

TWR Lighting, Inc. **MARK** *Enlightened Technology*

10810 W. LITTLE YORK RD., #130 HOUSTON, TX 77041-4051
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 # AA0MTSSLED 230V

SERIAL # _____

PURCHASE DATE _____

PURCHASED FROM _____

TWR Lighting, Inc. **MARK**

Enlightened Technology®

AA0MTSSLED 230V CONTROLLER

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WARRANTY & RETURN POLICY

RETURN MERCHANDISE AUTHORIZATION (RMA) FORM

TWR Lighting, Inc. **MARK**[®]

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AA0MTSSLED 230V CONTROLLER

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AA0MTSSLED 230V CONTROLLER

1.0 GENERAL INFORMATION

The TWR Lighting[®], Inc. (TWR[®]) Model AA0M-TSSLED 230V Controller is for applications of two (2) through nine (9) L-810 single obstruction light fixtures.

The LED obstruction lights 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 “on” the toggle switch, which is mounted on the panel of the controller.

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

Power supplied to the controller shall be 230V AC.

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

Controller functions that are monitored by remote alarms in the form of dry contact closures (Form C) are as follows:

POWER FAILURE Monitors 230V AC to the controller. Alarms in the event of power failure, or tripped circuit breaker.

LIGHTS “ON” Gives an indication whenever the controller is activated.

LED OBSTRUCTION LIGHTS
Will give an alarm when one (1) of the group of LED sidelights fails.

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2.0 INSTALLATION

2.1 MOUNTING THE CONTROL CABINET

(Refer to Drawing 1219-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 1219-R. Power wiring to the control cabinet should be in accordance with local methods and 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.

The wiring from the photocell, the service breaker, 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 breaker located at the bottom of the chassis. These connections are made as follows:

2.2 EXTERNAL PHOTOCELL WIRING

(Refer to Drawing 1219-R)

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

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

AA0MTSSLED 230V CONTROLLER

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

2.3 POWER WIRING

(Refer to Drawing 1219-R)

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

2.3.2 Circuit breaker needs to be rated at 7 amps.

2.3.3 Connect incoming 230V AC line 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 SIDELIGHT WIRING

(Refer to Drawings 1219-R, T1180, 810-01, or 810-02)

2.4.1 Connect the **RED** from the sidelight group to the circuit breaker marked “S.”

2.4.2 Connect the **WHITE** neutral wire(s) to the terminal block TB1 marked “N.”

2.5 SIDELIGHT ALARM WIRING

(Refer to Drawings 1219-R and 1219-S)

2.5.1 Alarm relays K1, K2, and Module M1 are provided for independent contact closures for: Power Failure, Lights “ON,” and LED Sidelight Burnout.

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2.5.2 Alarm wiring: To utilize all of the red light alarms, the customer will need three (3) pair of wires to interface with the alarm device. One (1) wire from each of the three (3) pair will terminate at the points marked common (c). The remaining wire from each pair will terminate as follows:

LED Sidelight Burnout: Connect to Module M1, terminal #24, for normally open (or) terminal #22, for normally closed monitoring.

Power Failure Alarm: Connect to relay K1, terminal #3, for normally open (or) terminal #6, for normally closed monitoring.

Lights “ON” Alarm: Connect to relay K2, terminal #3, for normally open (or) terminal #6, for normally closed monitoring.

2.5.3 Testing: To test alarms, follow the procedures using the “ohm” meter between alarm common and alarm points.

Power Failure Pull circuit breaker at electrical panel.

Lights “ON” Operate photocell by-pass switch (SW1) or cover the photocell.

LED Sidelights Trip circuit breaker on the controller panel.

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3.0 THEORY OF OPERATION

3.1 POWER SUPPLY

230V AC enters the controller from the circuit breaker panel. Line sits at the 6390-FAA photocell waiting to be switched and also keeps the power failure relay K1 energized. When the 6390-FAA photocell is activated, line SSR energizes K2 “Lights On” relay. This can also be accomplished by using the photocell by-pass switch (SW1).

3.2 LED SIDELIGHTS

Line (SSR) is also being sent to Module M1, then to circuit breaker “S.” Module M1 is the current sensor for all of the LED sidelights. If one (1) LED sidelight within the group burns out, Module M1 will detect it, which will cause a contact closure for LED sidelight alarm.

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4.0 MAINTENANCE GUIDE

4.1 RED OBSTRUCTION LIGHTING

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

TOOLS REQUIRED: NONE

4.2 L-810 LAMP REPLACEMENT

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

4.3 CONTROLLER

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

4.4 PHOTOCELL

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

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5.0 MAJOR COMPONENTS PARTS LIST

QTY	PART NUMBER	DESCRIPTION
1	6390-FAA (This replaces the 102FAA photocell)	Photocell
1	VJ1008HWPL1X004	Enclosure, NEMA 4x
2	PB27E122	Octal Sockets (K1 and K2)
6	8WA1204	Terminal Blocks (TB1 and TB2)
1	S261D1	1 amp Circuit Breaker (S)
2	8WA1808	End Stop
1	9KE240V	SPDT Relay (K1 and K2)
1	SSPIGTAIL	20' Photocell Pigtail
1	STJ01002	15 amp SPDT Switch (SW1)
1	RM22JA31MRSP01	Current Sensor (M1)

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6.0 SUGGESTED SPARE PARTS LIST

QTY	PART NUMBER	DESCRIPTION
1	6390-FAA (This replaces the 102FAA photocell)	Photocell
1	9KE240V	SPDT Relay (K1 and K2)

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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.

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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).

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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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AA0MTSSLED 230V CONTROLLER

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.

TWR Lighting, Inc. **HARK**[®]

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AA0MTSSLED 230V CONTROLLER

RETURN MATERIAL 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

TWR Lighting, Inc. HARK[®]

Enlightened Technology[®]

AA0MTSSLED 230V CONTROLLER

RETURN MATERIAL 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** _____

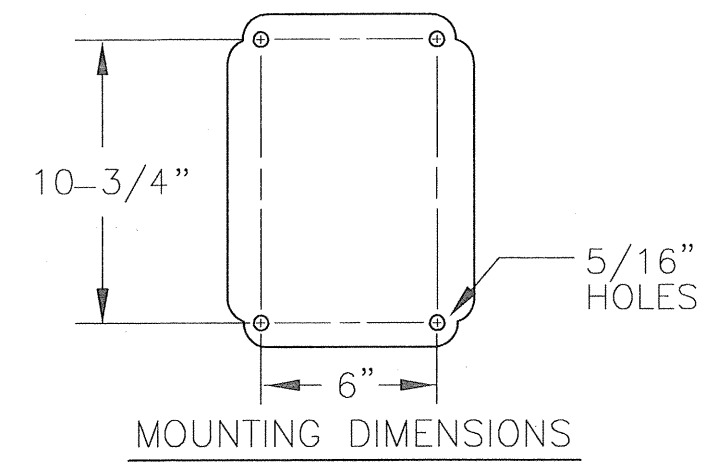
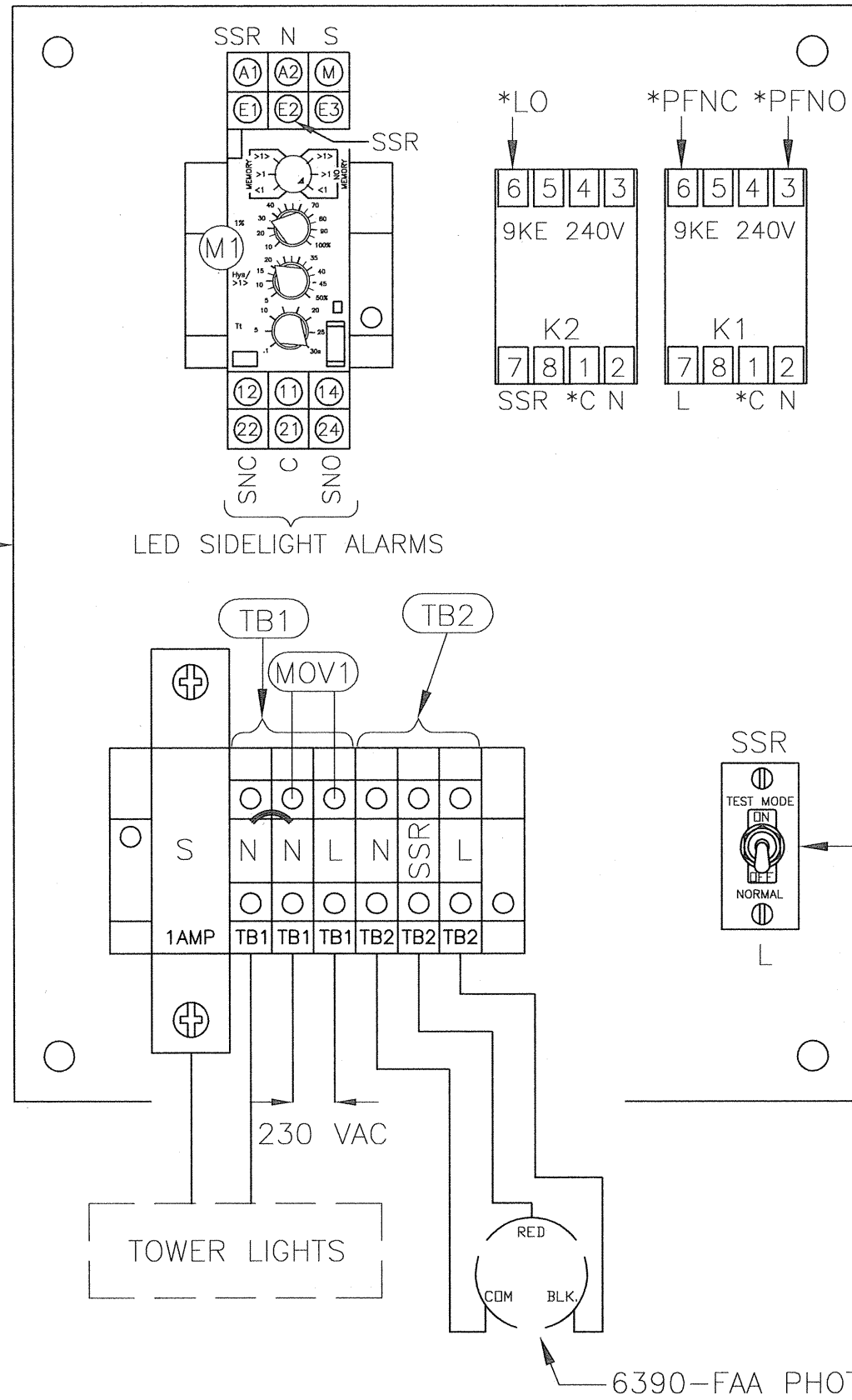
RETURN ADDRESS: _____

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

***CUSTOMER ALARM POINTS**

- SNC=LED SIDELIGHT ALARM (NORMALLY CLOSED)
- SNO=LED SIDELIGHT ALARM (NORMALLY OPEN)
- C=ALARM COMMON
- LO=LIGHTS "ON" INDICATOR
- PFNC=POWERFAIL (NORMALLY CLOSED)
- PFNO=POWERFAIL (NORMALLY OPENED)

9"X7" PLATE

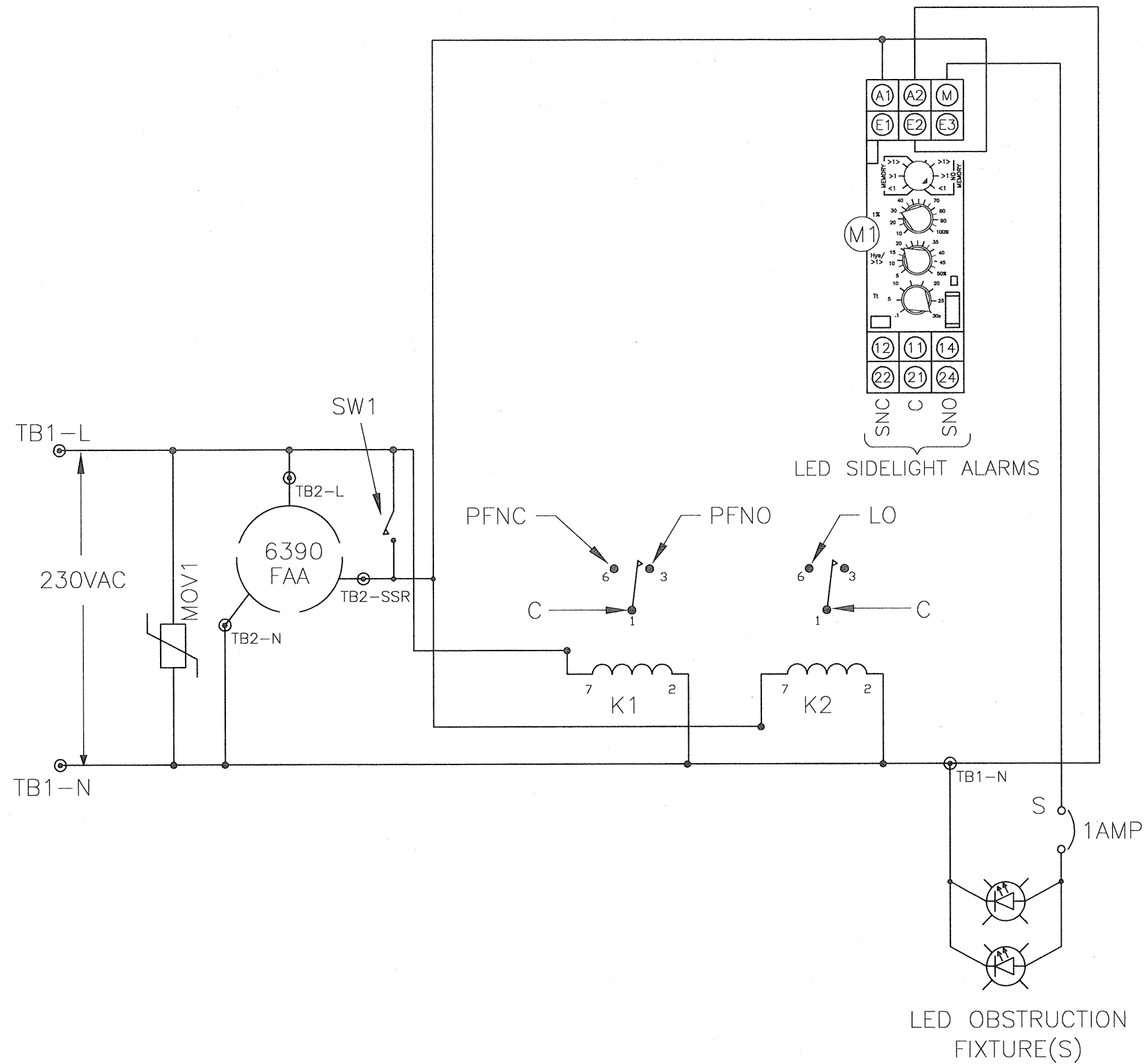


- NOTES:**
1. PLUG 6390-FAA PHOTOCELL INTO 43109 TWIST LOCK RECEPTACLE AND TWIST TO LOCK.
 2. WIRES ARE CONNECTED LETTER TO LETTER. (EXAMPLE) N TO N...

AAOM-TSSLED 230V CONTROLLER			
CONTROLLER CHASSIS LAYOUT			
PROD DEPT	TWR Lighting, Inc. <i>Enlightened Technology</i> MARK		
SERV DEPT			
ENGINEER			
DRAWN BY	E.A.SALAZAR	SHEET SIZE	SHEET QTY.
DATE	10/19/05	SCALE	N.T.S.
DWG. NO.		1219-R	

05/22/2017	(E)	CURRENT SENSOR
DATE:	LTR.	REVISION

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.
NOTICE: 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.



LED SIDELIGHT ALARMS

NOTES:

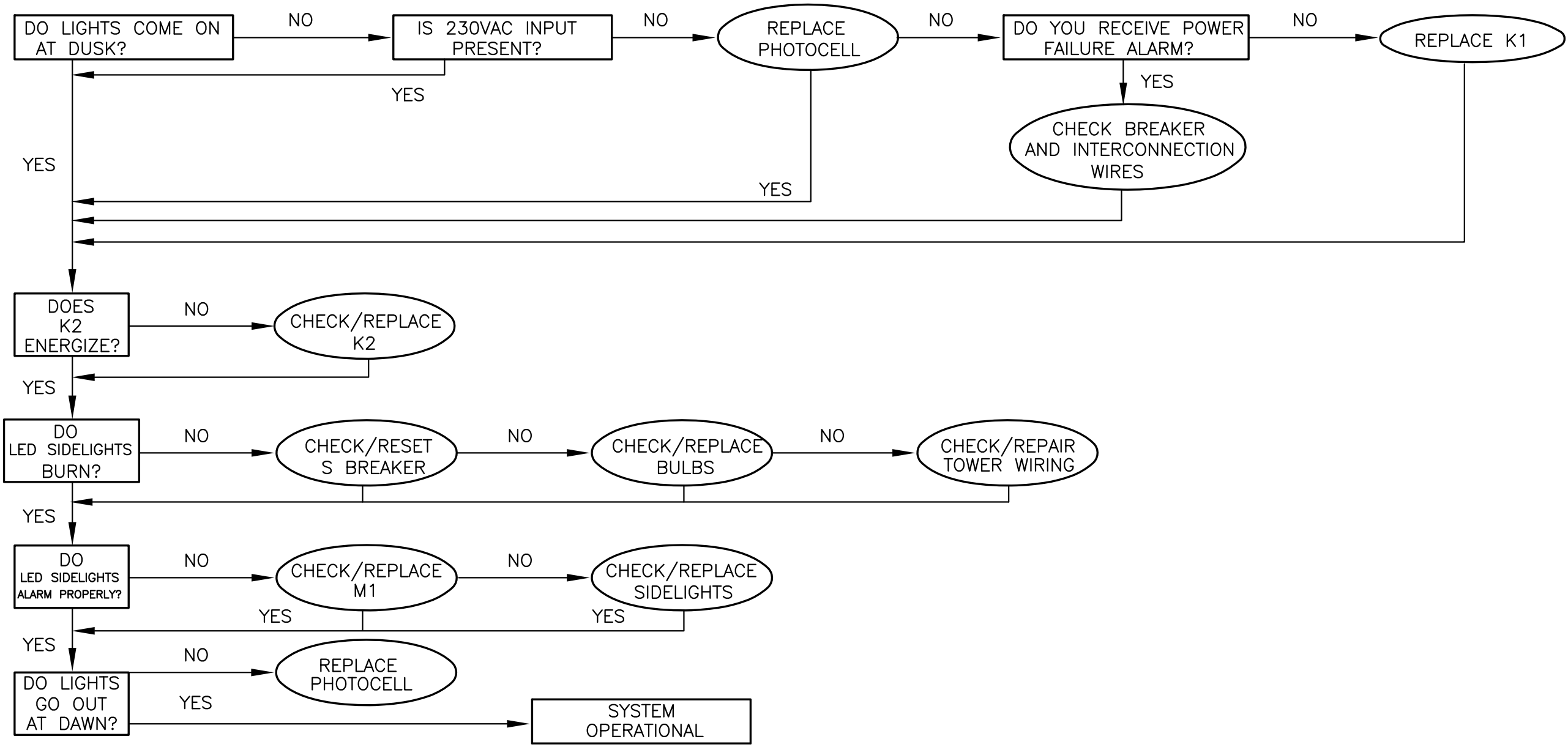
- * 1. NUMBER OF LAMPS MAY VARY FROM 2 TO 9.

AAOM-TSSLED 230V

PROD DEPT			
SERV DEPT			
ENGINEER			
DRAWN BY	E.A.SALAZAR	SHEET SIZE	SHEET QTY.
DATE	10/19/05	SCALE	N.T.S.
		DWG. NO.	1219-S

05/22/2017	(E)	3	CURRENT SENSOR
DATE:	LTR.		REVISION

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TROUBLESHOOTING FLOW CHART			
AAOM-TSSLED 230V DWR. #1219-R			
PROD DEPT	TWR Lighting, Inc. <i>Enlightened Technology®</i>		
SERV DEPT			
ENGINEER			
DRAWN BY E.A.SALAZAR	SHEET SIZE B	SHEET QTY. 1 OF 1	
DATE 10/19/05	SCALE N.T.S.	DWG. NO. 1219-F	

10/22/09	(B)	M1 PLACEMENT
DATE:	LTR.	REVISION

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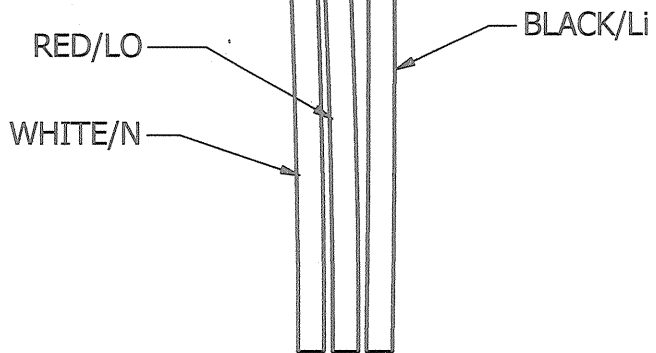
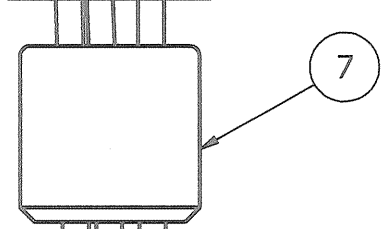
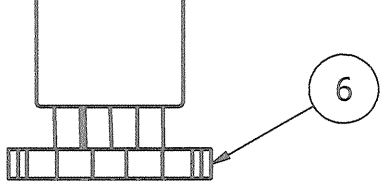
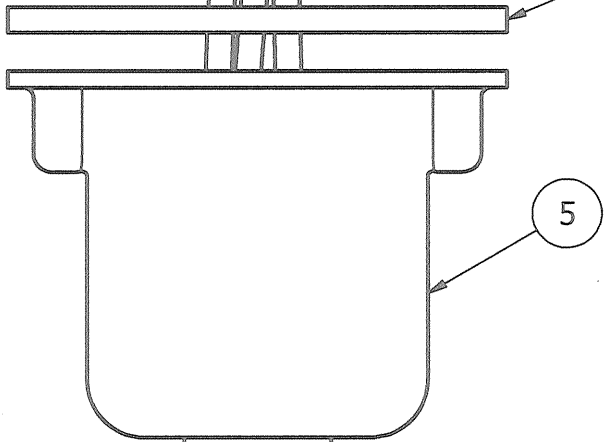
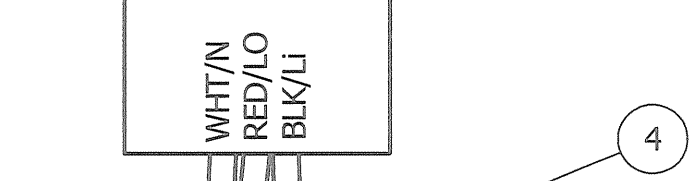
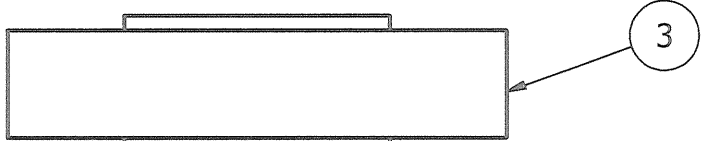
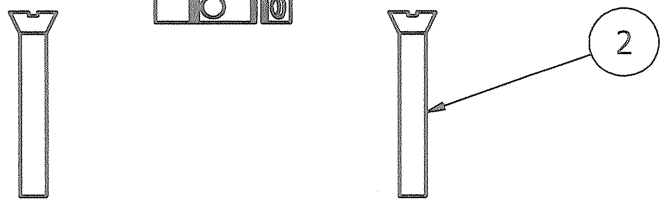
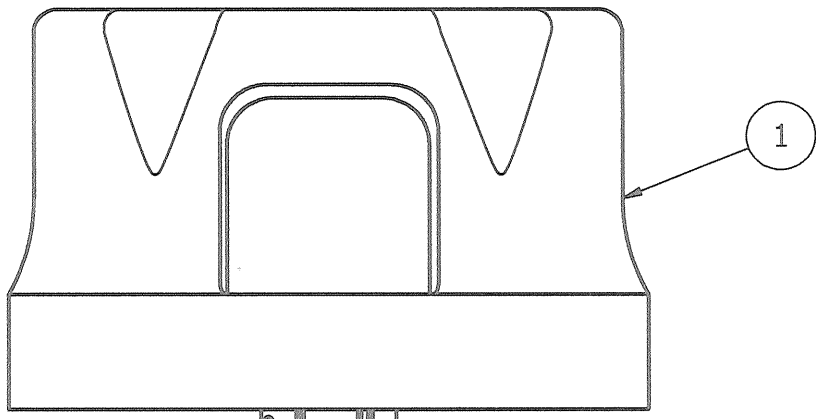
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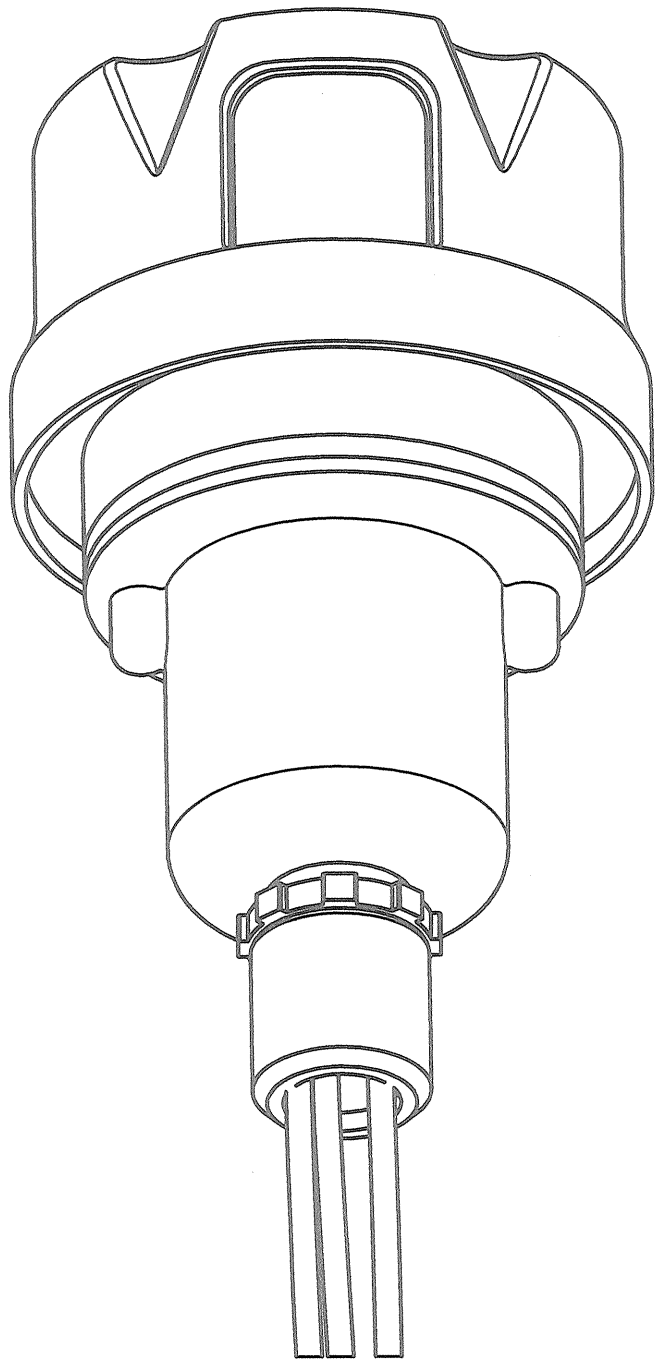
2

1

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



EXPLODED VIEW



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
 SERV. DEPT
 ENGINEER

TWR Lighting, Inc. HARK
 Enlightened Technology®

DRAWN BY	vhernandez	SHEET SIZE	B	SHEET QTY.	1 OF 1
DATE	10/18/1995	SCALE	1/1	DWG. NO.	100239i

DATE	REV	AUTHOR	DESCRIPTION
02/03/2015	H	JZAMORANO	UPDATED NOTES

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4

3

2

1

AC UNITS CURRENT MEASUREMENT RM22JA31MRSP01

120VAC PRODUCT SPECIFIC SETTINGS

QTY.	PART NO.	INPUT	#1	#2	#3	#4	#5
1	OL1_LED2	E2	*<1	30	20	30	OFF
2	OL1_LED2	E2	*<1	50	20	30	OFF
3	OL1_LED2	E3	*<1	15	20	30	OFF
4	OL1_LED2	E3	*<1	25	20	30	OFF
6	OL1_LED2	E3	*<1	35	20	30	OFF
8	OL1_LED2	E3	*<1	45	15	30	OFF
10	OL1_LED2	E3	*<1	60	10	30	OFF
1	LEDBEAON2	E3	*<1	20	20	30	OFF
1	LEDBEAON2A	E3	*<1	15	20	30	OFF
1	LEDBEAON2(T)	E3	*<1	25	20	30	OFF
1	STLDBEAON2	E3	*<1	20	20	30	OFF
1	STLDBEAON2A	E3	*<1	15	20	30	OFF
2	STLDBEAON2A	E3	*<1	25	20	30	OFF
2	STLDBEAON2A	E3	*<1	25	20	30	OFF

*NO MEMORY

FUNCTIONS

- 1) Configuration: Selection of operation mode (<1 / >1 / >1<) with or without memory.
- 2) Adjustment of current threshold as % of setting range.
- 3) Hysteresis adjustment from 5% to 50%.
- 4) Time Delay adjustment from 0.1 to 30sec.
- 5) Diagnostic button.
- 6) Yellow indicator light (**See conditions below**)
- 7) Dial Pointer (Green) LED
 - Steady green LED indicates that supply to the RM22 is present
 - Flashing green LED indicates a setting has been changed that requires a power cycle.

YELLOW LED CONDITIONS

NOTE: () ASTERISK INDICATES LED CONDITIONS OPERATE OPPOSITE FROM RM22JA31MR MODULE

*

- ➔ Steady Burn Fixtures
 - Yellow light *off : Normal condition (no alarm)
 - Yellow light flashing : Undercurrent condition detected and time delay initiated
 - Yellow light *on : Alarm condition
- ➔ Flashing Fixtures
 - Yellow light flashing inconsistent : Normal condition (no alarm)
 - Yellow light flashing consistent : Under current condition detected and time delay initiated

NOTE : To help troubleshoot or to set the sense current, turn the time delay to 0sec. Adjusting the current setting should only be done if it is known that all the lights are functioning. For Steady Burn adjust the current until the yellow LED comes *off, and the relay is not dropping in and out. For Flashing Fixtures adjust the current setting until the yellow light starts to flash. This is the normal condition setting. Return the time delay back to 30sec.

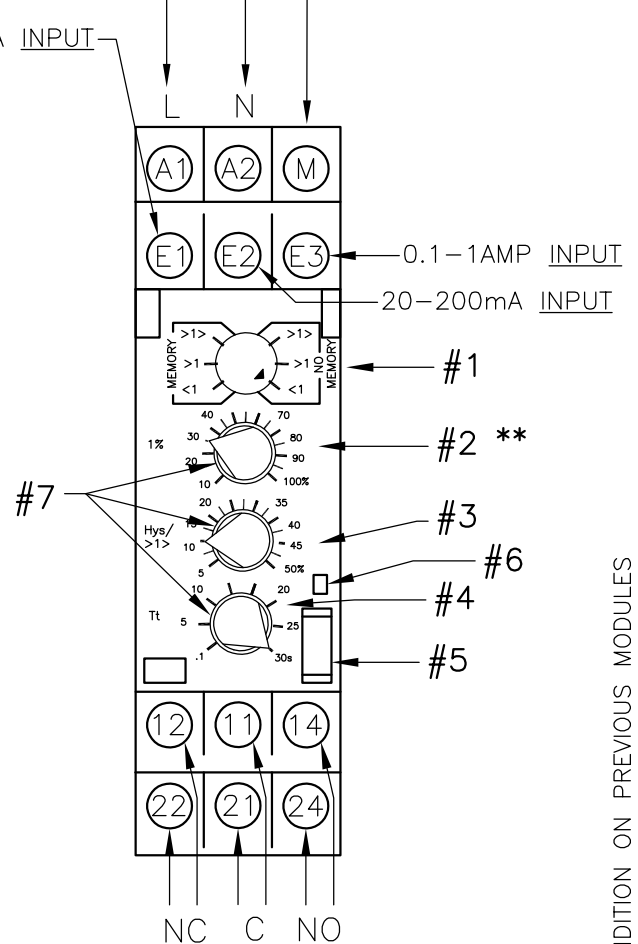
- Yellow light *on : Alarm condition

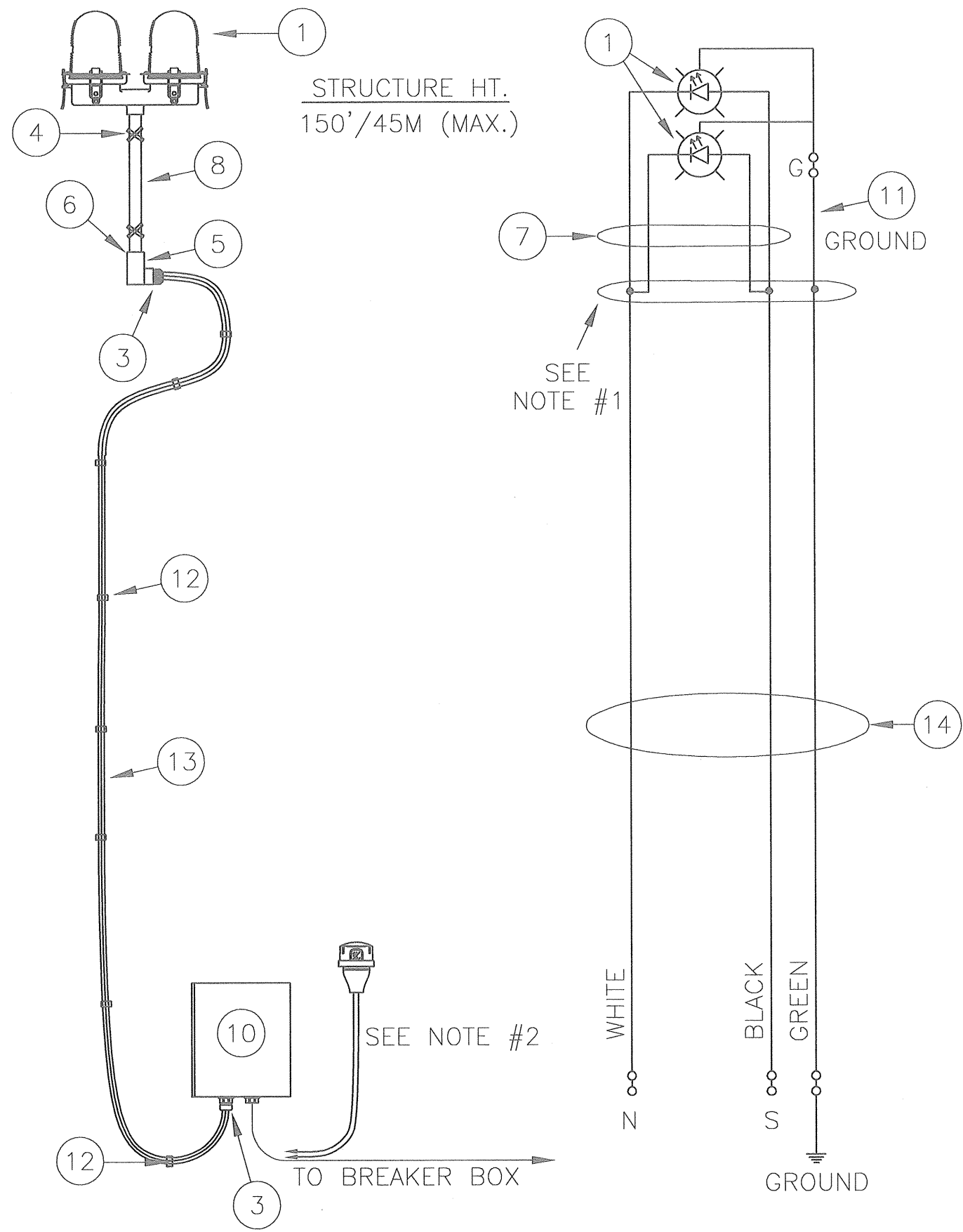
** Due to current draw tolerances slight adjustments to setting #2 may be needed for proper alarming.

CONTROL VOLTAGE INPUT

4-40mA INPUT

OUTPUT TO LOAD





STRUCTURE HT.
150'/45M (MAX.)

SEE NOTE #2

TO BREAKER BOX

GROUND

SEE NOTE #1

WHITE
N
BLACK
S
GREEN
GROUND

TOWER WIRING AND ASSEMBLY

BILL OF MATERIALS

ITEM NO.	QTY.	TWR PART NO.	DESCRIPTION
1	1	OL2-LED	DOUBLE OBSTRUCTION LIGHT
* 2	1	TAPEL1	BLACK ELECTRICAL TAPE
3	2	CGB296SA	3/4" CORD CONNECTOR .625-.75
4	1	SS5012	WRAPLOCK 50'
5	1	TL27CG	L CONDULET W/COVER & GASKET
6	2	A314	3/4" CONDUIT LOCKNUTS
7	1	OL2PIGTAILG	18" OL2 PIGTAIL WITH GROUND
8	1	N34T12	3/4" X 12" NIPPLE
* 9	6	WIRENUTRED	RED WIRE NUT
10	1	AA0---	AA0-MLED CONTROLLER
11	2'	12THHNGRN	#12 THHN GREEN WIRE

ITEM NUMBERS #12-#13 ARE NOT INCLUDED IN THE KIT BUT ARE AVAILABLE UPON REQUEST, AND REQUIRED FOR INSTALLATION.

~ 12	--	STCABLIE	CABLE TIES (TWR. HT. ÷ 5)
~ 13	--	CS012/3	3-#12 AWG CABLE (TWR. HT.+ 30')

* = ITEMS NOT SHOWN

~ = ITEMS QUANTITY CALCULATED ACCORDING TO STRUCTURE HEIGHT.

NOTES:

- 1) USE TWR PART #WIRENUTRED AND TAPEL1 TO CONNECT CS012/3 WIRE TO OL2PIGTAILG IN THE TL27CG.
- 2) PHOTOCELL AND PIGTAIL PROVIDED WITH CONTROLLER. PHOTOCELL IS TO BE MOUNTED OUTDOORS TEEING OF CONDUIT RUN TO BREAKER BOX.
- 3) CABLE RUN NOT TO EXCEED 300'.

AC

<u>AA0-MLED LIGHTING KIT W/ CABLE</u>			
PROD DEPT	TWR Lighting, Inc. <i>Enlightened Technology</i> WORK		
SERV DEPT			
ENGINEER			
DRAWN BY	E.A.SALAZAR	SHEET SIZE	SHEET QTY.
DATE	11/02/04	SCALE	N.T.S.
		DWG. NO.	T1180

09/30/15	(B)	3	UPDATED DRAWING
DATE:	LTR.	REVISION	

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BILL OF MATERIALS

ITEM NO.	QTY.	TWR PART NO.	DESCRIPTION
1	1	OL2-LED	DOUBLE OBSTRUCTION LIGHT LED
2	1	UNY205	3/4" UNION
3	2	5012902	BREATHER
4	1	SS10012	WRAPLOCK
5	2	JB5	3/4" JUNCTION BOX
*	1	PIPDOP	4 oz. PIPE DOPE
7	5	A314	3/4" CONDUIT LOCKNUTS
8	1	EL3490	3/4" 90° SHORT ELBOW
9	1	N34T4	3/4" X 4" CONDUIT NIPPLE
10	1	OL2PIGTAILG	18" OL2 PIGTAIL WITH GROUND
*	1	AA0___	AA0_____ CONTROLLER

ITEM NUMBERS #12-#14 ARE NOT INCLUDED IN THE KIT BUT ARE REQUIRED FOR INSTALLATION.

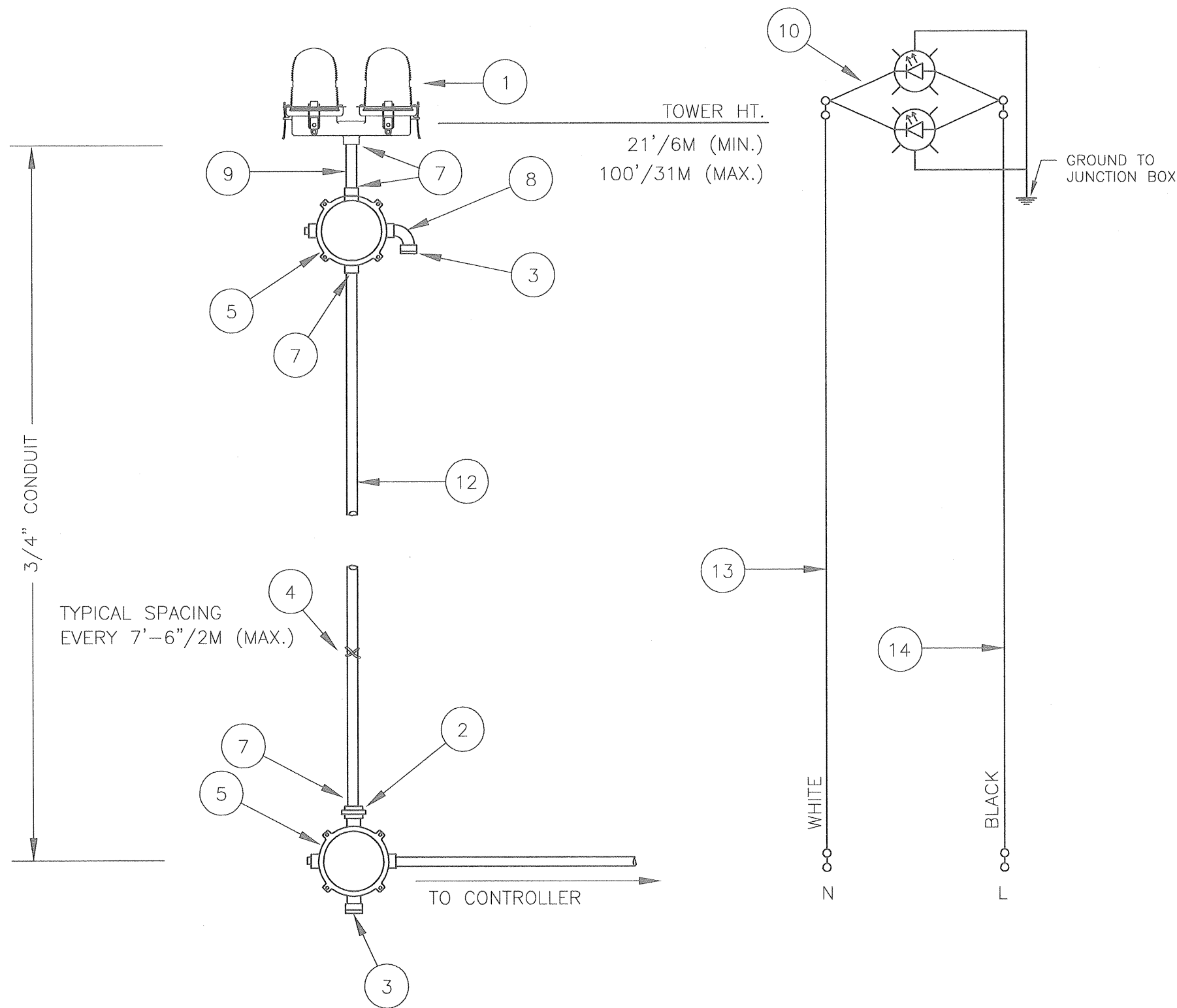
~	12	-	CONDUIT34	3/4" CONDUIT (TWR HT. + 30'/9M)
~	13	-	14THHNWHT	#14 THHN WHT. WIRE (TWR HT.+40'/12M)
~	14	-	14THHNBLK	#14 THHN BLK. WIRE (TWR HT.+40'/12M)

* = ITEMS NOT SHOWN

~ = ITEMS QUANTITY CALCULATED ACCORDING TO STRUCTURE HEIGHT.

NOTES:

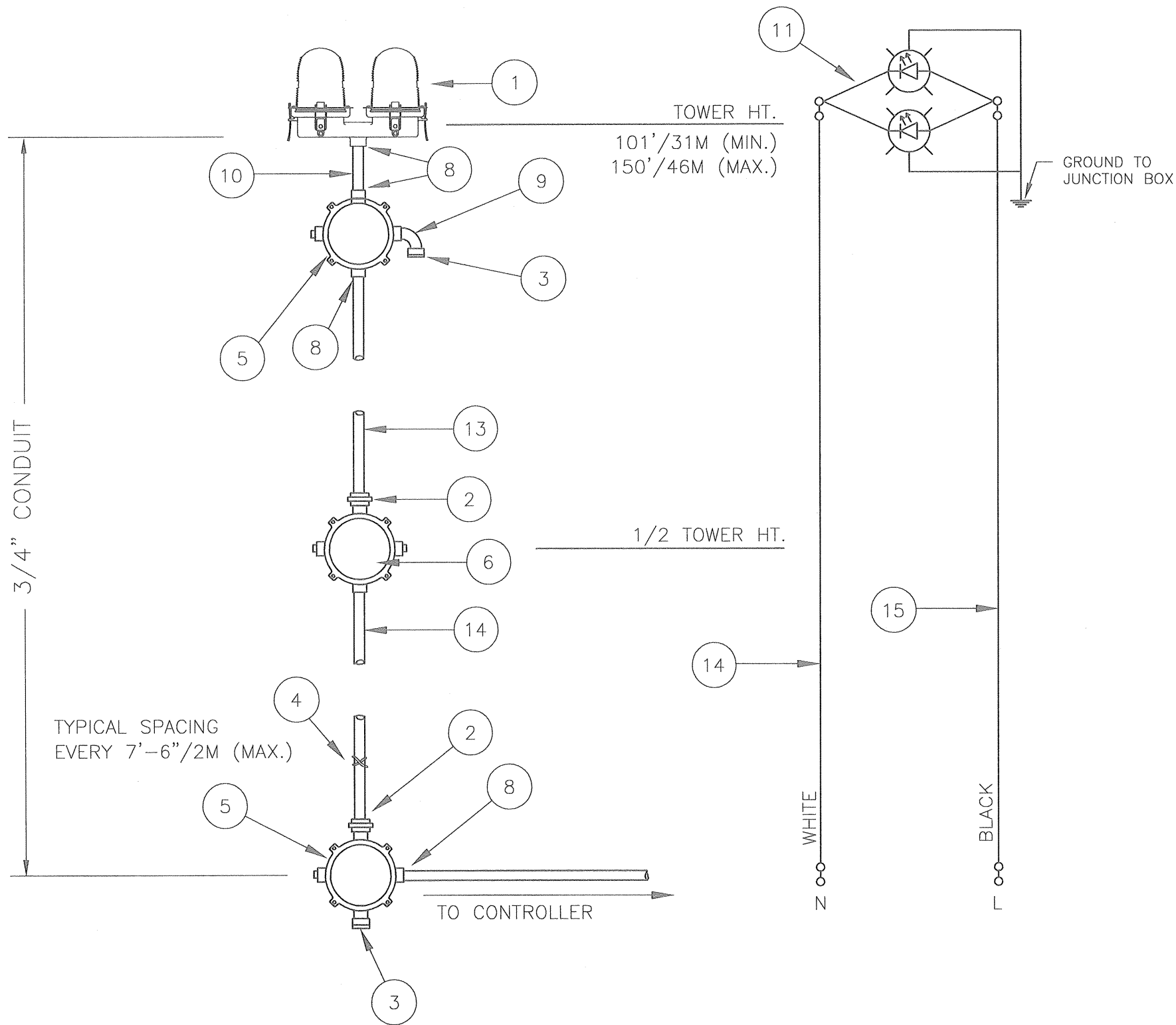
- 1) CONDUIT SIZE BASED ON USING TYPE THHN WIRE.
- 2) USE RIGID GALVANIZED STEEL CONDUIT.
- 3) BREATHERS ALLOW FOR CIRCULATION OF AIR TO PREVENT CONDENSATION.



TOWER WIRING AND ASSEMBLY

LK1A0LED LIGHTING KIT CONTROLLER (TOWERS 21'/6M TO 100'/31M)			
PROD DEPT	TWR Lighting, Inc. <i>Enlightened Technology</i>		
SERV DEPT			
ENGINEER			
DRAWN BY	G.D. SEBEK	SHEET SIZE	B
DATE	05/15/05	SCALE	N.T.S.
DWG. NO.		810-01	
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09/30/2015	(D)	UN	UPDATED B.O.M
DATE:	LTR.		REVISION



TOWER WIRING AND ASSEMBLY

BILL OF MATERIALS

ITEM NO.	QTY.	TWR PART NO.	DESCRIPTION
1	1	OL2___	DOUBLE OBSTRUCTION LIGHT LED
2	2	UNY205	3/4" UNION
3	2	5012902	BREATHER
4	1	SS10012	WRAPLOCK
5	2	JB5	3/4" JUNCTION BOX
6	1	JB0	3/4" STRAIN RELIEF BOX
*	1	PIPDOP	4 oz. PIPE DOPE
8	7	A314	3/4" CONDUIT LOCKNUTS
9	2	EL3490	3/4" 90° SHORT ELBOW
10	1	N34T4	3/4" x 4" CONDUIT NIPPLE
11	1	OL2PIGTAILG	18" OL2 PIGTAIL WITH GROUND
*	1	AA0___	AA0___ CONTROLLER

ITEM NUMBERS #13-#15 ARE NOT INCLUDED IN THE KIT BUT ARE REQUIRED FOR INSTALLATION.

~	13	-	CONDUIT34	3/4" CONDUIT (TWR HT. + 30'/9M)
~	14	-	14THHNWHT	#14 THHN WHT. WIRE (TWR HT.+40'/12M)
~	15	-	14THHNBK	#14 THHN BLK. WIRE (TWR HT.+40'/12M)

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

NOTES:

- 1) CONDUIT SIZE BASED ON USING TYPE THHN WIRE.
- 2) USE RIGID GALVANIZED STEEL CONDUIT.
- 3) BREATHERS ALLOW FOR CIRCULATION OF AIR TO PREVENT CONDENSATION.

AAOMLED LIGHTING KIT
 CONTROLLER (TOWERS 101'/31M TO 150'/46M)

PROD DEPT	TWR Lighting, Inc. <i>Enlightened Technology</i> WORK				
SERV DEPT					
ENGINEER					
DRAWN BY	G.D. SEBEK	SHEET SIZE	B	SHEET QTY.	1 OF 1
DATE	07/15/05	SCALE	N.T.S.	DWG. NO.	810-02

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09/30/2015	(D)	UN	UPDATED B.O.M
DATE:	LTR.		REVISION

4

3

2

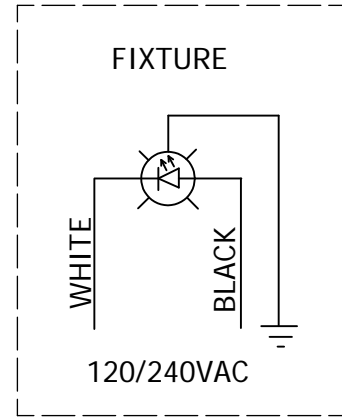
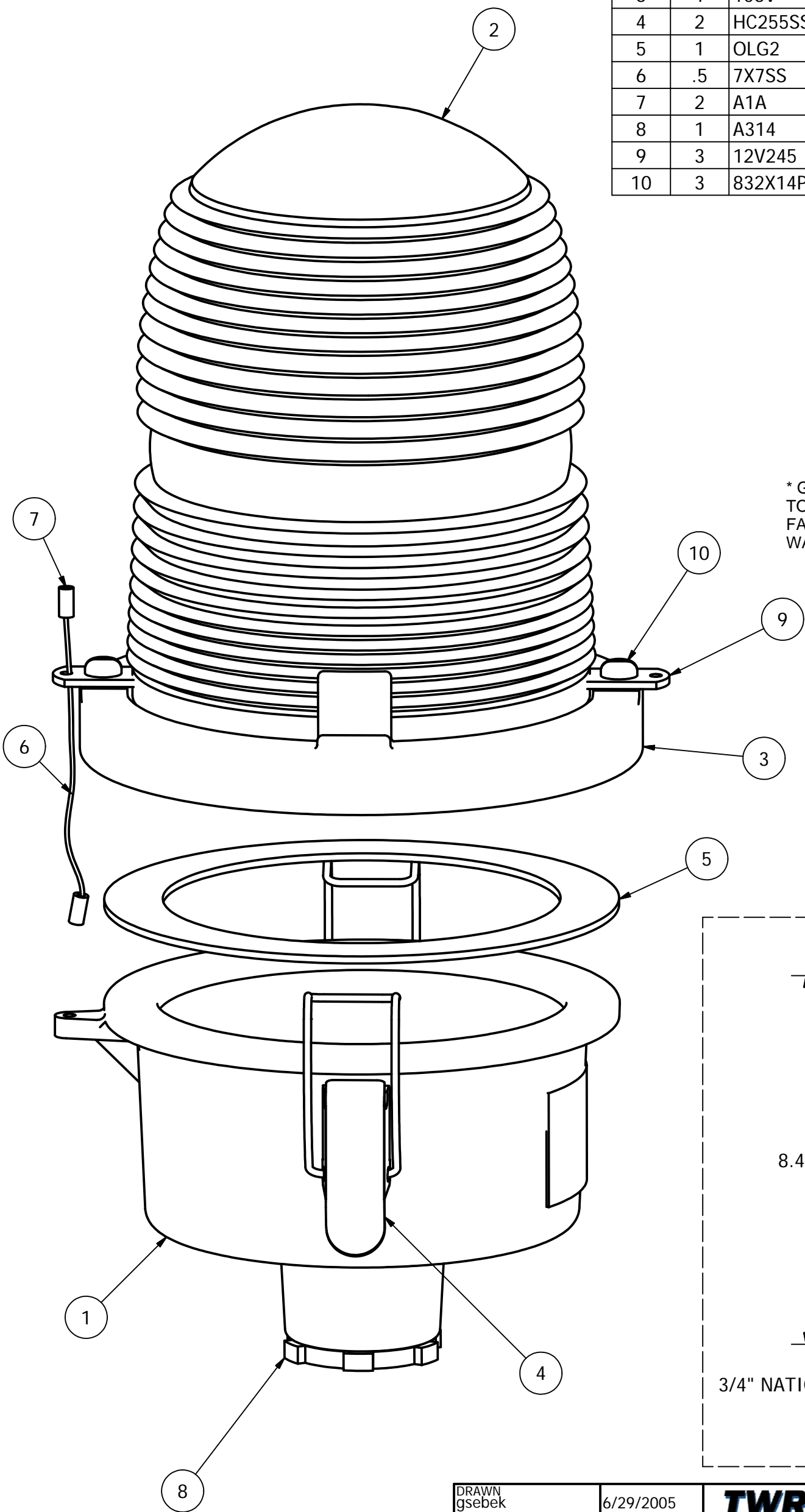
1

Parts List

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	105RV	SINGLE SIDELIGHT BODY
2	1	LED120-1RK	120/240VAC LED LIGHT
3	1	106V	VALOX LENS HOLDER RING
4	2	HC255SS	SIDELIGHT LATCH
5	1	OLG2	OL1 6 LED GASKET
6	.5	7X7SS	1/16 HOL 7X7 S.S. WIRE
7	2	A1A	STAKON CRIMP
8	1	A314	3/4" CONDUIT LOCKNUT GALV.
9	3	12V245	OL LENS CLIP
10	3	832X14PH	8-32 X 1/4 PH SS SLOT SCREW

B

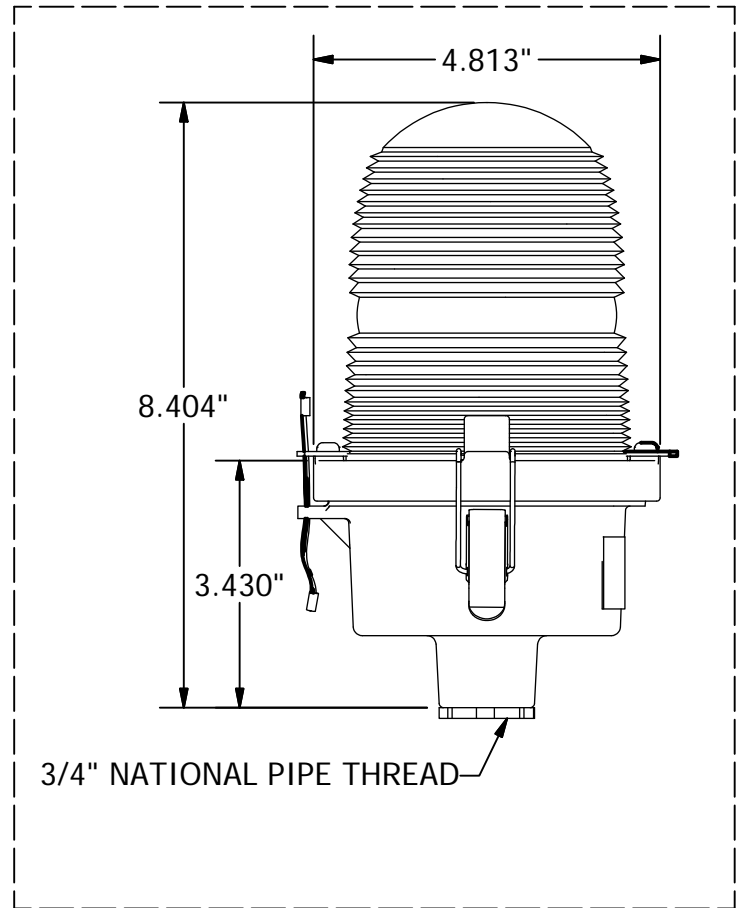
B



* GROUND WIRE MUST BE CONNECTED TO PROPERLY PROTECT POWER SUPPLY. FAILURE TO GROUND WILL VOID ALL WARRANTIES.

A

A



DRAWN	gsebek	6/29/2005
CHECKED	J.Z	10/6/2014
QA		
MFG		
APPROVED		

TWR Lighting, Inc. *FAAR*
Enlightened Technology®

TITLE
OL1VBH34LED2 120/240VAC FAA-OL16LED
(L810 OBSTRUCTION LIGHT)

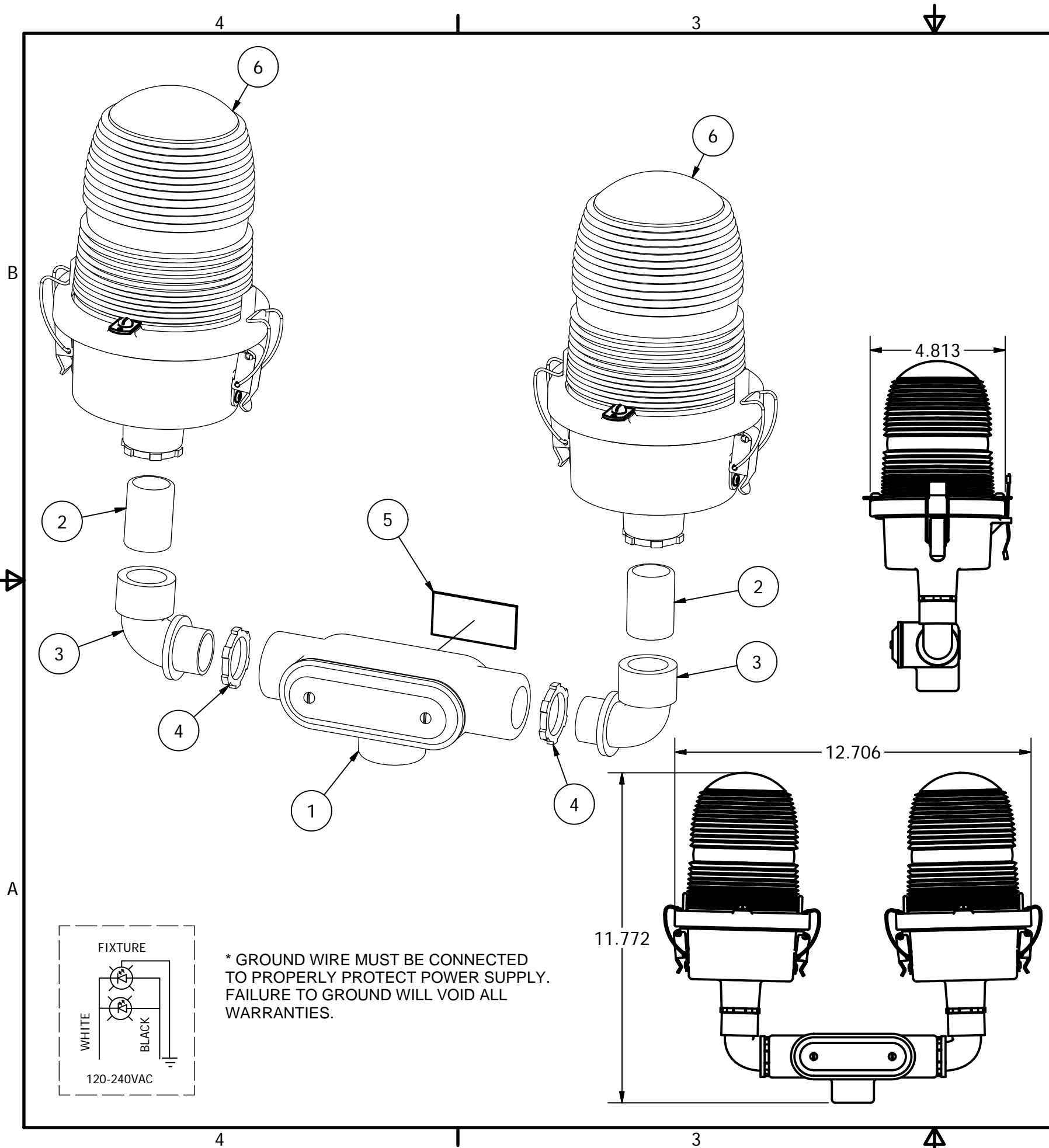
SIZE	DWG NO	REV
B	100657	C
SCALE	SHEET 1 OF 1	
1:1		

4

3

2

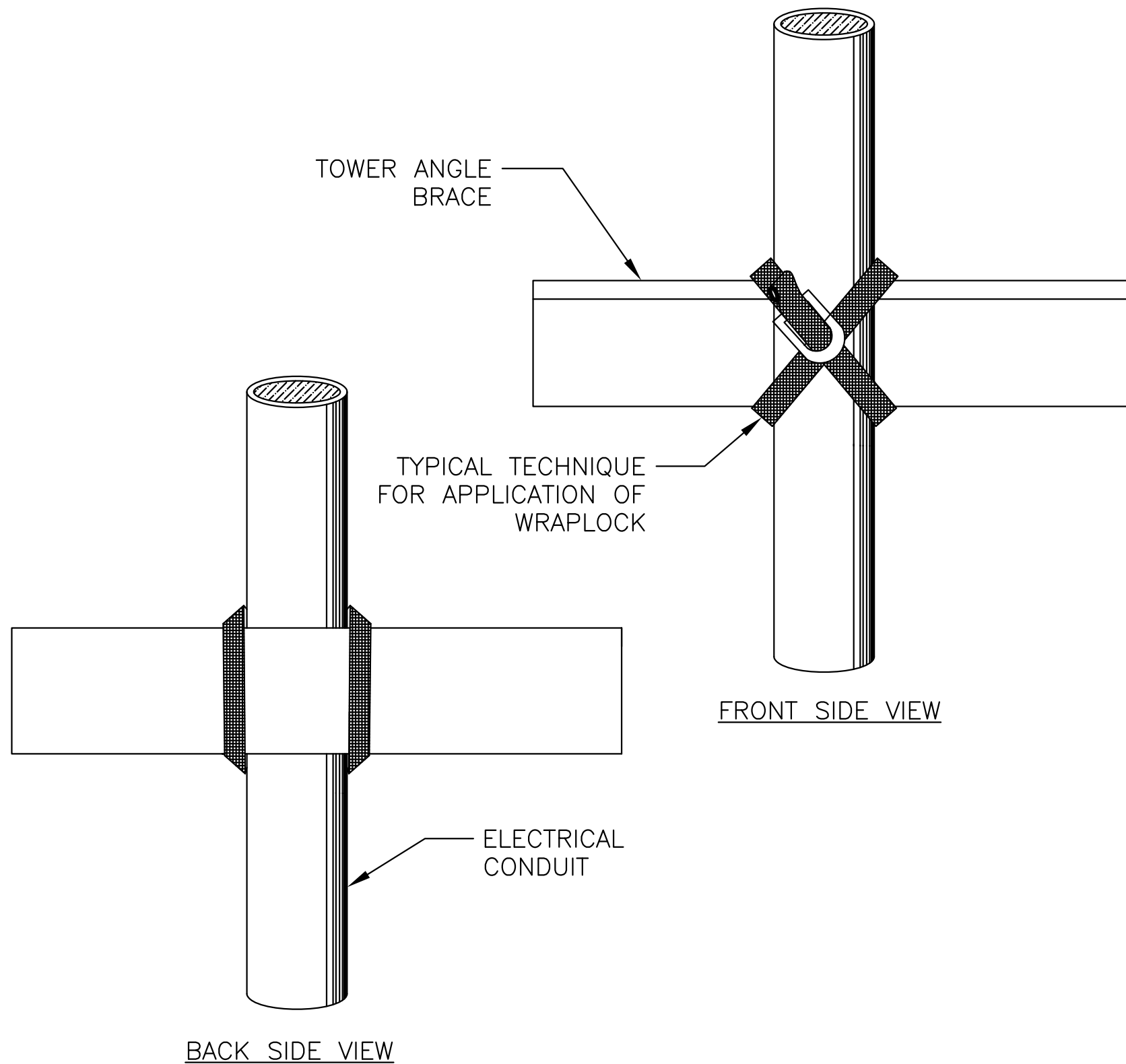
1



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	3	12V245	OL LENS CLIP
* 6.10	3	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	REV F
REVISION JZAMORANO	11/07/14	DWG NO 100658	SCALE
		SHEET 1 OF 1	



DIRECTIONS FOR USING WrapLock

CUT OFF BAND TO PROPER LENGTH.
(SEE TABLE ON COVER OF BOX)

1.— PASS ONE END THROUGH YOKE AND BEND BACK ABOUT 1 1/2" AND FLATTEN DOWN.



2.— PASS BAND AROUND WORK AND THROUGH YOKE.



3.— REPEAT AND PASS END THROUGH A SECOND TIME, DRAW UP FREE END SNUGLY WITH PLIERS.



4.—



INSERT FREE END IN SLOT OF RATCHET.

5.—



TURN DOWN UNTIL CLAMP IS TIGHT.

6.— BACK OFF SLIGHTLY TO REMOVE RATCHET. CLAMP IS NOW SECURELY LOCKED.

TO REMOVE WrapLock
UNCOIL END WITH RATCHET. PRESS DOWN AT POINT WHERE BAND METAL HAS BEEN FORCED THROUGH CURVED PART OF YOKE.

WRAPLOCK FASTENING DETAIL

ENGINEER	TWR Lighting, Inc. <i>Enlightened Technology®</i>		
APPROVED			
APPROVED			
APPROVED	DRAWN BY M. PETERMAN	SHEET SIZE B	SHEET QTY. 1 OF 1
APPROVED	DATE 05/01/2014	SCALE N.T.S.	DWG. NO. 100984

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