

B&H ENGINEERS  
CONSULTING ELECTRICAL, MECHANICAL, & PLUMBING ENGINEERS  
3550 HARTSOCK BLVD  
COLORADO SPRINGS, COLORADO 80917  
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FAX: (719) 332-2006

DATE: 9-29-22 SEE B&H LOGO FOR JOB NO.  
DRAWN BY: BEN PARSAVE  
CHECKED BY: BEN PARSAVE

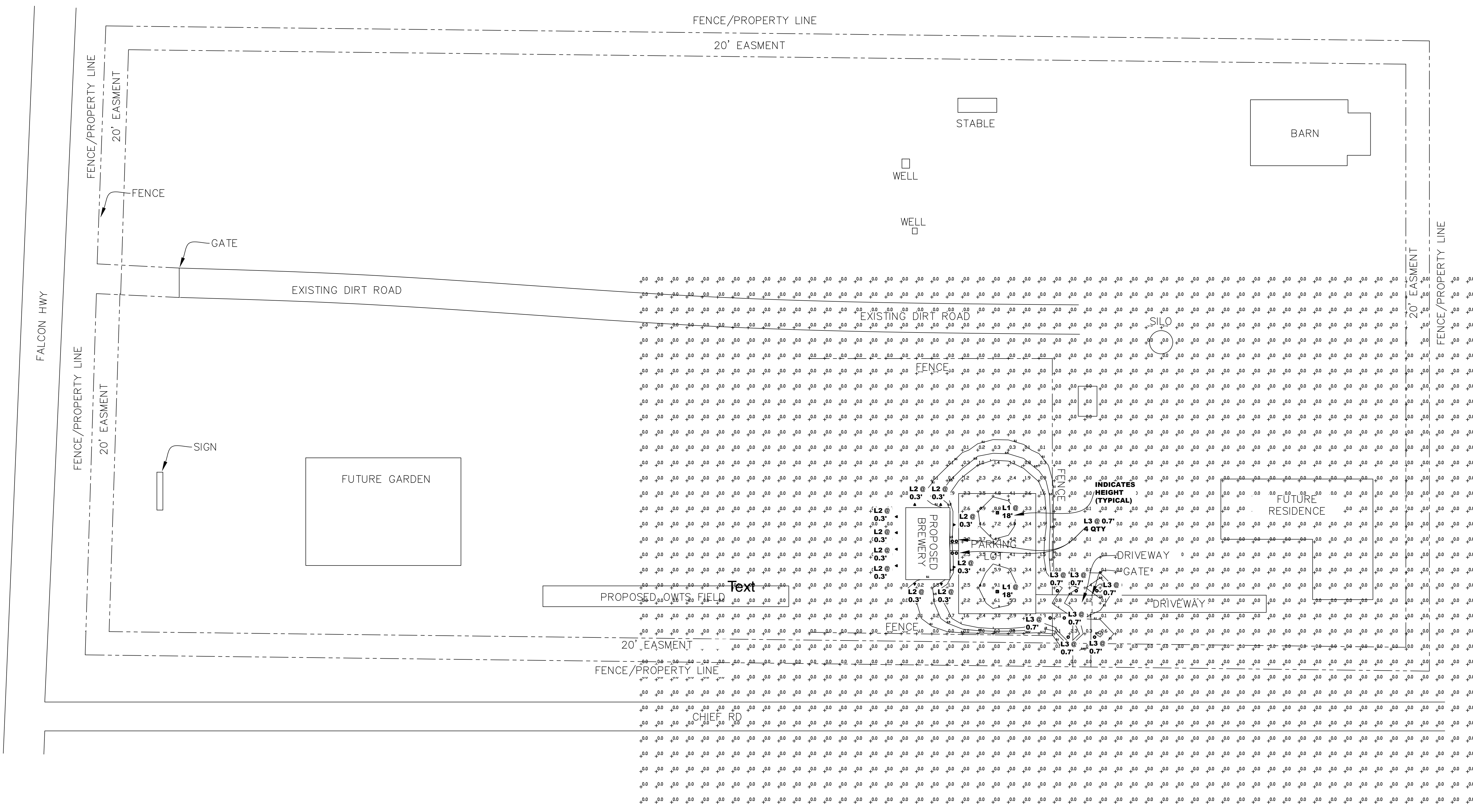
JOE PRUE  
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PEYTON, COLORADO 80831  
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PCD FILE# PPR2247

B&H ENGINEERS

PHOTO METRIC PLAN

PM1



Owners: Joe Prue & Stephanie McDiarmid  
719 360-2320 & 805 478-1889  
jlprue@gmail.com & kb6sns@aol.com

PCD File#: PPR-2247

PHOTO METRIC PLAN  
0" = 5' 10" 20' 60' 100'

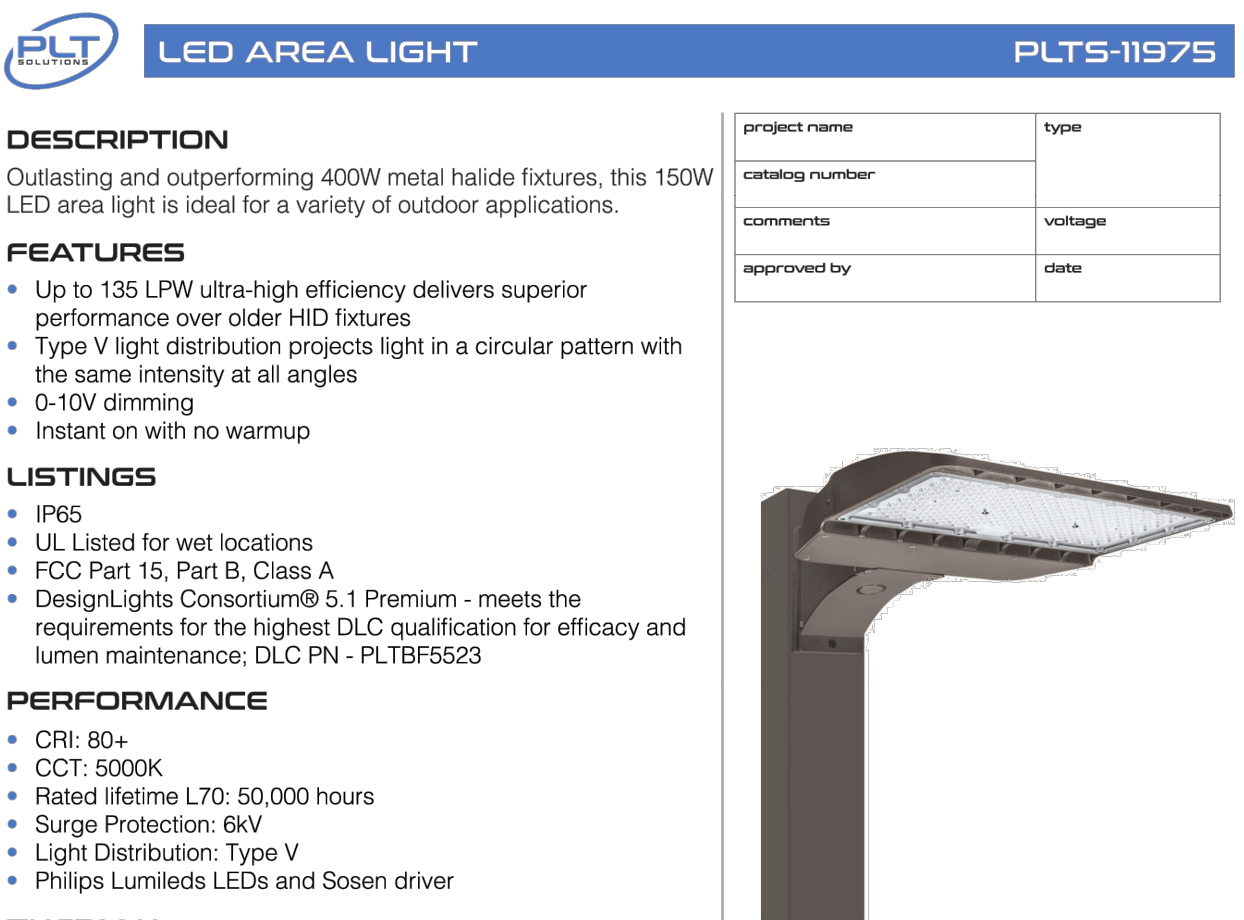
### GENERAL NOTES

- ALL WORK SHALL BE DONE IN COMPLIANCE WITH 2020 NEC, IBC 2015, 2015 IECC, 2017 PPRBC, 2015 IMC, 2018 IPC, AND ALL OTHER LOCAL CODES.
- ELECTRICAL CONTRACTOR SHALL VISIT SITE AND EXAMINE DRAWINGS OF OTHER TRADES ON THIS PROJECT, ARCHITECTURAL AND MECHANICAL, TO DETERMINE ANY ADDITIONAL WORK THAT MAY BE REQUIRED FOR A COMPLETE AND OPERATIONAL ELECTRICAL INSTALLATION AND SHALL INCLUDE AN ALLOWANCE FOR THIS WORK IN HIS BID.
- CONTRACTOR SHALL BE HELD RESPONSIBLE FOR VERIFICATION OF EXISTING JOB CONDITIONS PRIOR TO BID. NO ADDITIONAL COSTS SHALL BE AWARDED TO THE SUCCESSFUL CONTRACTOR OR HIS SUBCONTRACTORS.
- THE CONDUIT SYSTEM AND ALL CONDUCTING WIRE ENCLOSURES SHALL BE SECURELY BONDED TOGETHER.

5. LAND DEVELOPMENT STANDARDS:  
6.2.3. Lighting  
(A) General  
(1) Purpose  
The purpose of this Section is to address the physical effects of lighting, and the affect that lighting may have on the surrounding neighborhood.  
(2) Applicability  
This Section applies in all zoning districts, except as otherwise provided.  
(3) Existing Lighting Allowed  
Lighting existing at the time of adoption of this Section is not required to be modified to conform to this Section.  
(4) Lighting Plan to Reflect Standards  
A lighting plan for meeting these standards shall be submitted in accordance with submittal requirements for lighting plans described in the Procedures Manual.  
(B) Design Standards and Requirements  
(1) Limitations on Extent of Lighted Area  
(a) Concealed or Shielded  
Light fixtures shall be arranged and positioned such that the light sources are concealed and fully shielded so that no direct light or reflection creates a nuisance or hazard to any adjacent ownership or right-of-way and that up-light, spill-light, glare, and unnecessary diffusion are minimized. Light fixtures, except as otherwise permitted herein, are required to be full cutoff as defined by the Illuminating Engineers Society of North America (IESNA). The cut-off angle of an exterior light source shall not exceed 90 degrees. Full cut-off fixtures may not be tilted or aimed in a manner that results in light distribution above the horizontal plane. The use of semi-cutoff or cutoff (as opposed to full cutoff) fixtures shall be permitted to illuminate areas other than parking lots provided the pole or mounting point is no more than 10' in height and the maximum lumen output does not exceed 1800 lumens per lamp.  
(b) Non-Security Lighting During Non-Operating Hours  
Exterior lighting, including but not limited to floodlights used to light a building façade, shall be reduced, activated by motion sensor devices, or turned off during the principal use's non-operating hours. Lighting necessary for security shall not be subject to this provision.  
(c) Upward Lighting  
Upward lighting for architectural, landscape or decorative purposes shall have at least 90% of the total distribution pattern within the profile of the illuminated structure or feature. Light fixtures used to illuminate fountains, statues, or any other objects mounted on a pole, pedestal, or platform, shall use a narrow cone of light that does not extend beyond the illuminated object.  
(d) Maximum Levels  
Maximum on-site lighting levels shall not exceed 10 foot candles, except for loading and unloading platforms where the maximum lighting level shall be 20 foot candles.  
(e) Measurement at Property Boundaries  
Light levels measured at the property line of the development site adjacent to residential property or public right of way shall not exceed 0.1 foot candles as a direct result of the on-site lighting. All light fixtures mounted within 15' of any residential property line of the site shall be classified as IES Type II or Type III, or fixture demonstrated to provide similar distribution patterns and shielding properties. Fixtures shall be fitted with "house side shield" reflectors on the sides facing the residential property line.  
(f) Light Standards and Fixtures  
The style of light standards and fixtures shall be consistent with the style and character of architecture proposed on the site. Poles shall be anodized or coated to minimize glare from the light source. Bollards or similar light fixtures intended to illuminate landscape features or walkways are permitted which do not exceed 4 feet in height, 2 fixtures per bollard and 1 lamp not exceeding 900 lumens per fixture.  
(g) Lamp Types  
All outdoor light fixtures should utilize one of the following lamp types: metal halide, induction lamp, compact fluorescent, incandescent (including tungsten-halogen), or high-pressure sodium. Alternatives are permitted provided they are demonstrated to be more effective for the proposed use based on IESNA recommendations.  
(h) Canopy Lighting  
Light fixtures associated with canopies, including but not limited to fuel islands, seasonal outdoor sales areas, shopping malls, theaters, bank drive-thrus, and hotels shall be full cutoff or mounted so that the bottom of the canopy is recessed or flush with the bottom surface of the canopy. All light emitted from the canopy shall be substantially confined to the ground directly beneath the perimeter of the canopy. No lighting of any kind, except as permitted by sign regulations, shall be allowed on the top or sides of a canopy. The design of the canopy in terms of height above grade, and the spacing between the fixtures within the canopy, shall be such that the illuminance level under the canopy does not exceed 20 foot-candles.  
(i) Consideration of Pilots  
No lighting shall make it difficult for pilots to distinguish airport lights from others, result in glare in the eyes of the pilots using the aviation facility, impair visibility in the vicinity of an aviation facility or, in any way create a hazard or endanger the landing, take-off, or maneuvering of aircrafts intending to use an aviation facility.  
(2) Height  
No freestanding light fixtures shall be mounted higher than 15 feet, except parking lot light fixtures which shall be mounted no higher than 20 feet unless an alternative lighting proposal is approved in accordance with this Code.  
(3) Requirements for Outdoor Recreation Facilities  
Ball diamonds, playing fields, tennis courts, and other outdoor recreational uses shall be required to meet the following standards:  
(a) Maximum Pole Height  
The maximum light pole height shall be 80 feet.  
(b) Cut-Off Angle  
The cut-off angle from a lighting source that illuminates an outdoor recreational use may exceed 90 degrees provided the light source is shielded to prevent light and glare from spilling to adjacent residential properties.  
(c) Hours of Use  
Exterior lighting for an outdoor recreational use shall be extinguished no later than 10:00 p.m. or immediately after the conclusion of the final event of the day, whichever is later.  
(C) Prohibited Lighting  
The following are considered prohibited lighting:  
Site lighting that may be confused with warning, emergency or traffic signals, except as authorized by a federal, State or County government;  
Any fixed light not designed for roadway illumination that produces incident or reflected light that could be disturbing to the operator of a vehicle;  
Blinking, flashing or changing intensity lights and lighted signs, except for temporary holiday displays or lighting required by the FAA for air traffic control and warning purposes;  
The use of laser source light or any similar high intensity light for outdoor advertising or entertainment when projected above the horizon;  
The private operation of searchlights; and  
The nighttime use of white lighting or white strobe lighting in communication tower lighting.  
(D) Exemptions  
The following lighting shall be exempt from the requirements of this Section:  
Holiday lights in the nature of decorations, clearly incidental and customary and commonly associated with any national, local or religious holiday. Holiday lights may be of any type, number, area, height, location, illumination or animation, except that they shall not produce incident or reflected light that may be confused with or construed as a traffic control device;  
Any lighting required by the FAA for air traffic control, navigation, and warning purposes;  
Emergency lighting as required by law enforcement or emergency services personnel to protect life or property provided the lighting is temporary and is discontinued immediately on abatement of the emergency necessitating the lighting;  
Road lighting;  
Construction lighting provided the lighting is temporary and is discontinued immediately on completion of the construction work;  
Traffic control signals and devices;  
Vehicle lights;  
Temporary use of low wattage or low voltage lighting for public festivals, celebrations, and carnivals approved as a temporary use; and  
Single family residential lighting, except as prohibited herein  
(E) Alternative Lighting Proposal  
(1) Authority  
The PCD Director may approve a proposal that offers an alternative approach for meeting the standards of this Section. A lighting plan proposing an alternative approach for meeting these standards shall be submitted in accordance with submittal requirements for lighting plans described in the Procedures Manual. The plan shall clearly identify and discuss the modifications and alternatives proposed and describe how the proposal would better accomplish the purpose of this Section.  
(2) Review Criteria  
The PCD Director shall find the alternative lighting proposal accomplishes the purposes of this Section as well as a lighting plan that complies with this Section. The PCD Director will consider the extent to which the proposed design protects natural areas from light intrusion; how it enhances neighborhood continuity and connectivity; how it fosters non-vehicular access; and how it demonstrates innovative design and use of fixtures or other elements.

| Symbol | Label | Quantity | Manufacturer | Catalog Number | Description                           | Lamp                | Number of Lamps | Filename                           | Lumens Per Lamp | Light Loss Factor | Wattage |
|--------|-------|----------|--------------|----------------|---------------------------------------|---------------------|-----------------|------------------------------------|-----------------|-------------------|---------|
| □      | L1    | 2        | GL           |                | FULL CUTOFF WITH MOUNT KIT & 18" POLE | LED                 | 1               | PLTS-11975 150W SK IES             | 21029           | 1                 | 148.9   |
| △      | L2    | 10       | Volt         |                | BRASS ALL-STAR FULL CUTOFF            | MR16-16-27-60 BS #1 | 1               | All-Star w MR16-15-27-60 BS #1 IES | 167             | 1                 | 2.4     |
| ○      | L3    | 11       | DABMAR       | LV104          | LANDSCAPE LIGHT FULL CUTOFF           | 1.5W LED            | 1               | LV104.ies                          | 200             | 1                 | 0       |

| Statistics   |        |        |        |        |
|--------------|--------|--------|--------|--------|
| Description  | Symbol | Avg    | Max    | Min    |
| Calc Zone #1 | -      | 0.1 fc | 9.1 fc | 0.0 fc |



**DESCRIPTION**  
Outlasting and outperforming 400W metal halide fixtures, this 150W LED area light is ideal for a variety of outdoor applications.

**FEATURES**

- Up to 135 LPW ultra-high efficiency delivers superior performance over older HID fixtures
- Type V light distribution projects light in a circular pattern with the same intensity at all angles
- 0-10V dimming
- Instant on with no warmup

**LISTINGS**

- IP65
- UL Listed for wet locations
- FCC Part 15, Part B, Class A
- DesignLights Consortium® 5.1 Premium - meets the requirements for the highest DLC qualification for efficacy and lumen maintenance; DLC PN - PLTBFS523

**PERFORMANCE**

- CRI: 80+
- CCT: 5000K
- Rated lifetime L70: 50,000 hours
- Surge Protection: 6kV
- Light Distribution: Type V
- Philips Lumileds LEDs and Sosen driver

**THERMAL**

- 40°F to 122°F (-40°C to 50°C) operating temperature

**ELECTRICAL**

- THD <20%
- Power Factor: >0.95
- Input Voltage: 120-277V
- Dimmable power supply (0-10V)

**INSTALLATION**

- Designed to be mounted with Excel Series and select Grandview Series slip filters, straight arms, or U brackets (all sold separately); see Mounting Accessories section for full list of compatible products. See installation instructions for more information on how to install these fixtures.

**CONSTRUCTION**

- Low profile die-cast aluminum housing
- Durable dark bronze powder coat finish

**WARRANTY**

- 5 year limited warranty; see pilsolutions.com for warranty details

**PERFORMANCE SUMMARY**

| Item #     | Family       | Watts | Lumens | LPW | CCT   | CRI | Dimming | Voltage  | Replaces | Light Distribution | DLC | DLC #     |
|------------|--------------|-------|--------|-----|-------|-----|---------|----------|----------|--------------------|-----|-----------|
| PLTS-11975 | Excel Series | 150   | 20250  | 135 | 5000K | 80+ | 0-10V   | 120-277V | MR16     | Type V             | 5.1 | PLTBFS523 |

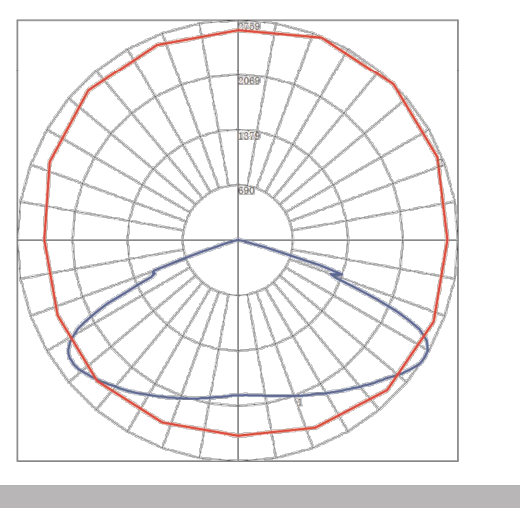
**MOUNTING ACCESSORIES (SOLD SEPARATELY)**

| Item #     | Family           | Description                                     |
|------------|------------------|---|
| PLTS-11989 | Excel Series     | Adjustable U-bracket for 100W and 150W fixtures |
| PLTS-11990 | Excel Series     | Adjustable U-bracket for 200W and 300W fixtures |
| PLTS-11984 | Grandview Series | Slipfilter for Fixtures up to 200 W in Diameter |
| PLTS-11985 | Grandview Series | U Mounting Arm for Square Poles                 |
| PLTS-11102 | Grandview Series | U Mounting Arm for Square or Round Poles        |

**DIMENSIONS**

Length: 13.8"  
Height: 3"  
Width: 12.6"  
Weight: 9.4 lbs.

**PHOTOMETRICS**



**PRODUCT SPECIFICATIONS** Project Name \_\_\_\_\_ Date \_\_\_\_\_  
Type or Model \_\_\_\_\_ Qty \_\_\_\_\_

### VOLT® Low Voltage Landscape Lighting

#### The All-Star™ Brass MR16 Spotlight - VAL-2000-4-BBZ

**Product Description**

The VOLT® All-Star™ features a fully adjustable glare guard and knuckle, making it perfect for almost any uplighting application. The adjustable glare guard allows you to fine tune your landscape lighting effects within the application. This fixture, compatible with almost any halogen or LED MR16 bulb, allows you to create broad beam spread flood effects, narrow spread spot light effects, and almost any effect in between.

With superior light control, the All-Star™ gives you complete mastery over your lighting effects ensuring you only have light where you want it at. This fixture is shielded, has a silicone plug where the lead wires exit to prevent pests and humidity from entering the fixture, and is made of solid cast brass and comes with VOLT's Lifetime Warranty.

**Specifications**

- Construction: Brass
- Finish: Bronze or Black
- Lead Wire: 4' (standard) or 25' (optional) 18AWG
- Mounting: 10" Hammer Stake with cutout for wire exit
- Lens: Clear Flat Glass
- Light Source (sold separately): MR16 (LED or Halogen)
- Operating Voltage: 12VAC
- Powered by: VOLT's Low Voltage Transformer

**Warranty**  
Lifetime Warranty

**Certifications**

- UL Max 35 Watts LISTED File #E465348
- UL Max 20 Watts LISTED File #E465348

**Features & Benefits**

- Solid Cast Brass Construction.
- Pre-aged finish; just a natural patina that does not corrode.
- Beryllium copper socket - more corrosion resistant than copper.
- Silicone plug at lead wire exit prevents ground moisture and insects from entering luminaire through the stem.
- Water Tight Silicone O-Ring - keeps water from entering luminaire.
- Extra-long (1-inch) strip resistant threading and solid brass locknut provide superior mounting stability.
- Heavy duty adjustable knuckle and adjustable glare guard allows light to be positioned.

**Product Dimensions**



**Features & Benefits**

- Solid Cast Brass Construction.
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**PHOTO METRIC DATA**

| Item #         | Family       | Watts | Lumens | LPW | CCT   | CRI | Dimming | Voltage  | Replaces | Light Distribution | DLC | DLC #     |
|----------------|--------------|-------|--------|-----|-------|-----|---------|----------|----------|--------------------|-----|-----------|
| VAL-2000-4-BBZ | Excel Series | 20    | 2000   | 100 | 2700K | 80+ | 0-10V   | 120-277V | MR16     | Type V             | 5.1 | PLTBFS523 |

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www.voltlighting.com

## LV104

### THREE-TIER PAGODA LIGHT PATH, WALKWAY AND AREA LIGHTING



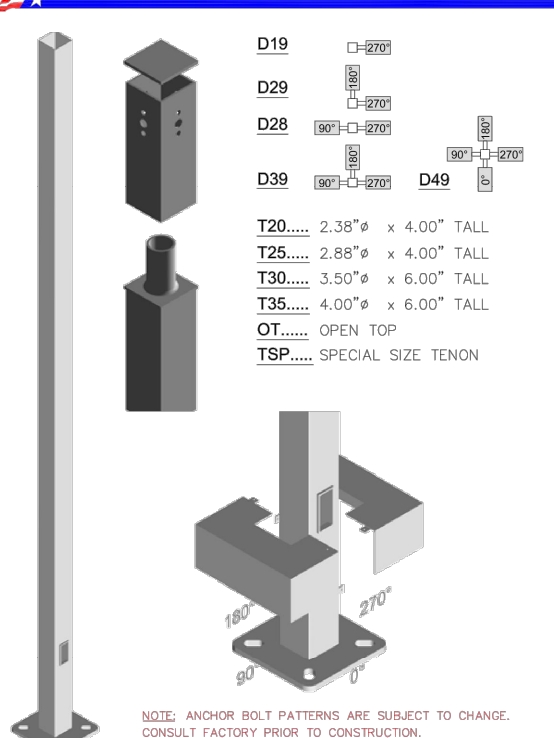

**Material:** Powder Coated Cast Aluminum  
**Lens:** Frosted, Heat Resistant, Tempered Glass  
**Lamp:** IC Bi-Pin Base (50W Maximum) Available in 30K or 64K (LED)

| MODEL         | LAMP   | ILLUMINANT | WATTS (W) | VOLTS (V) | LAMPS (INCLUDED) |
|---------------|--------|------------|-----------|-----------|------------------|
| LV104         | K      | HALOGEN    | 30        | 12        | YES              |
| LV-LED104     | JC-LED | LED        | 2.5       | 12        | YES              |
| LV-LED104-AMB | JC-LED | LED        | 3.0       | 12        | YES              |

Overall Dimensions:  
7.00"H x 10.00"W x 10.00"D  
Weight: 2.00 lbs  
Approximate Wire Length: 18.00"  
Pagoda Head Only  
(No Post or Ground Spike Included)

**DABMAR LIGHTING**  
DABMAR LIGHTING INCORPORATED  
320 Graves Ave., Oxnard, CA 93030 • 805.604.9090 • F: 805.604.9050 • www.dabmar.com  
4693 19th Street Ct E., Bradenton, FL 34203

### SNS SQUARE NON-TAPERED STEEL



**PROJECT NAME:** \_\_\_\_\_ **TYPE:** \_\_\_\_\_  
**QUOTE / ORDER NO:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
**APPROVED BY:** \_\_\_\_\_

**SPECIFICATIONS**

**POLE SHAFT:**  
The pole shaft is fabricated from hot rolled commercial quality carbon steel of one piece construction with a minimum yield strength of 55,000 psi.

**BASE PLATE:**  
The base plate is fabricated from a structural quality hot rolled carbon steel plate that meets or exceeds ASTM A-36 with a minimum yield strength of 36,000 psi. The base plate telescopes the pole shaft and is circumferentially welded top and bottom.

**BASE COVER:**  
The base cover is fabricated from ABS plastic. Optional two-piece steel base cover also available.

**ANCHOR BOLTS:**  
Anchor bolts conform to ASTM F1554 Grade 55 and are provided with two hex nuts and flat washers. Bolts have an "L" bend on one end and are galvanized to a minimum of 12" on the threaded end in accordance with ASTM A-153.

**HANDLE:**  
A reinforced hand hole, having a nominal opening of 2.75" x 3" x 5" will be installed 18" above the base plate. A hand hole cover with hardware will be included along with grounding provisions.

**POLE TOP:**  
Each pole will be provided with a welded top plate and tendon or top cap for pole nesting offering for side mount fixtures.


**FINISH:**  
Standard color finishes shall be coated with TDC polyester powder or hot dip galvanized to ASTM A-153 specifications.

| POLE DIMENSIONS           | BASE PLATE                | ANCHOR BOLTS              | BASE COVER                | ALLOWABLE MAX WIND SPEED (MPH) |
|---------------------------|---------------------------|---------------------------|---------------------------|--------------------------------|
| T20... 2.38" x 4.00" TALL | T20... 2.38" x 4.00" TALL | T20... 2.38" x 4.00" TALL | T20... 2.38" x 4.00" TALL | 120                            |
| T25... 2.88" x 4.00" TALL | T25... 2.88" x 4.00" TALL | T25... 2.88" x 4.00" TALL | T25... 2.88" x 4.00" TALL | 130                            |
| T30... 3.50" x 6.00" TALL | T30... 3.50" x 6.00" TALL | T30... 3.50" x 6.00" TALL | T30... 3.50" x 6.00" TALL | 140                            |
| T35... 4.00" x 6.00" TALL | T35... 4.00" x 6.00" TALL | T35... 4.00" x 6.00" TALL | T35... 4.00" x 6.00" TALL | 150                            |
| T40... 4.00" x 6.00" TALL | T40... 4.00" x 6.00" TALL | T40... 4.00" x 6.00" TALL | T40... 4.00" x 6.00" TALL | 160                            |

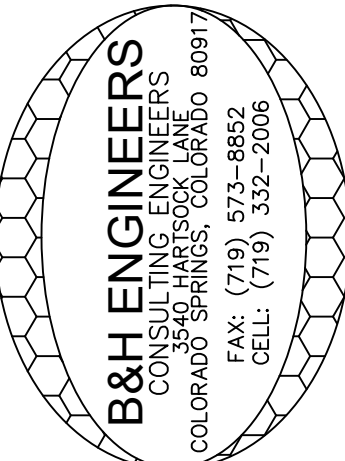
**ORDERING CODE**    **CATALOG NO.**    **BASE**    **FINISH**    **FIXTURE MOUNT**    **BASE COVER**    **OPTIONS**    **OPTIONS**

AMERICAN LITE POLE    2800 S. HULLEN, SUITE 200 - FORT WORTH, TX 76109    866-474-7200    WWW.ALPOLES.COM

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jprue@gmail.com & kb6sns@aol.com



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Ben Parsave  
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9-29-22



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DATE: 9-29-22    SEE B&H LOGO FOR JOB NO.    DESIGNERS INFO CHECKED BY: BEN PARSIAVE

REVISION/DATUM

FILE NAME

PCD FILE# PPR2247

B&H ENGINEERS

PHOTO METRIC PLAN

PM2