

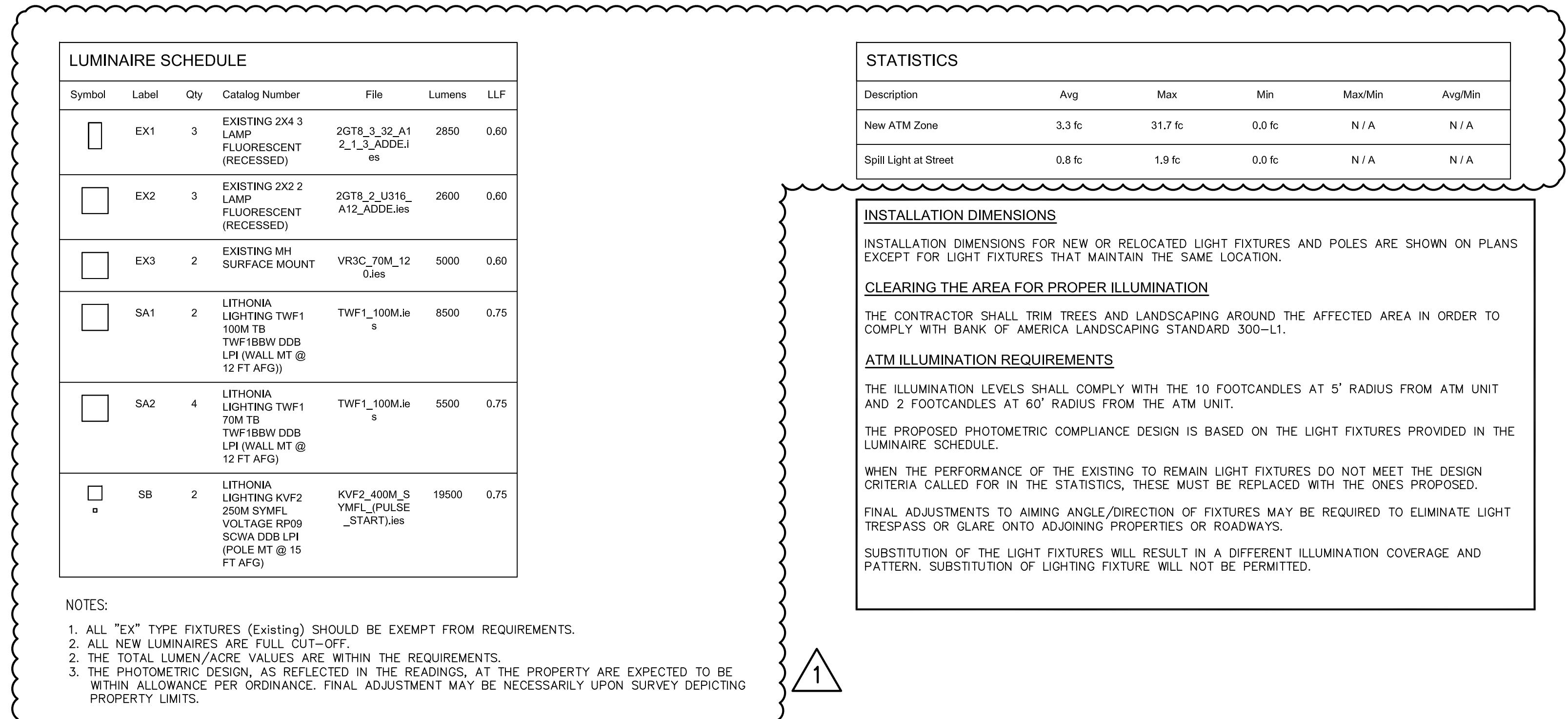
ELECTRICAL SYMBOL LEGEND	
	<b>DESCRIPTION</b>

NOTES:  
 1. NOT ALL SYMBOLS ARE USED.  
 2. R OR EL DENOTES RELOCATED.  
 3. E DENOTES EXISTING.  
 4. ER DENOTES EXISTING TO BE REMOVED.

ABBREVIATIONS	
A.I.C.S. A.H.U. A.T.M. E.W.H. LTC A.F.F. U.O.N. E.W.C. E.C. C. C.U. C.K.T. C.P.T. M.T.D. R.E.F. T.Y.P. G.F.I. W.P. B.K.R. S.U.R.F. N.I.C. N.T.S. R.G.S.C. P.V.C. R.T.U. X.F.M.R. R.E.C.P.T. D.I.S.T. G.N.D. J.B. W/ P.A. S.H.T. B.B. F.L.O.O.R. N.L. ① ◊	AMPS INTERRUPTING CAPACITY SYMMETRICAL AIR HANDLING UNIT AUTOMATIC TELLER MACHINE ELECTRIC WATER HEATER LIGHTING ABOVE FINISHED FLOOR. UNLESS OTHERWISE NOTED. ELECTRIC WATER COOLER. EMPTY CONDUIT. CONDUIT. CONDENSING UNIT. CIRCUIT. CONTROL POWER TRANSFORMER. MOUNTED. REFER TO ITEM, DETAIL OR DRAWING INDICATED. TYPICAL. GROUND FAULT INTERRUPTER. WEATHERPROOF. BREAKER. SURFACE MOUNTED. NOT IN CONTRACT. NOT TO SCALE. RIGID GALVANIZED STEEL CONDUIT. POLYVINYLCHLORIDE ROOFTOP UNIT. TRANSFORMER RECEPTACLE DISTRIBUTION GROUND JUNCTION BOX WITH PUBLIC ADDRESS SHEET BACKBOARD FLUORESCENT NIGHT LIGHT DESIGNATION FOR NOTE. SEE KEY NOTES.

GENERAL NOTES - ELECTRICAL	
1	GENERAL CONDITIONS: THE GENERAL CONDITIONS FORM A PART OF THE SPECIFICATIONS FOR THIS TRADE AND EACH SUBCONTRACTOR MUST READ THE GENERAL CONDITIONS AS WELL AS THE SPECIFICATIONS FOR WORK OF THE OTHER TRADES TO ASCERTAIN WHAT WORK AND MATERIALS HE MUST SUPPLY TO THE OTHER CONTRACTORS.
2	SITE INVESTIGATION: IT SHALL BE THE RESPONSIBILITY OF BIDDERS TO VISIT THE SITE OF THE WORK AND TO ACQUAINT THEMSELVES WITH ALL INFORMATION REGARDING THE BUILDING.
3	MATERIALS: THE MATERIALS USED SHALL ALL CONFORM TO LOCAL CODE REQUIREMENTS. ALL MATERIALS USED SHALL BE LISTED OR SHALL BEAR U.L. APPROVAL.
4	DESIGN: THE INSTALLATION OF THE WIRING SYSTEM ON THESE DRAWINGS SHALL CONFORM TO THE REGULATIONS OF THE LOCAL CODES AND ORDINANCES, N.E.C. AND LOCAL UTILITY COMPANIES.
5	GUARANTEE: THE SUB-CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE THAT ALL WORK EXECUTED UNDER THIS CONTRACT SHALL BE FREE FROM DEFECTS OF WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE FINAL ACCEPTANCE AND THAT HE WILL AT HIS OWN EXPENSE, REPAIR AND REPLACE ALL WORK WHICH BECOMES DEFECTIVE DURING THE TIME OF THE GUARANTEE.
6	CONDUCTORS: ALL CONDUCTORS SHALL BE OF 98% CONDUCTIVITY COPPER. CONDUCTOR INSULATION SHALL BE TYPE THW OR THHN FOR NO. 8 AWG AND LARGER AND TYPE THHN/THWN FOR NO. 10 AWG OR SMALLER UNLESS OTHERWISE NOTED ON PLANS OR IN THE SCHEDULES.
7	RACEWAYS: ALL CONDUCTORS SHALL BE IN RACEWAYS AS FOLLOWS: A PVC SCHEDULE 40 SHALL BE USED UNDERGROUND, IN CONCRETE, OR UNDER GROUND FLOOR SLAB. B I.M.C. OR R.G.S.C. SHALL BE USED WHERE EXPOSED OUTDOORS, UP TO A POINT 12" BELOW GRADE WHERE TRANSITIONS TO PVC SHALL BE MADE. C FLEXIBLE CONDUIT SHALL BE USED FOR CONNECTION TO ALL VIBRATING EQUIPMENT AND TO ALL RECESSED MOUNTED FIXTURES. FLEXIBLE CONDUIT SHALL BE LIQUID-TIGHT WHERE EXPOSED TO WEATHER. D ELECTRICAL METALLIC TUBING SHALL BE USED INDOORS, WHERE CONCEALED, ABOVE GRADE.

ELECTRICAL SPECIFICATIONS	
A.- OVERALL INSTALLATION: THE INSTALLATION SHALL COMPLY WITH THE FOLLOWING:	
1. LIFE SAFETY CODE (NFPA 101). 2. NATIONAL ELECTRICAL ( NFPA 70). 3. INTERNATIONAL ENERGY CONSERVATION CODE.	5. PERMITS AND INSURANCE: CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, TAXES, INSPECTIONS, TESTS, FINES AND OTHER ITEMS REQUIRED FOR THE INSTALLATION OF THE COMPLETE ELECTRICAL SYSTEMS AS OUTLINED HEREIN AND SHOWN ON PLANS. CONTRACTOR SHALL PROVIDE ALL REQUIRED INSURANCE FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
4. LOCAL CODES AND REGULATIONS.	10. RECORD DRAWING: MAINTAIN A COMPLETE SET OF PRINTS FOR INDICATING ALL CHANGES. USE COLORED PENS TO MARK CHANGES. INDICATE DATE OF EXECUTION AND DELIVER THE SET TO THE ARCHITECT/ENGINEER UPON COMPLETION. CONTRACTOR SHALL STAMP "AS BUILT" ON PRINTS AND PLANS, DATE AND SIGN IN INK.
B.- CONDUCTORS CALCULATIONS: CONDUCTORS CALCULATIONS ARE BASED ON 75°C. ALL CONDUCTORS TO BE COPPER.THWN.	11. DATA/TELECOMMUNICATION SYSTEMS: A.- FOR DATA/TELECOMMUNICATION SYSTEMS UTILIZE CONTRACTOR EXPERIENCED IN THE INSTALLATION OF COMMUNICATION SYSTEMS AND CERTIFIED BY BUILDING INDUSTRY CONSULTING SERVICE INTERNATIONAL.
1. GENERAL THE GENERAL AND SPECIAL CONDITIONS AND REQUIREMENTS OF THE CONTRACT AND SPECIFICATIONS AS WELL AS PLANS AND SPECIFICATIONS OF THE TRADES SHALL BE A PART OF THE WORK HEREBY SPECIFIED. THESE SPECIFICATIONS AND ACCOMPANYING PLANS ARE INTENDED TO PROVIDE FOR THE COMPLETE FURNISHING AND INSTALLATION OF THE ELECTRICAL SYSTEMS. TO PROVIDE MEANS TO FURNISH AND INSTALL.	12. CUTTING AND PATCHING: A.- MAJOR CUTTING, PATCHING AND PAINTING: CONTRACTOR THIS CONTRACT WILL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER. ALL SURFACES SHALL BE RETURNED TO ORIGINAL CONDITIONS AFTER THE INSTALLATION OF THE EQUIPMENT.
2. COMPLIANCE: WORKMANSHIP, MATERIALS AND INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE APPLICABLE EDITION OF THE SBC, NEC, NFPA, NEMA, ASTM, OSHA, UL, ANSI, HRS, HEALY AGENCIES AND OTHER APPROPRIATE MATERIALS, STANDARDS AND LOCAL CODES AND PERTAINING REGULATIONS ESTABLISHED BY THE RULING AUTHORITY. HAVING JURISDICTION. CONTRACTORS SHALL ALSO MEET THE REQUIREMENTS STRICT THAN THOSE STANDARDS CITED ABOVE.	13. FIELD CHANGES: A.- THE ELECTRICAL CONTRACTOR SHALL CONSULT THE ENGINEER BEFORE THE IMPLEMENTATION OF FIELD CHANGES, MODIFICATIONS OR ADDITIONS COVERING ELECTRICAL EQUIPMENT, ELECTRICAL INSTALLATION, DISTRIBUTION OF THE ELECTRICAL LOADS, ELECTRICAL RISER OR SERVICE FEEDERS THAT DEVIATES FROM THE ORIGINAL SIGNED, SEALED AND APPROVED ELECTRICAL PANS.
3. WORKMANSHIP: ALL WORK SHALL BE PERFORMED BY CONTRACTORS LICENSED IN THEIR RESPECTIVE DISCIPLINE. WORK SHALL BE DONE IN A FIRST CLASS MANNER, FULLY OPERATIVE, AND TO THE ACCEPTANCE OF THE ARCHITECT AND ALL NECESSARY LABOR AND MATERIAL REQUIRED FOR THE COMPLETION OF THE WORK, EXCLUDING BUT NOT LIMITED TO RELATED WORK SUCH AS CONNECTION OF EXISTING SYSTEMS, EXCAVATIONS AND BACK FILLING.	8. INTERFERENCE: THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES SO THAT INTERFERENCE WITH EXISTING CONDITIONS, CONDUITS, PIPING, EQUIPMENT, ARCHITECTURAL AND STRUCTURAL MEMBERS BE AVOIDED.
4. MATERIALS: CONTRACTOR SHALL PROVIDE ALL NEW MATERIALS OF AMERICAN MANUFACTURE, BEARING THE MANUFACTURER'S LABORATORY QUALITY LABEL AS APPROPRIATE. MATERIALS SHALL BE NEW, SUITABLE FOR THE APPLICATION AND ABOVE STANDARD QUALITY NORMALLY USED FOR THE PURPOSE AS CALLED FOR ON PLANS. SUPPLEMENTAL MATERIALS, PRODUCTS AND COMPONENTS NECESSARY TO COMPLY WITH THE INTENT OF THE CONTRACT DRAWINGS AND SPECIFICATIONS, WHETHER LISTED OR SPECIFIED ON THESE SECTIONS, SHALL BE RESPONSIBLE FOR PROVISIONS AND COORDINATION OF DELIVERY OF MATERIALS. EQUIPMENT MARRED DURING SHIPMENT OR INSTALLATION SHALL BE TOUCHED UP AND REFINISHED TO FACTORY FINISH, REPLACED WHERE NOT ACCEPTABLE.	9. SUBSTITUTIONS: PRODUCTS AND MATERIALS CALLED OUT BY TRADE NAME AND/OR CATALOG NUMBERS ESTABLISH A STANDARD OF QUALITY, APPEARANCE, PERFORMANCE AND DIMENSION. CONTRACTORS SHALL BASE HIS PROPOSAL ON THOSE ITEMS AS THEY SHALL BE CONSIDERED AS A STANDARD PRODUCT. SUBSTITUTIONS SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT/ENGINEER, DEMONSTRATING THAT PRODUCT IS OF COMPARABLE AND BASIC DESIGN, CONSTRUCTION, STANDARDS AND WARRANTIES, DIMENSIONS TO FIT WITHOUT CHANGE, AND DOES NOT CAUSE EXTRA CHARGE TO OTHER TRADES. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING EQUALITY OF SUBSTITUTION: ARCHITECT/ENGINEER WILL UNDER NO CIRCUMSTANCES, BE REQUIRED TO PROVE SUCH ITEM IS OR IS NOT OF EQUAL QUALITY TO THE SPECIFIED ITEM. ARCHITECT/ENGINEER EXPENSES INCURRED SHALL BE PAID BY THE CONTRACTOR.
5. PERMITS AND INSURANCE: CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, TAXES, INSPECTIONS, TESTS, FINES AND OTHER ITEMS REQUIRED FOR THE INSTALLATION OF THE COMPLETE ELECTRICAL SYSTEMS AS OUTLINED HEREIN AND SHOWN ON PLANS. CONTRACTOR SHALL PROVIDE ALL REQUIRED INSURANCE FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.	C.- THE INTEGRATION BY THE ENGINEER OF FIELD CHANGES, MODIFICATIONS AND ADDITIONS INTO THE ORIGINAL SET OF PLANS TO CREATE A FINAL OF "AS BUILT" PLANS IS NOT INCLUDED IN THE ORIGINAL CONTRACT AND SHALL BE CONSIDERED AN OPTIONAL ITEM.



NOTES:  
 1. ALL "EX" TYPE FIXTURES (Existing) SHOULD BE EXEMPT FROM REQUIREMENTS.  
 2. ALL NEW LUMINAIRES ARE FULL CUT-OFF.  
 3. THE TOTAL LUMEN/ACRE VALUES ARE WITHIN THE REQUIREMENTS.  
 4. THE PHOTOMETRIC DESIGN, AS REFLECTED IN THE READINGS, AT THE PROPERTY ARE EXPECTED TO BE WITHIN ALLOWANCE PER ORDINANCE. FINAL ADJUSTMENT MAY BE NECESSARILY UPON SURVEY DEPICTING PROPERTY LIMITS.

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STATE OF NORTH CAROLINA  
RAYMUNDO FEITO  
#52095  
#1887  
Architect • Seal/Signature

Construction Documents for:

**BANK OF AMERICA**  
**DRIVE-UP ATM INSTALLATION**  
at:  
CARRBORO BANKING CENTER  
104 EAST MAIN STREET,  
CARRBORO, NC 27510

Issue	Date & Issue Description	Drawn By	Checked By
01	12/31/12 PERMIT ISSUE	JG P&G	
02	06/04/13 BLDG COMMENTS	JG P&G	

**ARCHITECTURE•PLANNING•INTERIOR DESIGN•SPACE PLANNING**

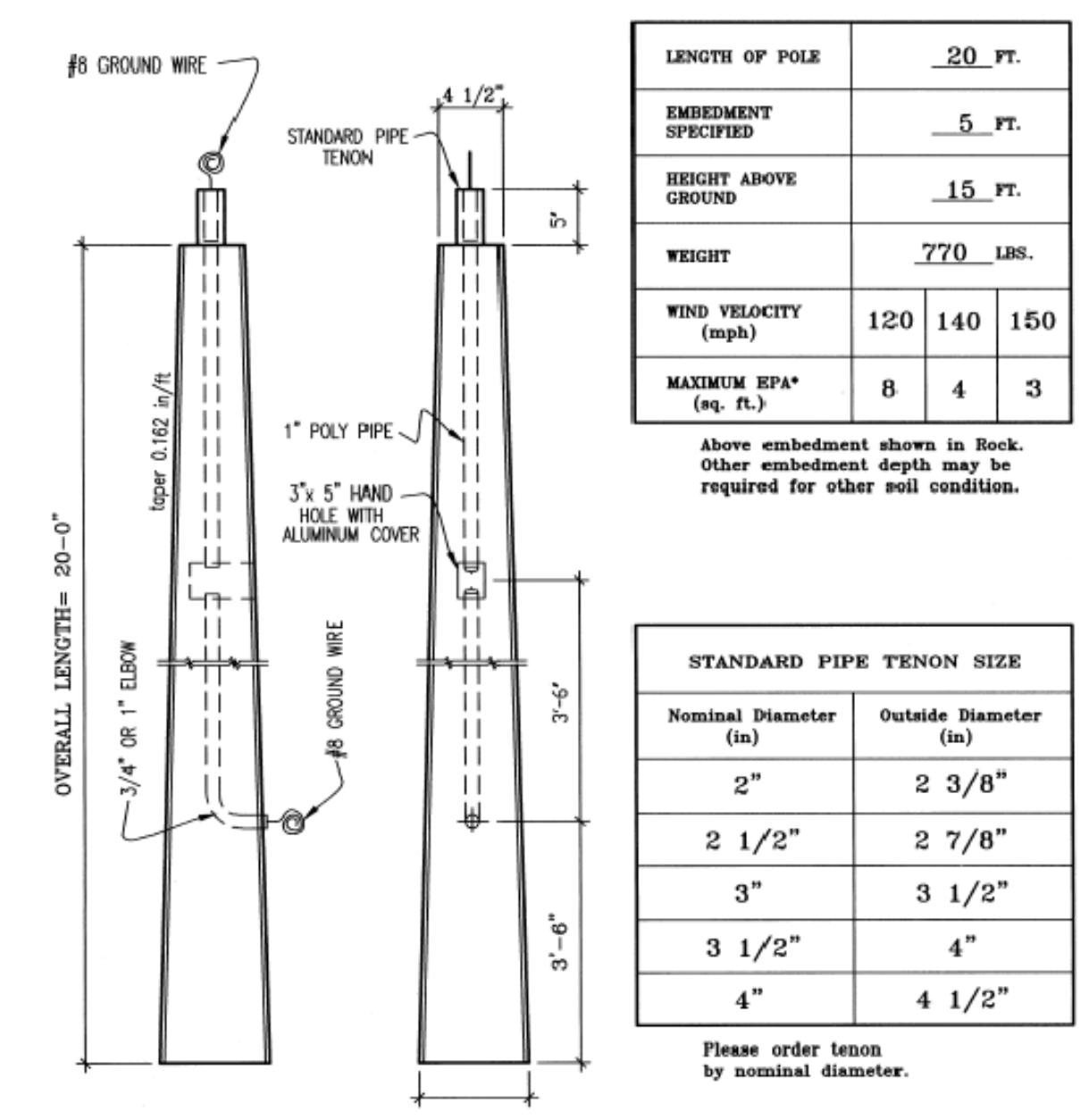
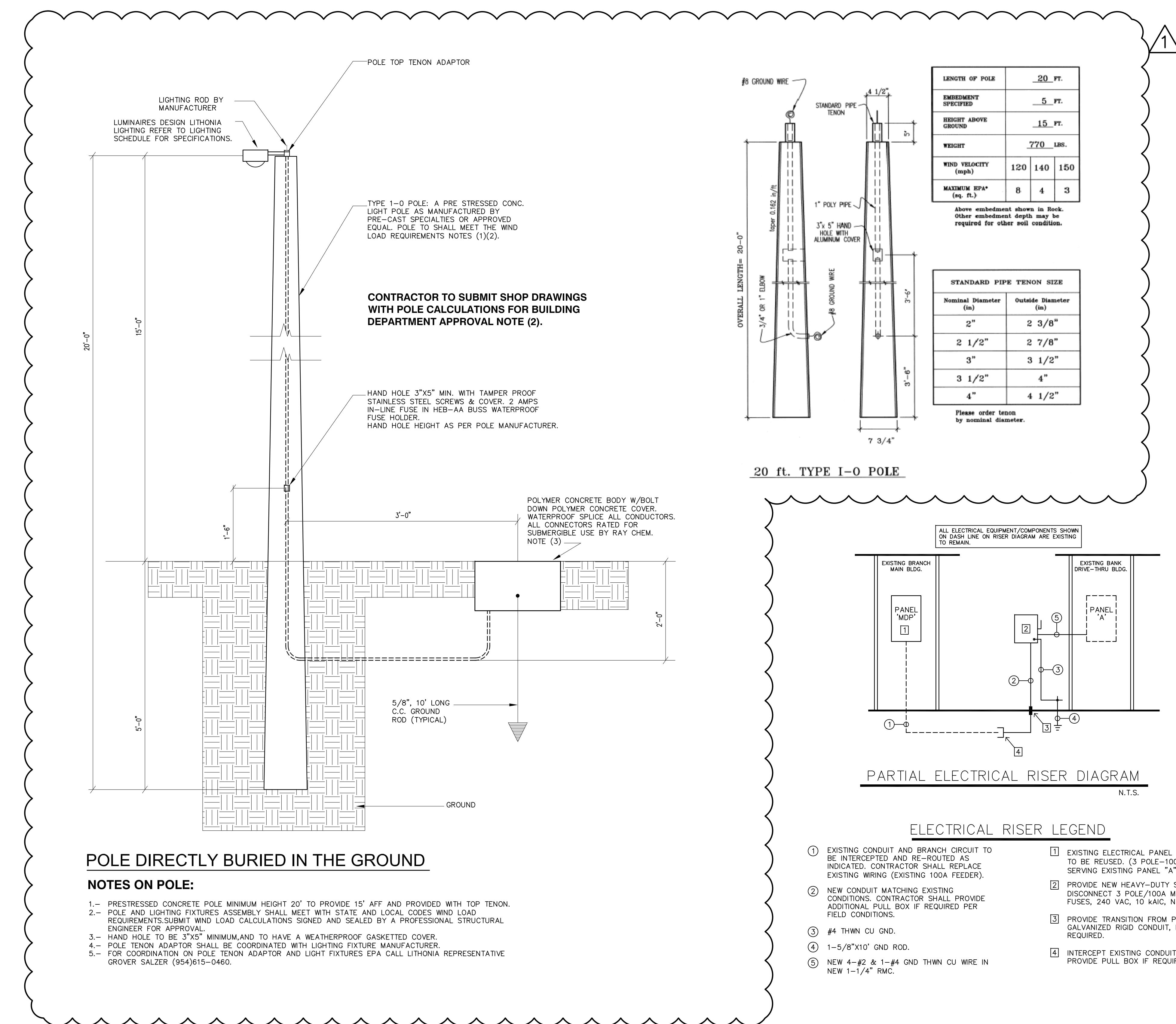
**C.B. RICHARD ELLIS**  
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CONTACT: Dan O'Toole

Project Number  
12374  
CAD File Name  
BOA-CARRBORO-D/U ATM CDS  
Description  
GENERAL NOTES, SYMBOLS, AND LIGHT FIXTURE SCHEDULE.  
Scale  
SEE PLAN  
Consultant  
SEE PLAN

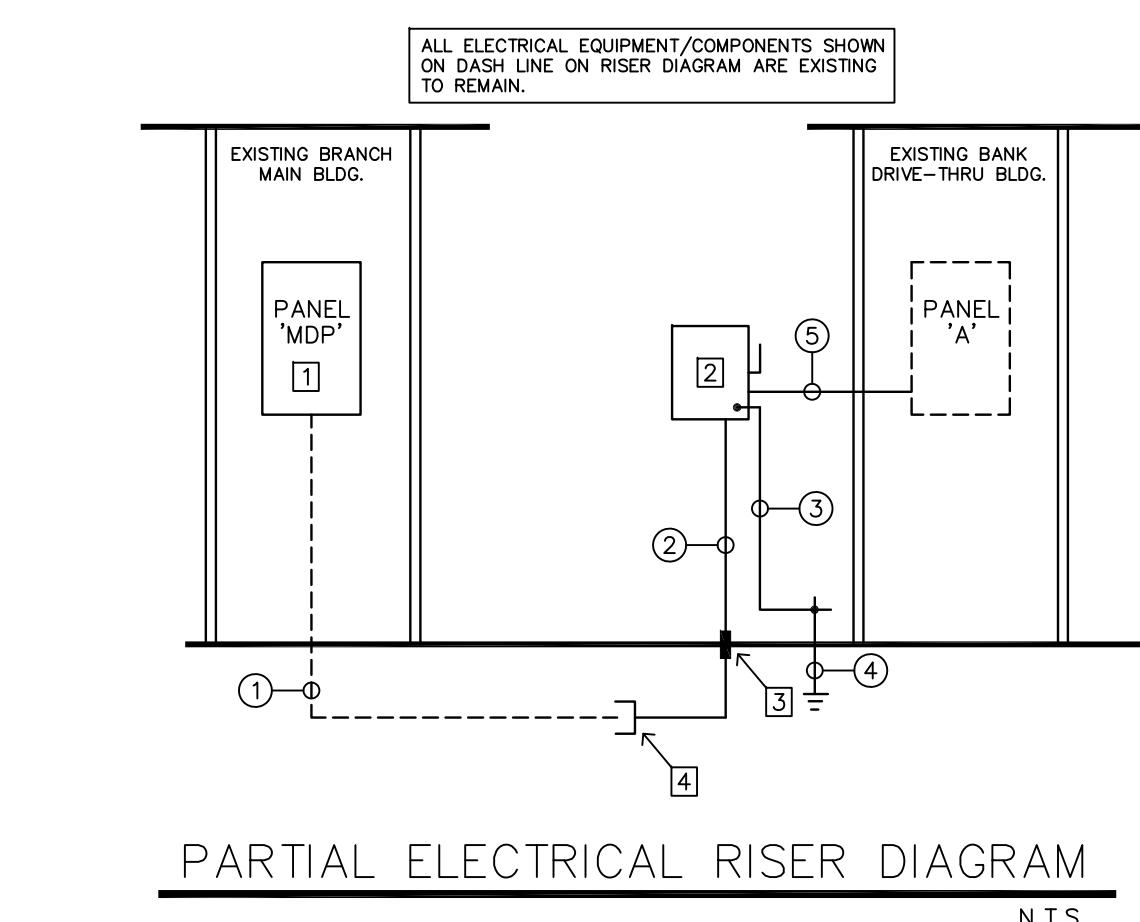
Consultant • Seal/Signature

**E-1.0**  
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LUIS O. PEREZ  
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20 ft. TYPE I-O POLE



PARTIAL ELECTRICAL RISER DIAGRAM

N.T.S.

ELECTRICAL RISER LEGEND

- ① EXISTING CONDUIT AND BRANCH CIRCUIT TO BE INTERCEPTED AND RE-ROUTED AS INDICATED. CONTRACTOR SHALL REPLACE EXISTING WIRING (EXISTING 100A FEEDER).
- ② NEW CONDUIT MATCHING EXISTING CONDITIONS. CONTRACTOR SHALL PROVIDE ADDITIONAL PULL BOX IF REQUIRED PER FIELD CONDITIONS.
- ③ #4 THWN CU GND.
- ④ 1-5/8"X10' GND ROD.
- ⑤ NEW 4-#2 & 1-#4 GND THWN CU WIRE IN NEW 1-1/4" RMC.
- ⑥ EXISTING ELECTRICAL PANEL "MDP" TO BE REUSED. (3 POLE-100A C.B. SERVING EXISTING PANEL "A")
- ⑦ PROVIDE NEW HEAVY-DUTY SERVICE DISCONNECT 3 POLE/100A MAX. 100A FUSES, 240 VAC, 10 KAIC, NEMA 3R.
- ⑧ PROVIDE TRANSITION FROM PVC TO GALVANIZED RIGID CONDUIT, IF REQUIRED.
- ⑨ INTERCEPT EXISTING CONDUIT AND PROVIDE PULL BOX IF REQUIRED..

## FEATURES & SPECIFICATIONS

**INTENDED USE** — Use for parking lots, streets and surrounding areas.

**CONSTRUCTION** — Heavy gauge die-formed aluminum housing is fabricated using robotic continuous seam-weld process for weather-tight integrity. Integral structural support plate for mounting arm and electrical components ensures rigidity and strength. Hinged aluminum door frame incorporates stainless steel hardware. Continuous silicone gasketing surrounds lens for weather-tight seal. Optional tool-less hardware is available to maximize installation and maintenance ease.

**Lens**: Thermal shock resistant tempered glass lens. Choice of contoured drop lens or flat lens is available in standard product.

**Standard finish** is dark bronze corrosion resistant electrostatically applied powder paint. Optional linear embossed accent reveals are available.

**OPTICS** — Most flat lens configurations meet full-cut-off criteria. See [www.lithonia.com](http://www.lithonia.com) for details. Vertical-lamp reflectors are 1-piece spun and formed anodized aluminum. Specialized distributions available for either drop lens or flat lens. Reflectors are independently designed to optimize light output for the lens type. Horizontal-lamp reflectors also available.

**ELECTRICAL** — All electrical components are mounted to a heavy-gauge plate to maximize heat dissipation and ensure structural integrity for optimal component life. Ballast: Constant wattage autotransformer. Metal Halide: Super CWA (pulse start ballast), 88% efficient and EISA legislation compliant, is required for 175-400W (SCWA option) for US shipments only. CSA, NOM or INTL required for probe start shipments outside of the US. Pulse-start ballast (SCWA) required for 200W, 320W, 350W, 450W, 750W, 775W or 875W. Ballast is 100% factory-tested.

**Socket**: Mogul-base porcelain socket with copper alloy, nickel-plated screw shell and center contact. Vertically-oriented for types SYM, ASY, and VFA distributions. Horizontal position-oriented for types R2, R3 and R4. UL listed 1500W-600V, 4kV pulse rated. Reflectors are rotatable and interchangeable.

**INSTALLATION** — Extruded aluminum arm with integral splice compartment. Standard arm is 9" in length. Aluminum fitter for 4" to 6" OD poles.

**LISTINGS** — UL Listed to US and Canadian safety standards (see Options). NOM Certified (see options). UL listed for 25°C ambient and wet locations. Optical chamber IP65 rated.

**WARRANTY** — 1-year limited warranty. Complete warranty terms located at [www.acuitybrands.com/CustomerResources/Terms\\_and\\_conditions.aspx](http://www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx)

Note: Specifications subject to change without notice.

Catalog Number	
Notes	
Type	

## Square Area Lighting

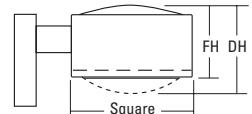
# KVF2



METAL HALIDE: 175-1000W  
HIGH PRESSURE SODIUM: 250-1000W  
20' to 40' Mounting

### Specifications

Square: 21-1/2 (54.6)	
Flat lens height: 14 (35.5)	
Drop lens height: 17 (43.2)	<u>Post top</u>
Arm mount	EPA: 2.8 ft <sup>2</sup> (0.25 m <sup>2</sup> )
EPA: 2.8 ft <sup>2</sup> (0.25 m <sup>2</sup> ), incl. arm	Weight: +2 lbs to *
*Weight: 53 lbs (24 kg)	Overall Height: 22-3/4 (57.8)
*Weight as configured in example below.	



Mounting Option	Drilling Template
SPxx, RPxx,	5
WBxx	6
WWxx	7

Dimensions in inches (centimeters) unless otherwise specified.

### Example: KVF2 400M SYMDL TB SCWA SP09 LPI

#### ORDERING INFORMATION

For shortest lead times, configure products using **bolded options**.

KVF2										
Series	Wattage			Distribution		Voltage	Ballast		Mounting	
<b>KVF2</b>	<b>Metal halide</b>	<b>400M<sup>3</sup></b>	<b>High pressure sodium<sup>6</sup></b>	<u>Vertical lamp</u> <sup>8</sup>	<u>High-performance horizontal lamp</u> <sup>9</sup>	120	<b>(blank)</b>	Magnetic ballast	<u>Type</u>	<u>Size<sup>13</sup></u>
175M <sup>1</sup>	450M <sup>1,2</sup>	750M <sup>2</sup>	250S	SYM	Symmetric square	208 <sup>10</sup>	CWI	Constant wattage isolated	SP__	6" arm
200M <sup>2</sup>	775M <sup>2,4</sup>	400S	VFA	Asymmetric	SR2FL	240 <sup>10</sup>	<b>PulseStart</b> 	Super CWA ballast	RP__	9" arm
250M <sup>3</sup>	875M <sup>2,4</sup>	750S	VFA	Vertical forward throw automotive	SR3FL	277			WB__	Wall bracket
320M <sup>2</sup>	1000M <sup>5</sup>	1000S <sup>7</sup>	Horizontal lamp <sup>8</sup>	SR4SCFL	347	480 <sup>10</sup>			WW__	Wood pole or wall bracket
350M <sup>1,2</sup>			R2__	Type II	SR4WFL	480 <sup>10</sup>			PT__	Post top; opentop pole
			R3__	Type III		23050HZ <sup>12</sup>				4" 4" OD
										4.5" 4.5" OD
										5" 5" OD
										6" 6" OD

Options							Finish <sup>20</sup>			Lamp (required)		
<u>Shipped installed in fixture</u>	EHS	External houseside shield (matches fixture finish) <sup>17, 18, 19</sup>		<u>Shipped separately</u> <sup>17</sup>	VG	Vandal guard <sup>18, 19</sup>	<b>(blank)</b>	Dark bronze	DBLXD	Black	LPI	Lamp included
SF	Single fuse 120, 277, 347V <sup>14</sup>			PE1	NEMA twist-lock PE (120,208,240V)		DBL	Black	DNAXD	Natural aluminum	L/P	Less lamp
DF	Double fuse 208, 240, 480V <sup>14</sup>			PE3	NEMA twist-lock PE (347V)		DGC	Charcoal gray	DWHXD	White		
KW1	KiloWatch® 120V control relay <sup>14, 15</sup>			PE4	NEMA twist-lock PE (480V)		DMB	Medium bronze	DBDBTXD	Textured dark bronze		
KW4	KiloWatch® 277V control relay <sup>14, 15</sup>			PE7	NEMA twist-lock PE (277V)		DNA	Natural aluminum	DBLBD	Textured black		
PER	NEMA twist-lock receptacle only (photocontrol not included)			SC	Shorting cap		DWH	White	DNATXD	Textured natural aluminum		
QRS	Quartz restrike system <sup>16</sup>						DDBXD	Dark bronze	DWHGXD	Textured white		
QRSTD	QRS time delay <sup>12, 16</sup>											
EA	Embossed accent											
	REGC1	California Title 20 effective 1/1/2010										

#### Notes

1 These wattages do not comply with California Title 20 regulations.

2 Must be ordered with SCWA.

3 These wattages require the REGC1 option to be chosen for shipments into California for Title 20 compliance. 250M REGC1 is not available in 347 or 480V.

4 Must specify voltage (120, 208, 240, 277, 347 or 480). Not available in TB, 240, and 480V not available in Canada.

5 Use reduced jacketed lamp.

6 Not available with SCWA. 750S — must specify voltage (120, 208, 240, 277,

347 or 480); available with SYM, ASY or VFA only.

7 Available in ASYD, SYMDL or VFADL. Standard ED25 lamp.

8 For drop lens, specify DL. For flat lens, specify FL. Example: SYMDL or R2FL.

9 Not available with 750M, 775M, 875M, 1000W or post top.

10 Must specify CWI for use in Canada.

11 Optional multi-tap ballast (120, 208, 240, 277V; 120, 277, 347V in Canada).

12 Consult factory for available wattages.

13 12" arm required when two or more luminaires are oriented on a 90° drilling pattern.

14 Not available with TB. Must specify voltage.

15 Available in vertical lamp orientation only for 200-400M SCWA. Any orientation on 250S or 400S only.

16 Maximum allowable wattage lamp included.

17 May be ordered as an accessory.

18 Specify finish when ordered as an accessory.

19 Prefix with KVF2 when ordering as an accessory. Order as KVF2EHSL U for high-performance reflectors.

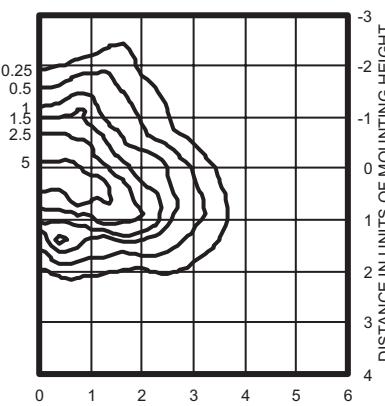
20 See [www.lithonia.com/archcolors](http://www.lithonia.com/archcolors) for additional color options.



# KVF2 Arm-Mounted Area Lighting

KVF2 250M SR2FL TEST NO: LTL11250P

## ISOILLUMINANCE PLOT (Footcandle)

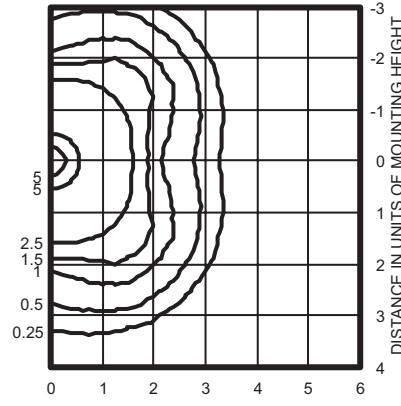


250W pulse start metal halide lamp, rated 22500 lumens. Footcandle values based on 20' mounting height.

Classification: Type II, Short, Full Cutoff

KVF2 400M SYMFL TEST NO: LTL9432P

## ISOILLUMINANCE PLOT (Footcandle)

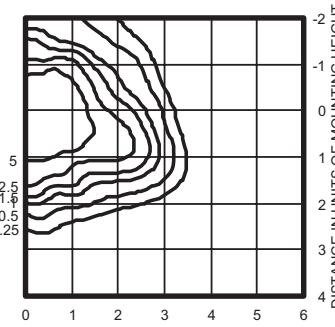


400W pulse start metal halide lamp, rated 42000 lumens. Footcandle values based on 20' mounting height.

Classification: Type IV, Short, Full Cutoff

KVF2 400S R3FL TEST NO: LTL11324

## ISOILLUMINANCE PLOT (Footcandle)

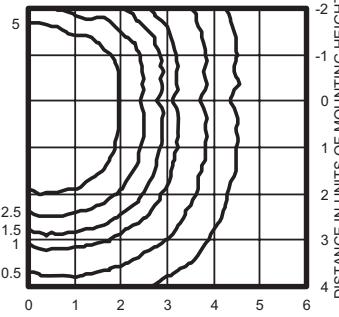


400W lamp, rated 50000 lumens. Footcandle values based on 20' mounting height.

Classification: Type II, Medium, Full Cutoff

KVF2 1000M ASYDL TEST NO: LTL11381

## ISOILLUMINANCE PLOT (Footcandle)



1000W lamp, rated 110000 lumens. Footcandle values based on 20' mounting height.

Classification: Type IV, Short, Cutoff

### Notes

- Photometric data for other distributions can be accessed from the Lithonia Lighting Web site ([www.lithonia.com](http://www.lithonia.com))
- For electrical characteristics, consult outdoor technical data specification sheets on [www.lithonia.com](http://www.lithonia.com).
- Tested to current IES and NEMA standards under stabilized laboratory conditions. Various operating factors can cause differences between laboratory and actual field measurements. Dimensions and specifications are based on the most current available data and are subject to change.

### Mounting Height Correction Factor

(Multiply the fc level by the correction factor)

25 ft. = 0.64

30 ft. = 0.45

40 ft. = 0.25

$$\left( \frac{\text{Existing Mounting Height}}{\text{New Mounting Height}} \right)^2 = \text{Correction Factor}$$

### Accessories: Tenon Mounting Slipfitter\*

Order as separate catalog number.

Tenon O.D.	One	Two@180°	Two@90°	Three@120°	Three@90°	Four@90°
2-3/8 (6.0)	T20-190	T20-280	T20-290	T20-320	T20-390	T20-490
2-7/8 (7.3)	T25-190	T25-280	T25-290	T25-320	T25-390	T25-490
4 (10.2)	T35-190	T35-280	T35-290	T35-320	T35-390	T35-490

\* Arm mount only.

## FEATURES & SPECIFICATIONS

**INTENDED USE** — For building- and wall-mounted applications.

**CONSTRUCTION** — Rugged, die-cast, single-piece aluminum housing. Die-cast doorframe has impact-resistant, tempered glass lens. Doorframe is fully sealed with a closed-cell silicone gasket.

Finish: Standard finish is textured dark bronze (DDBT) polyester powder finish, with other architectural colors available.

**OPTICS** — Hydroformed reflector for superior uniformity and control. Vertical lamp orientation for improved lamp output and life.

**ELECTRICAL** — HID 70W-150W utilizes a high-reactance, high power factor ballast. 175W utilizes a constant-wattage autotransformer ballast. Super CWA Pulse Start ballasts, 88% efficient and EISA legislation compliant, are required for 151-200W (must order SCWA option) for US shipments only. CSA, NOM or INTL required for probe start shipments outside of the US. 200M is only available with SCWA. HEB maximum wattage 100M. Quick-disconnect plugs easily disconnect reflector from ballast and fixture from supply wires. Ballasts are precision-wound and 100% factory tested. Ceramic metal halide lamps are recommended for use in applications where superior color rendition, lumen maintenance and longer lamp life are desired.

Socket: For HID porcelain, medium-base socket (G12 for 70MHCT6) with copper alloy, nickel-plated screw shell and center contact.

**INSTALLATION** — Universal mounting plate with integral mounting bolts supports the fixture for easy, one-person installation.

**LISTINGS** — CSA Certified to U.S. and Canadian standards. Down orientation only. NOM Certified (see Options). **IP65 rated**. HID-175W and below-listed to 40°C ambient. 200W listed to 25°C ambient. The ELED option is listed to 25°C ambient. ELED: U.S. Patent No. 7,737,640.

Note: Specifications subject to change without notice.

Catalog Number
Notes
Type

### Wall-Mounted Luminaire



# TWF1

METAL HALIDE: 70M-200M

HIGH PRESSURE SODIUM: 70S-150S

#### Specifications

Width: 16 (40.6)

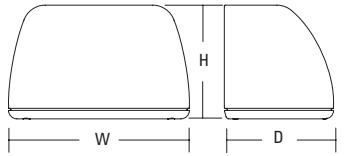
Height: 10 1/16 (25.6)

Depth: 9-5/8 (24.4)

\*Weight: 24 lbs (10.9 kg)

All dimensions are inches (centimeters) unless otherwise indicated.

\*Weight as configured in example below.



Consistent with LEED® goals  
& Green Globes® criteria  
for light pollution reduction

Example: TWF1 100M TB LPI

### ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

TWF1										
Series	Wattage	Voltage	Ballast	Mounting	Options			Finish <sup>16</sup>	Lamp <sup>17</sup>	
TWF1	<u>Metal halide</u> 208 <sup>2</sup> 70M 100M 150M 175M 200M <u>Ceramic metal halide<sup>1</sup></u> 70MHC 100MHC 150MHC 70MHCT6 <u>High pressure sodium</u> 70S 100S 150S	120 240 <sup>2</sup> 277 347 480 <sup>2</sup> TB <sup>3</sup> 23050HZ <sup>4</sup>	(blank) Magnetic ballast CWI Constant wattage isolated HEB Electronic ballast <sup>5</sup>  SCWA Super CWA pulse start ballast <sup>6</sup>  Note: For shipments to U.S. territories, SCWA must be specified to comply with EISA.	(blank) Surface mount Shipped separately <sup>7</sup> BBW Surface mount <sup>8</sup>	<u>Shipped installed in fixture</u> SF Single fuse (120, 277, 347V, n/a TB) DF Double fuse (208, 240, 480V, n/a TB) QRSTD Quartz restrike with time delay <sup>9,10</sup> QRS Quartz restrike system <sup>9,10</sup> EC Emergency circuit <sup>9,10</sup> ELED Emergency LED secondary source battery pack (-4°F min. operating temperature) <sup>10, 11, 12</sup> 2ELED Emergency LED secondary source (two modules) battery pack (-4°F min. operating temperature) <sup>10, 11, 12, 13</sup> DC12 Emergency circuit 12-volt (35W lamp included) <sup>10, 13</sup> 2DC12 Emergency circuit 12-volt (two 35W lamp included) <sup>10, 13</sup> DC2012 Emergency circuit 12-volt (20W lamp included) <sup>10, 13</sup> 2DC2012 Emergency circuit 12-volt (two 20W lamp included) <sup>10, 13, 14</sup> PE Photoelectric cell-button type (n/a TB or 480V) <sup>12, 15</sup> CSA CSA certified NOM NOM certified <sup>4</sup> INTL International shipment for 175M	<u>Shipped separately</u> <sup>7</sup> WG Wire guard VG Vandal guard	(blank) Dark bronze, textured DSST Sandstone, textured DNAT Natural aluminum, textured DWHG White, textured DBLB Black, textured CR Corrosion-resistant finish CRT Non-stick protective coating (black only)	LPI Lamp included L/LP Less lamp		

#### Notes

1 Must be ordered with lamp included (LPI). 70MHCT6 requires HEB ballast option.

2 Must specify CWI in Canada.

3 Optional multi-tap ballast (120, 208, 240, 277V; 120, 277, 347V in Canada--ships as 120/347.

4 Consult factory for availability.

5 Available in 70W or 100W metal halide only. HEB voltage must be specified as MVOLT, 120, 208, 240 or 277 only.

6 Not available with HPS, 70M or 100M.

7 May be ordered as an accessory. Prefix with TWF1.

8 Must specify finish when ordered as an accessory. Not available with ELED or 2ELED.

9 Maximum allowable wattage lamp included.

10 Cannot be ordered with any other emergency option.

11 Maximum wattage 100M and 70S. Only available in 120V or 277V.

12. Must specify voltage.

13. Not available with SF or DF.

14. Consult factory for maximum HID wattage available with this option.

15. Must be ordered with fixture; cannot be field installed.

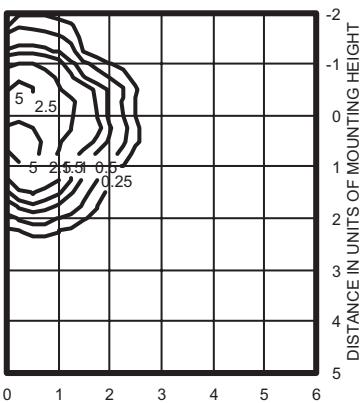
16. See [www.lithonia.com/archcolors](http://www.lithonia.com/archcolors) for additional color options.

17. Must be specified.

# TWF1 Metal Halide, High Pressure Sodium, Wall Mounted

TWF1 100M TEST NO: LTL18073

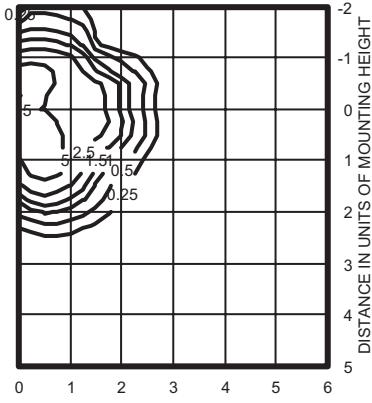
ISOILLUMINANCE PLOT (Footcandle)



100W pulse start metal halide lamp, horizontal lamp orientation Footcandle values based on 12' mounting height, 8500 rated lumens. Luminaire Efficiency: 56.3%

TWF1 150M TEST NO: LTL18072

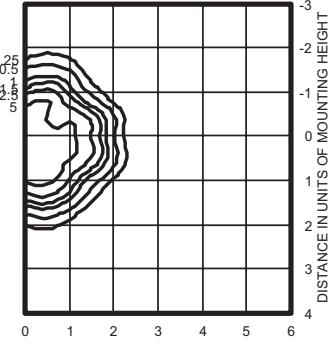
ISOILLUMINANCE PLOT (Footcandle)



150W pulse start metal halide lamp, horizontal lamp orientation Footcandle values based on 12' mounting height, 12900 rated lumens. Luminaire Efficiency: 56.3%

TWF2 250S TEST NO: LTL18477

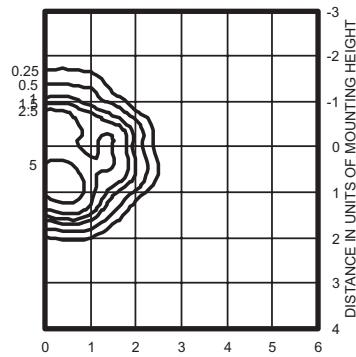
ISOILLUMINANCE PLOT (Footcandle)



250W lamp, rated 29000 lumens. Footcandle values based on 20' mounting height. Classification: Unclassified (Type II, Very Short), Full Cutoff Luminaire Efficiency: 60.8%

TWF2 250M TEST NO: LTL18478

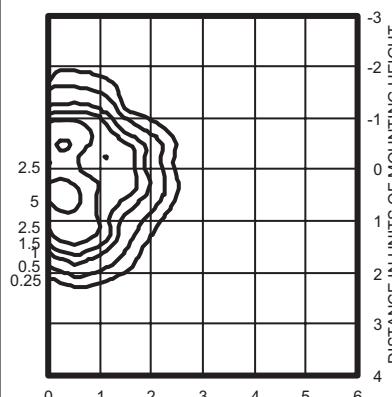
ISOILLUMINANCE PLOT (Footcandle)



250W pulse start metal halide lamp, rated 22000 lumens. Footcandle values based on 20' mounting height. Classification: Unclassified (Type II, Very Short), Full Cutoff Luminaire Efficiency: 60.2%

TWF1 200M TEST NO: LTL18074

ISOILLUMINANCE PLOT (Footcandle)



200W pulse start metal halide lamp, rated 21000 lumens. Footcandle values based on 20' mounting height. Classification: Unclassified (Type III, Very Short), Full Cutoff Luminaire Efficiency: 56.3%