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VOICE (713) 973-6905 - FAX (713) 973-9352
web: www.twrlighting.com

IMPORTANT!!!

PLEASE TAKE THE TIME TO FILL OUT THIS FORM COMPLETELY. FILE IT IN A SAFE PLACE. IN THE EVENT YOU EXPERIENCE PROBLEMS WITH OR HAVE QUESTIONS CONCERNING YOUR CONTROLLER, THE FOLLOWING INFORMATION IS NECESSARY TO OBTAIN PROPER SERVICE AND PARTS.

MODEL # AA1TSS LED

TYPE # LED

SERIAL # _____

PURCHASE DATE _____

PURCHASED FROM _____

TWR Lighting, Inc. **MARK**[®]

Enlightened Technology[®]

AA1TSS LED CONTROLLER

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WARRANTY & RETURN POLICY

RETURN MERCHANDISE AUTHORIZATION (RMA) FORM

TWR Lighting, Inc. **MARK**

Enlightened Technology®

AA1TSS LED CONTROLLER

APPENDIX

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AA1TSS LED CONTROLLER

1.0 GENERAL INFORMATION

The TWR Lighting®, Inc. (TWR®) Model AA1TSS LED Controller is for A1 lighting of towers 151' to 350' AGL (above ground level) in accordance with the Federal Aviation Advisory Circular 70/7460-1K. One (1) LED beacon should be placed at the top of the structure. Three (3) LED obstruction lights should be placed at the mid-level with respect to overall tower height.

The flash rate of the LED beacon is 30 per minute. The LED sidelights burn steady.

A by-pass switch (SW1) allows the controller to be turned on during daylight hours without covering the photocell. This is particularly helpful since the controller can be mounted indoors while the photocell is outdoors. SW1 can be operated by turning the switch to "ON."

The photocell is the three (3) blades, twist to lock, type.

Power supplied to the controller shall be 120V AC 50/60 Hz.

The controller housing is rated at NEMA 4X. It is suitable for indoor or outdoor mounting.

AA1TSS LED CONTROLLER

2.0 INSTALLATION INSTRUCTIONS

2.1 MOUNTING THE CONTROL CABINET

(Refer to Drawing 1306-R)

The power supply control cabinet can be located at the base of the structure or in an equipment building. Mounting footprints are shown on drawing 202-R. Power wiring to the control cabinet should be in accordance with local methods and the National Electrical Codes (NEC).

2.1.1 If the control cabinet is mounted inside an equipment building, the photocell should be mounted vertically on ½" conduit outside the building above the eaves facing north. Wiring from the photocell socket to the control cabinet should consist of one (1) each, red, black, and white wires. The white wire is connected to the socket terminal marked "N," the black wire is connected to the socket terminal marked "Li," and the red wire is connected to the socket terminal marked "Lo." The photocell should be positioned so that it does not "see" ambient light, which would prevent it from switching to the nightmode.

2.1.2 If the control cabinet is mounted outside an equipment building, the photocell should be mounted vertically on ½" conduit so the photocell is above the control cabinet. Care must be taken to assure that the photocell does not "see" any ambient light that would prevent it from switching into the nightmode. The photocell wiring is the same as in 2.1.1.

2.1.3 The wiring from the photocell, the service breaker, the red incandescent beacon, and the sidelights should enter the control cabinet through the watertight connectors in the bottom of the cabinet. Inside the cabinet, the connections will be made on the terminal strips and circuit breakers located at the bottom of the chassis. These connections are made as follows:

2.2 EXTERNAL PHOTOCELL WIRING

(Refer to Drawing 1306-R)

2.2.1 Connect the **BLACK** wire from the photocell to terminal block TB2 marked "L."

AA1TSS LED CONTROLLER

2.2.2 Connect the **RED** wire from the photocell to terminal block TB2 marked “SSR.”

2.2.3 Connect the **WHITE** wire from the photocell to terminal block TB2 marked “N.”

2.3 POWER WIRING

(Refer to Drawing 1306-R)

2.3.1 Power wiring to the control cabinet should be in accordance with local methods and the National Electrical Codes (NEC).

2.3.2 Circuit breaker needs to be rated at 5 amps.

2.3.3 Connect incoming 120V AC to terminal block TB1 marked “L.”

2.3.4 Connect the neutral wire(s) to one (1) of the terminal blocks on TB1 marked “N.”

2.3.5 Connect the AC ground to the aluminum mounting plate.

2.4 LED BEACON AND LED SIDELIGHT WIRING

(Refer to Drawings 1306-R, 800-01, and 800-02)

2.4.1 Connect the **YELLOW** wire from the LED beacon to the circuit breaker marked “B.”

2.4.2 Connect the **RED** wire from the LED sidelight group to the circuit breaker marked “S.”

2.4.3 Connect the **WHITE** neutral wire(s) to one (1) or more of the terminals on TB1 marked “N.”

AA1TSS LED CONTROLLER

3.0 THEORY OF OPERATION

3.1 POWER SUPPLY

120V AC enters the controller from the circuit breaker panel. Line sits at the PRD, waiting to be switched on. When the 6390-FAA photocell is activated, Line “SSR” energizes the coil of the PRD relay. This also can be accomplished by using the photocell by-pass switch (SW1).

3.2 LED SIDELIGHTS

Line S is sent to the circuit breaker marked “S” which powers the LED sidelight circuit.

3.3 LED BEACON

Line LD is sent to Module M1. Module M1 is a solid state flasher which its output is sent to circuit breaker “B” which then powers the beacon at 30 fpm with duration of 2/3 on 1/3 off.

AA1TSS LED CONTROLLER

4.0 TROUBLESHOOTING GUIDE

4.1 SYMPTOM – BEACON NOT FLASHING

Check for pulsing 120V AC at circuit breaker “B.” If the circuit breaker is tripped, there may have been a surge or could be a short in the tower wiring. This can be checked by looking for a short between circuit breaker “B” and the ground. If it is okay and 120V AC is not present, then check the PF-250 flasher to see if there is voltage on the input (pin #2). If okay, the flasher module has probably failed and needs to be replaced. If everything appears to be correct, but the LED beacon still does not work, check the tower wiring.

4.2 SYMPTOM – SIDELIGHT OUT

Check for constant 120V AC at circuit breaker “S.” If tripped, check for a short in the tower wiring. If not, and voltage is present, check the tower wiring.

4.3 SYMPTOM – CONTROLLER ALWAYS “ON”

If the tower lights stay on in the daytime, check to see that switch SW1 is off. If the switch is off, then remove the photocell out of the socket. If the lights go out, replace the photocell. If not, check for welded contacts on the PRD. Replace if necessary.

AA1TSS LED CONTROLLER

5.0 MAINTENANCE GUIDE

5.1 LED OBSTRUCTION LIGHTING

No scheduled maintenance is required. Perform on an “as needed” basis only.

TOOLS REQUIRED: NONE

5.2 L-864 LED BEACON REPLACEMENT

No scheduled maintenance is required. Perform on an “as needed” basis only.

5.3 L-864 CONTROLLER

No scheduled maintenance is required. Perform on an “as needed” basis only.

5.4 PHOTOCELL

The photocell is a sealed unit. No maintenance is needed or required other than replacement as necessary.

AA1TSS LED CONTROLLER

6.0 MAJOR COMPONENTS PARTS LIST

QTY	PART NUMBER	DESCRIPTION
1	6390-FAA (This replaces the 102FAA Photocell)	120 – 240V Photocell
1	PF-250 (This replaces the FS15530T module)	Solid State Flasher (M1)
1	PRD7AG0	Mechanical Load Contactor (PRD)
1	VJ1008HWPL1X004	Enclosure
2	8WA1808	End Stop
2	S261D1	1 amp Circuit Breaker (B, S)
6	8WA1204	Single Pole Terminal (TB1, TB2)
1	MOV524V15	Metal Oxide Varistor (MOV)
1	SSPIGTAIL	20' Photocell Pigtail
1	STJ01002	SPDT Switch (SW1)

AA1TSS LED CONTROLLER

7.0 SUGGESTED SPARE PARTS LIST

QTY	PART NUMBER	DESCRIPTION
1	6390-FAA (This replaces the 102FAA Photocell)	120 – 240V Photocell
1	PF-250 (This replaces the FS15530T module)	Solid State Flasher (M1)



AA1TSS LED CONTROLLER

Warranty & Return Policy

TWR Lighting®, Inc. (“TWR®”) warrants its products (other than “LED Product”) against defects in design, material (excluding incandescent bulbs) and workmanship for a period ending on the earlier of two (2) years from the date of shipment or one (1) year from the date of installation.

TWR Lighting®, Inc. (“TWR®”) warrants its “LED Product” against defects in design, material and workmanship for a period of five (5) years from the date of shipment. TWR®, at its sole option, will, itself, or through others, repair, replace or refund the purchase price paid for “LED Product” that TWR® verifies as being inoperable due to original design, material, or workmanship. All warranty replacement “LED Product” is warranted only for the remainder of the original warranty of the “LED Product” replaced. Replacement “LED Product” will be equivalent in function, but not necessarily identical, to the replaced “LED Product.”

TWR Lighting®, Inc. (“TWR®”) warrants its “LED Product” against light degradation for a period of five (5) years from the date of installation. TWR®, at its sole option, will, itself, or through others, repair, replace, or refund the purchase price paid for “LED Product” that TWR® verifies as failing to meet 75% of the minimum intensity requirements as defined in the FAA Advisory Circular 150/5345-43G dated 09/26/12. All warranty replacement “LED Product” is warranted only for the remainder of the original warranty of the “LED Product” replaced. Replacement “LED Product” will be equivalent in function, but not necessarily identical, to the replaced “LED Product.”

Replacement parts (other than “LED Product”) are warranted for 90 days from the date of shipment.

Conditions not covered by this Warranty, or which might void this Warranty are as follows:

- x Improper Installation or Operation
- x Misuse
- x Abuse
- x Unauthorized or Improper Repair or Alteration
- x Accident or Negligence in Use, Storage, Transportation, or Handling
- x Any Acts of God or Nature
- x **Non-OEM Parts**

The use of Non-OEM parts or modifications to original equipment design will void the manufacturer warranty and could invalidate the assurance of complying with FAA requirements as published in Advisory Circular 150/5345-43.



AA1TSS LED CONTROLLER

Warranty & Return Policy (continued)

Field Service – Labor, Travel, and Tower Climb are not covered under warranty. Customer shall be obligated to pay for all incurred charges. An extensive network of certified and insured Service Representatives is available if requested.

Repair, Replacement or Product Return RMA Terms – You must first contact our Customer Service Department at **713-973-6905** to acquire a Return Merchandise Authorization (RMA) number in order to return the product(s). Please have the following information available when requesting an RMA number:

- x The contact name and phone number of the tower owner or
- x The contact name and phone number of the contractor
- x The site name and number
- x The part number(s)
- x The serial number(s) (if any)
- x A description of the problem
- x The billing information
- x The Ship To address

This RMA number must be clearly visible on the outside of the box. If the RMA number is not clearly labeled on the outside of the box, your shipment will be refused. Please ensure the material you are returning is packaged carefully. **The warranty is null and void if the product(s) are damaged in the return shipment.**

All RMAs must be received by TWR LIGHTING®, INC., 10810 W. LITTLE YORK RD., #130, HOUSTON, TX 77041-4051, within 30 days of issuance.

Upon full compliance with the Return Terms, TWR® will replace, repair and return, or credit product(s) returned by the customer. It is TWR®'s sole discretion to determine the disposition of the returned item(s).

TWR Lighting, Inc. **MARK**[®]

Enlightened Technology[®]

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Warranty & Return Policy (continued)

RMA Replacements – Replacement part(s) will be shipped and billed to the customer for product(s) considered as Warranty, pending return of defective product(s). When available, a certified reconditioned part is shipped as warranty replacement with a Return Merchandise Authorization (RMA) number attached. Upon receipt of returned product(s), inspection, testing, and evaluation will be performed to determine the cause of defect. The customer is then notified of the determination of the testing.

- x Product(s) that is deemed defective and/or unrepairable and covered under warranty - a credit will be issued to the customer's account.
- x Product(s) found to have no defect will be subject to a **\$75.00 per hour testing charge (1 hour minimum), which will be invoiced to the customer.** At this time the customer may decide to have the tested part(s) returned and is responsible for the return charges.
- x Product(s) under warranty, which the customer does not wish returned, the customer will be issued a credit against the replacement invoice.

RMA Repair & Return – A Return Merchandise Authorization (RMA) will be issued for all part(s) returned to TWR[®] for repair. Upon receipt of returned product(s), inspection, testing, and evaluation will be performed to determine the cause of defect. The customer is then notified of the determination of the testing. If the returned part(s) is deemed unrepairable, or the returned part(s) is found to have no defect, the customer will be subject to a **\$75.00 per hour testing charge (1 hour minimum), which will be invoiced to the customer.** Should the returned parts be determined to be repairable, a written estimated cost of repair will be sent to the customer for their written approval prior to any work being performed. In order to have the tested part(s) repaired and/or returned, the customer must issue a purchase order and is responsible for the return shipping charges.

RMA Return to Stock – Any product order that is returned to TWR[®] for part(s) ordered incorrectly or found to be unneeded upon receipt by the customer, the customer may be required to pay a minimum **20% restocking fee.** Product returned for credit must be returned within 60-days of original purchase, be in new and resalable condition, and in original packaging. Once the product is received by TWR it's condition will be evaluated and a credit will be issued only once it is determined that the RMA Return Terms have been met.

Credits – Credits are issued once it is determined that all of the Warranty and Return Terms are met. All credits are processed on Fridays. In the event a Friday falls on a Holiday, the credit will be issued on the following Friday.



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Warranty & Return Policy (continued)

Freight – All warranty replacement part(s) will be shipped via ground delivery and paid for by TWR®. Delivery other than ground is the responsibility of the customer.

REMEDIES UNDER THIS WARRANTY ARE LIMITED TO PROVISIONS OF REPLACEMENT PARTS AND REPAIRS AS SPECIFICALLY PROVIDED. IN NO EVENT SHALL TWR® BE LIABLE FOR ANY OTHER LOSSES, DAMAGES, COSTS, OR EXPENSES INCURRED BY THE CUSTOMER, INCLUDING, BUT NOT LIMITED TO, LOSS FROM FAILURE OF THE PRODUCT(S) TO OPERATE FOR ANY TIME, AND ALL OTHER DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING ALL PERSONAL INJURY OR PROPERTY DAMAGE DUE TO ALLEGED NEGLIGENCE, OR ANY OTHER LEGAL THEORY WHATSOEVER. THIS WARRANTY IS MADE BY TWR® EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED. WITHOUT LIMITING THE GENERALITY OF THE FORGOING, TWR® MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS OF THE PRODUCT(S) FOR ANY PARTICULAR PURPOSE. TWR® EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES.



AA1TSS LED CONTROLLER

RETURN MERCHANDISE AUTHORIZATION (RMA) FORM

RMA#: _____ DATE: _____

CUSTOMER: _____

CONTACT: _____ PHONE NO.: _____

ITEM DESCRIPTION (PART NO.): _____

MODEL NO.: _____ SERIAL NO.: _____

ORIGINAL TWR INVOICE NO.: _____ DATED: _____

DESCRIPTION OF PROBLEM: _____

SIGNED _____ DATE NEEDED _____

RETURN ADDRESS: _____

PLEASE RETURN PRODUCT TO: 10810 W. LITTLE YORK RD., #130 HOUSTON, TX 77041-4051



AA1TSS LED CONTROLLER

RETURN MERCHANDISE AUTHORIZATION (RMA) FORM

RMA#: _____ DATE: _____

CUSTOMER: _____

CONTACT: _____ PHONE NO.: _____

ITEM DESCRIPTION (PART NO.): _____

MODEL NO.: _____ SERIAL NO.: _____

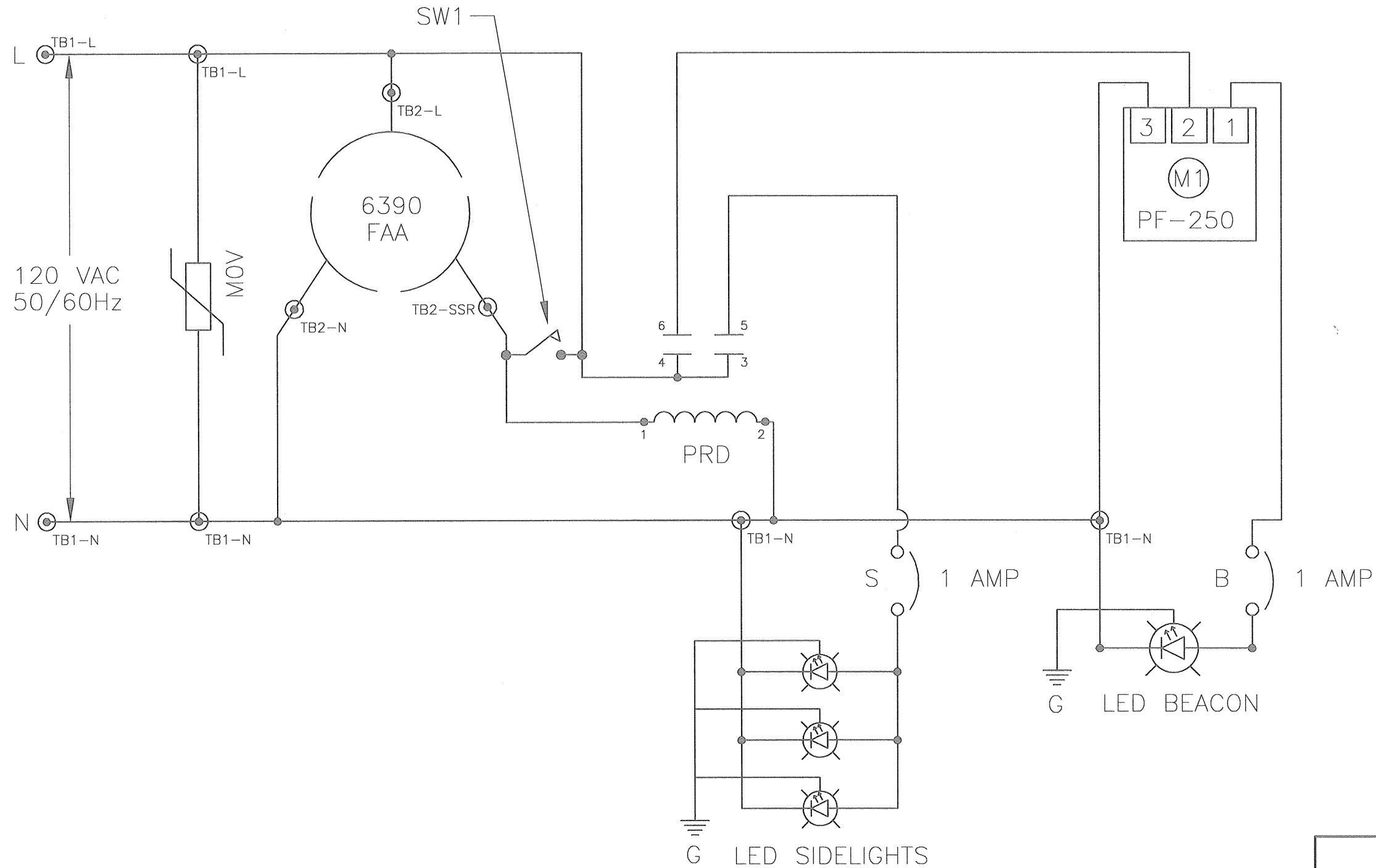
ORIGINAL TWR INVOICE NO.: _____ DATED: _____

DESCRIPTION OF PROBLEM: _____

SIGNED _____ DATE NEEDED _____

RETURN ADDRESS: _____

PLEASE RETURN PRODUCT TO: 10810 W. LITTLE YORK RD., #130 HOUSTON, TX 77041-4051



AA1TSSLED SCHEMATIC

PROD. DEPT.

SERV. DEPT.

ENGINEER

TWR Lighting, Inc.
Enlightened Technology® **WARK**

DRAWN BY
J. ZAMORANO

DATE
09/14/2015

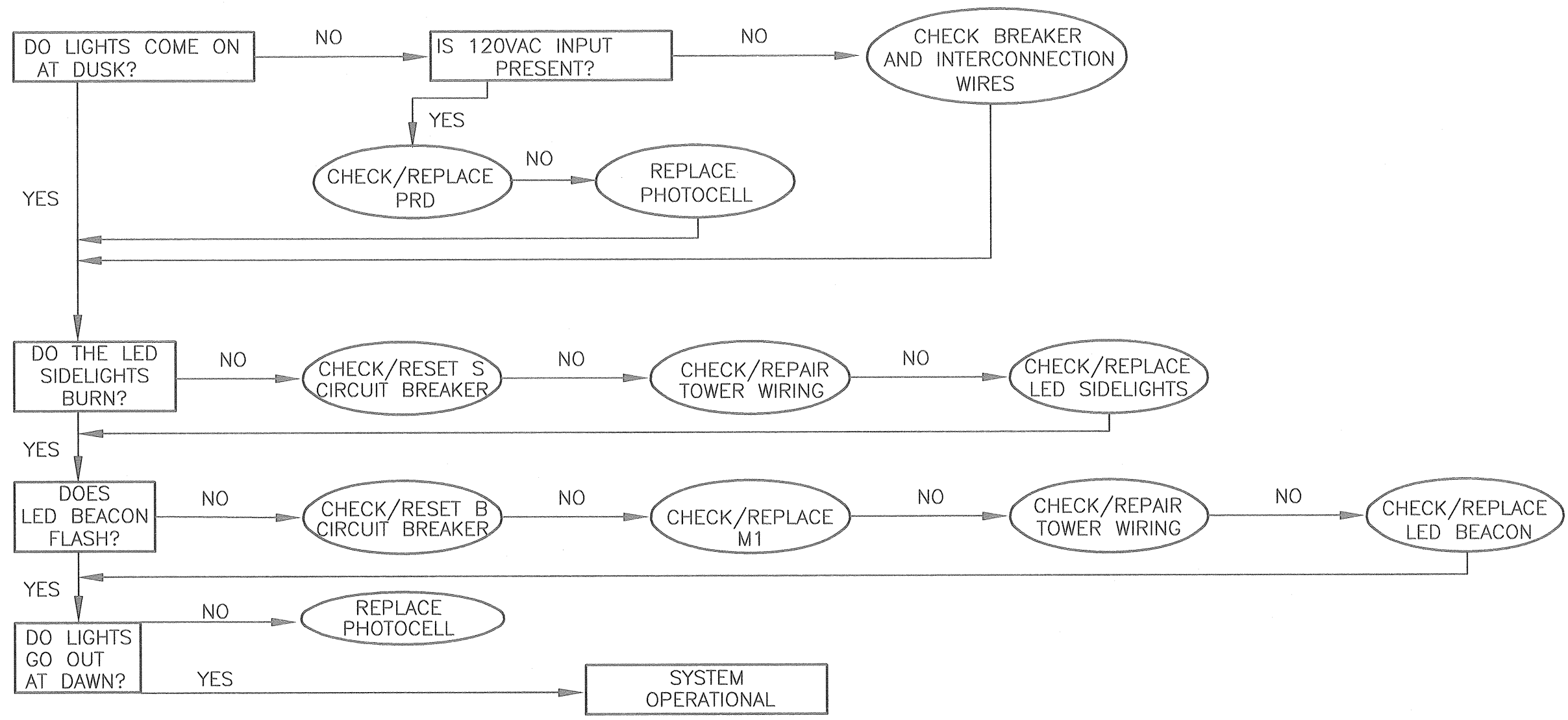
SCALE
N.T.S.

SHEET SIZE
B

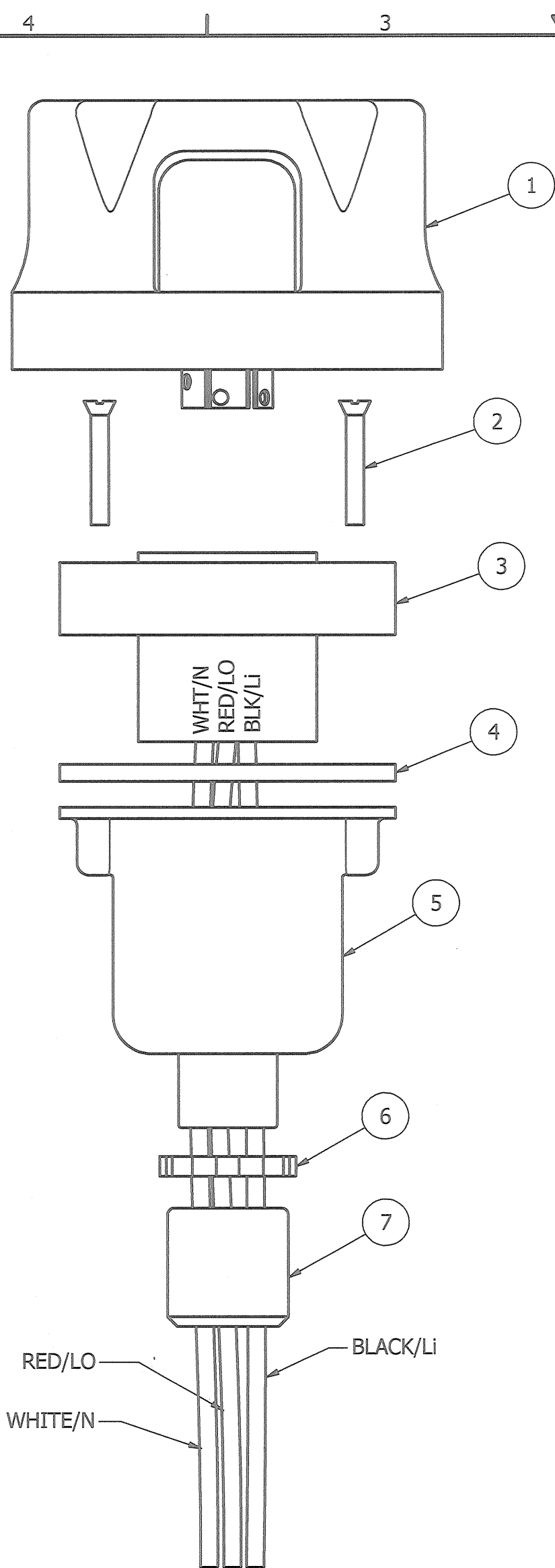
SHEET QTY.
1 OF 1

DWG. NO.
1306-S

The use of non-OEM parts or modifications to original equipment design will void the manufacturer warranty and could invalidate the assurance of complying with FAA requirements as published in Advisory Circular 160/6346-43.
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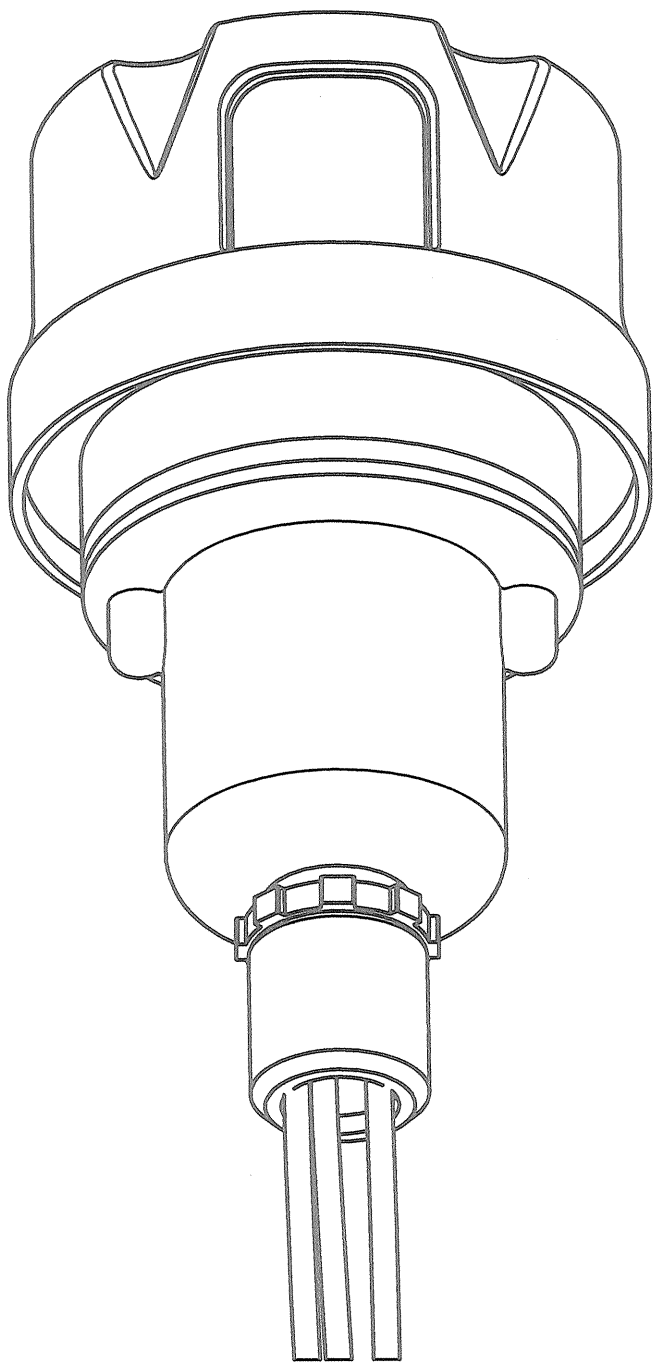


TROUBLESHOOTING FLOW CHART			
AA1TSSLED DWG#1306-R			
PROD DEPT	TWR Lighting, Inc. <i>Enlightened Technology</i> WORK		
SERV DEPT			
ENGINEER			
DRAWN BY J.ZAMORANO		SHEET SIZE B	SHEET QTY. 1 OF 1
DATE 09/14/2015		SCALE N.T.S.	DWG. NO. 1306-F
<small>NOTICE: The use of non-OEM parts or modifications to original equipment design will void the manufacturer warranty and could invalidate the assurance of complying with FAA requirements as published in Advisory Circular 150/6345-43. The drawings and photographic images contained herein are the sole property of TWR Lighting, Inc. All information contained herein that is not generally known shall be considered confidential except to the extent the information has been previously established. The drawings and photographic images contained herein may not be reproduced, copied or used as the basis for manufacture or sale or promotion or any other purpose without the expressed written permission of TWR Lighting, Inc.</small>			



EXPLODED VIEW

PARTS LIST		
ITEM	QTY	PART NUMBER
1	1	PHOTOCELL
2	2	6-32 x 1" SCREW
3	1	RECEPTACLE SOCKET
4	1	RECEPTACLE GASKET
5	1	RECEPTACLE HOUSING
6	1	1/2" CONDUIT LOCKNUT
7	1	3/4" TO 1/2" REDUCER

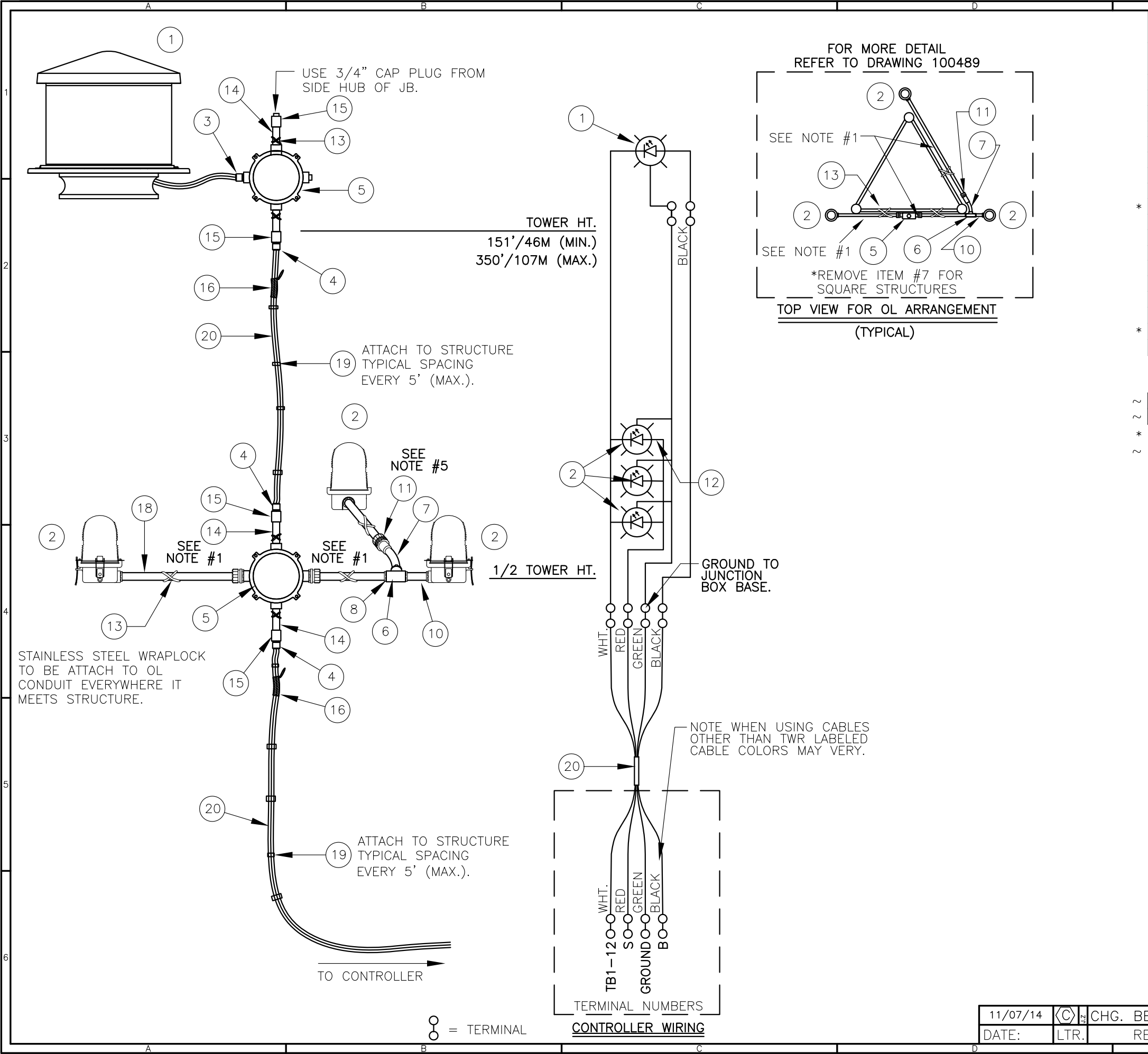


ASSEMBLY

- NOTES:
- ITEM #7 CAN BE USED TO REDUCE 3/4" CONDUIT TO 1/2" CONDUIT AT THE HOUSING OR AT THE CONTROLLER ITSELF.
 - IF ADDITIONAL WIRE IS REQUIRED OVER THE FACTORY 20', USE THE FOLLOWING CHART.
21' TO 300' - 16 AWG TFFN
301' TO 500' - 14 AWG TFFN

PHOTOCELL HOUSING DETAIL			
PROD. DEPT.		TWR Lighting, Inc. HARK <i>Enlightened Technology®</i>	
SERV. DEPT.			
ENGINEER			
DRAWN BY vhernandez		SHEET SIZE B	SHEET QTY. 1 OF 1
DATE 10/18/1995		SCALE 1/1	DWG. NO. 100239i
<small>The use of non-OEM parts or modifications to original equipment design will void the manufacturer warranty and could invalidate the assurance of complying with FAA requirements as published in Advisory Circular 150/5345-43.</small>			
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DATE	REV	AUTHOR	DESCRIPTION
02/03/2015	H	JZAMORANO	UPDATED NOTES



BILL OF MATERIALS			
ITEM NO.	QTY.	TWR PART NO.	DESCRIPTION
1	1	LED BEACON	LED BEACON
2	3	OL1LED	LED SIDELIGHT 3/4"
3	1	CGB295SA	3/4" CORD CONNECTOR 0.50 - 0.625
4	4	CGB296SA	3/4" CORD CONNECTOR 0.625 - 0.750
5	2	JB5	3/4" JUNCTION BOX
6	1	T27CG	3/4" CONDULET W/COVER AND GASKET
7	1	EL3430	3/4" 30' ELBOW
8	3	A314	3/4" CONDUIT LOCKNUTS
* 9	1	PIPDOP	4 oz. PIPE DOPE
10	1	N34T3	3/4" x 3" NIPPLE
11	3	HC402	3/4" NO THREAD CONNECTOR
12	3	SLPIGTAIL25G	25' SIDELIGHT PIGTAIL WITH GROUND
13	1	SS5012	STAINLESS STEEL WRAPLOCK 50'
14	4	N34T6	3/4" x 6" NIPPLE (FOR JB MOUNTING)
15	4	CPLG34	3/4" CONDUIT COUPLING
16	2	CABLEGRIP3	SINGLE EYE LACE MESH 0.63 - 0.74
* 17	1	AA1	AA1 CONTROLER
18	30'	CONDUIT34	3/4" CONDUIT

ITEM NUMBERS #19-#20 ARE NOT INCLUDED IN THE KIT BUT ARE AVAILABLE UPON REQUEST, AND REQUIRED FOR INSTALLATION.

~ 19	-	STCABLTIE	STROBE CABLE TIES (TWR. HEIGHT + 5)
~ 20	-	CSO12/4	4 - #12 WIRE CABLE (TWR. HT. + 30')

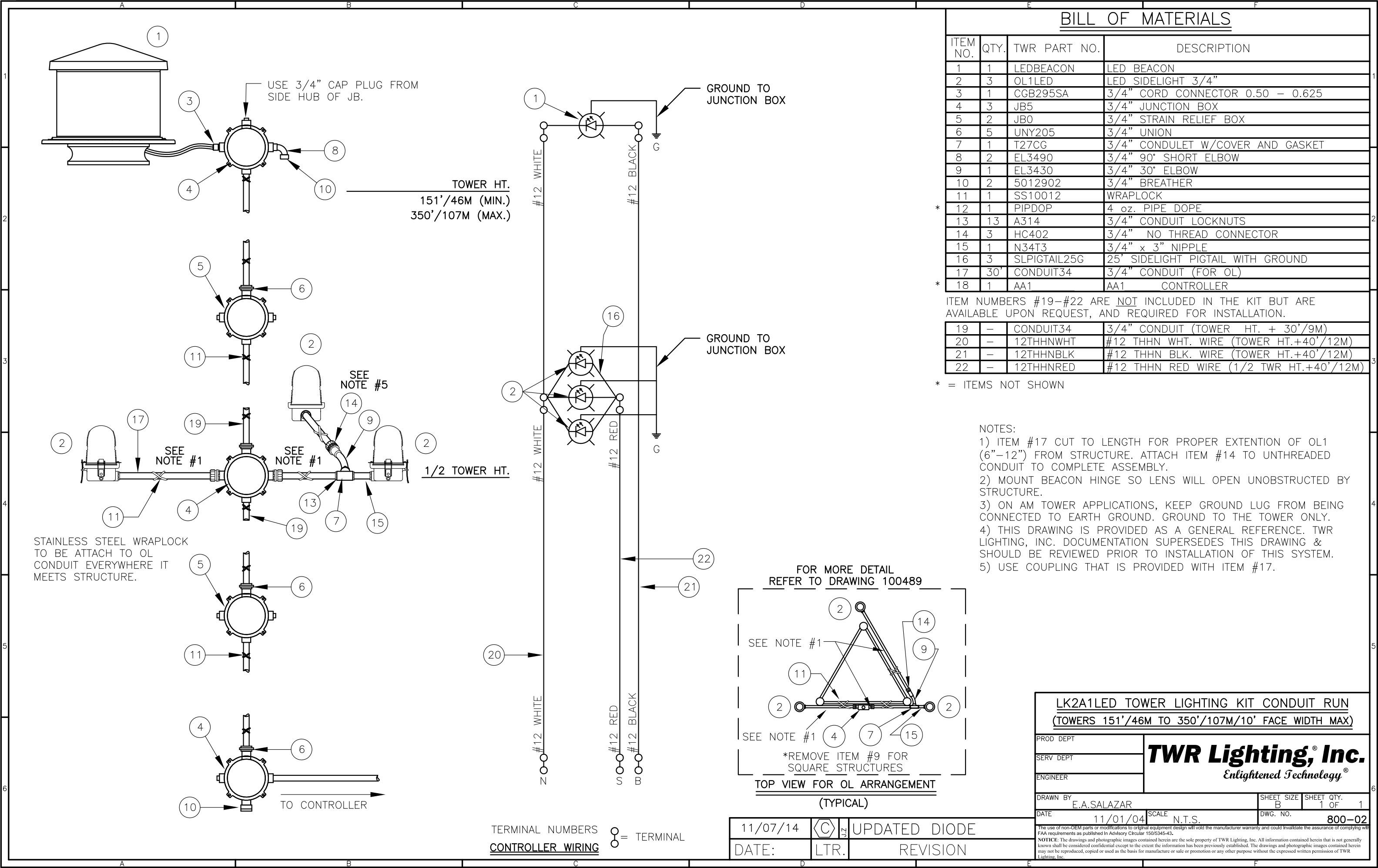
* = ITEMS NOT SHOWN
~ = ITEMS QUANTITY CALCULATED ACCORDING TO STRUCTURE HEIGHT.

NOTES:

- ITEM #18 CUT TO LENGTH FOR PROPER EXTENTION OF OL1 (6"-12") FROM STRUCTURE. ATTACH ITEM #11 TO UNTHREADED CONDUIT TO COMPLETE ASSEMBLY.
- MOUNT BEACON HINGE SO LENS WILL OPEN UNOBSTRUCTED BY STRUCTURE.
- ON AM TOWER APPLICATIONS, KEEP GROUND LUG FROM BEING CONNECTED TO EARTH GROUND. GROUND TO THE TOWER ONLY.
- THIS DRAWING IS PROVIDED AS A GENERAL REFERENCE. TWR LIGHTING, INC. DOCUMENTATION SUPERSEDES THIS DRAWING & SHOULD BE REVIEWED PRIOR TO INSTALLATION OF THIS SYSTEM.
- USE COUPLING THAT IS PROVIDED WITH ITEM #18.

LK1A1LED TOWER LIGHTING KIT CABLE RUN (TOWERS 151'/46M TO 350'/107M/10' FACE WIDTH MAX)			
PROD DEPT	TWR Lighting, Inc. Enlightened Technology®		
SERV DEPT			
ENGINEER			
DRAWN BY	E.A.SALAZAR	SHEET SIZE	SHEET QTY.
DATE	10/29/03	B	1 OF 1
SCALE	N.T.S.	DWG. NO.	800-01
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11/07/14	CHG. BEACON
DATE:	REVISION



BILL OF MATERIALS

ITEM NO.	QTY.	TWR PART NO.	DESCRIPTION
1	1	LED BEACON	LED BEACON
2	3	OL1LED	LED SIDELIGHT 3/4"
3	1	CGB295SA	3/4" CORD CONNECTOR 0.50 - 0.625
4	3	JB5	3/4" JUNCTION BOX
5	2	JB0	3/4" STRAIN RELIEF BOX
6	5	UNY205	3/4" UNION
7	1	T27CG	3/4" CONDULET W/COVER AND GASKET
8	2	EL3490	3/4" 90° SHORT ELBOW
9	1	EL3430	3/4" 30° ELBOW
10	2	5012902	3/4" BREATHER
11	1	SS10012	WRAPLOCK
* 12	1	PIPDOP	4 oz. PIPE DOPE
13	13	A314	3/4" CONDUIT LOCKNUTS
14	3	HC402	3/4" NO THREAD CONNECTOR
15	1	N34T3	3/4" x 3" NIPPLE
16	3	SLPIGTAIL25G	25' SIDELIGHT PIGTAIL WITH GROUND
17	30'	CONDUIT34	3/4" CONDUIT (FOR OL)
* 18	1	AA1	AA1 CONTROLLER

ITEM NUMBERS #19-#22 ARE NOT INCLUDED IN THE KIT BUT ARE AVAILABLE UPON REQUEST, AND REQUIRED FOR INSTALLATION.

19	-	CONDUIT34	3/4" CONDUIT (TOWER HT. + 30'/9M)
20	-	12THHNWHT	#12 THHN WHT. WIRE (TOWER HT.+40'/12M)
21	-	12THHNBK	#12 THHN BLK. WIRE (TOWER HT.+40'/12M)
22	-	12THHNRED	#12 THHN RED WIRE (1/2 TWR HT.+40'/12M)

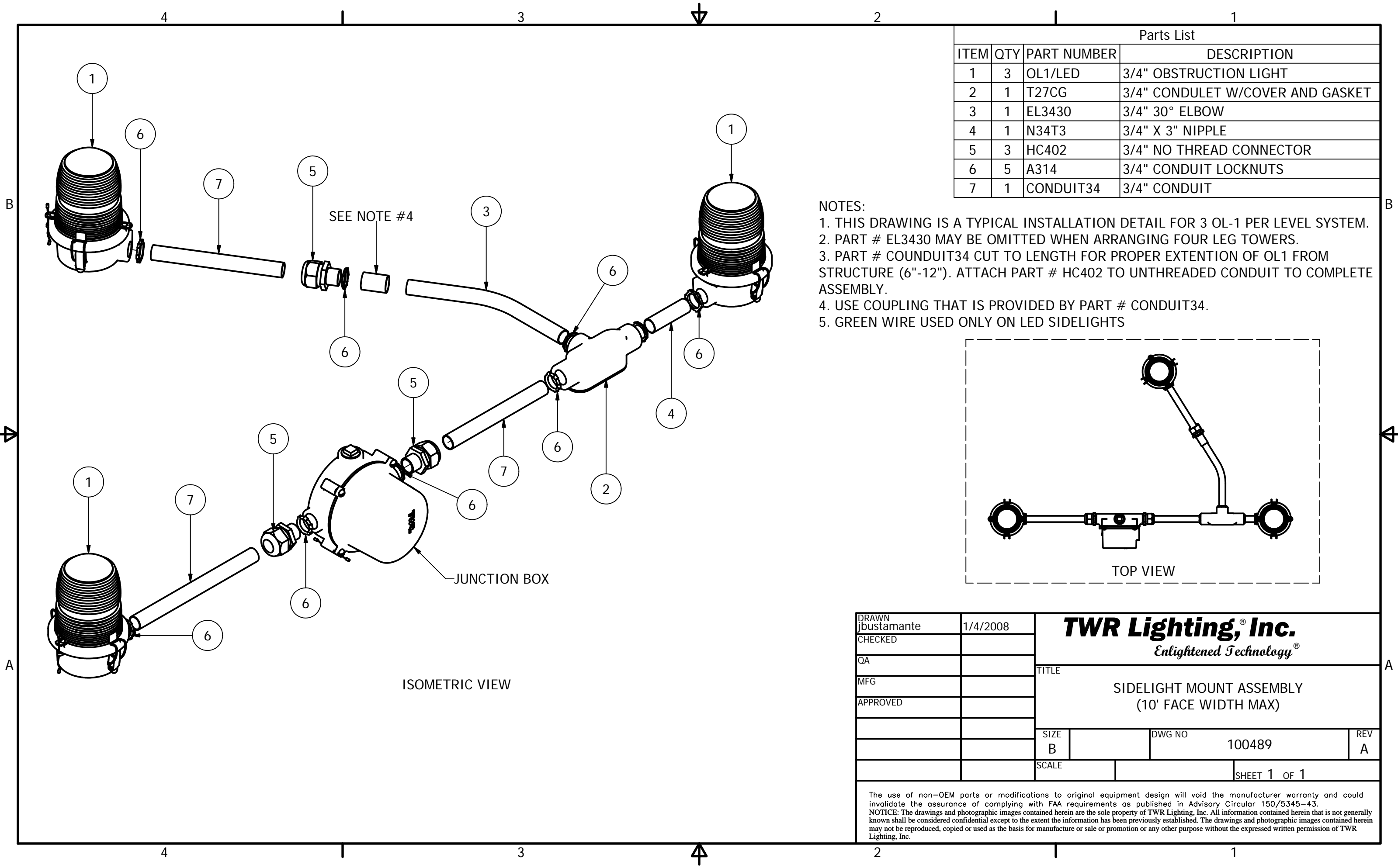
* = ITEMS NOT SHOWN

- NOTES:
- 1) ITEM #17 CUT TO LENGTH FOR PROPER EXTENSION OF OL1 (6"-12") FROM STRUCTURE. ATTACH ITEM #14 TO UNTHREADED CONDUIT TO COMPLETE ASSEMBLY.
- 2) MOUNT BEACON HINGE SO LENS WILL OPEN UNOBSTRUCTED BY STRUCTURE.
- 3) ON AM TOWER APPLICATIONS, KEEP GROUND LUG FROM BEING CONNECTED TO EARTH GROUND. GROUND TO THE TOWER ONLY.
- 4) THIS DRAWING IS PROVIDED AS A GENERAL REFERENCE. TWR LIGHTING, INC. DOCUMENTATION SUPERSEDES THIS DRAWING & SHOULD BE REVIEWED PRIOR TO INSTALLATION OF THIS SYSTEM.
- 5) USE COUPLING THAT IS PROVIDED WITH ITEM #17.

LK2A1LED TOWER LIGHTING KIT CONDUIT RUN (TOWERS 151'/46M TO 350'/107M/10' FACE WIDTH MAX)			
PROD DEPT		TWR Lighting, Inc. Enlightened Technology®	
SERV DEPT			
ENGINEER			
DRAWN BY E.A.SALAZAR		SHEET SIZE B	SHEET QTY. 1 OF 1
DATE 11/01/04		SCALE N.T.S.	DWG. NO. 800-02

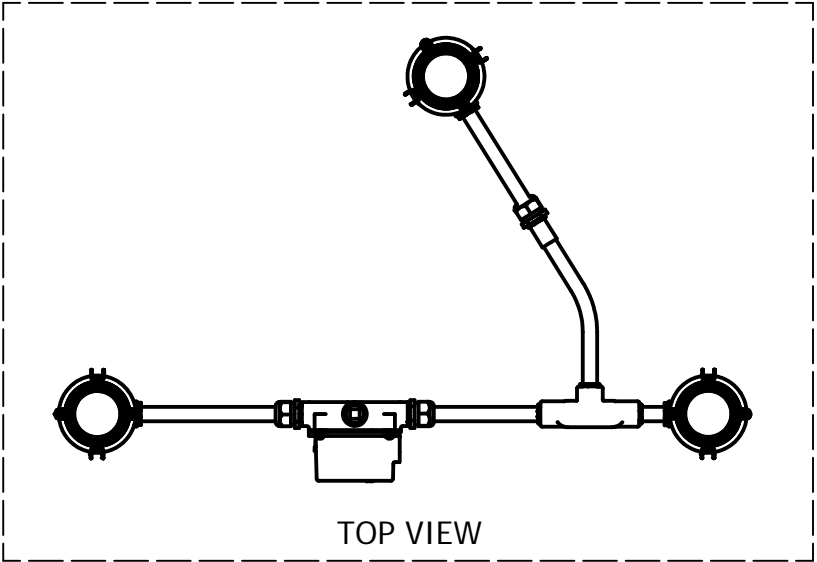
The use of non-OEM parts or modifications to original equipment design will void the manufacturer warranty and could invalidate the assurance of complying with FAA requirements as published in Advisory Circular 150/5345-43.

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Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	3	OL1/LED	3/4" OBSTRUCTION LIGHT
2	1	T27CG	3/4" CONDULET W/COVER AND GASKET
3	1	EL3430	3/4" 30° ELBOW
4	1	N34T3	3/4" X 3" NIPPLE
5	3	HC402	3/4" NO THREAD CONNECTOR
6	5	A314	3/4" CONDUIT LOCKNUTS
7	1	CONDUIT34	3/4" CONDUIT

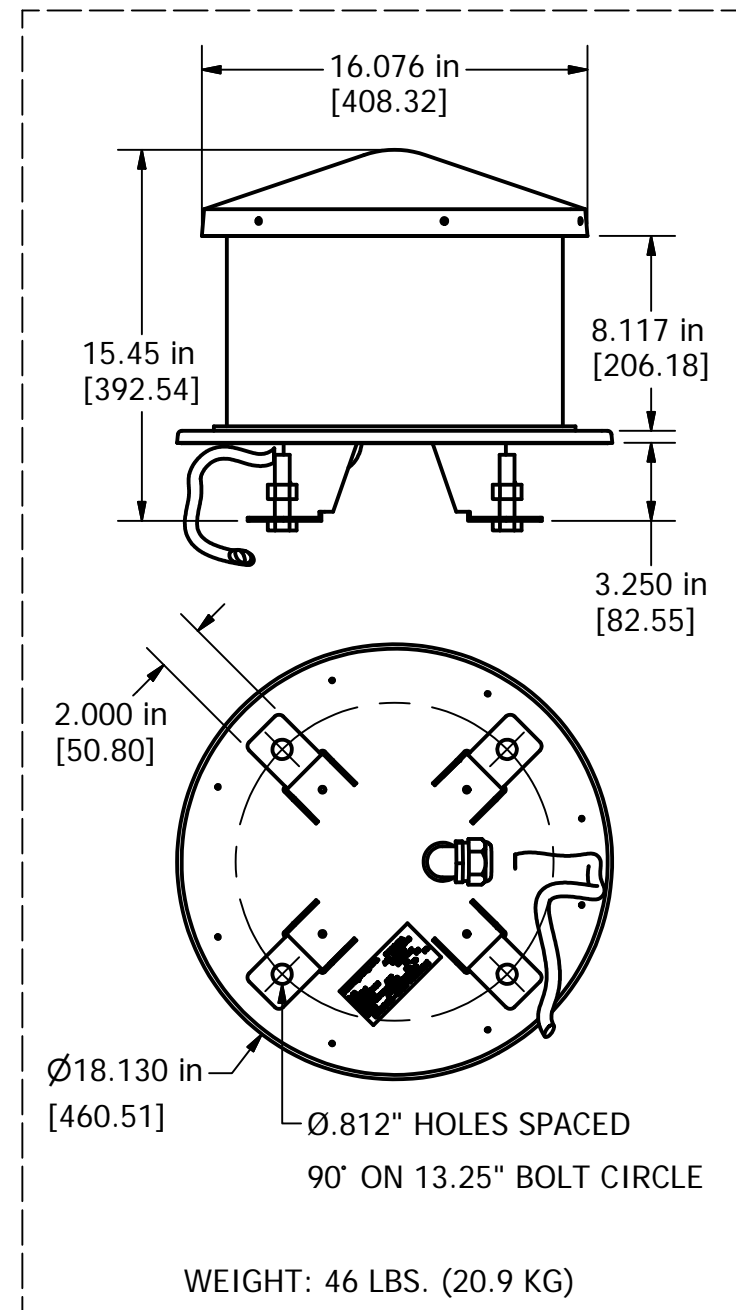
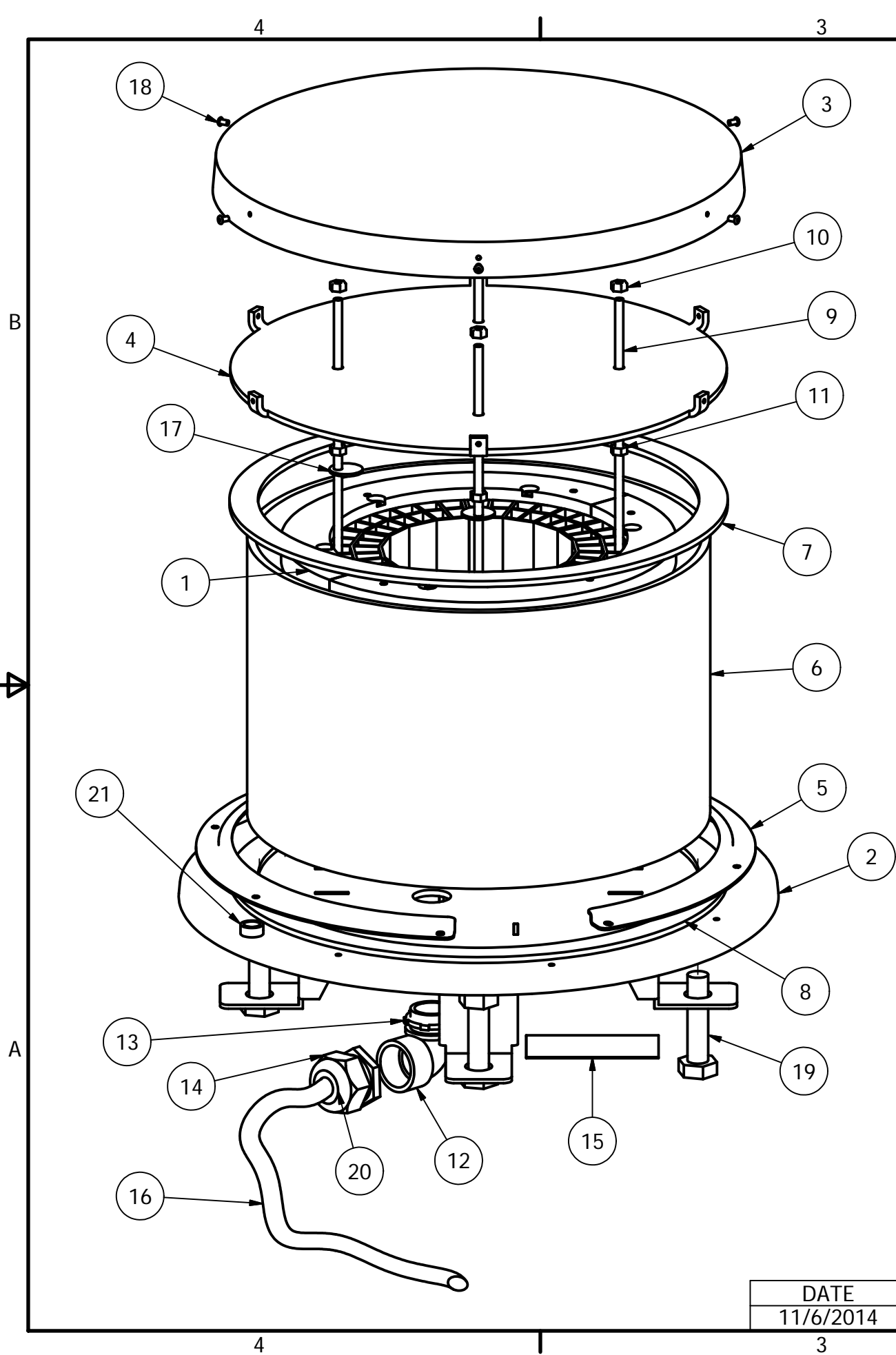
- NOTES:
1. THIS DRAWING IS A TYPICAL INSTALLATION DETAIL FOR 3 OL-1 PER LEVEL SYSTEM.
 2. PART # EL3430 MAY BE OMITTED WHEN ARRANGING FOUR LEG TOWERS.
 3. PART # COUNDUIT34 CUT TO LENGTH FOR PROPER EXTENTION OF OL1 FROM STRUCTURE (6"-12"). ATTACH PART # HC402 TO UNTHREADED CONDUIT TO COMPLETE ASSEMBLY.
 4. USE COUPLING THAT IS PROVIDED BY PART # CONDUIT34.
 5. GREEN WIRE USED ONLY ON LED SIDELIGHTS



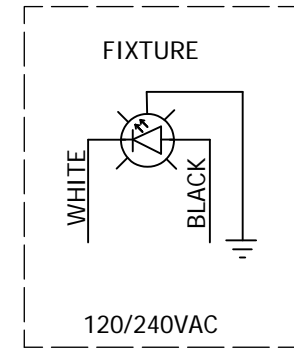
ISOMETRIC VIEW

DRAWN jbustamante	1/4/2008	TWR Lighting, Inc. <i>Enlightened Technology®</i> TITLE SIDELIGHT MOUNT ASSEMBLY (10' FACE WIDTH MAX)		
CHECKED				
QA				
MFG				
APPROVED				
		SIZE B	DWG NO 100489	REV A
		SCALE	SHEET 1 OF 1	

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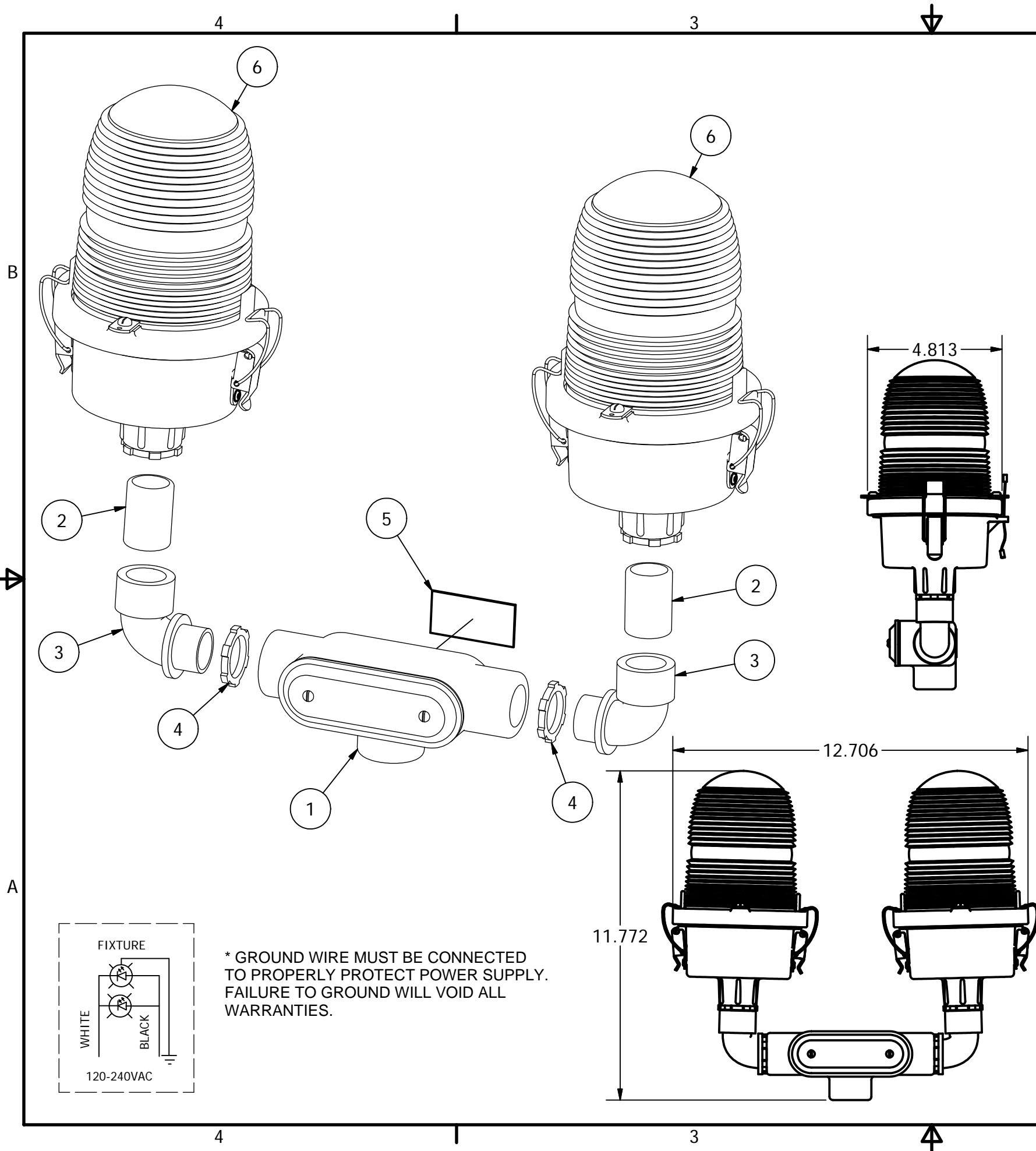


Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	LEDLITEENG2	ORGA L-864 LED LIGHT ENGINE 120/240VAC
2	1	100672	LEDBEACON BASE PLATE
3	1	100344	CAP DUAL BEACON
4	1	100673	LEDBEACON LID PLATE
5	2	100337	LENS RETAINER RING
6	1	STLDBCTUBE2	CLEAR ACRYLIC TUBE
7	1	STBEAGSK4	GASKET NEOPRENE 13 1/8 X 15 OD X
8	1	STBEAGSKT	GASKET NEOPRENE 13 1/4 x 15
9	4	100727	14-20 X 9.875" DE 304 S.S. ORG
10	4	1420SSNUTN	1/4-20 NUT W/NYLON INSERT 304
11	4	1420NUT	1/4-20 NUT 304 S/S
12	1	EL190S	1" 90 DEGREE SHORT ELBOW GALV.
13	1	A315	1" CONDUIT LOCKNUT GALV.
14	1	CC-NPT34-G	3/4" NPT CORD CONNECTOR .500"
15	1	STCONLAB2	100223 PRODUCT LABEL
16	21'	CSO14-3	S.O. CORD 14AWG/3 CONDUCTOR
17	2	100606M	LED LIGHT ENGINE TIE DOWN WASH
18	6	18PRSS-2	1/8 X .400 SS POP RIVET #44
19	4	58X112	5/8 X 1-1/2 HEX BOLT
20	1	RE32	1" TO 3/4" REDUCER, GALV.
21	1	2-10000	CIRCULAR SPIRIT LEVEL
* = ITEMS NOT SHOWN			
22	8	1032X38PHW	10-32X3/8 PHILLS HD CAPTIVE SCREW



DATE	AUTHOR	REV	DESCRIPTION
11/6/2014	JZamorano	C	UPDATED BOM

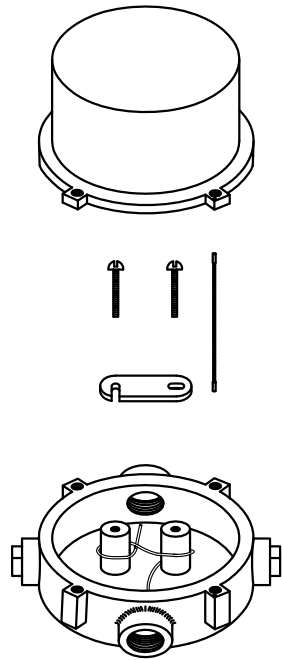
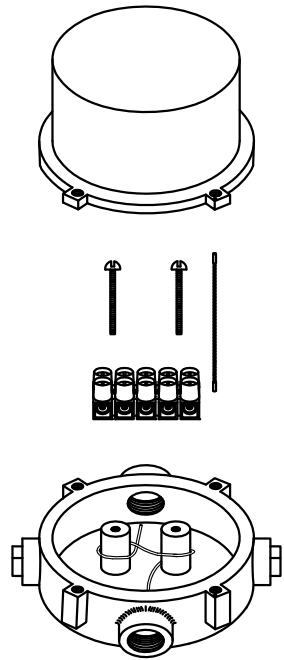
DRAWN VHernandez	9/4/2007	TWR Lighting, Inc. PARK Enlightened Technology®		
CHECKED				
QA		TITLE		
MFG		LEDBEACON2 ASSEMBLY		
APPROVED				
		SIZE B	DWG NO 100761	REV C
		SCALE 1/4	SHEET 1 OF 1	



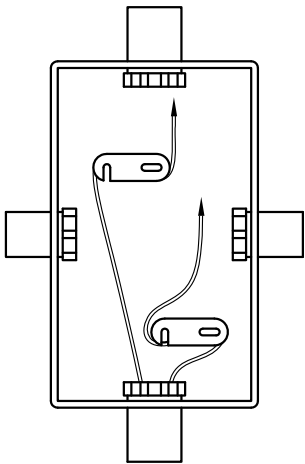
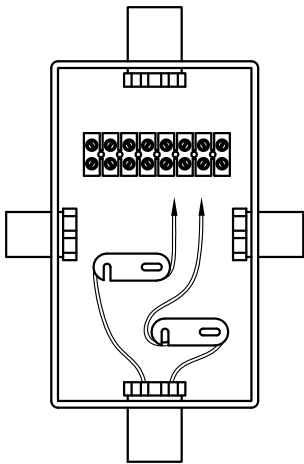
Parts List			
ITEM	QTY	STOCK NUMBER	DESCRIPTION
1	1	T27CG	T27 CONDULET W/COVER & GSKT
2	2	34CLNP	3/4" GALV CLOSE NIPPLE
3	2	EL3490	3/4" 90 DEGREE SHORT ELBOW GALV
4	5	A314	3/4" CONDUIT LOCKNUT GALV.
5	1	100680	OL1/2 LED SERIAL # LABEL
6	2	OL1VBH34LED2	FAA OL16LED 120/240VAC VALOX LED BH SL 3/4
* 6.1	1	105RV	VALOX SINGLE SIDELIGHT BODY
* 6.2	1	106V	VALOX LENS HOLDER RING
* 6.3	2	HC255SS	SIDELIGHT LATCH
* 6.4	1	OLG2	OL1 6 LED GASKET
* 6.5	16	18PRSS	1/8 X .45 SS POP RIVET
* 6.6	.5	7X7SS	1/16 HOL 7X7 S.S. WIRE
* 6.7	2	A1A	STAKON CRIMP
* 6.8	1	A314	3/4" CONDUIT LOCKNUT GALV.
* 6.9	2	12V245	OL LENS CLIP
* 6.10	2	832X14PH	8-32 X 1/4" PH SS SLOT SCREW
* 6.11	1	AP100846	SIDELIGHT LENS CLEAR ACYRLIC
* 6.12	1	PS90-260/24	POWER SUPPLY
* 6.13	6	STE01-047	LED VERTICAL PCB
* 6.14	1	100588	OL 6LED BASE PLATE
* 6.15	1	100591	OL 6LED STAR DISK
* 6.16	6	STD05008	LED EMITTER
* 6.17	1	A10290	5/32" X 11/32" RUBBER GROMMET
* 6.18	3	632X14PHH	6-32 X 1/4" PH PH SCREW
* 6.19	.3	20RED	#20AWG RED BELDON WIRE
* 6.20	1	14GREEN	#14AWG GREEN BELDON WIRE
* 6.21	1	14RB6R	RING TERMINAL (GROUND WIRE)
* 6.22	3	WIRENUTRED	RED WIRE NUT FOR #8 TO #12 WIRE

* = ITEMS NOT SHOWN

DRAWN gsebek	6/9/2005	TWR Lighting, Inc. WARK <i>Enlightened Technology®</i>			
CHECKED					
QA		TITLE			
MFG		OL2VLED2 FAA-OL16LED 120-240VAC DOUBLE VALOX LED SL (L810 LED DOUBLE OBSTRUCTION LIGHT)			
APPROVED		SIZE B	DWG NO 100658	REV F	
REVISION JZAMORANO	11/07/14	SCALE	SHEET 1 OF 1		



JB-5 AND JB-0
3/4" JUNCTION BOX



JB-8 AND JB-8SR
1" JUNCTION BOX

NOTES:

- 1) DRAWING ILLUSTRATES METHOD OF STRAIN RELIEVING WIRE. USE THIS METHOD ON ALL JUNCTION BOXES.
- 2) THE NATIONAL ELECTRICAL CODE-ARTICLE 300-19-B3 REQUIRES CONDUCTORS IN A VERTICAL CONDUIT BE SUPPORTED TO RELIEVE STRAIN ON TERMINAL BLOCK CONNECTIONS.
- 3) SKETCH ILLUSTRATES METHOD OF STRAIN RELIEVING A SINGLE CONDUCTOR. SEVERAL CONDUCTORS MAY BE GROUPED TOGETHER.
- 4) CONDUCTORS MAY BE MIXED BUT SHOULD NOT TAKE UP MORE THAN 40% OF CONDUIT'S INSIDE AREA.

USING THIS JUNCTION BOX METHOD SPACING IS 100 FEET MAXIMUM.

AWG WIRE SIZE	MAX. NUMBER WIRES IN 3/4" CONDUIT	MAX. NUMBER WIRES IN 1" CONDUIT	WIRE AREA SQ. INCHES	WEIGHT PER 100 FEET
12 THHN	16	26	0.0117	2.50
10 THHN	10	17	0.0184	4.10
8 THHN	6	9	0.0373	6.70
6 THHN	4	7	0.0519	10.30
4 THHN	2	4	0.0845	16.20

JUNCTION AND STRAIN RELIEF BOXES

PROD DEPT	TWR Lighting, Inc. Enlightened Technology®		
SERV DEPT			
ENGINEER			
DRAWN BY G.D. SEBEK		SHEET SIZE B	SHEET QTY. 1 OF 1
DATE 07/26/93		SCALE N.T.S.	DWG. NO. 100089

9/29/00	(A)	3	UPDATED NOTES
DATE:	LTR.		REVISION

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