

# PROJECT MANUAL

## PROJECT NAME AND LOCATION:

ASPEN RIDGE  
EXTERIOR LIGHTING

Contract Number: DW2303431

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# INVITATION TO BID

King County Housing Authority (KCHA) will accept bids from qualified general contractors to furnish labor, materials and necessary equipment to perform the following:

**SCOPE OF WORK:** Work includes, but is not limited to, installation of new and retrofitting existing exterior LED lighting fixtures, solar based LED floodlights, and other tasks as described in the bid documents.

**PROJECT MANUAL DISTRIBUTION:**

Address: King County Housing Authority, 600 Andover Park, Seattle, WA 98188  
Distribution: \* Documents are available for download on KCHA's website at <http://www.kcha.org/business/construction/open/>

**PRE-BID CONFERENCE:**

Date and Time: 10/10/2023 at 10:00 A.M.  
Jobsite Address: Aspen Ridge Apartments, 12601 68th Ave. S., Seattle, WA 98178.  
In Addition: Contractors are strongly encouraged to attend the Pre-Bid Conference. Failure to attend the Conference will not relieve the Contractor of any responsibility for information provided at that time.  
For Questions: Questions pertaining to the bid are to be sent via email to [MichelleJ@kcha.org](mailto:MichelleJ@kcha.org) no later than seven (7) calendar days prior to bid due date. All responses shall be in the form of Addenda.  
Posting: Addenda will be posted on KCHA's website.

**BIDS ARE DUE:**

Time: **2:00 pm**  
Date: **October 26, 2023**

Submittal Process: \* Bids may be sent to Michelle Jackson via email to [MichelleJ@kcha.org](mailto:MichelleJ@kcha.org).

Process: All Bids must be received by KCHA no later than the above due date and time. No Bids will be accepted after that date and time.

**BID GUARANTEE:** Not Required.

**PERFORMANCE AND PAYMENT BONDS:** As a condition of award Performance and Payment bonds for 100% of the Contract Award Amount shall be furnished for the Work. On contracts of one hundred fifty thousand dollars (\$150,000.00) or less, at Contractors option the requirement may be waived in lieu of an additional 5% (total 10%) retainage.

KCHA is an Equal Employment Opportunity Employer and strongly encourages minority-owned and women-owned businesses, socially and economically disadvantaged businesses, and small businesses to submit bids or to participate as subcontractors and suppliers on KCHA Contracts.

KCHA reserves the right to reject any or all bids or to waive any informality in the bidding. No bid shall be withdrawn for a period of 60 calendar days subsequent to the opening of the bids without the written consent of KCHA.

**CONTACT PERSON:** Michelle Jackson at [MichelleJ@kcha.org](mailto:MichelleJ@kcha.org)

# SPECIFICATIONS

**Aspen Ridge Apartments**  
**Exterior Lighting**

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## SECTION 01100 - SUMMARY

### PART 1 - GENERAL

#### 1.1 WORK COVERED BY CONTRACT DOCUMENTS

##### A. Project Identification: Exterior Lighting

1. Project Location: Aspen Ridge Apartments, 12601 68<sup>th</sup> Avenue South, Seattle WA 98178
2. The Work consists of, but is not limited to:
  - a. Installation of new and retrofitting existing exterior LED lighting fixtures, solar based LED floodlights, astronomical timeclocks, LED based light bollards, and all related wiring, conduits, controls, baffles, lamps and electrical panel connections to provide a complete exterior lighting system throughout the property per the plans and specifications.
  - b. Includes all labor, materials, equipment, subcontracts, permits, fees and all work to comply with all electrical code and city, state municipal requirements.
  - c. Schedule and attend all permit inspections and respond in a timely manner to any comments or corrections from inspectors.
  - d. Includes all fasteners, attachments, trenching, concrete foundations, and ancillary items required to perform the installations.
  - e. Repair any damage caused by the installation to structures, finishes, and restore to original condition with matching materials and finishes.
  - f. Remove and dispose of all existing items to be replaced and all packaging, waste, debris or trash related to the installation at the end of each work day and at the end of the project.
  - g. Maintain all electrical service to the buildings and tenants and coordinate with the property management staff to provide advance notification of any temporary service interruption or any impacts to tenant access including walkways, entrances parking or other property facilities.
  - h. Follow and fulfill all other terms and conditions as described in these specifications.

#### 1.2 WORK SEQUENCE

- A. The Work shall be completed in 60 calendar days from the date of Notice to Proceed.
  1. Contractor shall be entitled to an equitable adjustment in the Contract Time for changes in the time of performance directly attributable to severe weather conditions. For additional days to be considered the Contractor shall notify the Owner no later than 8:00 a.m. on each day of a severe weather condition.
- B. Contractor will submit written schedule outlining dates and duration of job including:
  1. Construction start date

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2. Schedule for work on each building land site location.
3. Anticipated final completion date

#### 1.3 LIQUIDATED DAMAGES

- A. Liquidated damages will be assessed for each calendar day that the Contractor exceeds the time for completion in the amount of \$250.

#### 1.4 WORK RESTRICTIONS

##### A. Use of the Premises

1. Use of Site: Limit use of premises to work areas. Do not disturb portions of site beyond areas in which the Work is indicated.
  - a. Owner Occupancy: Allow for resident occupancy of site. Owner will occupy site and existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate resident usage.
  - b. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to residents and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
2. Use of Existing Building: Maintain existing building in a weathertight condition throughout construction period. Repair damage caused by construction operations. Protect property, the buildings and occupants during construction period.

##### B. Occupancy Requirements

1. Full Owner Occupancy: Owner and tenants will occupy site and existing buildings during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner and tenant usage. Perform the Work so as not to interfere with Owner's operations.

#### 1.5 PERMITS

- A. Contractor is responsible for obtaining and paying for any required permits and for the coordination of all required inspections.
- B. Prepare and file necessary plans, prepare documents and obtain necessary approvals of Authorities Having Jurisdiction (AHJ). Obtain required certificates of inspection for work and deliver to the Owner before request for acceptance and final payment for the work.

#### 1.6 CONTRACT MODIFICATION PROCEDURES

- A. Owner-Initiated Proposal Requests: Architect and/or owner will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract



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Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change.
- C. Construction Change Directive: Owner may issue a Construction Change Directive instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order for later negotiations on cost.
- D. Documentation: Maintain detailed records required for a change order to be approved and provide evidence of the following:
  - 1. Wage Rates
  - 2. Hours worked for each trade
  - 3. Materials
  - 4. Equipment
- E. Do not perform change order Work without approval of the Owner. Work performed without approval will not be compensated.

#### 1.7 PAYMENT PROCEDURES

- A. Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
- B. Each Application for Payment shall be consistent with previous applications and payments.
- C. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
- D. Waivers of Lien: With each Application for Payment, submit conditional waivers lien from every entity that is lawfully entitled to file a lien arising out of the Contract and related to the Work covered by the payment.
  - 1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
  - 2. When an application shows completion of an item, submit final or full waivers.
  - 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
    - a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
- E. Final Payment Application: Submit final Application for Payment with releases and close out supporting documentation.

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### 1.8 PROJECT MEETINGS

- A. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner, but no later than 7 days after execution of the Agreement. If Notice to Proceed (NTP) is delayed for permit processing or ordering long lead times the Preconstruction Conference may be scheduled to take place no later 7 days before NTP.
- B. Progress Meetings: Conduct progress meetings at weekly intervals at a mutually agreeable time to include the owner and property management staff.

### 1.9 SUBMITTALS

- A. Provide product data for each element of construction and type of product or equipment for approval by Owner.
- B. Subcontract list. Prepare written information that demonstrates capabilities and experience of firm or persons.
- C. Contractors project manager and/or supervisors. Prepare written information that demonstrates capabilities and experience of firm or persons.
  - 1. The Owner will review subcontractors and assigned staff and will accept or reject based on experience or qualifications.
- D. Follow Washington Industrial Safety and Health Act (WISHA) regional directives and provide a site-specific safety program that will require an accident prevention and hazard analysis plan for the contractor and each subcontractor on the work site. The Contractor shall submit a site-specific Accident Prevention Program (APP) to the Owner's representative prior to the initial scheduled construction meeting.

### 1.10 TEMPORARY FACILITIES

- A. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.
- B. Barricades, Warning Signs and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against.
- C. Use of Owner's existing electric power and water service will be permitted, as long as equipment is maintained in a condition acceptable to Owner.
- D. Four parking spaces shall be available to the contractor for storage containers and parking. Do not park in marked tenant spaces.

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### 1.11 CONSTRUCTION WASTE MANAGEMENT

- A. Regulatory Requirements: Conduct construction waste management activities in accordance with State of Washington RCW 39.04.13, and all other applicable laws and ordinances.
- B. Performance Requirements
  - 1. General: Where possible divert CDL waste from the landfill by one, or a combination of the following activities: Salvage, Reuse, Source-Separated CDL Recycling, Co-mingled CDL Recycling.
- C. Removal of Construction Waste Management
  - 1. Remove CDL waste materials from project site on a regular basis. Do not allow CDL waste to accumulate on-site.
  - 2. Transport CDL waste materials off Owner's property and legally dispose of them.
  - 3. Burning of CDL waste is not permitted.

### 1.12 EXECUTION REQUIREMENTS

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.

### 1.13 CUTTING AND PATCHING

- A. Quality Assurance
  - 1. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
  - 2. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Owner's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- B. Performance
  - 1. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
  - 2. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.

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- a. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
- b. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

### 1.14 CLOSEOUT PROCEDURES

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
  1. Schedule a night time site meeting with the owner and designer to verify lighting systems function properly and are adjusted per the plans and specifications. Make any corrections or adjustments as needed.
  2. Prior to acceptance of the work at each building, clean project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
- B. Prior to final acceptance and final payment, Contractor shall submit a written warranty covering labor and materials for a period of one (1) year from final completion.

PART 2 - PRODUCTS (Not Used) See attached plans and specifications

PART 3 - EXECUTION (Not Used) See attached plans and specifications.

END OF SECTION 01100

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### SECTION 01732 - SELECTIVE DEMOLITION

#### PART 1 - GENERAL

##### 1.1 SUMMARY

- A. This Section includes demolition, and removal and replacement.
  - 1. Selected portions of a building or structure to be demolished include but are not limited to:
    - a. Lighting fixtures, conduits, wiring, controllers, junction boxes, electrical panel components.
    - b. Siding, trim, soffits, fascia, ground cover, shrubs, top-soil.
    - c. Drill, cut, excavate, remove only as necessary to perform the work.
- B. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.

##### 1.2 PROJECT CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted. Provide not less than 72-hours' notice to Owner of activities that will affect Owner's operations.
- B. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities.
  - 1. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from authorities having jurisdiction.
- C. Owner assumes no responsibility for condition of areas to be selectively demolished.
  - 1. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- D. Hazardous Materials: Aspen Ridge Apartments were originally constructed in the 1980's.
  - 1. It is not expected that hazardous materials will be encountered in the Work.
  - 2. If other materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Owner.
- E. Storage or sale of removed items or materials on-site will not be permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

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### PART 2 - PRODUCTS

#### 2.1 REPAIR MATERIALS

- A. Use repair materials identical to existing materials.
  - 1. If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
  - 2. Use materials whose installed performance equals or surpasses that of existing materials.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

#### 3.2 UTILITY SERVICES

- A. Existing Utilities: Maintain services indicated to remain and protect them against damage during selective demolition operations.

#### 3.3 PREPARATION

- A. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
  - 1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
  - 2. Erect temporary protection, such as walks, fences, railings, canopies, and covered passageways, where required by authorities having jurisdiction.
  - 3. Protect existing site improvements, appurtenances, and landscaping to remain.

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### 3.4 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations.
- B. Removal and installation of new items: Remove and install items as soon as possible to prevent unsafe conditions. Close up all openings at the end of each day by completing the window or door installations. Do not remove existing windows or doors if unable to complete the installation by the end of the work day.

### 3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

END OF SECTION 01732

KCHA - Aspen Ridge Apartments  
Luminaire Schedule

8/21/2023

Type	Quantity	Description	Manufacturer/Model Number	Light Source, Color & CRI	Maximum Luminaire Wattage	Mounting	Notes	Control Type
EL1	4	New wall mounted cutoff security luminaire at rear of Bldgs 1 thru 4. Wide distribution, cutoff style optics, B1-U0-G1 B.U.G. rating. 6,000 lumen output, max.	Cooper Lumark XTOR6B-Y-BZ; RAB Lighting SLIM17FAFC40; or approved alternate	3000K LED, 70CRI	60	Wall		ND
EL2	4	New LED based light bollard, 8" diameter x 42" tall with integral driver and symmetric (Type V) optics. Integrated louvers or redirecting cone to shield direct view of light source. Extruded aluminum bollard with die cast louver or specular redirect cone and acrylic len. Extruded aluminum top cap assembly. B1-U2-G1 B.U.G. rating (max). 900 lumens max. Vandal resistant construction. Dark Bronze polyester powdercoat finish.	Kim Lighting VRB1-LED-20L 3K UV-DBS; Acuity Lithonia KBC816C35030KSYMMVOLTDDBXD; or approved alternate.	3000K LED, 70CRI	30	Ground	Verify final location along the sidewalk with designer and owner prior to installation.	ND
EX1	3	Replace existing wall mounted vapor jar luminaire with new wall mounted LED with downward shielding. Die cast aluminum housing with ribbed glass vapor jar, die cast aluminum guard and 8" diameter shield. Integral LED driver and LED source.	Barnlight BLE-W-CGG-600-FS-TGG-600-RIB-NA-LED16.8-3000K; or approved alternate	3000K LED, 80CRI (min)	20	Wall		ND
EX2	2	Retrofit existing miniature recessed downlight with new LED based kit with driver, trim and lens. Remodeling based LED driver and trim package, clear-diffuse optics, frame mounted or integral LED driver, wide distribution. White trim flange.	Signify Lightolier 4RR/z4rdl10930wOCDZ10U; Acuity Lithonia LBR4 AL02 SWW1 AR LSS MWD MVOLT UGZ QDS; or approved alternate	3000K LED, 80CRI (min)	13	Recessed		ND
EX3	10	Replace existing wall mounted HID based wall pack with LED Type 3, wide distribution, short throw, cutoff luminaire. Die cast housing with 6" arm and wall mounting bracket. Integral LED driver. 15,500 lumens max output. B3-U0-G3 B.U.G. rating. Dark bronze powercoat finish.	Cooper Invue VXM-E05-LED-E1-T3-BZ-7030/MA1054-BZ; Acuity Lithonia RSX1 LED P4 30K R3 MVOLT WBA DDBXD; or approved alternate	3000K LED, 70CRI	133	Wall		ND
EX3a	3	Same as EX3 except with Type 2, wide distribution optics	Cooper Invue VXM-E05-LED-E1-T2-BZ-7030/MA1054-BZ; Acuity Lithonia RSX1 LED P4 30K R2 MVOLT WBA DDBXD; or approved alternate	3000K LED, 70CRI	133	Wall		ND
EX4	1	Replace existing ground mounted halogen sign light with LED based sign light. Die cast aluminum housing with Dark Bronze polyester powdercoat finish, tempered glass lens and watertight gasketing. Adjustable ratched knuckle. 40 degree flood optics and cutoff visor. Integral LED driver, 2200 lumen output.	FC Lighting FCF1105-UNV-3K-CRI90-22L-BRE-40-LD-CV5-KM; Cooper Lumark TCRL20MBK7030 or approved alternate	3000K LED, 70CRI	22	Ground	Verify how the luminaire is currently being controlled.	ND
EX5	22	Replace existing CFL based vandal resistant exterior canopy luminaire with LED based enclosed, vandal resistant luminaire. 10" Round or 10" Square surface mount luminaire with Die cast aluminum housing with polyester powdercoat Dark Bronze finish, stainless steel tamper-resistant hardware, and high impact polycarbonate or acrylic lens. Integral LED driver.	Paramount Lighting PMVR10RO-UNV-3KCR185-36L BRE LED; Current Beacon LSQ1-25-3K7-UNV-DBS; or approved alternate	3000K LED, 70CRI	36	Surface		ND



Type	Quantity	Description	Manufacturer/Model Number	Light Source, Color & CRI	Maximum Luminaire Wattage	Mounting	Notes	Control Type
EX6	44	Replace existing CFL based vandal resistant exterior canopy luminaire with LED based enclosed, vandal resistant luminaire. 10" Round or 10" Square surface mount luminaire with Die cast aluminum housing with polyester powdercoat Dark Bronze finish, stainless steel tamper-resistant hardware, and high impact polycarbonate or acrylic lens. Integral LED driver.	Paramount Lighting PMVR10RO-UNV-3KCR185-36L BRE LED; Current Beacon LSQ1-25-3K7-UNV-DBS; or approved alternate	3000K LED, 70CRI	36	Surface		ND
EX7	1	Replace existing HID based decorative acorn lensed post top luminaire with new LED based decorative luminaire with symmetric (Type V) optics. Die cast fitter with black finish, clear, textured acrylic lens. Integral AC LED chip on board array, 2500 lumen output (max).	Wave Lighting 8017CL-LR22W-Black; ELA Lighting RIV/24PT*H5 23LED30120 SA DB; or approved alternate	3000K LED, 80CRI	45	Post	Verify the diameter of the existing lamp post prior to ordering replacement luminaire.	ND
EX8	1	Replace existing LED flood light with LED wall mounted cutoff luminaire. Wide distribution, cutoff style optics, B2-U0-G1 B.U.G. rating. 7,800 lumen output, max.	Cooper Lumark XTOR8B-Y-BZ; RAB Lighting SLIM17FAFC60; or approved alternate	3000K LED, 70CRI	85	Wall		ND
EX8 - REMOVE	2	Remove existing LED flood light and provide blank cover for J-box				Wall	Provide paintable blank cover. Do not abandon circuit at this time.	
EX9	1	Replace existing wall mounted solar based LED floodlight with solar panel at storage shed with new LED based floodlight luminaire, battery, and solar panel with photocell and motion sensor. Minimum 1000 lumen output, 4000K-5000K color.	Cooper Halo SLMT1000B; or approved alternate	5000K LED, 70CRI		Wall	Solar panel mounts to roof of storage building. Luminaire has integral motion sensor with daylight photosensor	ND
EX10	7	Replace existing single and dual head floodlights using LED A19 lamps, with new LED based cutoff luminaire. Wide distribution, cutoff style optics, B1-U0-G1 B.U.G. rating. 6,000 lumen output, max.	Cooper Lumark XTOR6B-Y-BZ; RAB Lighting SLIM17FAFC40; or approved alternate	3000K LED, 70CRI	60	Wall		ND
EX11	88	Replace existing decorative wall mounted lighting at apartment decks and patios with new LED based exterior rated luminaire with sheilding to keep the majority of light distribution below 90 degrees. Matte Black or Dark Bronze finish housing with diffuse acrylic or glass lens. Integrated 120V LED Module rated for 50K hours to L70, 3000K, 85CRI (min), 800 Lumen (max) output. wet location listed.	Progress Lighting P5676-2030K9; Abra Lighting 50021ODW-MB; Wave Lighting 220FM-F-LR9WBK; or approved alternate	3000K LED, 80CRI	7	Wall	NOTE: No symbol shown on the drawings for these lights. See flagnote #15 for instructions	ND
Timeclock	22	New astronomic timeclock to replace existing photocell at each building. Programmed to come on at 30 minutes before dusk to 30 minutes after dawn.	Intermatic ET2815CR			Wall		

BLDG 1	BLDG 2	BLDG 3	BLDG 4	BLDG 5	BLDG 6	BLDG 7	BLDG 8	BLDG 9	BLDG 10	BLDG 11	BLDG 12	BLDG 13	BLDG 14	BLDG 15	BLDG 16	BLDG 17 OFFICE	BLDG 18	BLDG 19	BLDG 20	BLDG 21	BLDG 22	Total Watts
1	1	1	1																			240
	1		3																			120
																3						60
																2						26
1	1	1				1						1			1	1		1	1	1		1330
														1	1						1	399
																1						22
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	792

BLDG 1	BLDG 2	BLDG 3	BLDG 4	BLDG 5	BLDG 6	BLDG 7	BLDG 8	BLDG 9	BLDG 10	BLDG 11	BLDG 12	BLDG 13	BLDG 14	BLDG 15	BLDG 16	BLDG 17 OFFICE	BLDG 18	BLDG 19	BLDG 20	BLDG 21	BLDG 22	Total Watts
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1584
																		1				45
									1													85
		1																		1		0
															1							0
			1	1			1	1			1	1		1								420
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	616
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0

Aspen Ridge Apartments - Lighting and Controls Narrative

Aspen Ridge Apartments consists of (22) four unit apartments and a leasing office. The buildings are situated against a wooded area on the north, other residential multifamily buildings of varying age and size to the East, South and West. There is an outdoor meeting area with playground equipment at the SW location, exterior open mailbox area in a central location, and (4) enclosed trash/recycling areas located within close access of the tenants.

The current exterior illumination for the project consists of the following:

- Exterior wall mounted High Intensity Discharge (HID) glass lensed wallpacks at select building for drive lanes, parking, and walkway illumination as well as lighting of the garbage/recycling enclosures.
- Large, exterior wall mounted LED floodlights at select areas to illuminate walkways, open green space between buildings, parking spaces or roadway. Small dual head floodlamp holders with LED A19 screw-based lamps for illumination between buildings at select locations for security purposes.
- Surface mounted vandal-resistant enclosed luminaires at the entry to the apartment stairs. Surface mounted decorative enclosed luminaires at the landing areas in front of the apartment doors. These are assumed to be incandescent luminaires with LED or Compact Fluorescent (CFL) screw-based lamps.
- Small format recessed downlights with CFL reflector style lamps at the entry to the leasing office along with (3) wall mounted vapor jar luminaires mounted to the face of the office canopy.
- A 9' tall pedestrian height decorative post with acorn style formed lens at the exterior mailbox location.
- There is a small storage building next to Building 16 incorporating an over the door mounted LED security floodlight with integral occupancy sensor, connected to a small roof mounted solar panel that powers an internal charger and battery for the floodlight. This is currently not working.
- Each of the apartments has an exterior rated decorative wall luminaire to light the deck/patio area. This is controlled by a manual switch inside the units.
- With exception of the apartment deck/patio lights, and the storage shed solar powered lighting, all exterior lighting is currently controlled by daylight photocells mounted to the wall next to the electrical meters of select buildings.

The proposed recommendations, outlined in the "NOTES" on sheet EL-2, are to replace the existing luminaires with appropriate LED based luminaires whether in wall mounted version, surface or recessed depending on the current luminaire configuration. The luminaires will meet requirements under Washington State Energy Code, Seattle Energy Code (WSEC, SEC) and the Washington State Environmental Policy for optical control of the light distribution within the property boundary, minimizing glare and reducing energy consumption to levels allowed in the energy code for exterior building, site, and roadways.

The existing exterior photocell controls, which are not installed per standard industry practice nor to the manufacturers requirements, will be replaced with astronomic programmable timeclocks mounted in watertight, lockable enclosures at each building. Areas with stairs between Buildings 1 and 2, 3 and 4, will be provided with ground mounted LED light bollards to illuminate the sidewalk and stairs at areas shown on drawing sheet EL-1. Additional LED wall luminaires will be added to the north side of Buildings 1 thru 4 for additional security against the greenspace beyond.

The exterior wall mounted luminaires replacing both the HID and LED floodlights, will be selected to provide adequate illumination for the drive lanes, parking areas, walkways next to the parking areas, and garbage/recycling enclosures, while minimizing glare in opposing windows or buildings, keeping the lighting within the property line as required by code. LED floodlights will be replaced with LED wall luminaires designed to distribute light more adequately on the selected site and grounds while minimizing glare for safety and security of the site.



- ① DESIGNATES NOTE FOR THIS AREA. SEE SHEET EL-2 FOR EXPLANATION
- EX1 DESIGNATES LUMINAIRE TYPE NUMBER REFERENCE. SEE SHEET EL-2 FOR INFORMATION



Scale:	NO SCALE
Version:	DDevelopment
Drawn:	DGS
Date:	8/19/23
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KCHA - Aspen Ridge Apartments  
Luminaire Schedule

8/19/2023

Type	Quantity	Description	Manufacturer/Model Number	Light Source, Color & CRI	Maximum Luminaire Wattage	Mounting	Notes	Control Type	BLDG 1	BLDG 2	BLDG 3	BLDG 4	BLDG 5	BLDG 6	BLDG 7	BLDG 8	BLDG 9	BLDG 10	BLDG 11	BLDG 12	BLDG 13	BLDG 14	BLDG 15	BLDG 16	BLDG 17 OFFICE	BLDG 18	BLDG 19	BLDG 20	BLDG 21	BLDG 22		
EL1	4	New wall mounted cutoff security luminaire at rear of Bldgs 1 thru 4. Wide distribution, cutoff style optics, B1-U0-G1. B.U.G. rating, 6,000 lumen output, max.	Cooper Lumark XTOR6B-Y-B2; RAB Lighting SLM17FAFC40; or approved alternate	3000K LED, 70CRI	60	Wall		ND	1	1	1	1																				
EL2	4	New LED based light bollard, 8" diameter x 42" tall with integral driver and symmetric (Type VI) optics. Integrated louvers or redirecting cone to shield direct view of light source. Extruded aluminum bollard with die cast louver or specular redirect cone and acrylic lens. Extruded aluminum top cap assembly. B1-U2-G1 B.U.G. rating (max), 500 lumens max. Vandal resistant construction. Dark Bronze polyester powdercoat finish.	Kim Lighting VRB1-LED-20L 3K UV-DBS; Acuity Lithonia KB8C16C35030KSYMVOLTDDB XD; or approved alternate.	3000K LED, 70CRI	30	Ground	Verify final location along the sidewalk with designer and owner prior to installation.	ND		1		3																				
EX1	3	Replace existing wall mounted vapor jar luminaire with new wall mounted LED with downward shielding. Die cast aluminum housing with ribbed glass vapor jar, die cast aluminum guard and 8" diameter shield. Integral LED driver and LED source.	Barnlight BLE-W-CGG-600-FS-TGG-600-RIB-NA-LED16.8-3000K; or approved alternate	3000K LED, 80CRI (min)	20	Wall		ND																3								
EX2	2	Retrofit existing miniature recessed downlight with new LED based kit with driver, trim and lens. Remodeling based LED driver and trim package, clear-diffuse optics, frame mounted or integral LED driver, wide distribution. White trim flange.	Signify lightolier 4RR/4drd10930w0CDZ1DU; Acuity Lithonia LBR4 ALD2 SWW1 AR LSS MWD MVOLT UGZ QDS; or approved alternate	3000K LED, 80CRI (min)	13	Recessed		ND																2								
EX3	10	Replace existing wall mounted HID based wall pack with LED Type 3, wide distribution, short throw, cutoff luminaire. Die cast housing with 6" arm and wall mounting bracket. Integral LED driver, 15,500 lumens max output. B3-U0-G3 B.U.G. rating. Dark bronze powdercoat finish.	Cooper Invue VXM-E05-LED-E1-T3-B2-7030/MA1054-B2; Acuity Lithonia RSX1 LED P4 30K R3 MVOLT WBA DDBXD; or approved alternate	3000K LED, 70CRI	133	Wall		ND	1	1	1				1									1				1	1	1		
EX3a	3	Same as EX3 except with Type 2, wide distribution optics	Cooper Invue VXM-E05-LED-E1-T2-B2-7030/MA1054-B2; Acuity Lithonia RSX1 LED P4 30K R2 MVOLT WBA DDBXD; or approved alternate	3000K LED, 70CRI	133	Wall		ND															1	1						1		
EX4	1	Replace existing ground mounted halogen sign light with LED based sign light. Die cast aluminum housing with Dark Bronze polyester powdercoat finish, tempered glass lens and watertight gasketing. Adjustable ratcheted knuckle. 40 degree flood optics and cutoff visor. Integral LED driver, 2200 lumen output.	FC Lighting FCF1105-UNV-3K-CRI90-22L-BRE-40-4D-CV5-KM; Cooper Lumark TCRL20MBK7030 or approved alternate	3000K LED, 70CRI	22	Ground	Verify how the luminaire is currently being controlled.	ND																	1							
EX5	22	Replace existing CFL based vandal resistant exterior canopy luminaire with LED based enclosed, vandal resistant luminaire. 10" Round or 10" Square surface mount luminaire with Die cast aluminum housing with polyester powdercoat Dark Bronze finish, stainless steel tamper-resistant hardware, and high impact polycarbonate or acrylic lens. Integral LED driver.	Paramount Lighting PMVRI0R0-UNV-3KCR185-36L BRE LED; Current Beacon LSQ1-25-3K7-UNV-DBS; or approved alternate	3000K LED, 70CRI	36	Surface		ND	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EX6	44	Replace existing CFL based vandal resistant exterior canopy luminaire with LED based enclosed, vandal resistant luminaire. 10" Round or 10" Square surface mount luminaire with Die cast aluminum housing with polyester powdercoat Dark Bronze finish, stainless steel tamper-resistant hardware, and high impact polycarbonate or acrylic lens. Integral LED driver.	Paramount Lighting PMVRI0R0-UNV-3KCR185-36L BRE LED; Current Beacon LSQ1-25-3K7-UNV-DBS; or approved alternate	3000K LED, 70CRI	36	Surface		ND	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
EX7	1	Replace existing HID based decorative acorn lensed post top luminaire with new LED based decorative luminaire with symmetric (Type V) optics. Die cast fitter with black finish, clear, textured acrylic lens. Integral AC LED chip on board array, 2500 lumen output (max).	Wave Lighting 8017CL-UR22W-Black; ELA Lighting RIV24PT*H5 23LED30120 SA DB; or approved alternate	3000K LED, 80CRI	45	Post	Verify the diameter of the existing lamp post prior to ordering replacement luminaire.	ND																				1				
EX8	1	Replace existing LED flood light with LED wall mounted cutoff luminaire. Wide distribution, cutoff style optics, B2-U0-G1. B.U.G. rating, 7,800 lumen output, max.	Cooper Lumark XTOR8B-Y-B2; RAB Lighting SLM17FAFC60; or approved alternate	3000K LED, 70CRI	85	Wall		ND																								
EX8 - REMOVE	2	Remove existing LED flood light and provide blank cover for J-box				Wall	Provide paintable blank cover. Do not abandon circuit at this time.				1																					
EX9	1	Replace existing wall mounted solar based LED floodlight with solar panel at storage shed with new LED based floodlight luminaire, battery, and solar panel with photocell and motion sensor. Minimum 1000 lumen output, 4000K-5000K color.	Cooper Halo SLMT1000B; or approved alternate	5000K LED, 70CRI		Wall	Solar panel mounts to roof of storage building. Luminaire has integral motion sensor with daylight photosensor	ND																1								
EX10	7	Replace existing single and dual head floodlights using LED A19 lamps, with new LED based cutoff luminaire. Wide distribution, cutoff style optics, B1-U0-G1. B.U.G. rating, 6,000 lumen output, max.	Cooper Lumark XTOR6B-Y-B2; RAB Lighting SLM17FAFC40; or approved alternate	3000K LED, 70CRI	60	Wall		ND				1	1			1	1						1									
EX11	88	Replace existing decorative wall mounted lighting at apartment decks and patios with new LED based exterior rated luminaire with shielding to keep the majority of light distribution below 90 degrees. Matte Black or Dark Bronze finish housing with diffuse acrylic or glass lens. Integrated 120V LED Module rated for 50K hours to L70, 3000K, 85CRI (min), 800 Lumen (max) output, wet location listed.	Progress Lighting P5675-2030K9; Abra Lighting 500210DW-MB; Wave Lighting 220FM-F-RR9WBK; or approved alternate	3000K LED, 80CRI	7	Wall	NOTE: No symbol shown on the drawings for these lights. See flagnote #15 for instructions	ND	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Exterior Lighting Controls Location of Controls - Exterior to Each Building by Building Meter

Area	Room #/Description	Control Zone #	Load Description	Voltage	Load Total	Load Type	Schedule	Sensor#	Switch#
Bldg 1	Exterior Lighting	B1	Type EL1, Type EX3, Type EX5/EX6	120	301	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 2	Exterior Lighting	B2	Type EL1, EL2, Type EX3, Type EX5/EX6	120	331	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 3	Exterior Lighting	B3	Type EL1, Type EX3, Type EX5/EX6	120	301	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 4	Exterior Lighting	B4	Type EL1, EL2, Type EX5/EX6, Type EX10	120	318	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 5	Exterior Lighting	B5	Type EX5/EX6, Type EX10	120	168	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 6	Exterior Lighting	B6	Type EX5/EX6	120	108	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 7	Exterior Lighting	B7	Type EX3, Type EX5/EX6	120	241	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 8	Exterior Lighting	B8	Type EX5/EX6, Type EX10	120	168	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 9	Exterior Lighting	B9	Type EX5/EX6, Type EX10	120	168	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 10	Exterior Lighting	B10	Type EX5/EX6, Type EX8	120	193	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 11	Exterior Lighting	B11	Type EX5/EX6	120	108	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 12	Exterior Lighting	B12	Type EX5/EX6, Type EX10	120	168	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 13	Exterior Lighting	B13	Type EX3, Type EX5/EX6, Type EX10	120	301	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 14	Exterior Lighting	B14	Type EX5/EX6	120	108	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 15	Exterior Lighting	B15	Type EX3a, Type EX5/EX6, Type EX10	120	301	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 16	Exterior Lighting	B16	Type EX3/EX3a, Type EX5/EX6	120	374	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 17	Exterior Lighting	B17	Types EX1/EX2, Type EX3, Type EX4, Type EX5/EX6	120	349	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 18	Exterior Lighting	B18	Type EX5/EX6	120	108	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 19	Exterior Lighting	B19	Type EX3, Type EX5/EX6, Type EX7	120	286	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 20	Exterior Lighting	B20	Type EX3, Type EX5/EX6	120	241	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 21	Exterior Lighting	B21	Type EX3, Type EX5/EX6	120	241	LED	ON, S5-30, OFF, SR+30	n/a	n/a
Bldg 22	Exterior Lighting	B22	Type EX3a, Type EX5/EX6	120	241	LED	ON, S5-30, OFF, SR+30	n/a	n/a

Notes:

General:	
A	Verify all circuits and as-build conditions prior to bidding and confirm approval of any revisions prior to installation of new equipment.
B	Specification and manufacturers shown above are for indication of quality desired and manufacturers historical ability to accomplish the desired control concept. Alternates manufacturers must be approved in advance of bid date with full submittal for evaluation.
C	Provide all interfaces, sensors, switches, controllers, cabling, programming and testing for a complete system.
D	The design is NOT to be considered a complete schematic for installation but a part of the designers narrative of the owner's Basis of Design. Contractor shall submit the manufacturers oneline diagram, submittal cut sheets of product engineering data for evaluation and acceptance prior to order release.
Controls:	
1	Program timeclock based on the astronomic location of the site.
2	Verify that all lighting types shown for this building are controlled by the same timeclock circuit. If more than one circuit of control is required, notify owner.

NOTES		RECOMMENDATIONS
1	A tree blocks light over the trash/recycling holding area	Trim tree to allow more illumination from a new luminaire replacement at Building 3
2	Sidewalk steps are not illuminated and could be a trip hazard	Provide low level light bollards to illuminate the steps and walkway
3	At the office entry, (3) unshielded vapor jar luminaires are mounted to the canopy face. Source of glare on cars entering driveway. Recessed downlights are exposed lamp, CFL flood.	Replace the existing unshielded vapor jars with new shielded LED that directs the light down and keeps the light closer to the building. Retrofit the existing mini-can downlights with new LED based retrofit kit and new damp location rated trim while re-using the existing housing opening.
4	The sidewalk leading to the Building 21 entry is not illuminated.	No additional lighting is required as the entry lighting from Building 21 and the exterior deck lighting from Building 22 appears to provide adequate coverage.
5	Bushes are overgrown and blocking the light from the building going out to the walkway.	Trim the bushes to allow more light to pass over and illuminate the walkways.
6	Bushes and trees, as well as the existing hillside, along the north side of Buildings 1 thru 4, are not illuminated and leave a very dark area that could be a security issue at times.	Provide a low wattage, wide optics distribution path light at the north side of buildings 1 thru 4 to softly light the brush and trees along the hillside next to the building. The lighting does not need to be high output, just enough to give a soft illumination for fast visual recognition of any one in these areas.
7	Light from the floodlight on Buildings 16 and 22 are lighting up the facade of the buildings in the next property across the drive. There are windows facing Aspen Ridge from those buildings.	Per Washington State Energy Code, lighting must use cut-off optics to keep the light within the boundaries of the property as much as possible. Lighting at this area will be replaced with wide distribution, cutoff optic exterior LED luminaires to provide adequate illumination while keeping the lighting within the property limits.
8	Dark areas between Buildings 13, 14 and 15. Possible security or wayfinding issues	There is existing lighting at the southeast side of building 13 and southwest side of building 15. These should be changed to wall mounted cutoff luminaires with wide distribution optics to allow better lighting of the area between buildings 13-14 and 14-15.
9	Some of the units are provided with globe style exterior lights for the back deck/underdeck areas. Others use a vapor-jar style.	For consistency, and better control of lighting on the deck areas as well, fixtures should be changed to a luminaire with better light distribution and an LED integrated light engine.
10	Existing wall pack luminaires are HID which is slowly being phased out. These fixtures are unshielded as well, which means they are no longer compliant with Washington State Energy Code for exterior illumination which must be shielded so that light does not project above a 90 degree angle.	Replace these with LED cutoff distribution luminaires with shielding and light projection below 90 degrees
11	Existing LED floods that were added at select areas are shining out toward the roadways, and in many cases, directly at cars approaching them which, especially in rainy conditions, can create a glare hazard for the driver	Replace these with LED cutoff distribution luminaires with shielding and light projection below 90 degrees
12	The solar powered light with occupancy sensor at the storage shed next to Building 16 is not working.	Replace the existing solar powered flood and solar panel with one that has a longer charge capacity. The occupancy sensor may not be effective in these type of areas. Recommendation is to replace it with a sensor that is "dusk-to-dawn" rated.
13	Existing wall mounted bare floodlamp holders in single or dual lamp format have had their lamps replaced with LED A19 style lamps which are not appropriate for this application.	Replace these with LED cutoff distribution luminaires with shielding and light projection below 90 degrees for illumination between building where they exist.
14	Halogen sign luminaire	Replace with LED equivalent flood luminaire with glare shielding.
15	The exterior stair entry currently use (2) surface decorative luminaires at the tenant doors exterior (one at first level, one at second level). In addition, a vandal-resistant luminaire is ceiling mounted at the front of the entry to the building stair opening.	Replace these with matching LED general purpose, vandal resistant luminaires to match in consistency and use integral LED light engines for longer life and durability.
16	Existing exterior lighting is connected to daylight photocells which are mounted low on the building at select exterior electrical meter locations. These are aimed somewhat capriciously, and at a low angle, not at all in keeping with their design intent which was to be mounted on the roof, facing north.	Replace the daylight photocell at each building with a single channel, programmable astronomic timeclock in a weathertight, lockable enclosure. Program the clock for operation based on an Astronomic Sunrise and Sunset. Setting should be for lights to turn on 30 minutes prior to sunset and go off 3 minutes after sunrise. <b>Intermatic ET2015R; Tork EWZ120; or approved alternate</b> Retrofit to LED with post mounted accessible driver
17	Existing lamp post at mailboxes mounted to 8'6" post	
18	Existing LED floods that were added at select areas are shining out toward the roadways, and in many cases, directly at cars approaching them which, especially in rainy conditions, can create a glare hazard for the driver	Remove existing LED floodlight and provide a blank waterproof coverplate for the existing junction box.



DARRELL WESTLAKE  
KCHA  
600 ANDOVER PARK WEST  
SEATTLE, WA 98188

ASPEN RIDGE APARTMENTS  
SEATTLE, WA

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ASPEN RIDGE APARTMENT

TUKWILA, WA

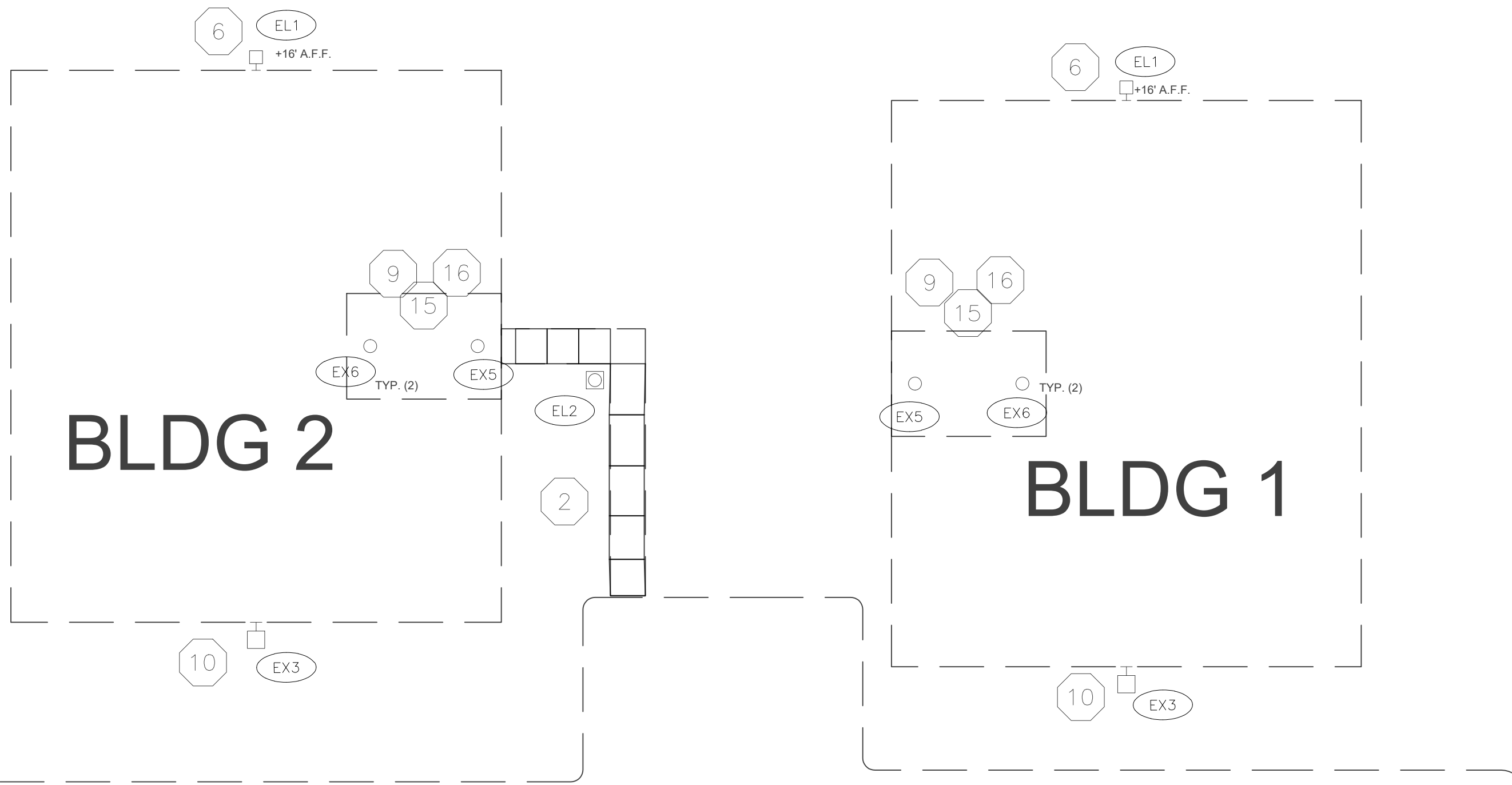
BLDG 1 AND 2

SCALE: NO SCALE

EXTERIOR LIGHTING

8-22-23

LSK1



ASPEN RIDGE APARTMENT

TUKWILA, WA

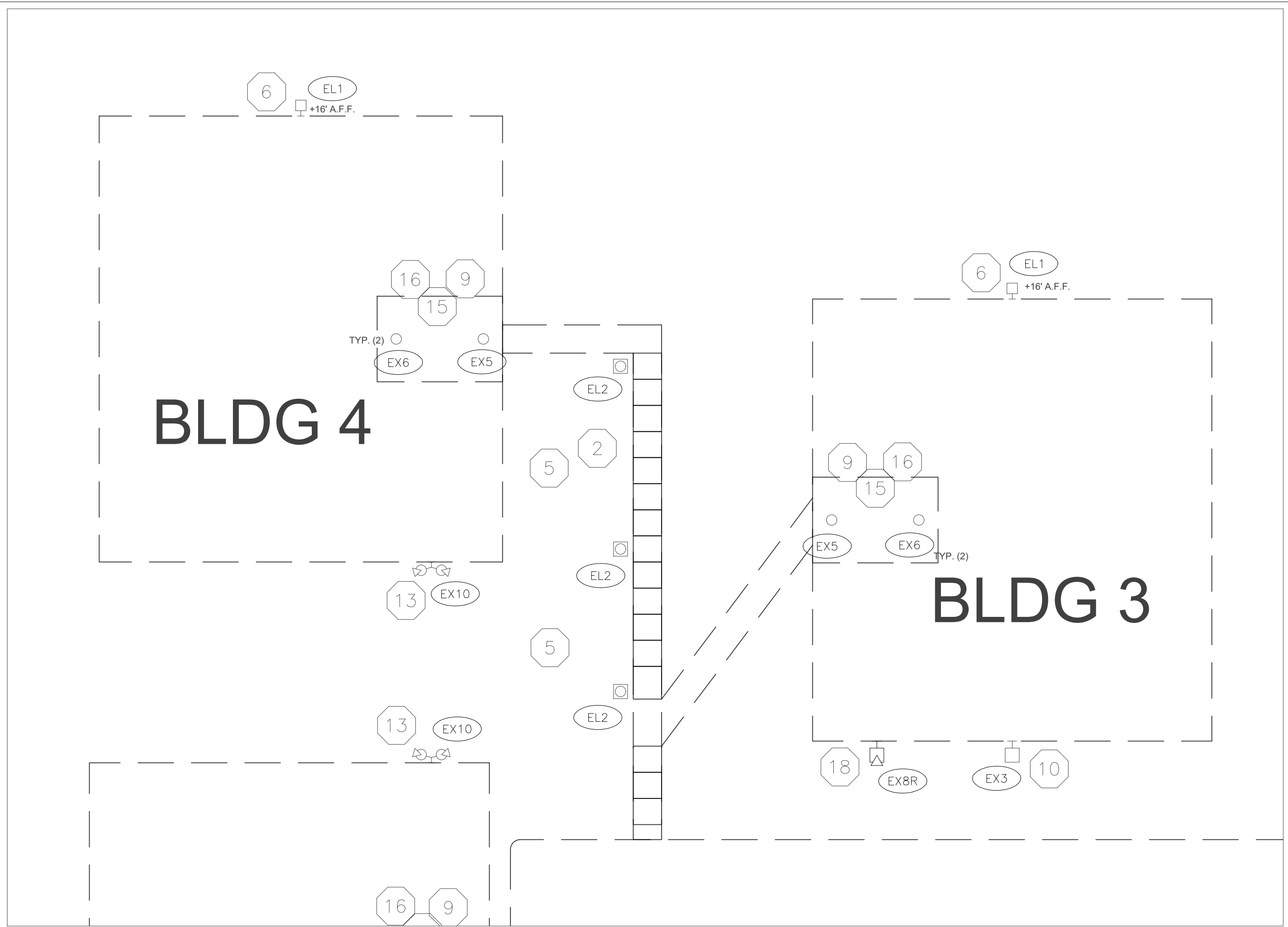
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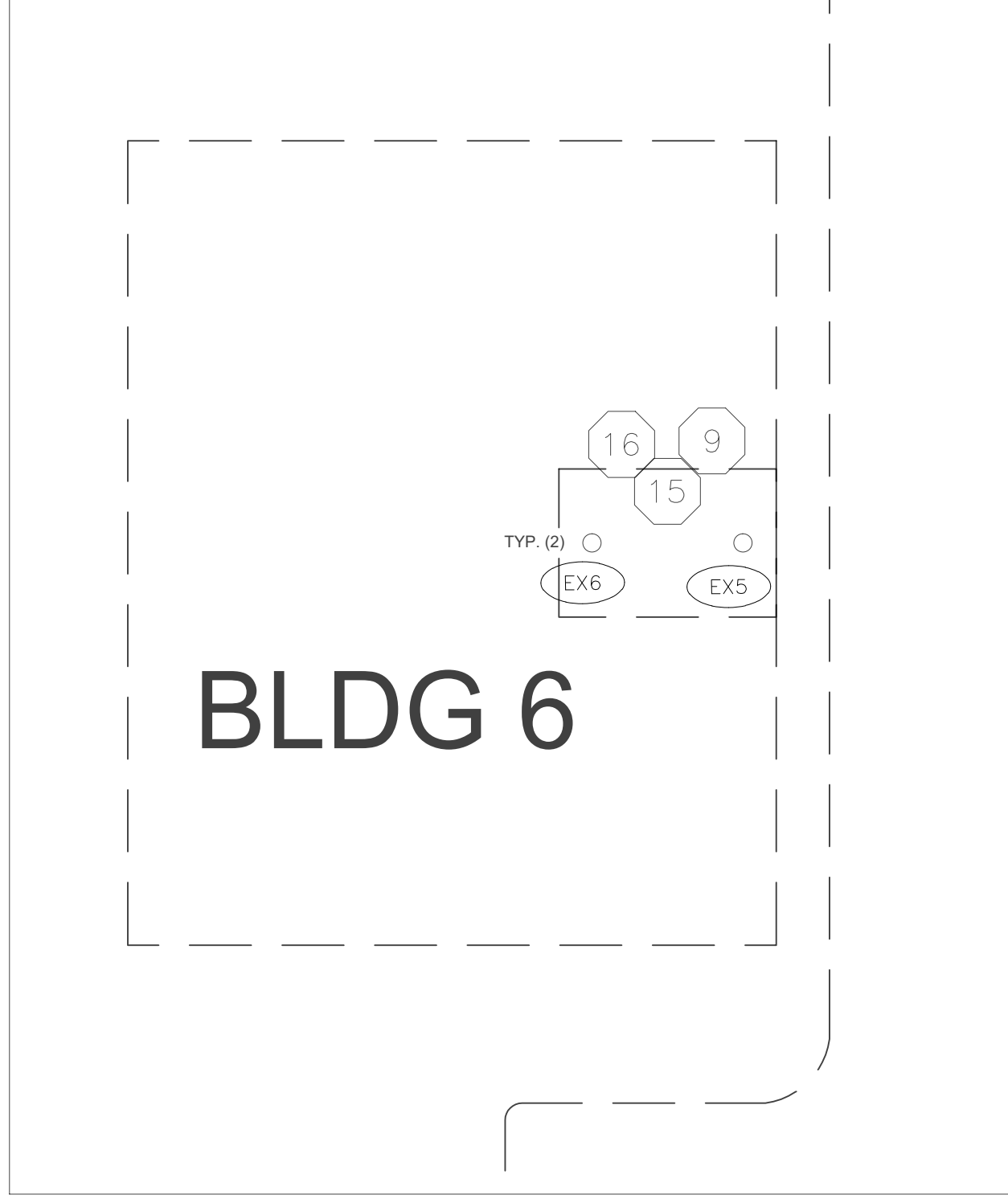
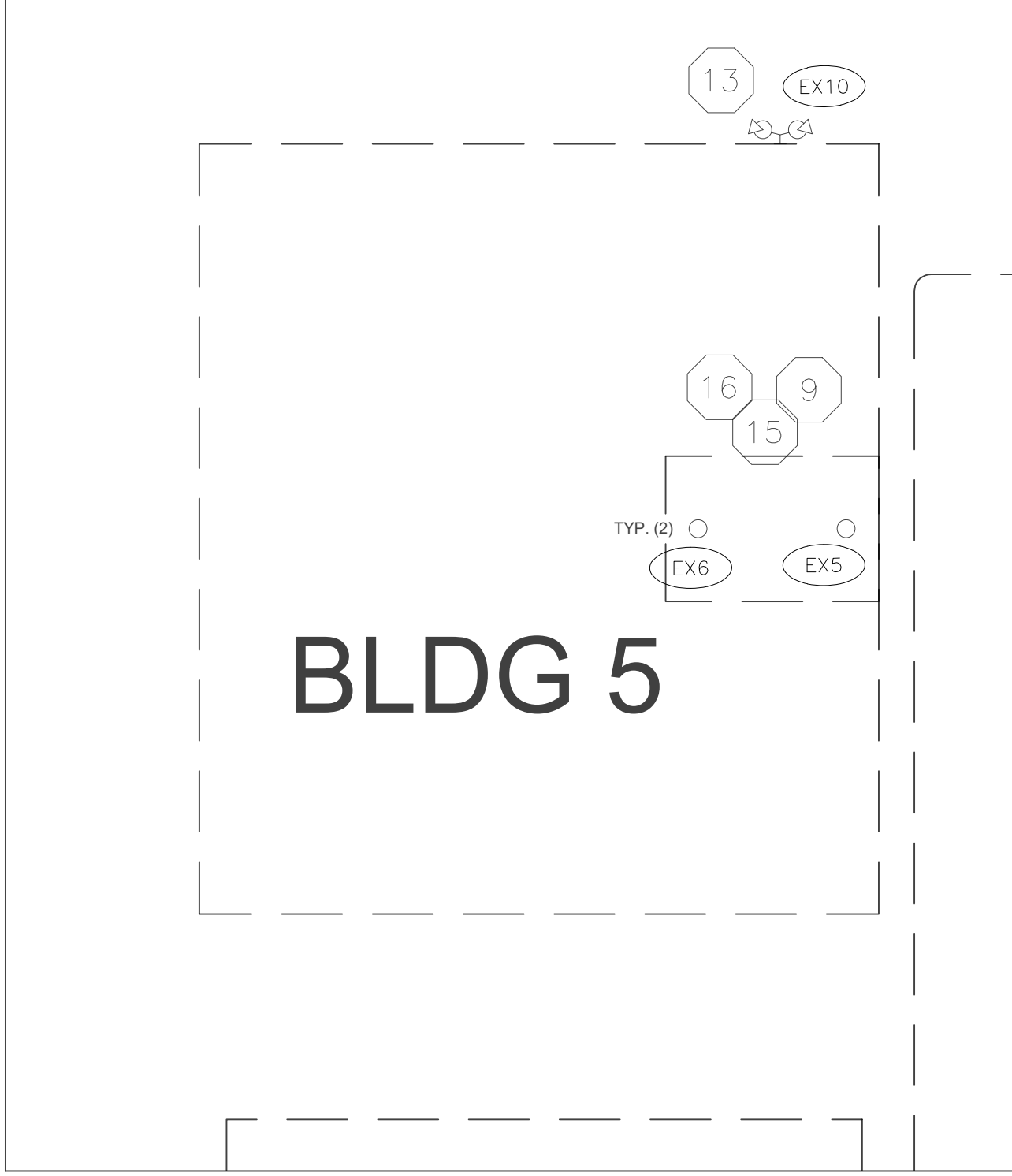
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EXTERIOR LIGHTING

8-22-23

LSK2





LSK 3

BLDG 5 AND 6

SCALE: NO SCALE

EXTERIOR LIGHTING

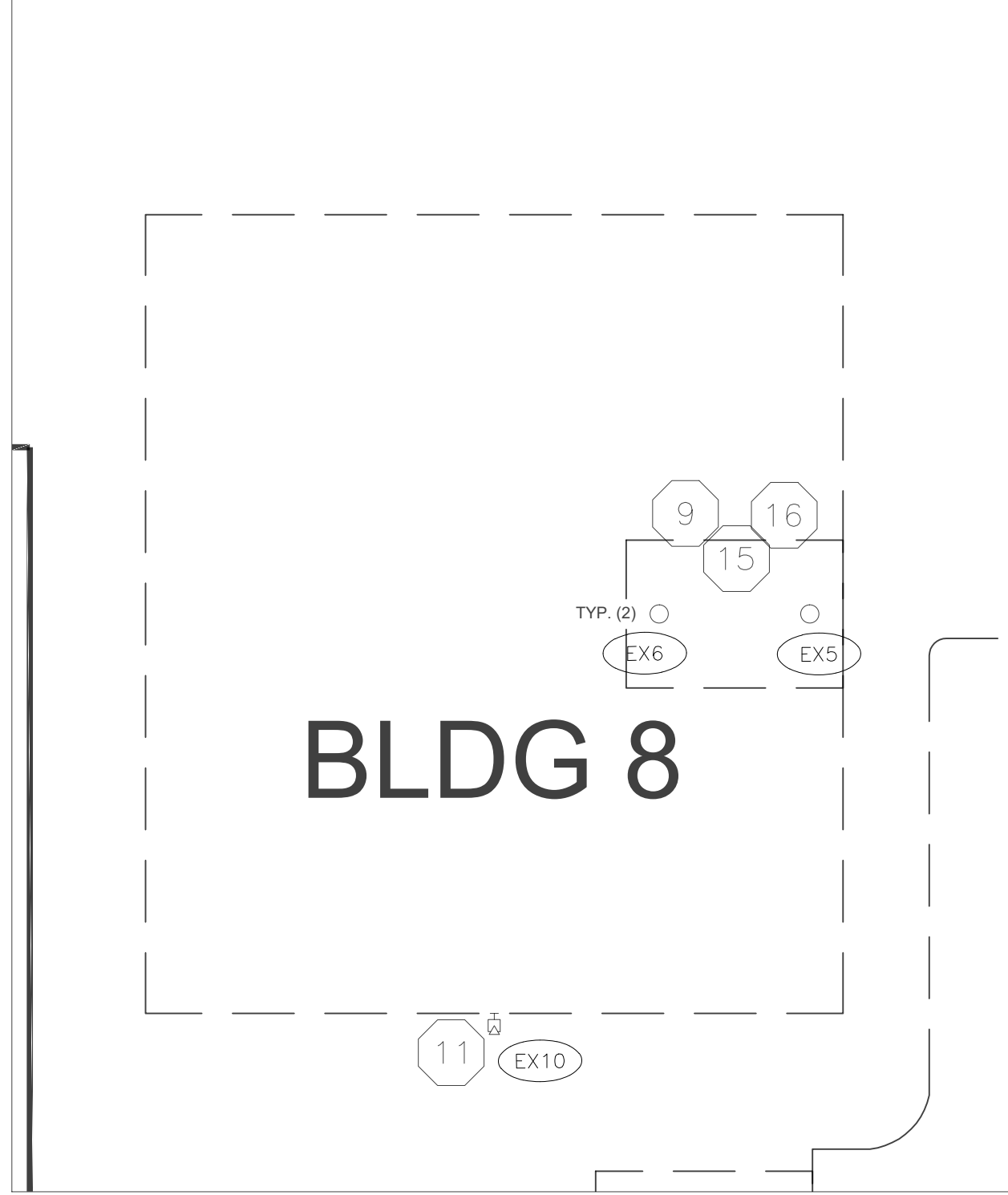
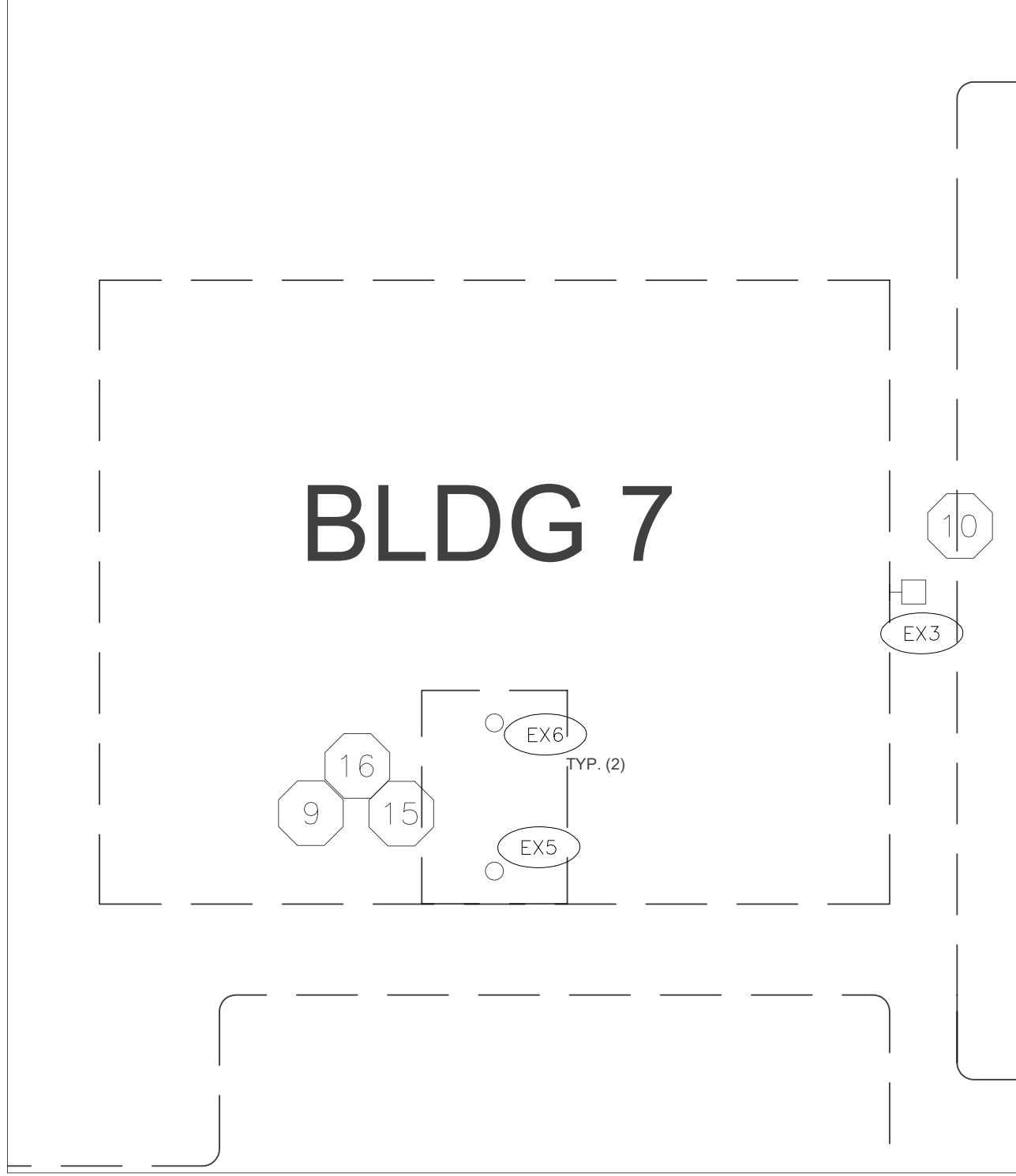
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ASPEN RIDGE APARTMENT

TUKWILA, WA







LSK4

BLDG 7 AND 8

SCALE: NO SCALE

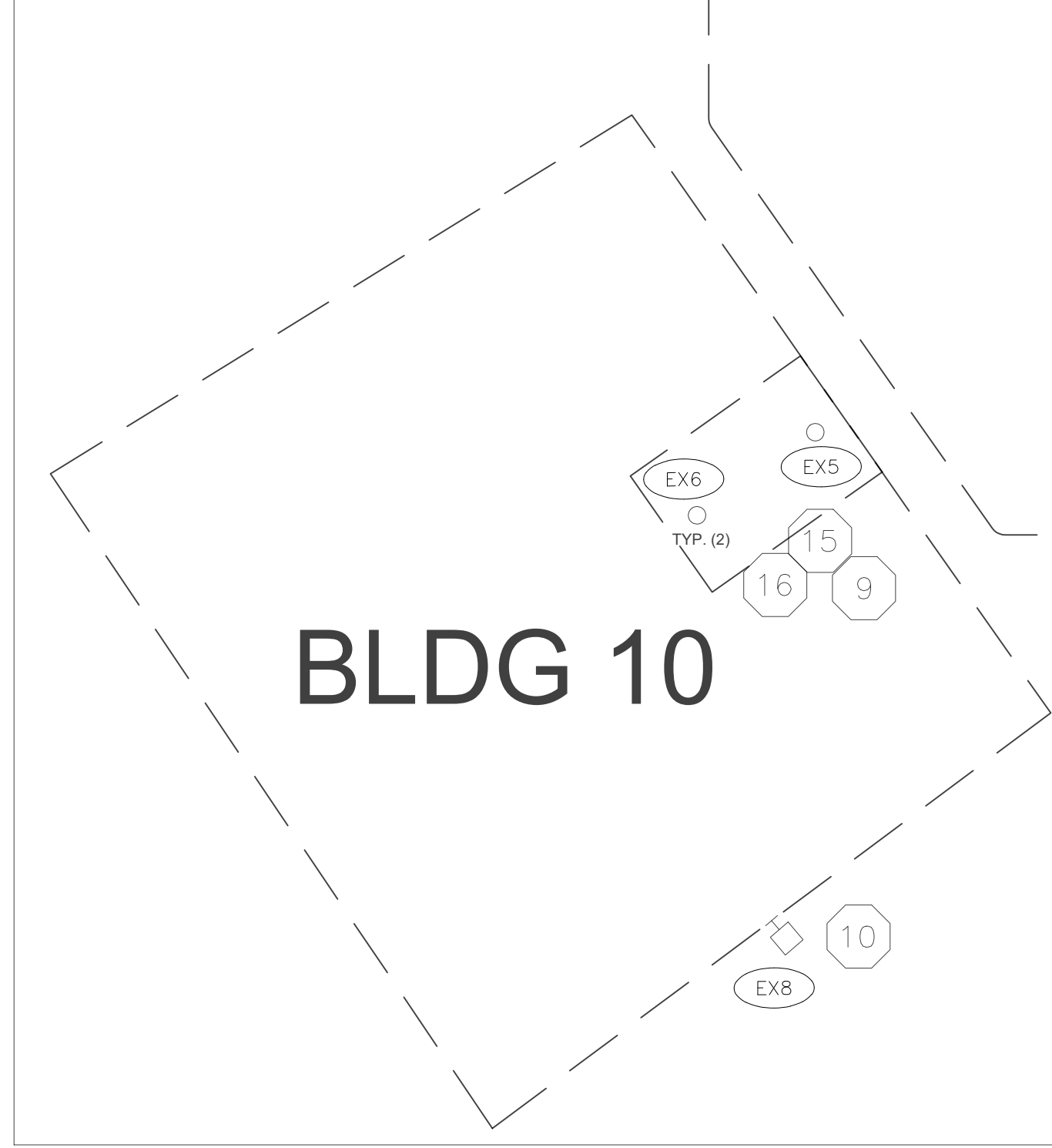
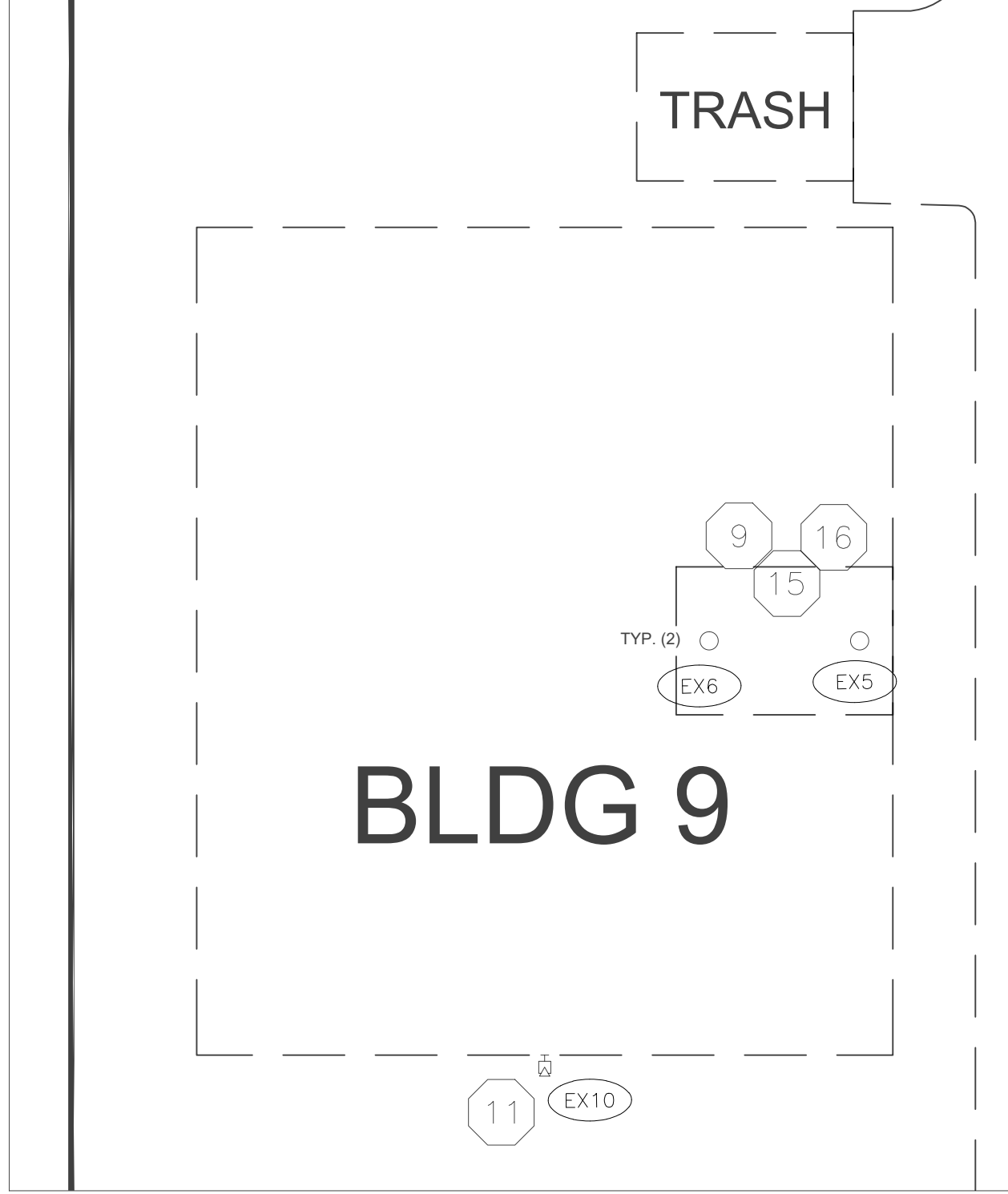
EXTERIOR LIGHTING

8-22-23

ASPEN RIDGE APARTMENT

TUKWILA, WA





ASPEN RIDGE APARTMENT

TUKWILA, WA

BLDGS 9 AND 10

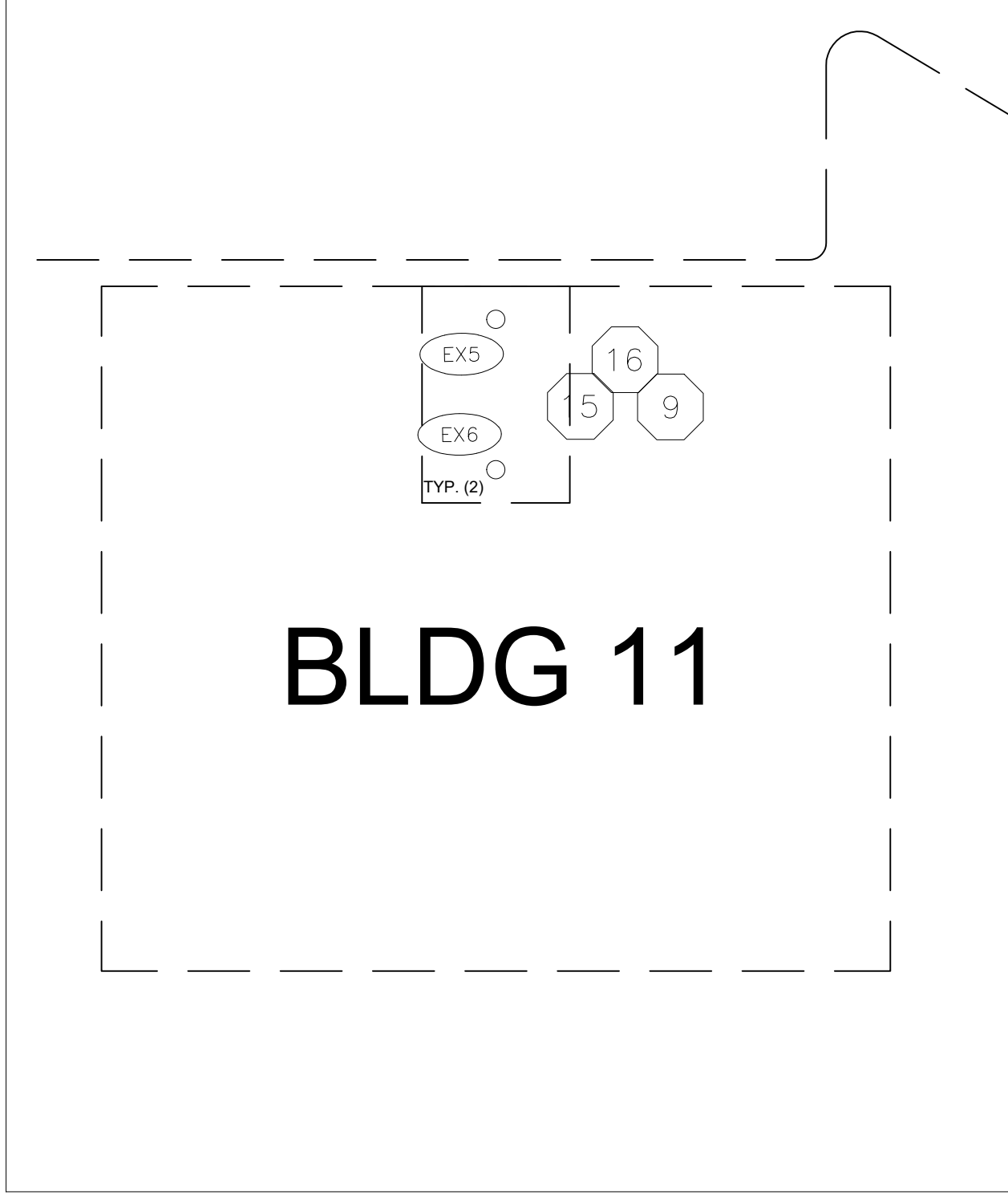
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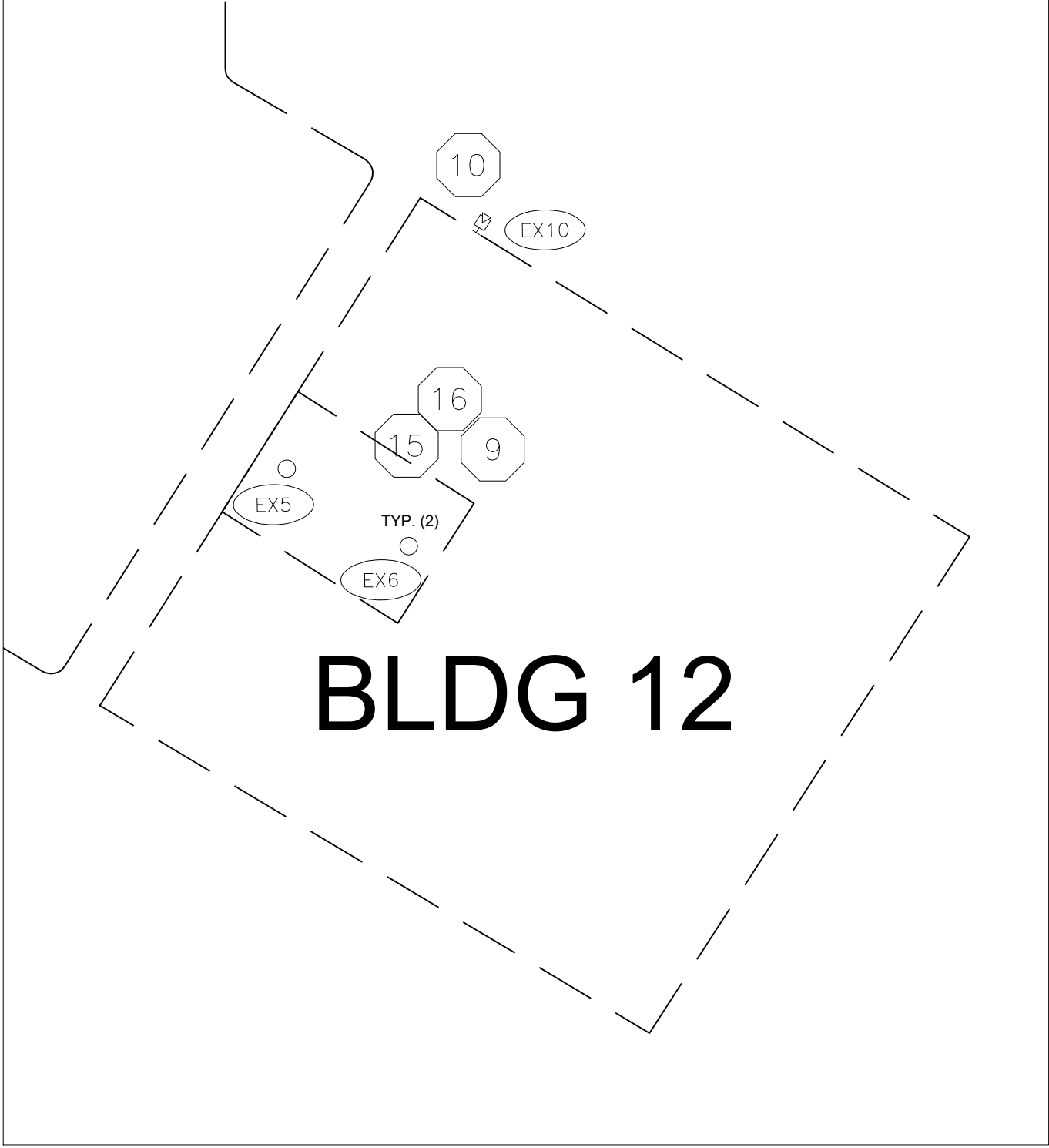
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LSK5





# BLDG 11



# BLDG 12



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ASPEN RIDGE APARTMENT

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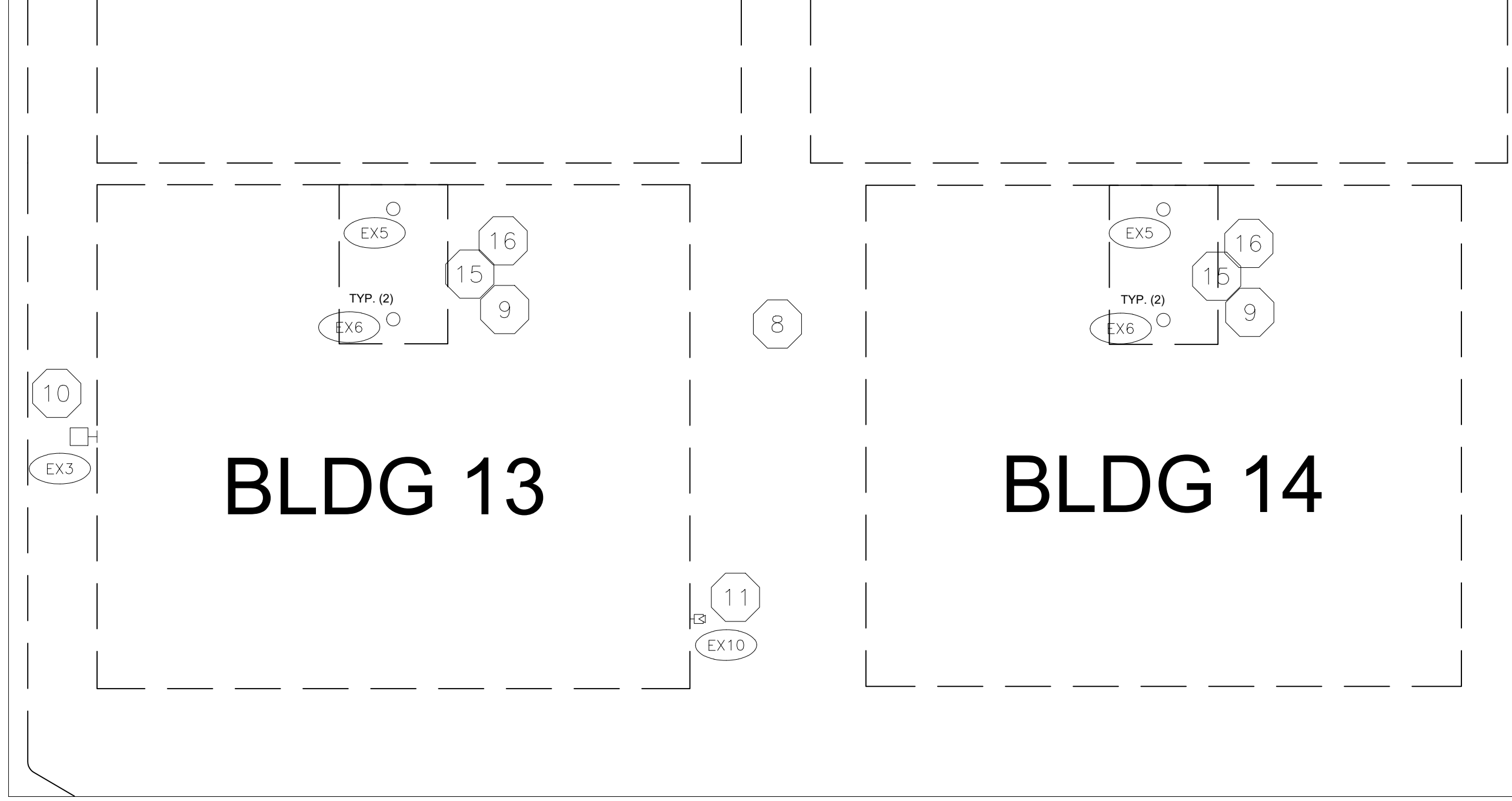
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EXTERIOR LIGHTING

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LSK6

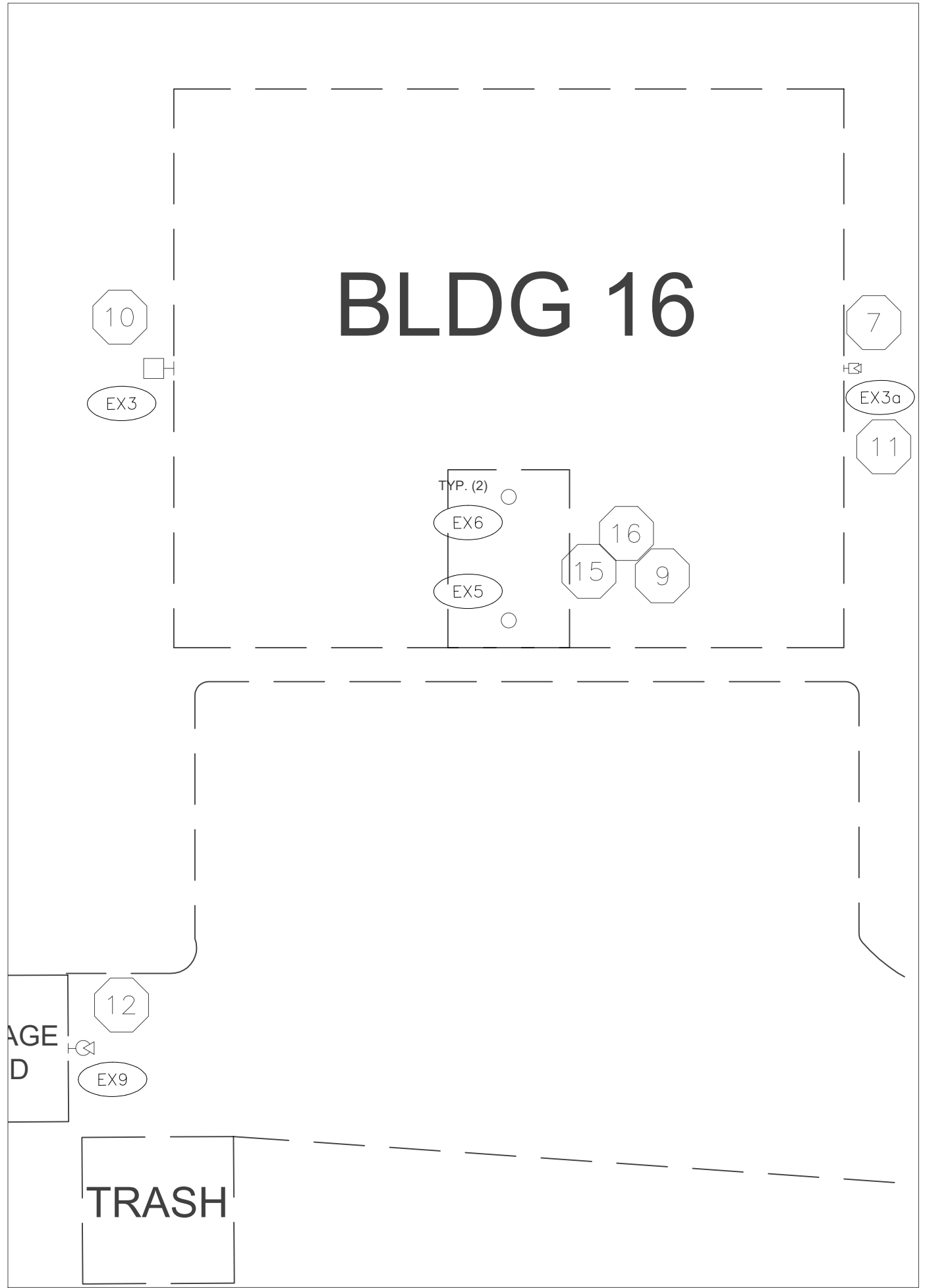
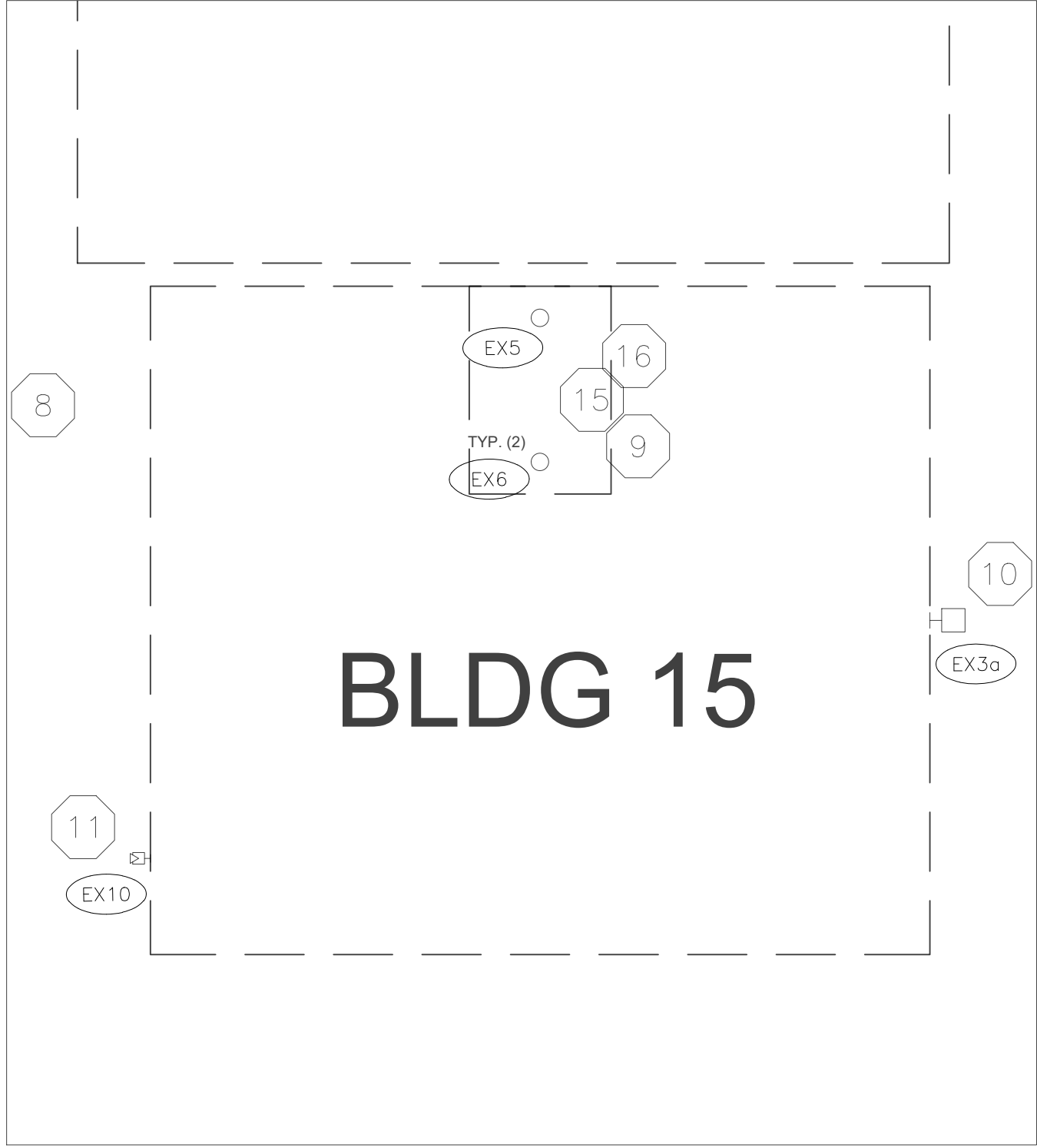


LSK7

BLDG 13 AND 14  
 SCALE: NO SCALE  
 EXTERIOR LIGHTING  
 8-22-23

ASPEN RIDGE APARTMENT  
 TUKWILA, WA





ASPEN RIDGE APARTMENT

TUKWILA, WA

BLDG 15 AND 16

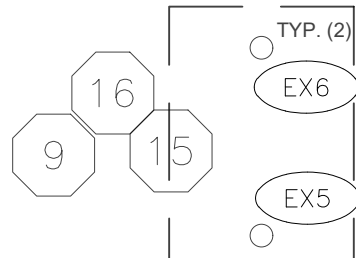
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EXTERIOR LIGHTING

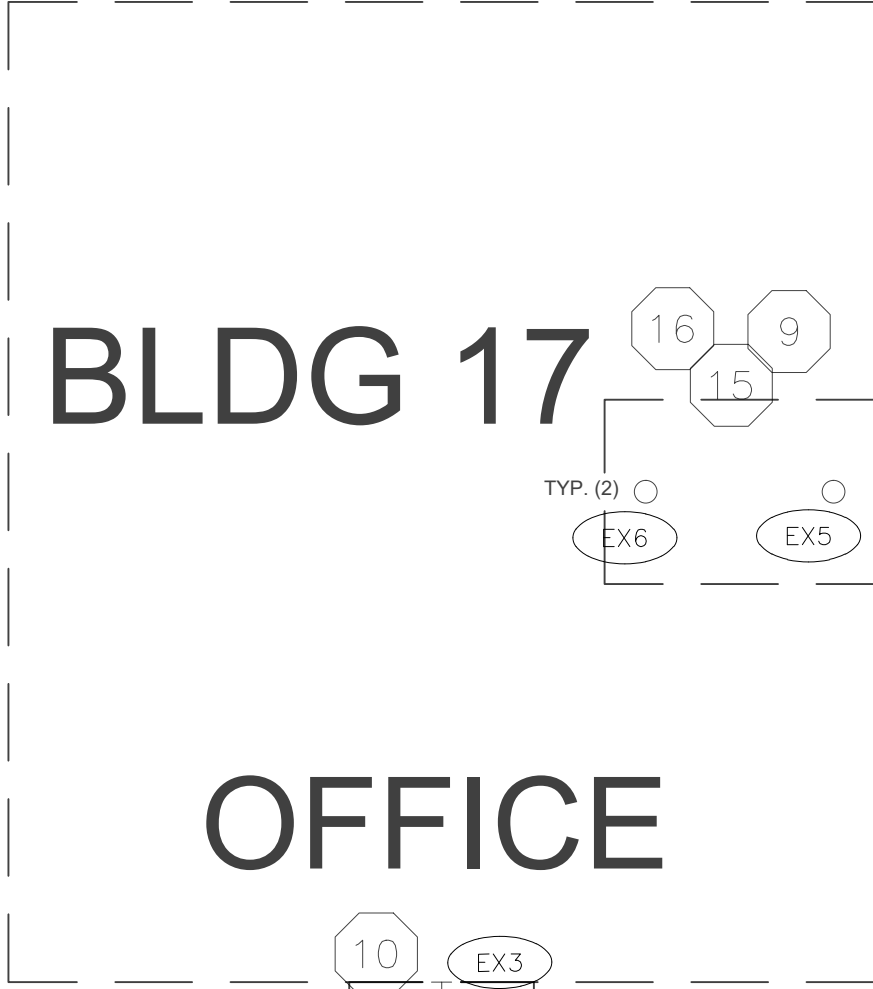
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LSK 8

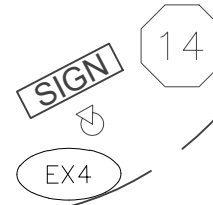
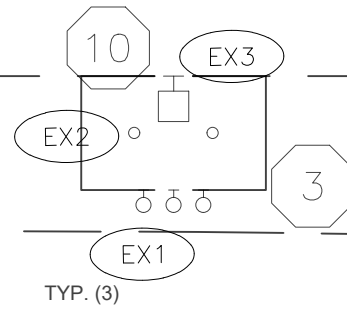
BLDG 18



BLDG 17



OFFICE



ASPEN RIDGE APARTMENT

TUKWILA, WA

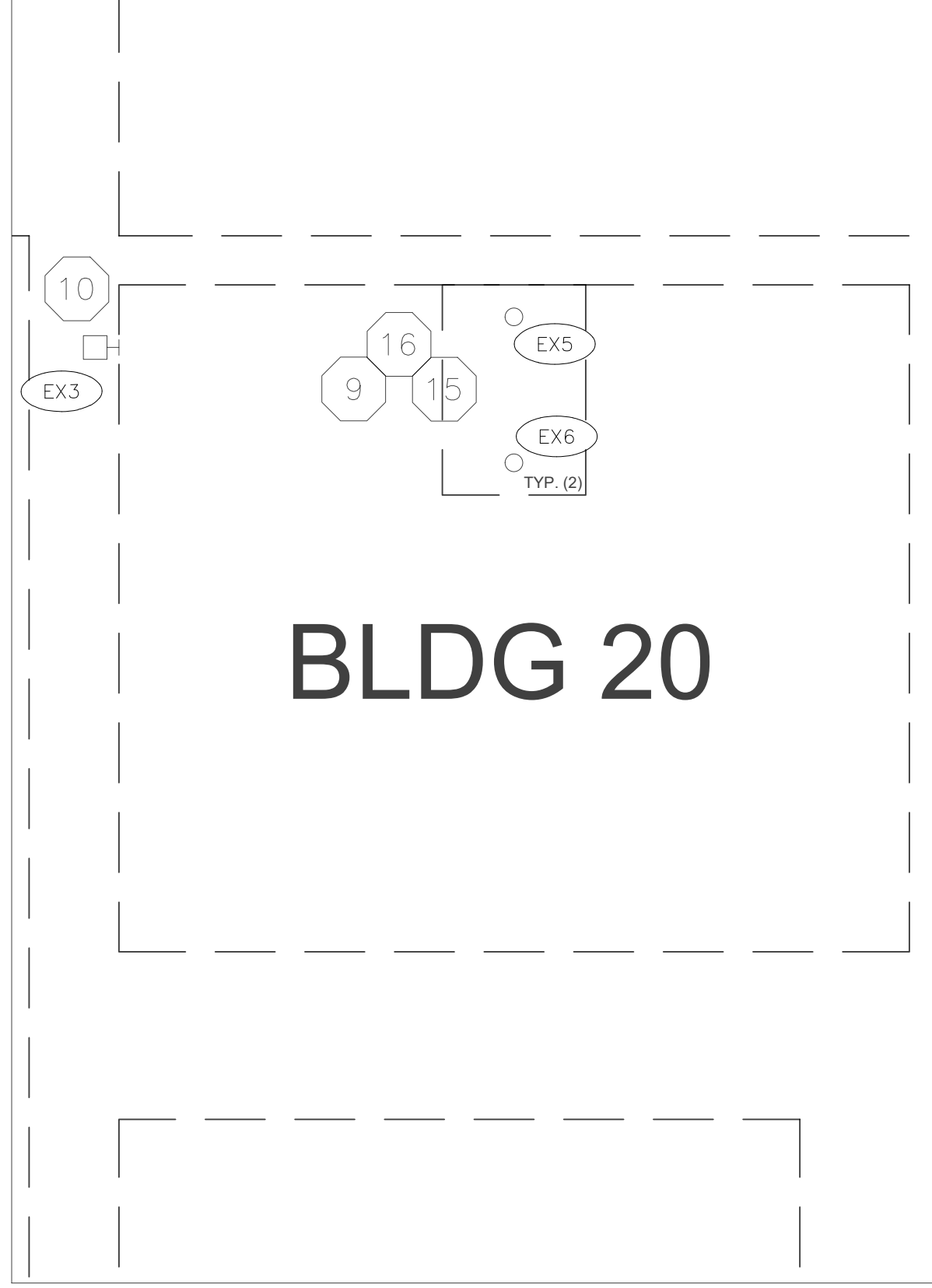
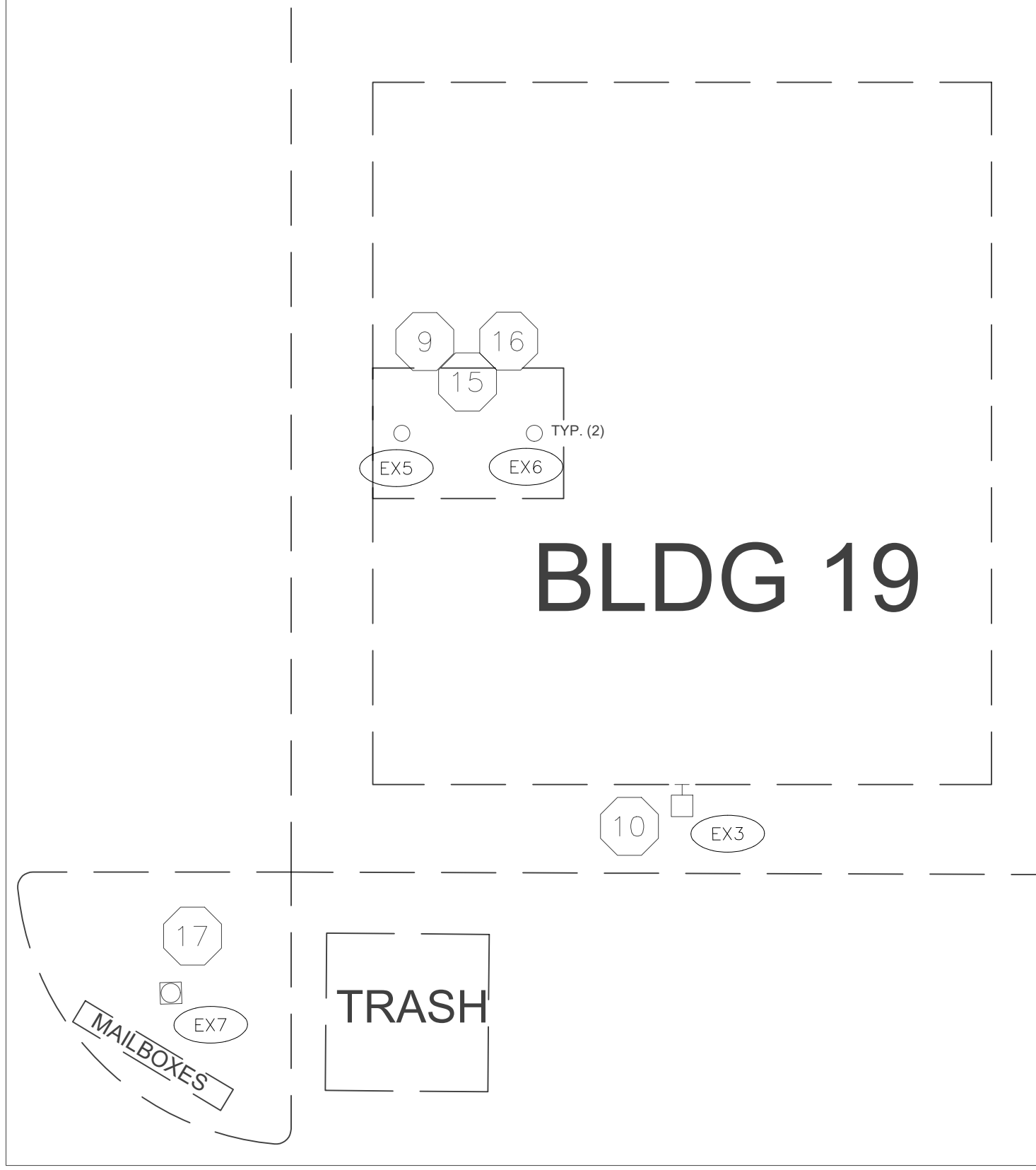
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SCALE: NO SCALE

EXTERIOR LIGHTING

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LSK 9



BLDG 19 AND 20

SCALE: NO SCALE

EXTERIOR LIGHTING

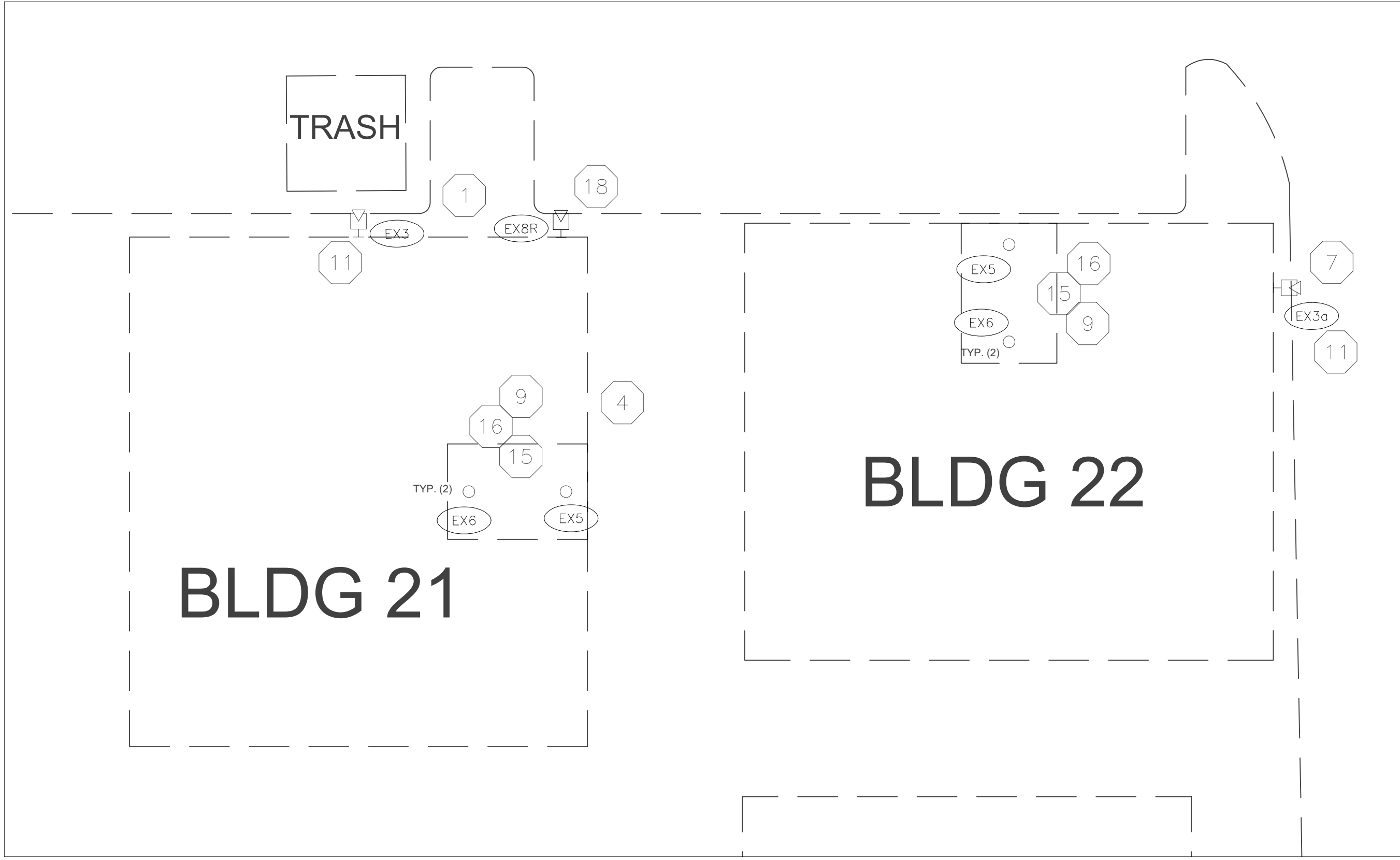
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ASPEN RIDGE APARTMENT

TUKWILA, WA



LSK10





## Electronic Timer Control - Astronomic 7-Day/365 Day 1-Circuit Electronic Control, 120-277 VAC, SPDT, Outdoor Metal Enclosure

Item ET2815CR



### PRODUCT DESCRIPTION

The ET2000 Series offers an easy-to-use interface, while still allowing to-the-minute scheduling capabilities for nearly any application. This series provides 50 holiday blocks with independent scheduling to ensure the loads are always in the proper ON/OFF state. This series also includes 96 ON/OFF events for even the most demanding schedules. The scheduling capabilities, configurable outputs, and a 100-hour backup without the need of batteries, make this series ideal for nearly any application.

### FEATURES

- ▶ 100-hour supercapacitor eliminates the need for batteries
- ▶ Up to 96 set points or events
- ▶ Up to 50 holiday blocks with schedule capabilities
- ▶ Automatic input voltage selection from 120 to 277 VAC, 60 Hz
- ▶ Additional mode of operation turns the ON/OFF buttons into 2-hour overrides
- ▶ Configurable outputs allow the control of various voltages and applications
- ▶ Relays incorporate zero-crossing technology to extend the life of the control
- ▶ Non-volatile EEPROM memory protects programming indefinitely
- ▶ LED compatible
- ▶ USB port makes transferring and saving of schedules easy

### APPLICATIONS

- ▶ Outdoor Lighting Control
- ▶ Timing/Scheduling ON/OFF
- ▶ Machinery & Pump Controls

### TECHNICAL DATA

#### General

Model Number	ET2815CR
Description	Astronomic 7-Day/365 Day 1-Circuit Electronic Control, 120-277 VAC, SPDT, Outdoor Metal Enclosure
UPC Code	078275148246
Brand	Intermatic
Country of Origin (Intermatic)	MEXICO
Warranty Period	2-Year limited

#### Control Specifications

Minimum ON/OFF Times	1 min
Maximum ON/OFF Times	Indefinite
Maximum ON/OFF Operations	96
Setpoint Program Count	96
ON/OFF Operations	96
Operation Features	Astronomic; Holiday
Operation Mode	7 day
Daylight Savings Adjustment	Automatic
Backup Restoration Time	30 Minutes
Backup Type	Supercapacitor
Backup Protection Time	100 Hour
Application Compatibilities	LED

### Mechanical Specifications

Enclosure Type	Outdoor type 3R metal
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### Dimensions

Product Dimensions (H x W x D) in	10.125 x 6.5 x 3.625 in
Wire Size Min	#14 AWG
Wire Size Max	#8 AWG
Knockout Dimensions Bottom	(2) combination 1/2" - 3/4"
Knockout Dimensions Back	(1) combination 1/2" - 3/4"

### Load Ratings

Magnetic Ballast (NO) Range(s)	20 A, 120-277 VAC
Magnetic Ballast (NC) Range(s)	3 A, 120-277 VAC
Resistive (NO) Range(s)	20 A, 28 VDC; 20 A, 120-240 VAC
Resistive (NC) Range(s)	10 A, 28 VDC; 10 A, 120-240 VAC
Inductive Load Ratings NC Ranges	10 A, 120-240 VAC
Inductive Load Ratings NO Ranges	20 A, 120-240 VAC
Electronic Ballast Load Ratings NO Ranges	10 A, 120/277 VAC
Motor Load Ratings NC Ranges	1/4 HP, 120 VAC; 1/2 HP, 240 VAC
Motor Load Ratings NO Ranges	1 HP, 120 VAC; 2 HP, 240 VAC

### Electrical Specifications

Voltage Selection Type	Auto Voltage
Wiring Option	Terminals
Input Voltage Range(s)	120-277 VAC, 60 Hz
Number of Circuits	1
Switch Type	SPDT
Maximum Power Consumption (W)	3 W
Electronic Series	ET2000 Series

### Packaging

Shipping Weight (lbs)	3.3
Unit Carton Dimensions (H x W x L) in	10.063 x 3.625 x 6.5 in

### Environmental Specifications

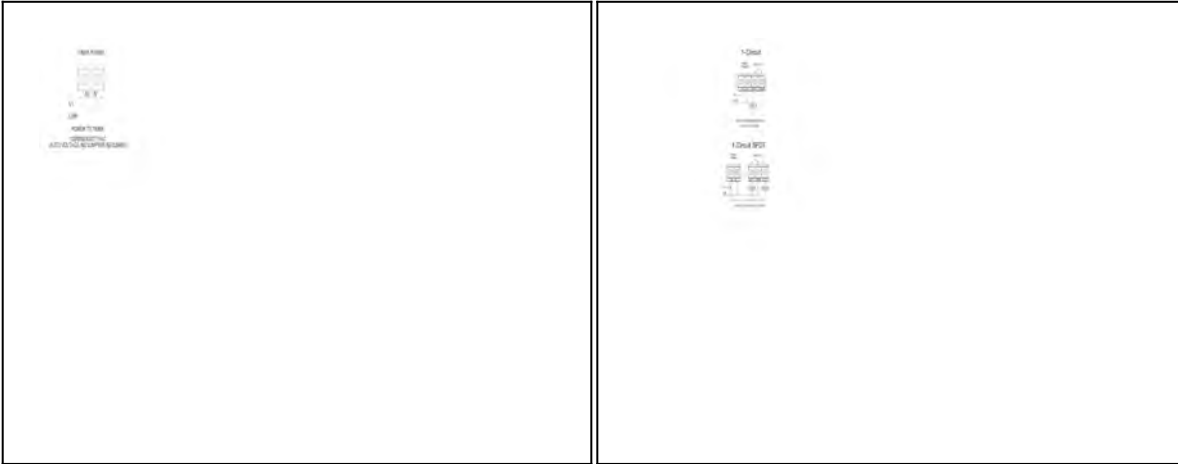
Temperature (operation)	-40 °F to 104 °F / (-40 °C to 40 °C)
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### Standards and Certifications

UL Certification	cULus
Other Certifications and Compatibilities	LED; Title 20
California Proposition 65	Lead

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**DRAWINGS AND DIAGRAMS**



**DESCRIPTION**

The patented Lumark Crosstour™ MAXX LED wall pack series of luminaires provides low-profile architectural style with super bright, energy-efficient LEDs. The rugged die-cast aluminum construction, back box with secure lock hinges, stainless steel hardware along with a sealed and gasketed optical compartment make Crosstour impervious to contaminants. The Crosstour MAXX wall luminaire is ideal for wall/ surface, inverted mount for facade/canopy illumination, perimeter and site lighting. Typical applications include pedestrian walkways, building entrances, multi-use facilities, industrial facilities, perimeter parking areas, storage facilities, institutions, schools and loading docks.

**SPECIFICATION FEATURES**

**Construction**

Low-profile LED design with rugged one-piece, die-cast aluminum back box and hinged removable door. Matching housing styles incorporate both a full cutoff and refractive lens design. Full cutoff and refractive lens models are available in 58W, 81W and 102W. Patent pending secure lock hinge feature allows for safe and easy tool-less electrical connections with the supplied push-in connectors. Back box includes four 1/2" NPT threaded conduit entry points. The back box is secured by four lag bolts (supplied by others). External fin design extracts heat from the fixture surface. One-piece silicone gasket seals door and back box. Not recommended for car wash applications.

**Optical**

Silicone sealed optical LED chamber incorporates a custom engineered reflector providing high-efficiency illumination. Full cutoff models integrate an impact-resistant molded refractive prism optical lens assembly meeting requirements for Dark Sky compliance. Refractive lens models incorporate a molded lens

assembly designed for maximum forward throw. Solid state LED Crosstour MAXX luminaires are thermally optimized with eight lumen packages in cool 5000K, neutral 4000K, or warm 3000K LED color temperature (CCT).

**Electrical**

LED driver is mounted to the die-cast aluminum housing for optimal heat sinking. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from the LED source. 58W, 81W and 102W models operate in -40°C to 40°C [-40°F to 104°F]. High ambient 50°C [122°F] models available in 58W and 81W models only. Crosstour MAXX luminaires maintain greater than 89% of initial light output after 72,000 hours of operation. Four half-inch NPT threaded conduit entry points allow for thru-branch wiring. Back box is an authorized electrical wiring compartment. Integral LED electronic driver incorporates surge protection. 120-277V 50/60Hz, 480V 60Hz, or 347V 60Hz electrical operation. 480V is compatible for use with 480V Wye systems only.

**Emergency Egress**

Optional integral cold weather battery emergency egress includes emergency operation test switch (available in 58W and 81W models only), an AC-ON indicator light and a premium extended rated sealed maintenance-free nickel-metal hydride battery pack. The separate emergency lighting LEDs are wired to provide redundant emergency lighting. Listed to UL Standard 924, Emergency Lighting.

**Finish**

Crosstour MAXX is protected with a super TGIC carbon bronze or summit white polyester powder coat paint. Super TGIC powder coat paint finishes withstand extreme climate conditions while providing optimal color and gloss retention of the installed life. Options to meet Buy American and other domestic preference requirements.

**Warranty**

Five-year warranty.



**XTOR  
 CROSSTOUR  
 MAXX LED**

**APPLICATIONS:**  
 WALL / SURFACE  
 INVERTED  
 SITE LIGHTING



**CERTIFICATION DATA**

UL/cUL Wet Location Listed  
 Dark Sky Approved (Fixed mount, Full cutoff, and 3000K CCT only)  
 DesignLights Consortium® Qualified\*  
 LM79 / LM80 Compliant  
 ROHS Compliant  
 NOM Compliant Models  
 3G Vibration Tested  
 UL924 Listed (CBP Models)  
 IP66 Rated

**TECHNICAL DATA**

40°C Ambient Temperature  
 External Supply Wiring 90°C Minimum

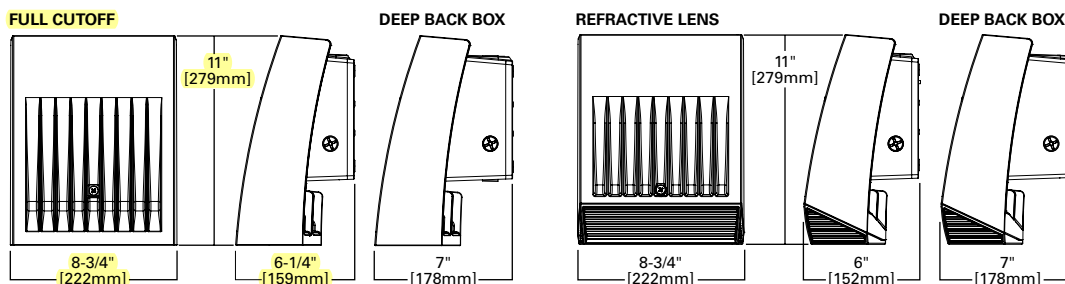
**EPA**

Effective Projected Area (Sq. Ft.):  
 XTOR6B, XTOR8B, XTOR12B=0.54

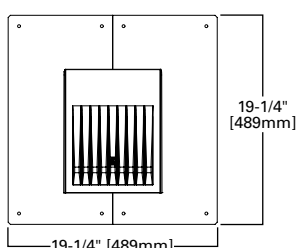
**SHIPPING DATA:**

Approximate Net Weight:  
 12-15 lbs. [5.4-6.8 kgs.]

**DIMENSIONS**



**ESCUTCHEON PLATES**

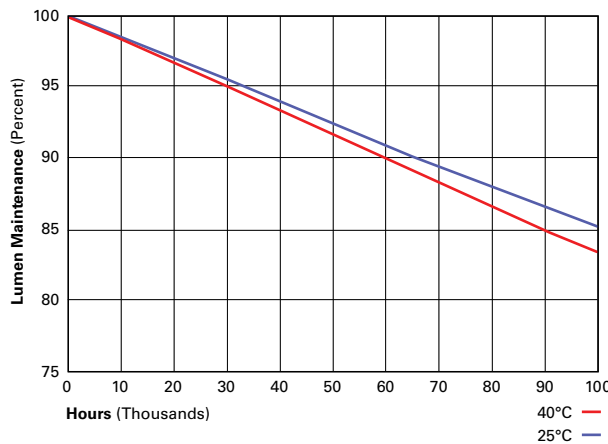


**POWER AND LUMENS BY FIXTURE MODEL**

58W Series						
LED Information	XTOR6B	XTOR6BRL	XTOR6B-W	XTOR6BRL-W	XTOR6B-Y	XTOR6BRL-Y
Delivered Lumens	6,129	6,225	6,038	6,133	5,611	5,826
B.U.G. Rating	B1-U0-G1	B2-U4-G3	B1-U0-G1	B2-U4-G3	B1-U0-G1	B2-U4-G3
CCT (Kelvin)	5000K	5000K	4000K	4000K	3000K	3000K
CRI (Color Rendering Index)	70	70	70	70	70	70
Power Consumption (Watts)	58W	58W	58W	58W	58W	58W
81W Series						
LED Information	XTOR8B	XTOR8BRL	XTOR8B-W	XTOR8BRL-W	XTOR8B-Y	XTOR8BRL-Y
Delivered Lumens	8,502	8,635	8,373	8,504	7,748	8,079
B.U.G. Rating	B2-U0-G1	B2-U4-G3	B2-U0-G1	B2-U4-G3	B2-U0-G1	B2-U4-G3
CCT (Kelvin)	5000K	5000K	4000K	4000K	3000K	3000K
CRI (Color Rendering Index)	70	70	70	70	70	70
Power Consumption (Watts)	81W	81W	81W	81W	81W	81W
102W Series						
LED Information	XTOR12B	XTOR12BRL	XTOR12B-W	XTOR12BRL-W	XTOR12B-Y	XTOR12BRL-Y
Delivered Lumens	12,728	13,458	12,539	13,258	11,861	12,595
B.U.G. Rating	B2-U0-G1	B2-U4-G3	B2-U0-G1	B2-U4-G3	B2-U0-G1	B2-U4-G3
CCT (Kelvin)	5000K	5000K	4000K	4000K	3000K	3000K
CRI (Color Rendering Index)	70	70	70	70	70	70
Power Consumption (Watts)	102W	102W	102W	102W	102W	102W
EGRESS Information	XTOR6B and XTOR8B Full Cutoff CBP Egress LED			XTOR6B and XTOR8B Refractive Lens CBP Egress LED		
Delivered Lumens	509			468		
B.U.G. Rating	N.A.			N.A.		
CCT (Kelvin)	4000K			4000K		
CRI (Color Rendering Index)	65			65		
Power Consumption (Watts)	1.8W			1.8W		

**LUMEN MAINTENANCE**

Ambient Temperature	TM-21 Lumen Maintenance (72,000 Hours)	Theoretical L70 (Hours)
<b>XTOR6B Model</b>		
25°C	> 90%	246,000
40°C	> 88%	217,000
50°C	> 88%	201,000
<b>XTOR8B Model</b>		
25°C	> 89%	219,000
40°C	> 87%	195,000
50°C	> 86%	181,000
<b>XTOR12B Model</b>		
25°C	> 89%	222,000
40°C	> 87%	198,000



**CURRENT DRAW**

Voltage	Model Series				
	XTOR6B	XTOR8B	XTOR12B	XTOR6B-CBP (Fixture/Battery)	XTOR8B-CBP (Fixture/Battery)
120V	0.51	0.71	0.94	0.60/0.25	0.92/0.25
208V	0.25	0.39	0.52	--	--
240V	0.25	0.35	0.45	--	--
277V	0.22	0.31	0.39	0.36/0.21	0.50/0.21
347V	0.19	0.25	0.33		--
480V	0.14	0.19	0.24		--

**ORDERING INFORMATION**

Sample Number: XTOR6B-W-WT-PC1

Domestic Preferences <sup>17</sup>	Series <sup>1</sup>	LED Kelvin Color	Housing Color	Options (Add as Suffix)
[Blank]=Standard BAA=Buy American Act TAA=Trade Agreements Act	<b>Full Cutoff</b> XTOR6B=58W XTOR8B=81W XTOR12B=102W  <b>Refractive Lens</b> XTOR6BRL=58W XTOR8BRL=81W XTOR12BRL=102W	[Blank]=Bright White (Standard) 5000K W=Neutral, 4000K Y=Warm, 3000K	[Blank]=Carbon Bronze (Standard) WT=Summit White BK=Black BZ=Bronze AP=Grey GM=Graphite Metallic DP=Dark Platinum	347V=347V <sup>2,3,4,5</sup> 480V=480V <sup>2,3,4,5,6</sup> PC1=Photocontrol 120V <sup>7</sup> PC2=Photocontrol 208-277V <sup>7,8</sup> MS-L20=Motion Sensor for ON/OFF Operation <sup>2,3,9,10</sup> MS/DIM-L20=Motion Sensor for Dimming Operation <sup>2,3,9,10,11,12,13</sup> CBP=Cold Weather Battery Pack <sup>2,3,14,15,16</sup> HA=50°C High Ambient <sup>16</sup>
<b>Accessories (Order Separately)<sup>18</sup></b>				
WG-XTORMX=Crosstour MAXX Wire Guard PB120V=Field Installed 120V Photocontrol PB277V BUTTON PC=Field Installed 208-277V Photocontrol <sup>8</sup>			EWP/XTORMX=Escutcheon Wall Plate, Carbon Bronze EWP/XTORMX-WT=Escutcheon Wall Plate, Summit White FSIR-100=Wireless Configuration Tool for Occupancy Sensor <sup>13</sup>	

- NOTES:**
1. DesignLights Consortium<sup>®</sup> Qualified and classified for both DLC Standard and DLC Premium, refer to www.designlights.org for details.
  2. Not available with HA option.
  3. Deep back box is standard for 347V, 480V, CBP, MS-L20 and MS/DIM-L20.
  4. Not available with CBP option.
  5. Thru-branch wiring not available with HA option or with 347V.
  6. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
  7. Not available with MS-L20 and MS/DIM-L20 options.
  8. Use PC2 with 347V or 480V option for photocontrol. Factory wired to 208-277V lead.
  9. For use in downlight orientation only. Optimal coverage at mounting heights of 9'-20'.
  10. 120V thru 277V only.
  11. Factory set to 50% power reduction after 15-minutes of inactivity. Dimming driver included.
  12. Includes integral photo sensor.
  13. The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff, and more. Consult your lighting representative at Cooper Lighting Solutions for more information.
  14. 120V or 277V operation only.
  15. Operating temperatures -20°C to 25°C.
  16. Not available in XTOR12B or XTOR12BRL models.
  17. Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to [DOMESTIC PREFERENCES](#) website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.
  18. Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.

**STOCK ORDERING INFORMATION**

Domestic Preferences <sup>1</sup>	58W Series	81W Series	102W Series
[Blank]=Standard	<b>Full Cutoff</b>		
BAA=Buy American Act	XTOR6B=58W, 5000K, Carbon Bronze	XTOR8B=81W, 5000K, Carbon Bronze	XTOR12B=102W, 5000K, Carbon Bronze
TAA=Trade Agreements Act	XTOR6B-PC1=58W, 5000K, 120V PC, Carbon Bronze	XTOR8B-PC1=81W, 5000K, 120V PC, Carbon Bronze	
	XTOR6B-WT= 58W, 5000K, Summit White	XTOR8B-WT=81W, 5000K, Summit White	
	XTOR6B-W=58W, 4000K, Carbon Bronze	XTOR8B-PC2=81W, 5000K, 208-277V PC, Carbon Bronze	
	XTOR6B-PC2= 58W, 5000K, 208-277V PC, Carbon Bronze	XTOR8B-347V=81W, 5000K, Carbon Bronze, 347V	
	<b>Refractive Lens</b>		
	XTOR6BRL=58W, 5000K, Refractive Lens, Carbon Bronze	XTOR8BRL=81W, 5000K, Refractive Lens, Carbon Bronze	XTOR12BRL=102W, 5000K, Refractive Lens, Carbon Bronze
	XTOR6BRL-PC1=58W, 5000K, Refractive Lens, 120V PC, Carbon Bronze	XTOR8BRL-PC1=81W, 5000K, Refractive Lens, 120V PC, Carbon Bronze	XTOR12BRL-W=102W, 4000K, Refractive Lens, Carbon Bronze
	XTOR6BRL-WT=58W, 5000K, Refractive Lens, Summit White	XTOR8BRL-WT=81W, 5000K, Refractive Lens, Summit White	XTOR12BRL-347V=102W, 5000K, Refractive Lens, Carbon Bronze, 347V
	XTOR6BRL-W=58W, 4000K, Refractive Lens, Carbon Bronze	XTOR8BRL-PC2=81W, 5000K, Refractive Lens, 208-277V PC, Carbon Bronze	
	XTOR6BRL-PC2=58W, 5000K, Refractive Lens, 208-277V PC, Carbon Bronze	XTOR8BRL-W=81W, 4000K, Refractive Lens, Carbon Bronze	
	XTOR6BRL-347V=58W, 5000K, Refractive Lens, Carbon Bronze, 347V	XTOR8BRL-347V = 81W, 5000K, Refractive Lens, Carbon Bronze, 347V	

- NOTES:**
1. Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to [DOMESTIC PREFERENCES](#) website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.

# VRB1 LED Round Bollard

SINGLE FUNCTION, VANDAL-RESISTANT, ALUMINUM SHAFT

**Type:**  
**Job:**  
**Catalog number:**

**Approvals:**

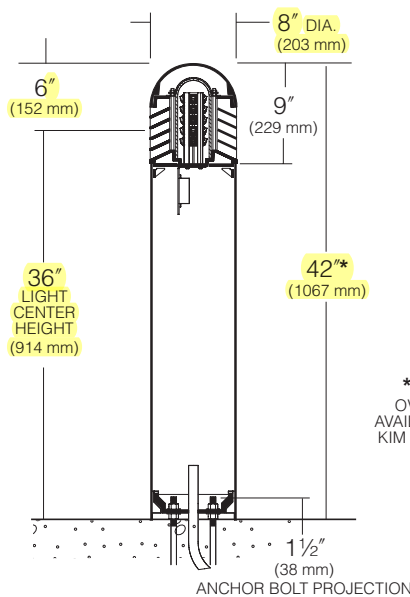
<b>VRB1</b>	/	/	/
Fixture	Electrical Module	Luminaire Finish (includes top cap and shaft)	Option
See page 2			

**Date:**  
**Page: 1 of 4**

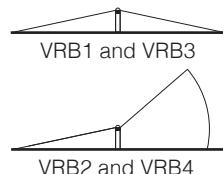
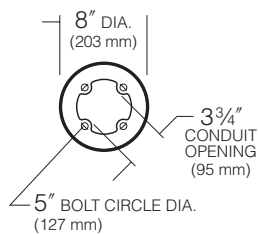
## Specifications

**VRB-LED Models**  
10 - 20 Diodes

**VRB1- Single Function Luminaire (Aluminum Shaft)**  
Maximum weight: 30 lb



**BASE PLAN VRB ALUMINUM SHAFT**



**Domed Top Cap:** One-piece die-cast aluminum secured to louvers by concealed allen screws in keyhole slots. For relamping access, allen screws shall not require complete removal.

**Louvers:** Aluminum die-cast with vertical support ribs at 90° intervals. Horizontal louver blades shall have a 13/4" depth, a 65° upward pitch and provide light source cutoff above horizontal. Louver assembly shall be secured to shaft by four internal tie rods.

**Lamp Enclosure:** One-piece tempered molded glass with internal flutes and full gasketing at bottom edge.

**Fixture Head:** Allows flow-through ventilation around and above the lamp enclosure.

**Shaft:** One-piece extruded aluminum, .125" wall thickness with a heavy cast aluminum twist-lock anchor base concealed within the shaft. Concealed set screws shall lock shaft onto the cast anchor base.

**Electronic Module:** All electrical components are either UL or ETL recognized, mounted on a single plate and factory prewired with quick disconnect plugs. Driver is rated for -40°F starting and has a 0-10V dimming interface for multi-level illumination options.

**Optical Module:** Each LED equipped with a directional optic for maximum beam angle projecting through louver stack spacings. LED boards to be mounted to an anodized inter-locking heat sink extrusion. (Type I) two 5-LED boards for a total of 10-LED. (Type III) three 5-LED boards for a total of 15-LED. (Type V) four 5-LED boards for a total of 20-LED. Available in 580nm Amber, 3000K, 4000K and 5000K color temperatures.

**Anchor Bolts:** Four 3/8" x 10" + 2" zinc plated L-hooks, each with two nuts, washers and a rigid pressed board template.

**Finish:** Each luminaire receives a fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat finish.

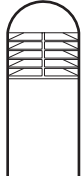
**Listed to:** UL 1598 Standard for Luminaires - UL 8750 Standard for Safety for Light Emitting Diode (LED) Equipment for use in Lighting Products and CSA C22.2#250.0 Luminaires. RoHS compliant. Meets Buy American provisions within ARRA.

**CAUTION:** Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

KIM LIGHTING RESERVES THE RIGHT TO CHANGE SPECIFICATIONS WITHOUT NOTICE

# VRB1 LED Round Bollard

SINGLE FUNCTION, VANDAL-RESISTANT, ALUMINUM SHAFT



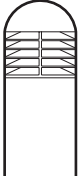
## Standard and Optional Features

<p><b>Fixture</b></p>	<p>Cat. No. <b>VRB1</b> Single Function, Aluminum Shaft, Domed Top</p>				
<p><b>Electrical Module</b> LED = Light Emitting Diode</p>	<p>Cat. Nos. for LED Electrical Modules available:</p> <table border="0" style="width: 100%;"> <tr> <td style="text-align: center; vertical-align: top;"> <p><b>xL</b></p> <p><b>Source:</b></p> <ul style="list-style-type: none"> <li>  <b>10L</b>= 10 LED (IES Type I)</li> <li>  <b>15L</b>= 15 LED (IES Type III)</li> <li>  <b>20L</b>= 20 LED (IES Type V)</li> </ul> </td> <td style="text-align: center; vertical-align: top;"> <p><b>xK</b></p> <p><b>Color Temperature:</b></p> <ul style="list-style-type: none"> <li>  2K = 590nm - Amber</li> <li>  <b>3K = 3000K</b></li> <li>  4K = 4000K</li> <li>  5K = 5000K</li> </ul> </td> <td style="text-align: center; vertical-align: top;"> <p><b>UV</b></p> <p><b>Voltage:</b></p> <ul style="list-style-type: none"> <li>  <b>UV</b> Universal Voltage shall range from 120V-277V</li> </ul> </td> </tr> </table>		<p><b>xL</b></p> <p><b>Source:</b></p> <ul style="list-style-type: none"> <li>  <b>10L</b>= 10 LED (IES Type I)</li> <li>  <b>15L</b>= 15 LED (IES Type III)</li> <li>  <b>20L</b>= 20 LED (IES Type V)</li> </ul>	<p><b>xK</b></p> <p><b>Color Temperature:</b></p> <ul style="list-style-type: none"> <li>  2K = 590nm - Amber</li> <li>  <b>3K = 3000K</b></li> <li>  4K = 4000K</li> <li>  5K = 5000K</li> </ul>	<p><b>UV</b></p> <p><b>Voltage:</b></p> <ul style="list-style-type: none"> <li>  <b>UV</b> Universal Voltage shall range from 120V-277V</li> </ul>
<p><b>xL</b></p> <p><b>Source:</b></p> <ul style="list-style-type: none"> <li>  <b>10L</b>= 10 LED (IES Type I)</li> <li>  <b>15L</b>= 15 LED (IES Type III)</li> <li>  <b>20L</b>= 20 LED (IES Type V)</li> </ul>	<p><b>xK</b></p> <p><b>Color Temperature:</b></p> <ul style="list-style-type: none"> <li>  2K = 590nm - Amber</li> <li>  <b>3K = 3000K</b></li> <li>  4K = 4000K</li> <li>  5K = 5000K</li> </ul>	<p><b>UV</b></p> <p><b>Voltage:</b></p> <ul style="list-style-type: none"> <li>  <b>UV</b> Universal Voltage shall range from 120V-277V</li> </ul>			
<p><b>Finish</b> TGIC thermoset polyester powder coat paint applied over a titanated zirconium conversion coating on fixture and shaft.</p>	<table border="0" style="width: 100%;"> <tr> <td style="vertical-align: top;"> <p>Cat. No.: Color:</p> <ul style="list-style-type: none"> <li>  <b>BLS</b> Black Gloss Smooth</li> <li>  <b>BLT</b> Black Matte Textured</li> <li>  <b>DBS</b> <b>Dark Bronze Gloss Smooth</b></li> <li>  <b>DBT</b> Dark Bronze Matte Textured</li> <li>  <b>GTT</b> Graphic Matte Textured</li> <li>  <b>LGS</b> Light Grey Gloss Smooth</li> </ul> </td> <td style="vertical-align: top;"> <p>Cat. No.: Color:</p> <ul style="list-style-type: none"> <li>  <b>LGT</b> Light Grey Matte Textured</li> <li>  <b>PSS</b> Platinum Silver Gloss Smooth</li> <li>  <b>VGT</b> Verde Green Matte Textured</li> <li>  <b>WHS</b> White Gloss Smooth</li> <li>  <b>WHT</b> White Matte Textured</li> <li>  <b>CC</b><sup>1</sup> Custom Color</li> </ul> </td> </tr> </table> <p><b>NOTE:</b> Black and Dark Bronze colors will produce slightly less louver brightness than Light Gray or White.</p> <p><sup>1</sup>Custom colors subject to additional charges, minimum quantities and extended lead times. Consult representative. Custom color description: _____</p>		<p>Cat. No.: Color:</p> <ul style="list-style-type: none"> <li>  <b>BLS</b> Black Gloss Smooth</li> <li>  <b>BLT</b> Black Matte Textured</li> <li>  <b>DBS</b> <b>Dark Bronze Gloss Smooth</b></li> <li>  <b>DBT</b> Dark Bronze Matte Textured</li> <li>  <b>GTT</b> Graphic Matte Textured</li> <li>  <b>LGS</b> Light Grey Gloss Smooth</li> </ul>	<p>Cat. No.: Color:</p> <ul style="list-style-type: none"> <li>  <b>LGT</b> Light Grey Matte Textured</li> <li>  <b>PSS</b> Platinum Silver Gloss Smooth</li> <li>  <b>VGT</b> Verde Green Matte Textured</li> <li>  <b>WHS</b> White Gloss Smooth</li> <li>  <b>WHT</b> White Matte Textured</li> <li>  <b>CC</b><sup>1</sup> Custom Color</li> </ul>	
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# VRB1 LED Round Bollard

SINGLE FUNCTION, VANDAL-RESISTANT, ALUMINUM SHAFT

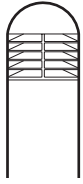


## Standard and Optional Features

<p><b>Battery Back-up</b> Cat. No.   <b>EM</b>   <b>No Option</b></p>	<p>Internal battery pack provides 90 minutes of supplemental light at 50% of initial lamp lumens.</p>	 battery back-up
<p><b>Optional Duplex Receptacle</b> Cat. No.   <b>DR</b>   <b>DR-GFI</b>   <b>No Option</b></p>	<p>Mounted 18" from bottom of shaft, in a cast aluminum box that is internally welded and sealed with a gasketed While-In-Use cover with locking tab. Painted to match bollard. <b>DR</b> weather proof duplex receptacle rated 20A, 125V. <b>DR-GFI</b> weather proof duplex receptacle with ground fault circuit interrupter rated 20A, 125V.</p>	
<p><b>0-10V Dimming Interface</b></p>	<p>Driver has a 0-10V dimming interface with a dimming range of 10-100%. Is compatible with most control systems. Note: Not compatible with current sourcing dimmers. Controls compatible via Pink and Purple dimming lead.</p>	

# VRB1 LED Round Bollard

SINGLE FUNCTION, VANDAL-RESISTANT, ALUMINUM SHAFT



## Lumen Data

Spectroradiometric			
	3000K Average	4000K Average	5000K Average
Correlated Color Temp. CCT (K)	2800K - 3175K	3800K - 4600K	4600K - 5600K
Color Rendering Index (CRI)	≥75	≥70	≥65
Power Factor	>.90	>.90	>.90

Projected Lumen Maintenance		
mA	50,000 hrs	100,000 hrs
350mA	N/A	N/A

Based on 20LED version.

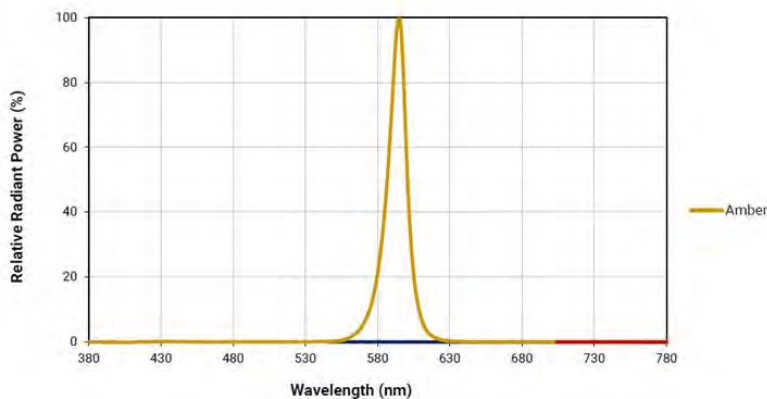
Electrical Drive Current - @350mA						
Volts - AC	Type 1		Type 3		Type 5	
	Amps - AC	System Watts	Amps - AC	System Watts	Amps - AC	System Watts
120	0.11	13	0.16	19	0.21	25
208	0.06	13	0.09	19	0.12	25
240	0.05	13	0.08	19	0.10	25
277	0.05	13	0.07	19	0.09	25

B.U.G. Rating (TM15) in Lumens where B = Backlight, U = Uplight, G = Glare			
Temperature	TYPE 1	TYPE 3	TYPE 5
3000K	B1 U2 G1	B1 U2 G1	B1 U2 G1
4000K	B1 U2 G1	B1 U2 G1	B1 U2 G1
5000K	B1 U2 G1	B1 U2 G1	B1 U2 G1

Absolute Lumens			
Temperature	TYPE 1	TYPE 3	TYPE 5
3000K	396	567	811
4000K	491	703	1005
5000K	515	739	1057

LED performance and lumen output continues to improve at a rapid pace. For custom optics and color temperature configurations, contact factory.

Wavelength (nm)

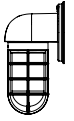




SPS-0697 REV B

**STREAMLINE LED INDUSTRIAL GUARD SCONCE**

JOB NAME: \_\_\_\_\_ FIXTURE TYPE: \_\_\_\_\_



Order Example: BLE - W - CGG - 975 - WH - CGG - 705 - FST - NA - LED16.8 - 2700K

**A - MOUNTING & TOP FINISH**

*POWDER COAT FINISHES:*

- 100 Black
- 105 Textured Black
- 106 Matte Black
- 200 White
- 206 Matte White
- 300 Dark Green
- 307 Emerald Green
- 311 Jadite
- 370 Mint
- 380 Chartreuse
- 390 Teal
- 400 Barn Red
- 420 Orange
- 470 Watermelon
- 480 Blush Pink
- 490 Magenta
- 495 Sherbet Orange
- 500 Buttery Yellow
- 570 Sunflower
- 600 **Bronze**
- 601 Chocolate
- 605 Rust
- 615 Oil-Rubbed Bronze
- 700 Royal Blue
- 705 Navy
- 710 Cobalt Blue
- 715 Delphite Blue
- 790 Lavender
- 800 Industrial Grey
- 805 Charcoal Granite

**A - MOUNTING & TOP FINISH (CONT'D.)**

*POWDER COAT FINISHES:*

- 810 Graphite
- 975 Galvanized

**B - OPTIONAL SHADE**

- NA No Shade
- FS **Flared Shade**
- WH Warehouse Shade

**C - CAST GUARD OPTION**

- WGG Wire Guard
- CGG Standard Cast Guard
- TGG **Heavy Duty Cast Guard**

**D - GUARD FINISH**

*POWDER COAT FINISHES:*

- 100 Black
- 105 Textured Black
- 106 Matte Black
- 200 White
- 206 Matte White
- 300 Dark Green
- 307 Emerald Green
- 311 Jadite
- 370 Mint
- 380 Chartreuse
- 390 Teal
- 400 Barn Red
- 420 Orange
- 470 Watermelon
- 480 Blush Pink
- 490 Magenta
- 495 Sherbet Orange
- 500 Buttery Yellow
- 570 Sunflower
- 600 **Bronze**
- 601 Chocolate
- 605 Rust
- 615 Oil-Rubbed Bronze
- 700 Royal Blue
- 705 Navy
- 710 Cobalt Blue
- 715 Delphite Blue
- 790 Lavender
- 800 Industrial Grey
- 805 Charcoal Granite

**D - GUARD FINISH (CONT'D.)**

*POWDER COAT FINISHES:*

- 810 Graphite
- 975 Galvanized

**E - GLASS OPTIONS**

- CLR Clear Glass<sup>1</sup>
- FST Frosted Glass
- RIB **Ribbed Glass**

**F - OPTIONAL ACCESSORIES**

- NA None
- DD Dusk-to-Dawn Photocell

**G - LIGHT SOURCE**

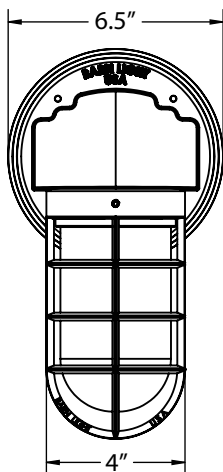
- LED16.8 1600 LM

**H - COLOR TEMPERATURE**

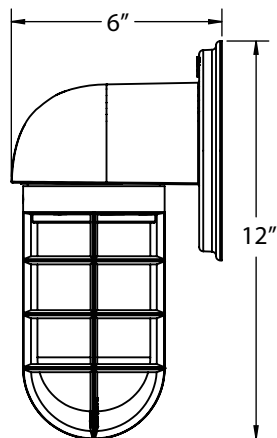
- 2700K 2700K, Warm White
- 3000K **3000K, Neutral White**
- 3500K 3500K, Bright White
- 4000K 4000K, Cool White

IMPORTANT: (1) Clear Glass not recommended

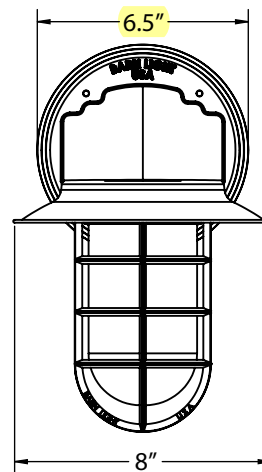
**MOUNTING DIMENSIONS**



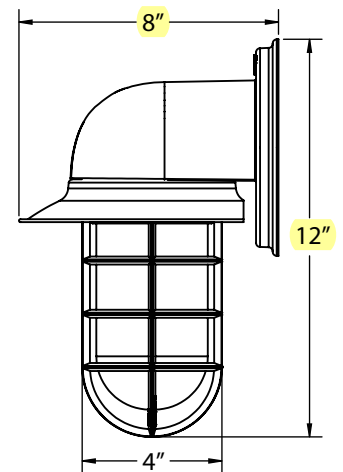
SHOWN WITH: NO OPTIONAL SHADE



SIDE VIEW

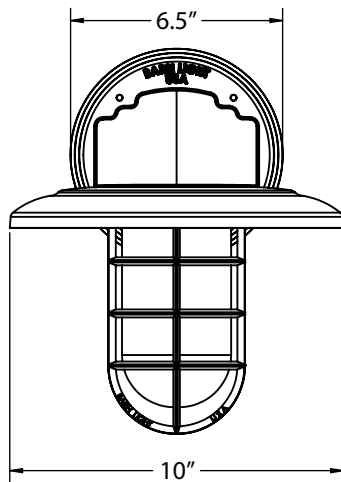


SHOWN WITH: FLARED SHADE

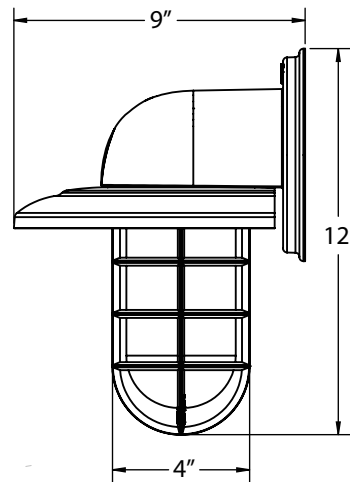


SIDE VIEW

**MOUNTING DIMENSIONS (CONTINUED)**



SHOWN WITH: WAREHOUSE SHADE



SIDE VIEW

**SPECIFICATIONS**

**CERTIFICATIONS, LISTINGS & WARRANTY**

MADE IN THE USA  
Manufactured and Hand-Crafted in Our 60,000 Square Foot Facility  
Located in Titusville, FL

CSA LISTED FOR WET LOCATIONS  
Only When Mounted Vertically

LIMITED WARRANTY  
For Additional Information on Our Limited Warranty, Please See  
Our Terms & Conditions

**CONSTRUCTION & FINISH**

OPTIONAL SHADE  
Hand-Spun from High Purity 3003-O Temper Aluminum

POWDER COAT FINISHES  
Polyester Powder Coat Finishes Are Electro-Statically Applied and  
Thermocured

**LED LIGHT SOURCE**

AVAILABLE CCT: 2700K, 3000K, 3500K, 4000K  
90+ CRI

**LED16.8 ELECTRICAL/LED DRIVER**

DRIVE CURRENT: 400mA  
POWER FACTOR > 0.9  
EFFICIENCY: UP TO 85% TYPICAL  
INPUT VOLTAGE: 120 VAC  
CLASS 2 POWER SUPPLY  
LED DRIVER LIFETIME: > 100,000 HOURS (@ 25 DEG C AMBIENT)

**LED16.8 ELECTRICAL/LED DRIVER (CONTINUED)**

IP20 MINIMUM RATING CASE WITH SILICONE-BASED POTTING

PROTECTIONS

Output Open Load, Over-Current and Short-Circuit (hiccup), and  
Over-Temperature with Auto Recovery

CONDUCTED AND RADIATED EMI

Compliant with FCC CFR Title 47 Part 15 Class B (120 VAC), Class A  
(277 VAC) and EN55015 (CISPR 15) at 220, 230 and 240 VAC

COMPLIANT WITH

Complies with Energy Star® DLR (DesignLight Consortium®) and CA  
Title 24 Technical Requirements

**DIMMING**

LED 16.8

Triac & ELV Dimming at 120VAC, Able to Dim down to 1%.  
Dependent on Specific Dimmer.  
0-10V Dimming Available upon Request.

COMPATIBLE DIMMERS

Consult Factory for Additional Information on Dimming



**EasyLyte downlights** are adaptable, and flexible for your changing project needs. EasyLyte is your best choice without sacrificing ease of installation or product quality. Ideal for use in open office, healthcare, design build, and other light commercial applications.

Standard luminaire = Frame + Engine/Trim + Accessories (optional)

Project: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Cat.No: \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Qty: \_\_\_\_\_  
 Notes: \_\_\_\_\_

## KCHA: Aspen Ridge Apartments Type: EX2

example: 4RN

### Frame

Series	Aperture	Installation	Options
<b>4</b>	<b>R</b>		
<b>4</b> Uniframe 4-inch	<b>R</b> Round	<b>N</b> New construction (Non-IC) <b>R</b> Remodeler (Non-IC) <b>A</b> AirSeal (IC) <sup>1</sup>	<ul style="list-style-type: none"> <li>— Universal 120/277/347V<sup>2</sup></li> <li><b>LC</b> Chicago Plenum<sup>3</sup></li> <li><b>EM6</b> Emergency, 6W Self-Test/Self-Diagnostic (not available for BAC)<sup>3,4</sup></li> </ul>

**3** 347V (for non-Z10 configurations)  
**RADIO** Integral Interact Pro RF sensor (120/277/347V) (enables wireless connected lighting control)<sup>3,5</sup> requires above ceiling access

### Engine / Trim

example: Z4RDL20935WOCZ10U

Series	Lumen	CRI/CCT	Beam	Style	Reflector	Flange	Dimming	Voltage
<b>Z4RDL</b>			<b>W</b>					
<b>Z4RDL</b> EasyLyte 4-inch Round downlight	<ul style="list-style-type: none"> <li><b>05</b> 500lm</li> <li><b>10</b> 1000lm</li> <li><b>15</b> 1500lm</li> <li><b>20</b> 2000lm</li> <li><b>25</b> 2500lm</li> </ul>	<ul style="list-style-type: none"> <li><b>927</b> 90CRI / 2700K</li> <li><b>930</b> 90CRI / 3000K</li> <li><b>935</b> 90CRI / 3500K</li> <li><b>940</b> 90CRI / 4000K</li> <li><b>950</b> 90CRI / 5000K</li> </ul>	<b>W</b> Wide	<ul style="list-style-type: none"> <li><b>O</b> Open</li> <li><b>S</b> Step baffle</li> </ul>	<ul style="list-style-type: none"> <li><b>WH</b> White</li> <li><b>BK</b> Black</li> <li><b>DB</b> Dark Bronze</li> <li><b>CD</b> Clear Diffuse</li> </ul>	<ul style="list-style-type: none"> <li>— White (matte)</li> <li><b>BK</b> Black (matte)</li> </ul>	<ul style="list-style-type: none"> <li><b>Z10</b> 0-10V 1%</li> </ul>	<ul style="list-style-type: none"> <li><b>U</b> 120/277V</li> <li><b>3</b> 347V<sup>7,8</sup> (Z10 only)</li> </ul>
							<b>L</b> Lutron LDE1 EcoSystem (not avail. with 500lm)	<b>U</b> 120/277/347V
							<b>E</b> ELV <sup>6</sup>	<b>1</b> 120V
							<b>P</b> Power over Ethernet (PoE)	<b>E</b> Ethernet 48V DC

### Accessories (learn more on page 2)

- SBA** Interact Ready System Bridge Accessory with integral occupancy and daylight sensor (compatible with all 0-10V options, see SBA spec sheet)<sup>9</sup>
- CAEM6** Field installable Bodine BSL6 6W battery pack with self-test/self-diagnostic for use with new construction (N) frames, 120-277V
- AMS** ActiLume multi-sensor (optional accessory for PoE configurations)
- CAEM6TSCP** Surface mount cover plate to remote mount test switch for EM6 frame option.

### Sloped Ceiling

example: 7920MD

Series	Degree of Slope
<b>7920</b> Sloped Ceiling Adapter 4"	<b>MC</b> 5° <b>MF</b> 20°
	<b>MD</b> 10° <b>MG</b> 25°
	<b>ME</b> 15° <b>MH</b> 30°

1. There is a 2000lm (20) limit with 4" (4RA) IC housings.
2. Universal 120-347V is for 0-10v (Z10) dimming configurations only.  
For 347V non-Z10 dimming, order 347V (3) frame with (U) light engine/trim.
3. Interact Pro (RADIO), Emergency (EM6) and Chicago Plenum (LC) are only available with New construction (N) installs.
4. EM6 option compatible with new construction (N) frame only. Order CAEM6TSCP ceiling mounting plate accessory for remote mounted test switch. EM6 option not compatible with Power over Ethernet or 347V configurations.
5. Integral Interact Pro RF sensor enables network lighting control; to be specified with 0-10V light engines only.
6. ELV (E) dimming is only compatible with 1000lm (10), 1500lm (15), 2000lm (20) configurations.  
Not compatible with 347V frame options.
7. Specify standard UNV frame for use with 347V light engines.
8. The 347V light engine voltage option is available only with Z10 dimming option.  
For other dimming protocols order (U) light engine and 347V (3) frame.
9. Requires IRT9015 IR remote & Interact Pro App for commissioning.



# Z4RDL EasyLyte 4"

## Round Downlight

**KCHA: Aspen Ridge Apartments**  
**Type: EX2**

### Features

#### Optics

- Provides a 70° cutoff (physical and reflected)
- Wide beam distribution for general illumination
- Spun aluminum outer reflector with integral flange painted white
- Injection molded plastic trim inserts in splay and baffle options
- Reflectors available in painted clear diffuse, white, black and dark bronze

#### Quality of light

- Lumen Maintenance: L70 at 60,000 hours
- Color consistency: 2 SDCM
- 90 CRI minimum

### Construction (New Construction)

- Galvanized stamped steel for dry / plaster ceilings.
- Pre-installed telescoping mounting bars (13" - 24")
- Frame accommodates C- channel, black iron, and 3/4" EMT for mounting distances greater than 24" between joists.
- Manufactured from 20 gage galvanized steel construction with rolled edge aperture to guide cutting tools for perfect hole cutting.

**Max ceiling thickness is 1.5" (38 mm).  
Including PoE frame 4.88" (124 mm).**

#### Patented install Mounting frame

- Pre-installed mounting bars allow for fast and tool-less install into T-grid and hat channel ceilings
- Close-cut aperture design eliminates an undesired gap between ceiling material and reflector.
- Simple plug-and-play connection between frame and light engine from below the ceiling allows for:
  - Easy upgrades
  - Technology changes
  - Repairs and troubleshooting

### Dimming

#### 120/277V

- Advance 0-10V 1% dimming
- Lutron Hi-lume EcoSystem H Series 1% dimming

#### 347V

- Integral 347V drivers available for 0-10v (Z10) light engine configurations with standard universal frames.
- For 347V and non-0-10v dimming, order (U) light engine and 347V (3) frame (includes step down transformer). Not compatible with ELV dimming.

### Emergency

Remote ceiling mounted test switch. Accessory ceiling mounting plate available (CAEM6TSCP) for remote mounted test switch. See Calculite-LyteProfile-EasyLyte Emergency Battery Pack specification sheet for more details.

### Power over Ethernet

**Powered via Philips PoE lighting controller:** complies with FCC rules per Title 47 part 15 (Class A) for EMI / RFI (conducted & radiated). PoE lighting controller accessible from below ceiling.

**Rated life:** 60,000 hrs at 70% lumen maintenance based on IES LM-80-08 and TM-21-11.

### Sloped Ceiling Adapter

**Material:** 16 ga. spun aluminum, matte white finish.

**Installation:** Installs with standard recessed fixture in sloped ceilings without changing the vertical axis of the fixture or its lighting characteristics.

**Perforated Tabs (4):** Provide temporary support for the slope ceiling adapter during installation.

**Locking Screws (4):** Secure slope ceiling adapter to mounting frame of fixture.

**Support:** Fixture must be supported by ceiling structure – not Slope Ceiling Adapter.

### Options and Accessories

**Field Installed Emergency:** Refer to Calculite-Lyte-Profile-EasyLyte Emergency Battery Pack specification sheet for more details.

**CAEM6:** Field install EM6 kit with Bodine BSL6 6W battery pack with self-test/self-diagnostic, mounts to new construction frame. Includes ceiling plate for remote test switch.

**CAEM6TSCP:** Ceiling cover plate for remote mounted EM6 test switch. 1" (25mm) hole, 4 3/8" (109mm) x 2 3/8" (69mm) rectangular. Includes two mounting screws.

### ENERGY STAR® exceptions

- 500lm configurations
- Black & Dark bronze finishes
- Power Over Ethernet drivers

### Labels and Listings

- cULus listed for wet location
- ENERGY STAR® certified
- RoHS certified
- Consult factory for Buy America Compliance

### Warranty



5 year limited warranty  
Visit [Signify.com/warranties](https://www.signify.com/warranties) for more information on Signify's standard 5-year limited warranty on complete luminaire systems.

### Finishes



#### White

Brightest aperture when illuminated and provides the smoothest transition to most ceilings when off (only available with a white flange).



#### Black

Specular finish that provides the lowest aperture brightness possible and reduces source identification in a ceiling significantly.



#### Dark Bronze

Specular finish that provides the lowest aperture brightness possible and reduces source identification in a ceiling significantly.



#### Clear diffuse

Slightly diffuse clear finish that softens the light and reduces the mirror image effect with traditional aluminum specular finishes (only available with a white flange).

# Z4RDL EasyLyte 4"

## Round Downlight

**KCHA: Aspen Ridge Apartments**  
Type: EX2

# interact

### Interact Pro scalable system

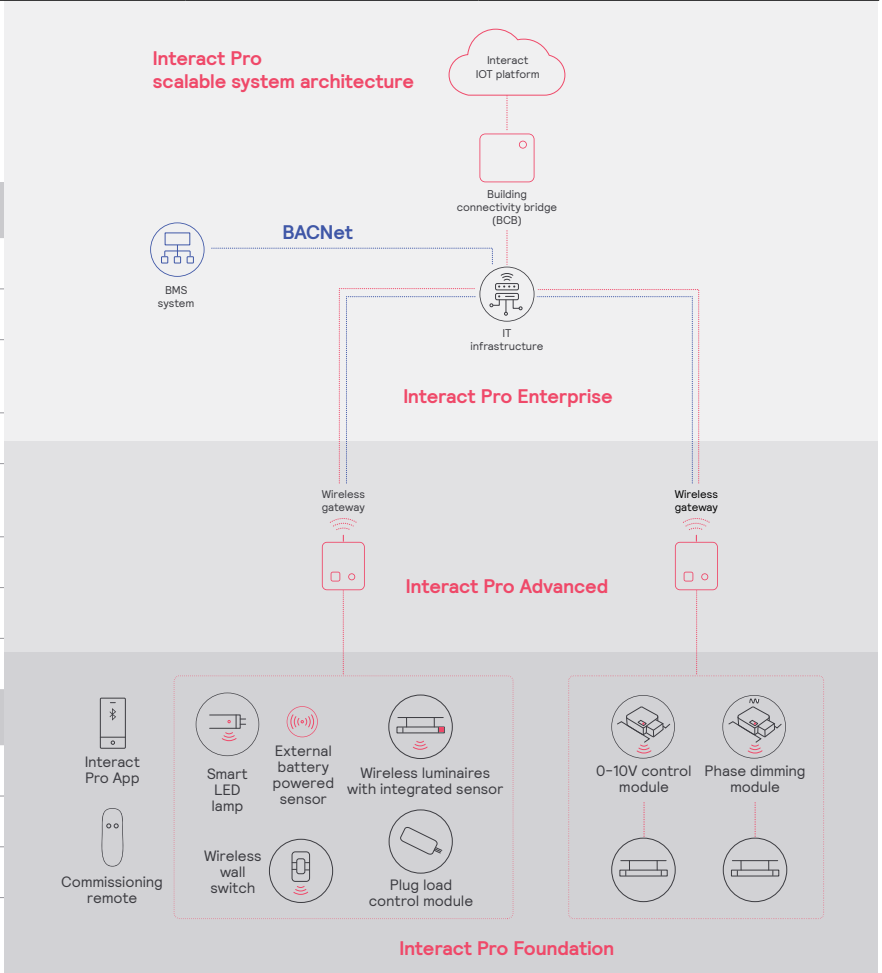
	Foundation	Advanced	Enterprise
Dimming, grouping, and zoning	✓	✓	✓
Bluetooth and ZigBee enabled	✓	✓	✓
Motion sensing and daylight harvesting	✓	✓	✓
Integration with 0-10V and phase dimming fixtures	✓	✓	✓
Code compliance	✓	✓	✓
Granular dimming and dwell time	✓	✓	✓
Energy reporting and monitoring		✓	✓
Scheduling		✓	✓
Demand response		✓	✓
BMS integration (BACnet)			✓
Floor plan visualization			✓
IoT sensors for wellness			✓
IoT Apps for productivity			✓

### Currently supported maximum system size

To be able to design the lighting system correctly for the customer, it is important to know the prime characteristics of the system, its possibilities and limitations.

System level	
Total number of gateways	Unlimited
Total number of devices	200 per network
<ul style="list-style-type: none"> <li>• luminaires with integrated sensors</li> </ul>	150
<ul style="list-style-type: none"> <li>• smart TLEDS</li> </ul>	150
Total number of ZGP devices (sensors and switches)	50
<ul style="list-style-type: none"> <li>• sensors</li> </ul>	30
<ul style="list-style-type: none"> <li>• switches</li> </ul>	50
<ul style="list-style-type: none"> <li>• zones and groups</li> </ul>	64
Group level	
Recommended number of lights	40 (recommended 25)
Number of ZGP devices	5
Number of scenes	16

### Interact Pro scalable system architecture



## Round Downlight

---

### Wireless Controls Options

#### Interact Pro scalable sensor (System Bridge Accessory with -CS option):

- CS is a connected sensor with integral occupancy and daylight sensing and supports wireless mesh connectivity.
- The sensor works in the Foundation mode (similar to SpaceWise) when configured without a gateway or in an Interact Pro Advanced or Enterprise mode if a compatible gateway is used.
- Interact Pro includes an App, a portal and a broad portfolio of wireless luminaires, lamps and retrofit kits all working on the same system.
- Startup is implemented via Interact Pro App (Android or iPhone) & Bluetooth connectivity. The App provides flexibility to choose between a gateway or non gateway mode for setup.
- Setup with the gateway requires wired internet access to the gateway. It is possible to add a gateway at a later point.
- Prepare project configuration steps remotely and use IRT9015 remote onsite to identify and group devices together.
- Compatible with:
  - SWS200 wireless scene switch
  - Battery powered IP42 presence sensor OCC sensor IA CM WH 10/1
  - Battery powered IP42 presence & daylight sensor OCC-DL sensor IA CM IP42 WH
  - Battery powered IP65 presence sensor OCC sensor IA CM IP65 WH
  - Battery powered IP65 presence & daylight sensor OCC-DL sensor IA CM IP65 WH
- For more information on Interact Pro visit: [www.interact-lighting.com/interactproscalablesystem](http://www.interact-lighting.com/interactproscalablesystem).

#### Interact Pro Enterprise (System Bridge Accessory with -SB option):

- A wireless IoT connected lighting solution for large enterprises that span across multiple floors, buildings and require multiple gateways.
- View all your projects under one dashboard and easily compare insights from multiple projects in one view.
- Compatible with SWS200 wireless scene switch, wireless Occ sensor (OCC SENSOR IA CM IP42 WH 10/1) and wireless Day/Occ sensor (OCC MULTI SENSOR IA CM WH 10/1) and wireless Occupancy or Daylight & Occupancy sensors available.
- Use Interact software and insights to increase building efficiency, achieve building wide integration and optimize space through occupancy analytics.
- SB option in addition to occupancy and daylight sensing supports advanced IoT capabilities such as people estimation analysis, desk level temperature & humidity sensing, noise classification, and BLE beacon.
- Requires compatible Gateway and internet connectivity for commissioning.
- For more information, visit: [www.interact-lighting.com/office](http://www.interact-lighting.com/office) or [www.usa.lighting.philips.com/systems/system-areas/offices](http://www.usa.lighting.philips.com/systems/system-areas/offices).

#### Emergency Options (ER100) (System Bridge Accessory with -ER100 option):

- Power Sensing (Factory default) – Recommended UL924 option requires unswitched power sense line, absence of voltage on the normal circuit triggers luminaire to 100% output
- Power Interruption Detection (Field option) – Detects AC power interruption >30ms triggers 90 minute emergency mode with luminaire at 100% output

#### Radio only sensor (RADIO):

- Integral RADIO only sensor simply enables wireless mesh connectivity to the luminaire without any occupancy or daylight sensing.
- Ideal for applications where sensing functionality is managed by other Interact devices and the luminaire only needs to have wireless connectivity.

### Wired Controls Options

#### Interact Office Wired (PoE):

- PoE based IoT connected lighting solution for large enterprises that span across multiple floors, buildings and require multiple gateways.
- Use Interact Office software and insights to increase building efficiency, achieve building wide integration and optimize space through occupancy analytics.
- Supports advanced IoT Apps on Personal Control, Space Management, wayfinding, room/desk reservation and offers open APIs for light control and data exchange.
- PoE lighting controller is accessible from below.
- Integral sensor option for occupancy sensing (PIR) and/or daylight harvesting available for additional energy savings.

- Optional integral emergency controller and battery pack provides 600lm nominal output.
- Test switch and indicator light mounted on side of chassis on one end.
- Emergency battery has a 3 month pre-installed shelf life, and must be stored and installed in environments of 20C to 30C (-4F to 86F) ambient, and 45-85% relative humidity.
- For more information on Interact Office Wired, visit: [www.interact-lighting.com/office](http://www.interact-lighting.com/office) or [www.usa.lighting.philips.com/systems/system-areas/offices](http://www.usa.lighting.philips.com/systems/system-areas/offices).

#### Interact Office Wired (PoE), Static White:

- A wireless IoT connected lighting solution for large enterprises that span across multiple floors, buildings and require multiple gateways.

- View all your projects under one dashboard and easily compare insights from multiple projects in one view.
- Compatible Zigbee Green Power wall dimmer and wireless Occupancy or Daylight & Occupancy sensors available.
- Use Interact Office software and insights to increase building efficiency, achieve building wide integration and optimize space through occupancy analytics.
- Supports advanced IoT Apps on wayfinding, room/desk reservation and offers open APIs
- Requires compatible Interact Office Gateway and internet connectivity for commissioning.
- For more information on Interact Office Wireless, visit: [www.interact-lighting.com/office](http://www.interact-lighting.com/office) or [www.usa.lighting.philips.com/systems/system-areas/offices](http://www.usa.lighting.philips.com/systems/system-areas/offices).



# Z4RDL EasyLyte 4"

KCHA: Aspen Ridge Apartments  
Type: EX2

## Round Downlight



### AccuRender Technology (CRI 90+)

The right light brings colors to life. Our new AccuRender technology helps ensure colors are rendered more accurately and consistently, while doing so as efficiently as CRI 80 products.



**Standard CRI 80**

Good color rendering and high efficacy



**Standard CRI 90**

Better color rendering and low efficacy



**AccuRender**

Best color rendering, color preference and high efficacy

#### Enjoy design flexibility

Full range of products and options:

- Available soon in across Lightolier portfolio for application flexibility
- Multiple color temperatures (CCTs) and lumen packages offered

#### Promote savings

High efficacy, with no penalty:

- Energy efficacy compares well to conventional 80 CRI
- Up to 25% more energy savings vs competitor 90 CRI<sup>1</sup>
- Helps meet Title 24 requirements

#### Show your true colors

High color rendering:

- True to life colors to help energize your environment and render better flesh tones critical for healthcare hospitality and retail applications.
- R<sub>a</sub> up to 94 CRI
- R<sub>9</sub> up to 67 CRI
- G<sub>a</sub> up to 99 CRI
- C<sub>9</sub> up to 94 CRI
- R<sub>r</sub> up to 92 TM-30
- R<sub>r,h1</sub> up to 91 TM-30
- R<sub>9</sub> up to 100 TM-30
- R<sub>ca,h1</sub> up to -5% TM-30

#### Achieve color balance

Best in class color consistency:

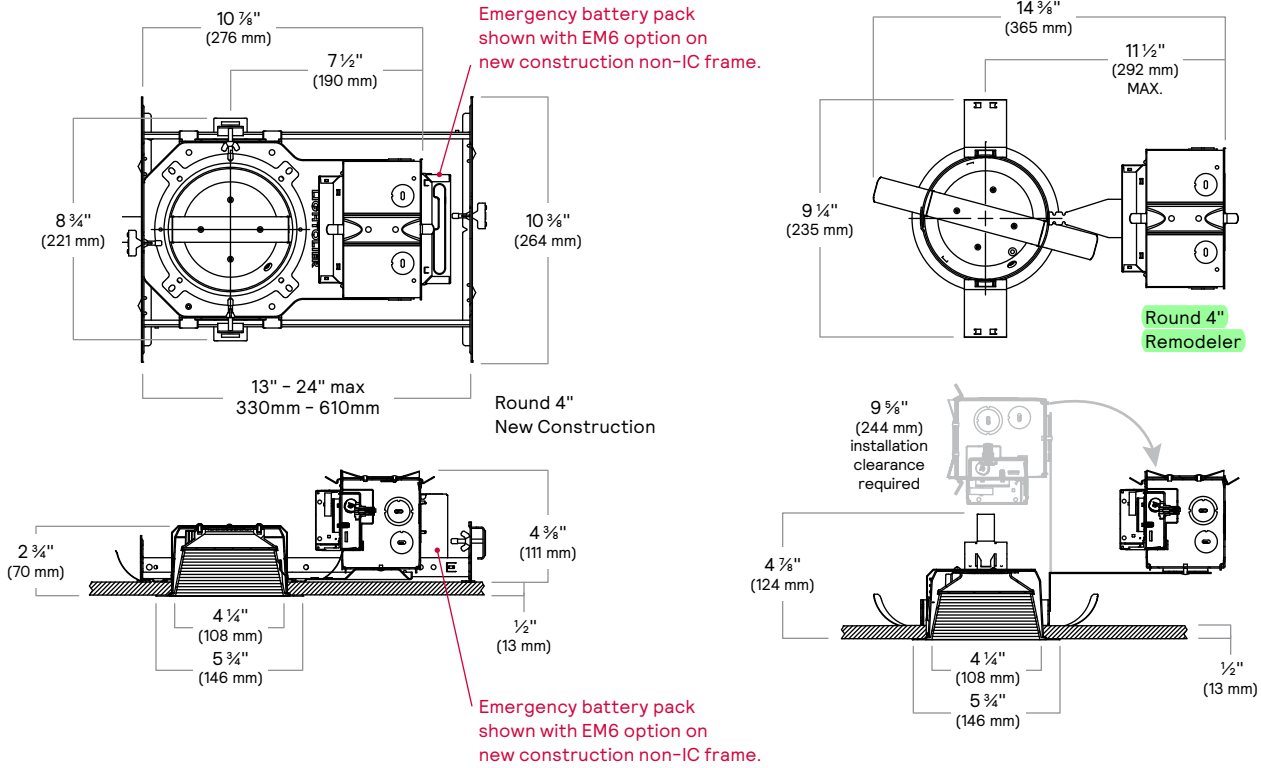
- Promote aesthetic harmony in your space with  $\leq 2$  SDCM

# Z4RDL EasyLyte 4"

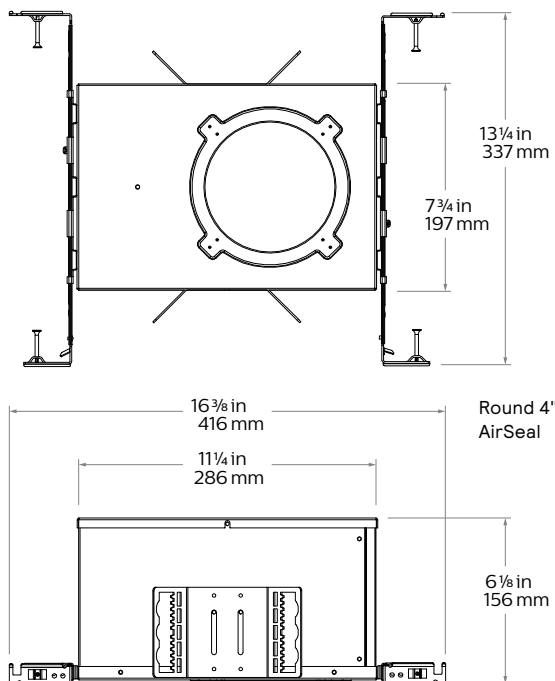
KCHA: Aspen Ridge Apartments  
Type: EX2

## Round Downlight

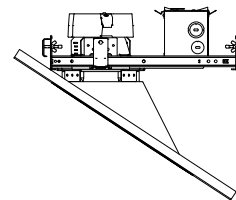
### Dimensions



### AirSeal (A)



### Sloped Ceiling Adapter



### Electrical

All have an input frequency of 50/60Hz

Light engine	Input volts	Input Current	Input Power	LED Drive Current	LED Power	THD Factor @ Max Load	Power Factor @ Max Load
Z4*05*	120V	0.050A	6.0W	0.15A	5.0W	<10%	>0.9
	277V	0.022A	6.1W	0.15A	5.0W	<15%	>0.9
	347V	0.021A	7.2W	0.15A	5.0W	<15%	>0.9
Z4*10*	120V	0.074A	8.9W	0.22A	7.4W	<10%	>0.9
	277V	0.033A	9.1W	0.22A	7.4W	<15%	>0.9
	347V	0.030A	10.3W	0.22A	7.4W	<15%	>0.9
Z4*15*	120V	0.113A	13.6W	0.33A	11.5W	<10%	>0.9
	277V	0.050A	13.9W	0.33A	11.5W	<15%	>0.9
	347V	0.044A	15.4W	0.33A	11.5W	<15%	>0.9
Z4*20*	120V	0.167A	20.0W	0.50A	17.2W	<10%	>0.9
	277V	0.072A	20.0W	0.50A	17.2W	<15%	>0.9
	347V	0.062A	21.5W	0.50A	17.2W	<15%	>0.9
Z4*25*	120V	0.216A	25.9W	0.64A	22.5W	<10%	>0.9
	347V	0.094A	25.9W	0.64A	22.5W	<15%	>0.9

# Z4RDL EasyLyte 4"

KCHA: Aspen Ridge Apartments  
Type: EX2

## Round Downlight

### Photometry

Reflector	Flux (lm)	Power (W)	Efficacy (lm/W)	CRI	R9	Beam Angle	Field Angle	Spacing Criterion
Open DL - Bronze	485	7.3	66.4	94	60	74°	108°	1.072
Open DL - Black	459	7.3	62.9	93	58	74°	107°	1.070
Open DL - White	660	7.3	90.5	93	56	79°	129°	1.130
Open DL - Clear Diffuse	653	7.3	89.5	93	56	83°	120°	1.178
Baffle - Black	390	7.3	53.4	93	59	74°	108°	1.073
Baffle - White	731	7.3	100.2	93	57	82°	140°	1.166
Open DL - Bronze	689	10.0	68.6	94	60	74°	108°	1.072
Open DL - Black	653	10.0	65.0	93	58	74°	107°	1.070
Open DL - White	939	10.0	93.4	93	56	79°	129°	1.130
Open DL - Clear Diffuse	928	10.0	92.4	93	56	83°	120°	1.178
Baffle - Black	554	10.0	55.1	93	59	74°	108°	1.073
Baffle - White	1039	10.0	103.5	93	57	82°	140°	1.166
Open DL - Bronze	1022	14.6	70.0	94	60	74°	108°	1.072
Open DL - Black	968	14.6	66.3	93	58	74°	107°	1.070
Open DL - White	1392	14.6	95.4	93	56	79°	129°	1.130
Open DL - Clear Diffuse	1376	14.6	94.3	93	56	83°	120°	1.178
Baffle - Black	821	14.6	56.3	93	59	74°	108°	1.073
Baffle - White	1541	14.6	105.6	93	57	82°	140°	1.166
Open DL - Bronze	1534	20.0	76.7	94	60	74°	108°	1.072
Open DL - Black	1453	20.6	70.6	93	58	74°	107°	1.070
Open DL - White	2089	20.6	101.4	93	56	79°	129°	1.130
Open DL - Clear Diffuse	2066	20.6	100.3	93	56	83°	120°	1.178
Baffle - Black	1233	21.3	57.9	93	59	74°	108°	1.073
Baffle - White	2313	20.6	112.3	93	57	82°	140°	1.166
Open DL - Bronze	1895	27.4	69.1	94	60	74°	108°	1.072
Open DL - Black	1796	27.4	65.5	93	58	74°	107°	1.070
Open DL - White	2581	27.4	94.1	93	56	79°	129°	1.130
Open DL - Clear Diffuse	2552	27.4	93.1	93	56	83°	120°	1.178
Baffle - Black	1523	27.4	55.5	93	59	74°	108°	1.073
Baffle - White	2858	27.4	104.2	93	57	82°	140°	1.166

1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI\_NEMA\_ANSLG C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.

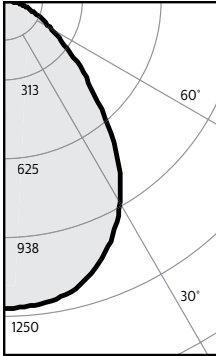
# Z4RDL EasyLyte 4"

## Round Downlight

**KCHA: Aspen Ridge Apartments**  
Type: EX2

### Downlight, Wide beam, 2300lm Engine, 112lm/W at 21W

#### Candela Curves



Frame: 4RN  
Engine / Trim: Z4RDL20935WSWHZ10U  
Output lumens: 2314 lms  
Input watts<sup>1</sup>: 20.6 W  
CRI: 90 min  
CCT<sup>2</sup>: 3500K  
Beam Angle: 79°  
Spacing Crit.: 1.14

#### Zonal summary

Zone	Lumens	%Luminaire
0-30	909	39.3%
0-40	1401	60.5%
0-60	2037	88.0%
0-90	2314	100.0%

Angle	Mean CP	Lumens
0	1214	
5	1208	115
10	1194	
15	1162	327
20	1101	
25	1020	468
30	918	
35	791	492
40	645	
45	491	383
50	378	
55	278	253
60	209	
65	161	161
70	120	
75	84	89
80	51	
85	24	27
90	0	

#### Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	49	5.7'
6'	34	6.8'
7'	25	8.0'
8'	19	9.1'
9'	15	10.3'

\* Beam diameter is where foot-candles drop to 50% of maximum.

#### Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq. ft.
5'	97.0	0.91
6'	64.0	0.60
7'	46.0	0.43
8'	38.0	0.36
9'	30.0	0.29

38' x 38' x 10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Efficacy: 112.3 lm/w  
Report#: STMR-522-I

#### Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
	70	50	30	10	50	10	50	10	50	10	0	
Wall	70	50	30	10	50	10	50	10	50	10	0	
RCR	Zonal cavity method - Effective floor reflectance = 20%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
	1	111	107	103	100	105	99	100	95	97	93	88
	2	103	96	90	85	94	84	90	82	87	80	77
	3	95	86	79	74	84	73	82	72	79	70	67
	4	88	78	70	64	76	64	74	63	72	62	60
	5	82	71	63	57	70	57	67	56	66	55	53
	6	76	64	57	51	64	51	62	50	60	50	48
	7	71	59	51	46	58	46	57	45	56	45	43
	8	67	54	47	41	54	41	53	41	51	41	39
	9	63	50	43	38	50	38	49	38	48	37	36
	10	59	47	40	35	46	35	45	35	44	34	33

#### Adjustment factors

Finish  
WH = 100%  
BK = 54%

### Downlight, Wide beam, 2100lm Engine, 102lm/W at 21W

#### Candela Curves



Frame: 4RN  
Engine / Trim: Z4RDL20935WOWHZ10U  
Output lumens: 2090 lms  
Input watts<sup>1</sup>: 20.6 W  
CRI: 90 min  
CCT<sup>2</sup>: 3500K  
Beam Angle: 82°  
Spacing Crit.: 1.1

#### Zonal summary

Zone	Lumens	%Luminaire
0-30	1181	40.7%
0-40	1816	62.6%
0-60	2609	90.0%
0-90	2900	100.0%

Angle	Mean CP	Lumens
0	1215	
5	1205	114
10	1177	
15	1130	318
20	1063	
25	977	448
30	871	
35	742	461
40	593	
45	439	343
50	323	
55	223	204
60	157	
65	116	117
70	88	
75	62	66
80	38	
85	18	20
90	0	

#### Single unit data

Height to lighted plane	Initial center beam foot-candles	Beam diameter (ft)*
5'	49	5.5'
6'	34	6.6'
7'	25	7.7'
8'	19	8.8'
9'	15	9.9'

\* Beam diameter is where foot-candles drop to 50% of maximum.

#### Multiple unit data - RCR 2

Spacing on center	Initial center beam foot-candles	Watts per sq. ft.
5'	89.0	0.91
6'	58.0	0.60
7'	42.0	0.43
8'	35.0	0.36
9'	28.0	0.29

38' x 38' x 10' Room, Workplane 2.5' above floor, 80/50/20% Reflectances

Efficacy: 101.5 lm/w  
Report#: STMR-531-I

#### Coefficients of utilization

Ceiling	80%				70%		50%		30%		0%	
	70	50	30	10	50	10	50	10	50	10	0	
Wall	70	50	30	10	50	10	50	10	50	10	0	
RCR	Zonal cavity method - Effective floor reflectance = 20%											
Room Cavity Ratio	0	119	119	119	119	116	116	111	111	106	106	100
	1	111	107	103	100	105	99	101	96	97	93	88
	2	103	96	90	85	94	84	91	83	87	81	77
	3	95	86	79	74	85	73	82	72	79	71	68
	4	88	78	71	65	77	64	74	64	72	63	60
	5	82	71	63	57	70	57	68	57	66	56	54
	6	77	65	57	51	64	51	62	51	61	50	48
	7	72	60	52	46	59	46	57	46	56	46	44
	8	67	55	47	42	54	42	53	42	52	42	40
	9	63	51	43	38	50	38	49	38	48	38	36
	10	59	47	40	35	47	35	46	35	45	35	33

#### Adjustment factors

Finish  
WH = 100%  
CD = 98%  
DB = 73%  
BK = 70%

1. Tested using absolute photometry as specified in LM79: IESNA Approved Method for the Electrical and Photometric Measurements of Solid-State Lighting Products.
2. Wattage: controlled to within 5%
3. Correlated Color Temperature: within specs as defined in ANSI/NEMA/ANSI C78.377-2008: Specifications for the Chromaticity of Solid State Lighting Products.



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**DESCRIPTION**

The classic lines and sophisticated construction of Vision Site LED luminaire makes it an ideal complement to site design. Offering LED technology across the VXS and VXM, the Vision Site luminaire provides true family scaling in both physical form and lumen capability for architectural site lighting applications. UL/cUL listed for use in wet locations.

<b>Catalog #</b>		<b>Type</b>
<b>Project</b>		
<b>Comments</b>		<b>Date</b>
<b>Prepared by</b>		

**SPECIFICATION FEATURES**

**Construction**

**HOUSING:** Heavy-wall one-piece, die-cast aluminum housing has precise tolerance control and repeatability in manufacturing. Housing features a partition wall that isolates driver components for cooler operation. Integral aluminum heat sink provides superior thermal heat transfer in +40°C ambient environments. **DOOR:** One-piece, die-cast aluminum construction with tool-less release latch. Door swings down and is retained on two catch hinges. **GASKET:** Continuous gasket provided to seal housing to optic tray. **LENS:** Downlight lens is LED board integrated acrylic over-optics, each individually sealed for IP66 rating. **HARDWARE:** Tool-less release door latch is stainless steel/aluminum construction, painted to match housing and allows access to internal housing and electrical components.

**Optics**

Choice of twelve patented, high-efficiency AccuLED Optics™ distributions. Optics are precisely designed to shape the light output, maximizing efficiency and application spacing. AccuLED Optics technology creates consistent distributions with the scalability to meet customized application requirements. Offered Standard in 4000K (+/- 275K) CCT and minimum 70 CRI. Optional 3000K CCT and 5000K CCT. For the ultimate level of spill light control, an optional house-side shield accessory can be field or factory installed. The house-side shield is

designed to seamlessly integrate with the SL2, SL3 or SL4 optics.

**Electrical**

LED drivers mount to die-cast aluminum back housing for optimal heat sinking, operation efficacy, and prolonged life. Standard drivers feature electronic universal voltage (120-277V 50/60Hz), 347V 60Hz or 480V 60Hz operation. 480V is compatible for use with 480V Wye systems only. Greater than 0.9 power factor, less than 20% harmonic distortion, and is suitable for operation in -40°C to 40°C ambient environments. All fixtures are shipped standard with 10kV/10kA common – and differential – mode surge protection. LightBARs feature and IP66 enclosure rating and maintain greater than 95% lumen maintenance at 60,000 hours per IESNA TM-21. Occupancy sensor and dimming options available.

**Mounting**

**ARM:** One-piece extruded aluminum arm available in standard 5" lengths (VXS) and 6" and 10" (VXM). Internal bolts guides allow easy positioning of fixture during installation to pole or wall surface. **STRUCTURAL MOUNT:** Die-cast aluminum cleat factory mounted to luminaire and finished in luminaire color. Stainless steel structural rod measures 1/2" in diameter and is provided in luminaire finish color or optional natural finish. Product works in conjunction with dedicated accessory arms (order separately). Invue poles

are provided pre-drilled when structural mount option drill pattern is specified. See Invue poles section for complete selection. Additional mounting accessories available.

**Finish**

Housing is finished in five-stage super premium TGIC polyester powder coat paint, 2.5 mil nominal thickness for superior protection against fade and wear. LightBAR cover plates are standard white and may be specified to match finish of luminaire housing. Standard colors include black, bronze, grey, white, dark platinum and graphite metallic. RAL and custom color matches available. Consult Outdoor Architectural Colors brochure for a complete selection. Options to meet Buy American Act requirements

**Warranty**

Five-year warranty.



**VXS/VXM**  
**VISION SITE LED**

**1 - 6 LightBARs**  
**Solid State LED**

**ARCHITECTURAL**  
**AREA/SITE LUMINAIRE**



**CERTIFICATION DATA**

UL/cUL Listed  
 ISO 9001  
 IP66 LightBARs  
 LM79 / LM80 Compliant  
 1.5G Vibration Tested  
 DesignLights Consortium® Qualified\*

**ENERGY DATA**

**Electronic LED Driver**  
 >0.9 Power Factor  
 <20% Total Harmonic Distortion  
 120-277V/50 & 60Hz, 347V/60Hz,  
 480V/60Hz  
 -40°C Minimum Temperature  
 40°C Ambient Temperature Rating

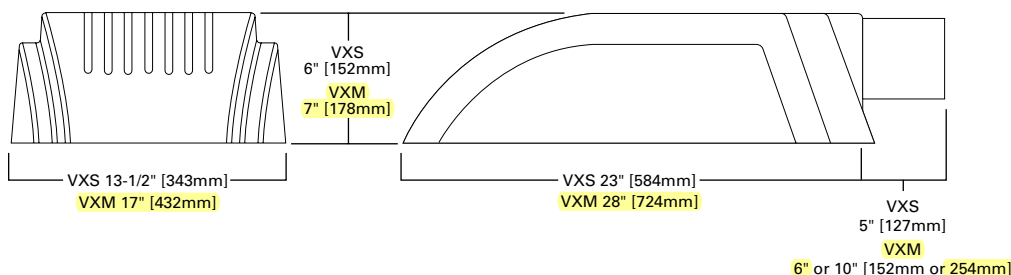
**EPA**

**Effective Projected Area:** (Sq. Ft.)  
**VXS Single:** 1.18 w/Arm  
**VXS Single Structural:** 1.27 w/Arm  
**VXM Single:** 1.89 w/Arm  
**VXM Single Structural:** 2.09 w/Arm

**SHIPPING DATA**

**Approximate Net Weight:**  
**VXS:** 35 lbs. (15.91 kgs.)  
**VXM:** 51 lbs. (23.18 kgs.)

**DIMENSIONS**



**ORDERING INFORMATION**

Sample Number: VXS-E04-LED-E-T3-GM

Product Family <sup>1,2,3</sup>	Number of LightBARs <sup>4,5</sup>	Lamp Type	Voltage	Distribution	Color <sup>8</sup>
<b>VXS</b> =Vision Site Small <b>VXM</b> =Vision Site Medium <b>BAA-VXS</b> =Vision Site Small Buy American Act Compliant <sup>31</sup> <b>BAA-VXM</b> = Vision Site Medium Buy American Act Compliant <sup>31</sup>	<b>E01</b> =(1) 21 LED LightBAR <b>E02</b> =(2) 21 LED LightBARs <b>E03</b> =(3) 21 LED LightBARs <b>E04</b> =(4) 21 LED LightBARs <b>E05</b> =(5) 21 LED LightBARs <sup>6</sup> <b>E06</b> =(6) 21 LED LightBARs <sup>6</sup> <b>F01</b> =(1) 7 LED LightBAR <b>F02</b> =(2) 7 LED LightBARs <b>F03</b> =(3) 7 LED LightBARs <b>F04</b> =(4) 7 LED LightBARs <b>F05</b> =(5) 7 LED LightBARs <sup>6</sup> <b>F06</b> =(6) 7 LED LightBARs <sup>6</sup>	<b>LED=Solid State Light Emitting Diode</b>	<b>E1=Universal (120-277V)</b> <b>347=347V</b> <b>480=480V <sup>7</sup></b>	<b>T2=Type II</b> <b>T3=Type III</b> <b>T4=Type IV</b> <b>5MQ=Type V Square Medium</b> <b>5WQ=Type V Square Wide</b> <b>5XQ=Type V Square Extra Wide</b> <b>RW=Rectangular Wide</b> <b>SL2=Type II with Spill Control</b> <b>SL3=Type III with Spill Control</b> <b>SL4=Type IV with Spill Control</b> <b>SLL=90° Spill Light Eliminator Left</b> <b>SLR=90° Spill Light Eliminator Right</b>	<b>AP=Grey</b> <b>BZ=Bronze</b> <b>BK=Black</b> <b>DP=Dark Platinum</b> <b>GM=Graphite Metallic</b> <b>WH=White</b> <b>RALxx=Custom Color</b>
<b>Structural Options <sup>3,9</sup></b>		<b>Options (Add as Suffix)</b>			
<b>Pole Mount</b> <b>PRCPS</b> =Strut Rod and Clevis Set for Square Pole (Painted to match fixture. Does not include arm) <sup>10</sup> <b>PRCCS</b> =Stainless Strut Rod and Clevis Set for Square Pole (Clevis painted to match fixture. Does not include arm) <sup>10</sup> <b>PRCPR</b> =Strut Rod and Clevis Set for Round Pole (Painted to match fixture. Does not include arm) <sup>11</sup> <b>PRCCR</b> =Stainless Strut Rod and Clevis Set for Round Pole (Clevis painted to match fixture. Does not include arm) <sup>11</sup> <b>Wall Mount</b> <b>WRCP</b> =Strut Rod and Clevis Set (Painted to match fixture. Does not include arm) <sup>12</sup> <b>WRCS</b> =Stainless Steel Strut Rod and Clevis Set (Clevis painted to match fixture. Does not include arm) <sup>12</sup>		<b>PC</b> =Button Type Photocontrol (Specify Voltage) <b>R</b> =NEMA Twistlock Photocontrol Receptacle <b>PER7</b> =NEMA 7-Pin Twistlock Photocontrol Receptacle <b>2L</b> =Two Circuits <sup>13</sup> <b>LCF</b> =LightBAR Cover Plate Matches Housing Finish <b>7030</b> =70 CRI / 3000K CCT <sup>14</sup> <b>7050</b> =70 CRI / 5000K CCT <sup>14</sup> <b>8030</b> =80 CRI / 3000K CCT <sup>14</sup> <b>L90</b> =Optics Rotated Left 90° <b>R90</b> =Optics Rotated Right 90° <b>ICB</b> =Integral Cold Weather Battery Pack (Specify 120 or 277V) <sup>15</sup> <b>LWR-LW</b> =LumaWatt Pro Wireless Sensor, Wide Lens for 8' - 16' Mounting Height <sup>16</sup> <b>LWR-LN</b> =LumaWatt Pro Wireless Sensor, Narrow Lens for 16' - 40' Mounting Height <sup>16</sup> <b>HSS</b> =Factory Installed House Side Shield <sup>17</sup> <b>MS/DIM-L08</b> =Motion Sensor for Dimming Operation, Maximum 8' Mounting Height <sup>18, 19, 20, 21, 22</sup> <b>MS/DIM-L20</b> =Motion Sensor for Dimming Operation, 9' - 20' Mounting Height <sup>18, 19, 20, 21, 23</sup> <b>MS/DIM-L40W</b> =Motion Sensor for Dimming Operation, 21' - 40' Mounting Height (Wide Range) <sup>18, 19, 20, 21, 24</sup>			
<b>Accessories (Order Separately) <sup>22</sup></b>					
<b>OA/RA1016</b> =NEMA Photocontrol - Multi-Tap <b>OA/RA1027</b> =NEMA Photocontrol - 480V <b>OA/RA1201</b> =NEMA Photocontrol - 347V <b>MA1253</b> =10kV Circuit Module Replacement <b>LB/HSS</b> =Field Installed House Side Shield <sup>26</sup> <b>VXS Mounting Accessories (Order Separately)</b> <b>MA1071-XX</b> =5" Arm for Square Pole <b>MA1073-XX</b> =Direct Mount for Square Pole <b>MA1074-XX</b> =5" Arm for Round Pole <b>MA1076-XX</b> =Direct Mount for Round Pole <b>MA1077-XX</b> =Wall Bracket with 5" Arm <b>MA1200-XX</b> =Direct Wall Mount Kit <b>MA1101-XX</b> =Single Tenon Adapter for 2-3/8" O.D. Tenon <b>MA1102-XX</b> =2@180° Tenon Adapter for 2-3/8" O.D. Tenon <b>MA1103-XX</b> =3@120° Tenon Adapter for 2-3/8" O.D. Tenon <b>MA1104-XX</b> =4@90° Tenon Adapter for 2-3/8" O.D. Tenon <b>MA1105-XX</b> =2@90° Tenon Adapter for 2-3/8" O.D. Tenon <b>MA1106-XX</b> =3@90° Tenon Adapter for 2-3/8" O.D. Tenon <b>MA1107-XX</b> =2@120° Tenon Adapter for 2-3/8" O.D. Tenon		<b>MA1108-XX</b> =Single Tenon Adapter for 3-1/2" O.D. Tenon <b>MA1109-XX</b> =2@180° Tenon Adapter for 3-1/2" O.D. Tenon <b>MA1110-XX</b> =3@120° Tenon Adapter for 3-1/2" O.D. Tenon <b>MA1111-XX</b> =4@90° Tenon Adapter for 3-1/2" O.D. Tenon <b>MA1112-XX</b> =2@90° Tenon Adapter for 3-1/2" O.D. Tenon <b>MA1113-XX</b> =3@90° Tenon Adapter for 3-1/2" O.D. Tenon <b>MA1114-XX</b> =2@120° Tenon Adapter for 3-1/2" O.D. Tenon <b>VXM Mounting Accessories (Order Separately)</b> <b>MA1050-XX</b> =6" Arm for Square Pole <b>MA1051-XX</b> =10" Arm for Square Pole <sup>27</sup> <b>MA1052-XX</b> =6" Arm for Round Pole <b>MA1053-XX</b> =10" Arm for Round Pole <sup>27</sup> <b>MA1054-XX</b> =Wall Bracket with 6" Arm <sup>28</sup> <b>MA1056-XX</b> =Direct Mount for Square Pole <b>MA1057-XX</b> =Direct Mount for Round Pole <b>MA1201-XX</b> =Direct Wall Mount Kit <sup>28</sup> <b>MA1231-XX</b> =Structural Mount Wall Mount Arm <sup>29</sup>		<b>MA1017-XX</b> =Single Tenon Adapter for 2-3/8" O.D. Tenon <b>MA1018-XX</b> =2@180° Tenon Adapter for 2-3/8" O.D. Tenon <b>MA1019-XX</b> =3@120° Tenon Adapter for 2-3/8" O.D. Tenon <b>MA1045-XX</b> =4@90° Tenon Adapter for 2-3/8" O.D. Tenon <b>MA1048-XX</b> =2@90° Tenon Adapter for 2-3/8" O.D. Tenon <b>MA1115-XX</b> =3@90° Tenon Adapter for 2-3/8" O.D. Tenon <b>MA1116-XX</b> =2@120° Tenon Adapter for 2-3/8" O.D. Tenon <b>MA1010-XX</b> =Single Tenon Adapter for 3-1/2" O.D. Tenon <b>MA1011-XX</b> =2@180° Tenon Adapter for 3-1/2" O.D. Tenon <b>MA1012-XX</b> =3@120° Tenon Adapter for 3-1/2" O.D. Tenon <b>MA1013-XX</b> =4@90° Tenon Adapter for 3-1/2" O.D. Tenon <b>MA1014-XX</b> =2@90° Tenon Adapter for 3-1/2" O.D. Tenon <b>MA1015-XX</b> =2@120° Tenon Adapter for 3-1/2" O.D. Tenon <b>MA1016-XX</b> =3@90° Tenon Adapter for 3-1/2" O.D. Tenon <b>WOLC-7P-10A</b> =WaveLinX Outdoor Control Module (7-pin) <sup>30</sup>	

**NOTES:**

1. Customer is responsible for engineering pole analysis to confirm pole and fixture compatibility for all applications. Refer to our pole white paper WP513001EN for additional support information.
2. DesignLights Consortium™ Qualified. Refer to www.designlights.org Qualified Products List under Family Models for details.
3. Arm not included. Order separately.
4. Standard 4000K CCT and greater than 70 CRI.
5. 21 LED LightBAR powered at 350mA, 7 LED LightBAR powered at 1A.
6. Available with VXM only.
7. Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
8. Custom and RAL color matching available upon request. Consult your customer service representative for more information.
9. Add as suffix in the order shown.
10. Compatible with 5" MA1071 arm only (VXS). Compatible with 10" MA1051 arm only (VXM).
11. Compatible with 5" MA1074 arm only (VXS). Compatible with 10" MA1053 arm only (VXM).
12. Wall mount structural options do not include arm assembly (See accessories). Compatible with 5" MA1071 arm only (VXS). Compatible with MA1231 arm only (VXM).
13. Low-level output varies by bar count. Consult factory. Requires two or more light bars.
14. Extended lead times apply. See website for IES files.
15. Available with E01-E02 and F01-F02 configurations only (VXS). Available with E01-E04 and F01-F04 configurations only (VXM). Specify 120V or 277V. LED cold weather integral battery pack is rated for minimum operating temperature -4°F (-20°C). Operates one light bar for 90-minutes. Not available in all configurations, consult factory. Rated for use in 25°C ambient.
16. LumaWatt wireless sensors are factory installed only requiring network components LWP-EM-1, LWP-GW-1, and LWP-PoE in appropriate quantities. See www.cooperlighting.com/lighting for LumaWatt application information.
17. Only for use with SL2, SL3 and SL4 distributions. Not available with L90 or R90 options.
18. Consult factory for more information.
19. Utilizes internal step-down transformer when 347V or 480V is selected.
20. The FSIR-100 accessory is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff and more. Consult your lighting representative at Cooper Lighting Solutions for more information.
21. Not available with HA option.
22. Approximately 22' detection diameter at 8' mounting height.
23. Approximately 40' detection diameter at 20' mounting height.
24. Approximately 100' detection diameter at 40' mounting height.
25. Replace XX with color designation.
26. One required for each LightBAR. Not available with L90 or R90 options.
27. Use when mounting fixture head at 90° increments.
28. For use in downlighting applications only.
29. Includes arm only. Must specify WRCP or WRCS in fixture ordering logic. Downlighting applications only.
30. Requires 7-pin NEMA twistlock photocontrol receptacle. The WOLC-7 cannot be used in conjunction with additional sensors or controls.
31. Only product configurations with this designated prefix are built to be compliant with the Buy American Act of 1933 (BAA). Please refer to [DOMESTIC PREFERENCES](#) website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.
32. Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.



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 www.cooperlighting.com

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**POWER AND LUMENS BY BAR COUNT (21 LED LIGHTBAR)**

Number of LightBARs		E01	E02	E03	E04	E05	E06
<b>Drive Current</b>		350mA Drive Current					
<b>Power (Watts)</b>		25W	52W	75W	97W	127W	150W
<b>Current @ 120V (A)</b>		0.22	0.44	0.63	0.82	1.07	1.26
<b>Current @ 277V (A)</b>		0.10	0.20	0.28	0.36	0.48	0.56
<b>Power (Watts)</b>		31W	58W	82W	99W	132W	159W
<b>Current @ 347V (A)</b>		0.11	0.19	0.28	0.29	0.39	0.48
<b>Current @ 480V (A)</b>		0.09	0.15	0.20	0.21	0.30	0.36
<b>EX3a T2</b>	<b>Lumens</b>	3,064	6,128	9,192	12,255	15,319	18,383
	<b>BUG Rating</b>	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3
<b>EX3 T3</b>	<b>Lumens</b>	3,084	6,168	9,252	12,336	15,420	18,504
	<b>BUG Rating</b>	B1-U0-G1	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B3-U0-G3
<b>T4</b>	<b>Lumens</b>	3,022	6,044	9,066	12,088	15,110	18,132
	<b>BUG Rating</b>	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3
<b>5MQ</b>	<b>Lumens</b>	3,224	6,448	9,672	12,896	16,120	19,344
	<b>BUG Rating</b>	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
<b>5WQ</b>	<b>Lumens</b>	3,184	6,368	9,551	12,735	15,919	19,103
	<b>BUG Rating</b>	B2-U0-G1	B3-U0-G1	B4-U0-G2	B4-U0-G2	B4-U0-G2	B5-U0-G3
<b>5XQ</b>	<b>Lumens</b>	3,181	6,361	9,542	12,722	15,903	19,083
	<b>BUG Rating</b>	B2-U0-G2	B3-U0-G2	B3-U0-G3	B4-U0-G3	B4-U0-G4	B4-U0-G4
<b>SL2</b>	<b>Lumens</b>	3,055	6,110	9,165	12,220	15,275	18,331
	<b>BUG Rating</b>	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3
<b>SL3</b>	<b>Lumens</b>	3,036	6,072	9,108	12,145	15,181	18,217
	<b>BUG Rating</b>	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3
<b>SL4</b>	<b>Lumens</b>	2,954	5,908	8,862	11,816	14,771	17,725
	<b>BUG Rating</b>	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3	B3-U0-G3
<b>RW</b>	<b>Lumens</b>	3,124	6,248	9,372	12,496	15,620	18,744
	<b>BUG Rating</b>	B2-U0-G2	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4	B4-U0-G4
<b>SLL/SLR</b>	<b>Lumens</b>	2,782	5,565	8,347	11,130	13,912	16,695
	<b>BUG Rating</b>	B1-U0-G1	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3	B2-U0-G4

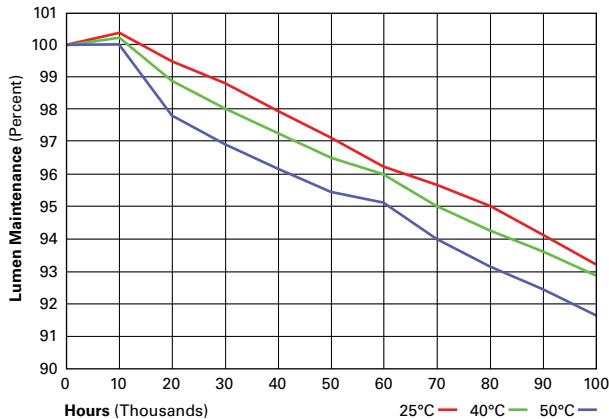
**LUMEN MAINTENANCE**

Ambient Temperature	25,000 Hours*	50,000 Hours*	60,000 Hours*	100,000 Hours	Theoretical L70 (Hours)
25°C	> 99%	> 97%	> 96%	> 93%	> 450,000
40°C	> 98%	> 97%	> 96%	> 92%	> 425,000
50°C	> 97%	> 96%	> 95%	> 91%	> 400,000

\* Per IESNA TM-21 data.

**LUMEN MULTIPLIER**

Ambient Temperature	Lumen Multiplier
10°C	1.02
15°C	1.01
25°C	1.00
40°C	0.99



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**POWER AND LUMENS BY BAR COUNT (7 LED LIGHTBAR)**

Number of LightBARs		F01	F02	F03	F04	F05	F06
<b>Drive Current</b>		1A Drive Current					
<b>Power (Watts)</b>		26W	55W	78W	102W	133W	157W
<b>Current @ 120V (A)</b>		0.22	0.46	0.66	0.86	1.12	1.31
<b>Current @ 277V (A)</b>		0.10	0.21	0.29	0.37	0.50	0.58
<b>Power (Watts)</b>		32W	60W	85W	105W	137W	164W
<b>Current @ 347V (A)</b>		0.11	0.19	0.28	0.30	0.41	0.49
<b>Current @ 480V (A)</b>		0.09	0.15	0.21	0.22	0.31	0.37
<b>T2</b>	Lumens	2,529	5,059	7,588	10,117	12,646	15,176
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3
<b>T3</b>	Lumens	2,546	5,092	7,638	10,183	12,729	15,275
	BUG Rating	B1-U0-G1	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3
<b>T4</b>	Lumens	2,495	4,990	7,484	9,979	12,474	14,969
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3
<b>5MQ</b>	Lumens	2,662	5,323	7,985	10,646	13,308	15,969
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2
<b>5WQ</b>	Lumens	2,628	5,257	7,885	10,513	13,142	15,770
	BUG Rating	B2-U0-G1	B3-U0-G1	B3-U0-G2	B4-U0-G2	B4-U0-G2	B4-U0-G2
<b>5XQ</b>	Lumens	2,626	5,251	7,877	10,502	13,128	15,754
	BUG Rating	B2-U0-G1	B3-U0-G2	B3-U0-G3	B4-U0-G3	B4-U0-G3	B4-U0-G4
<b>SL2</b>	Lumens	2,522	5,044	7,566	10,088	12,610	15,132
	BUG Rating	B1-U0-G1	B1-U0-G1	B2-U0-G2	B2-U0-G2	B2-U0-G2	B3-U0-G3
<b>SL3</b>	Lumens	2,506	5,013	7,519	10,026	12,532	15,039
	BUG Rating	B1-U0-G1	B1-U0-G1	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3
<b>SL4</b>	Lumens	2,439	4,877	7,316	9,755	12,193	14,632
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B2-U0-G2	B2-U0-G2	B2-U0-G3
<b>RW</b>	Lumens	2,579	5,158	7,737	10,316	12,894	15,473
	BUG Rating	B2-U0-G2	B3-U0-G3	B3-U0-G3	B3-U0-G3	B4-U0-G4	B4-U0-G4
<b>SLL/SLR</b>	Lumens	2,297	4,594	6,891	9,188	11,485	13,782
	BUG Rating	B1-U0-G1	B1-U0-G2	B1-U0-G2	B1-U0-G3	B2-U0-G3	B2-U0-G3

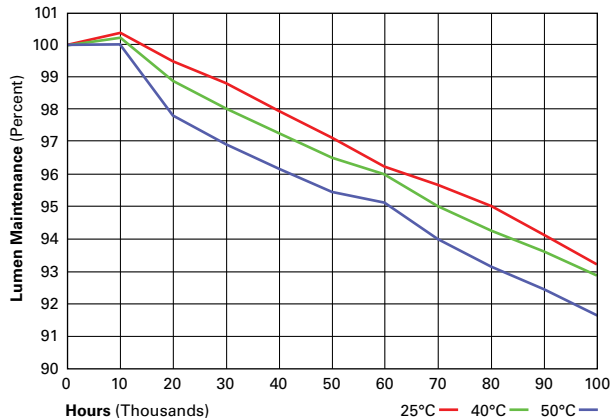
**LUMEN MAINTENANCE**

Ambient Temperature	25,000 Hours*	50,000 Hours*	60,000 Hours*	100,000 Hours	Theoretical L70 (Hours)
25°C	> 99%	> 97%	> 96%	> 93%	> 450,000
40°C	> 98%	> 97%	> 96%	> 92%	> 425,000
50°C	> 97%	> 96%	> 95%	> 91%	> 400,000

\* Per IESNA TM-21 data.

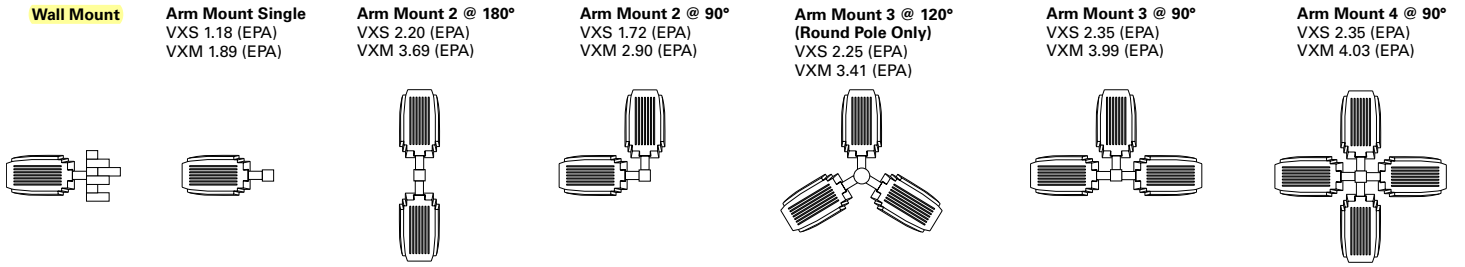
**LUMEN MULTIPLIER**

Ambient Temperature	Lumen Multiplier
10°C	1.02
15°C	1.01
25°C	1.00
40°C	0.99

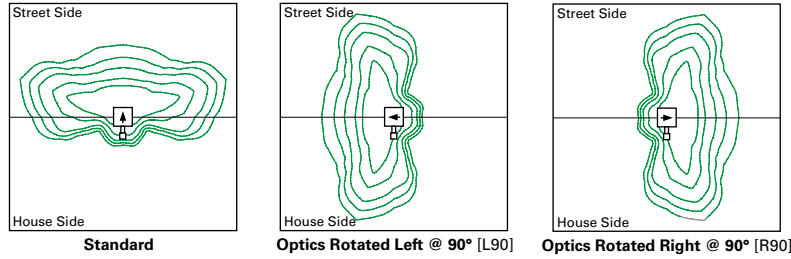




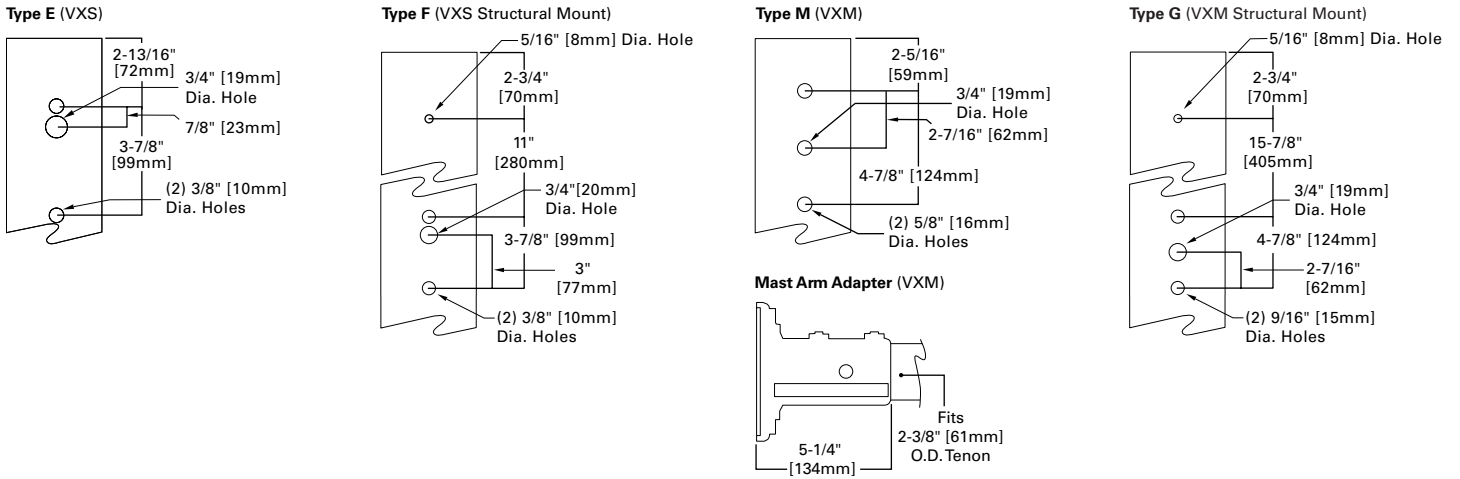
**MOUNTING VARIATIONS AND EPAS**



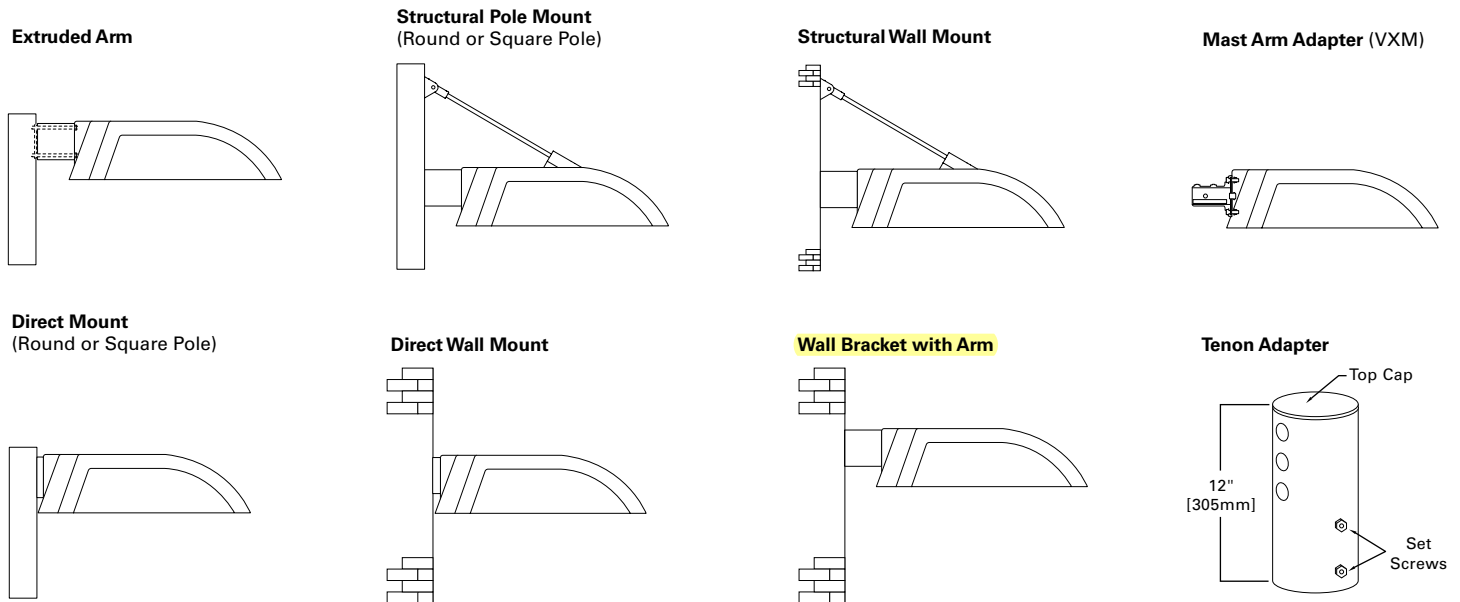
**OPTIC ORIENTATION**



**POLE DRILLING PATTERNS AND MOUNTING OPTIONS**



**MOUNTING OPTIONS AND ACCESSORIES**



CONTROL OPTIONS

0-10V (DIM)

The DIM option provides 0-10V dimming wire leads for use with a lighting control panel or other control method.

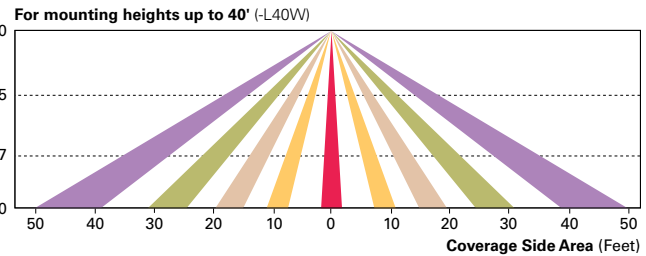
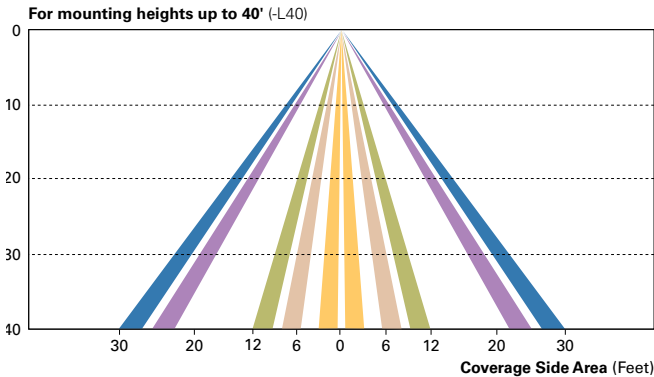
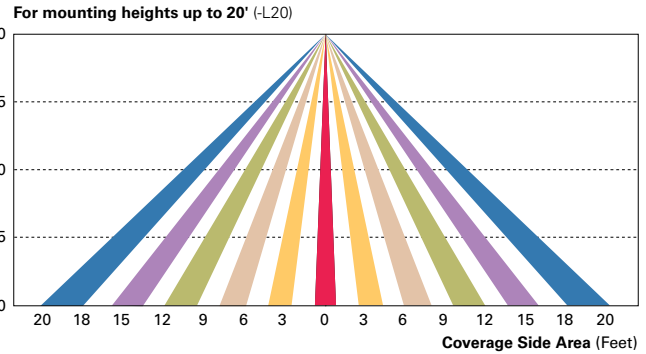
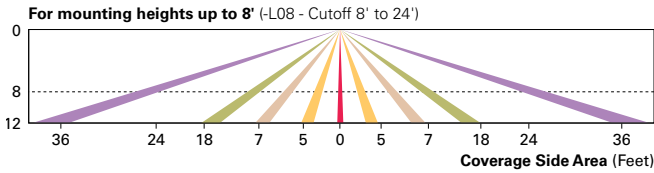
Photocontrol (PC, R and PER7)

Optional button-type photocontrol (PC) and photocontrol receptacles (R and PER7) provide a flexible solution to enable "dusk-to-dawn" lighting by sensing light levels. Advanced control systems compatible with NEMA 7-pin standards can be utilized with the PER7 receptacle.

Dimming Occupancy Sensor (MS/DIM-LXX)

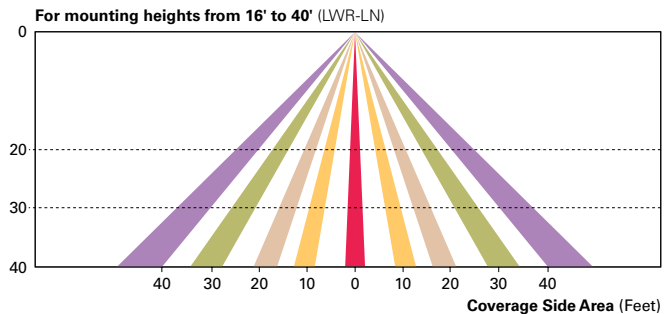
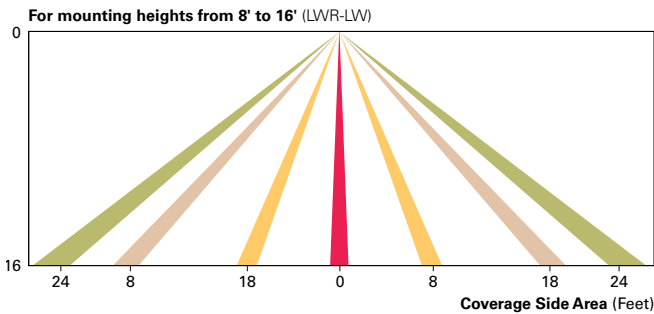
These sensors are factory installed in the luminaire housing. When the MS/DIM-LXX sensor option is selected, the occupancy sensor is connected to a dimming driver and the entire luminaire dims when there is no activity detected. When activity is detected, the luminaire returns to full light output. The MS/DIM sensor is factory preset to dim down to approximately 50 percent power with a time delay of five minutes.

These occupancy sensors includes an integral photocell that can be activated with the FSIR-100 accessory for "dusk-to-dawn" control or daylight harvesting - the factory preset is OFF. The FSIR-100 is a wireless tool utilized for changing the dimming level, time delay, sensitivity and other parameters. A variety of sensor lens are available to optimize the coverage pattern for mounting heights from 8'-40'.



LumaWatt Pro Wireless Control and Monitoring System (LWR-LW and LWR-LN)

The Eaton's LumaWatt Pro powered by Enlighted is a connected lighting solution that combines a broad selection of energy-efficient LED luminaires with a powerful integrated wireless sensor system. The sensor controls the lighting system in compliance with the latest energy codes and collects valuable data about building performance and use. Software applications turn the granular data into information through energy dashboards and specialized apps that make it simple and help optimize the use of building resources, beyond lighting.



WaveLinX Wireless Outdoor Lighting Control Module (WOLC-7P-10A)

The 7-pin wireless outdoor lighting control module enables WaveLinX to control outdoor area, site and flood lighting. WaveLinX controls outdoor lighting using schedules to provide ON, OFF and dimming controls based on astronomic or time schedules based on a 7 day week.

Date:	Approved:
Type:	
Fixture:	
Project:	

**FCF1105**

**5" Round high powered flood light outdoor**



(Shown w/Cut-Off Visor)



**FEATURES**

- Up to 2205 lm @ 20W, Over 100 LPW
- Wide range mounting options
- Many optical accessories
- Tempered glass lens
- IP66 rated
- 1.5G Vibration Tested
- 93 CRI with 2 SDCM

**PERFORMANCE**

**Beam Spread:** 10° | 15° | 25° | 40° | 60° | 120°  
**CCT Options:** 2700K, 3000K, 3500K, 4000K, 5000K, Red, Green, Blue  
**CRI:** 93 CRI  
**Consistency:** 2 SDCM (Fixture to Fixture)  
**Lumens:** 2205 lm  
**Lifetime:** > 70,000 hours / L70 or better

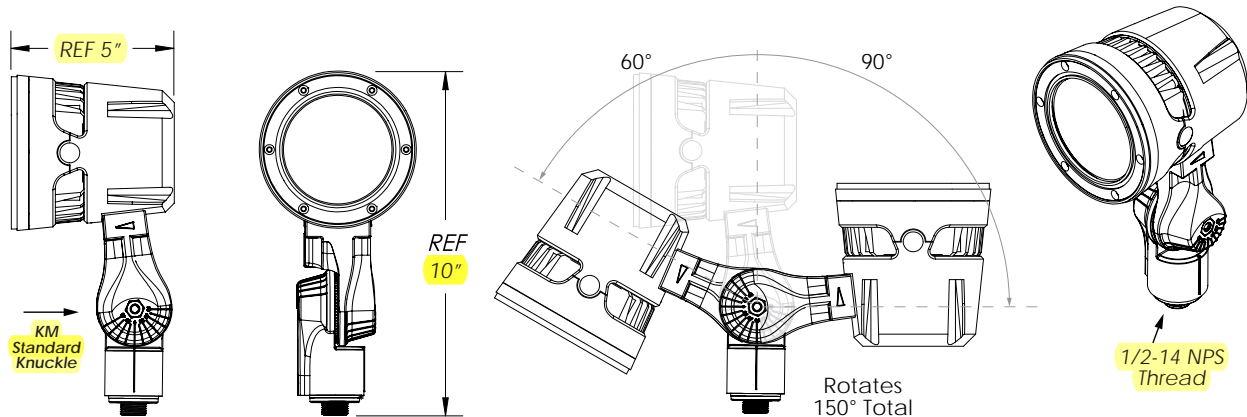
**PHYSICAL**

**Mounting:** Standard mounting is ½" - 14 NPS and includes adjustments for 150° vertical rotation and 360° horizontal rotation  
**Ingress Protection:** Dry, damp or wet locations IP66 rated  
**Finish:** Six stage chemical iron phosphate conversion pre-treatment. Polyester powder coat finish, 18 µm Min., 5000hr salt spray test (ASTM B117) compliant with Florida / AAMA 2604 specification.  
**Warranty:** 5-Year limited warranty (refer to website for details)  
**Housing:** Marine grade, corrosion resistant, low copper, solid die-cast aluminum; captive stainless steel fasteners  
**Lens:** Anti-reflective-clear, tempered glass w/silicone gasketing - IK07 Impact Rating  
**Vibration Resistance:** Compliant with 1.5G ANSI C136.31 with KM mounting option, Seismic rated AC-156  
**Weight:** 6.1 lbs  
**Ambient Operating Temp:** -22°F to 122°F (-30°C to 50°C)

**ELECTRICAL**

**Voltage:** Universal 120-277V AC  
**Power Supply:** Integral Class II, electronic high-power factor >.90 @120V  
**Power Consumption:** 20W @ 120V  
**Dimming:** 0-10V Dimming  
**Certification:** CEC Title 24 - JA8 Compliant  
**Standards:** cETLus Listed, CE, NOM, tested to UL 1598 and UL 8750 standards / UL-Class I / IES LM-79 / LM-80

**PHYSICAL DIMENSIONS**



Date: \_\_\_\_\_  
 Type: \_\_\_\_\_  
 Fixture: \_\_\_\_\_  
 Project: \_\_\_\_\_

Approved: \_\_\_\_\_

# FCF1105

## PRODUCT CODE

EXAMPLE: FCF1105-UNV-27K-CRI90-22L-BKE-10-LD-CV5-KM

MODEL	VOLTAGE	CCT	CRI	LUMENS	FINISH	OPTICS	OPTIONS	TRIM	MOUNT
FCF1105									

<p><b>MODEL</b> FCF1105</p> <p><b>VOLTAGE</b> UNV Universal 120-277 Volt AC</p> <p><b>CCT</b>            27K 2700K  <b>3K</b> 3000K            35K 3500K            4K 4000K            5K 5000K            R Red            G Green            B Blue</p> <p><b>CRI</b>  <b>CRI90</b> CRI 90</p>	<p><b>LUMENS nominal</b>  <b>22L</b> 2205 lm (20W)</p> <p><b>FINISH</b>            BKE Black (AAMA 2604)  <b>BRE</b> Bronze (AAMA 2604)            SLE Silver (AAMA 2604)            WHE White (AAMA 2604)            CCE Custom Color (AAMA 2604)</p> <p><b>OPTICS nominal</b>            10 Narrow Spot 10°            15 Spot 15°            25 Medium Spot 25°  <b>40</b> Medium Flood 40°            60 Flood 60°            120 Wide Flood 120°</p>	<p><b>OPTIONS</b>  <b>LD</b> 0-10V Dimming</p> <p><b>TRIM</b>  <b>CV5</b> Cut-Off Visor  <b>CV5-RG5</b> Cut-Off Visor w/Rock Guard  <b>LSN5</b> Long Shoot  <b>LSN5-SF5</b> Long Shoot w/Screen Frame  <b>RG5</b> Rock Guard  <b>SN5</b> Snoot Enclosed Glass Front Lens</p> <p><b>MOUNT</b> Pick one of the below.  <b>KM</b> Medium Knuckle Mount (Standard)  <b>AS</b> Architectural Surface Mount  <b>AS-BASE</b> Architectural Surface Mount w/ Base  <b>FEX6</b> Flood Extension Arm - 6"  <b>FEX12</b> Flood Extension Arm - 12"  <b>FEX18</b> Flood Extension Arm - 18"  <b>HGS</b> Heavy Duty Ground Stake  <b>JB</b> Junction Box (Outdoor Rated)  <b>PF</b> Post Top Fitter  <b>SB</b> Surface Base Mount  <b>SF238</b> Slip Fitter  <b>TM</b> Tree Mount  <b>Y5</b> Yoke Arm (Removes Knuckle)</p> <p>*** Must specify mount as part of catalog number. Mounts may not be convertible from one to another without rework at the factory. ***</p>
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**FCF1105**

**LUMENS**

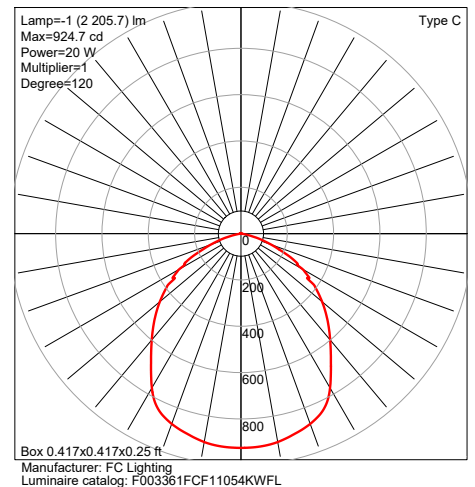
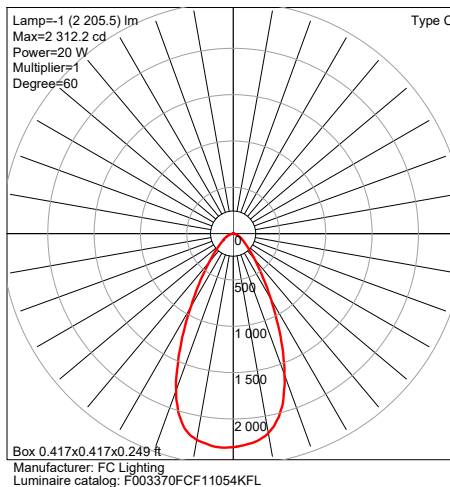
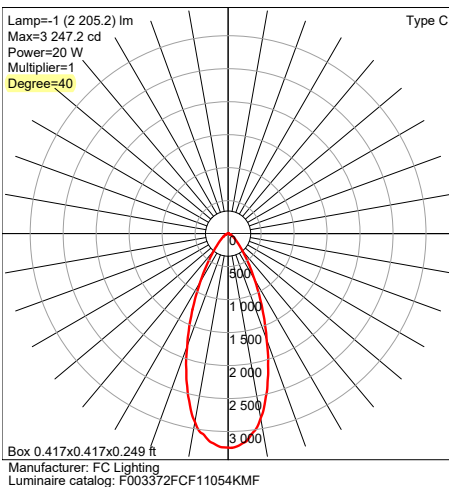
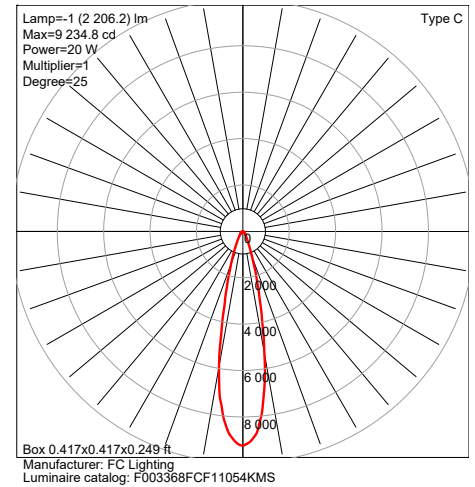
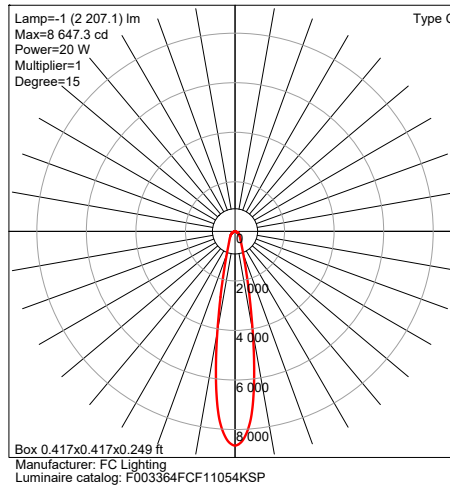
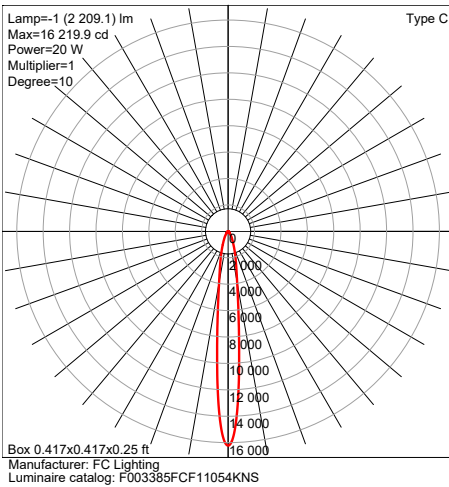
Model	Watts	4K
FCF1105	20W	2205 lm

IES Multiplier	
Color	Multiplier
927	0.93
930	0.97
935	0.99
940	1.00

0-10V Approved Dimmer List	
Manufacturer	Manufacturer Part Number
Lutron	Diva DVSTV-XX Diva DVSTV-453PH-WH1
Leviton	illumatech 010-IP710-DLZ

\*83CRI≤1.15 Consult factory.

**PHOTOMETRICS**

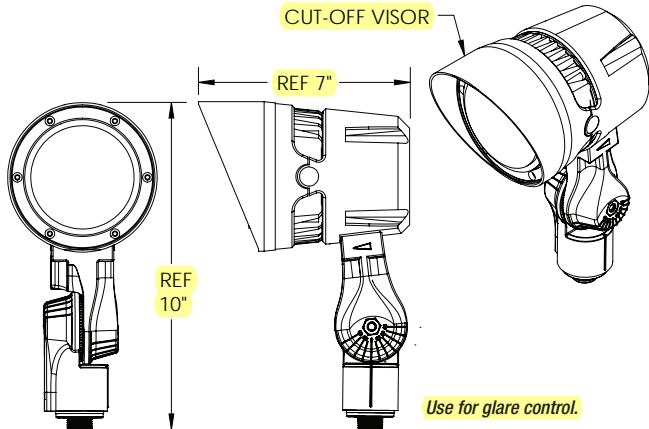


Due to continuous development and improvements, specifications are subject to change without notice. FC Lighting reserves the right to change lab test details or specifications without notice. Product use certifies agreement to Solid State Luminaires terms and conditions. All stated specifications have a tolerance of +/- 7%.

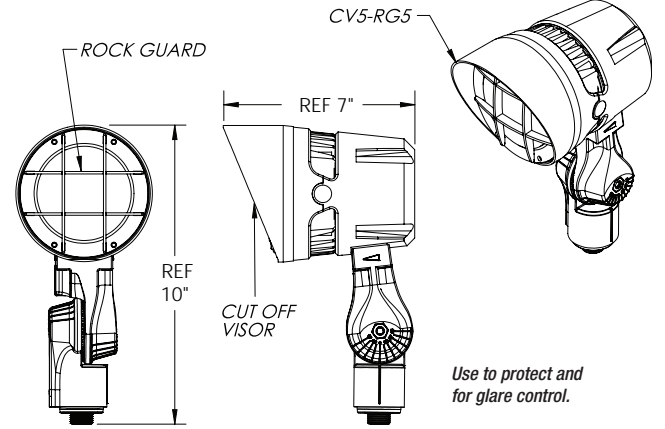
**FCF1105**

**TRIM**

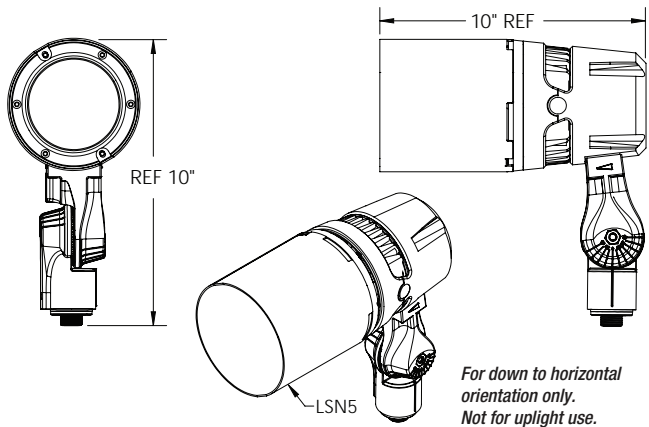
**CV5 Cut-Off Visor**



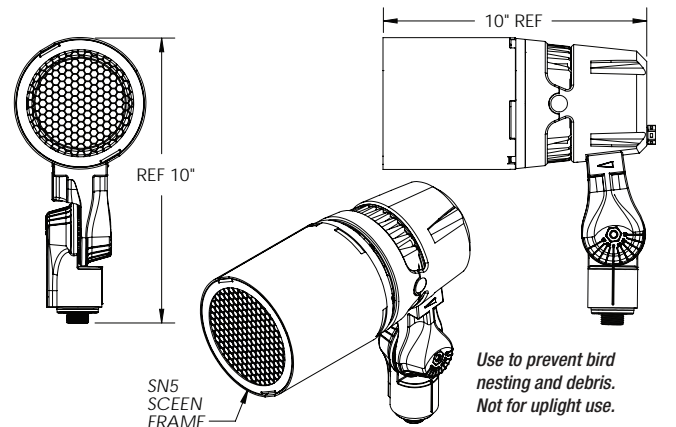
**CV5-RG5 Cut-Off Visor w/Rock Guard**



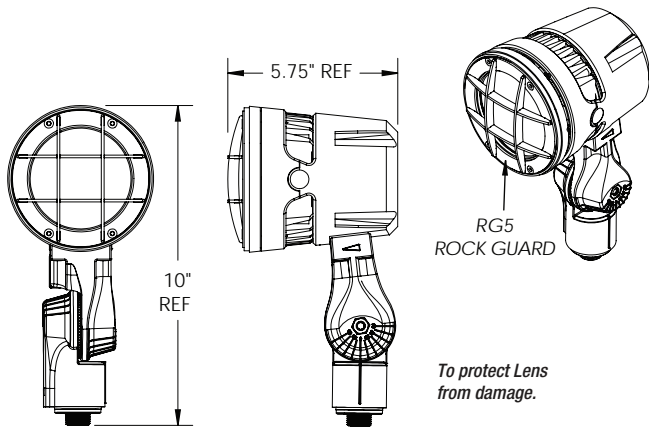
**LSN5 Long Snoot**



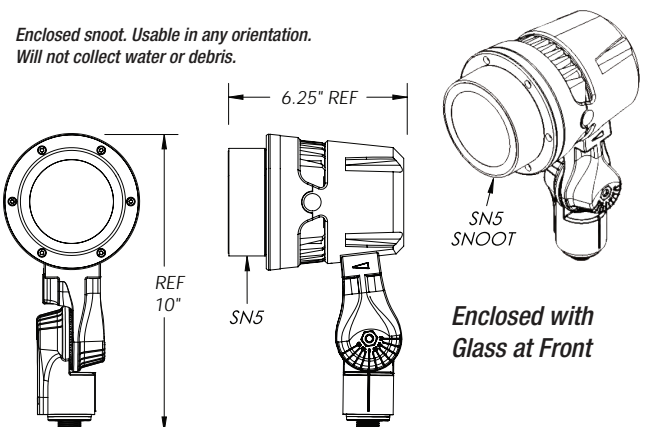
**LSN5-SF5 Long Snoot w/Screen Frame**



**RG5 Rock Guard**



**SN5 Snoot Enclosed Glass Front Lens**

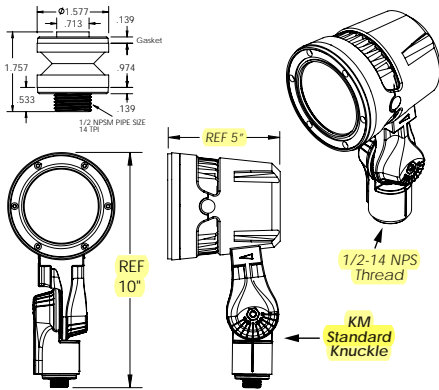




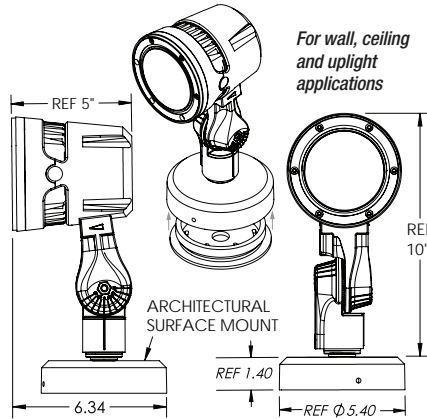
**FCF1105**

**MOUNTING ACCESSORIES** Please pick one of the below for mounting.

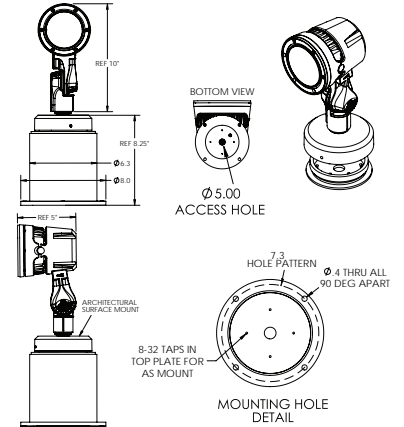
**KM Knuckle Mount (Standard)**



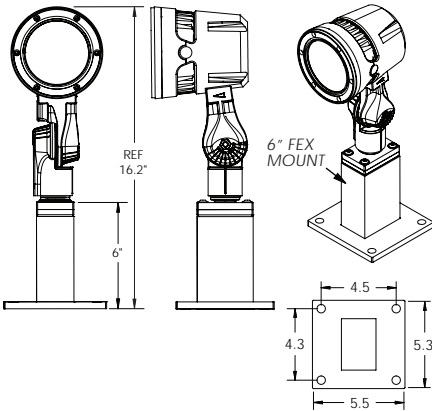
**AS Architectural Surface Mount**



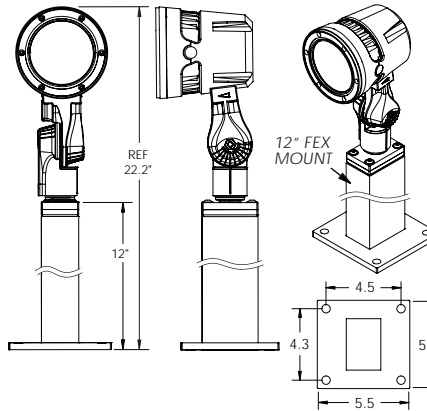
**AS-BASE Architectural Surface Mount w/ Base**



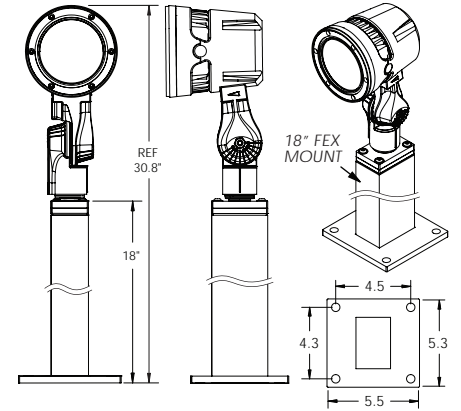
**FEX6 Flood Extension Arm - 6"**



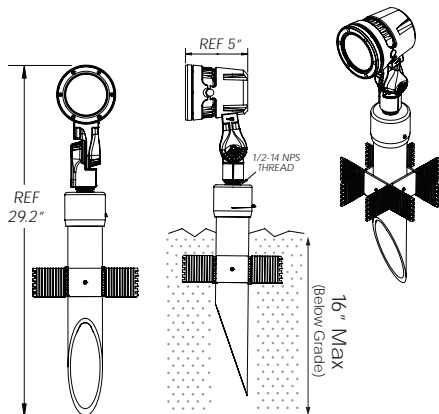
**FEX12 Flood Extension Arm - 12"**



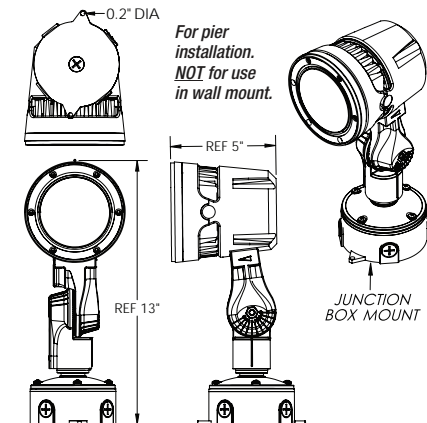
**FEX18 Flood Extension Arm - 18"**



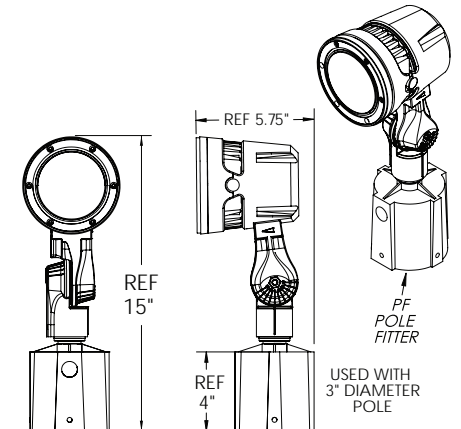
**HGS Heavy Duty Ground Stake**



**JB Junction Box (Outdoor Rated)**



**PF Post Top Fitter**

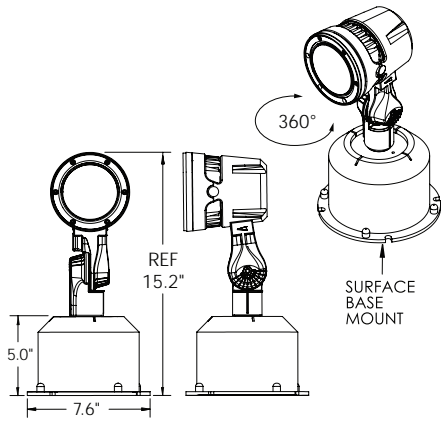


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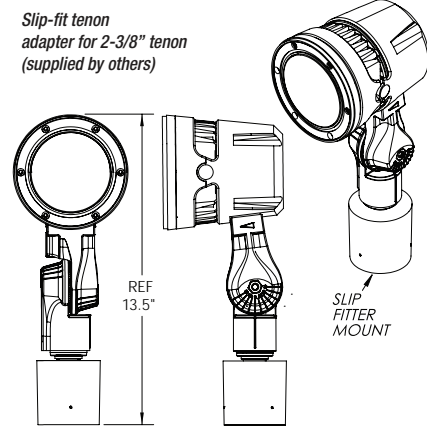
**FCF1105**

**MOUNTING ACCESSORIES**

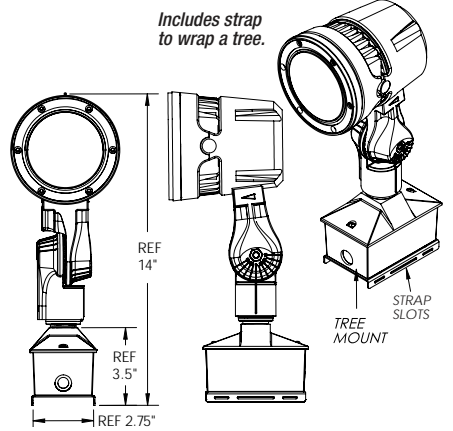
**SB Surface Base Mount**



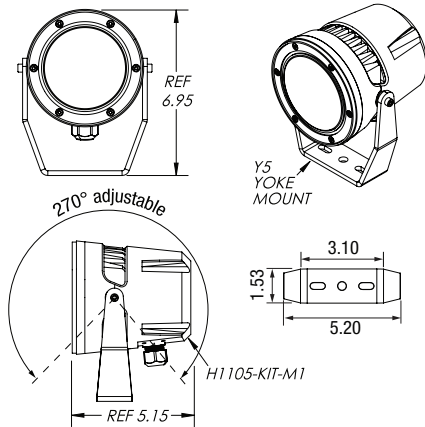
**SF238 Slip Fitter**



**TM Tree Mount**



**Y5 Yoke Arm (Removes Knuckle)**





## VR10 Round Series

Vandal Resistant | 10" Round | Surface Mount



Made in USA with domestic & globally sourced components

### APPLICATIONS:

- Dorm Rooms
- Behavioral Health Facilities
- Transportation Stations
- Public Schools
- Multi-family Housing

### FEATURES:

- Long service life
- Vandal resistant construction and materials
- IK10 Impact rating
- 3.0G Vibration Test rating
- IP66 Ingress protection
- 10-Year limited warranty
- Lifetime Vandal Resistance Warranty
- 0-10V, 1% Dimming

## SPECIFICATIONS

### HOUSING & LENS TRIM:

Marine grade die cast aluminum housing and lens trim. Six stage cleaning and saline pre-treatment. Super TGIC polyester powder coat finish, 18µm Min., 5000hr salt spray test (ASTM B117) compliant with Florida / AAMA 2604 specification.

### DIFFUSER:

One-piece white, high impact, UV stabilized polycarbonate, .125" NOM. Secured by lens ring using (4) stainless steel fasteners, or optional vandal proof stainless steel fasteners.

### REFLECTOR:

Fabricated 5005 corrosion resistant aluminum. Six stage cleaning and saline pre-treatment. Polyester powder coat high reflectance white finish, 18µm Min., 5000hr salt spray test (ASTM B117) compliant with Florida / AAMA 2604 specification.

### GASKETS:

Thick urethane foam gasket for wall/ceiling mount. Lens sealed with an injection molded silicone seamless gasket housing seal.

### TESTING AND RATINGS:

cETLus Listed, CE IEC 60598-1, IEC 60598-2-1

Wet location listed for wall or ceiling mount

IP66 (IEC 60598-1/60529) Ingress protection

3.0G (ANSI C136.31) Vibration resistance rated

IK10 (IEC6226) Impact resistance rated

IESNA LM79 Photometric testing by NVLAP accredited test lab

IESNA LM80 LED testing by NVLAP accredited test lab

IESNA TM21 Luminaire lumen depreciation projection to >70,000hrs

### WARRANTY:

10-Year Limited material and workmanship warranty.

### LIFETIME VANDAL RESISTANCE WARRANTY:

Paramount will replace or repair any fixture damaged due to vandalism for the lifetime of the fixture installation.

### ELECTRICAL:

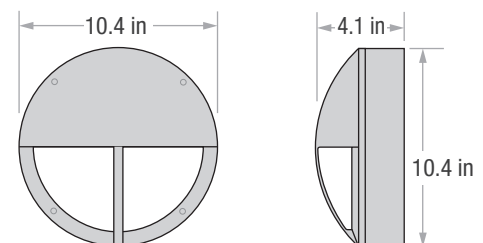
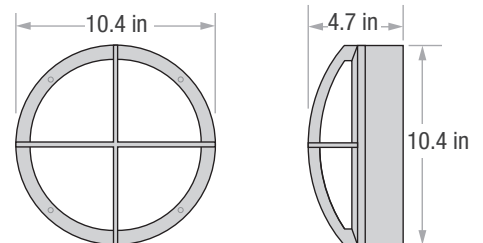
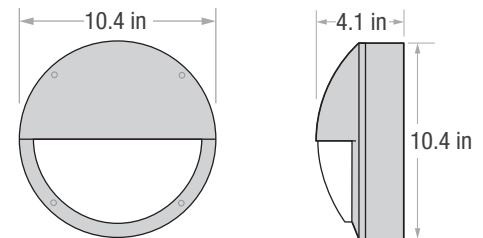
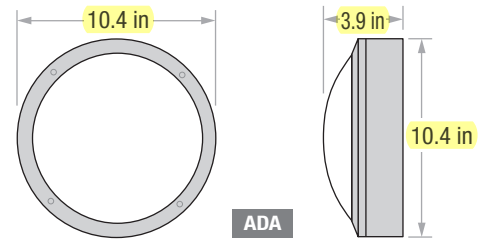
High efficiency, HPF (>94%@120V) Class Two LED driver Samsung LED, 85 or 93 CRI,

2 SDCM fixture to fixture color consistency. CEC Title 24 JA8 compliant (Only 93CRI).

Standard dimming 0-10V (1%).

### MOUNTING:

Mounts directly to wall surface over standard junction boxes through (4) provided holes in housing to provide most secure attachment for high abuse environments (screws appropriate to the mounting surface condition and substrate by others).



AG-DM-101022

# VR10 Round Series

**KCHA: Aspen Ridge Apartments**  
**Type: EX5-EX6 Opt. 1**

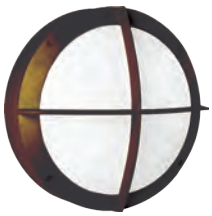
**PRODUCT CODE**



SERIES	VOLTAGE	CCT	CRI	LUMENS	FINISH	OPTIONS
<b>PMVR10RO</b>						
<b>PMVR10RO</b> Wet Location	<b>UNV</b> 120-277V 347V 347V AC (Integral) 120V 120V (PE option) 277V 277V (PE option)	<b>27K</b> 2700K <b>3K</b> 3000K <b>35K</b> 3500K <b>4K</b> 4000K	<b>CRI85</b> 85 CRI <b>CRI93</b> 93 CRI	<b>12L</b> 1199 lm (10W) <b>19L</b> 1922 lm (17W) <b>25L</b> 2473 lm (21W) <b>36L</b> 3645 lm (32W)	<b>BKE</b> Black (AAMA 2604) <b>BRE</b> Bronze (AAMA 2604) <b>SLE</b> Silver (AAMA 2604) <b>WHE</b> White (AAMA 2604) <b>CCE</b> Custom Color (AAMA 2604)	<b>LD</b> 0-10V Dimming (1%) (Standard) <b>ELV</b> ELV Dimming (120V Only) <b>TPS</b> Tamper Proof Screws <b>PE120</b> Photo Eye for 120V <b>PE277</b> Photo Eye for 277V <b>SP20</b> 20kV Surge Protector <b>F</b> Fused Line <b>CSM</b> Conduit Surface Mount <b>BBUR*</b> Battery Backup, Remote (Indoor) <b>BBUX**</b> Battery Backup, Remote (Outdoor)



SERIES	VOLTAGE	CCT	CRI	LUMENS	FINISH	OPTIONS
<b>PMVR10RH</b>						
<b>PMVR10RH</b> Wet Location	<b>UNV</b> 120-277V 347V 347V AC (Integral) 120V 120V (PE option) 277V 277V (PE option)	<b>27K</b> 2700K <b>3K</b> 3000K <b>35K</b> 3500K <b>4K</b> 4000K	<b>CRI85</b> 85 CRI <b>CRI93</b> 93 CRI	<b>8L</b> 814 lm (13W) <b>11L</b> 1104 lm (18W) <b>16L</b> 1582 lm (25W) <b>21L</b> 2143 lm (34W)	<b>BKE</b> Black (AAMA 2604) <b>BRE</b> Bronze (AAMA 2604) <b>SLE</b> Silver (AAMA 2604) <b>WHE</b> White (AAMA 2604) <b>CCE</b> Custom Color (AAMA 2604)	<b>LD</b> 0-10V Dimming (1%) (Standard) <b>ELV</b> ELV Dimming (120V Only) <b>TPS</b> Tamper Proof Screws <b>PE120</b> Photo Eye for 120V <b>PE277</b> Photo Eye for 277V <b>SP20</b> 20kV Surge Protector <b>F</b> Fused Line <b>CSM</b> Conduit Surface Mount <b>BBUR*</b> Battery Backup, Remote (Indoor) <b>BBUX**</b> Battery Backup, Remote (Outdoor)



SERIES	VOLTAGE	CCT	CRI	LUMENS	FINISH	OPTIONS
<b>PMVR10RX</b>						
<b>PMVR10RX</b> Wet Location	<b>UNV</b> 120-277V 347V 347V AC (Integral) 120V 120V (PE option) 277V 277V (PE option)	<b>27K</b> 2700K <b>3K</b> 3000K <b>35K</b> 3500K <b>4K</b> 4000K	<b>CRI85</b> 85 CRI <b>CRI93</b> 93 CRI	<b>12L</b> 1175 lm (10W) <b>19L</b> 1884 lm (16W) <b>25L</b> 2452 lm (21W) <b>36L</b> 3573 lm (31W)	<b>BKE</b> Black (AAMA 2604) <b>BRE</b> Bronze (AAMA 2604) <b>SLE</b> Silver (AAMA 2604) <b>WHE</b> White (AAMA 2604) <b>CCE</b> Custom Color (AAMA 2604)	<b>LD</b> 0-10V Dimming (1%) (Standard) <b>ELV</b> ELV Dimming (120V Only) <b>TPS</b> Tamper Proof Screws <b>PE120</b> Photo Eye for 120V <b>PE277</b> Photo Eye for 277V <b>SP20</b> 20kV Surge Protector <b>F</b> Fused Line <b>CSM</b> Conduit Surface Mount <b>BBUR*</b> Battery Backup, Remote (Indoor) <b>BBUX**</b> Battery Backup, Remote (Outdoor)



SERIES	VOLTAGE	CCT	CRI	LUMENS	FINISH	OPTIONS
<b>PMVR10RZ</b>						
<b>PMVR10RZ</b> Wet Location	<b>UNV</b> 120-277V 347V 347V AC (Integral) 120V 120V (PE option) 277V 277V (PE option)	<b>27K</b> 2700K <b>3K</b> 3000K <b>35K</b> 3500K <b>4K</b> 4000K	<b>CRI85</b> 85 CRI <b>CRI93</b> 93 CRI	<b>8L</b> 798 lm (13W) <b>11L</b> 1081 lm (17W) <b>16L</b> 1550 lm (25W) <b>21L</b> 2100 lm (34W)	<b>BKE</b> Black (AAMA 2604) <b>BRE</b> Bronze (AAMA 2604) <b>SLE</b> Silver (AAMA 2604) <b>WHE</b> White (AAMA 2604) <b>CCE</b> Custom Color (AAMA 2604)	<b>LD</b> 0-10V Dimming (1%) (Standard) <b>ELV</b> ELV Dimming (120V Only) <b>TPS</b> Tamper Proof Screws <b>PE120</b> Photo Eye for 120V <b>PE277</b> Photo Eye for 277V <b>SP20</b> 20kV Surge Protector <b>F</b> Fused Line <b>CSM</b> Conduit Surface Mount <b>BBUR*</b> Battery Backup, Remote (Indoor) <b>BBUX**</b> Battery Backup, Remote (Outdoor)

\*BBUR BATTERY BACK-UP & LED DRIVER REMOTE (INDOOR), IP20, IK08, NEMA 1, 0°C to +48°C, 30' MAX Distance with 12AWG (w/UNV Option Only)

\*\*BBUX BATTERY BACK-UP & LED DRIVER REMOTE (OUTDOOR), IP67, IK10, NEMA 4X, -20°C to +55°C, 30' MAX Distance with 12AWG (w/UNV Option Only)

**LUMEN OUTPUT:** All listed lumen values are nominal.

AG-DM-101022

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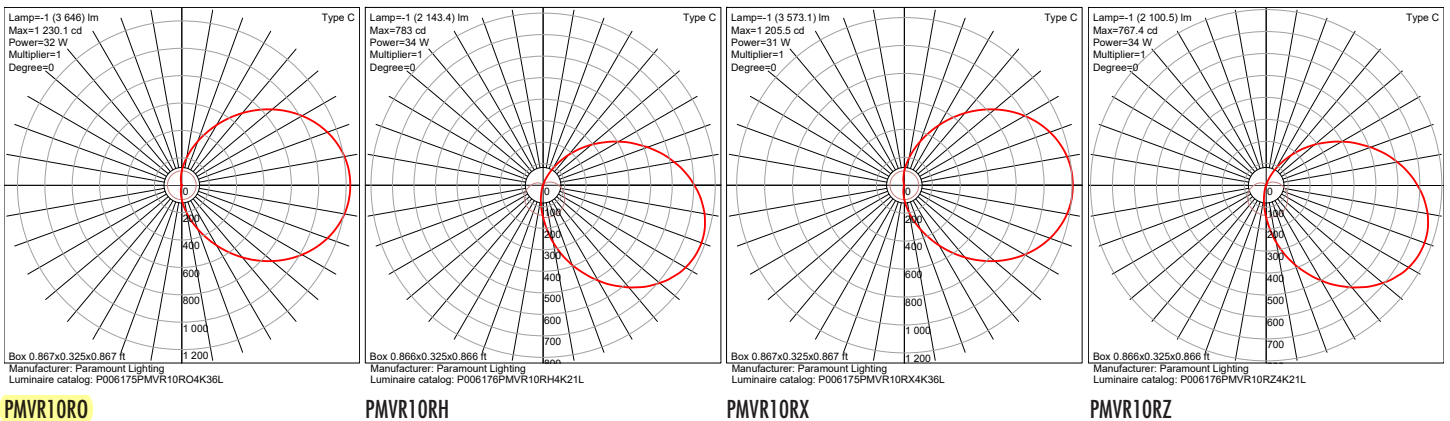
# VR10 Round Series

**KCHA: Aspen Ridge Apartments**  
**Type: EX5-EX6 Opt. 1**

**PHOTOMETRIC DATA**

Model	Watts	LM79 Test Result @ Max Lumens				
		27K	3K	35K	4K	5K
PMVR14RO	32	--	--	--	3645 lm	--
PMVR14RO	21	--	--	--	2473 lm	--
PMVR14RO	17	--	--	--	1922 lm	--
PMVR14RO	10	--	--	--	1199 lm	--
PMVR14RH	34	--	--	--	2143 lm	--
PMVR14RH	25	--	--	--	1582 lm	--
PMVR14RH	18	--	--	--	1104 lm	--
PMVR14RH	13	--	--	--	814 lm	--
PMVR14RX	31	--	--	--	3573 lm	--
PMVR14RX	21	--	--	--	2452 lm	--
PMVR14RX	16	--	--	--	1884 lm	--
PMVR14RX	10	--	--	--	1175 lm	--
PMVR14RZ	34	--	--	--	2100 lm	--
PMVR14RZ	25	--	--	--	1550 lm	--
PMVR14RZ	17	--	--	--	1081 lm	--
PMVR14RZ	13	--	--	--	798 lm	--

**POLAR GRAPHS:**



**LUMEN OUTPUT:** All listed lumen values are nominal.

AG-DM-101022

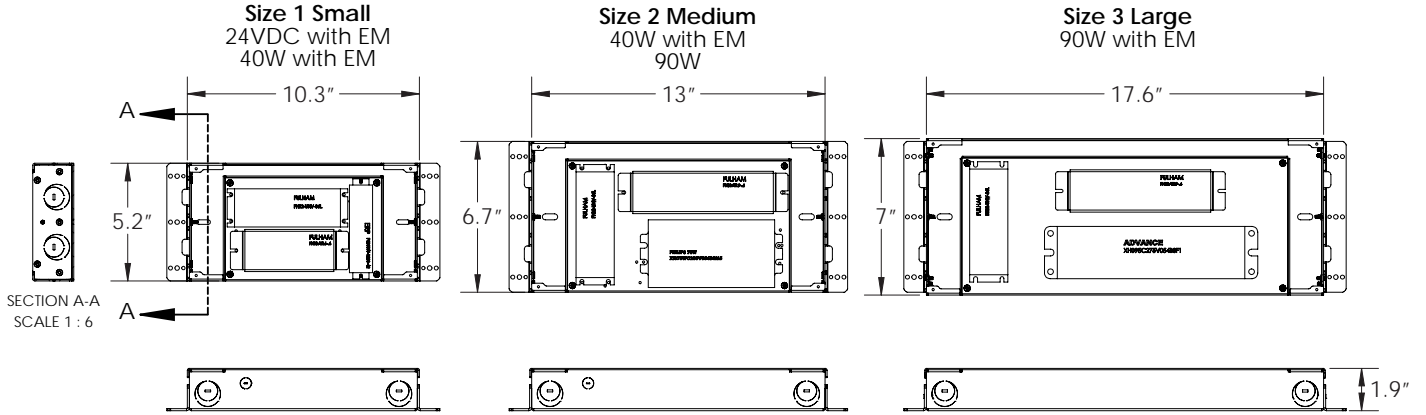
Due to continuous development and improvements, specifications are subject to change without notice. Paramount reserves the right to change lab test details or specifications without notice. Product use certifies agreement to Paramount terms and conditions.

US Lighting Manufacturer Since 1947

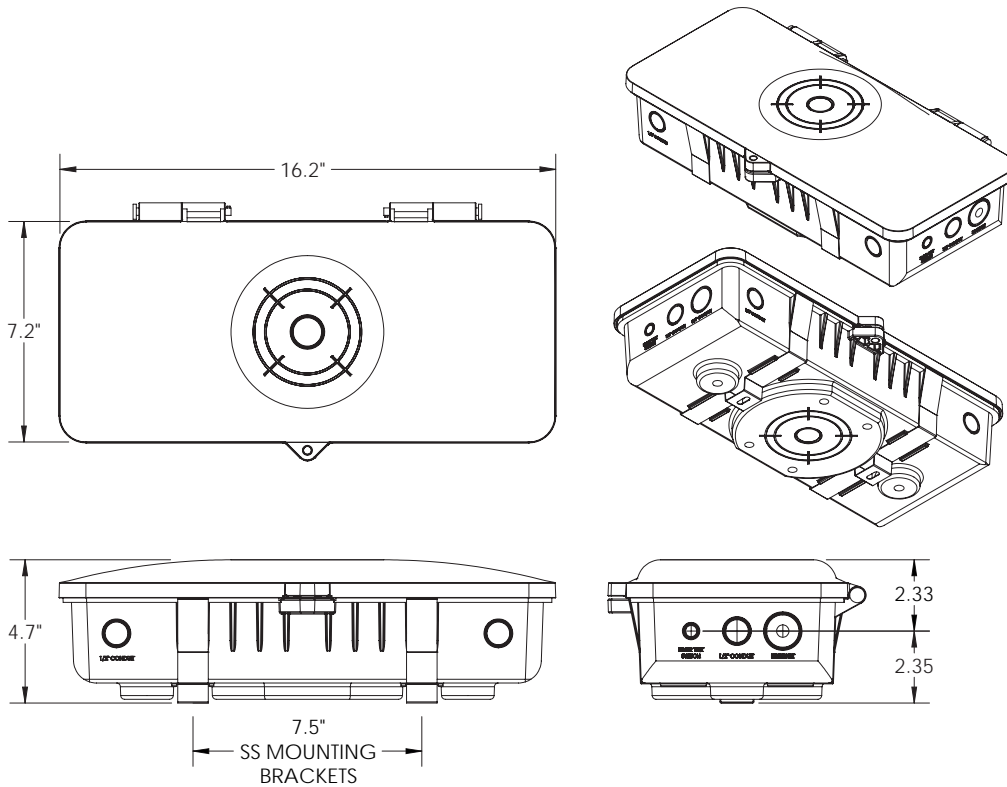
**KCHA: Aspen Ridge Apartments**  
**Type: EX5-EX6 Opt. 1**

**BATTERY BACK-UPS**

**BBUR - BATTERY BACK-UP & LED DRIVER REMOTE (INDOOR), IP20, IK08, NEMA 1, 0°C to +48°C, 30' MAX Distance with 12AWG (w/UNV Option Only)**



**BBUX - BATTERY BACK-UP & LED DRIVER REMOTE (OUTDOOR), IP67, IK10, NEMA 4X, -20°C to +55°C, 30' MAX Distance with 12AWG (w/UNV Option Only)**



**LUMEN OUTPUT:** All listed lumen values are nominal.

AG-DM-101022

Due to continuous development and improvements, specifications are subject to change without notice. Paramount reserves the right to change lab test details or specifications without notice. Product use certifies agreement to Paramount terms and conditions.

**KCHA: Aspen Ridge Apartments**  
**Type: EX5-EX6 Opt.2**

## FEATURES

- Available in two sizes and four outputs up to 9,000 lumens
- A specially designed acrylic lens provides ultimate glare control which “softens” the light for no pixilation and unprecedented visual comfort
- Seamless retrofit solution for traditional HID sources up to 250W
- Wireless control, motion sensor, photocontrol and emergency battery back-up capability
- Polycarbonate vandal shield available
- Available in 3000K, 4000K and 5000K nominal CCT



## SPECIFICATIONS

### CONSTRUCTION

- Rugged die-cast aluminum housing with corrosion resistant powder coat finish both protects and provides architectural appearance
- Heat dissipating fins provide superior thermal performance extending the life of the electronic components

### OPTICS

- 3000K, 4000K and 5000K CCT nominal with 70 CRI
- Impact resistant acrylic diffuser
- Low luminance soft glow lens provides blended
- Non pixilated light for unprecedented visual comfort

### INSTALLATION

- Mounts to 4" junction box and includes a gasket to seal electrical connections
- Mounting plate and hook on fixture allow easy 4 step installation and wiring
- Four ½" threaded conduit hubs for surface conduit provided

### ELECTRICAL

- 20–277V, 50/60Hz electronic drivers
- 347V and 480V available in larger LSQ2 housing
- 10kA surge protection included

### CONTROLS

- Button photocontrol for dusk to dawn energy savings
- Stock versions include 120V–277V PC with a cover which provides a choice to engage photocontrol or not PC is installed in top hub
- Occupancy sensor available for on/off and dimming control in larger LSQ1 and LSQ2 housing
- Battery backup options available in larger LSQ2 housing rated for either 0°C or -30°C
- Performance exceeds NEC requirement providing 1 fc minimum over 10'x10' at 11' mounting height
- Battery backup units consume 6 watts when charging a dead battery and 2 watts during maintenance charging.
- EH (units with a heater) consume up to an additional 8 watts when charging if the battery temp is lower than 10°C

### CERTIFICATIONS

- DesignLights Consortium® (DLC) qualified. Please refer to the DLC website for specific product qualifications at [www.designlights.org](http://www.designlights.org)
- Listed to UL1598 for use in wet location, listed for -40°C to 40°C applications
- Non-IC rated
- IP65

### WARRANTY

- 5 year warranty

KEY DATA	
Lumen Range	3055–9431
Wattage Range	24–74
Efficacy Range (LPW)	117–133
Fixture Projected Life (Hours)	L70>185K
Weights lbs. (kg)	13.5–24 (6.1–10.9)

# LSQ SERIES

LUMASQUARE

**KCHA: Aspen Ridge Apartments**  
**Type: EX5-EX6 Opt.2**

## ORDERING GUIDE

**Example:** LSQ1-25-4K7-UNV-DBT-PCU

CATALOG # \_\_\_\_\_

Family	CCT/CRI	Voltage	Color/Finish	Control Options	Options
<b>LSQ1-25</b> Size 1, 25w / 3,000lm	<b>3K7</b> 3000K, 70CRI	<b>UNV</b> 120V-277V	<b>BLT</b> Black Matte Textured	<b>PCU</b> Button Photocontrol (120-277V)	<b>E</b> Battery Backup Unit (0°C) <sup>1,5</sup>
<b>LSQ1-40</b> Size 1, 40w / 4,500lm	<b>4K7</b> 4000K, 70CRI	<b>120</b> 120V	<b>BLS</b> Black Gloss Smooth	<b>SCP</b> Sensor Control, Programmable (Dim) <sup>2,3</sup>	<b>EH</b> Battery Backup Unit (-30°C) <sup>1,5</sup>
<b>LSQ2-55</b> Size 2, 55w / 7,000lm	<b>5K7</b> 5000K, 70CRI	<b>208</b> 208V	<b>DBT</b> Dark Bronze Matte Textured	<b>Specify MTG HT for SCP</b>	
<b>LSQ2-70</b> Size 2, 75w / 9,000lm		<b>240</b> 240V	<b>DBS</b> Dark Brone Gloss Smooth	<b>8F</b> Up to 8ft mounting height	<b>F</b> Fusing (voltage specific) <sup>4</sup>
		<b>277</b> 277V	<b>GTT</b> Graphite Matte Textured	<b>20F</b> Up to 20ft mounting height	<b>2DR</b> Dual Drivers <sup>1</sup>
		<b>UHV</b> 347/480	<b>LGS</b> Light Grey Gloss Smooth		<b>2PF</b> Dual Power Feed <sup>1,4</sup>
			<b>PSS</b> Platinum Silver Smooth		<b>SPC</b> Polycarbonate Vandal Shield
			<b>WHT</b> White Matte Textured		
			<b>WHS</b> White Gloss Smooth		
			<b>VGT</b> Verde Green Textured		
			<b>Color Option</b>		
			<b>CC</b> Custom Color		

Notes:

- 1 Available in LSQ2-55 and LSQ2-70 only
- 2 Available in 120V-277V only
- 3 Must order minimum of one remote control (SCP-REMOTE) to program dimming settings, 0-10V fully adjustable dimming with automatic daylight calibration and different time delay settings (120-277V only)
- 4 Comes with Dual Driver (2DR) option
- 5 Must specify voltage, 120 or 277V only

## ACCESSORIES

Catalog Number	Description
<input type="checkbox"/> SCP-REMOTE	Remote control for SCP option. Order a minimum of one per project to program and control fixtures
<input type="checkbox"/> SCP-SPC	Polybarbonate Vandal Shield

## PERFORMANCE DATA

Catalog number	# of LEDs	Drive Current	System Watts	Distribution	5K (5000K nominal, 70 CRI)					4K (4000K nominal, 70 CRI)					3K (3000K nominal, 80 CRI)				
					Lumens	LPW <sup>1</sup>	B	U	G	Lumens	LPW <sup>1</sup>	B	U	G	Lumens	LPW <sup>1</sup>	B	U	G
LSQ1	176	43mA	24.3	V	3181	131	2	3	2	3170	131	2	3	2	3055	126	2	3	2
		65mA	38.1	V	4626	121	2	3	2	4610	121	2	3	2	4443	117	2	3	2
LSQ2	352	43mA	54.6	V	7246	133	2	3	2	7221	132	2	3	2	6959	127	2	3	2
		65mA	73.5	V	9431	128	2	3	2	9398	128	2	3	2	9057	123	2	3	2

<sup>1</sup> Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown. Actual performance may differ as a result of end-user environment and application.

# LSQ SERIES

LUMASQUARE

**KCHA: Aspen Ridge Apartments**  
**Type: EX5-EX6 Opt.2**

## ELECTRICAL DATA

Catalog number	# of Drivers	Input Voltage	Current (Amps)	System Power
LSQ1-25	1	120	0.21	25.7
		277	0.09	
LSQ1-40	1	120	0.31	37.0
		277	0.13	
LSQ2-55	1	120	0.43	51.3
		277	0.19	
LSQ2-70	1	120	0.60	71.8
		277	0.26	

## PROJECTED LUMEN MAINTENANCE

Ambient Temp.	OPERATING HOURS					L70 (hours)
	0	25,000	TM-21-111 36,000	50,000	100,000	
25°C / 77°F	1.00	0.95	0.93	0.91	0.83	>185,000
40°C / 104°F	0.97	0.92	0.90	0.88	0.80	>170,000

Projected per IESNA TM-21-11 \* (Nichia 219B, 700mA, 85°C Ts, 10,000hrs) Data references the extrapolated performance projections for the LNC-12LU-5K base model in a 40°C ambient, based on 10,000 hours of LED testing per IESNA LM-80-08.

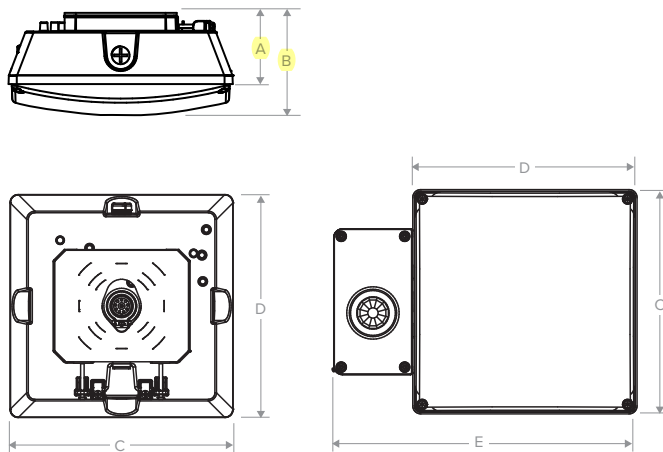
## LUMINAIRE AMBIENT TEMPERATURE FACTOR (LATF)

AMBIENT TEMPERATURE		LUMEN MULTIPLIER
0° C	32° F	1.03
10° C	50° F	1.02
20° C	68° F	1.01
25° C	77° F	1.00
30° C	86° F	0.99
40° C	104° F	0.97
50° C	122° F	0.96

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

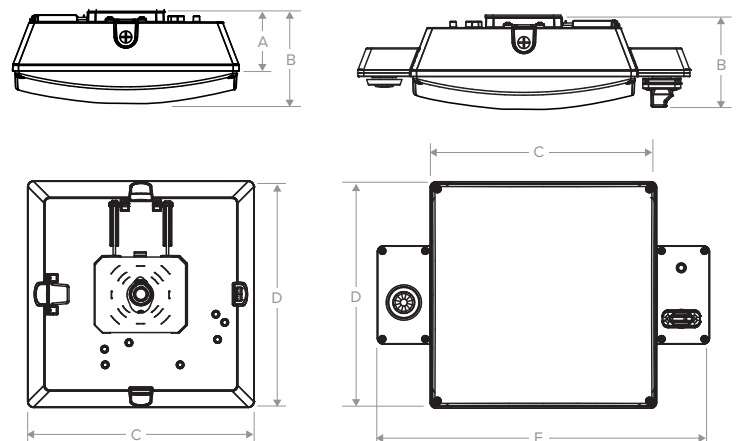
## DIMENSIONS

### LSQ1



A	B	C	D	E	Weight
3.0"	4.0"	10.0"	10.0"	13.5"	10 lbs.
76.2 mm	101.6 mm	254 mm	254 mm	343 mm	4.5 kg

### LSQ2



A	B	C	D	E	Weight
4.0"	6.0"	14.8"	14.8"	21.9"	15.5 lbs.
101.6 mm	152.4 mm	375 mm	375 mm	556 mm	7.0 kg



# LSQ SERIES

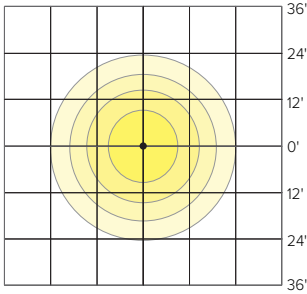
LUMASQUARE

**KCHA: Aspen Ridge Apartments**  
**Type: EX5-EX6 Opt.2**

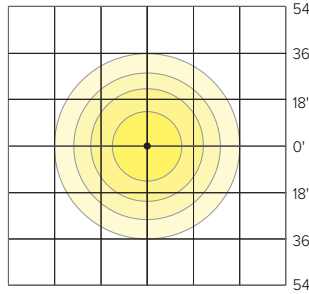
## PHOTOMETRY

The following diagrams represent the general distribution options offered for this product. For detailed information on specific product configurations, see website photometric test reports.

**LSQ1 – Mounting Height: 12ft**



**LSQ2 – Mounting Height: 18ft**



## ADDITIONAL INFORMATION

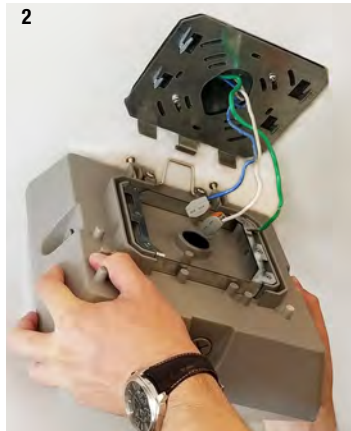
### SHIPPING INFORMATION

Catalog Number	G.W(kg)/CTN	Carton Dimensions			Carton Qty. per Master Pack
		Length Inch (cm)	Width Inch (cm)	Height Inch (cm)	
LSQ1	10lbs (4.5 kg)	9.5 (24)	8.25 (21)	5.25 (13.32)	6
LSQ2	15.5lbs (7 kg)	14 (35.5)	11.5 (29.2)	8 (20.3)	2

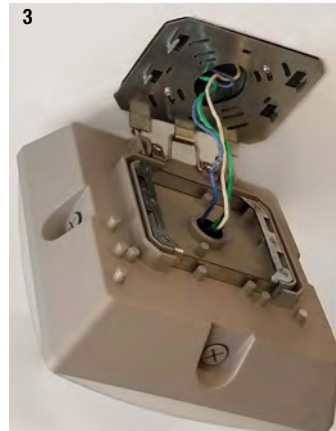
## INSTALLATION



1 Mount plate to junction box.



2 Hang fixture on mounting plate with provided integral hook.



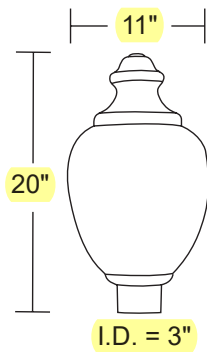
3 Complete wiring connections.



4 Two mounting screws close and secure fixture to the mounting bracket.



**ACORN POST TOP FIXTURE 2017/8017** **OUTDOOR DECORATIVE**



Wave Lighting's Acorn Post Top Fixture is ideal for any outdoor patio or walkway. This fixture is easily relamped via 2 screws in fitter. Wave Lighting's Acorns fit on a 3" diameter pole (sold separately) mounting hardware is included.

### LED SOURCE OPTIONS

#### LIGHTWAVE LED - LR/LT

- 120V, 50/60 Hz
- AC Driver-On-Board Array
- Estimated 50,000 Hrs L<sub>70</sub>
- Low Flicker (LT models)
- Surge Supression
- Dimmable (see compatible dimmer list)
- High Efficacy LED Light Source
- 3000K or 4000K CCT 80 or 90 CRI
- 5 Year Warranty

#### E26 MEDIUM BASE - LE26

- 120V, 50/60Hz
- "Screw-In" Medium Base A19/E26 LED Lamp
- Estimated 15,000 Hrs L<sub>70</sub>
- Low Flicker (3K models)
- Dimmable (see compatible dimmer list)
- 3000K CCT 90CRI or 4000K CCT 80CRI
- 3 Year Warranty

#### E39 RETRO-FIT LED - LC

- 120-277V, 50/60Hz
- 250W Metal Halide Equivalent Lamp
- E39 Mogul Base Socket
- Estimated 50,000 Hrs L<sub>70</sub>
- Surge Supression
- Available in 4000K CCT 80CRI
- Type 3, Type 5, or Dark Sky Distribution
- 5 Year Warranty



### SPECIFICATIONS

- Cast Aluminum or Polycarbonate Fitters
- Black, White, or Bronze (Aluminum Only)
- Post Mount Only
- Polycarbonate or Acrylic Acorn Diffuser
- Clear or Frost Textured Diffuser Options
- UL Listed For Wet Locations

GUIDE CODE: 2017CL-LR12C-BP

CALL FOR PHOTOMETRIC INFORMATION

ITEM #	LENS	LIGHT SOURCE	CCT	FITTER MATERIAL	OPTIONS
2017-Acorn	POLYCARBONATE CL-Clear Textured	<b>E26 MEDIUM BASE</b> (1) 75W MAX Medium Base <b>LE26-9.5W 800lm (E26 LED Lamp) †</b>	C-4K W-3K	CAST ALUMINUM Black WH-White BZ-Bronze	MG-E39 Mogul Socket
8017-Acorn	ACRYLIC CL-Clear Textured FA-Frost Textured	<b>120V LIGHTWAVE LED</b> LR12-13W 1000lm 80CRI LR15-15W 1400lm 80CRI LR22-23W 1900lm 80CRI LT12-12W 1040lm 90CRI LT15-16W 1400lm 90CRI LT22-24W 2020lm 90CRI <b>E39 RETRO-FIT LED 120-277V</b> LC5-24W 3120lm, Type 5 † LC3-20W 3000lm, Type 3 † LCD-24W 2400lm, Dark Sky †	C-4K	POLYCARBONATE BP-Black WP-White	

† Lamp included.

**DESCRIPTION**

The patented Lumark Crosstour™ MAXX LED wall pack series of luminaries provides low-profile architectural style with super bright, energy-efficient LEDs. The rugged die-cast aluminum construction, back box with secure lock hinges, stainless steel hardware along with a sealed and gasketed optical compartment make Crosstour impervious to contaminants. The Crosstour MAXX wall luminaire is ideal for wall/surface, inverted mount for facade/canopy illumination, perimeter and site lighting. Typical applications include pedestrian walkways, building entrances, multi-use facilities, industrial facilities, perimeter parking areas, storage facilities, institutions, schools and loading docks.

**SPECIFICATION FEATURES**

**Construction**

Low-profile LED design with rugged one-piece, die-cast aluminum back box and hinged removable door. Matching housing styles incorporate both a full cutoff and refractive lens design. Full cutoff and refractive lens models are available in 58W, 81W and 102W. Patent pending secure lock hinge feature allows for safe and easy tool-less electrical connections with the supplied push-in connectors. Back box includes four 1/2" NPT threaded conduit entry points. The back box is secured by four lag bolts (supplied by others). External fin design extracts heat from the fixture surface. One-piece silicone gasket seals door and back box. Not recommended for car wash applications.

**Optical**

Silicone sealed optical LED chamber incorporates a custom engineered reflector providing high-efficiency illumination. Full cutoff models integrate an impact-resistant molded refractive prism optical lens assembly meeting requirements for Dark Sky compliance. Refractive lens models incorporate a molded lens

assembly designed for maximum forward throw. Solid state LED Crosstour MAXX luminaries are thermally optimized with eight lumen packages in cool 5000K, neutral 4000K, or warm 3000K LED color temperature (CCT).

**Electrical**

LED driver is mounted to the die-cast aluminum housing for optimal heat sinking. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from the LED source. 58W, 81W and 102W models operate in -40°C to 40°C [-40°F to 104°F]. High ambient 50°C [122°F] models available in 58W and 81W models only. Crosstour MAXX luminaires maintain greater than 89% of initial light output after 72,000 hours of operation. Four half-inch NPT threaded conduit entry points allow for thru-branch wiring. Back box is an authorized electrical wiring compartment. Integral LED electronic driver incorporates surge protection. 120-277V 50/60Hz, 480V 60Hz, or 347V 60Hz electrical operation. 480V is compatible for use with 480V Wye systems only.

**Emergency Egress**

Optional integral cold weather battery emergency egress includes emergency operation test switch (available in 58W and 81W models only), an AC-ON indicator light and a premium extended rated sealed maintenance-free nickel-metal hydride battery pack. The separate emergency lighting LEDs are wired to provide redundant emergency lighting. Listed to UL Standard 924, Emergency Lighting.

**Finish**

Crosstour MAXX is protected with a super TGIC carbon bronze or summit white polyester powder coat paint. Super TGIC powder coat paint finishes withstand extreme climate conditions while providing optimal color and gloss retention of the installed life. Options to meet Buy American and other domestic preference requirements.

**Warranty**

Five-year warranty.



**XTOR  
 CROSSTOUR  
 MAXX LED**

**APPLICATIONS:**  
 WALL / SURFACE  
 INVERTED  
 SITE LIGHTING



**CERTIFICATION DATA**

UL/cUL Wet Location Listed  
 Dark Sky Approved (Fixed mount, Full cutoff, and 3000K CCT only)  
 DesignLights Consortium® Qualified\*  
 LM79 / LM80 Compliant  
 ROHS Compliant  
 NOM Compliant Models  
 3G Vibration Tested  
 UL924 Listed (CBP Models)  
 IP66 Rated

**TECHNICAL DATA**

40°C Ambient Temperature  
 External Supply Wiring 90°C Minimum

**EPA**

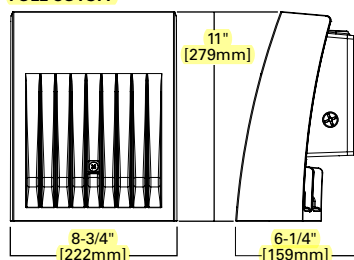
Effective Projected Area (Sq. Ft.):  
 XTOR6B, XTOR8B, XTOR12B=0.54

**SHIPPING DATA:**

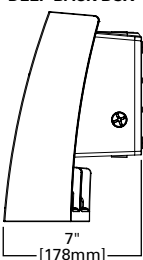
Approximate Net Weight:  
 12-15 lbs. [5.4-6.8 kgs.]

**DIMENSIONS**

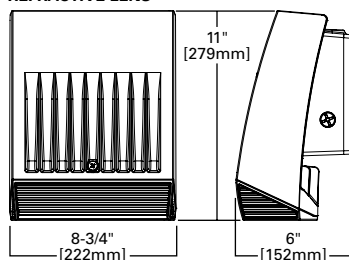
**FULL CUTOFF**



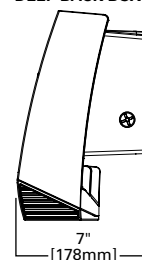
**DEEP BACK BOX**



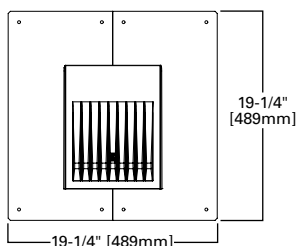
**REFRACTIVE LENS**



**DEEP BACK BOX**



**ESCUTCHEON PLATES**

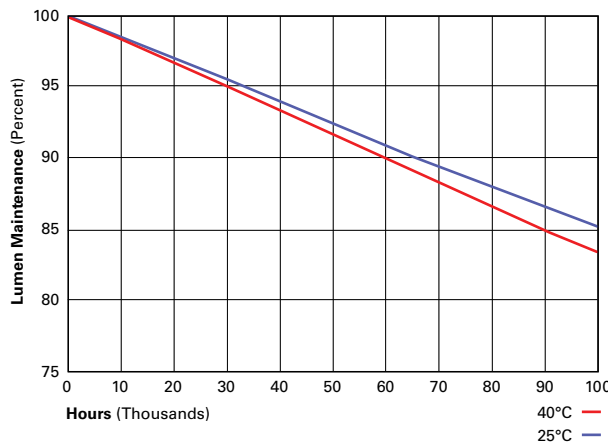


**POWER AND LUMENS BY FIXTURE MODEL**

58W Series						
LED Information	XTOR6B	XTOR6BRL	XTOR6B-W	XTOR6BRL-W	XTOR6B-Y	XTOR6BRL-Y
Delivered Lumens	6,129	6,225	6,038	6,133	5,611	5,826
B.U.G. Rating	B1-U0-G1	B2-U4-G3	B1-U0-G1	B2-U4-G3	B1-U0-G1	B2-U4-G3
CCT (Kelvin)	5000K	5000K	4000K	4000K	3000K	3000K
CRI (Color Rendering Index)	70	70	70	70	70	70
Power Consumption (Watts)	58W	58W	58W	58W	58W	58W
81W Series						
LED Information	XTOR8B	XTOR8BRL	XTOR8B-W	XTOR8BRL-W	XTOR8B-Y	XTOR8BRL-Y
Delivered Lumens	8,502	8,635	8,373	8,504	7,748	8,079
B.U.G. Rating	B2-U0-G1	B2-U4-G3	B2-U0-G1	B2-U4-G3	B2-U0-G1	B2-U4-G3
CCT (Kelvin)	5000K	5000K	4000K	4000K	3000K	3000K
CRI (Color Rendering Index)	70	70	70	70	70	70
Power Consumption (Watts)	81W	81W	81W	81W	81W	81W
102W Series						
LED Information	XTOR12B	XTOR12BRL	XTOR12B-W	XTOR12BRL-W	XTOR12B-Y	XTOR12BRL-Y
Delivered Lumens	12,728	13,458	12,539	13,258	11,861	12,595
B.U.G. Rating	B2-U0-G1	B2-U4-G3	B2-U0-G1	B2-U4-G3	B2-U0-G1	B2-U4-G3
CCT (Kelvin)	5000K	5000K	4000K	4000K	3000K	3000K
CRI (Color Rendering Index)	70	70	70	70	70	70
Power Consumption (Watts)	102W	102W	102W	102W	102W	102W
EGRESS Information	XTOR6B and XTOR8B Full Cutoff CBP Egress LED			XTOR6B and XTOR8B Refractive Lens CBP Egress LED		
Delivered Lumens	509			468		
B.U.G. Rating	N.A.			N.A.		
CCT (Kelvin)	4000K			4000K		
CRI (Color Rendering Index)	65			65		
Power Consumption (Watts)	1.8W			1.8W		

**LUMEN MAINTENANCE**

Ambient Temperature	TM-21 Lumen Maintenance (72,000 Hours)	Theoretical L70 (Hours)
<b>XTOR6B Model</b>		
25°C	> 90%	246,000
40°C	> 88%	217,000
50°C	> 88%	201,000
<b>XTOR8B Model</b>		
25°C	> 89%	219,000
40°C	> 87%	195,000
50°C	> 86%	181,000
<b>XTOR12B Model</b>		
25°C	> 89%	222,000
40°C	> 87%	198,000



**CURRENT DRAW**

Voltage	Model Series				
	XTOR6B	XTOR8B	XTOR12B	XTOR6B-CBP (Fixture/Battery)	XTOR8B-CBP (Fixture/Battery)
120V	0.51	0.71	0.94	0.60/0.25	0.92/0.25
208V	0.25	0.39	0.52	--	--
240V	0.25	0.35	0.45	--	--
277V	0.22	0.31	0.39	0.36/0.21	0.50/0.21
347V	0.19	0.25	0.33		--
480V	0.14	0.19	0.24		--

**ORDERING INFORMATION**

Sample Number: XTOR6B-W-WT-PC1

Domestic Preferences <sup>17</sup>	Series <sup>1</sup>	LED Kelvin Color	Housing Color	Options (Add as Suffix)
[Blank]=Standard BAA=Buy American Act TAA=Trade Agreements Act	Full Cutoff XTOR6B=58W XTOR8B=81W XTOR12B=102W  Refractive Lens XTOR6BRL=58W XTOR8BRL=81W XTOR12BRL=102W	[Blank]=Bright White (Standard) 5000K W=Neutral, 4000K Y=Warm, 3000K	[Blank]=Carbon Bronze (Standard) WT=Summit White BK=Black BZ=Bronze AP=Grey GM=Graphite Metallic DP=Dark Platinum	347V=347V <sup>2,3,4,5</sup> 480V=480V <sup>2,3,4,5,6</sup> PC1=Photocontrol 120V <sup>7</sup> PC2=Photocontrol 208-277V <sup>7,8</sup> MS-L20=Motion Sensor for ON/OFF Operation <sup>2,3,9,10</sup> MS/DIM-L20=Motion Sensor for Dimming Operation <sup>2,3,9,10,11,12,13</sup> CBP=Cold Weather Battery Pack <sup>2,3,14,15,16</sup> HA=50°C High Ambient <sup>16</sup>
<b>Accessories (Order Separately)<sup>18</sup></b>				
WG-XTORMX=Crosstour MAXX Wire Guard PB120V=Field Installed 120V Photocontrol PB277V BUTTON PC=Field Installed 208-277V Photocontrol <sup>8</sup>			EWP/XTORMX=Escutcheon Wall Plate, Carbon Bronze EWP/XTORMX-WT=Escutcheon Wall Plate, Summit White FSIR-100=Wireless Configuration Tool for Occupancy Sensor <sup>13</sup>	

- NOTES:**
- DesignLights Consortium<sup>®</sup> Qualified and classified for both DLC Standard and DLC Premium, refer to [www.designlights.org](http://www.designlights.org) for details.
  - Not available with HA option.
  - Deep back box is standard for 347V, 480V, CBP, MS-L20 and MS/DIM-L20.
  - Not available with CBP option.
  - Thru-branch wiring not available with HA option or with 347V.
  - Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
  - Not available with MS-L20 and MS/DIM-L20 options.
  - Use PC2 with 347V or 480V option for photocontrol. Factory wired to 208-277V lead.
  - For use in downlight orientation only. Optimal coverage at mounting heights of 9'-20'.
  - 120V thru 277V only.
  - Factory set to 50% power reduction after 15-minutes of inactivity. Dimming driver included.
  - Includes integral photo sensor.
  - The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff, and more. Consult your lighting representative at Cooper Lighting Solutions for more information.
  - 120V or 277V operation only.
  - Operating temperatures -20°C to 25°C.
  - Not available in XTOR12B or XTOR12BRL models.
  - Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to [DOMESTIC.PREFERENCES](http://DOMESTIC.PREFERENCES) website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.
  - Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.

**STOCK ORDERING INFORMATION**

Domestic Preferences <sup>1</sup>	58W Series	81W Series	102W Series
[Blank]=Standard	Full Cutoff		
BAA=Buy American Act	XTOR6B=58W, 5000K, Carbon Bronze	XTOR8B=81W, 5000K, Carbon Bronze	XTOR12B=102W, 5000K, Carbon Bronze
TAA=Trade Agreements Act	XTOR6B-PC1=58W, 5000K, 120V PC, Carbon Bronze	XTOR8B-PC1=81W, 5000K, 120V PC, Carbon Bronze	
	XTOR6B-WT= 58W, 5000K, Summit White	XTOR8B-WT=81W, 5000K, Summit White	
	XTOR6B-W=58W, 4000K, Carbon Bronze	XTOR8B-PC2=81W, 5000K, 208-277V PC, Carbon Bronze	
	XTOR6B-PC2= 58W, 5000K, 208-277V PC, Carbon Bronze	XTOR8B-347V=81W, 5000K, Carbon Bronze, 347V	
	<b>Refractive Lens</b>		
	XTOR6BRL=58W, 5000K, Refractive Lens, Carbon Bronze	XTOR8BRL=81W, 5000K, Refractive Lens, Carbon Bronze	XTOR12BRL=102W, 5000K, Refractive Lens, Carbon Bronze
	XTOR6BRL-PC1=58W, 5000K, Refractive Lens, 120V PC, Carbon Bronze	XTOR8BRL-PC1=81W, 5000K, Refractive Lens, 120V PC, Carbon Bronze	XTOR12BRL-W=102W, 4000K, Refractive Lens, Carbon Bronze
	XTOR6BRL-WT=58W, 5000K, Refractive Lens, Summit White	XTOR8BRL-WT=81W, 5000K, Refractive Lens, Summit White	XTOR12BRL-347V=102W, 5000K, Refractive Lens, Carbon Bronze, 347V
	XTOR6BRL-W=58W, 4000K, Refractive Lens, Carbon Bronze	XTOR8BRL-PC2=81W, 5000K, Refractive Lens, 208-277V PC, Carbon Bronze	
	XTOR6BRL-PC2=58W, 5000K, Refractive Lens, 208-277V PC, Carbon Bronze	XTOR8BRL-W=81W, 4000K, Refractive Lens, Carbon Bronze	
	XTOR6BRL-347V=58W, 5000K, Refractive Lens, Carbon Bronze, 347V	XTOR8BRL-347V = 81W, 5000K, Refractive Lens, Carbon Bronze, 347V	

- NOTES:**
- Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to [DOMESTIC.PREFERENCES](http://DOMESTIC.PREFERENCES) website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.

**DESCRIPTION**

The SLMT1000 series outdoor security light provides the comfort of a security light, without the hassle of wiring a conventional fixture. Delivering 1000 lumens when fully charged, this product is perfect for wall or eave mount. Install the solar panel virtually anywhere with the 16' cord (included). The integrated 180 degree motion sensor automatically turns the light on when motion is detected. Available in bronze and white finishes.

<b>Catalog #</b>		<b>Type</b>
<b>Project</b>		
<b>Comments</b>		<b>Date</b>
<b>Prepared by</b>		

**SPECIFICATION FEATURES**

**Construction**

- Durable polycarbonate housing suitable for wet locations
- 6" x 8" amorphous solar panel with 16' cord
- One-handed adjustments to fixture head and motion sensor possible
- UV stable polycarbonate lens
- Suitable for wall or eave Mounting

**Electrical**

- 180\* Motion sensor with detection range up to 50'
- 70 minute runtime on a full charge

**Warranty**

- One year limited warranty, consult website for details. [www.cooperlighting.com](http://www.cooperlighting.com)

**Compliance**

- Contains no mercury or lead and RoHS compliant.
- Photometric testing in accordance with IES LM-79-08
- Lumen maintenance projections in accordance with IES LM-80-08 and TM-21-11.

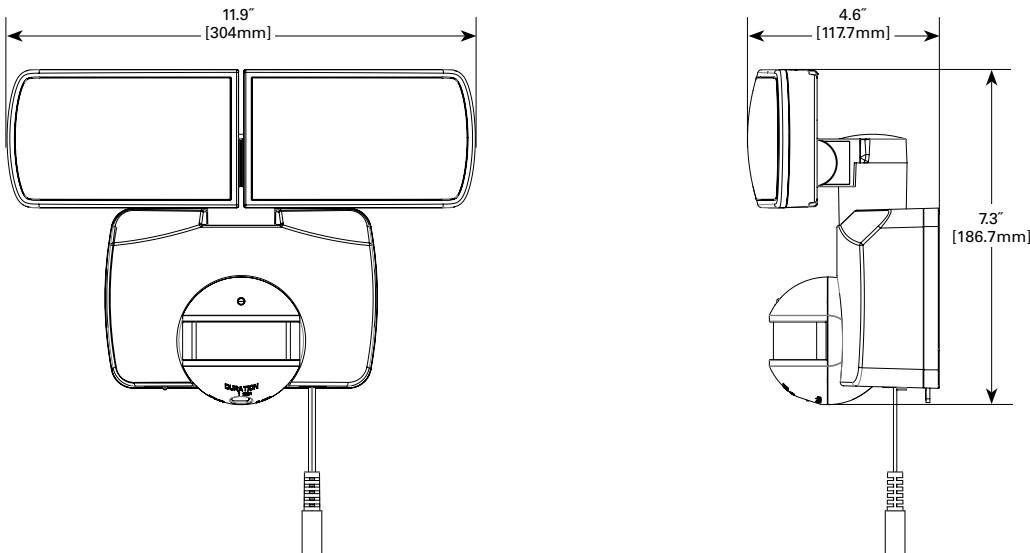
**Optics**

- Produces 1000 lumens when fully charged
- Frosted lens for even light distribution
- 5000K CCT perfect for security applications



**SLMT1000**  
**SOLAR FLOOD**  
**LIGHT**  
**1000 LUMEN**  
**SERIES**

**DIMENSIONS**



**ORDERING INFORMATION**

Sample Number: SLMT1000B

Module	Series	Lumens	Colors
<b>SL = Solar</b>	<b>MT = Motion Twin Flood</b>	<b>1000 = 1000</b>	<b>B = Black</b> <b>W = White</b>

Series	Voltage	Lumens	Euivalency	Run Time	CCT	CRI	Controls
SLMT1000B	Solar	1000	70 W	70 mins	5000K	70	180* Motion Sensor
SLMT1000W	Solar	1000	70 W	70 mins	5000K	70	180* Motion Sensor



**DESCRIPTION**

The patented Lumark Crosstour™ MAXX LED wall pack series of luminaires provides low-profile architectural style with super bright, energy-efficient LEDs. The rugged die-cast aluminum construction, back box with secure lock hinges, stainless steel hardware along with a sealed and gasketed optical compartment make Crosstour impervious to contaminants. The Crosstour MAXX wall luminaire is ideal for wall/ surface, inverted mount for facade/canopy illumination, perimeter and site lighting. Typical applications include pedestrian walkways, building entrances, multi-use facilities, industrial facilities, perimeter parking areas, storage facilities, institutions, schools and loading docks.

<b>Catalog #</b>		<b>Type</b>	
<b>Project</b>			
<b>Comments</b>		<b>Date</b>	
<b>Prepared by</b>			

**SPECIFICATION FEATURES**

**Construction**

Low-profile LED design with rugged one-piece, die-cast aluminum back box and hinged removable door. Matching housing styles incorporate both a full cutoff and refractive lens design. Full cutoff and refractive lens models are available in 58W, 81W and 102W. Patent pending secure lock hinge feature allows for safe and easy tool-less electrical connections with the supplied push-in connectors. Back box includes four 1/2" NPT threaded conduit entry points. The back box is secured by four lag bolts (supplied by others). External fin design extracts heat from the fixture surface. One-piece silicone gasket seals door and back box. Not recommended for car wash applications.

**Optical**

Silicone sealed optical LED chamber incorporates a custom engineered reflector providing high-efficiency illumination. Full cutoff models integrate an impact-resistant molded refractive prism optical lens assembly meeting requirements for Dark Sky compliance. Refractive lens models incorporate a molded lens

assembly designed for maximum forward throw. Solid state LED Crosstour MAXX luminaires are thermally optimized with eight lumen packages in cool 5000K, neutral 4000K, or warm 3000K LED color temperature (CCT).

**Electrical**

LED driver is mounted to the die-cast aluminum housing for optimal heat sinking. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from the LED source. 58W, 81W and 102W models operate in -40°C to 40°C [-40°F to 104°F]. High ambient 50°C [122°F] models available in 58W and 81W models only. Crosstour MAXX luminaires maintain greater than 89% of initial light output after 72,000 hours of operation. Four half-inch NPT threaded conduit entry points allow for thru-branch wiring. Back box is an authorized electrical wiring compartment. Integral LED electronic driver incorporates surge protection. 120-277V 50/60Hz, 480V 60Hz, or 347V 60Hz electrical operation. 480V is compatible for use with 480V Wye systems only.

**Emergency Egress**

Optional integral cold weather battery emergency egress includes emergency operation test switch (available in 58W and 81W models only), an AC-ON indicator light and a premium extended rated sealed maintenance-free nickel-metal hydride battery pack. The separate emergency lighting LEDs are wired to provide redundant emergency lighting. Listed to UL Standard 924, Emergency Lighting.

**Finish**

Crosstour MAXX is protected with a super TGIC carbon bronze or summit white polyester powder coat paint. Super TGIC powder coat paint finishes withstand extreme climate conditions while providing optimal color and gloss retention of the installed life. Options to meet Buy American and other domestic preference requirements.

**Warranty**

Five-year warranty.



**XTOR**  
**CROSSTOUR**  
**MAXX LED**

**APPLICATIONS:**  
 WALL / SURFACE  
 INVERTED  
 SITE LIGHTING



**CERTIFICATION DATA**

UL/cUL Wet Location Listed  
 Dark Sky Approved (Fixed mount, Full cutoff, and 3000K CCT only)  
 DesignLights Consortium® Qualified\*  
 LM79 / LM80 Compliant  
 ROHS Compliant  
 NOM Compliant Models  
 3G Vibration Tested  
 UL924 Listed (CBP Models)  
 IP66 Rated

**TECHNICAL DATA**

40°C Ambient Temperature  
 External Supply Wiring 90°C Minimum

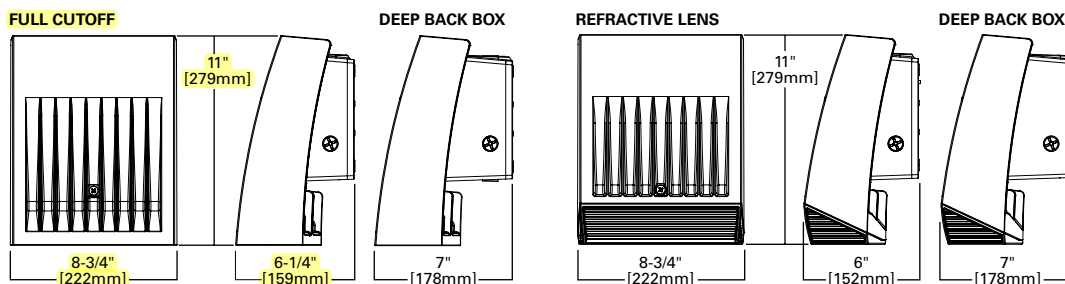
**EPA**

Effective Projected Area (Sq. Ft.):  
 XTOR6B, XTOR8B, XTOR12B=0.54

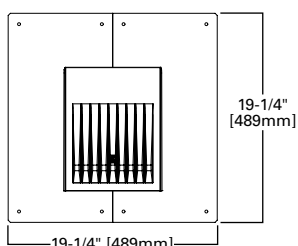
**SHIPPING DATA:**

Approximate Net Weight:  
 12-15 lbs. [5.4-6.8 kgs.]

**DIMENSIONS**



**ESCUTCHEON PLATES**

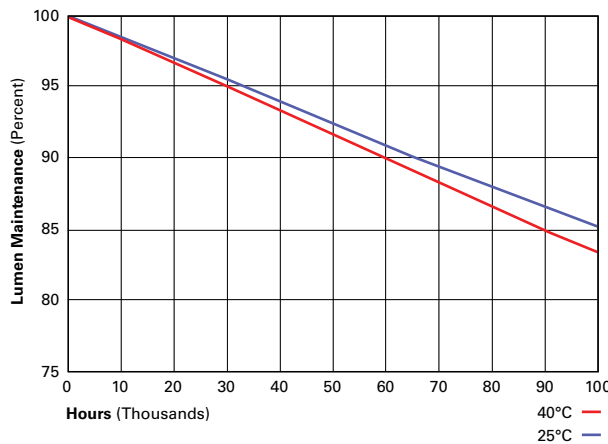


**POWER AND LUMENS BY FIXTURE MODEL**

58W Series						
LED Information	XTOR6B	XTOR6BRL	XTOR6B-W	XTOR6BRL-W	XTOR6B-Y	XTOR6BRL-Y
Delivered Lumens	6,129	6,225	6,038	6,133	5,611	5,826
B.U.G. Rating	B1-U0-G1	B2-U4-G3	B1-U0-G1	B2-U4-G3	B1-U0-G1	B2-U4-G3
CCT (Kelvin)	5000K	5000K	4000K	4000K	3000K	3000K
CRI (Color Rendering Index)	70	70	70	70	70	70
Power Consumption (Watts)	58W	58W	58W	58W	58W	58W
81W Series						
LED Information	XTOR8B	XTOR8BRL	XTOR8B-W	XTOR8BRL-W	XTOR8B-Y	XTOR8BRL-Y
Delivered Lumens	8,502	8,635	8,373	8,504	7,748	8,079
B.U.G. Rating	B2-U0-G1	B2-U4-G3	B2-U0-G1	B2-U4-G3	B2-U0-G1	B2-U4-G3
CCT (Kelvin)	5000K	5000K	4000K	4000K	3000K	3000K
CRI (Color Rendering Index)	70	70	70	70	70	70
Power Consumption (Watts)	81W	81W	81W	81W	81W	81W
102W Series						
LED Information	XTOR12B	XTOR12BRL	XTOR12B-W	XTOR12BRL-W	XTOR12B-Y	XTOR12BRL-Y
Delivered Lumens	12,728	13,458	12,539	13,258	11,861	12,595
B.U.G. Rating	B2-U0-G1	B2-U4-G3	B2-U0-G1	B2-U4-G3	B2-U0-G1	B2-U4-G3
CCT (Kelvin)	5000K	5000K	4000K	4000K	3000K	3000K
CRI (Color Rendering Index)	70	70	70	70	70	70
Power Consumption (Watts)	102W	102W	102W	102W	102W	102W
EGRESS Information	XTOR6B and XTOR8B Full Cutoff CBP Egress LED			XTOR6B and XTOR8B Refractive Lens CBP Egress LED		
Delivered Lumens	509			468		
B.U.G. Rating	N.A.			N.A.		
CCT (Kelvin)	4000K			4000K		
CRI (Color Rendering Index)	65			65		
Power Consumption (Watts)	1.8W			1.8W		

**LUMEN MAINTENANCE**

Ambient Temperature	TM-21 Lumen Maintenance (72,000 Hours)	Theoretical L70 (Hours)
<b>XTOR6B Model</b>		
25°C	> 90%	246,000
40°C	> 88%	217,000
50°C	> 88%	201,000
<b>XTOR8B Model</b>		
25°C	> 89%	219,000
40°C	> 87%	195,000
50°C	> 86%	181,000
<b>XTOR12B Model</b>		
25°C	> 89%	222,000
40°C	> 87%	198,000



**CURRENT DRAW**

Voltage	Model Series				
	XTOR6B	XTOR8B	XTOR12B	XTOR6B-CBP (Fixture/Battery)	XTOR8B-CBP (Fixture/Battery)
120V	0.51	0.71	0.94	0.60/0.25	0.92/0.25
208V	0.25	0.39	0.52	--	--
240V	0.25	0.35	0.45	--	--
277V	0.22	0.31	0.39	0.36/0.21	0.50/0.21
347V	0.19	0.25	0.33		--
480V	0.14	0.19	0.24		--

**ORDERING INFORMATION**

Sample Number: XTOR6B-W-WT-PC1

Domestic Preferences <sup>17</sup>	Series <sup>1</sup>	LED Kelvin Color	Housing Color	Options (Add as Suffix)
[Blank]=Standard BAA=Buy American Act TAA=Trade Agreements Act	Full Cutoff XTOR6B=58W XTOR8B=81W XTOR12B=102W  Refractive Lens XTOR6BRL=58W XTOR8BRL=81W XTOR12BRL=102W	[Blank]=Bright White (Standard) 5000K W=Neutral, 4000K Y=Warm, 3000K	[Blank]=Carbon Bronze (Standard) WT=Summit White BK=Black BZ=Bronze AP=Grey GM=Graphite Metallic DP=Dark Platinum	347V=347V <sup>2,3,4,5</sup> 480V=480V <sup>2,3,4,5,6</sup> PC1=Photocontrol 120V <sup>7</sup> PC2=Photocontrol 208-277V <sup>7,8</sup> MS-L20=Motion Sensor for ON/OFF Operation <sup>2,3,9,10</sup> MS/DIM-L20=Motion Sensor for Dimming Operation <sup>2,3,9,10,11,12,13</sup> CBP=Cold Weather Battery Pack <sup>2,3,14,15,16</sup> HA=50°C High Ambient <sup>16</sup>
<b>Accessories (Order Separately)<sup>18</sup></b>				
WG-XTORMX=Crosstour MAXX Wire Guard PB120V=Field Installed 120V Photocontrol PB277V BUTTON PC=Field Installed 208-277V Photocontrol <sup>8</sup>			EWP/XTORMX=Escutcheon Wall Plate, Carbon Bronze EWP/XTORMX-WT=Escutcheon Wall Plate, Summit White FSIR-100=Wireless Configuration Tool for Occupancy Sensor <sup>13</sup>	

- NOTES:**
- DesignLights Consortium<sup>®</sup> Qualified and classified for both DLC Standard and DLC Premium, refer to [www.designlights.org](http://www.designlights.org) for details.
  - Not available with HA option.
  - Deep back box is standard for 347V, 480V, CBP, MS-L20 and MS/DIM-L20.
  - Not available with CBP option.
  - Thru-branch wiring not available with HA option or with 347V.
  - Only for use with 480V Wye systems. Per NEC, not for use with ungrounded systems, impedance grounded systems or corner grounded systems (commonly known as Three Phase Three Wire Delta, Three Phase High Leg Delta and Three Phase Corner Grounded Delta systems).
  - Not available with MS-L20 and MS/DIM-L20 options.
  - Use PC2 with 347V or 480V option for photocontrol. Factory wired to 208-277V lead.
  - For use in downlight orientation only. Optimal coverage at mounting heights of 9'-20'.
  - 120V thru 277V only.
  - Factory set to 50% power reduction after 15-minutes of inactivity. Dimming driver included.
  - Includes integral photo sensor.
  - The FSIR-100 configuration tool is required to adjust parameters including high and low modes, sensitivity, time delay, cutoff, and more. Consult your lighting representative at Cooper Lighting Solutions for more information.
  - 120V or 277V operation only.
  - Operating temperatures -20°C to 25°C.
  - Not available in XTOR12B or XTOR12BRL models.
  - Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to [DOMESTIC.PREFERENCES](http://DOMESTIC.PREFERENCES) website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.
  - Accessories sold separately will be separately analyzed under domestic preference requirements. Consult factory for further information.

**STOCK ORDERING INFORMATION**

Domestic Preferences <sup>1</sup>	58W Series	81W Series	102W Series
[Blank]=Standard	Full Cutoff		
BAA=Buy American Act	XTOR6B=58W, 5000K, Carbon Bronze	XTOR8B=81W, 5000K, Carbon Bronze	XTOR12B=102W, 5000K, Carbon Bronze
TAA=Trade Agreements Act	XTOR6B-PC1=58W, 5000K, 120V PC, Carbon Bronze	XTOR8B-PC1=81W, 5000K, 120V PC, Carbon Bronze	
	XTOR6B-WT= 58W, 5000K, Summit White	XTOR8B-WT=81W, 5000K, Summit White	
	XTOR6B-W=58W, 4000K, Carbon Bronze	XTOR8B-PC2=81W, 5000K, 208-277V PC, Carbon Bronze	
	XTOR6B-PC2= 58W, 5000K, 208-277V PC, Carbon Bronze	XTOR8B-347V=81W, 5000K, Carbon Bronze, 347V	
	<b>Refractive Lens</b>		
	XTOR6BRL=58W, 5000K, Refractive Lens, Carbon Bronze	XTOR8BRL=81W, 5000K, Refractive Lens, Carbon Bronze	XTOR12BRL=102W, 5000K, Refractive Lens, Carbon Bronze
	XTOR6BRL-PC1=58W, 5000K, Refractive Lens, 120V PC, Carbon Bronze	XTOR8BRL-PC1=81W, 5000K, Refractive Lens, 120V PC, Carbon Bronze	XTOR12BRL-W=102W, 4000K, Refractive Lens, Carbon Bronze
	XTOR6BRL-WT=58W, 5000K, Refractive Lens, Summit White	XTOR8BRL-WT=81W, 5000K, Refractive Lens, Summit White	XTOR12BRL-347V=102W, 5000K, Refractive Lens, Carbon Bronze, 347V
	XTOR6BRL-W=58W, 4000K, Refractive Lens, Carbon Bronze	XTOR8BRL-PC2=81W, 5000K, Refractive Lens, 208-277V PC, Carbon Bronze	
	XTOR6BRL-PC2=58W, 5000K, Refractive Lens, 208-277V PC, Carbon Bronze	XTOR8BRL-W=81W, 4000K, Refractive Lens, Carbon Bronze	
	XTOR6BRL-347V=58W, 5000K, Refractive Lens, Carbon Bronze, 347V	XTOR8BRL-347V = 81W, 5000K, Refractive Lens, Carbon Bronze, 347V	

- NOTES:**
- Only product configurations with these designated prefixes are built to be compliant with the Buy American Act of 1933 (BAA) or Trade Agreements Act of 1979 (TAA), respectively. Please refer to [DOMESTIC.PREFERENCES](http://DOMESTIC.PREFERENCES) website for more information. Components shipped separately may be separately analyzed under domestic preference requirements.



## Small Wall Lantern

Wall mounted • Wet location listed



**P5676-2030K9**

### Description:

The one-light wall lantern from the Belle LED Collection features nautical undertones and a cage reminiscent of industrial spaces that is ideal for both interior and exterior settings. This fixture is available in convertible ceiling/pendant and wall mount options. Small LED wall lantern. Antique Bronze finish.

### Specifications:

- Antique Bronze (-20) (painted)
- Aluminum Construction
- Etched glass diffuser
- LED Module is replaceable (part # 93054049)
- Nautical undertones.
- Cage reminiscent of industrial spaces.
- Ideal for both interior and exterior spaces.
- 623 lumens 69.2 lumens/watt per module (source)
- 3000K color temperature, 90+ CRI.
- Dimmable to 10% brightness (See Dimming Notes)
- Back plate covers a standard 4" octagonal recessed outlet box
- Mounting strap for outlet box included
- 6" of wire supplied
- ENERGY STAR® qualified
- Meets California Title 24 high efficacy requirements for outdoor use only

### Performance:

Number of Modules	1
Input Power	9w
Input Voltage	120 V
Input Frequency	60 Hz
Lumens/LPW (Source)	623/69.2 (LM-82)
Lumens/LPW (Delivered)	401/50.9 (LM-79)
CCT	3000 K
CRI	90 CRI
Life (hours)	60,000 (L70/TM-21)
FCC	Meets FCC Title 47, Part 15 Class B
Min. Start Temp	-30 °C
Max. Operating Temp	30 °C
Warranty	5 year warranty
Labels	cCSAus Wet location listed
	ENERGY STAR® qualified
	Meets California Title 24 high efficacy requirements for outdoor use only

### Images:



### Dimensions:

Width: 5-1/2"  
Depth: 7-3/8"  
Height: 10-5/8"  
H/CTR: 3"

Glass  
Width: 4-3/8"  
Length: 4-3/8"  
Height: 8-3/4"



**P5676-2030K9**

### Dimming Notes:

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P5676 is designed to be compatible with many ELV/Reverse Phase controls.

The following is a partial list of known compatible dimmer controls.

### Dimming Controls

---

Lutron Nova T NTELV-300

Lutron Vieri VTELV-600

Lutron Ariadni AYCL-153P

Lutron Diva DVCL-153P

Lutron Maestro MAELV-600

Lutron spacer/system SPSELV-600

Leviton Renoir II AWRMG-EAW

Dimming capabilities will vary depending on the dimmer control, load, and circuit installation.

Always refer to dimmer manufacturer instructions or a controls specialist for specific requirements.

Dimmer control brand names where identified above are trade names or registered trademarks of each respective company.

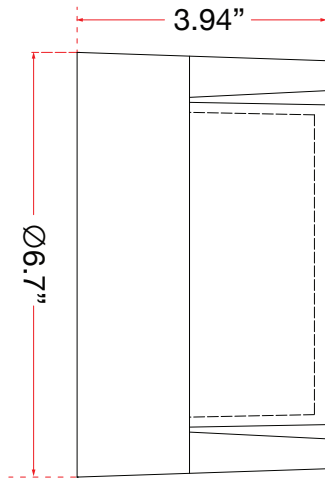
FAMILY NAME **500210DW-MB**

ABRA MODEL **Geo**

Round outdoor wall sconce with hood

UPC 00810035190962

**KCHA: Aspen Ridge Apartments**  
**Type: EX11-Opt.2**



FIXTURE MATERIAL				FIXTURE DIMENSIONS IN INCHES										
Frame Material	Finishes Available	Diffuser Type	Diffuser Finish	Diameter	Height	o.a.h	Width	Length	Ext	Weight	ADA	Location	Rating	Compliance
Aluminum	MB-Matte Black SL-Silica	Acrylic	White	6.7					3.94		Compliant	Wall Mount only	Wet Location	cETL
LAMPING										Compatible Dimmers		Junction Box Type		SUPPLIED
Lamp Type	Lamp qty	Wattage	Max Wattage	Base	Kelvin	CRI	Initial Lumen's	Delivered Lumen's	Voltage			Standard 4 x 4 Octagon Box		
LED	1	9w	9w	Solid State Module	3000k	90+	765	573.75 estimated	120v					
SPECIAL NOTES														

<b>Project Name</b>				
<b>Date</b>		<b>Type</b>		

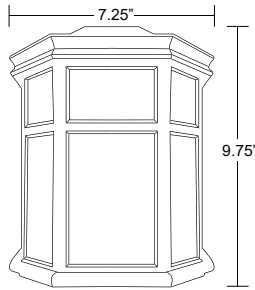
PROJECT \_\_\_\_\_  
TYPE \_\_\_\_\_  
VOLTAGE \_\_\_\_\_

## OUTDOOR WALL FIXTURE 220FM

## OUTDOOR DECORATIVE MARLEX®



**EXTENDS:**  
4"  
**H/CTR:**  
5 1/2"  
**BACKPLATE:**  
7 1/4" X 9 1/2"



This non-corrosive, composite lighting fixture adds a stylish look to any outdoor space. This outdoor lighting fixture is designed for wall mount applications and mounting hardware is included. Options include photocell and occupancy sensor. Made in USA.



### LED SOURCE OPTIONS

#### LIGHTWAVE LED - LR

- 120V, 50/60 Hz
- AC Driver-On-Board Array
- Estimated 50,000 Hrs L<sub>70</sub>
- Surge Supression
- Dimmable (see compatible dimmer list)
- High Efficacy LED Light Source
- 3000K or 4000K CCT 80 CRI
- 5 Year Warranty
- Energy Star

#### E26 MEDIUM BASE - LE26

- 120V, 50/60Hz
- "Screw-In" Medium Base A19/E26 LED Lamp
- Estimated 15,000 Hrs L<sub>70</sub>
- Low Flicker (3K models)
- Dimmable (see compatible dimmer list)
- 3000K CCT 90CRI or 4000K CCT 80CRI
- 3 Year Warranty
- Energy Star

### SPECIFICATIONS

- Black, White or Bronze
- Mounting Hardware Included
- Clear Frosted Diffuser
- Wall Mount Only
- Minimum Starting Temp -20°F
- UL Listed for Wet Locations
- Composite Construction

**BK BLACK**      **WH WHITE**      **BZ BRONZE**



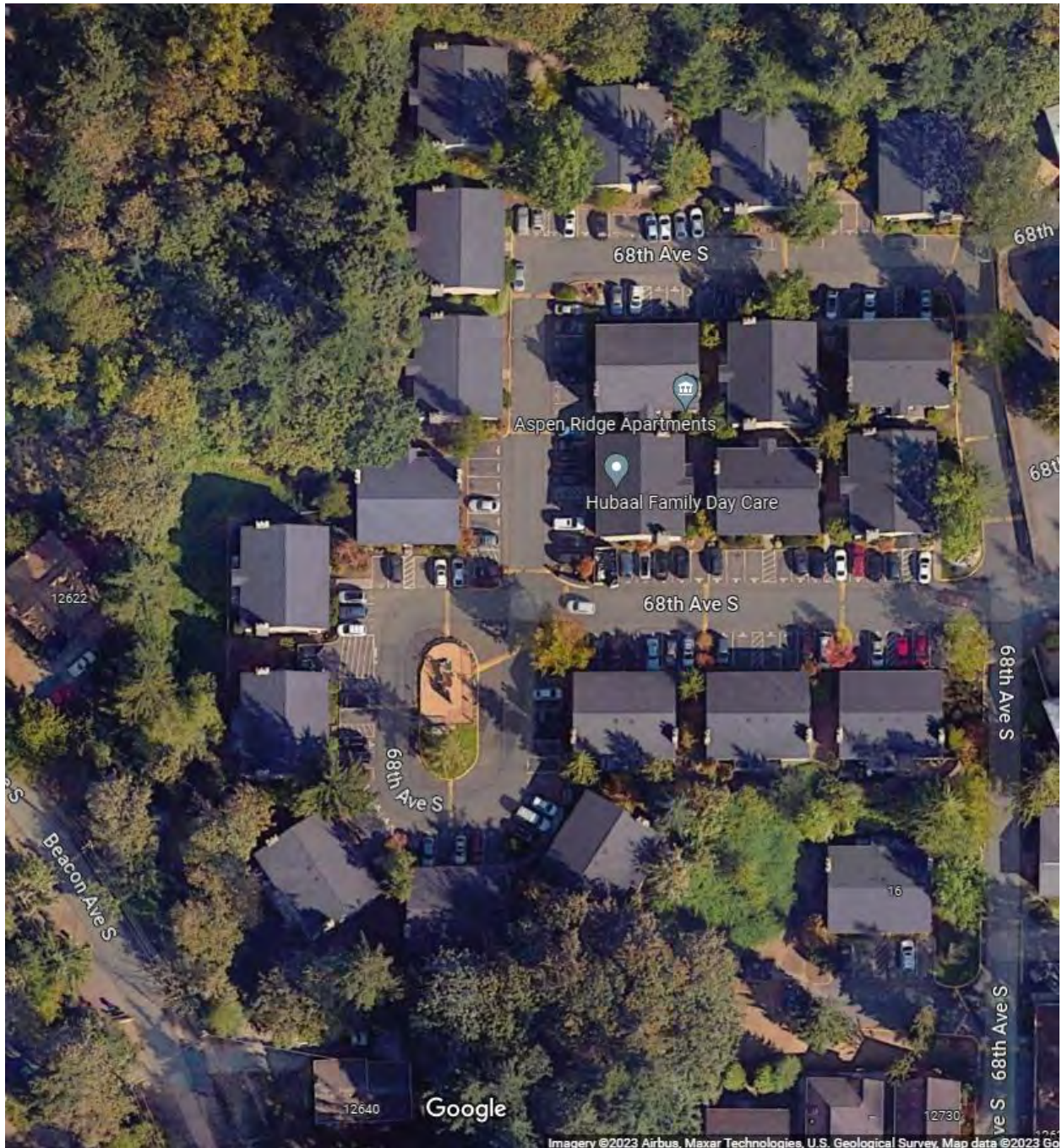
GUIDE CODE: 220FMF-BK-PC

CALL FOR PHOTOMETRIC INFORMATION

ITEM #	LENS	LIGHT SOURCE	CCT	COLOR	OPTIONS
220FM	ACRYLIC F-Frost	<b>E26 MEDIUM BASE</b>	C-4K W-3K	BK-Black WH-White BZ-Bronze	PC-Photocell O-Occupancy Sensor options cannot be combined
		(1) 40W MAX Medium Base <b>LE26-9.5W 800lm (E26 LED Lamp) + ★</b>			
		<b>120V LIGHTWAVE LED</b>			
		<b>LR9-9W 700lm ★</b>			

+ Lamp included. ★ Energy Star qualified product.





Aspen Ridge Apartments  
12601 68th Avenue South, Seattle  
WA 98178  
Exterior Lighting

# INSTRUCTIONS TO BIDDERS

## 1.0 BIDDER RESPONSIBILITY CRITERIA

- A. It is the intent of Owner to award a contract to a responsible bidder submitting the lowest responsive bid. Before award, the bidder must meet the following bidder responsibility criteria to be considered a responsible bidder. The bidder may be required by the Owner to submit documentation demonstrating compliance with the criteria. The bidder must:
1. Have a current certificate of registration as a contractor in compliance with chapter 18.27 RCW, which must have been in effect at the time of bid submittal;
  2. Have a current Washington Unified Business Identifier (UBI) number;
  3. If applicable, have industrial insurance coverage for the bidder's employees working in Washington as required in Title 51 RCW; an employment security department number as required in Title 50 RCW; and a state excise tax registration number as required in Title 82 RCW;
  4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065(3);
  5. Have received training on the requirements related to public works and prevailing wage under chapter 39.04.350 RCW and chapter 39.12 RCW or be listed as exempt by the department of labor and industries on its website; and
  6. Within the three-year period immediately preceding the date of the bid solicitation, not have been determined by a final and binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of chapter 49.46, 49.48, or 49.52 RCW;
  7. Before award of a public works contract, a bidder shall submit to the contracting agency a signed statement in accordance with RCW 9A.72.085 verifying under penalty of perjury that the bidder is in compliance with the responsible bidder criteria requirement of subsection A, 6 of this section.

## 1.1 SUBCONTRACTOR RESPONSIBILITY

- A. The Contractor shall include the language of this section in each of its first tier subcontracts, and shall require each of its subcontractors to include the same language of this section in each of their subcontracts, adjusting only as necessary the terms used for the contracting parties. Upon request of the Owner, the Contractor shall promptly provide documentation to the Owner demonstrating that the subcontractor meets the subcontractor responsibility criteria below. The requirements of this section apply to all subcontractors regardless of tier.
- B. At the time of subcontract execution, the Contractor shall verify that each of its first tier subcontractors meets the following bidder responsibility criteria:
1. Have a current certificate of registration in compliance with chapter 18.27 RCW, which must have been in effect at the time of subcontract bid submittal;
  2. Have a current Washington Unified Business Identifier (UBI) number;
  3. If applicable, have:
    - a. Have Industrial Insurance (workers' compensation) coverage for the subcontractor's employees working in Washington, as required in Title 51 RCW;
    - b. A Washington Employment Security Department number, as required in Title 50 RCW;

# INSTRUCTIONS TO BIDDERS

- c. A Washington Department of Revenue state excise tax registration number, as required in Title 82 RCW;
  - d. An electrical contractor license, if required by Chapter 19.28 RCW;
  - e. An elevator contractor license, if required by Chapter 70.87 RCW.
4. Not be disqualified from bidding on any public works contract under RCW 39.06.010 or 39.12.065 (3);
  5. Have received training on the requirements related to public works and prevailing wage under chapter 39.04.350 RCW and chapter 39.12 RCW or be listed as exempt by the department of labor and industries on its website; and
  6. Within the three-year period immediately preceding the date of the bid solicitation, not have been determined by a final and binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW 49.48.082, any provision of chapter 49.46, 49.48, or 49.52 RCW.

## 1.2 SUPPLEMENTAL BIDDER RESPONSIBILITY CRITERIA

- A. RCW 39.04.350(2) specifically authorizes municipalities to adopt relevant supplement criteria for determining bidder responsibility applicable to a particular project which the bidder must meet.
- B. For the work in this project a responsible/qualified Bidder must meet the following standards:
  1. Have a current certificate of registration as a contractor, in compliance with chapter 18.27 RCW, for the last three years under the same business name;
  2. Have a good record of past performance that includes, but is not limited to, high quality work, ability to complete projects on time, contractor's integrity, compliance with public policy, financial, contractual and tax obligations, as well as Federal and State rules and regulations in performing construction contracts.
  3. Have a current Experience Modification Rate (EMR) of 1.0 or less, or an average EMR rate of 1.0 or less over the last three years. The requirement may, at the Owner's sole discretion, be waived on review of a written explanation that includes details of accidents, L&I records, a Loss Ratio Report for the last five years, costs, dates of events, and changes that have been made by the contractor to reduce accidents. A current company Safety Plan shall also be reviewed.
  4. Bidder shall provide evidence of previous successful completion of electrical projects of similar scope and complexity. Poor performance, lack of response, or failure to complete projects successfully within the contract time may be grounds for the rejection of bidder.
- C. Subcontractors shall have had three years minimum experience licensed in Washington State in the specific specialty contracting business.

## 1.3 PREPARATION OF BIDS – CONSTRUCTION

- A. Bids must be submitted on the Bid Form furnished by the Owner.
- B. All fields and questions on required forms must be fully answered and complete. Failure to do so may result in the bid being declared non-responsive.

# INSTRUCTIONS TO BIDDERS

- C. Bidders shall acknowledge receipt of all addenda to this solicitation by inserting the addenda numbers in the space provided on the Bid Form. Failure to do so may result in the bid being declared non-responsive.
  - 1. Bidder is responsible for checking KCHA's website for addenda prior to submitting bid.
- D. In order for a bid to be considered responsive, bidders must submit the following signed documents with their bid package:
  - 1. Bid Form
  - 2. Bidder's Information Form
- E. The Bidder agrees to hold the base bid prices for sixty (60) days from date of bid opening.

## 1.4 AMENDMENTS TO INVITATION TO BID

- A. If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.
- B. Bidders shall acknowledge receipt of all addenda to this solicitation by inserting the addenda numbers in the space provided on the Bid Form. Failure to do so may result in the bid being declared non-responsive.
  - 1. Bidder is responsible for checking KCHA's website for addenda prior to the bid due date.
  - 2. Addenda will not be issued later than three (3) calendar days before the deadline for receipt of Bids except Addendum withdrawing the request for Bids or extending the deadline for receipt of Bids.

## 1.5 PRE-BID MEETING

- A. All potential bidders are strongly encouraged to attend. Oral statements may not be relied upon and will not be binding or legally effective.

## 1.6 EXAMINATION OF PLANS, SPECIFICATIONS, AND SITE

- A. Before submitting a bid, the Bidder shall carefully examine each component of the Contract Documents prepared for the Work and any other available supporting data so as to be thoroughly familiar with all the requirements.
- B. The Bidder shall obtain copies of all agencies and associations guidelines and standards cited in the Contract Documents and necessary to perform the Work, including full size reproductions of material provided by Owner, at their own expense.
- C. The Bidder shall make a thorough and reasonable examination of the project site, facility and conditions under which the Work is to be performed, including but not limited to: Building access; resident occupancy; fire lanes; landscaping; obstacles and character of materials which may be encountered; traffic conditions; public and private utilities; the availability and cost of labor; and available facilities for transportation, handling, and storage of materials and equipment.

## 1.7 EXPLANATION TO PROSPECTIVE BIDDERS



# INSTRUCTIONS TO BIDDERS

- A. Any prospective bidder desiring an explanation or interpretation of the solicitation, drawings, specifications, etc., must submit a request in writing to the Owner seven (7) calendar days before the bid due date. Oral explanations or instructions given before the award of a contract will not be binding. Questions shall be submitted to:

Michelle Jackson  
King County Housing Authority  
600 Andover Park W  
Seattle, WA 98188  
Email: [MichelleJ@kcha.org](mailto:MichelleJ@kcha.org)

## 1.8 PREVAILING WAGES

- A. Contractor shall pay no less than the Washington State Department of Labor and Industries (L&I) prevailing rate of wages to all workers, laborers, or mechanics employed in the performance of any part of the Work in accordance with RCW 39.12 and the rules and regulations of L&I. The schedule of prevailing wage rates for the locality or localities of the Work is determined by the Industrial Statistician of L&I. It is the Contractor's responsibility to verify the applicable prevailing wage rate.
1. L&I prevailing wage rates may be found at <https://lni.wa.gov/licensing-permits/public-works-projects/prevailing-wage-rates/>
  2. The Owner has determined that the work meets the definition of residential construction.
  3. The prevailing wage rates publication date is determined by the bid due date.
  4. The work is to be performed in King County.
  5. A copy of the prevailing wage rates is available at KCHA.
  6. A copy of the prevailing wage rates may be mailed on request.

## 1.9 TAXES

- A. All taxes imposed by law shall be included in the bid amount. The Contractor shall pay the WSST to the Department of Revenue and shall furnish proof of payment to the Owner if requested.
- B. The retail sales tax does not apply to the gross contract price as indicated in WAC 458-20-17001.
- C. Prime and subcontractors are required to pay retail sales tax upon all purchases of materials, including prefabricated and precast items, equipment, leases or rentals of tools, consumables, and other tangible personal property which is installed, applied, attached, or otherwise incorporated in their work.

## 1.10 ASSURANCE OF COMPLETION

- A. Payment and performance bonds for 100% of the Contract Sum, including all Change Orders and taxes imposed by law, shall be furnished for the Work, and shall be in a form acceptable to the Owner.
1. On contracts of one hundred fifty thousand dollars (\$150,000.00) or less, the requirement for a Performance and Payment Bond may, at Contractors option, be waived in lieu of an additional 5% (total 10%) retainage.

## 1.11 BID ERROR

# INSTRUCTIONS TO BIDDERS

- A. In the event Bidder discovers an error in its bid, the Bidder may, under certain conditions and if before the date and time that bids are due, modify, their bid, as detailed below:
1. Prior to Date and Time Bids are Due:
    - a. A Bidder may withdraw its bid at any time prior to the date and time bids are due upon written request.
    - b. After withdrawing an original submitted bid, a Bidder may modify and resubmit its bid at any time prior to the date and time bids are due.
  2. After the Date and Time Bids are Due:
    - a. A bidder who submits an erroneous low bid may withdraw the bid. The bid withdrawal is permissible if there was an obvious error in the low bid, and the mistake is readily apparent from the bid itself.
    - b. Notification: Provide to the Owner, within 24 hours of bid opening, written notification of the bidder's intent to withdraw the bid due to error.
    - c. Documentation: Provide to the Owner within 48 hours of bid opening, documentation sufficient in content to justify bid withdrawal to the satisfaction of the Owner. Include description and evidence of the error.
    - d. Approval: the Owner will approve or reject the request for withdrawal in writing.
    - e. Any low bidder who withdraws its bid is prohibited from bidding on the same project if it is subsequently re-solicited.

## 1.12 ADDITIVE OR DEDUCTIVE BID ITEMS

- A. The low bid, for purposes of award, shall be the lowest responsive bid from a qualified responsible bidder offering the low aggregate amount for the base bid, plus additive or deductive bid alternates selected by the Owner.

## 1.13 BID EVALUATION

- A. Responsive Bids: A bid will be considered responsive if it meets the conditions of the solicitation, in addition to but not limited to the following requirements:
1. Bid is received not later than the time and date specified.
  2. Bid is submitted in the proper format on the form(s) provided.
  3. Bid includes the complete scope of work as defined in bid package.
  4. Bid does not include any exclusions or qualifications.
  5. Bid includes Unit and Lump Sum Costs as listed in Proposal Form.
  6. Forms are complete.
- B. After bid opening, bids will be checked for correctness of bid item price extensions and the total bid price. A discrepancy between a bid item price and the extended amount of any bid item shall be resolved by accepting the bid item price as correct.
- C. Responsible Bidders: the Owner will award contracts only to responsible bidders who demonstrate the ability to successfully perform under the terms and conditions as set forth in the Contract Documents and have successfully completed projects similar in scope and complexity.
1. Bidders must demonstrate relevant experience on similar types of projects and submit detailed information as required on the Bidder Information Form.

# INSTRUCTIONS TO BIDDERS

- D. The Owner reserves the right to contact references and investigate past performance and qualifications of the Bidder, subcontractor, and project team members, including contacting third parties and/or the references provided by the Bidder.
  - 1. The Owner may contact references for other projects including those the Bidder did not identify and/or provided references.
  - 2. References may be asked to rate the performance of and describe their experience with project team members and subcontractors. Bidder Information may be solicited and evaluated on the following subjects: type and features of work; overall quality of project performance and quality of work; experience and technical knowledge and competence of the Bidder and Project Team Members; ability, capacity and skill to perform the Work; ability to manage submittals, requests for information, prevailing wage filings, and other paperwork; compliance with laws, ordinances, and contract provisions; and other information as deemed necessary.
  - 3. Poor reference(s) may be justification to determine a Bidder is not responsible.
- E. At the Owner's request, provide any additional explanation or information, which would assist in evaluating the qualifications of the Bidder, subcontractors, project team members, and bid price.
- F. The Owner will verify information submitted and if the lowest bidder is determined to be “not responsible,” the Owner will issue, in writing, the specific reasons for this determination. The bidder may appeal this decision. The appeal must be in writing and shall be delivered to the Owner within two business days. The appeal may include additional information that was not included in the original bid documents. KCHA will make a final determination after the receipt of the appeal. The final determination may not be appealed.

## 1.14 CONTRACT AWARD

- A. **Bonding and Insurance:** Contract award will be contingent on ability to secure payment/performance bonding, and Contractor’s ability to meet the Owner insurance requirements as detailed in the Bid Documents.
- B. **Bonding, insurance certificates and endorsements, and an approved Statement of Intent to Pay Prevailing Wages** shall be submitted to the Owner within 14 days of award. A Notice to Proceed shall be issued immediately after receipt.
- C. **Right to Reject Bids/Waiver:** The Owner reserves the right to reject any or all bids or to waive any informalities or irregularities in the bidding.
- D. **Retainage Funds:** The Owner will not pay interest to the Contractor for accounts where retainage funds are maintained by the Owner. As part of the procurement by which the Contractor was selected for this work, the Contractor agrees to waive any other options and has made allowances for this waiver.

# GENERAL CONDITIONS

## PART 1 - GENERAL PROVISIONS

### 1.1 DEFINITIONS

- A. "Authority Having Jurisdiction (AHJ)": A federal, state, local, or other regional department, or an individual such as a fire official, labor department, health department, building official, or other individual having statutory authority.
- B. "Contract Documents" means the Instructions to Bidders, Specifications, Plans, General Conditions, Prevailing Wage Rates, Bid Form, Contract Form, other Special Forms, Drawings and Specifications, and all Addenda and modifications thereof.
- C. "Contract Sum" is the total amount payable by Owner to Contractor for performance of the Work in accordance with the Contract Documents.
- D. "Contract Time" is the number of consecutive Days allotted in the Contract Documents for achieving completion of the Work.
- E. "Contracting Officer" means the person delegated the authority by King County Housing Authority to enter into, and/or terminate this Contract. The term includes any successor Contracting Officer and any duly authorized representative of the Contracting Officer.
- F. "Contractor" means the person or other entity entering into the Contract with King County Housing Authority to perform all of the services or work required under the Contract.
- G. "Day" means calendar day, unless otherwise specified.
- H. "Final Acceptance" means the acceptance by Owner that the Contractor has completed the requirements of the Contract Documents.
- I. "Force Majeure" means those acts entitling Contractor to request an equitable adjustment in the Contract Time, including, but not limited to, unusually severe weather conditions which could not have been reasonably anticipated.
- J. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- K. "Install": Operations at Project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- L. "Liquidated Damages" means the amount prescribed in the Contract Documents to be deducted from any payments due or to become due Contractor, for each day's delay in completion of the Work beyond the time allowed in the Contract Documents as stated in the Notice to Proceed, plus any extensions of such time.
- M. "Manager" means the person who is an authorized agent of the King County Housing Authority to administer the Contract.
- N. "Notice to Proceed" means a notice from Owner to Contractor that defines the date on which the Contract Time begins to run.
- O. "Owner" means the King County Housing Authority or its authorized representative with the authority to enter into, administer, and/or terminate the Work in accordance with the Contract Documents and make related determinations and findings.
- P. "Property Manager" means the property management company, its officers and employees.
- Q. "Provide": Furnish and install, complete and ready for the intended use.

# GENERAL CONDITIONS

- R. "Subcontract" means any contract, purchase order, or other purchase agreement, including modifications and change orders to the foregoing, entered into by a Subcontractor to furnish supplies, materials, equipment, and services for the performance of the prime Contract or a subcontract.
- S. "Subcontractor" means any supplier, vendor, or firm that furnishes supplies, materials, equipment, or services to or for the Contractor or another Subcontractor.
- T. "Work" means the construction and services required by the Contract Documents, and includes, but is not limited to, labor, materials, supplies, equipment, services, permits, and the manufacture and fabrication of components, performed, furnished, or provided in accordance with the Contract Documents.

## 1.2 EXECUTION AND INTENT

- A. The intent of the Specifications and Drawings is to describe a complete Project to be constructed in accordance with the Contract Documents. Contractor shall furnish all labor, materials, equipment, tools, transportation, permits, and supplies, and perform the Work required in accordance with the Contract Documents.
- B. All work is to be executed in accordance with the Building Codes, as adopted by the Authority Having Jurisdiction, and other applicable codes and generally accepted industry standards. All products and materials are to be new and handled and applied in accordance with the manufacturer's recommendations.
- C. Contractor makes the following representations to Owner:
  - 1. The Contract Sum is reasonable compensation for the Work and the Contract Time is adequate for the performance of the Work, as represented by the Contract Documents;
  - 2. Contractor has carefully reviewed the Contract Documents, had an opportunity to visit and examine the Project site, has become familiar with the local conditions in which the Work is to be performed, and has satisfied itself as to the nature, location, character, quality and quantity of the Work, the labor, materials, equipment, goods, supplies, work, permits, services and other items to be furnished and all other requirements of the Contract Documents, as well as the surface and subsurface conditions and other matters that may be encountered at the Project site or affect performance of the Work or the cost or difficulty thereof.
- D. The Contract Documents are complementary. What is required by one part of the Contract Documents shall be binding as if required by all. Anything mentioned in the Specifications and not shown on the Drawings, or shown on the Drawings and not mentioned in the Specifications, shall be of like effect as if shown or mentioned in both.

## PART 2 - INSURANCE AND BONDS

### 2.1 INSURANCE REQUIREMENTS FOR BUILDING TRADES CONTRACTORS

- A. Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property that may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or Subcontractors.

### 2.2 MINIMUM SCOPE OF INSURANCE

- A. Contractors shall maintain coverages no less than:
  - 1. Insurance Services Office Commercial General Liability coverage including Products/Completed Operations.
  - 2. Insurance Services Office covering Automobile Liability, code 1 (any auto).
  - 3. Workers' Compensation insurance as required by State law and Employer's Liability Insurance.

### 2.3 MINIMUM LIMITS OF INSURANCE

# GENERAL CONDITIONS

A. Contractor shall maintain limits no less than:

1. General Liability: \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit of \$2,000,000.
2. Automobile Liability: \$1,000,000 per accident for bodily injury and property damage.  
Employer's Liability: \$1,000,000 per accident for bodily injury/sickness or disease.

## 2.4 DEDUCTIBLES AND SELF INSURED RETENTION

A. Any deductibles or self-insured retentions must be declared to and approved by the Owner. At the option of the Owner, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Owner, its officers, officials, employees and volunteers; or the Contractor shall provide a financial guarantee satisfactory to the Owner guaranteeing payment of losses and related investigations, claim administration and defense expenses. **NOTE: If this contract deals with hazardous materials or activities (i.e. lead based paint, asbestos, armed security guards) additional provisions covering those exposures must be included in order to protect the Owner's interests.**

## 2.5 OTHER INSURANCE PROVISIONS

A. The policies are to contain, or be endorsed to contain, the following provisions:

1. The Owner, the Property Manager, its officers, officials, employees, partners, agents and volunteers are to be covered as additional insureds under a "completed operations" type of additional insured endorsement with respect to general liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts or equipment furnished in connection with such work or operations. The endorsement(s) effectuating the foregoing additional insured coverage shall be ISO form CG 20 10 11 85, or CG 20 10 10 01 issued concurrently with CG 20 37 10 01, or their equivalent as long as it provides additional insured coverage, without limitation, for completed operations; (ii) automobile liability arising out of vehicles owned, leased, hired, or borrowed by or on behalf of the Contractor; (iii) any insurance written on a claims made basis, shall have a retroactive date that coincides with, or precede, the commencement of any work under this contract. Evidence of such coverage shall be maintained for a minimum of six (6) years beyond the expiration of the project.
2. King County will not accept Certificates of Insurance Alone. Improperly Completed Endorsements will be returned to your insured for correction by an authorized representative of the insurance company.
3. For any claims related to this project, the Contractor's insurance coverage shall be primary insurance as respects the Owner, its officers, officials, agents, partners, employees, and volunteers. Any insurance or self-insurance maintained or expired by the Owner, its officers, officials, agents, partners, employees, volunteers, or shall be excess of the Contractor's insurance and shall not contribute with it. King County Housing Authority's Insurance is Non-Contributory in Claims Settlement Funding.
4. The "General description of agreement(s) and/or activity(s) insured" shall include reference to the activity and/or to either specific King County Housing Authority's; project of site name, contract number, lease number, permit number or construction approval number.
5. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled or materially changed, except after thirty (30) days' [ten (10) days for non-payment of premium] prior written notice by certified mail, return receipt requested, has been given to the Owner.
6. Maintenance of the proper insurance for the duration of the contract is a material element of the contract. Material changes in the required coverage or cancellation of the coverage shall constitute a material breach of the contract.

## 2.6 ACCEPTABILITY OF INSURERS

A. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A-:VII. The name of the Insurance Company underwriting the coverage and its address shall be noted on the endorsement form. Contractors must provide written verification of their insurer's rating.

## 2.7 VERIFICATION OF COVERAGE

# GENERAL CONDITIONS

- A. Contractor shall furnish the Owner with original certificates and amendatory endorsements effecting coverage required by this clause. All certificates and endorsements are to be received and approved by the Owner before work commences in sufficient time to permit contractor to remedy any deficiencies. The Owner reserves the right to require complete, certified copies of all required insurance policies or pertinent parts thereof, including endorsements affecting the coverage required by these specifications at any time.

## 2.8 SUBCONTRACTORS

- A. Subcontractors shall include the Contractor as additional insured under their policies. All coverage's for subcontractors shall be subject to all of the requirements stated herein. Contractor shall be responsible for the adequacy of required coverages for subcontractors, and compile related certificates of insurance and endorsements evidencing subcontractors' compliance.

## 2.9 PAYMENT AND PERFORMANCE BONDS

- A. Payment and performance bonds for 100% of the Contract Award Amount shall be furnished for the Work, using the Payment Bond and Performance Bond form AIA – form A312. Change order increases of cumulative 15% increments require revisions to the bond to match the new Contract Sum.
- B. On contracts of one hundred fifty thousand dollars or less, at the option of the contractor as defined in RCW 39.10.210, the Owner may, in lieu of the bond, retain ten percent of the contract amount for a period of forty-five days after date of final acceptance, or until receipt of all necessary releases from the department of revenue, the employment security department, and the department of labor and industries and settlement of any liens filed under chapter 60.28 RCW, whichever is later.

## PART 3 - PERFORMANCE

### 3.1 CONTRACTOR CONTROL AND SUPERVISION

- A. Contractor shall be solely responsible for, and have control over construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work, and shall be responsible to Owner for acts and omissions of Contractor, Subcontractors, and their employees and agents.
- B. Contractor shall enforce strict discipline and good order among Contractor's employees and other persons performing the Work. Contractor shall not permit employment of persons not skilled in tasks assigned to them. Owner may, by Notice, request Contractor to remove from the Work or Project site any employee Owner reasonably deems incompetent, careless, or otherwise objectionable.
- C. The Contractor shall perform on the site, and with its own organization, work equivalent to at least 12% of the total amount of work to be performed under the contract.
- D. Work Hours: The Contractor's allowable hours of operation shall be limited to those hours between 8:00 A.M. and 6:00 P.M. Monday to Friday excluding public holidays.

### 3.2 PERMITS, FEES, AND NOTICES

- A. Unless otherwise provided in the Contract Documents, Contractor shall pay for and obtain all permits, licenses, and coordinate inspections necessary for proper execution and completion of the Work. Prior to final payment, the approved, signed permits shall be delivered to Owner.

### 3.3 PREVAILING WAGES

- A. Statutes of the State of Washington RCW 39.12 as amended shall apply to this contract. Requirements, in brief, are stated below:
  - 1. There shall be paid each laborer or mechanic of the Contractor or sub-Contractor engaged in work on the project under this contract in the trade or occupation listed in the schedule of Wage Rates, as determined

# GENERAL CONDITIONS

by the Department of Labor and Industries, not less than the hourly wage rate listed therein, regardless of any contractual relationship which may be alleged to exist between the Contractor and any subcontractor and such laborers and mechanics.

2. The "prevailing rate or wage" contained in the wage determination include health and welfare fund contributions and other fringe benefits collectively bargained for by the various management and labor organizations. Prevailing wages shall be paid based on the most recent semi-annual list as required by the Department of Labor and Industries (L&I).
3. In case any dispute arises as to what are the prevailing rates for wages of work of a similar nature, and such disputes cannot be resolved by the parties involved, including labor and management representatives, the matter shall be referred for arbitration to the Director of the Department of Labor and Industries of the State of Washington, and the Director's decision shall be final and conclusive and binding on all parties involved in the dispute.

B. Before commencing the Work, Contractor shall file a statement of "Intent to Pay Prevailing Wages."

C. After completion of the Work, Contractor shall file an "Affidavit of Wages Paid."

## 3.4 EQUAL EMPLOYMENT OPPORTUNITY

A. During performance of the Work:

1. Contractor shall not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, age, marital status, the presence of any physical, sensory, or mental disability, sexual orientation, Vietnam-era veteran status, disabled veteran status or political affiliation, nor commit any unfair practices as defined in RCW 49.60.
2. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, of any physical, sensory, or mental disability, sexual orientation, Vietnam-era veteran status, disabled veteran status, or political affiliation.
3. The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and orders in regard to Equal Employment Opportunity including but not limited to Executive Order 11246, as amended, Section 503 of the Rehabilitation Act of 1973, as amended, and the rules, regulations, and orders of the Secretary of Labor. The Contractor shall include the terms of this Clause in every subcontract so that such term shall be binding on each Subcontractor.
4. Non-Discrimination R.C.W. 49.60: These special requirements establish minimum requirements for affirmative action and are intended to define and implement the basic discrimination provisions of these specifications. Failure to comply with these requirements may constitute grounds for application of contract default.

## 3.5 SAFETY PRECAUTIONS

A. In performing this contract, the Contractor shall provide for protecting the lives and health of employees and other persons; preventing damage to property, materials, supplies, and equipment; and avoid work interruptions. For these purposes, the Contractor shall:

1. Follow Washington Industrial Safety and Health Act (WISHA) regional directives and provide a site-specific safety program that will require an accident prevention and hazard analysis plan for the contractor and each subcontractor on the work site. The Contractor shall submit a site-specific safety plan to the Owner's representative prior to the initial scheduled construction meeting.
2. Provide adequate safety devices and measures including, but not limited to, the appropriate safety literature, notice, training, permits, placement and use of barricades, signs, signal lights, ladders, scaffolding, staging, runways, hoist, construction elevators, shoring, temporary lighting, grounded outlets, wiring, hazardous materials, vehicles, construction processes, and equipment required by Chapter 19.27 RCW, State Building Code (Uniform Building, Electrical, Mechanical, Fire, and Plumbing Codes); Chapter 212-12 WAC, Fire Marshal Standards, Chapter 49.17 RCW, WISHA; Chapter 296-155 WAC, Safety Standards for Construction Work; Chapter 296-65 WAC; WISHA Asbestos Standard; WAC 296-62-071, Respirator Standard; WAC 296-62, General Occupation Health Standards, WAC 296-24, General Safety and Health Standards, WAC 296-24, General Safety and Health Standards, Chapter 49.70 RCW, and Right to Know Act.



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3. Comply with the State Environmental Policy Act (SEPA), Clean Air Act, Shoreline Management Act, and other applicable federal, state, and local statutes and regulations dealing with the prevention of environmental pollution and the preservation of public natural resources.
  4. Post all permits, notices, and/or approvals in a conspicuous location at the construction site.
  5. Provide any additional measures that the Owner determines to be reasonable and necessary for ensuring a safe environment in areas open to the public. Nothing in this part shall be construed as imposing a duty upon the Owner to prescribe safety conditions relating to employees, public, or agents of the Contractors.
- B. Contractor to maintain safety records: Contractor shall maintain an accurate record of exposure data on all incidents relating to the Work resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment. Contractor shall immediately report any such incident to Owner. Owner shall, at all times, have a right of access to all records of exposure.
- C. Contractor to provide HazMat training: Contractor shall provide all persons working on the Project site with information and training on hazardous chemicals in their work at the time of their initial assignment, and whenever a new hazard is introduced into their work area.
1. Information. At a minimum, Contractor shall inform persons working on the Project site of:
    - a. WAC: The requirements of chapter 296-62 WAC, General Occupational Health Standards;
    - b. Presence of hazardous chemicals: Any operations in their work area where hazardous chemicals are present; and
    - c. Hazard communications program: The location and availability of written hazard communication programs, including the required list(s) of hazardous chemicals and material safety data sheets required by chapter 296-62 WAC.
  2. Training. At a minimum, Contractor shall provide training for persons working on the Project site which includes:
    - a. Detecting hazardous chemicals: Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.);
    - b. Hazards of chemicals: The physical and health hazards of the chemicals in the work area;
    - c. Protection from hazards: The measures such persons can take to protect themselves from these hazards, including specific procedures Contractor, or its Subcontractors, or others have implemented to protect those on the Project site from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used; and
    - d. Hazard communications program: The details of the hazard communications program developed by Contractor, or its Subcontractors, including an explanation of the labeling system and the material safety data sheet, and how employees can obtain and use the appropriate hazard information.
- D. Hazardous, toxic or harmful substances: Contractor's responsibility for hazardous, toxic, or harmful substances shall include the following duties:
1. Illegal use of dangerous substances: Contractor shall not keep, use, dispose, transport, generate, or sell on or about the Project site, any substances now or hereafter designated as, or which are subject to regulation as, hazardous, toxic, dangerous, or harmful by any federal, state or local law, regulation, statute or ordinance (hereinafter collectively referred to as "hazardous substances"), in violation of any such law, regulation, statute, or ordinance, but in no case shall any such hazardous substance be stored on the Project site.
  2. Contractor notifications of spills, failures, inspections, and fines: Contractor shall promptly notify Owner of all spills or releases of any hazardous substances which are otherwise required to be reported to any regulatory agency and pay the cost of cleanup. Contractor shall promptly notify Owner of all failures to comply with any federal, state, or local law, regulation, or ordinance; all inspections of the Project site by any regulatory entity concerning the same; all regulatory orders or fines; and all responses or interim cleanup actions taken by or proposed to be taken by any government entity or private party on the Project site.

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- E. Public safety and traffic: All Work shall be performed with due regard for the safety of the public. Contractor shall perform the Work so as to cause a minimum of interruption of vehicular traffic or inconvenience to pedestrians. All arrangements to care for such traffic shall be Contractor's responsibilities. All expenses involved in the maintenance of traffic by way of detours shall be borne by Contractor.
- F. Contractor to act in an emergency: In an emergency affecting the safety of life or the Work or of adjoining property, Contractor is permitted to act, at its discretion, to prevent such threatened loss or injury, and Contractor shall so act if so authorized or instructed.
- G. No duty of safety by Owner: Nothing provided in this section shall be construed as imposing any duty upon Owner with regard to, or as constituting any express or implied assumption of control or responsibility over, Project site safety, or over any other safety conditions relating to employees or agents of Contractor or any of its Subcontractors, or the public.

## 3.6 INDEPENDENT CONTRACTOR

- A. The Contractor and Owner agree the Contractor is an independent contractor with respect to the services provided pursuant to this Contract. Nothing in this Contract shall be considered to create a relationship of employer and employee between the parties hereto. Neither the Contractor nor any employee of the Contractor shall be entitled to any benefits accorded Owner employees by virtue of the services provided under this Contract. The Owner shall not be responsible for withholding or otherwise deducting federal income tax or social security or contributing to the State Industrial Insurance Program, or otherwise assuming the duties of an employer with respect to the Contractor, or any employees of the Contractor.

## 3.7 OPERATIONS, MATERIAL HANDLING, AND STORAGE AREAS

- A. Contractor shall confine all operations, including storage of materials, to Owner-approved areas.
- B. Contractor shall be responsible for the proper care and protection of its materials and equipment delivered to the Project site.
- C. Contractor shall protect and be responsible for any damage or loss to the Work, or to the materials or equipment until the date of Final Acceptance, and shall repair or replace without cost to Owner any damage or loss that may occur.

## 3.8 PRIOR NOTICE OF EXCAVATION

- A. Prior to any excavation Contractor shall engage a locate service for all underground facilities or utilities. Contractor shall pay all fees for locator services and pay for all damages caused by excavation.

## 3.9 UNFORESEEN PHYSICAL CONDITIONS

- A. Notice requirement for concealed or unknown conditions: If Contractor encounters conditions at the site which are subsurface or otherwise concealed physical conditions which differ materially from those indicated in the Contract Documents, or unknown physical conditions of an unusual nature which differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, then Contractor shall give written notice to Owner promptly and in no event later than seven Days after the first observance of the conditions. Conditions shall not be disturbed prior to such notice.
- B. Adjustment in Contract Time and Contract Sum: If such conditions differ materially and cause a change in Contractor's cost of, or time required for, performance of any part of the Work, the Contractor may be entitled to an equitable adjustment in the Contract Time or Contract Sum, or both, provided it makes a request therefore as provided in Part 5.

## 3.10 PROTECTION OF EXISTING STRUCTURES, EQUIPMENT, VEGETATION, UTILITIES, AND IMPROVEMENTS

- A. Contractor shall protect from damage all existing conditions, including soils, structures, equipment, improvements, utilities, and vegetation at or near the Project site; and on adjacent property of a third party, the

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locations of which are made known to or should be known by Contractor. Contractor shall repair any damage, including that to the property of a third party, resulting from failure to comply with the requirements of the Contract Documents, any defects of equipment, material, workmanship or design furnished by the Contractor, or failure by Contractor or subcontractor at any tier to exercise reasonable care in performing the Work. If Contractor fails or refuses to repair the damage promptly, Owner may have the necessary work performed and charge the cost to Contractor.

- B. New work which connects to existing work shall correspond in all respects with that to which it connects and/or be similar to existing work unless otherwise required by the Specifications.

## 3.11 MATERIAL AND EQUIPMENT

- A. All equipment, material, and articles incorporated into the Work shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in the Contract Documents. References in the Specifications to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard quality and shall not be construed as limiting competition. Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of Owner, is equal to that named in the Specifications, unless otherwise specifically provided in the Contract Documents.
- B. Substitutions shall be considered where qualities and attributes including, but not limited to, cost, performance, weight, size, durability, visual effect, and specific features and requirements indicated are deemed equal or better by the Owner at the Owner's sole discretion. All requests for substitutions shall be made in writing to Owner and shall not be deemed to be approved unless approved in writing by Owner.

## 3.12 CORRECTION OF NONCONFORMING WORK

- A. Contractor shall promptly correct Work found by Owner not to conform to the requirements of the Contract Documents, whether observed before or after Final Acceptance.
- B. If Contractor fails to correct nonconforming Work, Owner may replace, correct, or remove the nonconforming Work and charge the cost thereof to the Contractor.

## 3.13 CLEAN UP

- A. Contractor shall at all times keep the Project site, including hauling routes, infrastructures, utilities, and storage areas, free from accumulations of waste materials. Before completing the Work, Contractor shall remove from the premises its rubbish, tools, scaffolding, equipment, and materials. Upon completing the Work, Contractor shall leave the Project site in a clean, neat, and orderly condition satisfactory to Owner. If Contractor fails to clean up as provided herein, and after reasonable notice from Owner, Owner may do so and the cost thereof shall be charged to Contractor.

## 3.14 SUBCONTRACTORS AND SUPPLIERS

- A. Contractor shall utilize Subcontractors and suppliers which are experienced and qualified.
- B. By appropriate written agreement, Contractor shall require each Subcontractor to be bound to Contractor by terms of those Contract Documents, and to assume toward Contractor all the obligations and responsibilities which Contractor assumes toward Owner in accordance with the Contract Documents. Each Subcontract shall preserve and protect the rights of Owner in accordance with the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights. Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. However, nothing in this paragraph shall be construed to alter the contractual relations between Contractor and its Subcontractors with respect to insurance or bonds.
- C. Contractor shall schedule, supervise, and coordinate the operations of all Subcontractors. No Subcontracting of any of the Work shall relieve Contractor from its responsibility for the performance of the Work in accordance with the Contract Documents or any other obligations of the Contract Documents.

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- D. It is the Contractor's responsibility to pay its Subcontractors and material suppliers on a timely basis. The Owner reserves the right to withhold a portion of the Contractor's payment if the Contractor fails to make timely payments to the Subcontractors and material suppliers.
- E. The Contract Documents shall not be construed to create a contractual relationship of any kind between the Owner and any Subcontractor; or any persons other than Owner and Contractor.
- F. The Contractor shall not enter into any subcontract with any subcontractor who has been suspended or debarred from participating in contracting programs by any agency of the United States Government or by any state, territory, or municipality.

## 3.15 INDEMNIFICATION

- A. The Contractor hereby agrees to indemnify, defend, and hold harmless the Authority, its successors and assigns, director, officers, officials, employees, agents, partners and volunteers (all foregoing singly and collectively (Indemnities")) from a and against any and all claims, losses, harm costs, liabilities, damages and expenses, including, but not limited to, reasonable attorney's fees arising or resulting from the performance of the services, or the acts or omissions of the Contractor its successors, and assigns, employees, subcontractors or anyone acting on the contractor's behalf in connection with this Contract or its performance of this Contract.
- B. Provided, however, that the Contractor will not be required to indemnify, defend, or save harmless the indemnitee as provided in the preceding paragraphs of this section if the claim, suit, or action for injuries, death, or damages is caused by the sole negligence of the indemnitee. Where such claims, suites, or actions result from the concurrent negligence of (a) the indemnitee or the indemnitee's agents or employees and (b) the Contractor or the Contractor's agent or employee, the indemnity provisions provided in the proceeding paragraphs of this section shall be valid and enforceable only to the extent of the Contractor's negligence or the negligence of its agents and employees..
- C. The foregoing indemnity is specifically and expressly intended to constitute a waiver of the Contractor's immunity under Washington's Industrial Insurance act, RCW Title 51. The parties acknowledge that these provisions were specifically negotiated and agreed upon by them. If any portion of this indemnity clause is invalid or unenforceable, it shall be deemed excised and the remaining portions of the clause shall be given full force and effect.
- D. The Contractor hereby agrees to require all its Subcontractors or anyone acting under its direction or control or on its behalf in connection with or incidental to the performance of this Contract to execute an indemnity clause identical to the preceding clause, specifically naming the Owner as indemnity, and failure to do so shall constitute a material breach of this Contract by the Contractor.

## 3.16 PROHIBITION AGAINST LIENS

- A. The Contractor is prohibited from placing a lien on the Owner's property. This prohibition shall apply to all subcontractors of any tier and all materials suppliers, in accordance with RCW 35.82.190.

## 3.17 DAMAGES FOR FAILURE TO ACHIEVE TIMELY COMPLETION

- A. Liquidated Damages
  - 1. Timely performance and completion of the Work is essential to Owner and time limits stated in the Contract Documents are of the essence. The liquidated damage amounts set forth will be assessed not as a penalty, but as liquidated damages for breach of the Contract Documents. This amount is fixed and agreed upon by and between the Contractor and Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain. This amount shall be construed as the actual amount of damages sustained by the Owner, and may be retained by the Owner and deducted from any payments to the Contractor.
  - 2. If different completion dates are specified in the contract for separate parts or stages of the work, the amount of liquidated damages shall be assessed on those parts or stages which are delayed.

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## 3.18 WAIVER AND SEVERABILITY

- A. The failure or delay of either party to insist on performance of any provision of the Contract, or to exercise any right or remedy available under the Contract, shall not be construed as a waiver of that provision, right, or remedy in any later instance. Waiver or breach of any provision of the Contract shall not be construed to be a waiver of any other or subsequent breach and shall not be construed to be a modification of the terms of the Contract, unless the Contract is modified pursuant to the Clause entitled "Contract Modifications" herein.
- B. If any provision of the Contract is or becomes void or unenforceable by operation of law, the remaining provisions shall be valid and enforceable.

## PART 4 - PAYMENTS AND COMPLETION

### 4.1 CONTRACT SUM

- A. The Contract Sum shall include all taxes imposed by law and properly chargeable to the Project, including sales tax. The Contractor shall pay the WSST to the Department of Revenue and shall furnish proof of payment to the Owner if requested.
- B. The retail sales tax does not apply to the gross contract price.
- C. Prime and subcontractors are required to pay retail sales tax upon all purchases of materials, including prefabricated and precast items, equipment, leases or rentals of tools, consumables, and other tangible personal property which is installed, applied, attached, or otherwise incorporated in their work.

### 4.2 APPLICATION FOR PAYMENT

- A. At monthly intervals, unless determined otherwise by Owner, Contractor shall submit to Owner an Application for Payment for Work completed in accordance with the Contract Documents. Each application shall be supported by such substantiating data as Owner may require.
- B. Each invoice shall include the following statement: "I hereby certify that the items listed are proper charges for materials, merchandise or services provided to the King County Housing Authority, and that all goods and/or services have been provided; that prevailing wages have been paid in accordance with the approved statements of intent filed with the Department of Labor and Industries; and that sub-contractors and/or suppliers have been paid, less earned retainage, as their interest appears in the last payment received."
- C. Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule. Each Application for Payment shall be consistent with previous applications and payments.
- D. Owner shall retain 5% of the amount of each progress payment until 45 Days after Final Acceptance and receipt of all documents required by law or the Contract Documents including releases by Washington State Employment Security Department and Washington State Department of Revenue and Department of Labor & Industries.
- E. Waivers of Lien: With each Application for Payment, submit conditional waivers lien from every entity who is lawfully entitled to file a lien arising out of the Contract and related to the Work covered by the payment.
  - 1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
  - 2. When an application shows completion of an item, submit final or full waivers.
  - 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
    - a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
- F. Final Payment Application: Submit final Application for Payment with releases and close out supporting documentation.

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- G. Approved payments shall be mailed to the Contractor within 30 days.

## 4.3 FINAL COMPLETION, ACCEPTANCE, AND PAYMENT

- A. The Owner shall make a final inspection of the Work on receipt of (1) written notice from the Contractor that the Work is ready for final inspection and (2) a final Application for Payment. When the Owner finds the Work acceptable and fully performed under the Contract Documents, and the Contractor has delivered to the Owner all warranties, permits, and operations manuals, the Owner will issue a Notice of Final Completion.
- B. Acceptance of final payment by Contractor, or any Subcontractor, shall constitute a waiver and release to Owner of all claims by Contractor, or any such Subcontractor, for an increase in the Contract Sum or the Contract Time, and for every act or omission of Owner relating to or arising out of the Work, except for those Claims made in accordance with the procedures, including the time limits, set forth in PART 7 - .

## PART 5 - CHANGES

### 5.1 CHANGE IN THE WORK

- A. Owner may, at any time and without notice to Contractor's surety, order additions, deletions, revisions, or other changes in the Work. These changes in the Work shall be incorporated into the Contract Documents through the execution of Change Orders. If any change in the Work ordered by Owner causes an increase or decrease in the Contract Sum or the Contract Time, an equitable adjustment shall be made as provided in 5.2 and 5.3.
- B. Pending agreement on the terms of the Change Order, Owner may direct Contractor to proceed immediately with the Change Order Work. Contractor shall not proceed with any change in the Work until it has obtained Owner's written approval.
- C. The Contractor agrees that any change in the Contract Amount or Contract Time provided in a Change Order is full and complete compensation to the Contractor for the change(s) to the work, deleted work, modified work, direct or indirect impact on the Contractor's schedule, and for any equitable adjustment or time extension to which the Contractor may be entitled to in the Change Order, pursuant to the Contract between the Owner and Contractor.

### 5.2 CHANGE IN THE CONTRACT SUM

- A. Change Order Pricing - Fixed Price: When the fixed price or time and materials method is used to determine the value of any Work covered by a Change Order, or of a request for an equitable adjustment in the Contract Sum, the following procedures shall apply:
  - 1. Contractor's Change Order proposal, or request for adjustment in the Contract Sum, shall be accompanied by a complete itemization of the costs, including labor, material, subcontractor costs, and overhead and profit. The costs shall be itemized in the manner set forth below, and shall be submitted on breakdown sheets with documentation in a form approved by Owner.
  - 2. Any request for adjustment of Contract Sum shall include only the following items:
    - a. Craft labor costs for Contractors and Subcontractors.
      - 1) Basic wages and benefits: Hourly rates and benefits according to applicable prevailing wages.
      - 2) Direct supervision shall not to exceed 15% of the cost of direct labor. No supervision markup shall be allowed for a working supervisor's hours.
      - 3) Worker's Insurance. Direct contributions to the State for industrial insurance, medical aid, and supplemental pension by the class and rates established by L&I.
      - 4) Federal Insurance. Direct contributions required by the Federal Insurance Compensation Act; Federal Unemployment Tax Act; and the State Unemployment Compensation Act.
      - 5) Safety and small tools: 4% of the sum of the amounts calculated in (1), (2), and (3) above.

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- b. **Material Costs:** Material costs and applicable sales tax shall be developed from actual known costs, supplier quotations or standard industry pricing guides and shall consider all available discounts. Freight costs, express charges, or special delivery charges shall be itemized.
- c. **Equipment Costs:** Itemization of the type of equipment and the estimated or actual length of time the equipment appropriate for the Work is or will be used on the change in the Work. Costs will be allowed for equipment and applicable sales tax only if used solely for the changed Work, or for additional rental costs actually incurred by the Contractor. The Date Quest Rental Rate (Blue Book) shall be used as a basis for establishing rental rates of equipment not listed in the above sources. The maximum rate for standby equipment shall not exceed 50% of the applicable rate.
- d. **Allowance for Overhead:** This allowance shall compensate Contractor for all noncraft labor, temporary construction facilities, field engineering, schedule updating, as-built drawings, home office cost, B&O taxes, office engineering, estimating costs, additional overhead because of extended time and any other cost incidental to the change in the Work. This allowance shall be strictly limited in all cases an amount not to exceed the following:
  - 1) For Contractor, for any Work actually performed by Contractor's own forces, 16% of the cost.
  - 2) For each Subcontractor (including lower tier subcontractors), for any Work actually performed by its own forces, 16% of the cost.
  - 3) For Contractor, for any Work performed by its Subcontractor(s), 6% of the amount due each Subcontractor.
  - 4) For each Subcontractor, for any Work performed by its Subcontractor(s) of any lower tier, 5% of the amount due the sub-Subcontractor.
- e. **Allowance for Profit:**
  - 1) For Contractor or Subcontractor of any tier for work performed by their forces, 5% of the cost developed in accordance with subsections a, b & c above.
  - 2) For Contractor or Subcontractor of any tier for work performed by a subcontractor of a lower tier, 5% of the Subcontractor cost.
- f. **Insurance or Premium:** The costs of any change or additional premium of Contractor's liability insurance or bond premium arising directly from the changed Work. The costs of any change in insurance shall be added after overhead and profit are calculated.

## B. Change Order Pricing - Unit Prices

- 1. Work on a unit-price basis as stated in the Specifications and at the price submitted in the Bid Form or as subsequently modified.
  - a. Unit prices shall include reimbursement for all direct and indirect costs of the Work, including overhead and profit, bond premium, and insurance costs; and
  - b. Quantities must be supported by field measurement verified by Owner.

## 5.3 CHANGE IN THE CONTRACT TIME

- A. The Contract Time shall only be changed by a Change Order. Contractor shall immediately notify Owner, and shall include any request for a change in the Contract Time in its Change Order proposal.
- B. If the time of Contractor's performance is changed due to an act of Force Majeure, Contractor shall request for an equitable adjustment in the Contract Time in writing within 24-hours of the occurrence.

## PART 6 - CLAIMS AND DISPUTE RESOLUTION

### 6.1 CLAIMS PROCEDURE

- A. If the parties fail to reach agreement regarding any dispute arising from the Contract Documents, Contractor's only remedy shall be to file a Claim with Owner within 30 Days from Owner's final offer.

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- B. The Claim shall be deemed to cover all changes in cost and time (including direct, indirect, impact, and consequential) to which Contractor may be entitled. It shall be fully substantiated and documented.
- C. After Contractor has submitted a fully-documented Claim, Owner shall respond, in writing, to Contractor with a decision within 30 Days from the date the Claim is received.
- D. Contractor shall proceed with performance of the Work pending final resolution of any Claim. Owner's written decision as set forth above shall be final and conclusive as to all matters set forth in the Claim.
- E. Any Claim of the Contractor against the Owner for damages, additional compensation, or additional time, shall be conclusively deemed to have been waived by the Contractor unless timely made in accordance with the requirements of this section.

## 6.2 ARBITRATION

- A. If Contractor disagrees with Owner's decision rendered in accordance with paragraph 6.1C, Contractor shall provide Owner with a written demand for arbitration. No demand for arbitration of any such Claim shall be made later than 30 Days after the date of Owner's decision on such Claim; failure to demand arbitration within said 30 Day period shall result in Owner's decision being final and binding upon Contractor and its Subcontractors.
  - 1. Notice of the demand for arbitration shall be filed with the American Arbitration Association (AAA), with a copy provided to Owner. The parties shall negotiate or mediate under the Voluntary Construction Mediation Rules of the AAA, or mutually acceptable service.
- B. All Claims arising out of the Work shall be resolved by arbitration. The judgment upon the arbitration award may be entered, or review of the award may occur, in the superior court having jurisdiction thereof. No independent legal action relating to or arising from the Work shall be maintained.

## 6.3 CLAIMS AUDITS

- A. All Claims filed against Owner shall be subject to audit at any time following the filing of the Claim. Failure of Contractor, or Subcontractors of any tier, to maintain and retain sufficient records to allow Owner to verify all or a portion of the Claim or to permit Owner access to the books and records of Contractor, or Subcontractors of any tier, shall constitute a waiver of the Claim and shall bar any recovery.
  - 1. In support of Owner audit of any Claim, Contractor shall promptly make available to Owner all records relating to the Work.

## PART 7 - TERMINATION OF THE WORK

### 7.1 TERMINATION BY OWNER FOR CAUSE

- A. Owner may, upon a written Notice to Contractor and to its surety, terminate (without prejudice to any right or remedy of Owner) the Work, or any part of it, for cause upon the occurrence of any one or more of the following events:
  - 1. Contractor fails to prosecute the Work or any portion thereof with sufficient diligence to ensure Completion of the Work within the Contract Time;
  - 2. Contractor is adjudged bankrupt, makes a general assignment for the benefit of its creditors, or a receiver is appointed on account of its insolvency;
  - 3. Contractor fails in a material way to replace or correct Work not in conformance with the Contract Documents;
  - 4. Contractor repeatedly fails to supply skilled workers or proper materials or equipment;
  - 5. Contractor repeatedly fails to make prompt payment due to Subcontractors, suppliers, or for labor;
  - 6. Contractor materially disregards or fails to comply with laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction; or
  - 7. Contractor is otherwise in material breach of any provision of the Contract Documents.
- B. Upon termination, Owner may at its option:



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1. Take possession of the Project site and take possession of or use all materials, equipment, tools, and construction equipment and machinery thereon owned by Contractor to maintain the orderly progress of, and to finish, the Work;
  2. Finish the Work by whatever other reasonable method it deems expedient.
- C. Owner's rights and duties upon termination are subject to the prior rights and duties of the surety, if any, obligated under any bond provided in accordance with the Contract Documents.
- D. When Owner terminates the Work in accordance with this section, Contractor shall take the actions set forth in paragraph 7.2B, and shall not be entitled to receive further payment until the Work is accepted.
- E. If the unpaid balance of the Contract Sum exceeds the cost of finishing the Work, including compensation for A/E services and expenses made necessary thereby and any other extra costs or damages incurred by Owner in completing the Work, or as a result of Contractor's actions, such excess shall be paid to Contractor. If such costs exceed the unpaid balance, Contractor shall pay the difference to Owner. Contractor shall also be liable for liquidated damages until such reasonable time as may be required for Completion. These obligations for payment shall survive termination.
- F. Termination of the Work in accordance with this section shall not relieve Contractor or its surety of any responsibilities for Work performed.
- G. If Owner terminates Contractor for cause, and it is later determined that none of the circumstances set forth in 7.1A exist, then such termination shall be deemed a termination for convenience pursuant to 7.2.

## 7.2 TERMINATION BY OWNER FOR CONVENIENCE

- A. Owner may, upon Notice, terminate (without prejudice to any right or remedy of Owner) the Work, or any part of it, for the convenience of Owner.
- B. Unless Owner directs otherwise, after receipt of a Notice of termination for either cause or convenience, Contractor shall promptly:
1. Stop performing Work on the date and as specified in the notice of termination;
  2. Place no further orders or subcontracts for materials, equipment, services or facilities, except as may be necessary for completion of such portion of the Work as is not terminated;
  3. Cancel all orders and subcontracts, upon terms acceptable to Owner, to the extent that they relate to the performance of Work terminated;

## PART 8 - MISCELLANEOUS PROVISIONS

### 8.1 RECORDS KEEPING AND REPORTING

- A. The Contractor and all Subcontractors shall maintain accounts and records in accordance with State Auditor's procedures, including personnel, property, financial and programmatic records which sufficiently and properly reflect all direct and indirect costs of any nature expended and services performed in the performance of this Contract and other such records as may be deemed necessary by the Owner to ensure proper accounting for all funds contributed by the Owner to the performance of this Contract and compliance with this Contract.
- B. The Contractor, and its Subcontractors, shall maintain these records for a period of six (6) years after the date of Final Acceptance.

### 8.2 AUDITS AND INSPECTIONS

- A. The records and documents with respect to all matters covered by this Contract shall be subject at all times to inspection, review or audit by the Owner or any other government agency so authorized by law during the performance of this Contract. The Owner shall have the right to an annual audit of the Contractor's financial statement and condition.

# GENERAL CONDITIONS

## 8.3 ORGANIZATION CONFLICTS OF INTEREST

- A. The Contractor warrants that to the best of its knowledge and belief and except as otherwise disclosed, it does not have any organizational conflict of interest which is defined as a situation in which the nature of work under this Contract and the Contractor's organizational, financial, contractual or other interests are such that:
  - 1. Award of the Contract may result in an unfair competitive advantage; or
  - 2. The Contractor's objectivity in performing the Contract work may be impaired.
- B. The Contractor agrees that if after award they discover an organizational conflict of interest with respect to this Contract, they shall make an immediate and full disclosure in writing to the Contracting Officer, which shall include a description of the action, which the Contractor has taken or intends to take to eliminate or neutralize the conflict. The Owner may, however, terminate the Contract if it deems the action to be in the best interest of the Owner.
- C. In the event the Contractor was aware of an organizational conflict of interest before the award of this Contract and intentionally did not disclose the conflict to the Contracting Officer, the Owner may terminate the Contract for default.
- D. The provisions of this Clause shall be included in all subcontracts and consulting agreements wherein the work to be performed is similar to the services provided by the Contractor. The Contractor shall include in such subcontracts and consulting agreements any necessary provisions to eliminate or neutralize conflicts of interest.

## 8.4 INTERESTS OF MEMBERS OF CONGRESS

- A. No member of or delegate to the Congress of the United States of America shall be admitted to any share or part of this Contract or to any benefit to arise therefrom, but this provision shall not be construed to extend to this Contract if made with a corporation for its general benefit.

## 8.5 INTERESTS OF MEMBERS, OFFICERS, COMMISSIONERS AND EMPLOYEES, OR FORMER MEMBERS, OFFICERS AND EMPLOYEES

- A. No member, officer, or employee of the King County Housing Authority, no member of the governing body of the locality in which the project is situated, no member of the governing body in which the Owner was activated, and no other public official or such locality or localities who exercises any functions or responsibilities with respect to the project, shall, during his or her tenure, or for one year thereafter, have any interest, direct or indirect, in this Contract or the proceeds thereof.

# BID FORM

## PROJECT NAME AND LOCATION:

**Aspen Ridge  
Exterior Lighting**

**Contract Number: DW2303431**

## BID FORM

The undersigned, Legal Name of Bidder: \_\_\_\_\_

on this date: \_\_\_\_\_, 2023, having familiarized him/herself with the contract documents, site conditions, and has field verified all measurements contained in the project manual as prepared by the Owner, hereby proposes to furnish labor, materials and necessary equipment – all including, but not limited to, demolition, disposal, new installation and the required applicable taxes and fees to complete the work for the following bid amounts:

**BASE BID** \_\_\_\_\_ (\$ \_\_\_\_\_)  
(Including sales tax indicated in Instructions to Bidders)

**ADDENDA** \_\_\_\_\_  
Acknowledge receipt of any addenda by inserting the number(s) above

In submitting this bid, it is understood that the right is reserved by the Owner to reject any and all bids. The undersigned hereby agrees that this proposal shall be a valid and firm offer for a period of Sixty (60) calendar days from the date of Bid Opening.

Bidder agrees that Work will be substantially complete and ready for final payment in accordance with the Contract Documents on or before the date, within the number of calendar days indicated.

The undersigned Bidder hereby certifies that, within the three-year period immediately preceding the bid solicitation date for this Project, the bidder is not a “willful” violator, as defined in RCW 49.48.082, of any provision of chapters 49.46, 49.48, or 49.52 RCW, as determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction.

I certify (or declare) under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

\_\_\_\_\_  
Signature of Bidder

\_\_\_\_\_  
Print Your Name

Submitted on \_\_\_\_\_ day of \_\_\_\_\_ 2023

\_\_\_\_\_  
City

\_\_\_\_\_  
State

# BIDDER INFORMATION

## BIDDER INFORMATION

Name of Bidder (Company): \_\_\_\_\_

Address: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Phone Number: \_\_\_\_\_ Email Address: \_\_\_\_\_

Business Type: General Contractor ( ) Other ( ) (Please specify): \_\_\_\_\_

Bidder is a(n):  Individual  Partnership  Joint Venture  Incorporated in the state of \_\_\_\_\_

List business names & associated UBI # used by Bidder during the past 5 years if different than above:

\_\_\_\_\_

Bidder has been in business continuously from: \_\_\_\_\_  
*Month, Year*

Business License #: \_\_\_\_\_ Federal ID #: \_\_\_\_\_

Current UBI #: \_\_\_\_\_ Dept. of L&I Worker's Comp. Acct. #: \_\_\_\_\_

Bidder has experience in work "Similar in Scope and Complexity" comparable to that required for this Project:

As a prime contractor for \_\_\_\_\_ years. As a subcontractor for \_\_\_\_\_ years.

OWNER(S) OF COMPANY (List <b>all</b> owners):	OWNER'S SOCIAL SECURITY NUMBER (only required if sole proprietorship):

No. of regular full-time employees other than owner(s): \_\_\_\_\_

Indicate clearly the kind of work your company will actually perform in this project:

\_\_\_\_\_

Approximate % of work your company will actually perform: \_\_\_\_\_

List the supervisory personnel to be employed by the Bidder and available for, and intended to, work on this project:

<u>Name</u>	<u>Title</u>	<u>How Long With Bidder</u>

# BIDDER INFORMATION

## SUBCONTRACTORS

Do you intend to use Subcontractor(s) in this project? Yes  No  (If yes, you must show the name of the subcontractors. Attach additional pages as necessary.)

Subcontractors Name	Subcontractor's UBI#	Phone Number	Trade	Years in Business
1.				
2.				
3.				
4.				
5.				

## BIDDER'S EXPERIENCE

Projects successfully supervised and completed by your company for work of similar scope and value as specified in bid documents in the last 5 years. Attach additional pages as necessary.

Name of Project	Completion Date	Duration (Months)	Nature of Work	Amount of Contract
1.				
2.				
3.				
4.				
5.				

Owner's Name (of project listed above)	Project Address	Contact Person	Phone Number
1.			
2.			
3.			
4.			
5.			

Has Bidder ever been found guilty of violating any State or Federal employment laws?  No  Yes  
 If yes, give details & attach additional pages as necessary:

Has Bidder ever filed for protection under any provision of the federal bankruptcy laws or state insolvency laws?  
 No  Yes If yes, give details & attach additional pages as necessary:



# CONTRACT FORM

This Contract is entered into by and between the King County Housing Authority, hereinafter referred to as the "Owner" whose principal office is located at 600 Andover Park West, Seattle, WA 98188 and [Name of Contractor], referred to as the "Contractor", whose principal office is located at [Contractor's Address].

**IN CONSIDERATION OF** the mutual benefits and conditions hereinafter contained, the parties hereto agree as follows:

1.1 Contract Documents

A. The provisions set forth in the Contract Documents are hereby incorporated into and made part of the Contract. Contractor acknowledges receipt and review of all Contract Documents applicable to performance of the work. The Contract shall consist of the following component parts:

1. This Instrument
2. Addenda
3. Specifications
4. Plans
5. Bid Form
6. Pre-Bid Agenda
7. General Conditions
8. Instructions to Bidders
9. Prevailing Wage Rates
10. Hazardous Material Report

1.2 Scope of Services to be Performed by the Contractor: The Contractor shall provide all labor, materials, tools, equipment, transportation, supplies, and incidentals required to complete the work in accordance with the Contract Documents for:

Project: Aspen Ridge Apartments Exterior Lighting

Contract No.: DW2303431

1.3 Compensation: The total amount of the Contract shall be [\$\$\$] dollars and [¢¢] cents (\$[\$\$\$.\$\$]) subject to additions and deductions provided therein.

1.4 Duration of Contract: The Contractor shall commence work after receipt of Notice to Proceed, follow the schedule specified in the contract documents, and all work must be completed within sixty (60) consecutive calendar days from the date of the Notice to Proceed unless sooner terminated pursuant to the General Conditions. Upon expiration of the original Contract term, the Contract, at the Owner's sole discretion, may be extended for a period determined by the Owner.

1.5 Liquidated Damages: Timely performance and completion of the Work is essential to Owner and time limits stated in the Contract Documents are of the essence. If Completion of the Work does not occur within the Contract Time, the Contractor agrees that Liquidated Damages in the amount of **\$250.00** per day will be assessed for each calendar day that the Contractor exceeds the time for completion.

The individuals signing this Contract warrant and represent for themselves and for their respective organizations that they are duly authorized to sign this Contract and that upon such signing their respective organizations are bound thereby.

DATED this \_\_\_\_\_ day of \_\_\_\_\_, 2023

Contractor

Owner

\_\_\_\_\_  
President/Owner

\_\_\_\_\_  
Robin Walls  
CEO  
KING COUNTY HOUSING AUTHORITY

# CERTIFICATE OF INSURANCE

DATE(MM/DD/YY)

**Issue Date**

<b>PRODUCER</b> <b>Vendor's Insurance Agent</b> <b>Street Address</b> <b>City, State, Zip</b> <b>Phone Number</b>	<b>THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.</b>
<b>COMPANIES AFFORDING COVERAGE</b>	
<b>COMPANY A</b>	<b>ABC Insurance Company</b>

<b>INSURED</b> <b>Vendor Name</b> <b>Street Address</b> <b>City, State, Zip</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;"><b>COMPANY B</b></td> <td><b>DEF Insurance Company</b></td> </tr> <tr> <td style="width: 15%; text-align: center;"><b>COMPANY C</b></td> <td><b>GHI Insurance Company</b></td> </tr> <tr> <td style="width: 15%; text-align: center;"><b>COMPANY D</b></td> <td></td> </tr> </table>	<b>COMPANY B</b>	<b>DEF Insurance Company</b>	<b>COMPANY C</b>	<b>GHI Insurance Company</b>	<b>COMPANY D</b>	
<b>COMPANY B</b>	<b>DEF Insurance Company</b>						
<b>COMPANY C</b>	<b>GHI Insurance Company</b>						
<b>COMPANY D</b>							

**COVERAGES**  
 THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
<b>A</b>	<b>GENERAL LIABILITY</b>	<b>XXX123</b>	<b>01/01/00</b>	<b>01/01/01</b>	GENERAL AGGREGATE <b>2,000,000</b>
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY				PRODUCTS-COMP/OP AGG <b>1,000,000</b>
	<input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR				PERSONAL & ADV INJURY <b>1,000,000</b>
	<input type="checkbox"/> OWNER'S & CONTRACTOR'S PROT				EACH OCCURRENCE <b>1,000,000</b>
					FIRE DAMAGE (Any one fire) <b>50,000</b>
					MED EXP (Any one person) <b>5,000</b>
<b>B</b>	<b>AUTOMOBILE LIABILITY</b>	<b>XXX456</b>	<b>01/01/00</b>	<b>01/01/01</b>	COMBINED SINGLE LIMIT <b>1,000,000</b>
	<input checked="" type="checkbox"/> ANY AUTO				BODILY INJURY (Per person)
	<input type="checkbox"/> ALL OWNED AUTOS				BODILY INJURY (Per accident)
	<input checked="" type="checkbox"/> SCHEDULED AUTOS				PROPERTY DAMAGE
<input type="checkbox"/> HIRED AUTOS					
<input type="checkbox"/> NON-OWNED AUTOS					
<b>GARAGE LIABILITY</b>					AUTO ONLY-EA ACCIDENT
<input type="checkbox"/> ANY AUTO					OTHER THAN AUTO ONLY:
					EACH ACCIDENT
					AGGREGATE
<b>EXCESS LIABILITY</b>					EACH OCCURRENCE
<input type="checkbox"/> UMBRELLA FORM					AGGREGATE
<input type="checkbox"/> OTHER THAN UMBRELLA FORM					
<b>C</b>	<b>WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY</b>	<b>XXX789</b>	<b>01/01/00</b>	<b>01/01/01</b>	<input checked="" type="checkbox"/> STATUTORY LIMITS
	<input type="checkbox"/> THE PROPRIETOR/PARTNERS/EXECUTIVE OFFICERS ARE: <input type="checkbox"/> INCL <input type="checkbox"/> EXCL				EACH ACCIDENT <b>1,000,000</b>
					DISEASE-POLICY LIMIT <b>1,000,000</b>
					DISEASE-EACH EMPLOYEE <b>1,000,000</b>
<b>OTHER Pollution</b>					<b>\$1,000,000.00</b> per claim applicable to the work performed covering pollution and/or asbestos liability with a \$ 2,000,000 aggregate limit.

**DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS**  
**Allied Residential and King County Housing Authority are named as additional insureds with respect to above general liability and auto coverage. Re: Contract DW2303431 at Aspen Ridge Apartments, 12601 68<sup>th</sup> Ave. S., Seattle, WA, 98178.**

<b>CERTIFICATE HOLDER</b> <b>Allied Residential</b> <b>King County Housing Authority</b> <b>600 Andover Park West</b> <b>Seattle, WA 98188-3326</b>	<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL <b>30</b> DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES. <b>AUTHORIZED REPRESENTATIVE</b> Signature of Insured's Agent
ACORD 25-S (3/93)	ACORD CORPORATION 1993



**PROVIDE**

**GENERAL LIABILITY  
ENDORSEMENT**

**and**

**AUTO LIABILITY  
ENDORSEMENT**