

B&H ENGINEERS  
CONSULTING ELECTRICAL, MECHANICAL, & PLUMBING ENGINEERS  
3550 HARTSOCK LANE  
COLORADO SPRINGS, COLORADO 80917  
REVISION/DATE

DATE: \_\_\_\_\_  
JOB NO. \_\_\_\_\_  
DRAWN BY: B&H  
CHECKED BY: \_\_\_\_\_

6550 CHIEF RD.  
PEYTON, COLORADO 80831

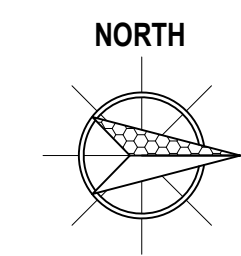
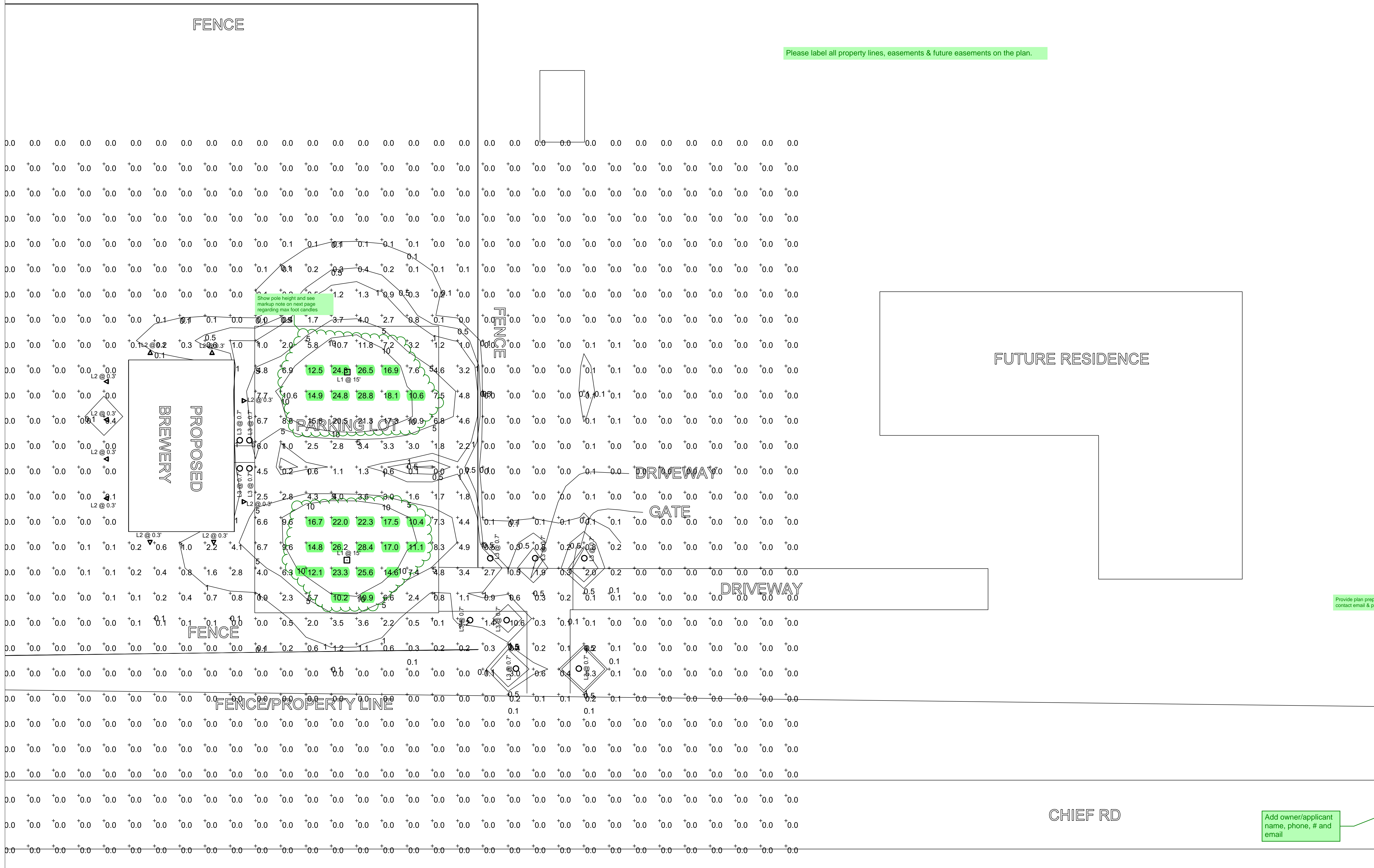
B&H ENGINEERS  
PHOTO METRIC PLAN  
PM1

Please label all property lines, easements & future easements on the plan.

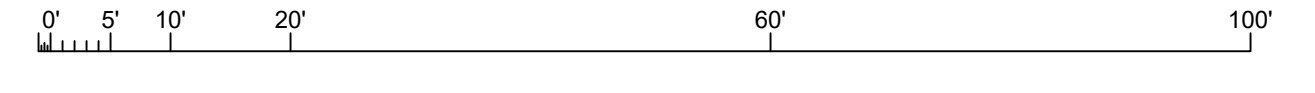
Provide plan preparer's name, contact email & phone #

Add owner/applciant name, phone, # and email

Add PCD File # PPR2247 on all sheets



**PHOTO METRIC PLAN**  
SCALE: 1/16" = 1'0"



**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 flags, statues, or any other objects mounted on a pole, pedestal, or platform, shall use a narrow angle 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 stations, seasonal outdoor sales areas, shopping malls, theaters, bank drive-thrus, and hotels shall be full cutoff or mounted so that the bottom of the lens 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 illumination 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 an 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 confused 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;
    - Vehicular 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 PCO 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 PCO 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 PCO 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.

Show height of pole, see max allowed foot candles and revise

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
□	L1	2	GL		FULL CUTOFF	0'4u4E	1	PLTS-11988 300W 5K T3.IES	39229	1	269.386
△	L2	10	Volt		Brass All-Star FULL CUTOFF	MR16-15-27-60 BS #1	1	All-Star w MR16-15-27-60 BS #1 .IES	167	1	2.1
○	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	-+	0.2 fc	28.8 fc	0.0 fc	

**LED AREA LIGHT**

**DESCRIPTION**  
Outlasting and outperforming 1000W metal halide fixtures, this 300W 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 PCN - PLTB7522

**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 113°F (-40°C to 45°C) operating temperature

**ELECTRICAL**

- THD: <20%
- Power Factor: >0.95
- Input Voltage: 277-480V
- Dimmable power supply (0-10V)

**INSTALLATION**

- Designed to be mounted with Excel Series and select Grandview Series slip fitters, 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

**PLTS-11988**

Project name \_\_\_\_\_ type \_\_\_\_\_

Catalog number \_\_\_\_\_ voltage \_\_\_\_\_

Comments \_\_\_\_\_ data \_\_\_\_\_

Approved by \_\_\_\_\_ date \_\_\_\_\_



**EXCEL FC UL LISTED DLC LISTED PREMIUM**

972-535-0926 | PLTSOLUTIONS.COM | ver 062722

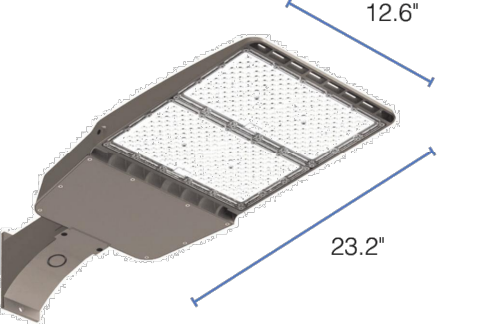
**PERFORMANCE SUMMARY**

Item #	Family	Watts	Lumens	LPW	CCT	CRI	Dimming	Voltage	Replaces	Light Distribution	DLC Label	DLC #
PLTS-11988	Excel Series	300	4000	133	5000K	80+	0-10V	277-480V	MHI000	Type V	5.1 Premium	PLTB7522

**MOUNTING ACCESSORIES (SOLD SEPARATELY)**

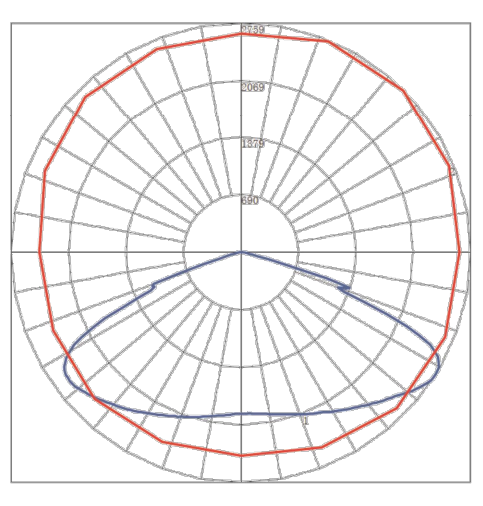
Item #	Family	Description
PLTS-11989	Excel Series	Adjustable U-Bracket for 100W and 150W Fixtures
PLTS-11990	Excel Series	Adjustable U-Bracket for 200W and 300W Fixtures
PLTS-11564	Grandview Series	Slipfitter for Tenon up to 2.38" in Diameter
PLTS-11565	Grandview Series	8" Mounting Arm for Square Posts
PLTS-11562	Grandview Series	4" Mounting Arm for Square or Round Posts

**DIMENSIONS**



Length: 23.2"  
Height: 3.2"  
Width: 12.6"  
Weight: 16.8 lbs.

**PHOTOMETRICS**



972-535-0926 | PLTSOLUTIONS.COM | ver 062722

**LV104**  
**THREE-TIER PAGODA LIGHT**  
**PATH, WALKWAY AND AREA LIGHTING**



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

MODEL NUMBER	LAMP TYPE	ILLUMINANT TYPE	WATTS (W)	VOLTS (V)	LAMPS INCLUDED?
LV104	JC	HALOGEN	20	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)

- Pre-wired with UL Listed Direct Burial Wire Cable
- Amber Lens: Silicone G4 Bi-Pin (Turtle Friendly)
- Connector Available: P-CN1 (sold separately)
- Available Finishes: Black, Green, Verde-Green
- ETL Approved

**DABMAR**  
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

**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 Wires: 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

**Product Dimensions**



**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.

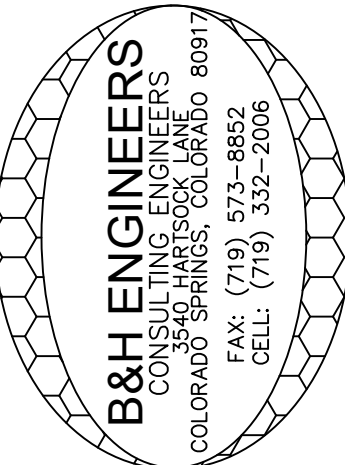
**Warranty**  
Lifetime Warranty

**Certifications**

- UL LISTED Max 35 Watts Piv #E66348
- UL LISTED Max 20 Watts Piv #E66348

© Copyright 2021, VOLT® Lighting, Lutz, FL USA 33549 • All rights reserved • 813.978.3700  
www.voltlighting.com

Provide plan preparer's name, contact email & phone #



CONSULTING ELECTRICAL, MECHANICAL, & PLUMBING ENGINEERS  
3550 HARTSTOCK PLANE  
COLORADO 80917  
REVISION/DATE

FILE NAME

DATE: \_\_\_\_\_  
JOB NO. \_\_\_\_\_  
DRAWN BY: B&H  
CHECKED BY: B&H

6550 CHIEF RD.  
PEYTON, COLORADO 80831

B&H ENGINEERS

PHOTO METRIC PLAN

PM2

# Lighting Plan\_V1.pdf Markup Summary

#008000 (7)



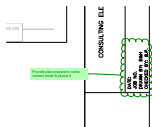
**Subject:** Callout  
**Page Label:** [2]  
Photo-Metric-6550-Chief-RD-Peyton-PM-8-16-22-PM2  
**Author:** Linda.Nguyen  
**Date:** 9/8/2022 1:02:54 PM  
**Status:**  
**Color:** ■  
**Layer:**  
**Space:**

Show height of pole, see max allowed foot candles and revise



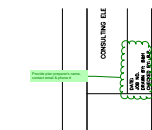
**Subject:** Cloud+  
**Page Label:** [1]  
Photo-Metric-6550-Chief-RD-Peyton-PM-8-16-22-PM1  
**Author:** Linda.Nguyen  
**Date:** 9/8/2022 1:07:44 PM  
**Status:**  
**Color:** ■  
**Layer:**  
**Space:**

Show pole height and see markup note on next page regarding max foot candles



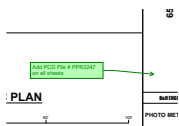
**Subject:** Cloud+  
**Page Label:** [2]  
Photo-Metric-6550-Chief-RD-Peyton-PM-8-16-22-PM2  
**Author:** Linda.Nguyen  
**Date:** 9/8/2022 3:37:01 PM  
**Status:**  
**Color:** ■  
**Layer:**  
**Space:**

Provide plan preparer's name, contact email & phone #



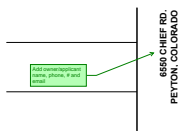
**Subject:** Cloud+  
**Page Label:** [1]  
Photo-Metric-6550-Chief-RD-Peyton-PM-8-16-22-PM1  
**Author:** Linda.Nguyen  
**Date:** 9/8/2022 3:37:22 PM  
**Status:**  
**Color:** ■  
**Layer:**  
**Space:**

Provide plan preparer's name, contact email & phone #



**Subject:** Callout  
**Page Label:** [1]  
Photo-Metric-6550-Chief-RD-Peyton-PM-8-16-22-PM1  
**Author:** Linda.Nguyen  
**Date:** 9/8/2022 3:38:24 PM  
**Status:**  
**Color:** ■  
**Layer:**  
**Space:**

Add PCD File # PPR2247 on all sheets



**Subject:** Callout  
**Page Label:** [1]  
Photo-Metric-6550-Chief-RD-Peyton-PM-8-16-22-PM1  
**Author:** Linda.Nguyen  
**Date:** 9/8/2022 4:06:43 PM  
**Status:**  
**Color:** ■  
**Layer:**  
**Space:**

Add owner/applicant name, phone, # and email



**Subject:** Text Box  
**Page Label:** [1]  
Photo-Metric-6550-Chief-RD-Peyton-PM-8-16-22-PM1  
**Author:** Linda.Nguyen  
**Date:** 9/8/2022 4:39:32 PM  
**Status:**  
**Color:** ■  
**Layer:**  
**Space:**

Please label all property lines, easements & future easements on the plan.