Kim Lighting to be free from defects in material and workmanship for (i) a period of five (5) years for metal parts, (ii) a period of ten (10) years for exterior housing paint finish(s), (iii) a period of six (6) years for LED Light Engines (MicroEmitters) and, (iv) a period of five (5) years for LED power components (LED Driver, LifeShield™ device, Surge Protector), from the date of sale of such goods to the buyer as specified in Kim Lighting shipment documents for each product.

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



**WP9SE-LED**  
WARP9™ - Small, Electronic LED  
revision 10-28-10 • kim\_wp9seled\_spec.pdf

**Type:**  
**Job:**



**Standard Features**

**Mounting**  
3Y configuration is available for round poles only.

Plan View:

EPA: 0.52 1.04 0.82 1.3 1.3 1.5 n/a  
Cat. No.:  1SA  2SB  2SL  3ST  3SY  4SC  1W

**Fixture**  
Cat. No. designates fixture and light distribution.  
See the Kim Warp9 Catalog for detailed information on reflector design and application.

WP9 S E x

**Housing:**  
WP9=WARP9

**Driver:**  
E=Electronic

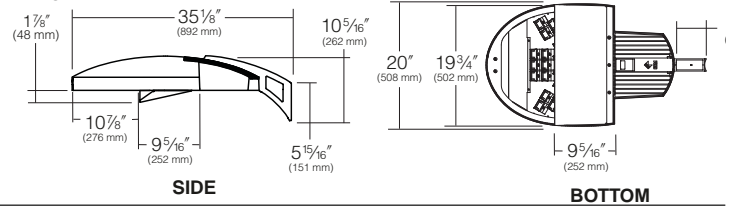
**Size:**  
S=Small, 60 LEDs, 75W

**Distribution:**

- 1=Type I Full Cutoff
- 2=Type II Full Cutoff
- 3=Type III Full Cutoff
- 4=Type IV Full Cutoff
- 4NB=Type IV-No Backlight
- 5=Type V Square Full Cutoff
- R=Type R Right Full Cutoff
- L=Type L Left Full Cutoff

Light Distribution:

\* Type IV-NB No Backlight - Dimension



**Electrical Module**

60 LxK x

**Source:**  
60 = 60 LED'S

**Color Temperature:**<sup>1</sup>

- L3K=3500K
- L5K=5100K
- L2K = 580nm - Amber

<sup>1</sup>4300K and 6500K are also available on an "Engineered-to-Order" (ETO) basis.

**Voltage:**

- 120=120V
- 208=208V
- 240=240V
- 277=277V
- 347=347V<sup>2</sup>
- 480=480V<sup>2</sup>

**PLEASE SPECIFY**

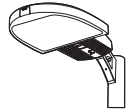
<sup>2</sup>Due to current unavailability of 347V and 480V drivers, specification of these voltages may feature an integral step-down transformer. Driver compartment door extends down 1" on small housing to accommodate transformer.

Fixture	Total System Watts	Volt	Operating Amps
WP9-Small	73	120	0.61
WP9-Small	73	208	0.35
WP9-Small	73	240	0.30
WP9-Small	73	277	0.26
WP9-Small	73	347	0.21
WP9-Small	73	480	0.15

**Job Name:**  
Chau Gas Station**Catalog Number:**  
1SA/WP9SE4/60L5K-VOLT/COLOR**Type:****S5**

Notes:

SLA12-19480

**WP9SE-LED**  
WARP9™ - Small, Electronic LED  
revision 10-28-10 • kim\_wp9seled\_spec.pdf**Type:****Job:****Page: 3 of 5**

## Optional Features

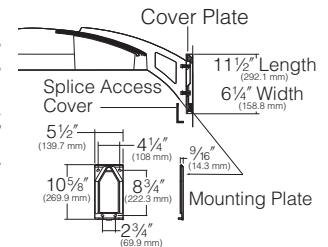
**PLEASE SPECIFY****Finish**

Super TGIC powder coat paint over a titanated zirconium conversion coating.

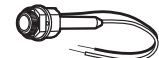
Color: Black    Dark Bronze    Stealth Gray™    Platinum Silver    White    Custom Color<sup>2</sup>  
Cat. No.:  **BL**     **DB**     **SG**     **PS**     **WH**     **CC**<sup>2</sup>Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: \_\_\_\_\_**Wall Mounting**Cat. No. **1W**

Select from Mounting on page 2.

A cast aluminum mounting plate is mounted to the wall with four bolts (by others). Fixture and arm are mounted to the cast aluminum cover plate before attaching to the wall mounting plate. The fixture-arm-cover plate assembly is hooked to the wall mounting plate and secured with stainless steel screws provided. Field splices are made at the opening in the cover plate. Cover is finished to match arm and fixture color.

**Fusing (internal only):**Cat. No. (see chart at right)  
 No Option

High temperature fuse holders factory installed inside the fixture housing. Fuse is included.

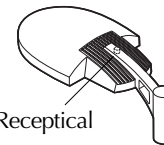
Line Volts: 120V    208V    240V    277V    347V    480V  
Cat. No.:  **SF**     **DF**     **DF**     **SF**     **SF**     **DF**

Single Fuse

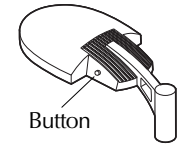
**Photocell Controls**Cat. Nos. *receptacle* **A-25***Line Button Volts*

- 
- A-30**
- 120V
- 
- 
- A-31**
- 208V
- 
- 
- A-32**
- 240V
- 
- 
- A-33**
- 277V
- 
- 
- A-35**
- 347V
- 
- 
- A-34**
- 480V
- 
- 
- No Option

Two types of photocell controls are available. A receptacle for a NEMA base photocell or an internal photocell button sensor on the side of the fixture.



Receptacle

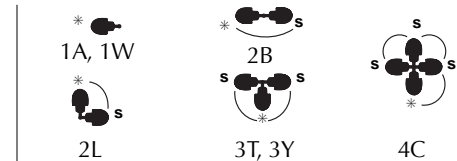


Button

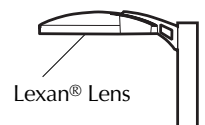
Mounting (see page 2)

\* - Fixture with Photocell Receptacle

S - slave unit(s)

**Lexan® Lens**Cat. No.  **LS**  
 No Option

One-piece flat advanced polymer (Lexan®) replaces standard tempered glass lens.

**CAUTION:** Use only when vandalism is anticipated to be high. For LED use only.

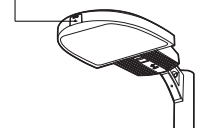
Lexan® Lens

**Tamper-Resistant Latch**Cat. No.  **TL**  
 No Option

Standard die-cast latch is provided with a captive 10-32 stainless steel flat socket-head screw to prevent unauthorized opening.

**NOTE:** Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.

Tamper Resistant Latch

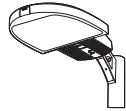




**WP9SE-LED**  
WARP9™ - Small, Electronic LED  
revision 10-28-10 • kim\_wp9seled\_spec.pdf

Type:

Job:

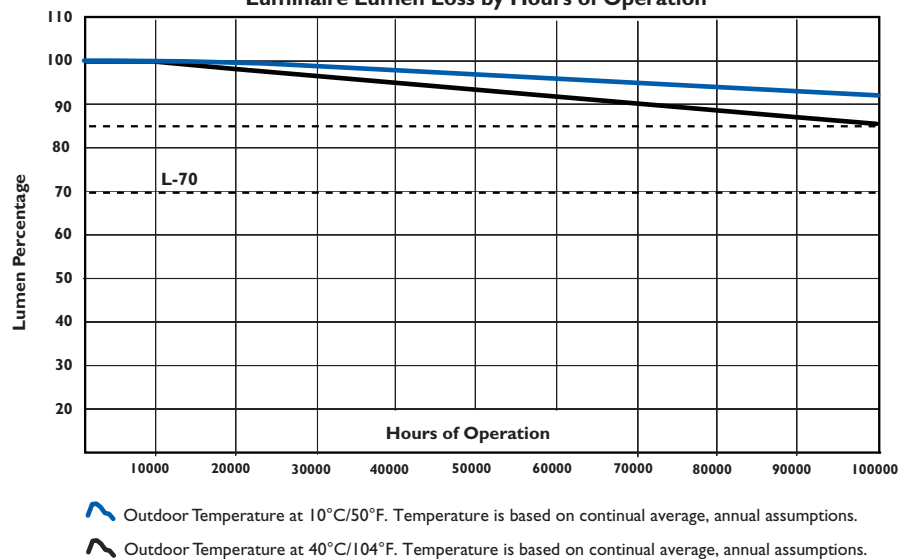


**Lumen Performance Charts**

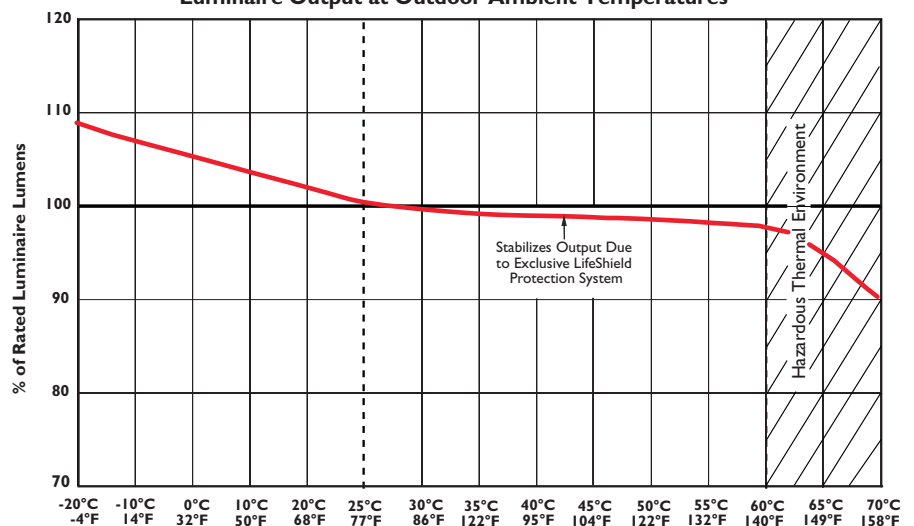
**NOTES:**

1. Lumen loss stabilization is a result of Kim Lighting's MicroEmitter™ luminaires exclusive LifeShield™ Protection System and Dual Heat Management.
2. The LifeShield™ Protection System will lower the current to the LEDs significantly if the luminaire is exposed to direct heat (sun) or excessive abnormal conditions.
3. Luminaire Lumen Loss assumptions are based on LM-80 results and an actual outdoor product testing based upon 5100K CCT, 350mA drive current, 25°C/77°F tab ambient and cathode temperature at 85°C/185°F. Assumptions past 6,000 hours are interpolated.
4. Cathode temperature baseline is at 85°C/185°F. If cathode temperature increases during ambient changes and abnormal environment conditions, % of rated lumens will slightly decrease.
5. Outdoor ambient temperatures are assumed SITU average by geographic region.
6. As Solid State Lighting technology and thermal management systems continually advance, lumen loss projections are subject to improvement.

**Luminaire Lumen Loss by Hours of Operation**



**Luminaire Output at Outdoor Ambient Temperatures**



**Job Name:**  
Chau Gas Station**Catalog Number:**  
KRS14-4120/COLOR

Notes:

**Type:****S5**

SLA12-19480

**KIM LIGHTING****KRS**

Round Steel Non-Tapered Pole

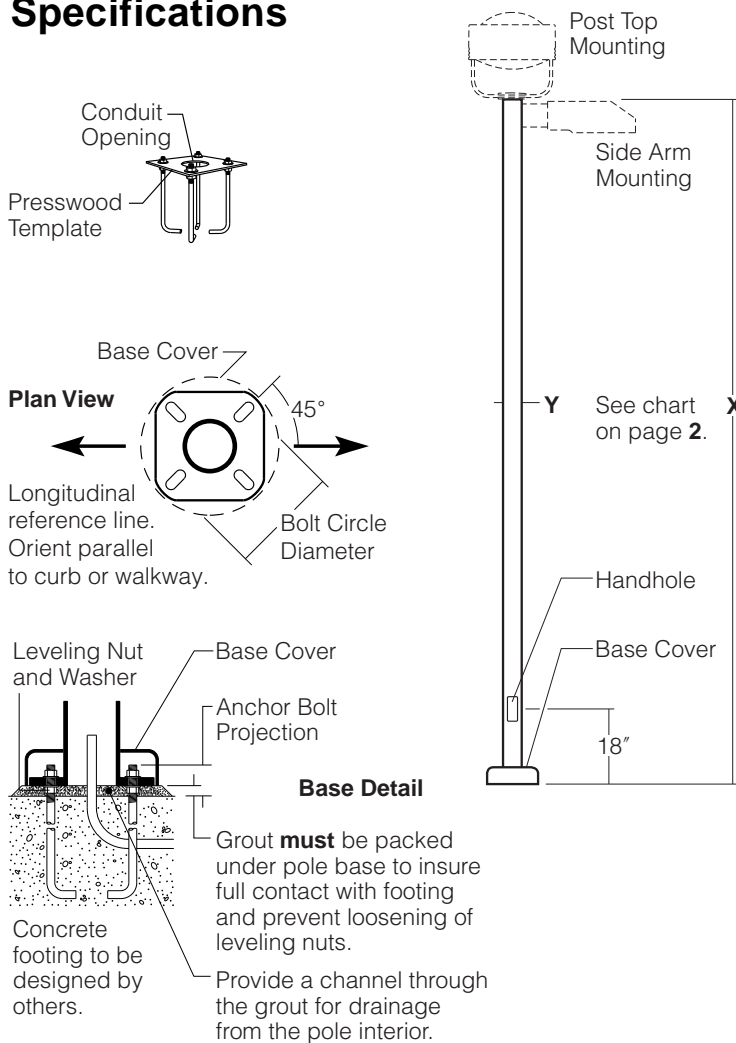
revision 10/8/08 • krs.pdf

**Type:****Job:****Catalog number:**

Pole	Mounting	Structural Luminaire Option	Finish	Optional Anchor Bolt Covers	Optional Duplex Receptacle
/	/	/	/	/	/
See page 2		See page 3			

**Approvals:****Date:****Page: 1 of 4**

## Specifications



**Pole Construction:** One-piece non-tapered round shaft of low carbon steel (ASTM-A500 Grade B, 42,000 PSI min. yield) with one flush-welded vertical seam. Shaft is welded to a flat steel anchor base (ASTM-36, 36,000 PSI min. yield).

**Base Cover:** Base has a two-piece cast aluminum full cover of 319 alloy, secured by stainless steel screws. Optional anchor bolt covers available (see page 3).

**Pole Cap:** A flush-sided cast aluminum pole cap is provided for side arm mounted luminaires. A rounded cast aluminum pole cap is provided for twin mounted luminaires (NS only).

**Handhole:** 18" up from base, with a gasketed cover and ground lug. 2" x 4" handhole provided on poles up to 16'. Reinforced 3" x 6" handhole provided on poles 20' and taller.

**Anchor Bolts:** Four fully galvanized anchor bolts provided (ASTM-36, 36,000 PSI min. yield), complete with eight galvanized nuts, eight galvanized flat washers, and a presswood template.

**Strength:** Poles will withstand wind loads as listed in chart (see page 2) when luminaires are mounted per fixture installation instructions.

**Finish:** Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness. 5 stage steel pretreatment to include phosphoric acid etch, followed by iron phosphate bath and chromate sealer for corrosion resistance. Standard colors are Black, Dark Bronze, Light Gray, Stealth Gray™, Platinum Silver, and White. Custom colors are available.

**CAUTION:** Installation of poles without luminaire(s) will compromise pole strength. Any accessories attached to pole, or other modifications will compromise pole strength and may result in pole failure.

**Maintenance:** A regularly scheduled maintenance program must be established to insure the protective paint coating is intact, corrosion or structural damage has not occurred, and anchor bolt nuts are tight. Failure to do so could lead to pole collapse and serious personal injury.



HUBBELL LIGHTING, INC.







**KRS**  
Round Steel Non-Tapered Pole  
revision 10/8/08 • krs.pdf

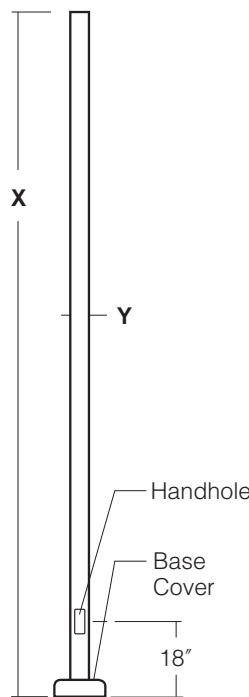
Type:

Job:

Page: 2 of 4

**Standard Features**

**NOTE:** All allowable pole and fixture EPAs are derived from the AASHTO standard. Responsibility lies with the specifier for correct pole selection based on local codes and standards for the job location. (See page 4).



Pole Catalog Number	X	Y	Allowable Pole EPA							Wind Map Steady Wind	
			85	90	100	110	120	130	140	150	
<input type="checkbox"/> KRS10-4120	10'	4" x 11 ga.	21.61	19.07	17.41	14.07	11.53	9.63	8.22	7.09	
<input type="checkbox"/> KRS12-4120	12'	4" x 11 ga.	17.33	15.22	13.84	11.05	8.94	7.28	6.26	5.37	
<input type="checkbox"/> KRS14-4120	14'	4" x 11 ga.	14.18	12.37	11.18	8.79	6.98	5.67	4.78	4.06	
<input type="checkbox"/> KRS16-4120	16'	4" x 11 ga.	11.72	10.13	9.09	7.01	5.42	4.30	3.58	3.01	
<input type="checkbox"/> KRS20-4120	19.5'	4" x 11 ga.	7.77	6.55	5.75	4.13	2.91	2.10	1.65	1.31	
<input type="checkbox"/> KRS20-4180	19.5'	4" x 7 ga.	12.67	10.92	9.77	7.46	5.70	4.48	3.70	3.09	
<input type="checkbox"/> KRS20-5120	19.5'	5" x 11 ga.	13.57	11.62	10.35	8.26	6.73	5.56	4.65	3.93	
<input type="checkbox"/> KRS20-5180	19.5'	5" x 7 ga.	21.60	18.79	16.94	13.71	11.31	9.47	8.02	6.86	
<input type="checkbox"/> KRS25-5120	25'	5" x 11 ga.	8.46	6.97	6.00	4.61	3.63	2.88	2.31	1.87	
<input type="checkbox"/> KRS25-5180	25'	5" x 7 ga.	14.59	12.44	11.03	8.77	7.12	5.86	4.88	4.10	
<input type="checkbox"/> KRS30-5180	30'	5" x 7 ga.	9.84	8.12	6.99	5.37	4.23	3.36	2.70	2.18	

**Anchor Base and Bolt Detail**

Pole Height	Pole Diameter	Bolt Circle DIA	Anchor Bolt Projection	Anchor Bolts Size	Base Cover Size	Conduit Opening
10'-16'	4"	7"-8 1/2"	3 3/8"	3/4" x 15" + 3"	11.7/8" DIA	3" DIA
19.5'	4"	7"-8 1/2"	3 3/8"	3/4" x 30" + 4"	11.7/8" DIA	3" DIA
19.5' - 30'	5"	7 1/2"-8 1/2"	3 3/8"	3/4" x 30" + 4"	11.7/8" DIA	3" DIA

**Mounting**

Flush Mount

Post Top

Side Arm

Plan Views:



Mounting<sup>1</sup>:  FM  PT  A  SA  B  SB  L  SL  T  ST  Y  SY  C  SC

**NOTE:** Allowable Pole EPA for jobsite wind conditions must be equal to or greater than fixture mount EPA. Please refer to Kim luminaire catalog for specific fixture.

<sup>1</sup>See luminaire drilling requirements in specific Kim luminaire catalog.

**Structural Luminaires Only** - Examples

- TS:** Single Tension for small and large Structural - KRS20-5120B-TS
- TD:** Double Tension for small and large Structural - KRS20-5120B-TD
- TR:** Truss for small and large Structural - KRS20-5120SB-TR
- XTS:** Single Tension for 1000W Structural - KRS20-5120B-XTS
- XTD:** Double Tension for 1000W Structural - KRS20-5120B-XTD
- XTR:** Truss for 1000W Structural - KRS20-5120B-XTR



**Job Name:**  
Chau Gas Station**Catalog Number:**  
KRS14-4120/COLOR

Notes:

**Type:****S5**

SLA12-19480

**KIM LIGHTING****KRS**

Round Steel Non-Tapered Pole

revision 10/8/08 • krs.pdf

**Type:****Job:****Page: 3 of 4**

## Standard and Optional Features

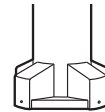
**Finish**

Super TGIC powder coat paint over an iron phosphate bath, chromate sealed metal pretreatment.

Color: Black Dark Bronze Light Gray Stealth Gray™ Platinum Silver White Custom Color<sup>1</sup>  
Cat. No.:  **BL**  **DB**  **LG**  **SG**  **PS**  **WH**  **CC****PLEASE ADVISE COLOR**<sup>1</sup>Custom color subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: \_\_\_\_\_**Optional Anchor Bolt Covers**Cat. No.  **BC4**  
 **BC5**  
 **No Option**

(Full base cover is standard.)

Four cast aluminum anchor bolt covers finished to match pole, fastened to base with stainless steel screws.

**4" pole Bolt Covers (BC4)**  
**5" pole Bolt Covers (BC5)****Optional Duplex Receptacle**Cat. No.  **DR**  
 **DR-GFI**  
 **No Option**

Mounted opposite the handhole, at 22½" from base of pole, in a cast aluminum box that is internally welded and sealed with a gasketed self-closing cover and locking bracket.

**Duplex Receptacle (DR)** rated 20A., 125V.**Duplex Receptacle with Ground Fault Circuit Interrupter (DR-GFI)** rated 20A., 125V.


**KIM LIGHTING**
**KRS**

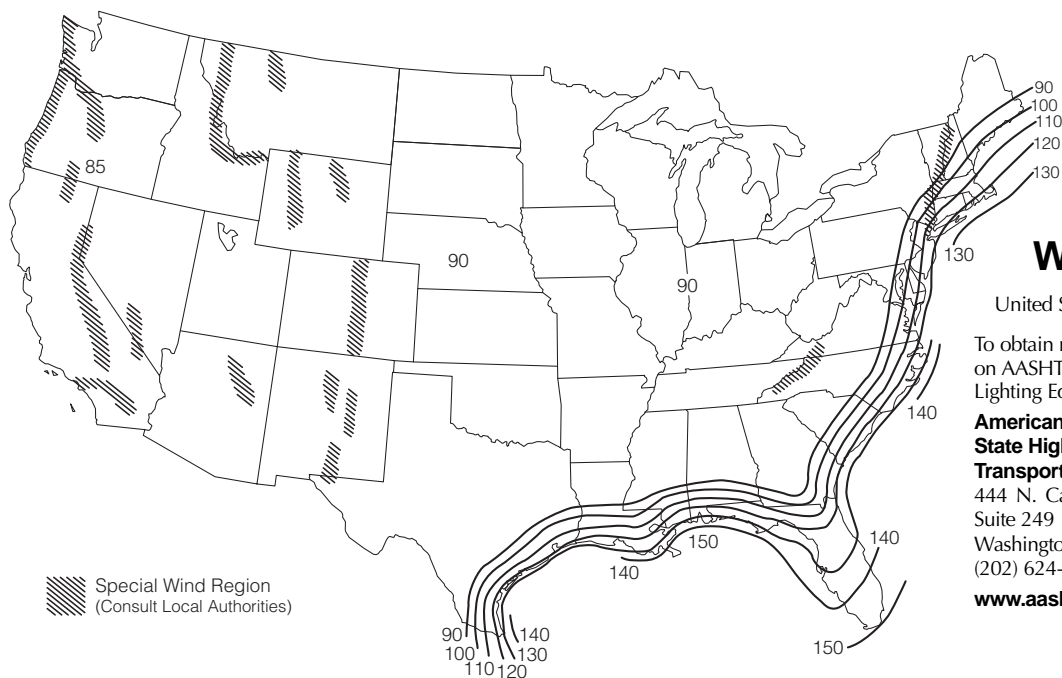
Round Steel Non-Tapered Pole

revision 10/8/08 • krs.pdf

Type:

Job:

Page: 4 of 4



## Wind Map

United States and Canada

To obtain more information on AASHTO Standards for Lighting Equipment contact:

**American Association of State Highway and Transportation Officials:**  
 444 N. Capitol Street, NW,  
 Suite 249  
 Washington, DC 20001  
 (202) 624-5800

[www.aashto.org](http://www.aashto.org)

### NOTES:

- Values are based on 50 year mean recurrence interval 30' above grade.
- Hawaii has an **105 mph** wind velocity.
- Puerto Rico has a **125 mph** wind velocity.
- Caution must be exercised in determining wind velocities in special wind areas such as:
  - Mountainous Regions
  - Areas surrounding the Great Lakes or other large bodies of water or open land.
  - Areas subject to extreme wind conditions, such as hurricanes, typhoons, cyclones, and tornadoes.
  - Areas adjacent to airports.
  - Any specific area with a known or suspected abnormally high intermittent wind condition caused by geography, adjacent structures, or other specific local conditions that may not be recorded in National Weather Service records.
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than fixture EPA. Responsibility lies with the specifier for correct pole selection based on AASHTO wind map and job location.
- The Wind Map is intended only as a general guide. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application.
- **CAUTION:** Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide. Consult AASHTO standards.
- Extreme Wind Events: Hurricanes, Typhoons, Cyclones, or Tornadoes expose poles to flying debris, wind shear, and other unpredictable aerodynamic forces not indicated by the wind velocity ratings.
- Pole Strength Limited Warranty: Standard, unmodified Kim lighting Poles installed as recommended, undamaged by corrosion, or lack of maintenance, shall withstand steady wind conditions as provided on page 2 (Allowable Pole EPA). Installation of poles without luminaires, or attachment of any unauthorized accessories to poles shall void this warranty.

**Job Name:**  
Chau Gas Station**Catalog Number:**1A/WP9LE4NB/120L5K-VOLT  
/COLOR

Notes:

**Type:****L4-NB**

SLA12-19480

**KIM LIGHTING****WP9LE-LED**

WARP9™ - Large, Electronic LED

revision 10-28-10 • kim\_wp9leled\_spec.pdf

**Type:****Job:****Catalog number:**

/	/	/	/
Mtg. Fixture	Electrical Module	Finish	Options
	See page 2		See pages 3-4

**Approvals:****Date:****Page: 1 of 5**

Select pole from Kim's Arms and Poles Selection Guide. If pole is provided by others indicate O.D. for arm fitting.

## Specifications

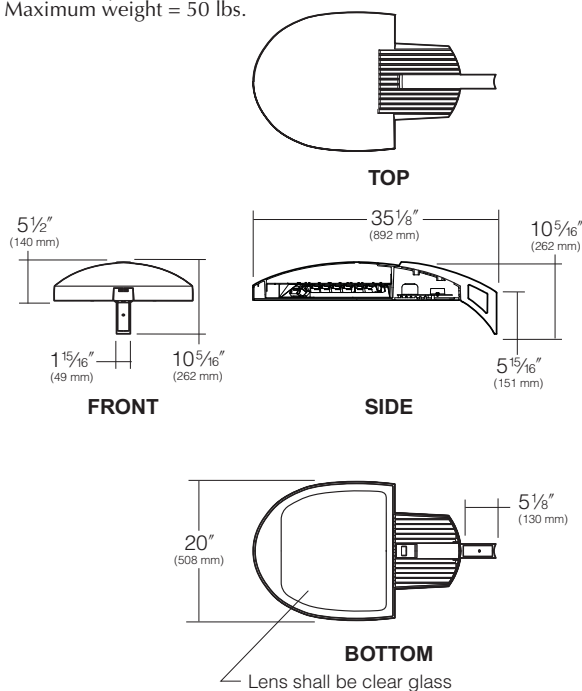
**WP9LE-LED**

Large Electronic

120 Light Emitting Diodes

Total Max System Watts = 140W

Maximum weight = 50 lbs.



**Housing:** One-piece die-cast, low copper (<0.6% Cu) aluminum alloy with integral cooling ribs over the electrical compartment. Solid barrier wall separates optical and electrical compartments. A single die-cast aluminum cam-latch provides positive locking and sealing of the optical chamber. A one-piece extruded and vulcanized silicone gasket seals the housing against the lens surface.

**Lens:** Clear 3/16" thick tempered glass lens retained by a stainless steel piano hinge and a single die-cast aluminum cam-latch. The edges are camouflaged to conceal the outer portion of the housing.

**Electronic Module:** All electrical components are UL and CSA recognized, mounted on a single plate and factory prewired with quick-disconnect plugs. Module includes a driver, thermal control device and surge protector. Electrical module attaches to housing with no-tool hinges and latches, accessible by opening the lens frame only. Driver is rated for -40°F starting and has a 0-10V dimming interface for multi-level illumination options.

**Optical Module:** Precision, replaceable MicroEmitters are positioned to achieve directional control toward desired task. The entire EmitterDeck fastens to the housing as a one-piece module.

**Dimming:** The WARP9 LED luminaire can be dimmed from 0% to 100% by the use of its standard 0-10v Interface driver. To activate the dimming system, a wiring harness is supplied and attached to the DIM Port (DIM IN) on the LifeShield Protection System. This port allows the 0-10v Interface to bypass the LifeShield and control the driver. The LifeShield works in conjunction with the control system to assure that overheating will not harm the LEDs. The wiring harness is connected with the use of the Purple lead as the positive (+) and the Grey lead as the negative (-) to an available control signal (by others).

**Support Arm:** Heavy cast, low copper aluminum alloy with stainless steel mounting bolts. A pole reinforcing plate is provided with wire strain relief. Arm is circular cut for specified round pole.

**Finish:** Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness, applied over a titanated zirconium conversion coating; 2500 hour salt spray test endurance rating. Standard colors are Black, Dark Bronze, Stealth Gray™, Platinum Silver, or White. Custom colors are available.

**Warranty:** Kim Lighting warrants Warp9 LED products ("Product(s)") sold by Kim Lighting to be free from defects in material and workmanship for (i) a period of five (5) years for metal parts, (ii) a period of ten (10) years for exterior housing paint finish(s), (iii) a period of six (6) years for LED Light Engines (MicroEmitters) and, (iv) a period of five (5) years for LED power components (LED Driver, LifeShield™ device, Surge Protector), from the date of sale of such goods to the buyer as specified in Kim Lighting shipment documents for each product.

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

**Listings and Ratings**

UL cUL 1598 <sup>1</sup>	CE	IP66 Rated	25°C Ambient
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<sup>1</sup>Suitable for wet locations.

KIM LIGHTING RESERVES THE RIGHT TO CHANGE SPECIFICATIONS WITHOUT NOTICE.

U.S. Patent D568,521,  
Patent Pending Optics



**Job Name:**  
Chau Gas Station

**Catalog Number:**  
1A/WP9LE4NB/120L5K-VOLT /COLOR

Notes:

**Type:**

**L4-NB**

SLA12-19480

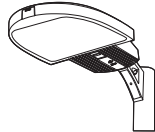


**WP9LE-LED**  
WARP9™ - Large, Electronic LED  
revision 10-28-10 • kim\_wp9leled\_spec.pdf

**Type:**

**Job:**

Page: 2 of 5



**Standard Features**

**Mounting**

3Y configuration is available for round poles only.

Plan View:

Plan View options:  1A,  2B,  2L,  3T,  3Y,  4C,  1W (Wall Mount)

EPA: 0.95, 1.9, 1.47, 2.4, 2.4, 2.7, n/a  
Cat. No.: 1A, 2B, 2L, 3T, 3Y, 4C, 1W

**Fixture**

Cat. No. designates fixture and light distribution.

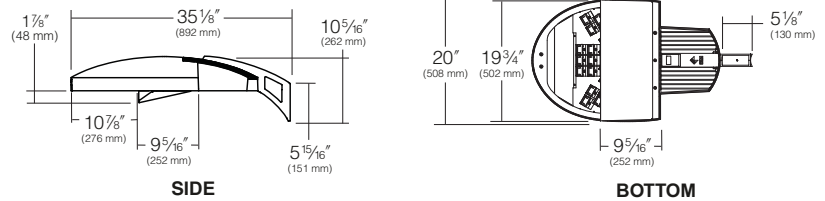
WP9 L E x Light Distribution:

**Housing:** WP9=WARP9  
**Driver:** E=Electronic  
**Size:** L=Large, 120 LEDs, 140W  
**Distribution:**  
 1=Type I Full Cutoff  
 2=Type II Full Cutoff  
 3=Type III Full Cutoff  
 4=Type IV Full Cutoff  
 4NB=Type IV-No Backlight  
 5=Type V Square Full Cutoff  
 R=Type R Right Full Cutoff  
 L=Type L Left Full Cutoff

Type I, Type II, Type III, Type IV Forward Throw, Type IV-NB\* No Backlight, Type V Square, Type R Right, Type L Left

**NOTE:** WARP9 LED system employs Nichia's SSL product.  
Part number: NS6x183 (NS6L183-H3, NS6W183-H3)

\* Type IV-NB No Backlight - Dimension



**Electrical Module**

120 LxK x Voltage: **PLEASE SPECIFY VOLTAGE**

**Source:** 120 = 120 LED's  
**Color Temperature:<sup>1</sup>**  
 L3K=3500K  
 L5K=5100K  
 L2K = 580nm - Amber

<sup>1</sup>4300K and 6500K are also available on an "Engineered-to-Order" (ETO) basis.

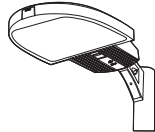
Fixture	Total System Watts	Volt	Operating Amps
WP9-Large	140	120	1.17
WP9-Large	140	208	0.67
WP9-Large	140	240	0.58
WP9-Large	140	277	0.51
WP9-Large	140	347	0.40
WP9-Large	140	480	0.29

**Job Name:**  
Chau Gas Station**Catalog Number:**  
1A/WP9LE4NB/120L5K-VOLT  
/COLOR

Notes:

**Type:****L4-NB**

SLA12-19480

**WP9LE-LED**  
WARP9™ - Large, Electronic LED  
revision 10-28-10 • kim\_wp9leled\_spec.pdf**Type:****Job:****Page: 3 of 5**

## Optional Features

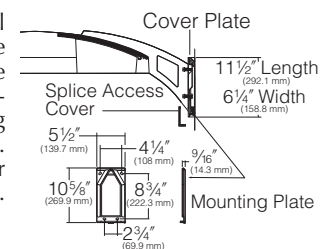
**PLEASE SPECIFY COLOR****Finish**

Super TGIC powder coat paint over a titanated zirconium conversion coating.

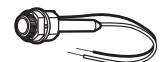
Color: Black    Dark Bronze    Stealth Gray™    Platinum Silver    White    Custom Color<sup>2</sup>  
Cat. No.:  **BL**     **DB**     **SG**     **PS**     **WH**     **CC**<sup>2</sup>Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: \_\_\_\_\_**Wall Mounting**Cat. No. **1W**

Select from Mounting on page 2.

A cast aluminum mounting plate is mounted to the wall with four bolts (by others). Fixture and arm are mounted to the cast aluminum cover plate before attaching to the wall mounting plate. The fixture-arm-cover plate assembly is hooked to the wall mounting plate and secured with stainless steel screws provided. Field splices are made at the opening in the cover plate. Cover is finished to match arm and fixture color.

**Fusing (internal only):**Cat. No. (see chart at right)  
 **No Option**

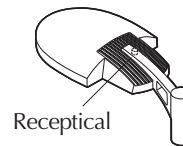
High temperature fuse holders factory installed inside the fixture housing. Fuse is included.

Line Volts: 120V    208V    240V    277V    347V    480V  
Cat. No.:  **SF**     **DF**     **DF**     **SF**     **SF**     **DF**

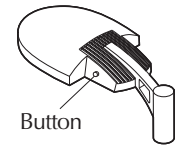
Single Fuse

**Photocell Controls**Cat. Nos. *receptacle* **A-25***Button    Line Volts* **A-30** - 120V **A-31** - 208V **A-32** - 240V **A-33** - 277V **A-35** - 347V **A-34** - 480V **No Option**

Two types of photocell controls are available. A receptacle for a NEMA base photocell or an internal photocell button sensor on the side of the fixture.



Receptacle

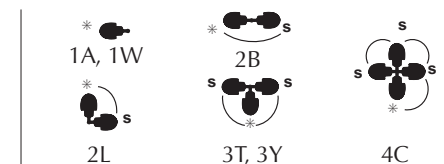


Button

Mounting (see page 2)

\* - Fixture with Photocell Receptacle

S - slave unit(s)

**Polycarbonate Lens**Cat. No.  **LS**  
 **No Option**

One-piece flat polycarbonate lens replaces standard tempered glass lens.

**CAUTION:** Use only when vandalism is anticipated to be high. For LED use only.

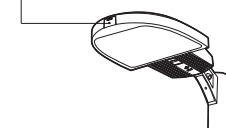
polycarbonate lens

**Tamper-Resistant Latch**Cat. No.  **TL**  
 **No Option**

Standard die-cast latch is provided with a captive 10-32 stainless steel flat socket-head screw to prevent unauthorized opening.

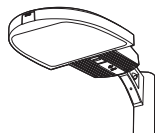
**NOTE:** Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.

Tamper Resistant Latch



**Job Name:**  
Chau Gas Station**Catalog Number:**  
1A/WP9LE4NB/120L5K-VOLT  
/COLOR  
Notes:**Type:****L4-NB**

SLA12-19480

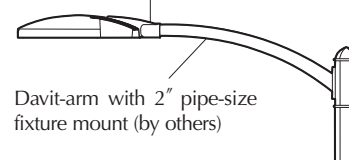
**KIM LIGHTING****WP9LE-LED**WARP9™ - Large, Electronic LED  
revision 10-28-10 • kim\_wp9leled\_spec.pdf**Type:****Job:****Page: 4 of 5**

## Optional Features

**Horizontal Slipfitter Mount**Cat. No.  HSF  
 No Option

Replaces standard mounting arm with a cast aluminum fitter to adapt to a horizontal 2" pipe-size mounting end (2 3/8" OD). The casting has a 5° adjustment to accommodate davit arms that are not horizontal. Horizontal pipe must be field drilled at one set screw location to insure against fixture rotation. Finish to match fixture color.

Horizontal Slipfitter

Davit-arm with 2" pipe-size  
fixture mount (by others)**Vertical Slipfitter Mounts**Cat. No. includes Mounting  
Cat. No. **(See right)**  
 No Option

Allows fixture or fixtures with standard mounting arm to mount to a pole with a 2" pipe-size tenon (2 3/8" OD). Minimum 4" tenon length required.

Specify configuration (1SA, 2SB, 2SL, 3ST, 3SY, 4SC) 4" round or square aluminum with flush cap. Finish to match fixture and arm.

**NOTE:** 3Y only available on round slipfitter.

Cat. No.

- 
- VSF-1SA
- 
- 
- VSF-2SB
- 
- 
- VSF-2SL
- 
- 
- VSF-3ST
- 
- 
- VSF-3SY
- 
- 
- VSF-4SC



Round

Stainless  
steel set  
screws

Square

Cat. No.

- 
- SVSF-1SA
- 
- 
- SVSF-2SB
- 
- 
- SVSF-2SL
- 
- 
- SVSF-3ST
- 
- 
- SVSF-4SC

Mounting Configuration

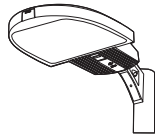
1SA -single arm mount  
2SB -2 at 180°  
2SL -2 at 90°  
3ST -3 at 90°  
3SY -3 at 120°  
4SC -4 at 90°**Special Options for Street Lighting**Cat. No.  TB  
 No Option**Terminal Block (TB):** For field wire connections in the Large model only. 85AMP, 600V box clamp terminal block mounted to the housing inside the electrical compartment. Accepts #14 to #4 wire sizes. Factory prewired to electrical module quick-disconnect plug.**Dimming Controls**

Kim Lighting is working with several driver suppliers and control system manufacturers to develop a variety of proven turnkey solutions to meet any application's need. Kim Lighting will advise availability of complete control packages, and even two-way monitoring systems, once they have been tested and exceed Kim's high quality standards. Contact factory for further details and current capabilities.



**WP9LE-LED**  
WARP9™ - Large, Electronic LED  
revision 10-28-10 • kim\_wp9leled\_spec.pdf

Type:  
Job:

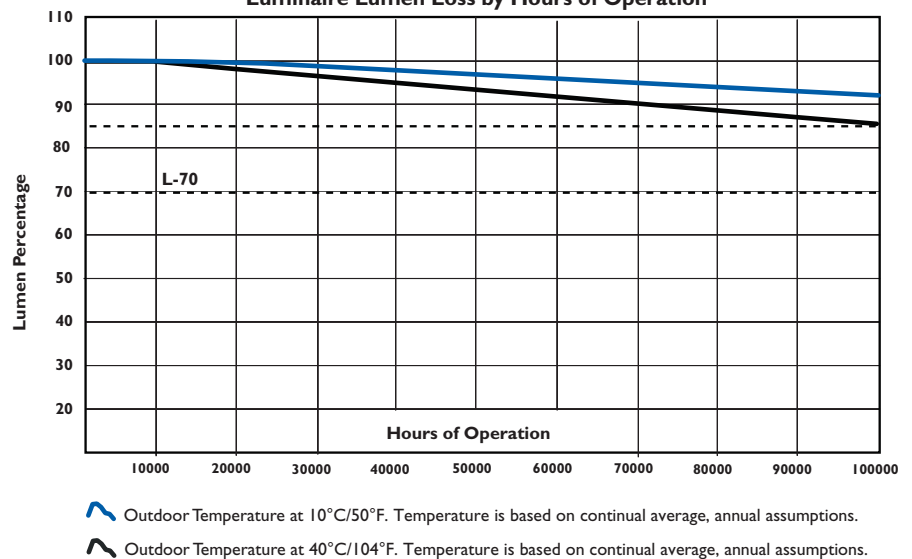


## Lumen Performance Charts

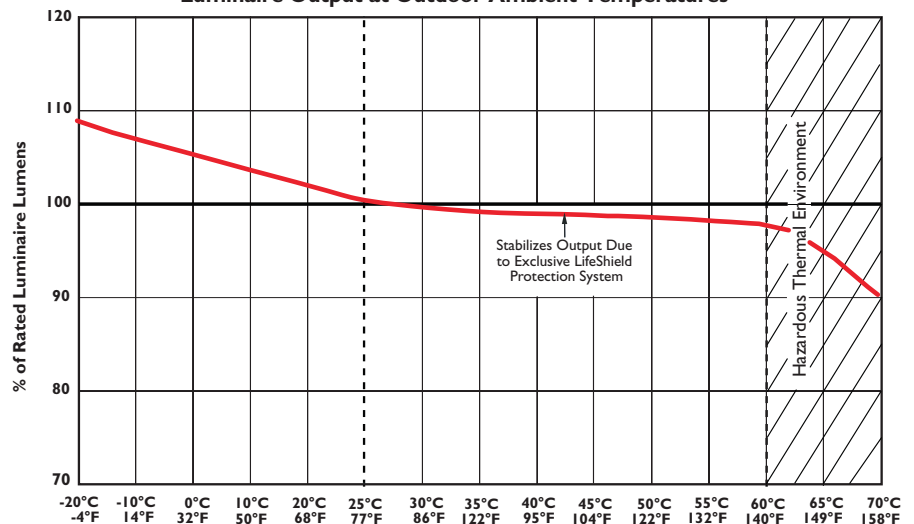
**NOTES:**

1. Lumen loss stabilization is a result of Kim Lighting's MicroEmitter™ luminaires exclusive LifeShield™ Protection System and Dual Heat Management.
2. The LifeShield™ Protection System will lower the current to the LEDs significantly if the luminaire is exposed to direct heat (sun) or excessive abnormal conditions.
3. Luminaire Lumen Loss assumptions are based on LM-80 results and an actual outdoor product testing based upon 5100K CCT, 350mA drive current, 25°C/77°F tab ambient and cathode temperature at 85°C/185°F. Assumptions past 6,000 hours are interpolated.
4. Cathode temperature baseline is at 85°C/185°F. If cathode temperature increases during ambient changes and abnormal environment conditions, % of rated lumens will slightly decrease.
5. Outdoor ambient temperatures are assumed SITU average by geographic region.
6. As Solid State Lighting technology and thermal management systems continually advance, lumen loss projections are subject to improvement.

**Luminaire Lumen Loss by Hours of Operation**



**Luminaire Output at Outdoor Ambient Temperatures**





**Job Name:**  
Chau Gas Station**Catalog Number:**  
KRS20-4120/COLOR

Notes:

**Type:****L4-NB**

SLA12-19480

**KIM LIGHTING****KRS**

Round Steel Non-Tapered Pole

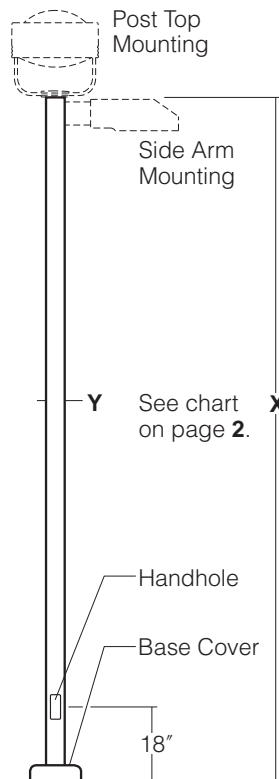
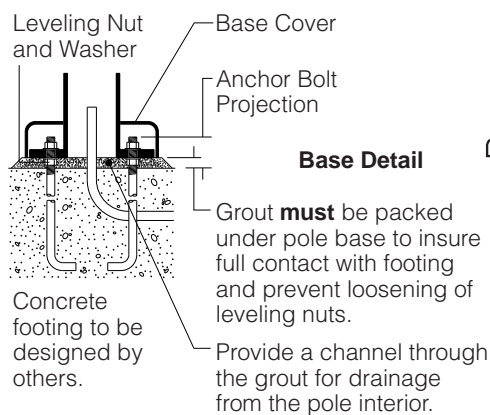
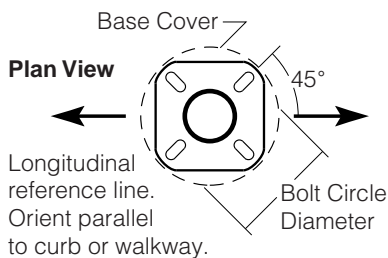
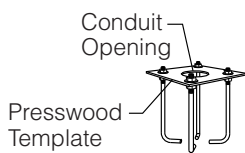
revision 10/8/08 • krs.pdf

**Type:****Job:****Catalog number:**

Pole	Mounting	Structural Luminaire Option	Finish	Optional Anchor Bolt Covers	Optional Duplex Receptacle
/	/	/	/	/	/
See page 2		See page 3			

**Approvals:****Date:****Page: 1 of 4**

## Specifications



**Pole Construction:** One-piece non-tapered round shaft of low carbon steel (ASTM-A500 Grade B, 42,000 PSI min. yield) with one flush-welded vertical seam. Shaft is welded to a flat steel anchor base (ASTM-36, 36,000 PSI min. yield).

**Base Cover:** Base has a two-piece cast aluminum full cover of 319 alloy, secured by stainless steel screws. Optional anchor bolt covers available (see page 3).

**Pole Cap:** A flush-sided cast aluminum pole cap is provided for side arm mounted luminaires. A rounded cast aluminum pole cap is provided for twin mounted luminaires (NS only).

**Handhole:** 18" up from base, with a gasketed cover and ground lug. 2" x 4" handhole provided on poles up to 16'. Reinforced 3" x 6" handhole provided on poles 20' and taller.

**Anchor Bolts:** Four fully galvanized anchor bolts provided (ASTM-36, 36,000 PSI min. yield), complete with eight galvanized nuts, eight galvanized flat washers, and a presswood template.

**Strength:** Poles will withstand wind loads as listed in chart (see page 2) when luminaires are mounted per fixture installation instructions.

**Finish:** Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness. 5 stage steel pretreatment to include phosphoric acid etch, followed by iron phosphate bath and chromate sealer for corrosion resistance. Standard colors are Black, Dark Bronze, Light Gray, Stealth Gray™, Platinum Silver, and White. Custom colors are available.

**CAUTION:** Installation of poles without luminaire(s) will compromise pole strength. Any accessories attached to pole, or other modifications will compromise pole strength and may result in pole failure.

**Maintenance:** A regularly scheduled maintenance program must be established to insure the protective paint coating is intact, corrosion or structural damage has not occurred, and anchor bolt nuts are tight. Failure to do so could lead to pole collapse and serious personal injury.



HUBBELL LIGHTING, INC.







**KRS**  
Round Steel Non-Tapered Pole  
revision 10/8/08 • krs.pdf

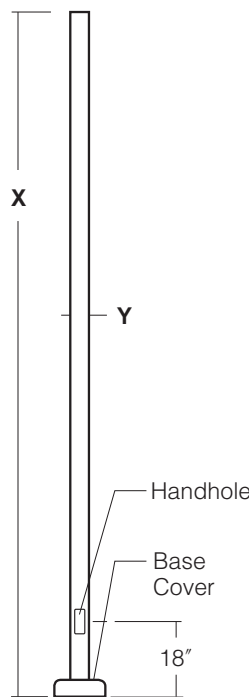
Type:

Job:

Page: 2 of 4

**Standard Features**

**NOTE:** All allowable pole and fixture EPAs are derived from the AASHTO standard. Responsibility lies with the specifier for correct pole selection based on local codes and standards for the job location. (See page 4).



Pole Catalog Number	X	Y	Allowable Pole EPA							Wind Map Steady Wind	
			85	90	100	110	120	130	140	150	
<input type="checkbox"/> KRS10-4120	10'	4" x 11 ga.	21.61	19.07	17.41	14.07	11.53	9.63	8.22	7.09	
<input type="checkbox"/> KRS12-4120	12'	4" x 11 ga.	17.33	15.22	13.84	11.05	8.94	7.28	6.26	5.37	
<input type="checkbox"/> KRS14-4120	14'	4" x 11 ga.	14.18	12.37	11.18	8.79	6.98	5.67	4.78	4.06	
<input type="checkbox"/> KRS16-4120	16'	4" x 11 ga.	11.72	10.13	9.09	7.01	5.42	4.30	3.58	3.01	
<input type="checkbox"/> KRS20-4120	19.5'	4" x 11 ga.	7.77	6.55	5.75	4.13	2.91	2.10	1.65	1.31	
<input type="checkbox"/> KRS20-4180	19.5'	4" x 7 ga.	12.67	10.92	9.77	7.46	5.70	4.48	3.70	3.09	
<input type="checkbox"/> KRS20-5120	19.5'	5" x 11 ga.	13.57	11.62	10.35	8.26	6.73	5.56	4.65	3.93	
<input type="checkbox"/> KRS20-5180	19.5'	5" x 7 ga.	21.60	18.79	16.94	13.71	11.31	9.47	8.02	6.86	
<input type="checkbox"/> KRS25-5120	25'	5" x 11 ga.	8.46	6.97	6.00	4.61	3.63	2.88	2.31	1.87	
<input type="checkbox"/> KRS25-5180	25'	5" x 7 ga.	14.59	12.44	11.03	8.77	7.12	5.86	4.88	4.10	
<input type="checkbox"/> KRS30-5180	30'	5" x 7 ga.	9.84	8.12	6.99	5.37	4.23	3.36	2.70	2.18	

**Anchor Base and Bolt Detail**

Pole Height	Pole Diameter	Bolt Circle DIA	Anchor Bolt Projection	Anchor Bolts Size	Base Cover Size	Conduit Opening
10'-16'	4"	7"-8 1/2"	3 3/8"	3/4" x 15" + 3"	11.7/8" DIA	3" DIA
19.5'	4"	7"-8 1/2"	3 3/8"	3/4" x 30" + 4"	11.7/8" DIA	3" DIA
19.5' - 30'	5"	7 1/2"-8 1/2"	3 3/8"	3/4" x 30" + 4"	11.7/8" DIA	3" DIA

**Mounting**

**Flush Mount**

**Post Top**

**Side Arm**

Plan Views:



Mounting<sup>1</sup>:  FM  PT  A  SA  B  SB  L  SL  T  ST  Y  SY  C  SC

**NOTE:** Allowable Pole EPA for jobsite wind conditions must be equal to or greater than fixture mount EPA. Please refer to Kim luminaire catalog for specific fixture.

<sup>1</sup>See luminaire drilling requirements in specific Kim luminaire catalog.

**Structural Luminaires Only** - Examples

- TS:** Single Tension for small and large Structural - KRS20-5120B-TS
- TD:** Double Tension for small and large Structural - KRS20-5120B-TD
- TR:** Truss for small and large Structural - KRS20-5120SB-TR
- XTS:** Single Tension for 1000W Structural - KRS20-5120B-XTS
- XTD:** Double Tension for 1000W Structural - KRS20-5120B-XTD
- XTR:** Truss for 1000W Structural - KRS20-5120B-XTR

**Job Name:**  
Chau Gas Station**Catalog Number:**  
KRS20-4120/COLOR

Notes:

**Type:****L4-NB**

SLA12-19480

**KIM LIGHTING****KRS**

Round Steel Non-Tapered Pole

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**Type:****Job:****Page: 3 of 4**

## Standard and Optional Features

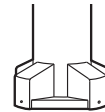
**Finish**

Super TGIC powder coat paint over an iron phosphate bath, chromate sealed metal pretreatment.

Color: Black Dark Bronze Light Gray Stealth Gray™ Platinum Silver White Custom Color<sup>1</sup>  
Cat. No.:  **BL**  **DB**  **LG**  **SG**  **PS**  **WH**  **CC****PLEASE ADVISE COLOR**<sup>1</sup>Custom color subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: \_\_\_\_\_**Optional Anchor Bolt Covers**Cat. No.  **BC4**  
 **BC5**  
 **No Option**

(Full base cover is standard.)

Four cast aluminum anchor bolt covers finished to match pole, fastened to base with stainless steel screws.

**4" pole Bolt Covers (BC4)**  
**5" pole Bolt Covers (BC5)****Optional Duplex Receptacle**Cat. No.  **DR**  
 **DR-GFI**  
 **No Option**

Mounted opposite the handhole, at 22½" from base of pole, in a cast aluminum box that is internally welded and sealed with a gasketed self-closing cover and locking bracket.

**Duplex Receptacle (DR)** rated 20A., 125V.**Duplex Receptacle with Ground Fault Circuit Interrupter (DR-GFI)** rated 20A., 125V.


**KIM LIGHTING**
**KRS**

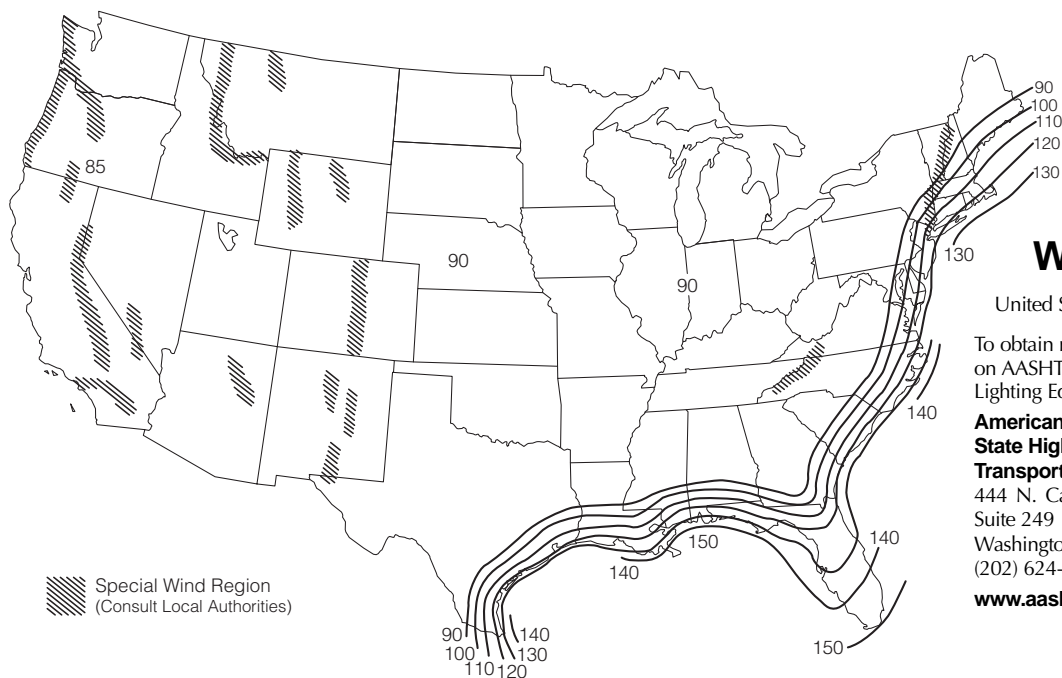
Round Steel Non-Tapered Pole

revision 10/8/08 • krs.pdf

Type:

Job:

Page: 4 of 4



## Wind Map

United States and Canada

 To obtain more information  
 on AASHTO Standards for  
 Lighting Equipment contact:

**American Association of  
 State Highway and  
 Transportation Officials:**  
 444 N. Capitol Street, NW,  
 Suite 249  
 Washington, DC 20001  
 (202) 624-5800

[www.aashto.org](http://www.aashto.org)

### NOTES:

- Values are based on 50 year mean recurrence interval 30' above grade.
- Hawaii has an **105 mph** wind velocity.
- Puerto Rico has a **125 mph** wind velocity.
- Caution must be exercised in determining wind velocities in special wind areas such as:
  - Mountainous Regions
  - Areas surrounding the Great Lakes or other large bodies of water or open land.
  - Areas subject to extreme wind conditions, such as hurricanes, typhoons, cyclones, and tornadoes.
  - Areas adjacent to airports.
  - Any specific area with a known or suspected abnormally high intermittent wind condition caused by geography, adjacent structures, or other specific local conditions that may not be recorded in National Weather Service records.
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than fixture EPA. Responsibility lies with the specifier for correct pole selection based on AASHTO wind map and job location.
- The Wind Map is intended only as a general guide. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application.
- **CAUTION:** Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide. Consult AASHTO standards.
- Extreme Wind Events: Hurricanes, Typhoons, Cyclones, or Tornadoes expose poles to flying debris, wind shear, and other unpredictable aerodynamic forces not indicated by the wind velocity ratings.
- Pole Strength Limited Warranty: Standard, unmodified Kim lighting Poles installed as recommended, undamaged by corrosion, or lack of maintenance, shall withstand steady wind conditions as provided on page 2 (Allowable Pole EPA). Installation of poles without luminaires, or attachment of any unauthorized accessories to poles shall void this warranty.

**Job Name:**  
Chau Gas Station**Catalog Number:**  
2SB/WP9LE5/120L5K-VOLT/COLOR**Type:****L52**

Notes:

SLA12-19480

**KIM LIGHTING****WP9LE-LED**

WARP9™ - Large, Electronic LED

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**Type:****Job:****Catalog number:**

/	/	/	/
Mtg. Fixture	Electrical Module	Finish	Options
	See page 2		See pages 3-4

**Approvals:****Date:****Page: 1 of 5**

Select pole from Kim's Arms and Poles Selection Guide. If pole is provided by others indicate O.D. for arm fitting.

## Specifications

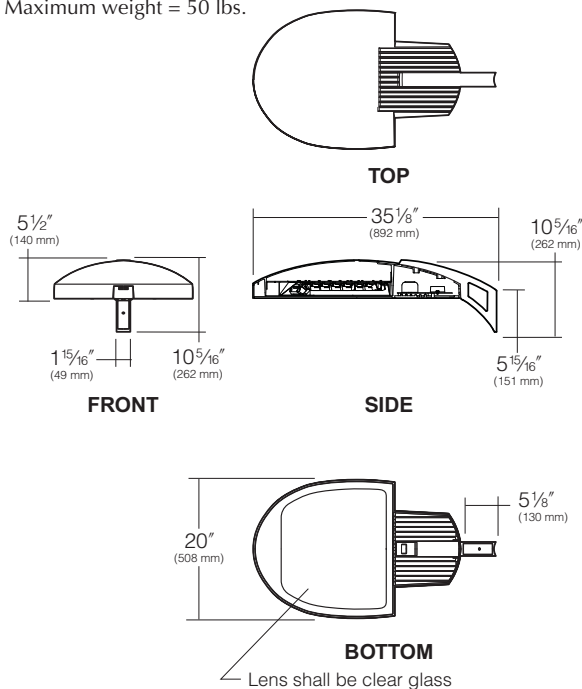
### WP9LE-LED

Large Electronic

120 Light Emitting Diodes

Total Max System Watts = 140W

Maximum weight = 50 lbs.



**Housing:** One-piece die-cast, low copper (<0.6% Cu) aluminum alloy with integral cooling ribs over the electrical compartment. Solid barrier wall separates optical and electrical compartments. A single die-cast aluminum cam-latch provides positive locking and sealing of the optical chamber. A one-piece extruded and vulcanized silicone gasket seals the housing against the lens surface.

**Lens:** Clear 3/16" thick tempered glass lens retained by a stainless steel piano hinge and a single die-cast aluminum cam-latch. The edges are camouflaged to conceal the outer portion of the housing.

**Electronic Module:** All electrical components are UL and CSA recognized, mounted on a single plate and factory prewired with quick-disconnect plugs. Module includes a driver, thermal control device and surge protector. Electrical module attaches to housing with no-tool hinges and latches, accessible by opening the lens frame only. Driver is rated for -40°F starting and has a 0-10V dimming interface for multi-level illumination options.

**Optical Module:** Precision, replaceable MicroEmitters are positioned to achieve directional control toward desired task. The entire EmitterDeck fastens to the housing as a one-piece module.

**Dimming:** The WARP9 LED luminaire can be dimmed from 0% to 100% by the use of its standard 0-10v Interface driver. To activate the dimming system, a wiring harness is supplied and attached to the DIM Port (DIM IN) on the LifeShield Protection System. This port allows the 0-10v Interface to bypass the LifeShield and control the driver. The LifeShield works in conjunction with the control system to assure that overheating will not harm the LEDs. The wiring harness is connected with the use of the Purple lead as the positive (+) and the Grey lead as the negative (-) to an available control signal (by others).

**Support Arm:** Heavy cast, low copper aluminum alloy with stainless steel mounting bolts. A pole reinforcing plate is provided with wire strain relief. Arm is circular cut for specified round pole.

**Finish:** Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness, applied over a titanated zirconium conversion coating; 2500 hour salt spray test endurance rating. Standard colors are Black, Dark Bronze, Stealth Gray™, Platinum Silver, or White. Custom colors are available.

**Warranty:** Kim Lighting warrants Warp9 LED products ("Product(s)") sold by Kim Lighting to be free from defects in material and workmanship for (i) a period of five (5) years for metal parts, (ii) a period of ten (10) years for exterior housing paint finish(s), (iii) a period of six (6) years for LED Light Engines (MicroEmitters) and, (iv) a period of five (5) years for LED power components (LED Driver, LifeShield™ device, Surge Protector), from the date of sale of such goods to the buyer as specified in Kim Lighting shipment documents for each product.

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

### Listings and Ratings

UL cUL 1598 <sup>1</sup>	CE	IP66 Rated	25°C Ambient
--------------------------	----	------------	--------------

<sup>1</sup>Suitable for wet locations.

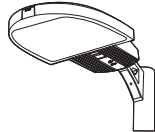
KIM LIGHTING RESERVES THE RIGHT TO CHANGE SPECIFICATIONS WITHOUT NOTICE.

U.S. Patent D568,521,  
Patent Pending Optics



**WP9LE-LED**  
WARP9™ - Large, Electronic LED  
revision 10-28-10 • kim\_wp9leled\_spec.pdf

**Type:**  
**Job:**



**Standard Features**

**Mounting**  
3Y configuration is available for round poles only.

Plan View:

EPA: 0.95, 1.9, 1.47, 2.4, 2.4, 2.7, n/a  
Cat. No.:  1A,  2B,  2L,  3T,  3Y,  4C,  1W

**Fixture**  
Cat. No. designates fixture and light distribution.

WP9 L E x

**Housing:**  
WP9=WARP9

**Driver:**  
E=Electronic

**Size:**  
L=Large, 120 LEDs, 140W

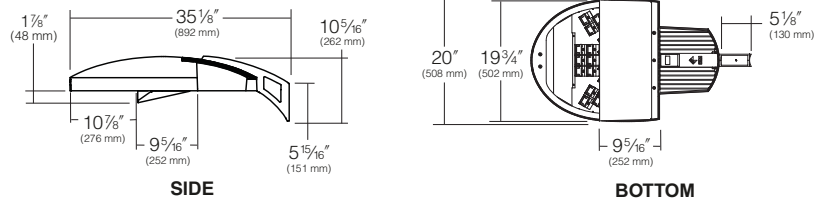
**Distribution:**

- 1=Type I Full Cutoff
- 2=Type II Full Cutoff
- 3=Type III Full Cutoff
- 4=Type IV Full Cutoff
- 4NB=Type IV-No Backlight
- 5=Type V Square Full Cutoff
- R=Type R Right Full Cutoff
- L=Type L Left Full Cutoff

Light Distribution:

**NOTE:** WARP9 LED system employs Nichia's SSL product.  
Part number: NS6x183 (NS6L183-H3, NS6W183-H3)

\* Type IV-NB No Backlight - Dimension



**Electrical Module**

120 LxK x

**Source:**  
120 = 120 LED's

**Color Temperature:<sup>1</sup>**

- L3K=3500K
- L5K=5100K
- L2K = 580nm - Amber

<sup>1</sup>4300K and 6500K are also available on an "Engineered-to-Order" (ETO) basis.

**Voltage:**

- 120=120V
- 208=208V
- 240=240V
- 277=277V
- 347=347V
- 480=480V

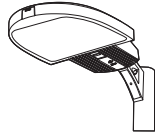
**PLEASE SPECIFY VOLTAGE**

Fixture	Total System Watts	Volt	Operating Amps
WP9-Large	140	120	1.17
WP9-Large	140	208	0.67
WP9-Large	140	240	0.58
WP9-Large	140	277	0.51
WP9-Large	140	347	0.40
WP9-Large	140	480	0.29

**Job Name:**  
Chau Gas Station**Catalog Number:**  
2SB/WP9LE5/120L5K-VOLT/COLOR**Type:****L52**

Notes:

SLA12-19480

**WP9LE-LED**  
WARP9™ - Large, Electronic LED  
revision 10-28-10 • kim\_wp9leled\_spec.pdf**Type:****Job:****Page: 3 of 5**

## Optional Features

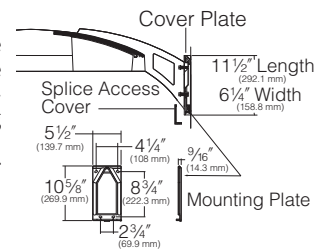
**PLEASE SPECIFY COLOR****Finish**

Super TGIC powder coat paint over a titanated zirconium conversion coating.

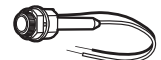
Color: Black    Dark Bronze    Stealth Gray™    Platinum Silver    White    Custom Color<sup>2</sup>  
Cat. No.:  **BL**     **DB**     **SG**     **PS**     **WH**     **CC**<sup>2</sup>Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: \_\_\_\_\_**Wall Mounting**Cat. No. **1W**

Select from Mounting on page 2.

A cast aluminum mounting plate is mounted to the wall with four bolts (by others). Fixture and arm are mounted to the cast aluminum cover plate before attaching to the wall mounting plate. The fixture-arm-cover plate assembly is hooked to the wall mounting plate and secured with stainless steel screws provided. Field splices are made at the opening in the cover plate. Cover is finished to match arm and fixture color.

**Fusing (internal only):**Cat. No. (see chart at right)  
 **No Option**

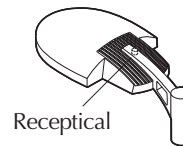
High temperature fuse holders factory installed inside the fixture housing. Fuse is included.

Line Volts: 120V    208V    240V    277V    347V    480V  
Cat. No.:  **SF**     **DF**     **DF**     **SF**     **SF**     **DF**

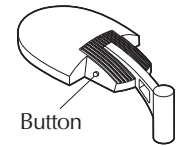
Single Fuse

**Photocell Controls**Cat. Nos. *receptacle* **A-25***Button*    *Line Volts* **A-30** - 120V **A-31** - 208V **A-32** - 240V **A-33** - 277V **A-35** - 347V **A-34** - 480V **No Option**

Two types of photocell controls are available. A receptacle for a NEMA base photocell or an internal photocell button sensor on the side of the fixture.



Receptacle

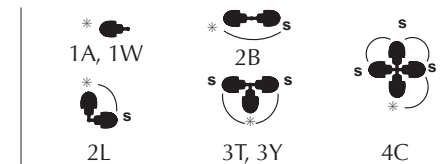


Button

Mounting (see page 2)

\* - Fixture with Photocell Receptacle

S - slave unit(s)

**Polycarbonate Lens**Cat. No.  **LS**  
 **No Option**

One-piece flat polycarbonate lens replaces standard tempered glass lens.

**CAUTION:** Use only when vandalism is anticipated to be high. For LED use only.

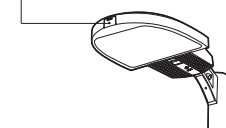
polycarbonate lens

**Tamper-Resistant Latch**Cat. No.  **TL**  
 **No Option**

Standard die-cast latch is provided with a captive 10-32 stainless steel flat socket-head screw to prevent unauthorized opening.

**NOTE:** Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.

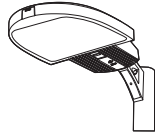
Tamper Resistant Latch



**Job Name:**  
Chau Gas Station**Catalog Number:**  
2SB/WP9LE5/120L5K-VOLT/COLOR**Type:****L52**

Notes:

SLA12-19480

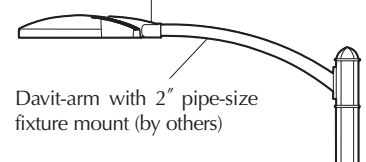
**KIM LIGHTING****WP9LE-LED**WARP9™ - Large, Electronic LED  
revision 10-28-10 • kim\_wp9leled\_spec.pdf**Type:****Job:****Page: 4 of 5**

## Optional Features

**Horizontal Slipfitter Mount**Cat. No.  HSF  
 No Option

Replaces standard mounting arm with a cast aluminum fitter to adapt to a horizontal 2" pipe-size mounting end (2 3/8" OD). The casting has a 5° adjustment to accommodate davit arms that are not horizontal. Horizontal pipe must be field drilled at one set screw location to insure against fixture rotation. Finish to match fixture color.

Horizontal Slipfitter



Davit-arm with 2" pipe-size fixture mount (by others)

**Vertical Slipfitter Mounts**Cat. No. includes Mounting  
Cat. No. **(See right)**  
 No Option

Allows fixture or fixtures with standard mounting arm to mount to a pole with a 2" pipe-size tenon (2 3/8" OD). Minimum 4" tenon length required.

Specify configuration (1SA, 2SB, 2SL, 3ST, 3SY, 4SC) 4" round or square aluminum with flush cap. Finish to match fixture and arm.

**NOTE:** 3Y only available on round slipfitter.

Cat. No.

- 
- VSF-1SA
- 
- 
- VSF-2SB
- 
- 
- VSF-2SL
- 
- 
- VSF-3ST
- 
- 
- VSF-3SY
- 
- 
- VSF-4SC



Round

Stainless  
steel set  
screws

Square

Cat. No.

- 
- SVSF-1SA
- 
- 
- SVSF-2SB
- 
- 
- SVSF-2SL
- 
- 
- SVSF-3ST
- 
- 
- SVSF-4SC

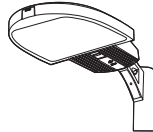
Mounting Configuration

1SA -single arm mount  
2SB -2 at 180°  
2SL -2 at 90°  
3ST -3 at 90°  
3SY -3 at 120°  
4SC -4 at 90°**Special Options for Street Lighting**Cat. No.  TB  
 No Option**Terminal Block (TB):** For field wire connections in the Large model only. 85AMP, 600V box clamp terminal block mounted to the housing inside the electrical compartment. Accepts #14 to #4 wire sizes. Factory prewired to electrical module quick-disconnect plug.**Dimming Controls**

Kim Lighting is working with several driver suppliers and control system manufacturers to develop a variety of proven turnkey solutions to meet any application's need. Kim Lighting will advise availability of complete control packages, and even two-way monitoring systems, once they have been tested and exceed Kim's high quality standards. Contact factory for further details and current capabilities.



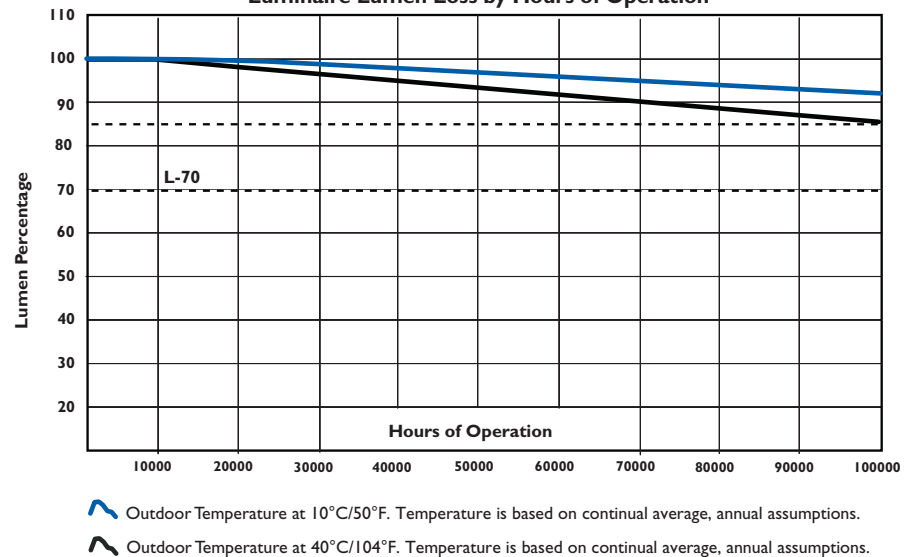
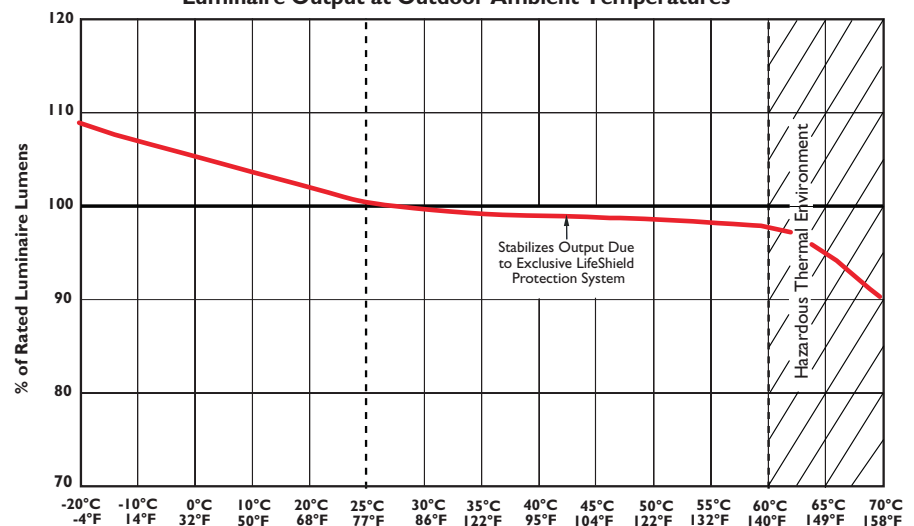

**KIM LIGHTING**
**WP9LE-LED**  
 WARP9™ - Large, Electronic LED  
 revision 10-28-10 • kim\_wp9leled\_spec.pdf

**Type:**
**Job:**
**Page: 5 of 5**


## Lumen Performance Charts

**NOTES:**

1. Lumen loss stabilization is a result of Kim Lighting's MicroEmitter™ luminaires exclusive LifeShield™ Protection System and Dual Heat Management.
2. The LifeShield™ Protection System will lower the current to the LEDs significantly if the luminaire is exposed to direct heat (sun) or excessive abnormal conditions.
3. Luminaire Lumen Loss assumptions are based on LM-80 results and an actual outdoor product testing based upon 5100K CCT, 350mA drive current, 25°C/77°F tab ambient and cathode temperature at 85°C/185°F. Assumptions past 6,000 hours are interpolated.
4. Cathode temperature baseline is at 85°C/185°F. If cathode temperature increases during ambient changes and abnormal environment conditions, % of rated lumens will slightly decrease.
5. Outdoor ambient temperatures are assumed SITU average by geographic region.
6. As Solid State Lighting technology and thermal management systems continually advance, lumen loss projections are subject to improvement.

**Luminaire Lumen Loss by Hours of Operation**

**Luminaire Output at Outdoor Ambient Temperatures**




**Job Name:**  
Chau Gas Station**Catalog Number:**  
KRS20-4120/COLOR

Notes:

**Type:****L52**

SLA12-19480

**KIM LIGHTING****KRS**

Round Steel Non-Tapered Pole

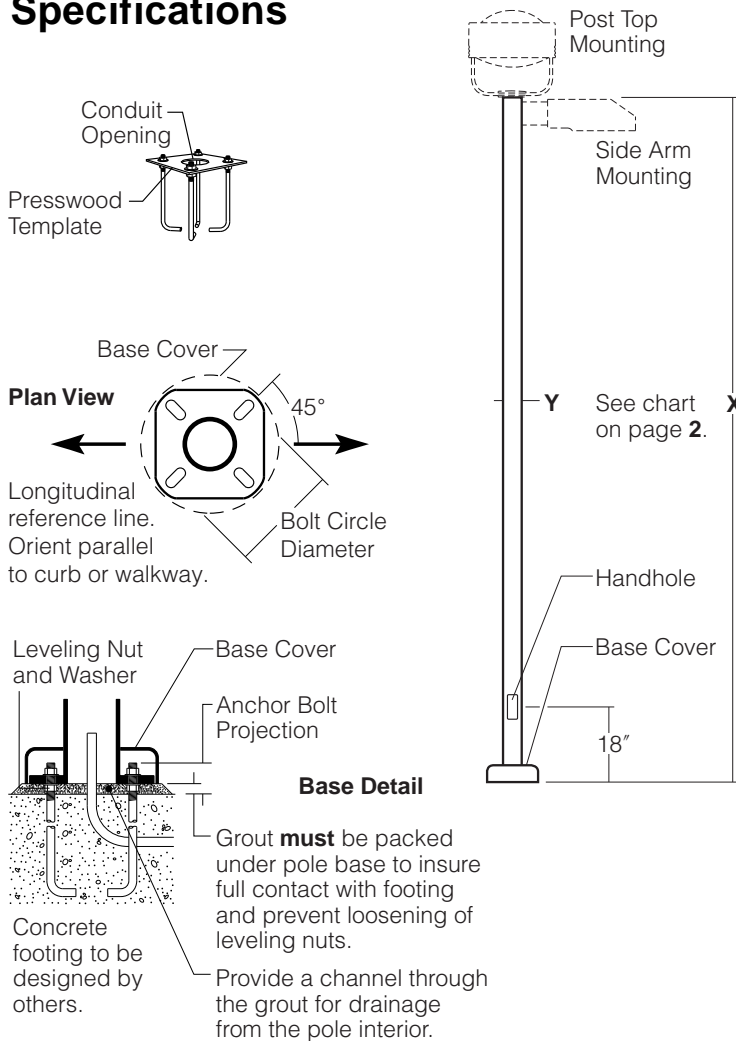
revision 10/8/08 • krs.pdf

**Type:****Job:****Catalog number:**

Pole	Mounting	Structural Luminaire Option	Finish	Optional Anchor Bolt Covers	Optional Duplex Receptacle
/	/	/	/	/	/
See page 2		See page 3			

**Approvals:****Date:****Page: 1 of 4**

## Specifications



**Pole Construction:** One-piece non-tapered round shaft of low carbon steel (ASTM-A500 Grade B, 42,000 PSI min. yield) with one flush-welded vertical seam. Shaft is welded to a flat steel anchor base (ASTM-36, 36,000 PSI min. yield).

**Base Cover:** Base has a two-piece cast aluminum full cover of 319 alloy, secured by stainless steel screws. Optional anchor bolt covers available (see page 3).

**Pole Cap:** A flush-sided cast aluminum pole cap is provided for side arm mounted luminaires. A rounded cast aluminum pole cap is provided for twin mounted luminaires (NS only).

**Handhole:** 18" up from base, with a gasketed cover and ground lug. 2" x 4" handhole provided on poles up to 16'. Reinforced 3" x 6" handhole provided on poles 20' and taller.

**Anchor Bolts:** Four fully galvanized anchor bolts provided (ASTM-36, 36,000 PSI min. yield), complete with eight galvanized nuts, eight galvanized flat washers, and a presswood template.

**Strength:** Poles will withstand wind loads as listed in chart (see page 2) when luminaires are mounted per fixture installation instructions.

**Finish:** Super TGIC thermoset polyester powder coat paint, 2.5 mil nominal thickness. 5 stage steel pretreatment to include phosphoric acid etch, followed by iron phosphate bath and chromate sealer for corrosion resistance. Standard colors are Black, Dark Bronze, Light Gray, Stealth Gray™, Platinum Silver, and White. Custom colors are available.

**CAUTION:** Installation of poles without luminaire(s) will compromise pole strength. Any accessories attached to pole, or other modifications will compromise pole strength and may result in pole failure.

**Maintenance:** A regularly scheduled maintenance program must be established to insure the protective paint coating is intact, corrosion or structural damage has not occurred, and anchor bolt nuts are tight. Failure to do so could lead to pole collapse and serious personal injury.



HUBBELL LIGHTING, INC.





**KRS**  
Round Steel Non-Tapered Pole  
revision 10/8/08 • krs.pdf

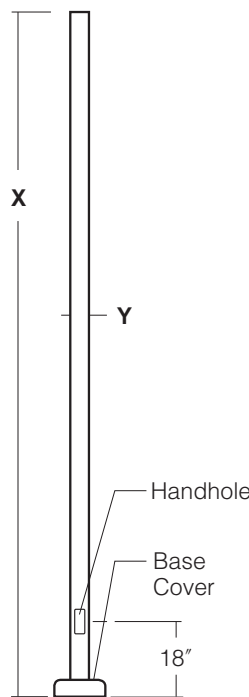
Type:

Job:

Page: 2 of 4

**Standard Features**

**NOTE:** All allowable pole and fixture EPAs are derived from the AASHTO standard. Responsibility lies with the specifier for correct pole selection based on local codes and standards for the job location. (See page 4).



Pole Catalog Number	X	Y	Allowable Pole EPA							Wind Map Steady Wind	
			85	90	100	110	120	130	140	150	
<input type="checkbox"/> KRS10-4120	10'	4" x 11 ga.	21.61	19.07	17.41	14.07	11.53	9.63	8.22	7.09	
<input type="checkbox"/> KRS12-4120	12'	4" x 11 ga.	17.33	15.22	13.84	11.05	8.94	7.28	6.26	5.37	
<input type="checkbox"/> KRS14-4120	14'	4" x 11 ga.	14.18	12.37	11.18	8.79	6.98	5.67	4.78	4.06	
<input type="checkbox"/> KRS16-4120	16'	4" x 11 ga.	11.72	10.13	9.09	7.01	5.42	4.30	3.58	3.01	
<input type="checkbox"/> KRS20-4120	19.5'	4" x 11 ga.	7.77	6.55	5.75	4.13	2.91	2.10	1.65	1.31	
<input type="checkbox"/> KRS20-4180	19.5'	4" x 7 ga.	12.67	10.92	9.77	7.46	5.70	4.48	3.70	3.09	
<input type="checkbox"/> KRS20-5120	19.5'	5" x 11 ga.	13.57	11.62	10.35	8.26	6.73	5.56	4.65	3.93	
<input type="checkbox"/> KRS20-5180	19.5'	5" x 7 ga.	21.60	18.79	16.94	13.71	11.31	9.47	8.02	6.86	
<input type="checkbox"/> KRS25-5120	25'	5" x 11 ga.	8.46	6.97	6.00	4.61	3.63	2.88	2.31	1.87	
<input type="checkbox"/> KRS25-5180	25'	5" x 7 ga.	14.59	12.44	11.03	8.77	7.12	5.86	4.88	4.10	
<input type="checkbox"/> KRS30-5180	30'	5" x 7 ga.	9.84	8.12	6.99	5.37	4.23	3.36	2.70	2.18	

**Anchor Base and Bolt Detail**

Pole Height	Pole Diameter	Bolt Circle DIA	Anchor Bolt Projection	Anchor Bolts Size	Base Cover Size	Conduit Opening
10'-16'	4"	7"-8 1/2"	3 3/8"	3/4" x 15" + 3"	11.7/8" DIA	3" DIA
19.5'	4"	7"-8 1/2"	3 3/8"	3/4" x 30" + 4"	11.7/8" DIA	3" DIA
19.5' - 30'	5"	7 1/2"-8 1/2"	3 3/8"	3/4" x 30" + 4"	11.7/8" DIA	3" DIA

**Mounting**

Flush Mount

Post Top

Side Arm

Plan Views:



Mounting<sup>1</sup>:  FM  PT  A  SA  B  SB  L  SL  T  ST  Y  SY  C  SC

**NOTE:** Allowable Pole EPA for jobsite wind conditions must be equal to or greater than fixture mount EPA. Please refer to Kim luminaire catalog for specific fixture.

<sup>1</sup>See luminaire drilling requirements in specific Kim luminaire catalog.

**Structural Luminaires Only** - Examples

- TS:** Single Tension for small and large Structural - KRS20-5120B-TS
- TD:** Double Tension for small and large Structural - KRS20-5120B-TD
- TR:** Truss for small and large Structural - KRS20-5120SB-TR
- XTS:** Single Tension for 1000W Structural - KRS20-5120B-XTS
- XTD:** Double Tension for 1000W Structural - KRS20-5120B-XTD
- XTR:** Truss for 1000W Structural - KRS20-5120B-XTR

**Job Name:**  
Chau Gas Station**Catalog Number:**  
KRS20-4120/COLOR

Notes:

**Type:****L52**

SLA12-19480

**KIM LIGHTING****KRS**

Round Steel Non-Tapered Pole

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**Type:****Job:****Page: 3 of 4**

## Standard and Optional Features

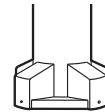
**Finish**

Super TGIC powder coat paint over an iron phosphate bath, chromate sealed metal pretreatment.

Color: Black Dark Bronze Light Gray Stealth Gray™ Platinum Silver White Custom Color<sup>1</sup>  
Cat. No.:  **BL**  **DB**  **LG**  **SG**  **PS**  **WH**  **CC****PLEASE ADVISE COLOR**<sup>1</sup>Custom color subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: \_\_\_\_\_**Optional Anchor Bolt Covers**Cat. No.  **BC4**  
 **BC5**  
 **No Option**

(Full base cover is standard.)

Four cast aluminum anchor bolt covers finished to match pole, fastened to base with stainless steel screws.

**4" pole Bolt Covers (BC4)**  
**5" pole Bolt Covers (BC5)****Optional Duplex Receptacle**Cat. No.  **DR**  
 **DR-GFI**  
 **No Option**

Mounted opposite the handhole, at 22½" from base of pole, in a cast aluminum box that is internally welded and sealed with a gasketed self-closing cover and locking bracket.

**Duplex Receptacle (DR)** rated 20A., 125V.**Duplex Receptacle with Ground Fault Circuit Interrupter (DR-GFI)** rated 20A., 125V.


**KIM LIGHTING**
**KRS**

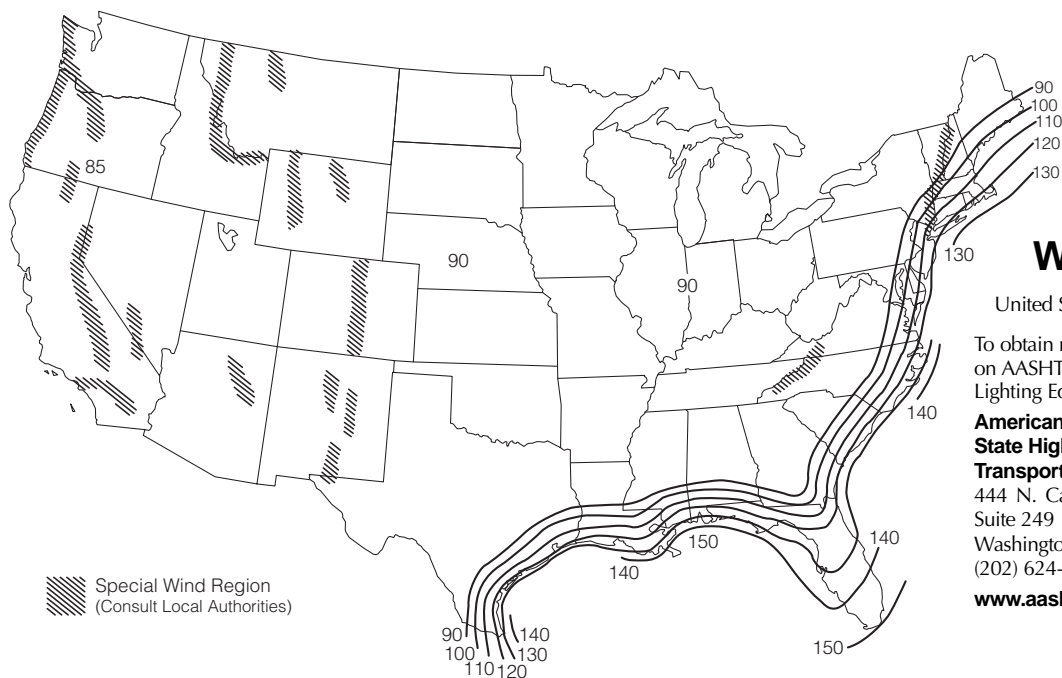
Round Steel Non-Tapered Pole

revision 10/8/08 • krs.pdf

Type:

Job:

Page: 4 of 4



## Wind Map

United States and Canada

To obtain more information on AASHTO Standards for Lighting Equipment contact:

**American Association of State Highway and Transportation Officials:**  
 444 N. Capitol Street, NW,  
 Suite 249  
 Washington, DC 20001  
 (202) 624-5800

[www.aashto.org](http://www.aashto.org)

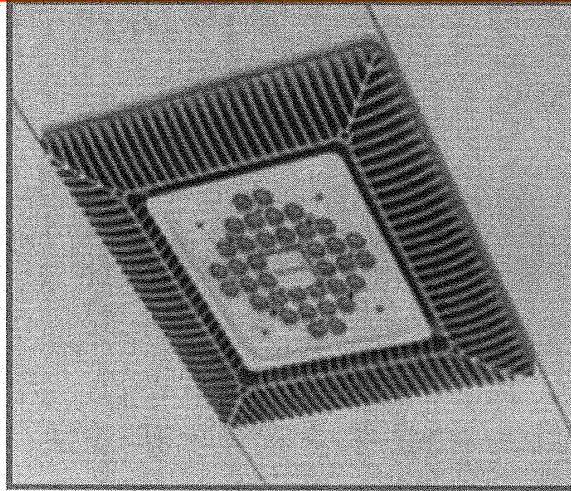
### NOTES:

- Values are based on 50 year mean recurrence interval 30' above grade.
- Hawaii has an **105 mph** wind velocity.
- Puerto Rico has a **125 mph** wind velocity.
- Caution must be exercised in determining wind velocities in special wind areas such as:
  - Mountainous Regions
  - Areas surrounding the Great Lakes or other large bodies of water or open land.
  - Areas subject to extreme wind conditions, such as hurricanes, typhoons, cyclones, and tornadoes.
  - Areas adjacent to airports.
  - Any specific area with a known or suspected abnormally high intermittent wind condition caused by geography, adjacent structures, or other specific local conditions that may not be recorded in National Weather Service records.
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than fixture EPA. Responsibility lies with the specifier for correct pole selection based on AASHTO wind map and job location.
- The Wind Map is intended only as a general guide. Always consult local authorities to determine maximum wind velocities, gusting and unique wind conditions for each specific application.
- **CAUTION:** Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide. Consult AASHTO standards.
- Extreme Wind Events: Hurricanes, Typhoons, Cyclones, or Tornadoes expose poles to flying debris, wind shear, and other unpredictable aerodynamic forces not indicated by the wind velocity ratings.
- Pole Strength Limited Warranty: Standard, unmodified Kim lighting Poles installed as recommended, undamaged by corrosion, or lack of maintenance, shall withstand steady wind conditions as provided on page 2 (Allowable Pole EPA). Installation of poles without luminaires, or attachment of any unauthorized accessories to poles shall void this warranty.





## UCL LED RECESSED CANOPY LIGHT

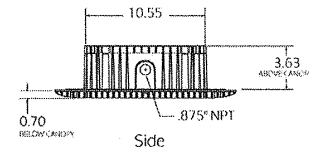
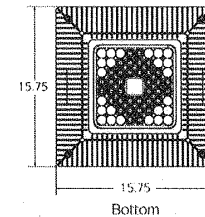


Petroleum marketers have long recognized the critical role outdoor lighting plays in attracting customers in a highly competitive marketplace. Now you can maximize your visibility with brilliant canopy illumination and set your location apart with the UCL LED recessed petroleum canopy luminaire. With an ultra thin profile, the UCL LED luminaire is capable of producing greater than 11,000 lumens of delivered light at a power consumption of less than 145 watts. Lumen packages with efficacies up to 85 lumens per watt are available in several standard IES and application specific light patterns. Whether it is new construction or retrofit applications, UCL LED gives you the solution to your retail petroleum lighting needs.

### Fixture Specifications

- Made from low-copper marine grade cast aluminum
- The UCL LED optical assembly is designed to exceed IP65 design standards allowing for light hose down cleaning
- Application specific optics maximize energy efficiency by focusing illumination on key areas and preventing wasted light
- The unique all inclusive housing provides an integral wiring and driver compartment for ease of installation
- Replaceable LED module enables future upgrades and service for the LED light engine
- Thermal frame technology provides state of the art passive cooling in the most demanding environments

### Dimensions



### Ordering and Technical Information

#### Sample Catalog Number

UCL LED	XX	G	XXX	XXX	XXX	5K	XX
---------	----	---	-----	-----	-----	----	----

Series	LED Quantity	LED Type	LED Driver	Voltage	Optics	Color Temp.	Color
--------	--------------	----------	------------	---------	--------	-------------	-------

<b>SERIES</b>	<b>UCL LED</b>						
---------------	----------------	--	--	--	--	--	--

<b>LED QUANTITY</b>	<b>24</b>	24 LEDs					
<b>36</b>	36 LEDs						
<b>60</b>	60 LEDs						

<b>LED TYPE</b>	<b>G</b>	High-Output CREE XP-G					
-----------------	----------	-----------------------	--	--	--	--	--

<b>LED DRIVER</b>	<b>700</b>	700mA					
-------------------	------------	-------	--	--	--	--	--

<b>VOLTAGE</b>	<b>UNV</b>	Universal 120-277 V					
<b>347</b>	347 V						
<b>480</b>	480 V						

<b>OPTICS (SPECIALTY &amp; IESNA)</b>	
<b>CV</b>	Concentrated Type V (Standard)
<b>ASY</b>	Concentrated Asymmetric
<b>SYM</b>	Concentrated Symmetric
<b>II</b>	IESNA Type II
<b>IV</b>	IESNA Type IV
<b>V</b>	IESNA Type V

<b>COLOR TEMPERATURE</b>	
<b>5K</b>	5000K, 75 CRI

<b>COLOR</b>	
<b>WH</b>	White
<b>OTHER</b>	(Consult Factory)



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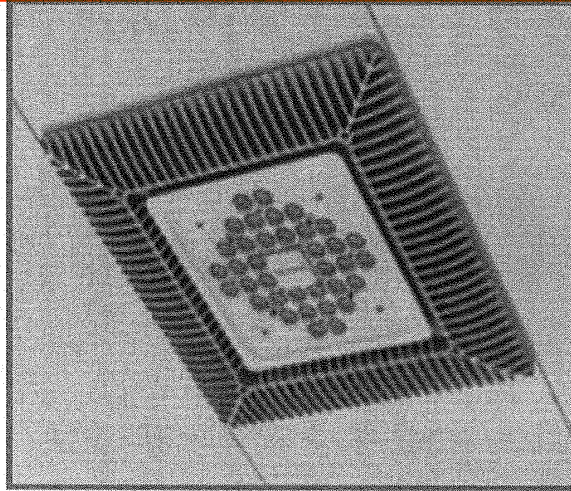
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[www.securitylighting.com](http://www.securitylighting.com)

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## UCL LED RECESSED CANOPY LIGHT

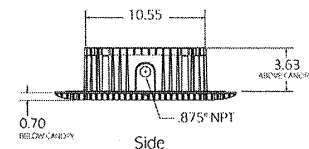
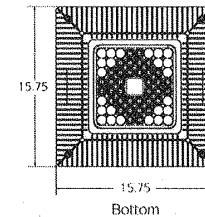


Petroleum marketers have long recognized the critical role outdoor lighting plays in attracting customers in a highly competitive marketplace. Now you can maximize your visibility with brilliant canopy illumination and set your location apart with the UCL LED recessed petroleum canopy luminaire. With an ultra thin profile, the UCL LED luminaire is capable of producing greater than 11,000 lumens of delivered light at a power consumption of less than 145 watts. Lumen packages with efficacies up to 85 lumens per watt are available in several standard IES and application specific light patterns. Whether it is new construction or retrofit applications, UCL LED gives you the solution to your retail petroleum lighting needs.

### Fixture Specifications

- Made from low-copper marine grade cast aluminum
- The UCL LED optical assembly is designed to exceed IP65 design standards allowing for light hose down cleaning
- Application specific optics maximize energy efficiency by focusing illumination on key areas and preventing wasted light
- The unique all inclusive housing provides an integral wiring and driver compartment for ease of installation
- Replaceable LED module enables future upgrades and service for the LED light engine
- Thermal frame technology provides state of the art passive cooling in the most demanding environments

### Dimensions



### Ordering and Technical Information

#### Sample Catalog Number

UCL LED	XX	G	XXX	XXX	XXX	5K	XX
---------	----	---	-----	-----	-----	----	----

Series	LED Quantity	LED Type	LED Driver	Voltage	Optics	Color Temp.	Color
--------	--------------	----------	------------	---------	--------	-------------	-------

<b>SERIES</b>	<b>UCL LED   UCL LED</b>						
---------------	--------------------------	--	--	--	--	--	--

<b>LED QUANTITY</b>	<table border="1"> <tr><td>24</td><td>24 LEDs</td></tr> <tr><td><b>36</b></td><td><b>36 LEDs</b></td></tr> <tr><td>60</td><td>60 LEDs</td></tr> </table>							24	24 LEDs	<b>36</b>	<b>36 LEDs</b>	60	60 LEDs
24	24 LEDs												
<b>36</b>	<b>36 LEDs</b>												
60	60 LEDs												

<b>LED TYPE</b>	<b>G   High-Output CREE XP-G</b>						
-----------------	----------------------------------	--	--	--	--	--	--

<b>LED DRIVER</b>	<b>700   700mA</b>						
-------------------	--------------------	--	--	--	--	--	--

<b>VOLTAGE</b>	<table border="1"> <tr><td><b>UNV</b></td><td><b>Universal 120-277 V</b></td></tr> <tr><td>347</td><td>347 V</td></tr> <tr><td>480</td><td>480 V</td></tr> </table>							<b>UNV</b>	<b>Universal 120-277 V</b>	347	347 V	480	480 V
<b>UNV</b>	<b>Universal 120-277 V</b>												
347	347 V												
480	480 V												

<b>OPTICS (SPECIALTY &amp; IESNA)</b>	
<b>CV</b>	Concentrated Type V (Standard)
<b>ASY</b>	Concentrated Asymmetric
<b>SYM</b>	Concentrated Symmetric
<b>II</b>	IESNA Type II
<b>IV</b>	IESNA Type IV
<b>V</b>	IESNA Type V

<b>COLOR TEMPERATURE</b>	
<b>5K</b>	5000K, 75 CRI

<b>COLOR</b>	
<b>WH</b>	White
<b>OTHER</b>	(Consult Factory)



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## 6" LED Downlight

### LF6LED

120V-277V  
0-10V Dimming

**APPLICATIONS:**

Liteframe LF6LED is a 6" commercial grade LED downlight that utilizes remote phosphor technology to obtain color consistency, energy savings, and low maintenance costs. 50,000 hours minimum life up to 40°C (104° F) in open plenum applications.

**HOUSING:**

One-piece 22 gauge non-corrosive steel platform. Pre-wired J-box with snap-on cover for easy access. Snap-in connection from driver compartment allows easy installation of light engine/trim assembly without tools above or below the ceiling and can be upgraded to accommodate technology improvements. Approved for 8 (4 in/4 out) No. 12 AWG conductors rated for 90°C through wiring.

**REFLECTOR:**

High purity aluminum, Alzak, iridescence suppressed, semi-diffuse reflector. Self-trim standard. Painted white self-trim (WT) available as option.

**LED LIGHT ENGINE:**

The LF6LED uses the Philips Fortimo DLM LED Module with remote phosphor technology. This technology provides controlled color consistency from fixture to fixture. The system is designed for optimal life and lumen maintenance (50,000 hours at 70% lumen maintenance). Both reflector and light engine assembly are mechanically retained to housing. The light engine comes standard with 80 CRI in all Kelvin temperatures.

**LED DRIVER:**

The LF6LED utilizes the Philips Fortimo LED Driver specifically designed to optimize efficiency of the Fortimo DLM Module. Driver is designed to match the 50,000 hour minimum life expectancy of the system. Meets UL Class 2, inherent short circuit protection, self limited, overload protected. If critical temperatures are reached on driver or LED module, integrated thermal feedback loop will gradually reduce current to protect system life. Driver is universal 120V-277V.

**DIMMING:**

Comes standard with 0-10V dimming capability. Flicker-free dimming to 10%. See list of compatible dimmers on pg. 4. For sizing of the controls, the dimming circuit requires up to 1mA.

**INSTALLATION:**

Light commercial bar hangers included. Universal adjustable mounting brackets also accept 1/2" EMT conduit or 1 1/2" or 3/4" lathing channel (by others) or Prescolite 24" bar hangers (B24 or B6). Wall wash orientation may be field adjusted in 90° increments to housing.

**CERTIFICATIONS:**

CSA certified to US and Canadian safety standards. Suitable for wet locations. EM is damp locations CSA US only. Approved for through wiring. Non-IC rated.

**WARRANTY:**

5 year warranty. See www.prescolite.com for details. Warranty for EM Battery handled directly

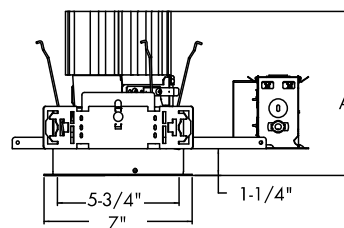
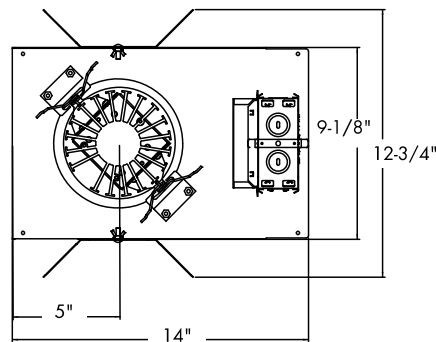
DATE: \_\_\_\_\_ TYPE: \_\_\_\_\_

FIRM NAME: \_\_\_\_\_

PROJECT: \_\_\_\_\_

## LiteFrame

Ceiling Cutout: 6 1/4"  
Maximum Ceiling Thickness 1 1/4"  
For conversion to millimeters, multiply inches by 25.4  
Not to Scale



	A
6LFLED5	6-3/4"
6LFLED7	7-3/4"

\*See page 4 for WW line art

\*See page 5 for EM line art

Order housing, reflector, and accessories separately

CATALOG NUMBER:

EXAMPLE: LF6LED - 6LFLED5 30K

HOUSING	VOLTAGE	OPTIONS	TRIM	LED COLOR TEMP	REF. FINISH	REF. COLOR	REF. OPTIONS	ACCESSORIES
<input type="checkbox"/> <b>LF6LED</b> 6" High Efficacy LED Housing with 0-10V Dimming to 10%	<input type="checkbox"/> <b>Blank</b> 120V-277V	<input type="checkbox"/> <b>WW</b> <sup>2,7</sup> Wall Wash <input type="checkbox"/> <b>EM</b> <sup>3,6</sup> Bodine BSL17C-C2 Battery Pack with integral test switch and indicator light <input type="checkbox"/> <b>WIH</b> wiHUBB® Enabled (see page 6)	<input type="checkbox"/> <b>6LFLED5</b> <sup>4</sup> 6" Open Reflector/ Light Engine Assembly, 1100 lumen module <input type="checkbox"/> <b>6LFLED7</b> <sup>5</sup> 6" Open Reflector/ Light Engine Assembly, 2000 lumen module	<input type="checkbox"/> <b>30K</b> 3000 Kelvin, 80 CRI <input type="checkbox"/> <b>35K</b> 3500 Kelvin, 80 CRI <input type="checkbox"/> <b>40K</b> 4000 Kelvin, 80 CRI	<input type="checkbox"/> <b>Blank</b> Alzak Semi-Diffuse	<input type="checkbox"/> <b>Blank</b> <input type="checkbox"/> <b>CG</b> Champagne Gold Alzak <input type="checkbox"/> <b>BL</b> Black Alzak <input type="checkbox"/> <b>WE</b> Wheat Alzak <input type="checkbox"/> <b>LW</b> Light Wheat Alzak <input type="checkbox"/> <b>PW</b> Pewter Alzak <input type="checkbox"/> <b>WH</b> <sup>1</sup> White Paint	<input type="checkbox"/> <b>WT</b> White Trim <input type="checkbox"/> <b>TRG</b> Trim Ring Gasket (factory installed) <input type="checkbox"/> <b>WW</b> <sup>2,7</sup> Wall Wash <input type="checkbox"/> <b>EM</b> <sup>3,6</sup> Bodine BSL17C-C2 Battery Pack with integral test switch and indicator light	<input type="checkbox"/> <b>B24</b> Set of two(2) 24" bar hangers for T-bar ceilings <input type="checkbox"/> <b>B6</b> Set of two (2) bar hangers for ceiling joist up to 24" centers <input type="checkbox"/> <b>LFSC6</b> <sup>3,7</sup> 6" reflector screw cover <input type="checkbox"/> <b>LFSC6 EM</b> <sup>3</sup> 6" reflector screw cover for EM <input type="checkbox"/> <b>LG15</b> <sup>7,8</sup> Dual-Lite 100VA Surface Wall Mount LiteGear Emergency Lighting Inverter <input type="checkbox"/> <b>LG1R</b> <sup>7,8</sup> Dual-Lite 100VA Recessed Wall Mount LiteGear Emergency Lighting Inverter <input type="checkbox"/> <b>LG1T</b> <sup>7,8</sup> Dual-Lite 100VA Recessed Ceiling T-Grid LiteGear Emergency Lighting Inverter <input type="checkbox"/> <b>LG25</b> <sup>7,8</sup> Dual-Lite 250 VA Surface Wall Mount LiteGear Emergency Lighting Inverter

<sup>1</sup> Requires WT option  
<sup>2</sup> WW option must be selected on both the housing and trim  
<sup>3</sup> Not compatible with WW  
<sup>4</sup> Phillips Fortimo 1100 lm LED module  
<sup>5</sup> Phillips Fortimo 2000 lm LED module  
<sup>6</sup> EM must be selected on both the housing and trim.  
<sup>7</sup> Not compatible with EM  
<sup>8</sup> See LFLED & LiteGear compatibility Matrix on page 5



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In a continuing effort to offer the best product possible we reserve the right to change, without notice, specifications or materials that in our opinion will not alter the function of the product.  
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LF6-LED-001





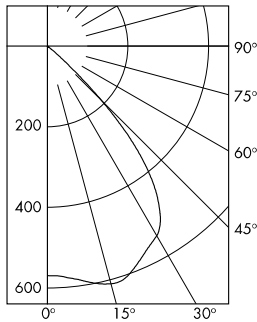
# PHOTOMETRIC DATA

## LiteFrame - 6" LF6LED Downlight

DRIVER DATA	LF6LED5 30K	LF6LED5 35K	LF6LED5 40K	LF6LED7 30K	LF6LED7 35K	LF6LED7 40K
Input Voltage	120-277V	120-277V	120-277V	120-277V	120-277V	120-277V
Input Frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Input Current	0.146A (120v) 0.063 (277v)	0.156A (120v) 0.067 (277v)	0.137A (120v) 0.059 (277v)	0.30A (120v) 0.13 (277v)	0.28A (120v) 0.12 (277v)	0.28A (120v) 0.12 (277v)
Input Power	17.3W	18.5W	16.3W	36W	34W	33W
Constant Current Output	200-700mA	200-700mA	200-700mA	200-700mA	200-700mA	200-700mA
Power Factor	≥0.90	≥0.90	≥0.90	≥0.90	≥0.90	≥0.90
THD	<20%	<20%	<20%	<20%	<20%	<20%
EMI Filtering	FCC 47CFR Part 15, Class A	FCC 47CFR Part 15, Class A	FCC 47CFR Part 15, Class A	FCC 47CFR Part 15, Class A	FCC 47CFR Part 15, Class A	FCC 47CFR Part 15, Class A
Operating Temperature	-20°C to 55°C	-20°C to 55°C	-20°C to 55°C	-20°C to 55°C	-20°C to 55°C	-20°C to 55°C
Dimming	0-10V	0-10V	0-10V	0-10V	0-10V	0-10V
Over-voltage, over-current, short-circuit protected						

### LF6LED 6LFLED5 30K

LED Light Engine: 3000K, 80 CRI  
System Wattage: 17.3W  
Fixture Delivered Lumens: 890  
Fixture Efficacy: 51  
Spacing Criteria: 1.2



#### CANDELA DISTRIBUTION

DEG	CANDELA	LUMENS
0	541	
5	548	53
15	580	164
25	540	250
35	459	283
45	177	134
55	3	5
65	0	1
75	0	0
85	0	0
90	0	0

Test No. 3264

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

#### ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	466	52.4
0-40	749	84.2
0-60	889	99.9
0-90	890	100.0
90-180	0	0.0
0-180	890	100.0

#### LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	Average - 0°
45°	14936
55°	312
65°	0
75°	0
85°	0

#### COEFFICIENTS OF UTILIZATION Zonal Cavity Method

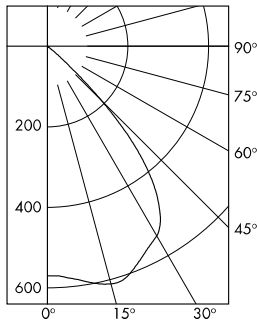
Room Cavity Ratio	% Effective Floor Cavity Reflectance																
	80%	70%	50%	30%	10%												
	20% Effective Floor Cavity Reflectance																
	% Wall Reflectance																
	70	50	30	10	70	50	30	10	50	30	10						
1	113	110	107	103	110	108	105	103	104	102	100	100	98	97	96	95	94
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86
3	100	93	88	83	98	92	87	82	89	85	81	87	83	80	84	81	79
4	94	86	80	75	92	85	79	74	82	77	74	80	76	73	78	75	72
5	89	79	73	68	87	78	72	67	76	71	67	75	70	66	73	69	66
6	83	73	66	62	82	72	66	61	71	65	61	69	64	61	68	64	60
7	78	68	61	56	77	67	61	56	66	60	56	64	59	55	63	59	55
8	74	63	56	52	72	62	56	51	61	55	51	60	55	51	59	54	51
9	69	59	52	47	68	58	52	47	57	51	47	56	51	47	55	50	47
10	66	55	48	44	64	54	48	44	53	48	44	52	47	43	52	47	43

LF6LED 6LFLED5 30K

Test No. 3264

### LF6LED 6LFLED5 35K

LED Light Engine: 3500K, 80 CRI  
System Wattage: 18.5W  
Fixture Delivered Lumens: 916  
Fixture Efficacy: 50  
Spacing Criteria: 1.2



#### CANDELA DISTRIBUTION

DEG	CANDELA	LUMENS
0	573	
5	584	56
15	606	170
25	562	259
35	469	289
45	179	136
55	3	4
65	1	1
75	0	0
85	0	0
90	0	0

Test No. 3332

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

#### ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	486	53.0
0-40	775	84.6
0-60	915	99.9
0-90	916	100.0
90-180	0	0.0
0-180	916	100.0

#### LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	Average -
45°	15105
55°	312
65°	141
75°	0
85°	0

#### COEFFICIENTS OF UTILIZATION Zonal Cavity Method

Room Cavity Ratio	% Effective Floor Cavity Reflectance																
	80%	70%	50%	30%	10%												
	20% Effective Floor Cavity Reflectance																
	% Wall Reflectance																
	70	50	30	10	70	50	30	10	50	30	10						
1	113	110	107	103	110	108	105	103	104	102	100	100	98	97	97	95	94
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86
3	100	93	88	83	98	92	87	82	89	85	81	87	83	80	84	81	79
4	94	86	80	75	92	85	79	74	82	77	74	80	76	73	79	75	72
5	89	79	73	68	87	78	72	67	76	71	67	75	70	66	73	69	66
6	83	73	67	62	82	72	66	62	71	65	61	70	65	61	68	64	60
7	78	68	61	57	77	67	61	56	66	60	56	65	60	56	64	59	55
8	74	63	56	52	73	63	56	52	61	55	51	60	55	51	59	55	51
9	70	59	52	48	68	58	52	48	57	52	47	56	51	47	55	51	47
10	66	55	48	44	65	54	48	44	54	48	44	53	47	44	52	47	44

LF6LED 6LFLED5 35K

Test No. 3332



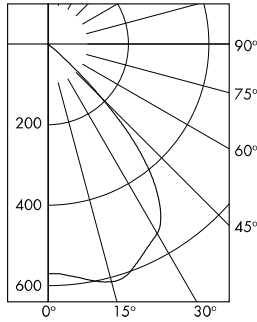


# PHOTOMETRIC DATA

## LiteFrame - 6" LF6LED Downlight

**LF6LED 6LFLED5 40K**

LED Light Engine: 4000K, 80 CRI  
System Wattage: 16.3W  
Fixture Delivered Lumens: 911  
Fixture Efficacy: 55  
Spacing Criteria: 1.2



CANDELA DISTRIBUTION		
DEG	CANDELA	LUMENS
0	569	
5	580	56
15	602	169
25	560	258
35	467	288
45	178	135
55	3	4
65	1	0
75	0	0
85	0	0
90	0	0

Test No 3333

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

**ZONAL LUMEN SUMMARY**

ZONE	LUMENS	%LUMINAIRE
0-30	483	53.0
0-40	771	84.6
0-60	911	99.9
0-90	911	100.0
90-180	0	0.0
0-180	911	100.0

**LUMINANCE DATA IN CANDELA/ SQ. METER**

Angle in Vertical	Average -
45°	15021
55°	312
65°	141
75°	0
85°	0

**COEFFICIENTS OF UTILIZATION** Zonal Cavity Method

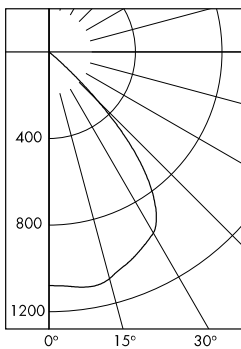
Room Cavity Ratio	% Effective Floor Cavity Reflectance										
	80%		70%		50%		30%		10%		
	20% Effective Floor Cavity Reflectance										
% Wall Reflectance											
	70	50	30	10	70	50	30	10	50	30	10
1	113	110	107	105	110	108	105	103	104	102	100
2	107	101	97	93	104	100	95	92	96	93	90
3	100	93	88	83	98	92	87	83	89	85	81
4	94	86	80	75	93	85	79	75	83	78	74
5	89	79	73	68	87	78	72	68	77	71	67
6	83	73	67	62	82	73	66	62	71	65	61
7	78	68	61	57	77	67	61	56	66	60	56
8	74	63	57	52	73	63	56	52	61	56	52
9	70	59	52	48	68	58	52	48	57	52	48
10	66	55	48	44	65	54	48	44	54	48	44

LF6LED 6LFLED5 40K

Test No. 3333

**LF6LED 6LFLED7 35K**

LED Light Engine: 3500K, 80 CRI  
System Wattage: 32.4W  
Fixture Delivered Lumens: 1656  
Fixture Efficacy: 50  
Spacing Criteria: 1.2



CANDELA DISTRIBUTION		
DEG	CANDELA	LUMENS
0	1079	
5	1087	104
15	1084	305
25	1006	465
35	855	526
45	322	246
55	6	8
65	2	1
75	0	1
85	0	0
90	0	0

Test No. 3678

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

**ZONAL LUMEN SUMMARY**

ZONE	LUMENS	%LUMINAIRE
0-30	874	52.8
0-40	1401	84.6
0-60	1654	99.9
0-90	1656	100.0
90-180	0	0.0
0-180	1656	100.0

**LUMINANCE DATA IN CANDELA/ SQ. METER**

Angle in Vertical	Average - 0°
45°	24955
55°	573
65°	259
75°	0
85°	0

**COEFFICIENTS OF UTILIZATION** Zonal Cavity Method

Room Cavity Ratio	% Effective Floor Cavity Reflectance										
	80%		70%		50%		30%		10%		
	20% Effective Floor Cavity Reflectance										
% Wall Reflectance											
	70	50	30	10	70	50	30	10	50	30	10
1	113	110	107	105	110	108	105	103	104	102	100
2	107	101	97	93	104	99	95	92	96	93	90
3	100	93	88	83	98	92	87	83	89	85	81
4	94	86	80	75	93	85	79	75	83	78	74
5	89	79	73	68	87	78	72	68	76	71	67
6	83	73	67	62	82	73	66	62	71	65	61
7	78	68	61	57	77	67	61	56	66	60	56
8	74	63	56	52	73	63	56	52	61	56	52
9	70	59	52	48	68	58	52	48	57	51	47
10	66	55	48	44	65	54	48	44	54	48	44

LF6LED 6LFLED7 35K

Test No. 3678

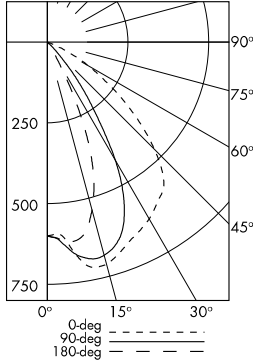




# PHOTOMETRIC DATA

## LiteFrame - 6" LF6LED Wall Wash Downlight

**LF6LEDWW 6LFLED5 35K WW**  
LED Light Engine: 3500K, 80 CRI  
System Wattage: 18.5W  
Fixture Delivered Lumens: 830  
Fixture Efficacy: 46



**CANDELA DISTRIBUTION**

DEG	0.0	90.0	180.0
0	600	600	600
5	608	632	619
15	711	683	537
25	656	566	235
35	599	243	19
45	470	35	4
55	243	4	1
65	65	1	0
75	1	1	0
85	0	0	0
90	0	0	0

**LUMINANCE DATA IN CANDELA/SQ. METER**

Angle in Vertical	0 DEG	90 DEG	180 DEG
45°	34598	675	338
55°	19974	104	0
65°	3530	0	0
75°	0	0	0
85°	0	0	0

**MULTIPLE UNITS**  
UNITS ON 3' CENTER UNITS ON 4' CENTER

3' DISTANCE FIXTURE MOUNTED OUT FROM WALLS  
FOOTCANDLE DISTRIBUTION ON WALL SURFACE

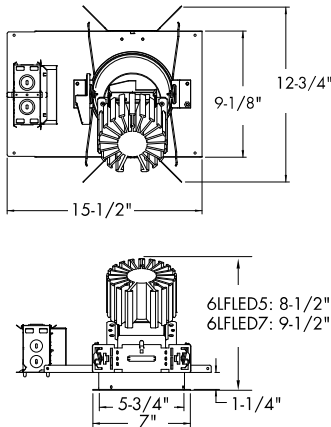
DISTANCE FROM CEILING IN FEET	UNITS ON 3' CENTER				UNITS ON 4' CENTER						
	1'	2'	3'	4'	1'	2'	3'	4'			
1	1	0	0	0	1	0	1	1	0		
2	14	10	2	0	0	14	11	14	14	4	14
3	19	15	8	2	0	20	23	20	19	15	19
4	14	13	9	4	1	18	22	18	15	17	15
5	10	9	7	5	2	14	17	14	12	15	12
6	6	6	6	4	3	11	12	11	9	11	9
7	5	4	4	3	3	8	9	8	7	8	7
8	3	3	3	3	2	6	6	6	5	6	5
9	2	2	2	2	2	5	5	5	4	5	4

LF6LED WW Test No. 3483

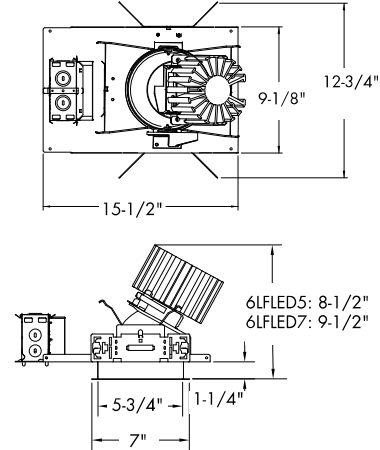
Test No. 3483

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

### STANDARD WALL WASH ORIENTATION



### FIELD CONFIGURABLE WALL WASH ORIENTATION



### DIMMING COMPATIBILITY TABLE

Control Manufacturer	Wallbox Dimmer	Power Booster Available
Douglas Lighting Controls	WPC 5721	
Entertainment Technology	Tap Glide TG600FAM120 (120V) Tap Glide Heatsink TGH1500fam120 (120V) Oasis DA2000FAMU (120/277V)	
Honeywell, Inc.	EL731A1019 and EL7315A1009	EL7305A1010
HUNT Dimming	Preset Slide: PS-010-IV-120V and PS-010-WH-120V Preset Slide: PS-010-3W-IV-120V and PS-010-3W-WH-120V Preset Slide: PS-010-IV-277V and PS-010-WH-277V Preset Slide: PS-010-3W-IV-277V and PS-010-3W-WH-277V Preset Slide, controls FD-010: PS-1FC-010-IV- and PS-1FC-010-3W-WH-120/277V Preset Slide, controls FD-010: PS-1FC-010-32-IV- and PS-1FC-010-3W-WH-120/277V Remoted mounted unit: FD-010120V and FD-010-277V	
Lehigh Electric Products Co.	Solitaire	PBX
Leviton Lighting Controls Div.	Leviton Centura Fluorescent Control System IllumaTech™ IP7 Series	CN100 PE300
Lutron Electronics Co., Inc.	Visit <a href="http://www.lutron.com/advance">www.lutron.com/advance</a> for the latest control information and selection	
PDM Electrical products	WPC-5721	
Starfield Controls	TR61 with DALI interface part	RT03 DALInet Router
The Watt Stopper, Inc.	LS-4 used with LCD-101 and LCD-103	





# PHOTOMETRIC DATA

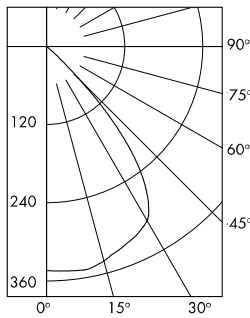
## LiteFrame - 6" LF6LED Downlight Integral EM & Central Inverters

### Integral EM

Prescolite provides photometric performance of the LiteFrame LED when operating on integral EM back up power as a tool to approximate light levels in back-up battery operation. This should not be deemed a guarantee of performance. The LiteFrame LED is CSA listed as an emergency fixture for applications not to exceed 16ft.

### LF6LEDEM 6LFLED5 35K EM

LED Light Engine: 3500K, 80 CRI  
Fixture Delivered Lumens: 505



### CANDELA DISTRIBUTION

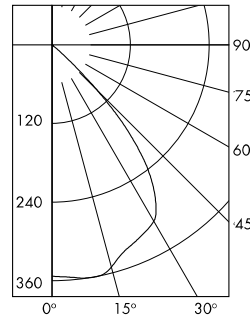
DEG	CANDELA	LUMENS
0	344	
5	346	33
15	341	96
25	322	148
35	266	163
45	73	62
55	2	2
65	0	0
75	0	0
85	0	0
90	0	0

Test No. 3912

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

### LF6LEDEM 6LFLED7 35K EM

LED Light Engine: 3500K, 80 CRI  
Fixture Delivered Lumens: 527



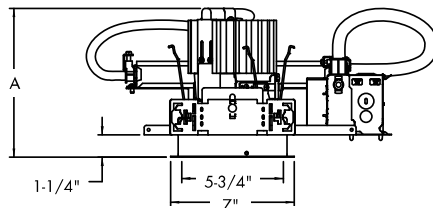
### CANDELA DISTRIBUTION

DEG	CANDELA	LUMENS
0	353	
5	356	34
15	351	99
25	322	149
35	272	168
45	97	74
55	2	3
65	1	0
75	1	0
85	0	0
90	0	0

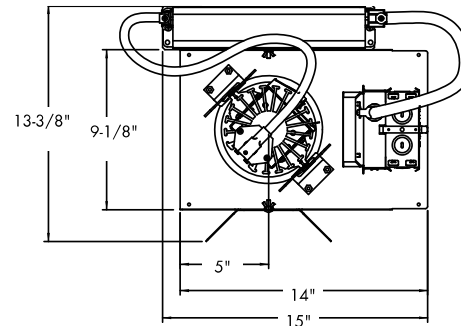
Test No. 3913

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

### EM DIMENSIONS



LIGHT ENGINE	A
6LFLED5EM	7-1/2"
6LFLED7EM	8-1/2"



### Central Inverters

For fixture full light output in back-up mode, Prescolite and Dual-lite have jointly tested the LiteFrame LED with the 100 (LG1) and 250 (LG2) VA LiteGear inverters. Below is a chart that shows the maximum number of LiteFrame LED products that can be wired to a single LiteGear. (Note: Not for use with integral EM option). For more information on LiteGear go to [www.dual-lite.com](http://www.dual-lite.com)

### LiteFrame LED & Dual-Lite LiteGear Compatibility Matrix

Maximum Number of LiteFrame LED Downlights that can be wired to a single LiteGear Inverter.

	LED5	LED7
<b>LG1</b>	3	2
<b>LG2</b>	8	5





**Job Name:**  
Chau Gas Station

**Catalog Number:**  
LNC-5LU-5K

Notes:

**Type:**

**WP**

SLA12-19480

**LAREDO  
SERIES**  
LNC

**NEW**

Cat.#	Approvals	
Job	Type	



**SPECIFICATIONS**

**Intended Use:**

The compact Laredo LED LNC is designed for entry/perimeter illumination for safety, security and identity. Typical mounting height is up to 10 feet with 40ft fixture spacing (without acrylic diffuser) and 30ft spacing with acrylic diffuser installed. Photocontrol option is available on 120V configured fixtures to provide dusk-to-dawn control for additional energy savings.

**Construction:**

Decorative die-cast aluminum housing and door. Rugged design protects internal components and provides excellent thermal management for long life – 50,000 hours minimum LED life at L70 rating. Dark Bronze 800 series powder paint finishes provide lasting appearance in outdoor environments.

**Optics:**

**LED:** 5 High power LEDs deliver 750 lumens, 60 lumens per watt. 5000K/70 CRI type III lenses provide wide lateral spread.

**Lenses:**

Full cut-off distribution; Ambient diffuser included, use for applications near entrances or locations where reduced brightness is desired.

**Electrical:**

Electronic driver 12.6w system, 0.13 - .05 AMPS, 120-277V, 50/60Hz; Photocontrol option available (120V only).

**Installation:**

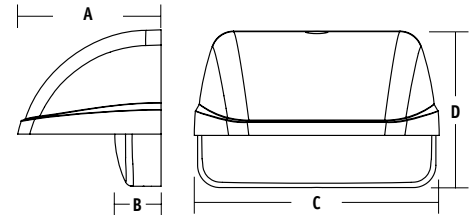
Quick mount adapter provides quick installation, designed for both recessed box or surface conduit wiring

**Listings:**

Listed and labeled to UL 1598 for wet locations, 25° C ambient environments.

**Warranty:**

5 year limited warranty



A	B	C	D
4.81" (122 mm)	1.55" (39 mm)	8.22" (209 mm)	5.25" (133 mm)



**ORDERING INFORMATION**

ORDERING EXAMPLE: LNC-5LU-5K

CATALOG NUMBER	WATTAGE	NUMBER OF LEDS	VOLTAGE	LUMENS <sup>1</sup>	LIFE	CCT	WEIGHT LBS. (KG)
<b>LNC-5LU-5K</b>	12.6w	5	120-277V	750	50,000hrs	5000k	4.0 (1.8)
<b>LNC-5LU-5K-PC</b>	12.6w	5	120V	750	50,000hrs	5000k	4.0 (1.8)

<sup>1</sup> When using acrylic diffuser accessory lumen output is 614 with increased uniformity

**PHOTOMETRICS**

Laredo LNC (without acrylic diffuser) **LNC5LU5K.IES**

Laredo LNC (with acrylic diffuser) **LNC5LU5KAD.IES**

