

1 STREET POLE TYPE
Scale: NTS

- ### GENERAL NOTES
- A. PHOTOMETRIC CALCULATIONS ASSUME A 0.8 LIGHTING LOSS FACTOR
 - B. DRAWINGS ARE SCHEMATIC & NOT ALL SHOWN TO SCALE.
 - C. LIGHTING CONTROL SHALL BE BY FIXTURE MOUNTED PE CELL.
 - D. COORD. W/ GC FOR LIGHT STANDARD FOUNDATION. DESIGN SHALL BE PER WSDOT STANDARD PLAN J-28.30-03. SLIP BASE SHALL BE PER WSDOT STANDARD PLAN J-28.42
 - E. COLORS AND FINISHES PER CITY OF SEATAC STANDARDS AND DETAILS.
 - F. ALL STREET LIGHTS SHALL BE DARK SKY COMPLIANT FIXTURES.
 - G. PROVIDE AND INSTALL J-BOXES OF THE SIZE AND TYPE AS INDICATED ON PLANS PER WSDOT STANDARD PLAN J-40.10-04. BOXES SHALL BE ADJUSTED TO MATCH FINISH GRADE.
 - H. COORDINATE WITH PSE FOR INSTALLATION OF NEW UTILITY SERVICE, INCLUDING SERVICE TRANSFORMER, FEEDER LATERALS, ETC. TO ACCOMMODATE COMPLETE SYSTEM PER CITY OF SEATAC AND PSE STANDARDS AND SPECIFICATIONS.
 - I. COORDINATE WITH UTILITY PROVIDERS FOR PROPER CLEARANCE BETWEEN FIXTURES AND OVERHEAD LINES.

| STREET LIGHTING ANALYSIS | | | |
|--|--|--------------------------|-----------------------------|
| Per City of SeaTac Policy Number PW-018: City Wide ROW Lighting Policy | | | |
| DESCRIPTION | IESNA RECOMMENDED ILLUMINATION LEVEL (IESNA HANDBOOK 10th Edition) | CITY OF SEATAC STANDARDS | ACTUAL PER PHOTOMETRIC PLAN |
| Road Class: Principal Arterial | | | |
| Roadways | | | |
| Max. Pole Height | -- | 35 FT | 30 FT |
| S1: Fixture Type for "Special Areas" | Fixture: Ragni Lighting R-Light 800, Dist. Type III See Lighting Fixture Schedule for additional information. | | |
| Fixture Color Temperature | -- | 4000K | 4000K |
| Minimum Illuminance (Low) | 0.2 fc min. | Per IES * | 0.4 fc |
| Average Maintained Illuminance | -- | 1.3 fc | 1.2 fc |
| Uniformity Ratio (AVG:MIN) | -- | 3:1 | 3.0:1 |
| Sidewalks | | | |
| Max. Pole Height | -- | 16-1/2 FT | 16-1/2 FT |
| S2: Fixture Type for "Special Areas" | Fixture: Ragni Lighting R-Light 650, Dist. Type III See Lighting Fixture Schedule for additional information. | | |
| Fixture Color Temperature | -- | 4000K | 4000K |
| Minimum Illuminance (Low) | 0.2 fc min. | Per IES * | 0.2 fc |
| Average Maintained Illuminance | -- | 0.5 fc | 1.0 fc |
| Uniformity Ratio (AVG:MIN) | -- | 4:1 | 5.0:1 |
| Road Class: Local - Commercial Road | | | |
| Roadways | | | |
| Max. Pole Height | -- | 35 FT | 30 FT |
| S1: Fixture Type for "Special Areas" | Fixture: Ragni Lighting R-Light 800, Dist. Type III See Lighting Fixture Schedule for additional information. | | |
| Fixture Color Temperature | -- | 4000K | 4000K |
| Minimum Illuminance (Low) | 0.2 fc min. | Per IES * | 0.3 fc |
| Average Maintained Illuminance | -- | 0.8 fc | 1.0 fc |
| Uniformity Ratio (AVG:MIN) | -- | 6:1 | 3.3:1 |
| Sidewalks | | | |
| Max. Pole Height | -- | 16-1/2 FT | 16-1/2 FT |
| S2: Fixture Type for "Special Areas" | Fixture: Ragni Lighting R-Light 650, Dist. Type III See Lighting Fixture Schedule for additional information. | | |
| Fixture Color Temperature | -- | 4000K | 4000K |
| Minimum Illuminance (Low) | 0.2 fc min. | Per IES * | 0.2 fc |
| Average Maintained Illuminance | -- | 0.5 fc | 0.6 fc |
| Uniformity Ratio (AVG:MIN) | -- | 4:1 | 3.0:1 |
| Road Class: Local - Commercial Road | | | |
| Roadways | | | |
| Max. Pole Height | -- | 35 ft | 30 ft |
| S1: Fixture Type for "Special Areas" | Fixture: Ragni Lighting R-Light 800, Dist. Type III See Lighting Fixture Schedule for additional information. | | |
| Fixture Color Temperature | -- | 4000K | 4000K |
| Minimum Illuminance (Low) | 0.2 fc min. | Per IES * | 0.3 fc |
| Average Maintained Illuminance | -- | 0.8 fc | 1.1 fc |
| Uniformity Ratio (AVG:MIN) | -- | 6:1 | 3.7:1 |
| Sidewalks | | | |
| Max. Pole Height | -- | 16-1/2 ft | 16-1/2 ft |
| S2: Fixture Type for "Special Areas" | Fixture: Ragni Lighting R-Light 650, Dist. Type III See Lighting Fixture Schedule for additional information. | | |
| Fixture Color Temperature | -- | 4000K | 4000K |
| Minimum Illuminance (Low) | 0.2 fc min. | Per IES * | 0.2 fc |
| Average Maintained Illuminance | -- | 0.5 fc | 0.6 fc |
| Uniformity Ratio (AVG:MIN) | -- | 4:1 | 3.0:1 |
| Private Driveway | | | |
| Max. Pole Height | -- | 16 ft | 16 ft |
| S3: Fixture Type for Residential | Fixture: Cyclone Dornia Pendant, Dist. Type III See Lighting Fixture Schedule for additional information. | | |
| Fixture Color Temperature | -- | 4000K | 4000K |
| Minimum Illuminance (Low) | 0.2 fc min. | Per IES * | 0.2 fc |
| Average Maintained Illuminance | 0.8 fc | Per IES * | 1.2 fc |
| Uniformity Ratio (AVG:MIN) | -- | -- | 6:1 |
| South Plaza | | | |
| Average Maintained Illuminance | 0.5 fc | Per IES * | 0.9 fc |
| Uniformity Ratio (AVG:MIN) | -- | -- | 7:1 |
| North Plaza | | | |
| Average Maintained Illuminance | 0.5 fc | Per IES * | 0.6 fc |
| Uniformity Ratio (AVG:MIN) | -- | -- | 6:1 |
| North Plaza Walkway | | | |
| Minimum Illuminance (Low) | 0.2 fc min. | Per IES * | 0.2 fc |
| Average Maintained Illuminance | -- | 0.5 fc | 1.3 fc |
| Uniformity Ratio (AVG:MIN) | -- | 4:1 | 6.5:1 |
| Dog Park | | | |
| Average Maintained Illuminance | 0.5 fc | Per IES * | 1.6 fc |
| Uniformity Ratio (AVG:MIN) | -- | -- | 8:1 |
| * where code requirements are indicated w/ 'undefined', IESNA values shall be used as basis of design. | | | |

- ZONE**
- URBAN CENTER BOUNDARY - SPECIAL AREA
- ROADWAY CLASSIFICATION**
- LOCAL - COMMERCIAL
- SEATAC STREET LIGHTING GUIDE**
- 2.3 STREET LIGHTING SYSTEM DESIGN
- Guidelines for laying out street lighting system design.
1. POLE SPACING - SHALL BE DETERMINED FROM PHOTOMETRIC ANALYSIS.
b. MIN OF 5FT AWAY FROM DRIVEWAY
 2. CONFIGURATION - LIGHTING SYSTEM SHALL BE DESIGNED FOR STAGGERED CONFIGURATION.
 3. a. CURB OFFSET - 3FT
d. MIN OF 20FT FROM STREET TREES

RENSCH ENGINEERING

MECHANICAL AND ELECTRICAL BUILDING DESIGN

111 AVE. C, SUITE 104
SNOHOMISH, WA 98290

office: 360-863-6677
fax: 360-863-3565

SEAL

PROJECT
NEW CONSTRUCTION
SEATAC APARTMENT
Address
20220 INTERNATIONAL BLVD
SEATAC, WASHINGTON 98198

SITE LIGHTING

REVISIONS

| | | |
|---|---------------|------------|
| 1 | CITY COMMENTS | 08-15-2024 |
| 2 | CITY COMMENTS | 08-28-2024 |
| 3 | CITY COMMENTS | 10-25-2024 |

DATE
04/24/2024

SHEET TITLE
ELECTRICAL STREET LIGHTING PHOTOMETRICS PLAN

PERMIT SET

DESIGNER: Jeff Hudson
CHECKED BY: Jeff Hudson
SHEET

E1.10

| LIGHTING FIXTURE SCHEDULE | | | | | | | | | | | | | |
|------------------------------------|-----------------------------------|-----------------|---------------------------------|------------|--------|----------------|--------|---------|-------|-----------|--|--|--|
| Type | Description (5) | Manufacturer | Model # (2) | Color Temp | Lumens | Lamp | Shield | Voltage | Watts | B U G (6) | Notes (1) | | |
| FRONTAGE STREET LIGHTING FIXTURE | | | | | | | | | | | | | |
| S1 | LED FIXTURE | RAGNI LIGHTING | RLI 800 48 4 50 T3 1 | 4000k | 10312 | INTEGRATED LED | NO | UNV | 73 | B2 U0 G2 | IES DISTRIBUTION TYPE: III COLOR: GLOSSY ANODIZED SILVER (38/91020 BY TIGER DRYLAC POWDER COATING) | | |
| | MOUNTING ARM - 6FT | HOLOPHANE | NEW YORK | | | | | | | | | | |
| | POLE - 30FT, ROUND TAPERED STEEL | HOLOPHANE | RTS | | | | | | | | | | |
| FRONTAGE SIDEWALK LIGHTING FIXTURE | | | | | | | | | | | | | |
| S2 | LED FIXTURE | RAGNI LIGHTING | RLI 650 16 4 35 T3 1 | 4000k | 2504 | INTEGRATED LED | NO | UNV | 19 | B1 U0 G1 | IES DISTRIBUTION TYPE: III COLOR: GLOSSY ANODIZED SILVER (38/91020 BY TIGER DRYLAC POWDER COATING) | | |
| | MOUNTING ARM - 3FT | HOLOPHANE | NEW YORK | | | | | | | | | | |
| SITE LIGHTING FIXTURES | | | | | | | | | | | | | |
| S3 | LED FIXTURE | CYCLONE | CY55P1B FGF T3MHS P20 40K MVOLT | 4000k | 3640 | INTEGRATED LED | YES | UNV | 33.4 | B2 U0 G2 | IES DISTRIBUTION TYPE: III COLOR: JET BLACK (RAL-9005) | | |
| | MOUNTING ARM - 2FT | CYCLONE | MA534 | | | | | | | | | | |
| | POLE - 16FT, ROUND FLUTED TAPERED | VALMONT | | | | | | | | | | | |
| S4 | LED FIXTURE | CYCLONE | CY55P1B FGF T5 P20 40K MVOLT | 4000k | 3688 | INTEGRATED LED | NO | UNV | 33.4 | B1 U0 G1 | IES DISTRIBUTION TYPE: V COLOR: JET BLACK (RAL-9005) | | |
| | MOUNTING ARM - 2FT | CYCLONE | MA534 | | | | | | | | | | |
| | POLE - 16FT, ROUND FLUTED TAPERED | VALMONT | | | | | | | | | | | |
| WP1 | BUILDING MOUNTED LED WALL PACK | COOPER LIGHTING | LUMARK AXCS2A GRF | 4000k | 2561 | INTEGRATED LED | N/A | UNV | 21 | B1 U0 G0 | Finish by Architect. Provide dusk to dawn control or PE cell per code. | | |

- GENERAL NOTES
- ALL FINISH/COLOR BASED ON CITY OF SEATAC STANDARDS
 - CONFIRM ALL FIXTURE TYPES WITH CITY ENGINEER AND ENSURE FIXTURES INSTALLED DO NOT EXCEED INPUT WATTS INDICATED.
 - EC SHALL BE RESPONSIBLE TO INSTALL ALL CONTROL COMPONENTS AND WIRING PER MANUF'S REQUIREMENTS.
 - PROVIDE CONNECTIONS AND ACCESSORIES AS NEEDED.
 - SEE PLAN FOR OVERALL POLE HEIGHT
 - BUG RATING FROM IES PHOTOMETRICS

| METER CABINET | | | | | | | | | | | | | | | |
|---|-----------------|------|--------|-----|------------------------|-------|------|---|------|----------------------------|------|-----|------|-----------------------|-------|
| VOLTAGE: 240V / 120V 1 Ph/3 W | | | | | MOUNTING: FREESTANDING | | | | | MAINS DEVICE: MCB | | | | | |
| FED FROM: UTILITY XFMR | | | | | OPTIONS: NEMA 3R | | | | | MAIN OCPD RATING: 100 AMPS | | | | | |
| BUS RATING: 100 AMP | | | | | W/LOCKABLE COVER | | | | | AIC RATING: SEE PLANS | | | | | |
| HIGH LEG? No | | | | | # OF SPACES: 12 | | | | | FEED THRU LUGS: No | | | | | |
| NOTES | SERVES | TYPE | LOAD | CKT | LOAD | PHASE | LOAD | CKT | LOAD | CKT | LOAD | CKT | LOAD | SERVES | NOTES |
| | LIGHTING, 204TH | L | 20 / 2 | 1 | 110 | | 292 | 183 | 2 | 20 / 2 | L | | | LIGHTING, 30TH | |
| | | L | | 3 | 110 | 292 | | 183 | 4 | | L | | | | |
| | SPARE | | 20 / 2 | 5 | | | 0 | | 6 | 20 / 2 | | | | SPARE | |
| | | | | 7 | | 0 | | | 8 | | | | | | |
| | SPARE | | 20 / 1 | 9 | | | 540 | 540 | 10 | 20 / 1 | R | | | POLE GFCI RECS, 204TH | |
| | SPARE | | 20 / 1 | 11 | | 900 | | 900 | 12 | 20 / 1 | R | | | POLE GFCI REC, 30TH | |
| PANEL PHASE CONNECTED VA = | | | | | 1,192 | 0 | 832 | 50% OF BREAKER SPACES USED (SPARES NOT COUNTED) | | | | | | | |
| TOTAL PHASE CONNECTED AMPS = | | | | | 10 | 7 | | USED TO SHOW PHASE BALANCE ONLY | | | | | | | |
| LOAD TYPE KEY: | | | | | | | | | | | | | | | |
| SP = SUBPANEL | | | | | | | | | | | | | | | |
| K = KITCHEN LOAD | | | | | | | | | | | | | | | |
| L = LIGHTING LOAD | | | | | | | | | | | | | | | |
| NC = NON-CONTINUOUS LOAD | | | | | | | | | | | | | | | |
| R = RECEPTACLE LOAD | | | | | | | | | | | | | | | |
| CL = CONTINUOUS LOAD | | | | | | | | | | | | | | | |
| H = HVAC LOAD | | | | | | | | | | | | | | | |
| LM = LARGEST MOTOR LOAD | | | | | | | | | | | | | | | |
| EV = ELECTRIC VEHICLE CHARGING | | | | | | | | | | | | | | | |
| USR1 = USER DEFINED | | | | | | | | | | | | | | | |
| UNDER 10KW | | | | | | | | | | | | | | | |
| TOTAL KITCHEN LOAD = 0.00 X 0.65 = 0.00 | | | | | | | | | | | | | | | |
| TOTAL LIGHTING LOAD = 0.58 X 1.25 = 0.73 | | | | | | | | | | | | | | | |
| TOTAL NON-CONT. LOAD = 0.00 X 1.0 = 0.00 | | | | | | | | | | | | | | | |
| TOTAL RECEPTACLE LOAD * = 1.44 X 1.0 = 1.44 | | | | | | | | | | | | | | | |
| TOTAL CONTINUOUS LOAD = 0.00 X 1.25 = 0.00 | | | | | | | | | | | | | | | |
| TOTAL HVAC LOAD = 0.00 X 1.0 = 0.00 | | | | | | | | | | | | | | | |
| LARGEST MOTOR LOAD** = 0.00 X 1.25 = 0.00 | | | | | | | | | | | | | | | |
| ELECTRIC VEHICLE CHARGING = 0.00 X 1.25 = 0.00 | | | | | | | | | | | | | | | |
| USER DEFINED = 0.00 X 1 = 0.00 | | | | | | | | | | | | | | | |
| TOTAL KVA = 2.02 = 2.17 | | | | | | | | | | | | | | | |
| CONNECTED AMPS | | | | | | | | | | | | | | | |
| DEMAND AMPS | | | | | | | | | | | | | | | |
| TOTAL AMPS = 8.43 AMPS = 9.04 AMPS @240/120 1 Ph/3 W (9% OF BUS RATING) | | | | | | | | | | | | | | | |

- NOTES:
- * IF RECEPTACLE LOAD IS OVER 10KW THEN THE AMOUNT OVER 10KW IS COUNTED AS 50% FOR NON-DWELLING UNITS PER 2020 NEC 220.44.
 - ** THE LARGEST MOTOR OF THIS PANEL OR THE LARGEST MOTOR OF ANY SUBPANEL IS TAKEN AT 125%, ANY OTHER MOTORS ARE TAKEN AT 100%.

GENERAL NOTES

- PHOTOMETRIC CALCULATIONS ASSUME A 0.8 LIGHTING LOSS FACTOR
- DRAWINGS ARE SCHEMATIC & NOT ALL SHOWN TO SCALE.
- LIGHTING CONTROL SHALL BE BY FIXTURE MOUNTED PE CELL.
- COORD. W/ GC FOR LIGHT STANDARD FOUNDATION. DESIGN SHALL BE PER WSDOT STANDARD PLAN J-28.30-03. SLIP BASE SHALL BE PER WSDOT STANDARD PLAN J-28.42.
- COLORS AND FINISHES PER CITY OF SEATAC STANDARDS AND DETAILS.
- ALL STREET LIGHTS SHALL BE DARK SKY COMPLIANT FIXTURES.
- PROVIDE AND INSTALL J-BOXES OF THE SIZE AND TYPE AS INDICATED ON PLANS PER WSDOT STANDARD PLAN J-40.10-04. BOXES SHALL BE ADJUSTED TO MATCH FINISH GRADE.
- COORDINATE WITH PSE FOR INSTALLATION OF NEW UTILITY SERVICE, INCLUDING SERVICE TRANSFORMER, FEEDER LATERALS, ETC. TO ACCOMMODATE COMPLETE SYSTEM PER CITY OF SEATAC AND PSE STANDARDS AND SPECIFICATIONS.
- COORDINATE WITH UTILITY PROVIDERS FOR PROPER CLEARANCE BETWEEN FIXTURES AND OVERHEAD LINES.

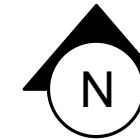
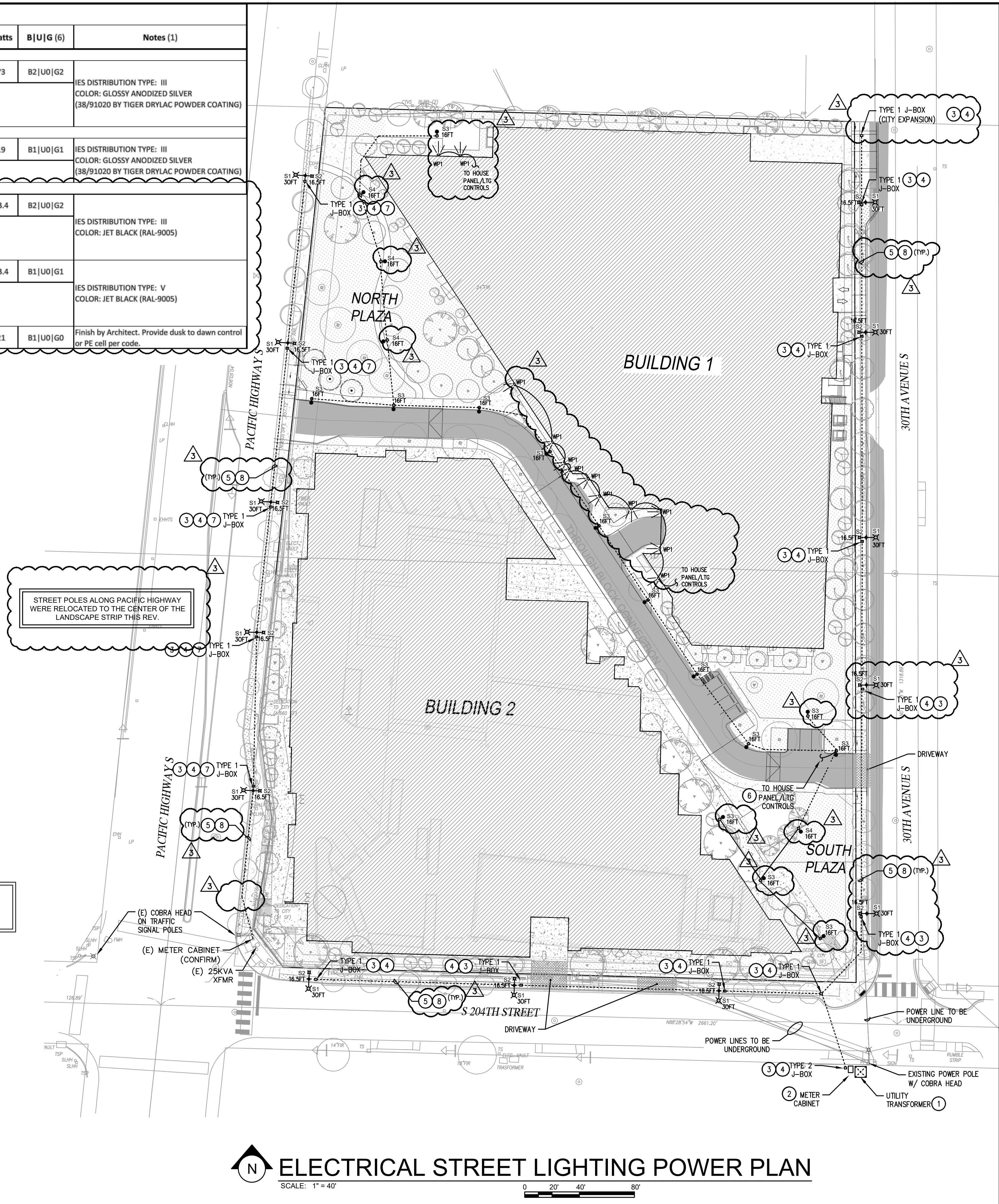
KEY NOTES

- TRANSFORMER: FINAL PSE TRANSFORMER AND LATERAL PROVISIONS TO BE CONFIRMED WITH PSE ENGINEER, PRIOR TO START OF WORK. TRANSFORMER DESIGNED AND INSTALLED BY PSE.
- TYPE D SERVICE CABINET: CABINET DESIGN AND INSTALLATION PER WSDOT STANDARD PLANS J-10.10-04 AND J-10.21-02. PRIOR TO ROUGH-IN, CONFIRM APPROVED LOCATION WITH CITY ENGINEER. COORDINATE WITH PSE FOR METERING REQUIREMENTS.
- ALL EQUIPMENT SHALL BE GROUNDED PER NEC. SEE WSDOT STANDARD PLAN J-60.05-01 FOR GROUNDING DETAILS. CONDUIT GROUND WIRE SHALL BE GREEN THWN OF CODE SIZE.
- JUNCTION BOX: J-BOX DESIGN AND INSTALLATION PER WSDOT STANDARD PLAN J-40.10-04. CONTAINS CONDUCTORS FOR BOTH LIGHT FIXTURE AND POLE-MOUNTED RECEPTACLE.
- CONDUCTORS AND CONDUITS: 2 SETS #8 AWG, EACH SET IN 2" SCH 40 PVC. 1 SET FOR POLE MOUNTED RECS AND 1 SET FOR LIGHT FIXTURES. FIELD VERIFY (E) U/G UTILITIES AND COORDINATE LOCATION.
- SITE LIGHTING: DRIVEWAY LIGHTING TO BE POWERED OFF OF BUILDING HOUSE PANEL. LIGHTS SHALL BE CONTROLLED PER VIA STATE ENERGY CODE INCLUDING DAYLIGHT SHUTOFF AND LIGHTING SETBACK REQUIREMENTS.
- EXISTING POWER: CONNECT NEW STREET LIGHTING FIXTURES TO EXISTING LIGHTING CIRCUIT.
- SPARE CONDUIT: INCLUDE (3) 4" SPARE CONDUIT ALONG PROJECT FRONTAGE IN SAME TRENCH OR ADJACENT TO LIGHTING CONDUIT.

LOAD TRADE - PACIFIC HWY S
REMOVE (E) METAL HALIDE ST LGT: 4 * 200W = 800W
ADD LED ST AND PED LGT: 6 * 73W + 6 * 19W = 552W

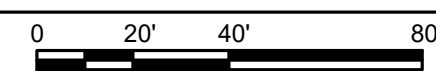
ALL CONDUCTORS FOR STREET LIGHTING SHALL BE LABELED WITHIN JUNCTION BOXES PER CITY OF SEATAC JUNCTION LIGHTING POLICY

LINE LOSS
TOTAL VOLTAGE DROP FROM THE METER CABINET TO THE FURTHEST FIXTURE IS < 1%



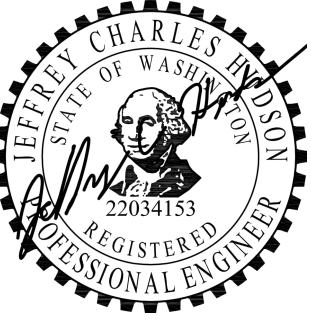
ELECTRICAL STREET LIGHTING POWER PLAN

SCALE: 1" = 40'



RENSCH ENGINEERING

MECHANICAL AND ELECTRICAL BUILDING DESIGN
office: 360-863-6677
111 AVE. C, SUITE 104
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fax: 360-863-3585



PROJECT
NEW CONSTRUCTION
SEATAC APARTMENT SITE LIGHTING
Address
20220 INTERNATIONAL BLVD
SEATAC, WASHINGTON 98198

| REVISIONS | |
|-----------|--------------------------|
| 1 | CITY COMMENTS 08-15-2024 |
| 2 | CITY COMMENTS 08-28-2024 |
| 3 | CITY COMMENTS 10-25-2024 |

DATE
04/24/2024
SHEET TITLE
ELECTRICAL STREET LIGHTING POWER PLAN

PERMIT SET

DESIGNER: Jeff Hudson
CHECKED BY: Jeff Hudson
SHEET

E1.11

ROAD | R-LIGHT 650

R-LIGHT 650

LUMINAIRE'S SPECIFICATIONS

| | |
|------------------|-----------|
| Weight | 19 lbs |
| EPA | 0.33 |
| Protection index | IP66 |
| Materials | Aluminium |



Optical unit & control gear

16 to 48 LED module in Zhaga standard - From 1000 to 13800 lm (see attached EVO2 data sheet for details on power, light intensity and photometry available). Integrated smart driver (control, automatic adjustment, CLO, graduation via voltage variation or DALI). ULR 0% (LED) (ULR: Upward Light Ratio).

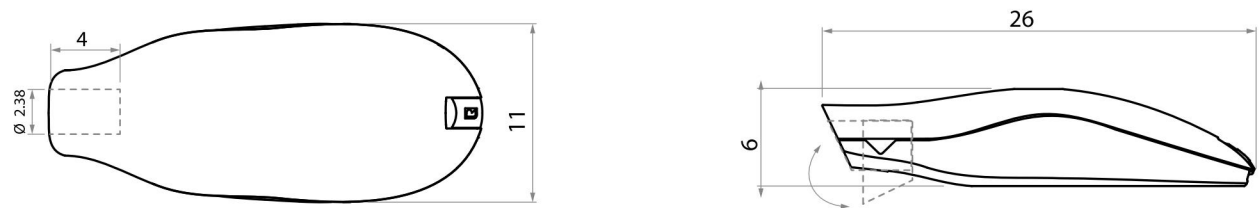
| | |
|------------------|----------------|
| Materials | Tempered glass |
| Electric class | I and II |
| Protection index | IP66 |
| Shock resistance | IK08 |

Operating temperature: -40°F to +95°F (up to +50°F under conditions).

01/25/24 - All informations are subject to change without notice.

www.ragni-lighting.com

Dimensions (in)



Options

- Pre-wiring.
- Surge protection.
- Zhaga socket or Nema socket on top and/ or bottom of the luminaire + smart lighting accessories (detection, communication, photocell, sensors...).
- Ø1.34"/1.65"/1.89" with reducing wedge.
- Automatic disconnection on opening.
- Backlight control.
- NTC sens.

Ecodesign

Luminaire designed in compliance with the environmental criteria of energy efficiency, recyclability, and interoperability. Associate member of the Zhaga consortium, Ragni integrates electronic elements in this product that comply with the Zhaga standard, which ensures its scalability and interoperability. Member of the Global Compact since 2018, Ragni is committed to working towards the 17 Sustainable Development Goals (SDG 11, 12, 13, 15). This luminaire is guaranteed free of hazardous substances. Eligible for the energy savings certificate. This luminaire is compliant with the decree of 12/27/2018 on the prevention, reduction and limitation of light pollution: product configuration to be defined according to the nature of the project.



Applicable standards

IEC/EN 60598-1 / IEC/EN 60598-2-3 / NF EN 60529 / NF EN 62262 / IEC/EN 55015 / IEC/EN 61547 / IEC/EN 61000-3-2 / IEC/EN 61000-3-3 / IEC/EN 62493 / IEC/EN 62031 / IEC/EN 62471 / IEC/EN 61347-1 / IEC/EN 61347-2-13 / NF EN 13201-3 / NF EN 13201-4 / EN 13032-1+A1 & EN 13032-4 / LM79 / NF EN 12081

12/26/2023 - All informations are subject to change without notice.

www.ragni-lighting.com

ROAD | R-LIGHT 650

www.ragni-lighting.com

www.ragni-lighting.com

ROAD | R-LIGHT 800

R-LIGHT

Power and luminous intensity - Luminous output data

| Number of LEDs | 3000K | | | 500 mA | | | 500 mA | | | 700 mA | | |
|----------------|--------------------|--------|--------|--------------------|--------|--------|--------------------|--------|--------|--------------------|--------|--------|
| | F ₁ (W) | Φ (lm) | (lm/W) | P ₁ (W) | Φ (lm) | (lm/W) | P ₁ (W) | Φ (lm) | (lm/W) | P ₁ (W) | Φ (lm) | (lm/W) |
| 16 | 19 | 2375 | 125 | 26 | 3257 | 99 | 36 | 4361 | 122 | | | |
| 32 | 35 | 4749 | 136 | 49 | 6524 | 105 | 69 | 8723 | 127 | | | |
| 48 | 51 | 7124 | 140 | 73 | 9771 | 105 | 103 | 13084 | 128 | | | |

| Number of LEDs | 3000K | | | 500 mA | | | 500 mA | | | 700 mA | | |
|----------------|--------------------|--------|--------|--------------------|--------|--------|--------------------|--------|--------|--------------------|--------|--------|
| | F ₁ (W) | Φ (lm) | (lm/W) | P ₁ (W) | Φ (lm) | (lm/W) | P ₁ (W) | Φ (lm) | (lm/W) | P ₁ (W) | Φ (lm) | (lm/W) |
| S2 | 18 | 19 | 1054 | 13 | 26 | 3437 | 131 | 36 | 4602 | 128 | | |
| 32 | 35 | 5908 | 144 | 49 | 6875 | 141 | 69 | 9203 | 134 | | | |
| S1 | 48 | 51 | 7512 | 148 | 73 | 10312 | 142 | 103 | 13805 | 135 | | |

F₁ (W): data power consumption including driver consumption. Φ (lm): Nominal flux (lm).

Ordering Information- Catalog Number

| Fixture | Model | # LED | CCT (K) | Drive Current | Distribution | Line Voltage | Mounting | Fixture Color |
|---------|-------|-------|-------------|---------------|--------------|--------------|-------------------------|---------------|
| RL1 | 650 | 16 | 3 - (3,000) | 35-1350 | T1 | 1-120-277V | TL- (Top/Lateral Mount) | BLK- (Black) |
| | 800 | 32 | 4 - (4,000) | 50-1500 | T2 | 3- (347-480) | | BRZ- (Bronze) |
| | | 48 | | 70 - (700) | T3 | | | SLV- (Silver) |
| | | | | | T4 | | | WHT- (White) |
| | | | | | T5 | | | (RAL #) |

01/25/24 - All informations are subject to change without notice.

www.ragni-lighting.com

PROJECT

NEW CONSTRUCTION

SEATAC APARTMENT SITE LIGHTING

Address

20220 INTERNATIONAL BLVD

SEATAC, WASHINGTON 98198

REVISIONS

| | | |
|---|---------------|------------|
| 1 | CITY COMMENTS | 08-15-2024 |
| 2 | CITY COMMENTS | 08-28-2024 |
| 3 | CITY COMMENTS | 10-25-2024 |

DATE

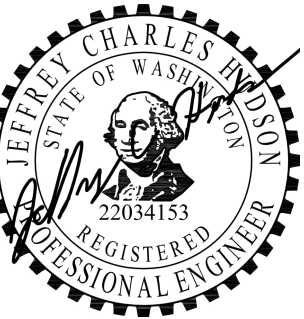
SHEET TITLE

ELECTRICAL
STREET LIGHTING
SPECS

PERMIT SET

DESIGNER: Jeff Hudson
CHECKED BY: Jeff Hudson
SHEET

E1.20



RENSCH ENGINEERING

MECHANICAL AND ELECTRICAL BUILDING DESIGN

office: 360-863-6677

fax: 360-863-3565

111 AVE. C, SUITE 104

SNOHOMISH, WA 98290



Domia CY55P1B
Approval – Specification

Project: _____ Order: _____
Qty: _____ Luminaire: CY55P1B-FGF-T3MHS-P50-40K-MVOLT-BK Type: _____

Housing Module: Round bell-shaped dome with decorative flange made of cast A356 aluminum. A utility fitter for the driver module consisting of an aluminum extrusion is welded to the top of the housing module. A cast-aluminum tenon cap is mechanically assembled on top of the utility fitter and is fitted with a vertical tenon of Ø 1 7/8" (4.7cm) O.D. by 4" (10cm) long with a 0.200" (0.5cm) wall. The utility fitter's door offers tool free access to the driver module. The luminaire is suspended from a mounting with a 2 3/8" (6cm) outside Ø by 5 1/2" (14mm) minimum length, and 0.156" (0.4cm) wall tenon by means of set screws and a locking bolt.

Lens Module: Cast A356 aluminum frame accepts the optical module and is mechanically fixed to the housing module by a hinge and quarter-turn latch that provides tool-free access to the driver. The luminaire is available without a lens or with a flat lens inserted in the lens module.

Optical Module: The molded A384 aluminum heat sink is designed to minimize the temperature of the LEDs, increasing their longevity and efficiency. The optical module is mechanically assembled to the heat-sink for easy replacement. The optical module is fully IP66 thanks to a molded silicone gasket. The high efficiency Orion LED optical engine is mechanically assembled on the heat sink. The lifetime of the LEDs is 100,000 hours. It is based on the LM-80 test and extrapolated with TM-21. This data is calculated when 50% of the LEDs produce 70% of their initial luminous flux (L70). The minimum color rendering index (CRI) is 70. The optical acrylic lens are designed to illuminate only where needed while achieving excellent uniformity with maximum spacing. The optical acrylic lens are sealed on the LED board. The available light distribution types are T1, T1A, T1AHS, T2, T2HS, T2M, T2MHS, T3, T3M, T3HS, T3MHS, T4, T4HS, T5. A white decorative acrylic protection plate is mechanically assembled under the optical module with the No Lens (NL) option.

Driver module: Class 1 (P70 à P110) or Class 2 (P10 à P60) power supply is mechanically attached to the heat sink and is replaceable without tools. Primary tension is of 120-480VAC Volts, 50/60Hz, THD max 20% with a high-power factor of 90%. Operating temperature is -40°F (-40°C) to 130°F (55°C), ROHS compliant. Assembled with pull-out connectors. Complete with 10kV/5kA or 20kV/10kA tripler surge protection for live-MALT, live-neutral and neutral-MALT lines according to IEEE/ANSI C82.41 2002 C. The regulator offers an output of 0-10 Volts.

Wiring / Hardware: Type TEWT 14-7 AWG, 12" (30.5cm) minimum exceeding luminaire. All electrical connections between the modules are provided with quick-disconnect connectors for easy maintenance. All outside accessible hardware is stainless steel.

Color: All Cyclone colors are available in textured (TX) or smooth (SM) finish. A durable polyester powder coating is applied and meets the AAMA 2604 requirements (5 years exposure to all weather conditions). The finish meets the ASTM G7, B117, D1654 and D2247 requirements relative to salt spray and humidity resistance. **Cyclone recommends the textured finish for this product.**

Warranty: 5-year limited warranty. Complete warranty terms located at:
<https://www.cyclonelighting.com/assets/legal/Cyclone-Sales-TermsConditions-en.pdf>

Stamp/Approval: _____ Page 1 of 2
Name: _____ Date: _____

Cyclone Lighting: 2175 Des Entreprises Blvd, Terrebonne (QC) Canada J6Y 1W9 www.cyclonelighting.com Rev. 2023/07
Phone: 1-866-436-5500 - info@cyclonelighting.com © 2023 Acuity Brands Lighting, Inc. All Rights Reserved.



Domia CY55P1B
Approval – Specification

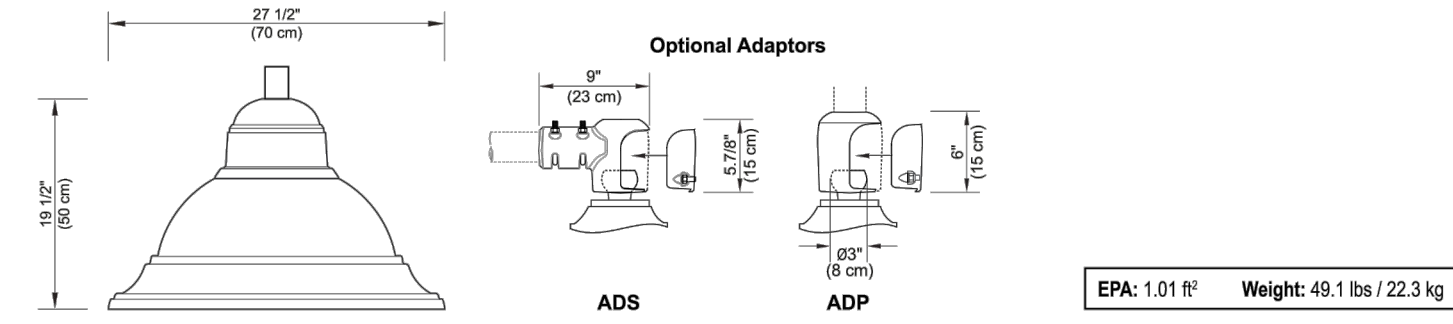
Project: _____ Order: _____
Qty: _____ Luminaire: CY55P1B-FGF-T3MHS-P50-40K-MVOLT-BK Type: _____

Ordering Code

| Model | Lens | Distribution | Performance Package | CCT | Volts | Surge Protector |
|---------|------|--------------------|---------------------|-----|-------|-----------------|
| CY55P1B | FGF | T3MHS | P50 | 40K | MVOLT | |
| CY55P1B | FGC | Flat Glass Clear | T1 | 30K | 3000K | 10KV 10kV/5kA |
| | FGF | Flat Glass Frosted | T1A | 40K | 4000K | 20KV 20kV/10kA |
| | NL* | No Lens | T1AHS | | | |
| | | | T2 | | | |
| | | | T2HS | | | |
| | | | T2M | | | |
| | | | T2MHS | | | |
| | | | T3 | | | |
| | | | T3HS | | | |
| | | | T3M | | | |
| | | | T3MHS | | | |
| | | | T4 | | | |
| | | | T4HS | | | |
| | | | T5 | | | |

| Adaptor | Photocell | Dimming | Color | Texture | Pre-finish |
|---|-----------|--|-------|---------|------------|
| Fitted with a vertical tenon of Ø 1 7/8" (4.7cm) O.D. and 0.203" (0.5cm) wall | PC | Button type Photocell | BK | TX | MG |
| ADS Side Mount Adaptor | PT | Photocell W7-PIN receptacle (ANSI C136.41) | SI | SM | MG |
| ADP Suspended Mounting Adaptor | PX | Shorting cap W7-PIN receptacle (ANSI C136.41) | BZ | | |
| | PTL | Long life photocell W7-PIN receptacle (ANSI C136.41) | BG | | |
| | PTDR* | W7-PIN receptacle (ANSI C136.41) | GM | | |

* Backward optic: The Orion light engine features 180° orientable optic that can be customized as needed. This makes it a better option to control two distribution types in a single light engine, simultaneously lighting a road and a blue path or sidewalk, for instance. Contact factory for more information.



Stamp/Approval: _____ Page 2 of 2
Name: _____ Date: _____

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THIS FIXTURE IS USED ON THE PRIVATE DRIVEWAY AND COMMON AREAS, NOT THE CITY FRONTAGES. SEE RENCH RESPONSE LETTER DATED 8/16/24. CONTACT SEATAC ENGINEER CALEB SLATER FOR CLARIFICATION.



Photometric Data Tables
Domia - CY55P1B-FGF (Suspended - Flat Glass Frosted)

| Performance Package | Watts System | Optic | 30K | | | | | 40K | | | | | LLD @ 25C | | | | |
|---------------------|--------------|-------|--------------|-----------------|-----|----|-------|--------------|-----------------|-----|---|-------|-----------|-----------|-----------|------------|------|
| | | | Lumen Output | Efficacy (LM/W) | B | U | G | Lumen Output | Efficacy (LM/W) | B | U | G | 25K Hours | 50K Hours | 75K Hours | 100K Hours | |
| P10 | 22.8 | T1 | T1 | 2860 | 125 | 1 | 0 | 1 | 3003 | 132 | 1 | 0 | 1 | 0.98 | 0.98 | 0.97 | 0.97 |
| | | | T1A | 2822 | 124 | 1 | 0 | 1 | 2963 | 130 | 1 | 0 | 1 | | | | |
| | | | T2 | 2816 | 115 | 1 | 0 | 1 | 2747 | 120 | 1 | 0 | 1 | | | | |
| | | | T2M | 2705 | 119 | 1 | 0 | 1 | 2840 | 125 | 1 | 0 | 1 | | | | |
| | | | T3 | 2564 | 112 | 1 | 0 | 1 | 2692 | 118 | 1 | 0 | 1 | | | | |
| | | | T3M | 2545 | 112 | 1 | 0 | 1 | 2673 | 117 | 1 | 0 | 1 | | | | |
| | | | T4 | 2508 | 110 | 1 | 0 | 1 | 2633 | 116 | 1 | 0 | 1 | | | | |
| | | | T5 | 2380 | 113 | 1 | 0 | 1 | 2709 | 119 | 1 | 0 | 1 | | | | |
| | | | T1A | 4035 | 121 | 2 | 0 | 1 | 4237 | 127 | 2 | 0 | 1 | | | | |
| | | | T2 | 3741 | 112 | 1 | 0 | 1 | 3928 | 118 | 1 | 0 | 1 | | | | |
| | | | T2M | 3667 | 116 | 1 | 0 | 1 | 4060 | 122 | 1 | 0 | 1 | | | | |
| | | | P20 | 33.4 | T1 | T1 | 3665 | 110 | 1 | 0 | 1 | 3848 | 115 | | | | |
| T1A | 3640 | 109 | | | | 1 | 0 | 1 | 3852 | 114 | 1 | 0 | 1 | | | | |
| T2 | 3585 | 107 | | | | 1 | 0 | 1 | 3764 | 113 | 1 | 0 | 1 | | | | |
| T2M | 3685 | 110 | | | | 1 | 0 | 1 | 3872 | 116 | 1 | 0 | 1 | | | | |
| T3 | 5373 | 120 | | | | 2 | 0 | 1 | 5537 | 126 | 2 | 0 | 1 | | | | |
| T3A | 5204 | 119 | | | | 2 | 0 | 1 | 5464 | 125 | 2 | 0 | 1 | | | | |
| T4 | 4824 | 110 | | | | 1 | 0 | 1 | 5065 | 116 | 1 | 0 | 1 | | | | |
| T5 | 4686 | 114 | | | | 2 | 0 | 1 | 5237 | 120 | 2 | 0 | 1 | | | | |
| T1A | 5204 | 119 | | | | 2 | 0 | 1 | 5464 | 125 | 2 | 0 | 1 | | | | |
| T2 | 4824 | 110 | | | | 1 | 0 | 1 | 5065 | 116 | 1 | 0 | 1 | | | | |
| T3 | 4727 | 108 | | | | 1 | 0 | 1 | 4963 | 113 | 1 | 0 | 1 | | | | |
| P30 | 43.8 | T1 | | | | T1 | 4684 | 107 | 1 | 0 | 1 | 4929 | 113 | 1 | 0 | 1 | 0.98 |
| | | | T1A | 4623 | 106 | 1 | 0 | 1 | 4854 | 111 | 1 | 0 | 1 | | | | |
| | | | T2 | 4756 | 109 | 2 | 0 | 1 | 4994 | 114 | 2 | 0 | 1 | | | | |
| | | | T2M | 4413 | 116 | 2 | 0 | 2 | 4734 | 122 | 2 | 0 | 2 | | | | |
| | | | T3 | 6329 | 115 | 2 | 0 | 1 | 6645 | 121 | 2 | 0 | 1 | | | | |
| | | | T4 | 5867 | 106 | 2 | 0 | 1 | 6160 | 112 | 2 | 0 | 1 | | | | |
| | | | T5 | 6265 | 110 | 2 | 0 | 1 | 6365 | 116 | 2 | 0 | 1 | | | | |
| | | | T1A | 5749 | 104 | 2 | 0 | 1 | 6036 | 110 | 2 | 0 | 1 | | | | |
| | | | T2M | 5705 | 104 | 2 | 0 | 1 | 5994 | 109 | 2 | 0 | 1 | | | | |
| | | | T3 | 5623 | 102 | 2 | 0 | 1 | 5804 | 107 | 2 | 0 | 1 | | | | |
| | | | T4 | 5785 | 105 | 2 | 0 | 1 | 6074 | 110 | 2 | 0 | 1 | | | | |
| | | | P40 | 55.1 | T1 | T1 | 7315 | 115 | 3 | 0 | 2 | 7681 | 121 | 3 | 0 | 2 | |
| T1A | 7218 | 114 | | | | 2 | 0 | 2 | 7379 | 119 | 2 | 0 | 2 | | | | |
| T2 | 6892 | 105 | | | | 2 | 0 | 1 | 7027 | 111 | 2 | 0 | 1 | | | | |
| T2M | 6913 | 109 | | | | 2 | 0 | 2 | 7265 | 114 | 2 | 0 | 2 | | | | |
| T3 | 6557 | 103 | | | | 2 | 0 | 1 | 6885 | 108 | 2 | 0 | 1 | | | | |
| T4 | 6511 | 103 | | | | 2 | 0 | 2 | 6837 | 108 | 2 | 0 | 2 | | | | |
| T5 | 8413 | 101 | | | | 2 | 0 | 1 | 8734 | 106 | 2 | 0 | 1 | | | | |
| T1A | 6558 | 104 | | | | 2 | 0 | 1 | 6828 | 109 | 2 | 0 | 1 | | | | |
| T2 | 6767 | 115 | | | | 3 | 0 | 2 | 7025 | 120 | 3 | 0 | 2 | | | | |
| T3 | 6636 | 113 | | | | 3 | 0 | 2 | 6920 | 119 | 3 | 0 | 2 | | | | |
| T4 | 8835 | 105 | | | | 2 | 0 | 2 | 9302 | 110 | 2 | 0 | 2 | | | | |
| P50 | 63.5 | T1 | | | | T1 | 9226 | 108 | 2 | 0 | 2 | 9700 | 114 | 2 | 0 | 2 | 0.98 |
| | | | T1A | 8765 | 103 | 2 | 0 | 2 | 9193 | 108 | 2 | 0 | 2 | | | | |
| | | | T2 | 8694 | 102 | 2 | 0 | 2 | 9129 | 107 | 2 | 0 | 2 | | | | |
| | | | T3 | 8663 | 100 | 2 | 0 | 2 | 8891 | 105 | 2 | 0 | 2 | | | | |
| | | | T4 | 8809 | 103 | 3 | 0 | 2 | 9249 | 108 | 3 | 0 | 2 | | | | |
| | | | T5 | 12714 | 115 | 3 | 0 | 3 | 13350 | 120 | 3 | 0 | 3 | | | | |
| | | | T1A | 12545 | 113 | 3 | 0 | 2 | 13172 | 119 | 3 | 0 | 2 | | | | |
| | | | T2 | 11631 | 105 | 3 | 0 | 2 | 12213 | 110 | 3 | 0 | 2 | | | | |
| | | | T3 | 12025 | 108 | 3 | 0 | 2 | 12626 | 114 | 3 | 0 | 2 | | | | |
| | | | T4 | 11397 | 103 | 3 | 0 | 2 | 11967 | 108 | 3 | 0 | 2 | | | | |
| | | | T5 | 11317 | 102 | 3 | 0 | 2 | 11683 | 107 | 3 | 0 | 2 | | | | |
| | | | P60 | 85.3 | T1 | T1 | 11446 | 101 | 3 | 0 | 2 | 11703 | 108 | 3 | 0 | 2 | |
| T1A | 11468 | 103 | | | | 3 | 0 | 2 | 12041 | 109 | 3 | 0 | 2 | | | | |
| T2 | 14386 | 111 | | | | 3 | 0 | 3 | 15105 | 116 | 3 | 0 | 3 | | | | |
| T3 | 14195 | 109 | | | | 3 | 0 | 3 | 14905 | 115 | 3 | 0 | 3 | | | | |
| T4 | 13160 | 101 | | | | 3 | 0 | 2 | 13818 | 107 | 3 | 0 | 2 | | | | |
| T5 | 13607 | 105 | | | | 3 | 0 | 3 | 14287 | 110 | 3 | 0 | 3 | | | | |
| T1A | 13996 | 99 | | | | 3 | 0 | 2 | 13541 | 104 | 3 | 0 | 2 | | | | |
| T2 | 13607 | 105 | | | | 3 | 0 | 3 | 14287 | 110 | 3 | 0 | 3 | | | | |
| T3 | 12612 | 99 | | | | 3 | 0 | 3 | 13445 | 104 | 3 | 0 | 3 | | | | |
| T4 | 12612 | 97 | | | | 3 | 0 | 2 | 13243 | 102 | 3 | 0 | 2 | | | | |
| T5 | 12576 | 100 | | | | 3 | 0 | 2 | 13625 | 105 | 3 | 0 | 2 | | | | |