

**Montgomery Township
Street Lighting Specification**

Effective: December, 2003

Updated: March, 2011

Updated by:
Traffic Planning and Design, Inc.
2500 E. High Street
Suite 650
Pottstown, PA 19464

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Questions pertaining to the specifications themselves, or the interpretation of the specifications to a particular job site, should be referred to:

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Section 1: Lighting Criteria

1. Illumination Levels

- a. Lighting, where required or permitted by Ordinance, shall have intensities and uniformity ratios in accordance with the current recommended practices of the Illuminating Engineering Society of North America (IESNA) as contained in the IESNA Lighting Handbook or separately in IESNA Recommended Practices.
- b. Future amendments to said recommended practices shall become a part of Township Outdoor Lighting Ordinance without further action of the Municipality.
- c. Examples of intensities for typical outdoor applications, as extracted from the IESNA Lighting Handbook, Ninth Edition, are presented in Table 1, below.

TABLE 1 – Examples of Intensities for Typical Outdoor Applications

Use/Task	Maintained Foot-candles	Uniformity Ratio
a.) Streets, <ul style="list-style-type: none"> Local, Commercial Streets, residential 	0.9 Avg. 0.4 Avg.	6:1 Avg./Min. 6:1 Avg./Min.
b.) Parking, Lots <ul style="list-style-type: none"> Basic Enhanced Security 	0.2 Min. 0.5 Min.	20:1 Max./Min 15:1 Max./Min
c.) Parking, Garages <ul style="list-style-type: none"> Basic Ramps, Day Ramps, Night Entrances, Day Entrances, Night Stairways 	1.0 Min. 2.0 Min. 1.0 Min. 50 Min. 1.0 Min. 2.0 Min.	10:1 Max./Min. 10:1 Max./Min. 10:1 Max./Min. 10:1 Max./Min. 10:1 Max./Min. 10:1 Max./Min.
d.) Sidewalks <ul style="list-style-type: none"> Commercial Residential 	1.0 Min. 0.2 Min.	4:1 Avg./Min. 4:1 Avg./Min.
e.) Building entrances, commercial, industrial, institutional	5.0 Avg.	-
f.) Service Station Pump Islands <ul style="list-style-type: none"> Dark Surrounding Light Surrounding 	5.0 Avg. 10.0 Avg.	- -
g.) Car Dealerships <ul style="list-style-type: none"> Front Row Other Rows 	20.0 Max. 10.0 Max	5:1 Max./Min. 10:1 Max./Min.

- Notes:
1. Illumination levels are maintained horizontal footcandles on the task, e.g., pavement or area surface.
 2. Uniformity ratios dictate that average illuminance values shall not exceed minimum values by more than the product of the minimum value and the specified ratio, e.g., for high activity commercial parking, the average illuminance shall not exceed 3.6 footcandles (0.9 x 4).

2. Lighting Fixture Design

- a. Fixtures shall be of a type and design appropriate to the lighting application and aesthetically acceptable to the Municipality.
- b. For lighting horizontal tasks such as roadways, sidewalks, paths, entrances, and parking areas, fixtures shall be aimed straight down, shall have flat lenses and shall meet IESNA full-cutoff criteria.
- c. The use of floodlighting, spotlighting, wall-mounted fixtures, internally illuminated decorative globes and spheres and other fixtures not meeting IESNA full-cutoff criteria, shall be permitted only with the approval of the Municipality, based upon acceptable justification and achievement of adequate glare control.
- d. When requested by the Municipality, fixtures shall be equipped with light directing and/or shielding devices such as shields, visors, skirts, or hoods to redirect offending light distribution and/or to reduce direct or reflect glare.
- e. For residential applications, fixtures with an aggregate per fixture output in excess of 1,000 lumens shall meet IESNA full-cutoff criteria.
- f. NEMA-head fixtures, a.k.a. "barn lights" or "dusk-to-dawn lights," shall not be permitted where they are visible from other uses, unless fitted with a reflector or shield to render them full-cutoff.

3. Control of Nuisance and Disabling Glare

- a. All outdoor lighting, whether or not required by Township Ordinance, on private, residential, commercial, industrial, municipal, recreational, or institutional property; shall be aimed, located, designed, fitted, and maintained so as not to present a hazard to drivers or pedestrians by impairing their ability to safely traverse and so as not to create nuisance by projecting or reflecting objectionable light onto a neighboring use or property. All outdoor light fixtures shall be shielded in such a manner that no light is emitted above a horizontal plan passing through the lowest point of the light-emitting element, so that direct light emitted above the horizontal plan is eliminated.
- b. All outdoor lighting fixtures that light the area under outdoor canopies shall be shielded in such a manner that no light is emitted above a horizontal plan passing through the lowest point of the light-emitting element, so that direct light emitted above the horizontal plan is eliminated. Outdoor canopies include, but are not limited to, the following applications:
 - i. Fuel island canopies associated with service stations and convenience stores.
 - ii. Exterior canopies above storefronts in shopping centers and malls.
 - iii. Exterior canopies above driveways and building entrances.
 - iv. Pavilions and gazebos.
- c. Floodlights and spotlights, when specifically approved by the Municipality for use, shall be so installed or aimed that they do not project their output into the

windows of neighboring residences, adjacent uses, skyward or onto a public roadway or pedestrian way.

- d. Unless otherwise permitted by the appropriate officers or agents of the Municipality, e.g., for safety or security or businesses that operate all night, lighting for commercial, industrial, public recreational, and institutional applications shall be controlled by automatic switching devices such as time clocks or combination motion detectors and photocells, to permit extinguishing outdoor lighting fixtures between 10 P.M. and dawn, to reduce energy waste and mitigate nuisance glare and sky-lighting consequences.
- e. Lighting proposed for use after 10 P.M., or after normal hours of operation of a business, whichever is earlier, for commercial, industrial, institutional, or municipal application, shall be reduced by at least 50% from then until dawn, unless supporting a specific purpose and approved by the appropriate officers or agents of the Municipality.
- f. All illumination for advertising signs, building, and/or surrounding landscapes for decorative, advertising, or esthetic purposes is prohibited between 10 P.M. and sunrise, except that such lighting situated on the premises of a commercial establishment may remain illuminated while the establishment is actually open for business, and until one hour after closing.
- g. Flagpole lighting sources shall not exceed 10,000 lumens per flagpole.
- h. Vegetation screen shall not be employed to serve as the primary means for controlling glare. Rather, glare control shall be achieved primarily through the use of such means as cutoff fixtures, shields and baffles, and appropriate application of fixture mounting height, wattage, aiming angle, and fixture placement.
- i. In no case shall the illumination cast by a source or sources onto an adjacent residential property exceed 0.1 *vertical* foot-candle measured line-of-sight, from any point on the adjacent residential property.
- j. Externally illuminated signs and billboards shall be lighted by fixtures mounted at the top of the sign and aimed downward. Such lighting shall be automatically extinguished between the hours of 10 P.M. and dawn except as specifically approved by appropriate officers or agents of the Municipality for sign lighting on the premises of all-night commercial operations. All such fixtures shall be so designed or fitted to concentrate the light output onto and not beyond the sign or billboard.
- k. Except as specifically approved by appropriate officers or agents of the Municipality, fixtures meeting IESNA full-cutoff criteria shall not be mounted in excess of twenty (20) feet above finished grade. Fixture not meeting IESNA "cutoff" criteria, when specifically approved by appropriate officers or agents of the Municipality, shall not be mounted in excess of sixteen (16) feet above grade.

- l. Directional fixtures, e.g., floodlights or spotlights, for such applications as façade, fountain, feature, recreational, and landscape illumination shall be aimed so as not to project their output beyond the objects intended to be illuminated, and shall be extinguished between the hours of 10 P.M. and dawn.
 - m. The use of white strobe lighting for tall structures such as smokestacks, chimneys, and radio/communications/televisions towers is prohibited during hours of darkness, except as specifically required by FAA.
4. Installation
 - a. Electrical feeds for fixtures mounted on poles shall be run underground, not overhead.
 - b. Poles supporting lighting fixtures for the illumination of parking areas and located directly behind parking spaces, shall be placed a minimum of five (5) feet outside paved area, curbing or tire stops, or on concrete pedestals at least thirty (30) inches high above the pavement, or suitably protected by other approved means.
 - c. Lighting fixtures shall not be mounted in excess of 20 feet above grade.
5. Maintenance
 - a. Lighting fixtures and ancillary equipment shall be maintained so as always to meet the requirements of the Township Outdoor Lighting Ordinance.

Section 2: Wiring and Conduit Specifications

The general approach in this Specification is to specify equipment and wiring techniques familiar to Township personnel for the purposes of reduced hardware inventories and minimal overall installation cost.

Utility service applications must be filed for the locations specific to a particular job. Should there be any discrepancies between planned and actual locations for stub ups, install units at actual locations and coordinate with Township engineering.

Power wiring shall be #6 Type USE copper cable. The equipment grounding conductor shall be #10 Type USE copper cable. Power wiring and the equipment grounding conductor shall be run in two inch (2") Rigid Non-metallic Conduit (PVC Schedule 80).

Service connections at Township street lighting poles shall be made in "PC" Style Gasketed boxes manufactured by Quazite Composolite, catalog number PC1118BA. Box covers measuring 11 ½ x 18 ½ inches shall be distinctively marked "Street Lighting." Bolts shall be 3/8-16 stainless steel Penta Head Bolts.

PECO terminations shall be made in Level Buried Cable Enclosures manufactured by Pencil Option Systems, catalog number PE-14HDX, flush mounted with finish grade. Box covers measuring 14 x 19 inches shall be distinctively marked "Power Feed." Bolts shall be 3/8-16 stainless steel Penta Head Bolts.

Service wire from junction boxes to street lights shall be installed in one inch (1") Rigid Non-metallic Conduit (PVC Schedule 40). Power wiring shall be #10 Type USE copper cable. The equipment grounding conductor run from the ground lug in the pole to the ground lug in the junction box shall be #10 Type USE copper cable. An extra 24 inches of slack wire shall be coiled and left in all junction boxes, interconnecting and pole service wire included. An extra 12 inches of slack wire shall be left in the luminaires' fixture head and coiled in the bottom of the luminaire.

UL listed in line fuse systems for each street light are required. System shall include two (2) Buss Type HEB fuse holders and four (4) 15 AMP in line fuses. Both supply and return power wires feeding the luminaires shall be fused at both the junction box and at the fixture. All luminaires shall be purchased with built in internal fuses. Fixtures shall be manufactured by American Electric Lighting, catalog number 247-10S XH MT2 R3 AY DF.

Rubber insulated boots shall be installed on all fuse holders.

Fuses shall be crimped in place with heat shrunk insulation rather than taped.

All conduit joints shall be purple primed and glued.

The entire assembly shall be UL listed for the application, certificates certifying UL listing shall be provided.

There shall be no deviations to the installation techniques described above, without the prior, written approval from the Municipal Street Lighting Engineer and the Montgomery Township Department of Public Works.

Section 3: Conduit & Service Box Installation

The Developer shall arrange for the coordinated inspection of the Municipal Street Lighting Engineer and an authorized Montgomery Township Electrical Underwriter for the underground conduit, junction box, and pole base installation of the street lighting system. The Montgomery Township Lighting Engineer (Traffic Planning and Design, Inc.) can be reached by phone at (610) 326-3100. A listing of the approved Electrical Underwriter Inspection agencies is obtainable at the Township Code Enforcement Office.

Fort-eight (48) hours notification is required for Montgomery Township Public Works Department and the Municipal Lighting Engineer and the Inspection Agency to allow for coordinated inspection activities of conduit installation and backfill. The approval of all is required for the installation to proceed.

Trenching shall be to a depth that will provide at least 24" of cover to the 2" schedule 80 PVC conduit. Underground electrical warning tape shall be used on top of the 6" conduit cover (see attached specifications).

Installation of Quazite/Pencell service boxes shall be provided with a minimum of 18 inches of #2 Clean Stone below such service box, along with an 18 inch deep, J-M Pipe, four (4) inch nominal diameter, perforated, poly vinyl chloride (PVC) sewer pipe with holes, or approved equivalent. The pipe shall extend three (3) inches above stone, in order to draw off surface water. Pipe shall meet or exceed ASTM D2729, latest revision. All conduit in junction boxes must extend six (6) inches above stone level.

Complete backfill with clean backfill material.

It is imperative that the Developer coordinate inspection activities with the Municipal Lighting Engineer and the Inspection Agency at each phase of the installation. A successful job depends on the mutual agreement that both parties approve of the installation as meeting all Township and current National Electric Code Requirements.

Section 4: Luminaire Specifications

Luminaires shall be designed by American Electric Lighting, American Revolution luminaire, Catalog Number 247-10S XH MT2 R3 AY DF for 100 Watt High Pressure Sodium lamp with 240 Volt operation. Ballast shall be factory pre-wired and suitable for operation in temperature to -20 degrees Fahrenheit. Luminaire shall have cast aluminum housing and canopy. All luminaires shall be equipped with Precision Model ECDV-AP-TD (or Township approved equal) photo-electric control. Luminaire shall be designed with colonial styling, using two piece die cast housing consisting of a lower tenon adapter for up to three (3) inch O.D. pipe and die cast housing. The luminaire shall be equipped with four acrylic lenses designed to provide an I.E.S. Type III distribution. The unit shall be painted black in a four step powder coat epoxy process. The unit shall include an injection molded thermoplastic photoelectric control receptacle for rugged service.

The ballast shall be 240 Volt, 100 Watt, lag auto coupled with two starting aid that does not require connection to a "tap" on the ballast for generating a high voltage pulse that meets current ANSI guidelines.

NOTE: All wiring connections to fixtures must provide no less than 12" slack for ease of head removal for future maintenance.

Section 5: Pole Specifications

Poles shall be laminated wood posts treated with pentachlorophenol in light hydro-carbon solvents of Douglas Fir or Hemlock. All lumber to be kiln dried before surfacing and bonding. Poles to be designed to resist 77 MPH steady winds. Poles to be similar or equivalent to J.H. Baxter & Co. 12PV for 12'-0" poles. Poles to use metal base plate for installation to concrete foundation. Install colonial fixtures on side mounted torch tenon 18" bracket by J.H. Baxter & Co. Catalog Number W25 or equivalent. See accompanying sketches.

Section 6: Marking Tape

Provide and install six (6) inches above the buried electrical conduit a high quality pigmented polyethylene film with the following printed message on one side:

“CAUTION – ELECTRICAL LINE BURIED BELOW.”

The tape shall be as follows:

1. Composition	Polyethylene
2. Thickness	4.0 mil nominal
3. Width	3.0 inches
4. *Tensile Strength	8.5 lbs./inch + 2,100 PSI
5. *Elongation MD	430.0%
6. Color	Red

*Three (3) Inch Tensile: The maximum amount of weight that a three inch wide sample of material can lift without breaking.

*Three (3) Inch Elongation: The percentage of the original length that a material can stretch without breaking.

Manufacturer shall be Allen Systems, or equal.

NOTE: All marking tape must be RED in color. Should this color not be available, DO NOT install any other color tape without the expressed written permission of the Montgomery Township Public Works Department.

Section 7: Connection Specifications

All terminations shall require a terminal device which allows for one conductor under termination point, preferably with a manual connection.

Section 8: Inspection and Commissioning Process Steps

Upon completion of the street lighting installation, the Developer or his designated representative shall notify the Municipal Street Lighting Engineer by letter and must include a copy of the Electrical Underwriter's Certificate for the project. Upon receipt of both letter and certificate, the project will be inspected to check for conformity with the municipal specifications previously provided. Developer will be notified if specifications are not met. Electrical Underwriter's Inspection Certificate shall specifically state, in writing, the Electrical Underwriter's inspection and acceptance of:

- 1. All underground conduit and wire has been observed and inspected to be in conformance with the current National Electric Code.**
- 2. All connections and terminations have been observed and inspected to be in conformance with the current National Electric Code.**
- 3. All equipment has been observed and found to be U.L. listed and accepted.**
- 4. The specific number of luminaires and the locations which were observed and inspected.**

Electrical connection for street lighting under Rate SLE is only available to municipalities and such request for connection shall be made only by Municipal Street Lighting Engineer. Municipality shall request connection by local utility, but Developer is responsible for all utility service connection charges. Such charges shall be deducted from Developers' escrow accounts held by Municipality.

When street lights are operable, municipality will bill Developer for electrical service provided, since utility will bill Municipality directly for same. Such Developer payments will continue until dedication has been completed.

Developer shall provide a system warranty for 18 months after development dedication and the beginning of the maintenance period.

Section 9: Fiberglass Base Cover Specifications

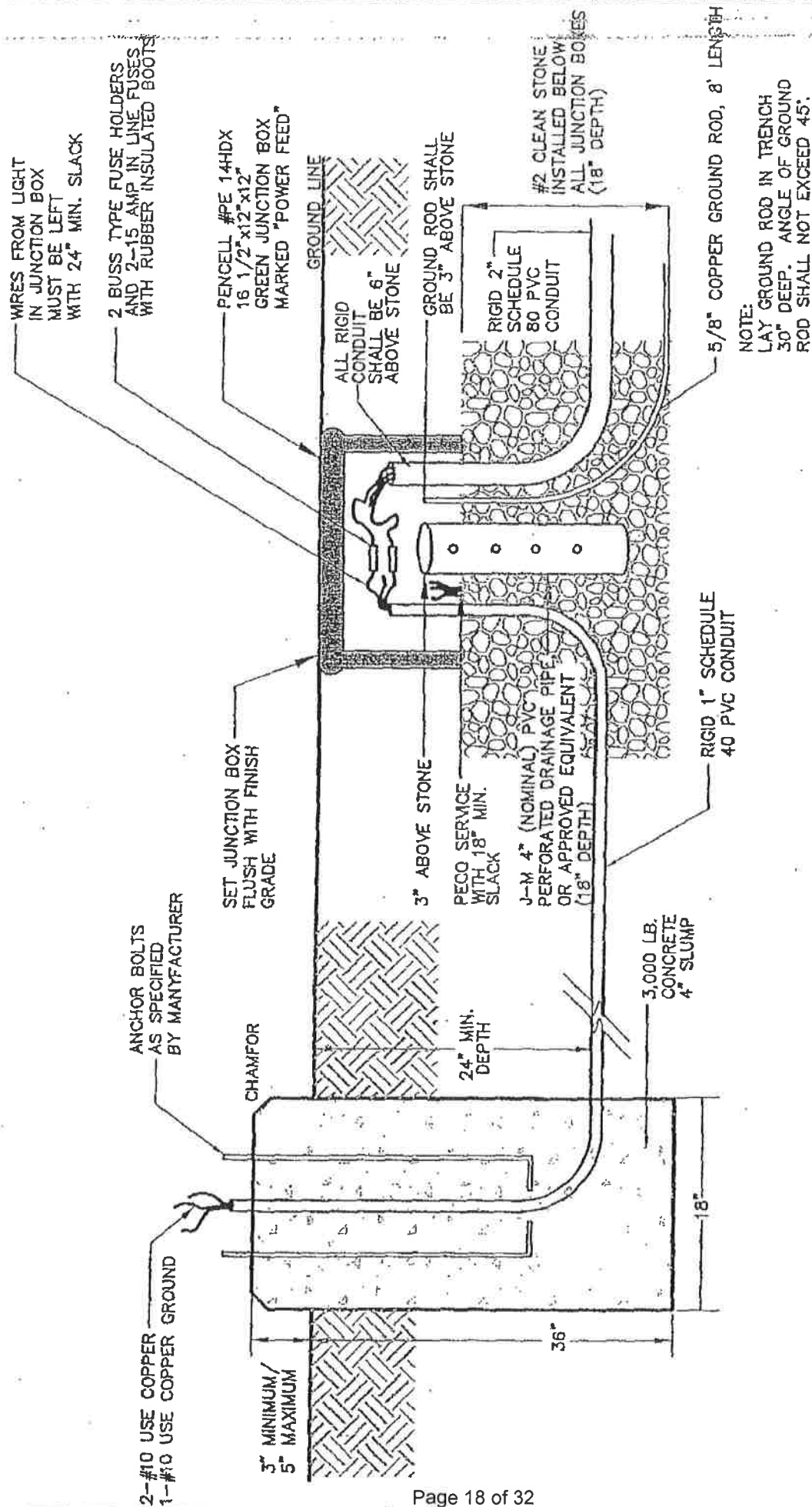
Pole base covers shall be similar or equal to Acuity Brands Lighting catalog number SSWDB FBC RECT 5.25 X 5.25 JMA 1674 DBL and shall be two piece interlocking ABS plastic. Base cover shall be black in color and manufactured to permit complete covering of the base plate cover, which is made to support the standard decorative wood pole manufactured by J.H. Baxter & Co. Height of supplied base cover to be five (5) inches.

Section 10: Street Lighting System Warranty

The Developer shall warrant all parts and associated labor for the Street Lighting System for a period of eighteen (18) months beginning from the date of Development dedication. **In addition, the Developer shall provide the Township with one full street light setup which shall consist of a pole, head, arm, lamp, photocell, mounting bracket, and fixture complete for every fifteen (15) street lights and one for every ten (10) street lights thereafter.** The Developer shall continue to provide maintenance service and pay for energy use until the Street Lighting System is accepted by and deeded to the Municipality.

NOTE: As-built street lighting plans must be provided by the developer to the Municipal Street Lighting Engineer prior to any dedication acceptance. Two sets of approved as-built drawings shall be provided to the Township Public Works Department.

Section 11: Drawings



NOT TO SCALE

TYPICAL DETAIL: BASE & JUNCTION BOX

(WITH PECO SERVICE)

MONTGOMERY TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA

JUNE 2004

**SIDEWALK
(NO PVC PERMITTED UNDER SIDEWALK)**



**TYPICAL DETAIL: BASE/CONDUIT/JUNCTION BOX INTERCONNECTION
MONTGOMERY TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA**

OCTOBER 2003

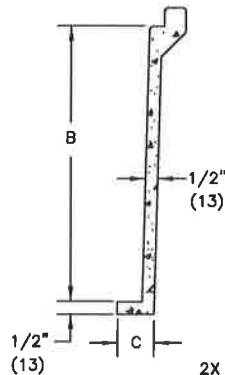
SPECIFICATIONS/DATA

11" x 18" PC Style (Stackable) Assembly

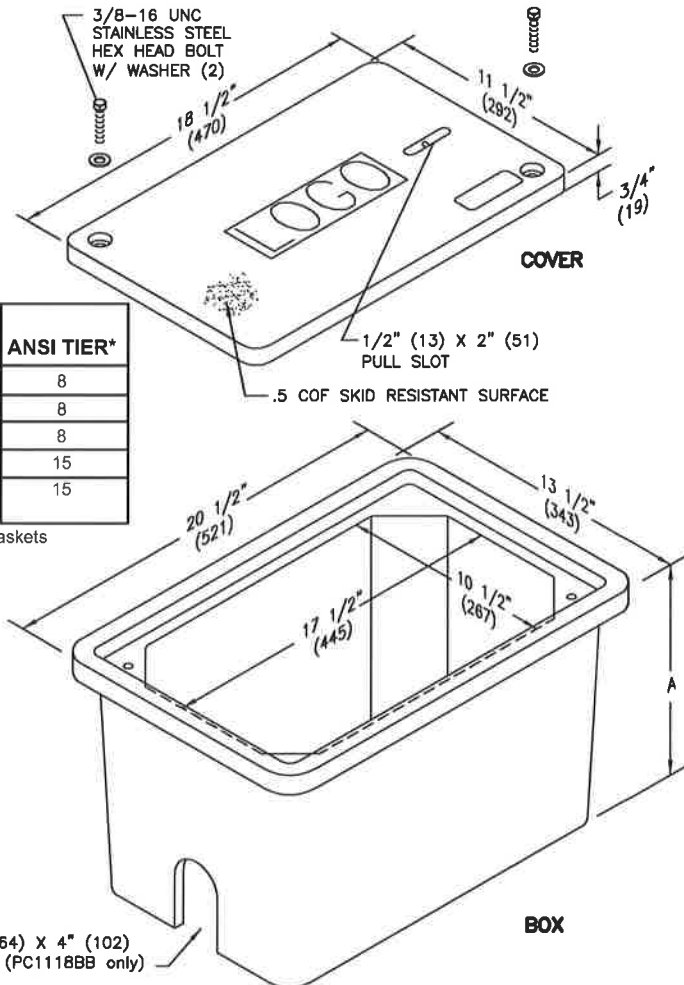
Covers (Blank unless logo is specified)

DESCRIPTION	PART NO.	WEIGHT #	DESIGN/TEST LOAD #	ANSI TIER*
W/2 Bolts	PC1118CA00	13 (5.9 kg)	8,000 / 12,000	8
Gasketed w/4 Bolts	PC1118CG00	13 (5.9 kg)	8,000 / 12,000	8
No Bolts	PC1118WA00	13 (5.9 kg)	8,000 / 12,000	8
Heavy Duty w/2 Bolts	PC1118HA00	13 (5.9 kg)	15,000 / 22,500	15
Gasketed Heavy Duty w/4 Bolts	PC1118HG00	13 (5.9 kg)	15,000 / 22,500	15

* Gasketed covers and bolt grommets must be used with a gasketed box. Gaskets reduce the inflow of fluids but do not make the enclosure water tight.



2X 2 1/2" (64) X 4" (102)
MOUSEHOLES (PC1118BB only)



Boxes (Stackable with self-aligning, replaceable EZ-Nut)

DESCRIPTION	PART NO.	WEIGHT #	DIMENSION A	DIMENSION B	DIMENSION C	DESIGN/TEST LOAD #	ANSI TIER*
Open Bottom	PC1118BA12	37 (16.8 kg)	12" (304.8 mm)	11 1/4" (286 mm)	N/A	15,000 / 22,500	15
	PC1118BA18	53 (24.0 kg)	18" (457 mm)	17 1/4" (438 mm)	N/A	15,000 / 22,500	15
Open Bottom w/ Gasket	PC1118BG12	37 (16.8 kg)	12" (304.8 mm)	11 1/4" (286 mm)	N/A	15,000 / 22,500	15
	PC1118BG18	53 (24.0 kg)	18" (457 mm)	17 1/4" (438 mm)	N/A	15,000 / 22,500	15
Open Bottom w/ 2 Mouseholes	PC1118BB12	36 (16.3 kg)	12" (304.8 mm)	11 1/4" (286 mm)	N/A	15,000 / 22,500	15
	PC1118BB18	52 (23.6 kg)	18" (457 mm)	17 1/4" (438 mm)	N/A	15,000 / 22,500	15
Solid Bottom	PC1118DA12	45 (20.4 kg)	12 1/2" (317.5 mm)	11 1/4" (286 mm)	N/A	15,000 / 22,500	15
	PC1118DA18	60 (27.2 kg)	18 1/2" (470 mm)	17 1/4" (438 mm)	N/A	15,000 / 22,500	15
Solid Bottom w/ Gasket	PC1118DG12	45 (20.4 kg)	12 1/2" (317.5 mm)	11 1/4" (286 mm)	N/A	15,000 / 22,500	15
	PC1118DG18	60 (27.2 kg)	18 1/2" (470 mm)	17 1/4" (438 mm)	N/A	15,000 / 22,500	15
Footed Box	PC1118JA12	37 (16.8 kg)	12 1/2" (317.5 mm)	11 1/4" (286 mm)	1 1/2" (38 mm)	15,000 / 22,500	15
	PC1118JA18	56 (25.4 kg)	18 1/2" (470 mm)	17 1/4" (438 mm)	1 1/2" (38 mm)	15,000 / 22,500	15

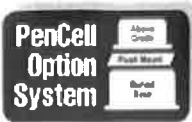
Dimensions & weights in parentheses are metric equivalent.

* Loadings comply with ANSI/SCTE 77 (see page 9).

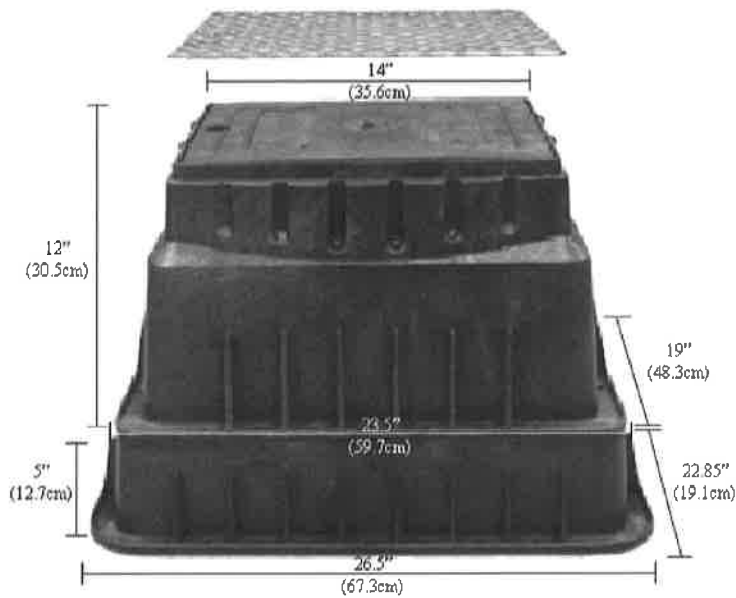


APRIL 2009

“POWER FEED” JUNCTION BOX (WITH PECO SERVICE)



PE-14 • Grade Level Buried Cable Enclosure



Description

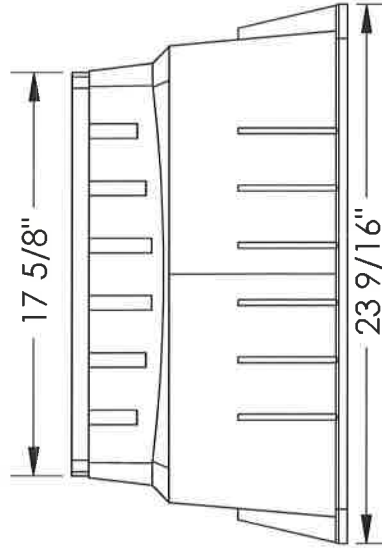
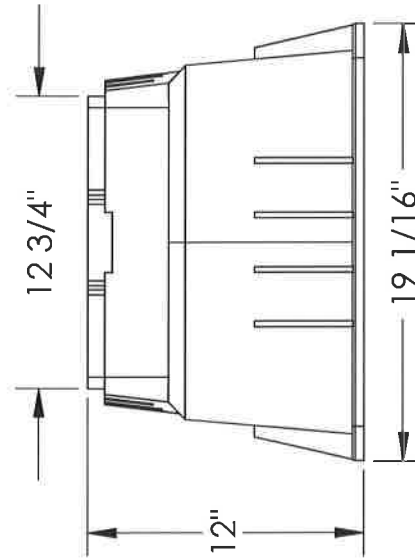
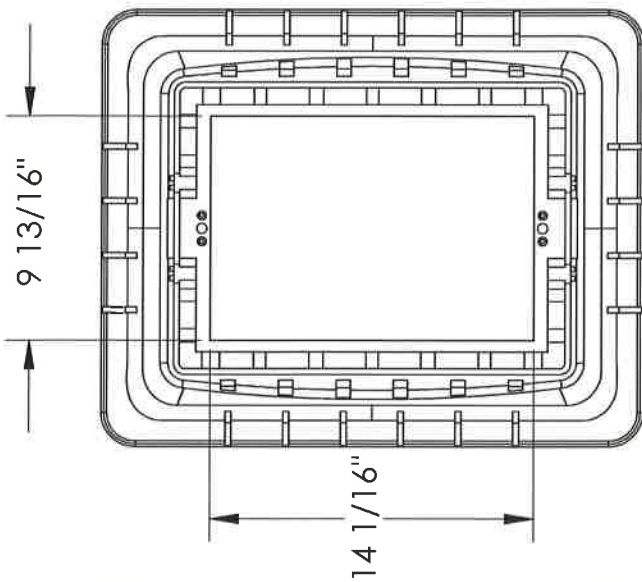
This unit is molded of high density polyethylene. Flange around base prevents frost heaving or tilting. Units can be nested for a minimum amount of warehouse storage space. Units offered in green.

Identification

(Electric, CATV, Telephone, GRD Test, Water, Irrigation, Communications) Custom logos available - contact factory or agent


Ordering Info

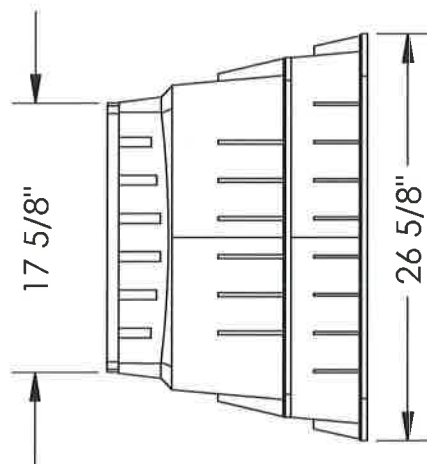
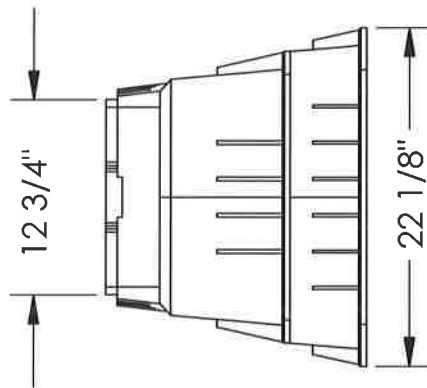
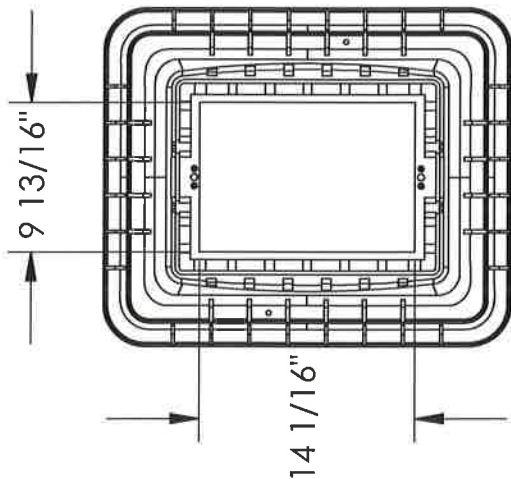
To order complete units	To order separate parts:
PE-14HD - Enclosure with high density polyethylene lid	PE-14-5 - 5 inch lower extension
PE-14HD-5 - Enclosure with plastic lid and 5 inch lower extension	PE-14-GS - High density polyethylene enclosure base
PE-14U - Enclosure with steel lid	PE-14-PL - High density polyethylene lid
	PE-14-SL - 3/16 diamond plate steel, hot dipped galvanized
To order specify the following options:	Order example:
(Allen type)-	PE-14HD-5 - Enclosure with plastic lid and 5 inch lower extension
(B)- Button Head Bolt	
(G) - Ground Lug	
(H)- Hex Head Bolt	
(X)- 3/6-16 Penta Head Bolt	



PROPRIETARY AND CONFIDENTIAL

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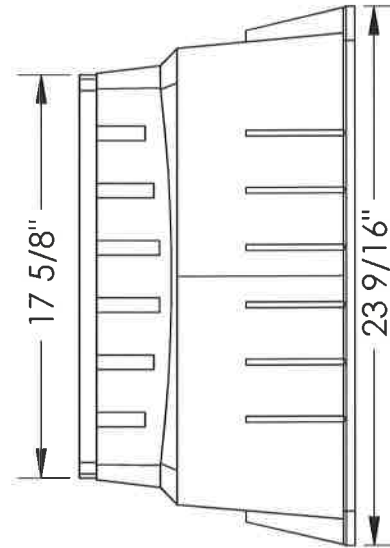
		NAME: R Hudlow DATE:	
DIMENSIONS: ASSE IN INCHES TOLERANCES: FRACTIONAL: ± ANGULAR: MACH: ± TWO PLACE DECIMAL: ±0.015 THREE PLACE DECIMAL: ±	DRAWN: CHECKED: ENG: APP: MFG: APP:	Q.A. COMMENTS:	SCALE: 1/8" = 1"
MATERIAL: FINISH:	NEXT ASST: USED ON:	APPLICATION:	PART: 14HD QTY: 1



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		PE-14HD-5		SIZE A	SCALE 1:1	SHEET NO. 876
NAME R Hudlow		DATE		COMMENTS		
DIMENSIONS ARE IN INCHES: FRACTIONAL: ANGULAR: MATCH: TWO PLACE DECIMAL: THREE PLACE DECIMAL:		BEND: 90° IS 45° IS 135° IS		Q.A. COMMENTS		
MATERIAL 10-2-11		USED ON NEXT ASSY		APPLICATION		



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

American Revolution

Series 247 and 247 Cutoff

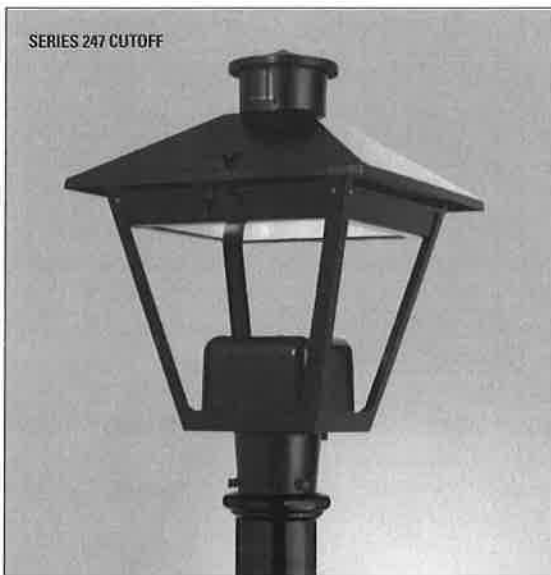
50-150W HPS, 100-175W MH

PRODUCT OVERVIEW

SERIES 247



SERIES 247 CUTOFF



PREFERRED SELECTION CATALOG NUMBERS

Series 247

247 10S RN 120 R3 AY
247 15S RN 120 R3 AY
247 10S RN 120 R5 AY
247 15S RN 120 R5 AY

Series 247 Cutoff

247 10S RN 120 R2 FC TL
247 10M XN MT1 R2 FC TL

Features:

Die-cast aluminum housing and hood for long-life performance

Die-cast trigger latch (TL) option available for easy access to internal components

Optical assembly designed for maximum performance

Hinged hood and captive screw provision afford quick, easy access to electrical and optical area for relamping or servicing

Slipfitter with three set screws allows secure installation to pole sizes 2-3/8" or 3" O.D.

E39 mogul base socket standard

All electrical components warranted by American Electric Lighting's 6-year guarantee

Complies with ANSI: C136.2, C136.10, C136.15, C136.31 (regular only), C136.16 (FC only)

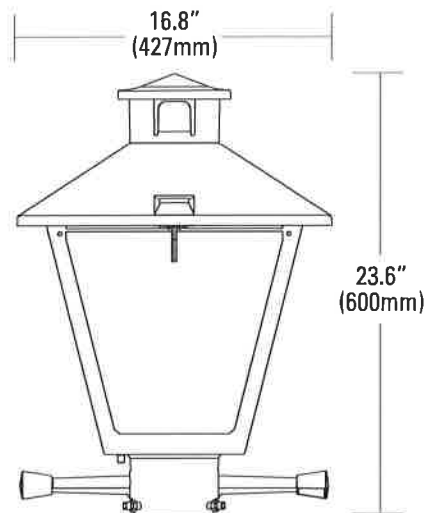
Suitable for -30°C MH & / -40°C HPS

Full cutoff version is "Nighttime Friendly™"

Applications:

Streetscapes
Walkways
Pathways
Parks

DIMENSIONS



Effective Projected Area (EPA)

The EPA for the American Revolution Series 247 is 1.6 sq. ft.
Approx. Wt. = 36 lbs.

American Revolution

Series 247 and 247 Cutoff

50-150W HPS, 100-175W MH

ORDERING INFORMATION

Example: 247 15S RN 120 R5 AY EC

Series	Wattage / Source	Ballast	Voltage	Distribution
247 American Revolution Post Top	05 50W S HPS 07 70W M MH ² 10 100W 15 150W 17 175W ¹	RN Reactor Normal Power Factor RH Reactor High Power Factor XN High Reactance / Lag Normal Power Factor XH High Reactance / Lag High Power Factor CA CWA ² CT CWI SC SCWA	120 120V 208 208V 240 240V 277 277V 347 347V 480 480V MT1 Multi-tap Wired 120V MT2 Multi-tap Wired 240V MT7 Multi-tap Wired 277V TT3 Tri-tap Wired 347V DT2 Dual Tap 120/240 Wired 240V	R2 Type II R3 Type III R5 Type V ³ RV Type V ⁴
	See ballast matrix for EISA compliant options			Optics AY Acrylic PY Polycarbonate FC Full Cutoff ⁵

Options

Paint ⁶ (blank) Black (standard) BZ Bronze DDB Dark Bronze GY Gray WH White	Lamp LC Lamp Included, Clear LD Lamp Included, Deluxe/Coated
Terminal Block (blank) Terminal Block (standard) T2 Wired to L1 & L2 Position T3 3 Wire Operation (L1, N, L2 Position)	Starter ¹⁰ (blank) Open Board (standard) EC Encapsulated Plug-in OP Open Plug-in
Listing UL UL Listed CS CSA Certified	Misc. PC Photocontrol Included per Voltage Specified ⁹ SH Shorting Cap ⁹ SS Stainless Steel Hardware NL NEMA Label (2x2) HS House Side Shield ¹¹ TL Tool-less Entry LDR Ladder Rest ¹²
Fusing ⁹ SF Single Fuse (120, 277, 347V) DF Double Fuse (208, 240, 480V)	
Photocontrol Receptacle (blank) NEMA Photocontrol Receptacle (standard) NR No Photocontrol Receptacle ⁹	

Notes:

- When ordered with metal halide, these wattages do not comply with California Title 20 regulations.
- Four white panels
- Four clear panels
- Other colors available, please contact your local American Electric Lighting representative
- PC and SH not available with NR option
- HPS only
- CA ballast is not available with 175W - 400W metal halide in the U.S.; must use SC
- T3 option only available with 240, 480, DT2, DT4, MT2
- Acrylic only
- Not available in MT, TT, DT voltages; voids UL listing
- Nighttime Friendly™ optic; R2 distribution only
- Ships with unit, field installed



American Electric Lighting

Acuity Brands Lighting, Inc.
 3825 Columbus Rd. S.W., Granville, OH 43023
 Phone: 800-754-0463 Fax: 740-587-6114
www.americanelectricalighting.com

American Revolution

Series 247 and 247 Cutoff

50-150W HPS, 100-175W MH

BALLAST MATRIX

Series 247

Watts	120	208	240	277	347	480	DT2
05S	RH, RN	-	-	-	-	-	-
07S	CA, MR, RH, RN, XH, XN	CA, XH, XN	CA, MR, XH, XN	CA, XH, XN	-	-	CA, MR, XH, XN
10S	CA, CT, MR, RH, RN, XH, XN	CA, CT, XH, XN	CA, CT, MR, XH, XN	CA, CT, XH, XN	-	CA	MR, XH, XN
10M	CA, XH, XN	XH, XN	XH, XN	CA, XH, XN	XH, XN	XH, XN	CA, XH, XN
13S	RN	-	-	-	-	-	-
14S	RN	-	-	-	-	-	-
15S	CA, CT, RH, RN, XH, XN	CA, CT, XH, XN	CA, CT, XH, XN	CA, CT, XH, XN	XH, XN	CA	CA, CT, XH, XN
15M	XH, XN	XH, XN	XH, XN	XH, XN	-	-	-
17M	SC	SC	SC	SC	-	-	SC

Series 247 continued

Watts	MT1	MT2	MT7	TT3
05S	-	-	-	-
07S	CA, XH, XN	CA, XH, XN	CA, XH, XN	-
10S	CA, CT, XH, XN	CA, CT, XH, XN	CA, CT, XH, XN	-
10M	CA, XH, XN	CA, XH, XN	CA, XH, XN	XH, XN
13S	-	-	-	-
14S	-	-	-	-
15S	CA, CT, XH, XN	CA, CT, XH, XN	CA, CT, XH, XN	XH, XN
15M	-	-	-	-
17M	SC	SC	SC	-

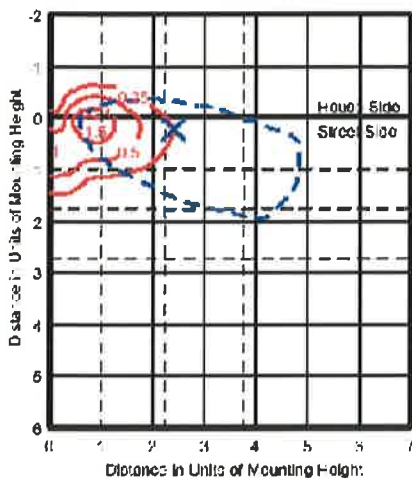
PHOTOMETRICS

247 07S R3 AY

ISOLILLUMINANCE PLOT (FC)

Mounting Height = 20 ft.

Classification: Type III, Medium, Full Cutoff

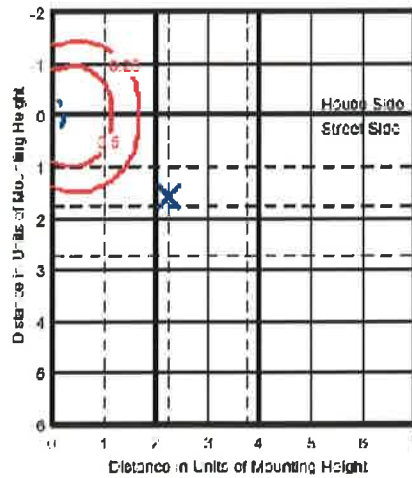


247 15S R5 AY

ISOLILLUMINANCE PLOT (FC)

Mounting Height = 20 ft.

Classification: Type I, Medium, Full Cutoff

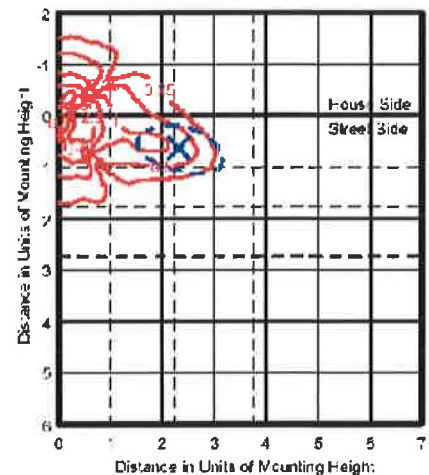


247 10S R2 FC

ISOLILLUMINANCE PLOT (FC)

Mounting Height = 20 ft.

Classification: Type II, Medium, Full Cutoff



X Maximum Intensity
--- 1/2 Maximum Intensity

Locking-Type Photo Controls (120 - 285 volts)



Electronic Utility-Grade Series State-of-the-Art Electronic Design

1 to 1.5 on/off ratio for maximum energy savings.

Meets or exceeds Ansi C136:10 & UL773

Specifications

Housing:	UV stabilized high-impact polypropylene.
Sensor:	Sealed Silicon Sensor
Turn-on:	1.5 foot-candles on.
Turn-on/ Turn-off Ratio:	1:3
Switch Type:	Single-pole, single-throw. Contact position at night normally closed.
Time Delay:	3-5 seconds
Temperature Range:	-40° to 170° F.
Power Consumption:	Less than 1 watt per day.
Rated Life:	5,000 operations minimum at rated load.
Surge Protection:	320 Joule MOV (Metal Oxide Varistor).
Base:	125°C High Temp.

Model	Voltage	Rating
EC120-AP-TD	120 V	1800 VA
EC240-AP-TD	240 V	1800 VA
ECDV-AP-TD	105-285 V	1800 VA dual voltage

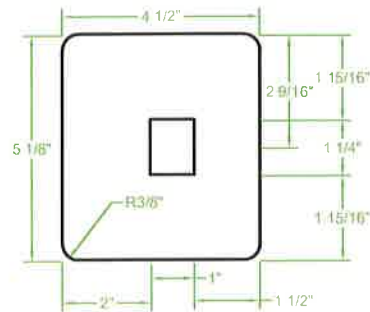
Housings are color-coded per ansi spec

120 V = Grey

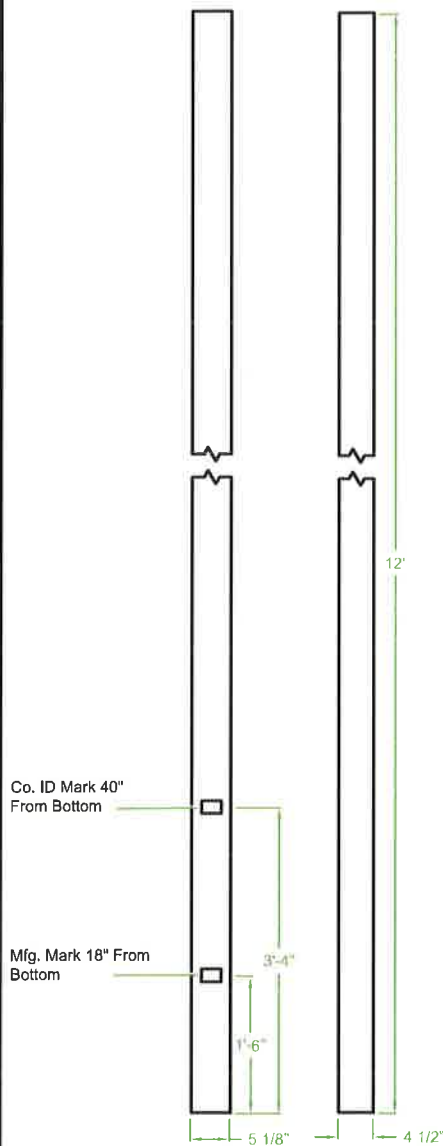
208-277 V = Maroon

105-285 V = Blue

Photo-Timer = Green (ESC-124DS)



SCALE: 3" = 1'



Pole Details

SCALE: 1/2" = 1'

Specifications

1.0 General: Timber Wood Lighting Standards shall be of materials, sizes, styles, patterns and fabrication as specified herein and as shown on JH Baxter detail drawings.

2.0 Lumber: Coast region Douglas fir only. L1 laminating grade for strength and appearance is used for manufacturing. Construction grade on all exposed wide faces. Grades are described in current WCLIB Grading Rules.

3.0 Laminating Requirements: Light Standards shall be laminated with adhesives meeting or exceeding the exterior durability performance requirements of most recent revision of U.S. Commercial Standard ANSI / AITC A190.1-1983.

4.0 Surface Finish, Appearance & Tolerance: Open defects such as knot holes exceeding 1/2" in diameter or wane exceeding 1/4" x 12" shall be filled with woodfiller. Sides shall be surfaced four faces with edges eased to 3/8" radius. Tolerances shall be from +0 to -1/8" for width and thickness and +/- 1/4" in length.

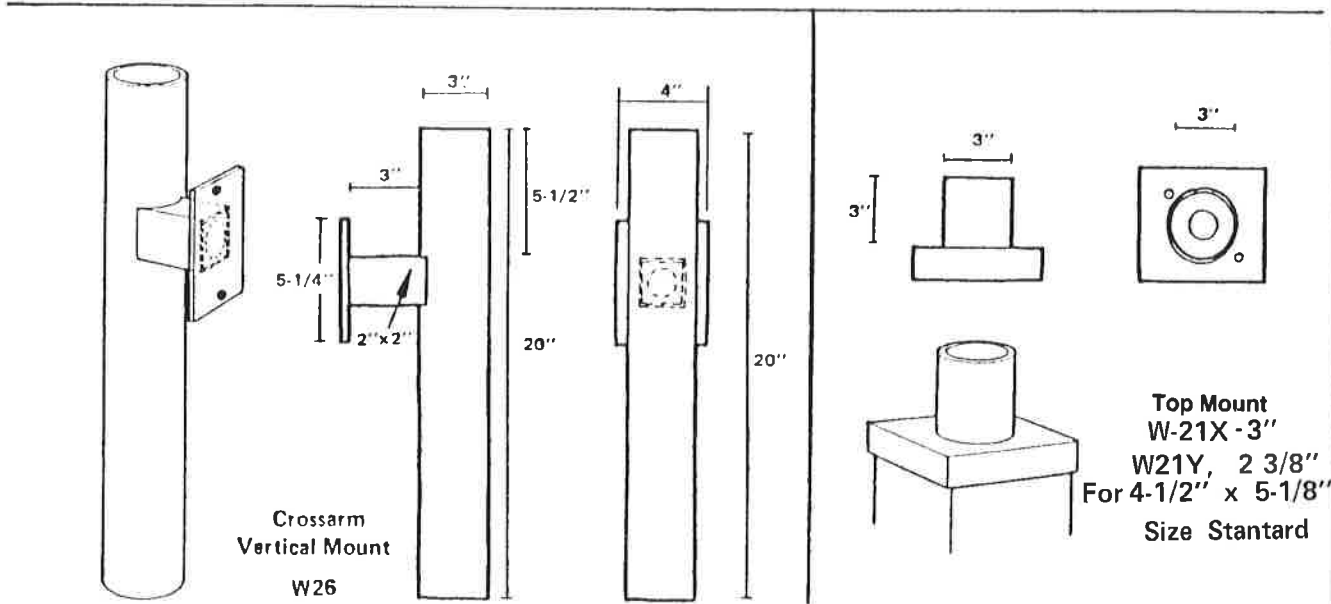
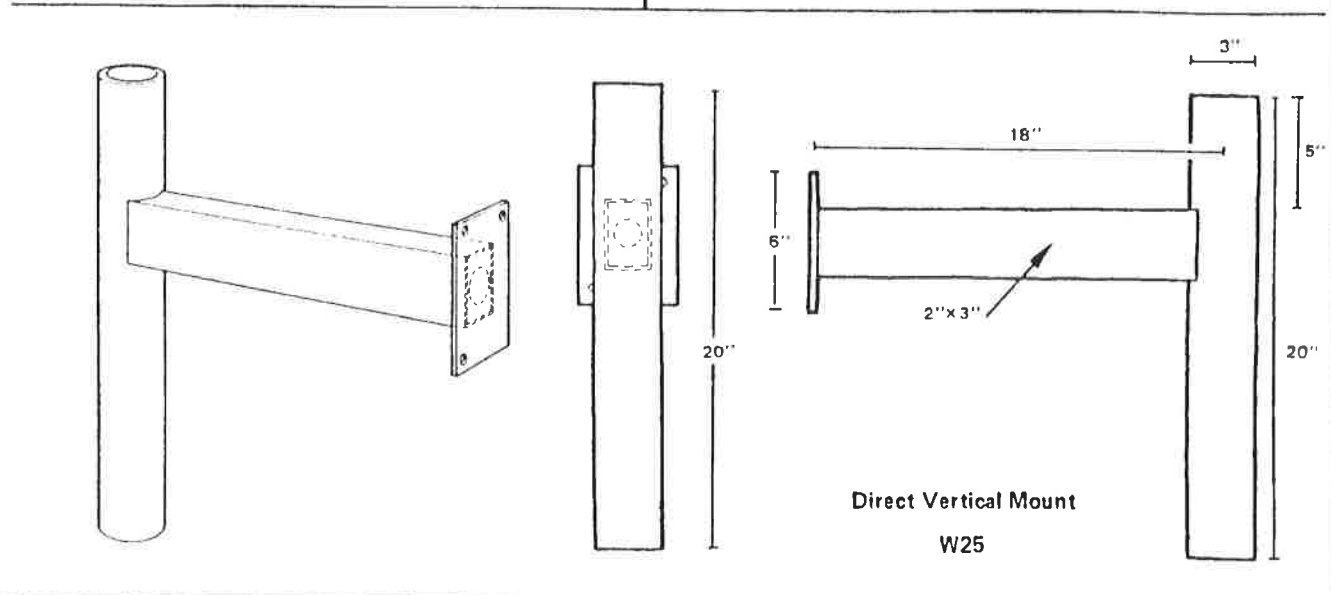
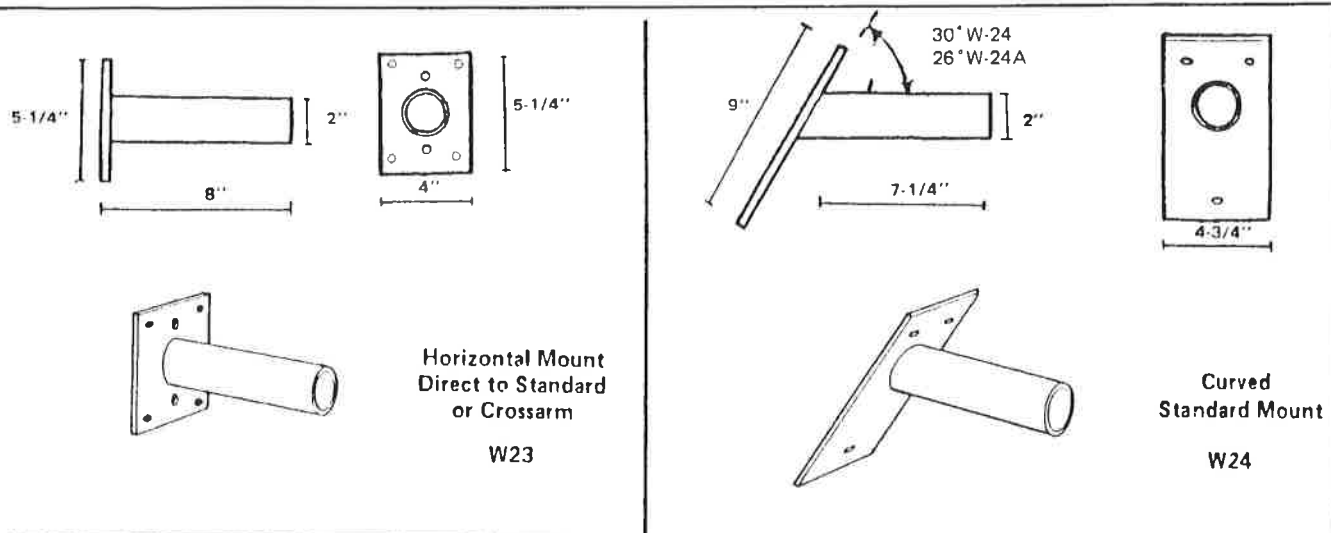
5.0 Preservative Treatment: Standards will be treated with 6% pentachlorophenol borne in light hydrocarbon solvent in conformance with AWWA Standards to a minimum net retention of 0.30 pounds per cubic foot of penta.

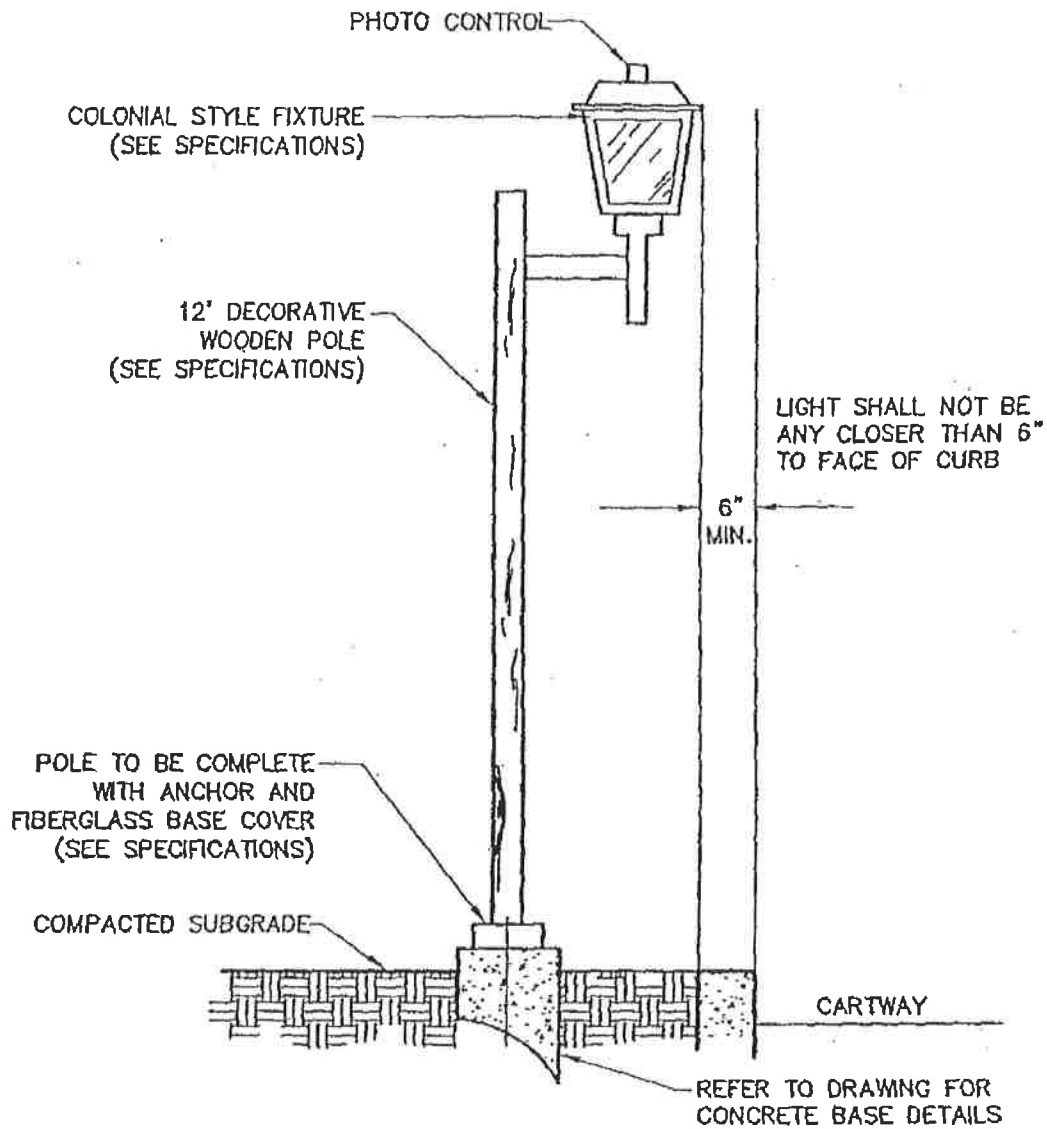
6.0 Trademark: Each standard shall be branded to indicate Manufacturer-Month-Year at 18" above intended ground line.

7.0 Wrapping: Lighting standards will be individually wrapped.

8.0 Embedment: As required by local codes and soil conditions. Designed by others. Refer to form no. SL-1281 for recommendations.

9.0 Top Protection: Metal cap must be installed unless fixture is top mounted.





NOT TO SCALE

TYPICAL COLONIAL STYLE FIXTURE LOCATION **MONTGOMERY TOWNSHIP, MONTGOMERY COUNTY** **PENNSYLVANIA**