



Development Review (Minor) Staff Approval

191-SA-2022

Vanguard Site and Parking
Lighting LED Upgrade -
Phase 1

APPLICATION INFORMATION

LOCATION:	14321 N Northsight Bl	APPLICANT:	Jeffrey Kahn
PARCEL:	215-53-006C	COMPANY:	Jeffrey Kahn - BEAM, Ltd.
Q.S.:	33-48	ADDRESS:	2220 Mt Carmel Ave Glenside, PA 19038
ZONING:	I-1 PCD	PHONE:	(215) 508-0900
<u>Request:</u> Update of luminaires with integrated LED light source including the courtyard and parking garage interior lighting.			

STIPULATIONS

1. The location and configuration of all site improvements shall be consistent with the site plan submitted by Beam, LTD, with a city staff date of 7/8/2022.

CONSTRUCTION DOCUMENT PLAN REVIEW SUBMITTAL REQUIREMENTS

Submit one copy of this approval letter along with the following plan set(s) using the e-Services Planning Online Center for review:

Digital Plan submittals can be made using the City's e-Services at <https://eservices.scottsdaleaz.gov/bldgresources/plans> and should include one PDF copy of each of the required plans/documents identified below.

ARCHITECTURAL: ☒ Digital Set of Commercial Lighting Plans

Expiration of Development Review (Minor) Approval

This approval expires two (2) years from date of approval if a permit has not been issued, or if no permit is required, work for which approval has been granted has not been completed.

Staff Signature:

Omar Smailbegovic

Date:

7/8/2022

Omar Smailbegovic, 480-312-3087

Planning and Development Services

7447 East Indian School Road, Suite 105, Scottsdale, Arizona 85251 • www.ScottsdaleAZ.gov



BEAM

ILLUMINATING ARCHITECTURE

TRANSMITTAL

TO. City of Scottsdale
Planning and Development Services

DATE. June 22, 2022

BEAM PROJECT NO. 330.21

ATTN. Omar Smailbegovic

FROM. Jeffrey Kahn

RE. Vanguard Lighting LED Upgrade

CC.

CONTENTS.

The following submission includes:

Development Review Minor (SA) Application
Lighting manual with Luminaire schedule and cut sheets
Plans showing lighting locations
Calculations using new luminaires and locations
Lighting control zoning
Lighting control narrative

Project narrative brief:

The submitted project represents the design to replace existing site and garage, metal halide and induction lamp technologies LED sources. This project reuses existing locations where possible and moves or adds locations if required to meet IES standards for appropriate areas. New, integral LED luminaires are to be used for all locations. Daylight and occupancy sensors are being used to minimize operation times and are zoned accordingly.



Lighting Manual

Vanguard Arizona Campus Site Lighting

Scottsdale Review Submission

JUNE 21, 2022

CONTENTS

General Notes
Submittals, Substitutions and Bidding Instructions
Installation and Execution Notes
Fixture Notes
Lighting Fixture Schedule
Fixture Cutsheets

- 1 All notes herein that refer to "Contractor" shall be taken to mean "Electrical Contractor" unless stated otherwise.
- 2 The work to be done under this project includes providing all equipment materials, labor and services, and performing all operations for a complete operational system. Any work not specifically covered, but necessary to complete this installation, shall be provided. All equipment and wiring to be new and provided under this contract unless otherwise noted. (Where new equipment is an extension or modification of an existing system, it shall be the same type and specification as existing manufacturer with no allowable exceptions.)
- 3 Contractor shall configure and provide a fully working lighting system with all necessary components, accessories, lamps, and transformers in accordance with the manufacturer's recommendations to meet the specifications and design intent herein. It is the responsibility of the Contractor to ensure all necessary equipment, specialties, and appurtenances are included regardless of the product specification.
- 4 Contractor shall be responsible for verifying mounting compatibility and plenum clearance of all lighting fixtures and shall notify Owner and Architect of any conflicts with structure, HVAC, or plumbing prior to the ordering of the equipment in question. Any conflict will be verified in field with Architect, Lighting Designer, and Owner or Owner's Representative.
- 5 Contractor to verify all voltages per power provided and ensure all fixtures are ordered accordingly; Contractor assumes all responsibility for fixture voltage compatibility.
- 6 Fixture wattage capacity noted on schedule is the maximum allowed per specified fixture type to allow for accurate sizing of electrical service.
- 7 All fixtures are subject to change or elimination. If fixture specifications change for any reason, the Contractor shall provide a per-unit cost breakdown, including installation and fixture costs to the Owner or Owner's Representative.
- 8 Only written changes and/or modifications approved by the Architect, Lighting Designer, Consulting Engineer, or Owner's Representative will be recognized.
- 9 All fixtures listed as "TBD" and/or not specified will be determined at a later time. These fixtures may be provided by Owner or added to the project as an addendum. Contractor shall provide an itemized quote with a shop drawing prior to ordering. Any bid for work shall include installation of these fixtures.

Submittals, Substitutions and Bidding Instructions

- 1 Any substitutions for the specified products on the lighting fixture schedule may result in an adverse change in the intended performance of the lighting fixture or lighting control. Contractor shall follow all guidelines and specifications listed herein regarding substitutions. Any submitted product that is not provided by either the listed manufacturer or approved equal manufacturer will be considered a substitution.
- 2 Within twenty-one (21) days of contract award and before roughing-in or ordering any equipment, the Contractor shall provide fixture submittals with Distributor annotated fixture cutsheets for review by Lighting Designer. Submittals shall consist of product physical and performance data for all materials and equipment, catalog designations, and quoted lead times for delivery of all equipment proposed to be furnished. Should the Contractor anticipate that the delivery schedule of any specified product may adversely impact the construction schedule, they shall bring it to the attention of the Owner at this time. The Contractor shall be responsible for checking of proposed equipment prior to submitting to the Lighting Designer, Architect, and Owner's Representative. Any costs associated with any redesign caused by a substitution or lack of coordination shall be borne by the Contractor.
- 3 "Contractor Net" budget pricing has been obtained for all products specified and is used in the preparation of preliminary budget estimates of probable cost. A record of specified unit costs, Distributor Net pricing + Industry-standard Markup, has been shared confidentially with the Owner, Owner's Representative and Architect to assist in analysis of bid submittals.
- 4 Contractor shall supply "Contractor Net" unit pricing for each lighting product specified on the fixture schedule with their bid. The unit price supplied shall be guaranteed for the project and valid for additions and deletions of product throughout the duration of the project. Change orders that result in removal of fixtures shall be refunded to the Owner, less handling and processing fees charged by the manufacturer if product must be returned. A fixture package price is not acceptable to fulfill this requirement.
- 5 BEAM, Ltd. shall review a limit of two (2) submittals. Review time of additional submittals shall be charged to the Contractor.
- 6 Substitutions in the submittal package for the specified lighting products are not acceptable and will not be considered. Failure to include one of the specified products as a part of the base bid may, at the discretion of the Owner, invalidate the entire lighting product bid and exclude the Contractor from further consideration.
- 7 Substitutions shall only be reviewed if offered with the Contractor's bid with an itemized fixture cost with an adder/deduct cost to the end-user compared with the specified product and a written statement regarding:
 - a) why the substitution must occur,
 - b) the impact on overall project schedule, and
 - c) verification that the substituted product meets or exceeds the performance of the specified product.

Contractor shall submit one (1) working, non-returnable sample luminaire of proposed substitution with cord & plug connection and lamp for operation on 120 volts. By submitting a substitution, contractor waives all rights to additional payment or time that may become necessary should the substituted product fail to perform in a manner consistent with the specifications. BEAM, Ltd. will evaluate these substitutions at time of bid and will invoice bidding Contractor requesting a substitution at senior designer hourly rates (regardless of whether or not bidding Contractor is awarded the work) to review any product offered for substitution. Any substitution that is not accepted will defer to the specified product; a second substitution will not be reviewed.
- 8 Only substitutions that follow the above listed procedure will be considered. Substitutions provided after bidding will not be considered. Failure to submit before bidding on the project constitutes a guarantee that the specified products will be supplied. Submittal of a bid for this project shall include a written acknowledgment of these terms from the Contractor.

Installation and Execution Notes

- 1** The entire installation, including materials, equipment and workmanship, shall conform to the latest approved edition of the NEC (National Electric Code) as well as all applicable codes, laws, regulations and regulatory bodies having jurisdiction over this work.
- 2** Contractor shall obtain all necessary permits, approvals and services of an independent inspection agency and pay all related fees and costs.
- 3** Contractor is responsible for reviewing and coordinating with the documents and specifications of all trades.
- 4** Contractor shall provide temporary power and lighting for all trades as required for construction or as required to maintain normal operations of the site and/or building's activities. The Contractor is responsible for providing all equipment and making all arrangements with the local utilities. Where adequate, existing service may be used.
- 5** Luminaires specified and installed as part of the permanent construction shall not be operated for work light at any time during construction, nor shall luminaires be illuminated for any other reason except burn-in testing and commissioning of the lighting system until a project area is turned over to the Owner.
- 6** Contractor shall do all cutting and patching of adjacent construction required by their work. All finishes are to match existing unless otherwise noted. Painting shall be by the General Contractor.
- 7** Junction boxes and conduit that are open to view shall be painted to match adjacent materials. Finish to be approved by design professional.
- 8** Where equipment is removed, Contractor to refinish area to match existing if moved during construction or as part of a renovation. Finish to be approved by design professional.
- 9** Contractor shall be responsible for maintaining integrity of all structural elements throughout construction. Structural members shall not be cut unless approved by Structural Engineer and Architect.
- 10** Upon completion of work, the Contractor shall clean all light fixtures, lenses, and reflectors. Equipment shall be adjusted to aiming direction and dimming intensity under direction and supervision by Architect, Lighting Designer, and Owner or Owner's Representative. All systems shall be tested to satisfaction of Owner or Owner's Representative.
- 11** Contractor shall be responsible for coordination of factory startup and commissioning for all control systems. Dimming levels, scenes, and operation are to be set in the presence of the Lighting Designer, Architect, and Owner or Owner's Representative.
- 12** Contractor shall be responsible for final aiming of adjustable lighting fixtures under the direction of the Lighting Designer. Aiming shall take place after dark at a mutually agreed upon time. All costs associated with this effort shall be included in the base bid. Aiming must take place after the project's amenities have been installed. Amenities shall include but not necessarily be limited to plantings, furniture, artwork, graphics and signage. Contractor shall include in the base bid provisions for lifts, scaffolding, ladders, labor, and any other materials required to complete aiming.
- 13** Contractor shall obtain and deliver to the Owner or Owner's Representative in a single, or series, of organized binder(s): a) all warranties for all luminaires and lighting products furnished as part of the project, b) required certificates of compliance with any local codes or regulatory bodies and c) operating/ maintenance manuals and instructions to user for all equipment and systems provided under this contract.
- 14** During construction, the Contractor shall maintain a record set of installation prints. They shall neatly and clearly record on these prints all deviations from the contract drawings in sizes, locations, and details. At the completion of the work, the Contractor shall return the marked prints with all information maintained during the construction process to the Architect for submission to Owner.

- 1** All new lighting material and equipment shall be listed by and bear the label of at least one of the following: UL (Underwriters Laboratories, Inc.); CUL (Canadian Underwriters Laboratories, Inc.); ETL (ETL Testing Laboratories); or CSA (Canadian Standards Association).
- 2** All new electrical material and equipment shall be listed by the Underwriters Laboratories, Inc. (UL) and bear the UL label.
- 3** All LED fixtures shall meet chromaticity standards set by ANSI C78.377-2008, lumen maintenance standards set by IESNA TM-21 and LM-80, and be photometrically tested in accordance with IESNA LM-79.
- 4** All LED luminaires shall be operated for 100 hours of burn-in testing prior to project turnover to Owner. Any luminaire and/or LED lamp found to fail during this period shall be replaced by the Contractor before turnover.
- 5** All recessed fixtures shall be rated for use in insulated ceilings, where required. It is the responsibility of the Contractor to verify all fixtures meet this specification prior to installation.
- 6** Remote devices (including, but not limited to, transformers) shall be mounted in nearby, concealed-from-view, accessible locations appropriate for the operating environment of the device. Where required, Contractor shall provide protective enclosure rated to meet code for mounting location.
- 7** Continuous linear runs of fixtures shall be mounted end-to-end with no gaps between fixtures. Contractor shall order fixtures necessary to maximize lighted extent of run. Contractor shall submit shop drawing indicating exact configurations of fixtures in plan and section for approval.
- 8** Contractor shall supply all necessary electrical and mounting hardware for track lighting types to provide a completely functional track system mounted and installed in accordance with the manufacturer's recommendations.
- 9** It is the responsibility of the Contractor to review all necessary mounting details that may be provided on architectural drawing set, as well as electrical and/or lighting drawings.
- 10** All fixture types listed as "finish to be selected by design professional" shall mean that the overall luminaire finish is to match the color of a paint chip, color number, or finish swatch provided by the Lighting Designer or Architect as part of the submittal process.
- 11** All materials, equipment and workmanship shall be guaranteed in writing for a minimum of one (1) year after project turnover and final acceptance by Owner. All LED luminaires shall be warranted for manufacturer defect for a minimum of five (5) years.
- 12** All lamps shall be by General Electric, Philips, Osram-Sylvania, Venture or Ushio unless noted otherwise.
- 13** At least five (5) replacement lamps shall be provided for each specific type of lamp at job completion and shall be delivered to Owner or Owner's Representative with a record of delivery transmittal. For LED luminaires, this only applies to removable lamps.
- 14** If included in fixture schedule, emergency exit signs are specified for aesthetic and manufacturing quality only. Contractor is to install all necessary emergency lighting per applicable life safety codes in proper quantities and locations.
- 15** For self-operating emergency lighting fixtures, provide internal, self-contained, battery-inverter unit, factory mounted within the fixture body.
- 16** Arrange emergency lighting fixtures so that test switch and LED indicator light are visible without opening the fixture or entering the ceiling space.
- 17** Emergency batteries shall be sealed, maintenance free, nickel-cadmium type with ten (10) year minimum life. Charger shall be fully automatic, solid-state, constant current type. Luminaires shall operate for minimum of 90 minutes on battery power during emergency conditions.

Lighting Fixture Schedule

07/08/2022 *Omar Mailbagi*
DATE APPROVED BY

Type	Manufacturer	Catalog Number	Mounting	Voltage	Lamp Watts	Lamp Type	Description	Equal Manufacturers
PD1	Acuity	VCPG LED-V4-P6-30K-70CRI-T5M-MVOLT-PM-NLTAIR2 PIR924-DWHXD	Pendant	120-277	108W	LED 3000K 70+ CRI	Garage downlight, 19" dia. x 4"H aluminum housing, white finish, prismatic acrylic lens, Type V medium distribution, 13,000lm delivered, nLight Air wireless motion/ambient light sensor, IP66 rated, DLC listed, 100,000 hour lamp life at L70, and 5 year warranty. 1. Contractor to provide conduit pendant for mounting. 2. Bottom of luminaire to be flush with underside of beam. 3. Contractor to confirm existing wiring, junction box, and conduit are suitable for re-use. 4. Owner to confirm finish.	No Equal No Substitution
PD1A	Acuity	VCPG LED-V4-P6-30K-70CRI-T5M-MVOLT-PM-NLTAIR2 PIR924-DWHXD	Pendant	120-277	108W	LED 3000K 70+ CRI	Similar to PD1 except new location. Requires new junction box and electrical connection. 1. Contractor to provide conduit pendant for mounting. 2. Bottom of luminaire to be flush with underside of beam. 3. Owner to confirm finish.	No Equal No Substitution
PD2	Acuity	VCPG LED-V4-P3-30K-70CRI-T5M-MVOLT-PM-NLTAIR2 PIR924-DWHXD	Pendant	120-277	43W	LED 3000K 70+ CRI	Similar to PD1 except 5,800lm delivered. 1. Contractor to provide conduit pendant for mounting. 2. Bottom of luminaire to be flush with underside of beam. 3. Contractor to confirm existing wiring, junction box, and conduit are suitable for re-use. 4. Owner to confirm finish.	No Equal No Substitution
SD1	Ligman	ULEE-30011-14W LED-T4-W30-01-120/277V	Surface Wall	120-277	14W	LED 3000K 80+ CRI	Wall sconce area light, nominal 8"W x 3"H x 4"D aluminum housing, black finish, clear glass lens, Type IV distribution, 1660lm delivered, IP65 rated, 50,000 hour lamp life at L70, and 5 year warranty. 1. Contractor to confirm locations for one to one luminaire replacement. 2. Contractor to confirm existing wiring, junction box, and conduit are suitable for re-use. 3. Contractor to provide mounting accessories required for flush wall installation. 4. Owner to confirm finish.	No Equal No Substitution
SD2	Ligman	UJE-80052-20W COB-W-W30-01-120/277V	Surface	120-277	20W	LED 3000K 80+ CRI	Cylinder downlight, nominal 6-1/2" dia x 5-1/2"H aluminum housing, black finish, clear glass lens, 52-degree distribution, 2270lm delivered, IP65 rated, 50,000 hour lamp life at L70, and 5 year warranty. 1. Contractor to confirm locations for one to one luminaire replacement. 2. Contractor to confirm existing wiring, junction box, and conduit are suitable for re-use. 3. Owner to confirm finish.	No Equal No Substitution

Lighting Fixture Schedule

Type	Manufacturer	Catalog Number	Mounting	Voltage	Lamp Watts	Lamp Type	Description	Equal Manufacturers
VD6	Selux	SACL-R5R-1-5G450-30-POWER CORD LENGTH-BZ-UNV-DM / A35- 12-BZ	Pole	120-277	39W	LED 3000K 80+ CRI	Pedestrian pole luminaire, 28-1/2" dia. x 25"H aluminum housing, bronze finish, mounted to 3-1/2" dia. x 12'-0"H round aluminum pole, bronze finish, clear acrylic lens, symmetric distribution, 4,000lm delivered, IP66 rated, 100,000 hour lamp life at L70, and 5 year warranty. Full cut-off and IDA approved. 1. Contractor to confirm locations for one to one pole and luminaire replacement. 2. Contractor to confirm existing wiring, junction box, and conduit are suitable for re-use. 3. Owner to confirm finish.	No Equal No Substitution
VD6A	Selux	SACL-R5R-1-5G450-30-POWER CORD LENGTH-BZ-UNV-DM / A35- 12-BZ	Pole	120-277	39W	LED 3000K 80+ CRI	Similar to VD6 except new location. 1. Contractor to provide pole base to match existing locations. 2. Contractor to provide power to new location. 3. Owner to confirm finish.	No Equal No Substitution



VCPG LED
Parking Garage



Buy American



Catalog
Number

Notes

Type

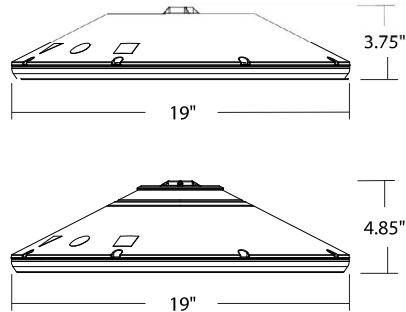
Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Diameter: 19"

Height: 3.75"
(4.85" with Up-Light)

Weight
(max, with
no options): 18 lbs



A+ Capable options indicated
by this color background.

Introduction

The all new VCPG LED (Visually Comfortable Parking Garage) luminaire is designed to bring glare control, optical performance and energy savings into one package. The recessed lens design of VCPG LED minimizes high angle glare, while its precision molded acrylic lens eliminates LED pixilation and delivers the required minimums, verticals and uniformity. The dedicated up-light module option reduces the contrast between the luminaire and the ceiling creating a more visually comfortable environment.

The VCPG LED delivers up to 87% in energy savings when replacing 175W metal halide luminaires. With over 100,000 hour life expectancy (12+ years of 24/7 continuous operation), the VCPG LED luminaire provides significant maintenance savings over traditional luminaires.

Ordering Information

EXAMPLE: VCPG LED V4 P4 40K 70CRI T5M MVOLT SRM DNAXD

VCPG LED							
Series	LED Light Engines	Package	Color temperature	Color Rendering Index	Distribution	Voltage	Mounting
VCPG LED	V4 ¹ 4 Light Engines	P1 ¹	30K 3000 K	70CRI	TSM Type V, medium	MVOLT 120	Shipped included PM Pendant mount standard (24-inch length supply leads) SRM Surface mount (24-inch length supply leads) ARM Arm mount (use RSXWBA accessory to mount to a wall) Shipped separately YK Yoke/trunnion mount ²
	V8 ¹ 8 Light Engines	P2 ¹	35K 3500 K	80CRI	TSR ² Type V, rectangular	347 208	
		P3 ¹	40K 4000 K		TSW Type V, wide	480 240	
		P4 ¹	50K 5000 K		TSE Type V entry	277	
		P5 ¹			LANE ² Drive lane	347	
		P6 ¹				480	
		P7 ¹					

PD1/PD1A - P6
PD2 - P3

Options		Finish (required)
Shipped installed UPL1 Up-Light: 500 lumens UPL2 Up-Light: 700 lumens E8WC Emergency battery backup, Certified in CA Title 20 MAEDBS (8W, -20°C min) ^{4,5,6} E10WH Emergency battery backup, Certified in CA Title 20 MAEDBS (10W, 5°C min) ^{4,5,6} HA High ambient (50°C, only P1-P4) SF Single fuse (120V, 277V, 347V) DF Double fuse (208V, 240V, 480V) SPD10KV 10KV Surge Pack LDS36 36in (3ft) lead length LDS72 72in (6ft) lead length LDS108 108in (9ft) lead length DMG External 0-10V leads (no controls) ⁷ Shipped Separately WG Wire Guard BDS Bird Shroud ⁸ HS House Side Shield		DWXXD White DNAXD Natural aluminum DBBXD Dark bronze DBLXD Black
Standalone Sensors/Controls² PIR Motion/ambient sensor for 8-15' mounting heights PIRH Motion/ambient sensor for 15-30' mounting heights PIR3FC3V Motion/ambient sensor for 8-15' mounting heights, pre programmed to 3fc and 35% light output PIRH3FC3V Motion/ambient sensor for 15-30' mounting heights, pre programmed to 3fc and 35% light output PIR3FC3V924 UL924 Listed motion/ambient sensor for emergency circuit for 8-15' mounting heights, pre programmed to 3fc and 35% light output ⁹ PIRH3FC3V924 UL924 Listed motion/ambient sensor for emergency circuit for 15-30' mounting heights, pre programmed to 3fc and 35% light output ⁹ Networked Sensors/Controls² NLTAIR2 PIR nLIGHT AIR Wireless enabled motion/ambient sensor for 8-15' mounting heights NLTAIR2 PIRH nLIGHT AIR Wireless enabled motion/ambient sensor for 15-30' mounting heights NLTAIR2 PIR924 nLIGHT AIR Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 8-15' mounting heights ¹⁰ NLTAIR2 PIRH924 nLIGHT AIR Wireless enabled, UL 924 Listed motion/ambient sensor for emergency circuits for 15-30' mounting heights ¹⁰		

**STIPULATION SET
RETAIN FOR RECORDS
APPROVED**



One Lithonia Way • Conyers, Georgia 30012 • Phone: 800-705-SERV (7378) • www.lithonia.com
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07/08/2022

DATE

Omar I. Mailovic

APPROVED BY

Rev. 08/31/21

Ordering Information Cont.

Accessories

Ordered and shipped separately.

VCPGBDS DWHXD U	Bird shroud for PM (specify finish)
VCPGBDS YK DWHXD U	Bird shroud for YK (specify finish)
VCPGUBDS DWHXD U	Bird shroud for PM with Up-Light (specify finish)
VCPGUBDS YK DWHXD U	Bird shroud for YK with Up-Light (specify finish)
VCPGSRM U	Surface mount kit, with no Up-Light
VCPGUSRM U	Surface mount kit, with Up-Light
VCPGWG U	Wire guard
SLVSQ	Quick mount pendant swivel kit, square
SLVRD	Quick mount pendant swivel kit, round
VCPG YK DWHXD U	Yoke mount kit (specify finish)
RSXWBA DWHXD U	RSX WBA wall bracket (specify finish)

NOTES

- P1-P6 not available with V8. P7 not available with V4.
- Not available with P7.
- Only vertical height adjustment. No angle adjustment. Use PM and SLVSQ or SLVRD for mounting to angled ceiling or canopies.
- Not available with 347V or 480V.
- EBWC and E10WH only rated up to 35°C ambient.
- EBWC & E10WH only available with P1-P4 packages.
- DMG option not available with standalone or networked sensors/controls.
- BDS not available with UPL1 or UPL2.
- Power interruption delay >30 milliseconds required for operation. Refer sequence of operations on page 4 for more details.
- Not available with P6 & P7. Power interruption delay >200 milliseconds required for operation. Refer sequence of operations on page 4 for more details.

Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	Watts	Distribution Type	30K (3000K, 70 CRI)		35K (3500K, 70 CRI)		40K (4000K, 70 CRI)		50K (5000K, 70 CRI)	
			Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW
P1	27W	TSE	3,581	135	3,670	138	3,815	144	3,876	146
		TSM	3,620	136	3,710	140	3,856	145	3,917	147
		TSW	3,592	135	3,681	139	3,827	144	3,888	146
		TSR	3,464	130	3,550	134	3,690	139	3,749	141
		LANE	3,507	132	3,594	135	3,736	141	3,796	143
P2	34W	TSE	4,577	135	4,691	138	4,876	144	4,954	146
		TSM	4,626	136	4,741	140	4,928	145	5,007	147
		TSW	4,591	135	4,705	139	4,891	144	4,968	146
		TSR	4,427	130	4,537	134	4,716	139	4,791	141
		LANE	4,482	132	4,594	135	4,775	141	4,851	143
P3	43W	TSE	5,808	134	5,952	137	6,187	143	6,286	145
		TSM	5,870	135	6,015	139	6,253	144	6,353	146
		TSW	5,825	134	5,970	138	6,205	143	6,304	145
		TSR	5,617	130	5,757	133	5,984	138	6,079	140
		LANE	5,688	131	5,829	134	6,059	140	6,155	142
P4	56W	TSE	7,391	131	7,575	135	7,874	140	7,999	142
		TSM	7,470	133	7,656	136	7,958	141	8,085	144
		TSW	7,414	132	7,597	135	7,898	140	8,023	143
		TSR	7,149	127	7,326	130	7,615	135	7,737	137
		LANE	7,238	129	7,418	132	7,711	137	7,834	139
P5	82W	TSE	10,189	124	10,442	127	10,854	132	11,027	134
		TSM	10,298	125	10,553	128	10,970	134	11,145	136
		TSW	10,220	124	10,473	128	10,887	133	11,060	135
		TSR	9,855	120	10,099	123	10,498	128	10,665	130
		LANE	9,978	121	10,226	124	10,629	129	10,799	131
P6	108W	TSE	12,878	120	13,197	123	13,719	127	13,937	129
		TSM	13,015	121	13,338	124	13,865	129	14,086	131
		TSW	12,917	120	13,237	123	13,760	128	13,979	130
		TSR	12,455	116	12,764	119	13,268	123	13,480	125
		LANE	12,611	117	12,924	120	13,435	125	13,649	127
P7	122W	TSE	15,503	125	15,887	128	16,515	133	16,778	135
		TSM	15,668	126	16,057	129	16,691	135	16,957	137
		TSW	15,549	125	15,935	129	16,564	134	16,828	136

Up-light Lumen Output

Up-light Option	Watts	Lumens
UPL1	6.5W	519
UPL2	8.5W	715

Lumen Multiplier for 80CRI

CCT	Multiplier
30K	0.926
35K	0.945
40K	0.967
50K	0.965

Lumen Ambient Temperature (LAT) Multipliers

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

Ambient		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
30°C	86°F	0.99
40°C	104°F	0.98

Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the platforms noted in a 25°C ambient, based on 10,000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000	100,000
Lumen Maintenance Factor	1.0	0.97	0.94	0.89

Electrical Load

Power Package	System Watts	Current (A)					
		120V	208V	240V	277V	347V	480V
P1	27W	0.22	0.13	0.12	0.10	0.08	0.06
P2	34W	0.28	0.16	0.14	0.13	0.10	0.08
P3	43W	0.37	0.21	0.18	0.16	0.13	0.09
P4	56W	0.48	0.28	0.24	0.21	0.16	0.12
P5	82W	0.68	0.40	0.35	0.30	0.24	0.18
P6	108W	0.91	0.52	0.45	0.39	0.32	0.23
P7	124W	1.03	0.59	0.51	0.44	0.37	0.27



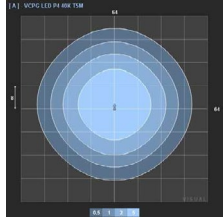
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VCPG LED
Rev. 08/31/21

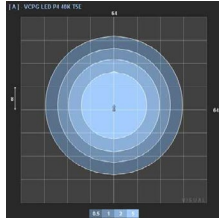
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit the [Lithonia Lighting VCPG LED homepage](#).
Tested in accordance with IESNA LM-79 and LM-80 standards

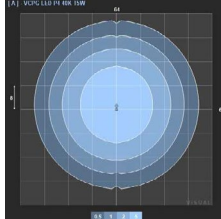
VCPG LED P4 T5M 40K



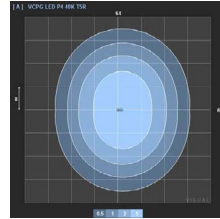
VCPG LED P4 T5E 40K



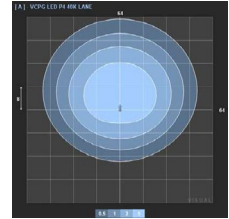
VCPG LED P4 T5W 40K



VCPG LED P4 T5R 40K



VCPG LED P4 LANE 40K



Control/Sensor Options

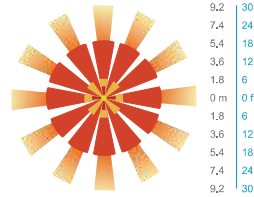
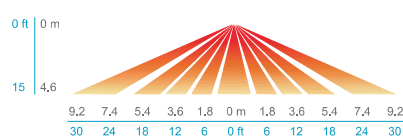
Motion/Ambient Sensor (PIR, PIRH)

Motion/Ambient sensor (Sensor Switch MSOD) is integrated into the luminaire. The sensor provides both Motion and Daylight based dimming of the luminaire. For motion detection, the sensor utilizes 100% Digital Passive Infrared (PIR) technology that is tuned for walking size motion while preventing false tripping from the environment. The integrated photocell enables additional energy savings during daytime periods when there is sufficient daylight. Optimize sensor coverage by either selecting PIR or PIRH option. PIR option comes with a sensor lens that is optimized to provide maximum coverage for mounting heights between 8-15ft, while PIRH is optimized for 15-40ft mounting height.

Networked Control (NLTAIR2)

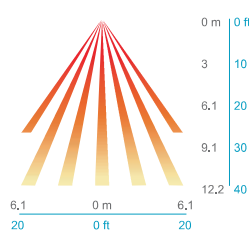
nLight® AIR is a wireless lighting controls platform that allows for seamless integration of both indoor and outdoor luminaires. Five-tier security architecture, 900 MHz wireless communication and app (CLAIRITY™ Pro) based configurability combined together make nLight® AIR a secure, reliable and easy to use platform.

PIR HIGH VIEW

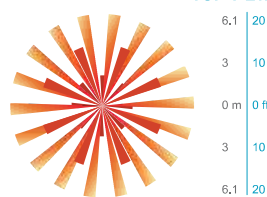


PIRH

SIDE VIEW



TOP VIEW



Motion/Ambient Sensor Default Settings

Option	Dim Level	High Level (when triggered)	Photocell Operation	Motion Time Delay	Ramp-down Time	Ramp-up Time
PIR or PIRH	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 5fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec
PIR3FC3V or PIRH3FC3V	Motion - 3V (37% of full output) Photocell - 0V (turned off)	10V (100% output)	Enabled @ 3fc	5 min	5 min	Motion - 3 sec Photocell - 45 sec

Sequence of Operations for UL924 Listed Controls/Sensors

(PIR3FC3V924, PIRH3FC3V924, XAD924, NLTAIR2 PIR924, NLTAIR2 PIRH924)

The UL924 listed control/sensor ("device") is designed to provide full light output for 90 minutes following power loss ("Egress Mode"), ignoring both manual and automatic dimming/occupancy/daylight control signals during this time. The sequence of operations is as follows:

- Normal condition: device can dim and turn off the luminaire as normal, in response to automatic and manual control.
- Utility power fails, and luminaire loses power.
- Backup power source activates, transfer switch moves the emergency circuit powering the luminaire onto the backup source, and luminaire regains power.
- The device detects this power interruption, if it is >30ms (for PIR3FC3V924, PIRH3FC3V924, XAD924) or >200ms (for NLTAIR2 PIR924, NLTAIR2 PIRH924).
- The device ignores all dimming commands and controls the driver to full light output for 90 minutes.
- The device resumes normal dimming controls after 90 minutes.

These UL924 listed controls/sensors are not intended for use with Non-interruptible central emergency power systems. The power interruption, when transferring from normal utility power to emergency backup power, is required for the controller to activate its Egress Mode and provide full light output.



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VCPG LED
Rev. 08/31/21

Mounting, Options & Accessories



PM – Pendant Mount
(compatible with 3/4" NPT,
pendant stem provided by
others)

D = 19"
H = 4.1"



SRM – Surface Mount

D = 19"
H = 4.1"



**SRM – Surface Mount
with Up-Light**

D = 19"
H = 5.3"



YK – Yoke/Trunnion Mount

D = 19"
H (Yoke) = 10"-18"



ARM – Arm Mount

L = 28"
W = 19"
H = 8"



**PIR & PIRH – Motion/
Ambient sensor**

D = 19"
H = 4.6" (no up-light)
or 5.6" (with up-light)



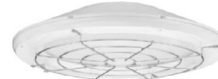
**BDS – Bird shroud for
pendant mount**

D = 19"
H = 8"



**BDS – Bird shroud for
yoke mount**

D = 19"
H (Yoke) = 10"-18"



WG – Wire guard

D = 19"
H = 4.9" (no uplight)
or 5.9" (with up-light)



HS – House side shield

D = 19"
H = 7.1" (no up-light) or
8.1" (with up-light)

FEATURES & SPECIFICATIONS

INTENDED USE

The visually comfortable optics, energy savings, and long life of the VCPG LED Parking Garage Luminaire make it an ideal choice for new commercial installations and retrofit parking garage opportunities. It is designed to meet or exceed recommended illuminance criteria when installed as a direct replacement of most HID parking garage luminaires. Its modern dayform and aesthetics also make it appealing for indoor low-bay applications.

CONSTRUCTION

Two-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. The LED driver is separated from the heat generating light engines and mounted in direct contact with the casting to promote low operating temperatures, higher lumen maintenance and long life. The housing is completely sealed against moisture and environmental contaminants (IP66) and is suitable for hose-down application.

FINISH

Exterior painted parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling.

OPTICS

Light guide technology provides a diffused light source, reducing glare from direct view of the LEDs. The light source is recessed into the luminaire, further reducing the high angle glare from the luminaire. A combination of precision molded micro prismatic acrylic lenses and back reflectors provide five different photometric distributions tailored specifically to parking garage applications. Up-light option comes with a dedicated light engine and custom optic designed to efficiently spread light on to the ceiling, thus reducing the cave effect.

ELECTRICAL

Light engine consists of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L89/100,000 hours at 25°C). The electronic driver has a power factor of >90%, THD <20%, and a minimum 6.0 KV surge rating. When ordering the SPD10KV option, a separate 10kV (5kA) surge protection device is installed within the luminaire which meets a minimum Category C low operation (per ANSI/IEEE C62.41.2). Luminaire is 0-10V dimmable down to 10% or lower.

INSTALLATION

Standard configuration accepts a rigid or free-swinging 3/4" NPT stem for pendant mounting. The surface mount option attaches to a 4x4" recessed or surface mount outlet box using a quick-mount kit (included); kit contains galvanized steel luminaire and outlet box plates and a full pad gasket. Kit has an integral mounting support that allows the luminaire to hinge down for easy electrical connections. Luminaire and plates are secured with set screws. Also, available with a yoke/trunnion mount option with 3/4" NPT provision for flexible conduit entry (conduit by others); height can be adjusted from 10-18". Supply leads are 24" in length as standard. Longer supply leads are available as additional options. Design can withstand up to a 3.0 G vibration load rating per ANSI C136.31.

LISTINGS

CSA certified to U.S. and Canadian standards. IP66 rated for outdoor applications. PIR options are rated for wet location. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

BUY AMERICAN

This product is assembled in the USA and meets the Buy America(n) government procurement requirements under FARS, DFARS and DOT. Please refer to www.acuitybrands.com/resources/buy-american for additional information.

WARRANTY

5-year limited warranty. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



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VCPG LED
Rev. 08/31/21

ULEE-30011

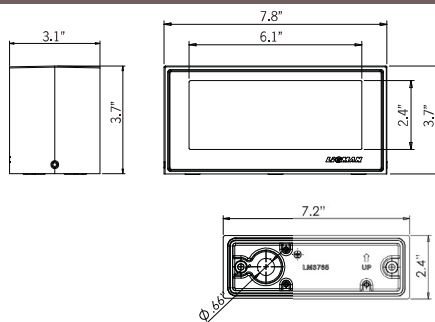
Leeds 4 Medium Surface Downlight

microVos
TECHNOLOGY

LIGMAN
LIGHTING USA



14w LED 1660 Lumens
IP65 • Suitable For Wet Locations
IK07 • Impact Resistant
Weight 3.3 lbs

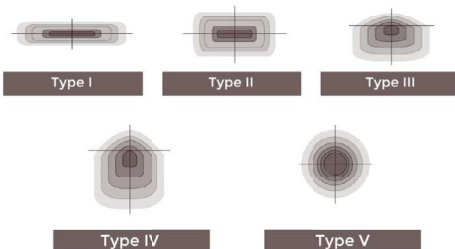


Mounting Detail

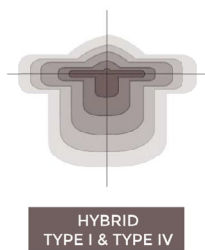
4" junction box cover plate is available as an option

microVos
TECHNOLOGY

Ligman's micro Variable Optical System provides the ability to interchange, mix & rotate optics to provide specific light distributions for optimized spacing and uniformity.



The variable optic system allows for the designer to create hybrid distributions for precise lighting requirements.



Construction

Aluminum

Less than 0.1% copper content – Marine Grade 6060 extruded & LM6 Aluminum High Pressure die casting provides excellent mechanical strength, clean detailed product lines and excellent heat dissipation.

Pre-paint

8 step degrease and phosphate process that includes deoxidizing and etching as well as a zinc and nickel phosphate process before product painting.

Memory Retentive - Silicon Gasket

Provided with special injection molded "fit for purpose" long life high temperature memory retentive silicon gaskets. Maintains the gaskets exact profile and seal over years of use and compression.

Thermal management

LM6 Aluminum is used for its excellent mechanical strength and thermal dissipation properties in low and high ambient temperatures. The superior thermal heat sink design by Ligman used in conjunction with the driver, controls thermals below critical temperature range to ensure maximum luminous flux output, as well as providing long LED service life and ensuring less than 10% lumen depreciation at 50,000 hours.

Surge Suppression

Standard 10kv surge suppressor provided with all fixtures.

BUG Rating

Contact Factory

Finishing

All Ligman products go through an extensive finishing process that includes fettling to improve paint adherence.

Paint

UV Stabilized 4.9Mil thick powder coat paint and baked at 200 Deg C. This process ensures that Ligman products can withstand harsh environments. Rated for use in natoratoriums.

Inspired by Nature Finishes

The Inspired by nature Finishing is a unique system of decorative powder coating. Our metal decoration process can easily transform the appearance of metal or aluminum product into a wood grain finish.

This patented technology enables the simulation of wood grain, and even marble or granite finish through the use of decorative powder coating.

The wood grain finish is so realistic that it's almost undistinguishable from real wood, even from a close visual inspection. The system of coating permeates the entire thickness of the coat and as a result, the coating cannot be removed by normal rubbing, chipping, or scratching.

The Coating Process

After pre-treatment the prepared parts are powder coated with a specially formulated polyurethane powder. This powder provides protection against wear, abrasion, impact; and corrosion and acts as the relief base color for the finalized metal decoration.

The component is then wrapped with a sheet of non-porous film with the selected decoration pattern printed on it using special high temperature inks.

This printed film transfer is vacuum-sealed to the surface for a complete thermo print and then transferred into a customized oven. The oven transforms the ink into different forms within the paint layer before it becomes solid. Finally, the film is removed, and a vivid timber-like look on aluminum remains.

Wood grain coating can create beautiful wood-looking products of any sort. There are over 300 combinations of designs currently in use. Wood grains can be made with different colors, designs, etc.

Our powder coatings are certified for indoor and outdoor applications and are backed by a comprehensive warranty. These coatings rise to the highest conceivable standard of performance excellence and design innovation.

Added Benefits

- Resistance to salt-acid room, accelerated aging
- Boiling water, lime and condensed water resistant
- Anti-Graffiti, Anti-Slip, Anti-Microbial, Anti-Scratch
- Super durable (UV resistant)
- TGIC free (non-toxic)

Hardware

Provided Hardware is Marine grade 316 Stainless steel.

Anti-Seize Screw Holes

Tapped holes are infused with a special anti-seize compound designed to prevent seizure of threaded connections, due to electrolysis from heat, corrosive atmospheres and moisture.

Crystal Clear Low Iron Glass Lens

Provided with tempered, impact resistant crystal clear low iron glass ensuring no green glass tinge.

Optics & LED

Precise optic design provides exceptional light control and precise distribution of light. LED CRI > 80

Lumen - Maintenance Life

L80/B10 at 50,000 hours (This means that at least 90% of the LED still achieve 80% of their original flux)

Clean, beautiful, surface wall fixtures with class leading performance. Minimalist form, yet the most powerful and flexible lighting tool of its type, offering packages up to 4000 lumens and microVos technology.

A range of small, square and rectangular, ADA compliant wall mounted luminaires with options of upward or downward light distributions. Ideally suited to illuminate the wall and surfaces in front of wall and for light accents on vertical surfaces using high efficiency LED's. The Leeds is suitable for indoor and outdoor applications and provides a clean, visually appealing solution for small, unobtrusive wall mounted luminaires.

This luminaire is available in 3 different sizes and in combinations of down, up or up/down light distributions.

This fixture utilizes microVos technology, meaning the ability to do Type I,II,III,IV & V distributions as well as hybrid distributions to suit the designer's requirements.

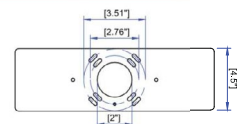
Using the microVos optics allows for very wide spacing to mounting height ratios, while still providing perfect uniformity and code compliant light levels.

The Leeds has been IDA Dark Sky certified for cct's of 3000K or lower.

Additional Options (Consult Factory For Pricing)

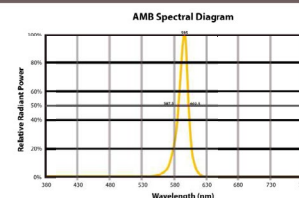


SCDT
Surface Conduit Decorative Trim



4MP
4" Octagonal
J-Box Mounting Plate

CITY OF FLAGSTAFF & TURTLE FRIENDLY COMPLIANT



Narrow-Spectrum Amber LEDs

Peak wavelength between 585 & 595 nanometers and a full width of 50% power no greater than 15 nanometers.

ULEE-30011

Leeds 4 Medium Surface Downlight

microVos
TECHNOLOGY

LIGMAN
LIGHTING USA

PROJECT				DATE	
QUANTITY		TYPE		NOTE	

ORDERING EXAMPLE || ULEE - 30011 - 14w - T2 - W30 - 02 - 120/277v - Options

ULEE-30011					
LAMP	BEAM	LED COLOR	FINISH COLOR	VOLTAGE	
14w LED 1660 Lumens	T1 - Type I Distribution T2 - Type II Distribution T3 - Type III Distribution T4 - Type IV Distribution M - Medium 30" W - Wide 56" EW - Extra Wide 110"x103"	W27 - 2700K W30 - 3000K W35 - 3500K W40 - 4000K	01 - BLACK RAL 9011 02 - DARK GREY RAL 7043 03 - WHITE RAL 9003 04 - METALLIC SILVER RAL 9006 05 - MATTE SILVER RAL 9006 06 - LIGMAN BRONZE 07 - CUSTOM RAL	120v/277v Other - Specify	

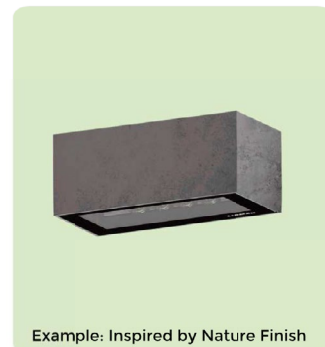
INSPIRED BY NATURE FINISHES SW01 - OAK FINISH SW02 - WALNUT FINISH SW03 - PINE FINISH DF - DOUGLAS FIR FINISH CW - CHERRY WOOD FINISH NW - NATIONAL WALNUT FINISH SU01 - CONCRETE FINISH SU02 - SOFTSCAPE FINISH SU03 - STONE FINISH SU04 - CORTEN FINISH		THERE IS AN ADDITIONAL COST FOR THESE FINISHES
--	--	---

ADDITIONAL OPTIONS		

NAT - Natatorium Rated 4MP - 4" Octagonal J-Box Mounting Plate
 SCDT - Surface Conduit Decorative Trim AMB - Turtle Friendly Amber LED
 F - Frosted Lens

More Custom Finishes Available Upon Request

Consult factory for pricing and lead times



Ligman Lighting USA reserves the right to change specifications without prior notice, please contact factory for latest information. Due to the continual improvements in LED technology data and components may change without notice.

UJE-80052

Jet 41 Cylindrical Ceiling Downlight

LIGMAN
LIGHTING USA



Construction

Aluminum
Less than 0.1% copper content – Marine Grade 6060 extruded & LM6 Aluminum High Pressure die casting provides excellent mechanical strength, clean detailed product lines and excellent heat dissipation.

Pre-paint
8 step degrease and phosphate process that includes deoxidizing and etching as well as a zinc and nickel phosphate process before product painting.

Memory Retentive -Silicon Gasket
Provided with special injection molded "fit for purpose" long life high temperature memory retentive silicon gaskets. Maintains the gaskets exact profile and seal over years of use and compression.

Thermal management
LM6 Aluminum is used for its excellent mechanical strength and thermal dissipation properties in low and high ambient temperatures. The superior thermal heat sink design by Ligan used in conjunction with the driver, controls thermals below critical temperature range to ensure maximum luminous flux output, as well as providing long LED service life and ensuring less than 10% lumen depreciation at 50,000 hours.

Surge Suppression
Standard 10kv surge suppressor provided with all fixtures.

BUG Rating
B1 - U0 - G0

Finishing
All Ligan products go through an extensive finishing process that includes fettling to improve paint adherence.

Paint
UV Stabilized 4.9mil thick powder coat paint and baked at 200 Deg C. This process ensures that Ligan products can withstand harsh environments. Rated for use in natatoriums.

Inspired by Nature Finishes
The Inspired by nature Finishing is a unique system of decorative powder coating. Our metal decoration process can easily transform the appearance of metal or aluminum product into a wood grain finish.

This patented technology enables the simulation of wood grain, and even marble or granite finish through the use of decorative powder coating.

The wood grain finish is so realistic that it's almost undistinguishable from real wood, even from a close visual inspection. The system of coating permeates the entire thickness of the coat and as a result, the coating cannot be removed by normal rubbing, chipping, or scratching.

The Coating Process
After pre-treatment the prepared parts are powder coated with a specially formulated polyurethane powder. This powder provides protection against wear, abrasion, impact and corrosion and acts as the relief base color for the finalized metal decoration.

The component is then wrapped with a sheet of non-porous film with the selected decoration pattern printed on it using special high temperature inks.

This printed film transfer is vacuum-sealed to the surface for a complete thermo print and then transferred into a customized oven. The oven transforms the ink into different forms within the paint layer before it becomes solid. Finally, the film is removed, and a vivid timber look on aluminum remains.

Wood grain coating can create beautiful wood-looking products of any sort. There are over 300 combinations of designs currently in use. Wood grains can be made with different colors, designs, etc.

Our powder coatings are certified for indoor and outdoor applications and are backed by a comprehensive warranty. These coatings rise to the highest conceivable standard of performance excellence and design innovation.

Added Benefits

- Resistance to salt-acid room, accelerated aging
- Boiling water, lime and condensed water resistant
- Anti-Graffiti, Anti-Slip, Anti-Microbial, Anti-Scratch
- Super durable (UV resistant)
- TGIC free (non-toxic)

Hardware
Provided Hardware is Marine grade 316 Stainless steel.

Anti Seize Screw Holes
Tapped holes are infused with a special anti seize compound designed to prevent seizure of threaded connections, due to electrolysis from heat, corrosive atmospheres and moisture.

Crystal Clear Low Iron Glass Lens
Provided with tempered, impact resistant crystal clear low iron glass ensuring no green glass tinge.

Optics & LED
Precise optic design provides exceptional light control and precise distribution of light. LED CRI > 80

Lumen - Maintenance Life
L80 /B10 at 50,000 hours (This means that at least 90% of the LED still achieve 80% of their original flux)

Cylindrical or rectangular form surface ceiling-mounted downlight. High performance, high output and numerous options ensure Jet can be configured for any application.

A range of square and cylindrical shaped surface exterior downlight luminaires utilizing various LEDs and specialized optics providing beam distributions for downward lighting requirements. The luminaires are designed for all areas of interior and exterior lighting. Low copper content die-cast aluminum housing and aluminum frame with integral anti-glare baffles.

A matching SCE surface conduit decorative trim option can be provided as an option for an attractive solution to surface conduit power supply. NOTE: This fixture is not suitable for mounting in environments where water can freely access the top of the fixture. (perforated mesh exposed to the elements) See Odessa ceiling mount for this type of mounting.

Not suitable for open trellis/ceiling applications.

Recommended: Odessa ceiling mount for open trellis mount applications. See Below

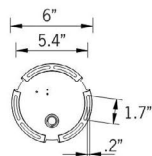
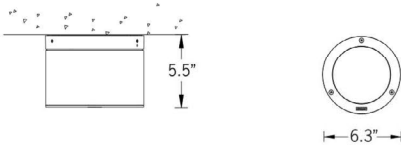


Additional Options (Consult Factory For Pricing)



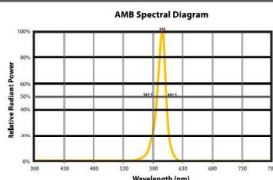
SCE
Surface Conduit Decorative Trim

20w COB 2270 Lumens
IP65 • Suitable For Wet Locations
IK08 • Impact Resistant (Vandal Resistant)
Weight 2.6 lbs

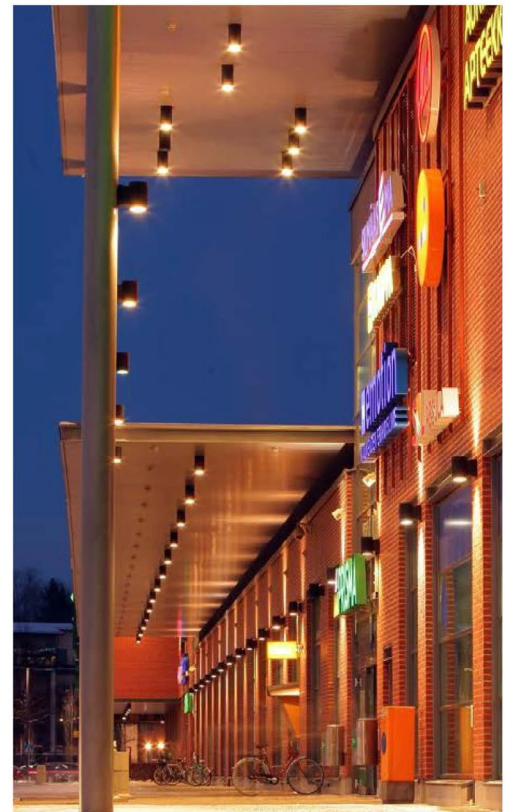


Mounting Detail

CITY OF FLAGSTAFF & TURTLE FRIENDLY COMPLIANT



Narrow-Spectrum Amber LEDs
Peak wavelength between 585 & 595 nanometers and a full width of 50% power no greater than 15 nanometers.



Ligan Lighting USA reserves the right to change specifications without prior notice, please contact factory for latest information. Due to the continual improvements in LED technology data and components may change without notice.

UJE-80052

Jet 41 Cylindrical Ceiling Downlight

LIGMAN
LIGHTING USA

PROJECT				DATE	
QUANTITY		TYPE		NOTE	

ORDERING EXAMPLE || UJE - 80052 - 20w - M - W30 - 02 - 120/277v - Options

UJE-80052					
LAMP	BEAM	LED COLOR	FINISH COLOR	VOLTAGE	
20w COB 2270 Lumens	AS - Asymmetrical 46"x 56" M - Medium 35" N - Narrow 22" W - Wide 52"	W27 - 2700K W30 - 3000K W35 - 3500K W40 - 4000K	01 - BLACK RAL 9011 02 - DARK GREY RAL 7043 03 - WHITE RAL 9003 04 - METALLIC SILVER RAL 9006 05 - MATTE SILVER RAL 9006 06 - LIGMAN BRONZE 07 - CUSTOM RAL	120/277v Other - Specify	
INSPIRED BY NATURE FINISHES					
SW01 - OAK FINISH SW02 - WALNUT FINISH SW03 - PINE FINISH DF - DOUGLAS FIR FINISH CW - CHERRY WOOD FINISH NW - NATIONAL WALNUT FINISH SU01 - CONCRETE FINISH SU02 - SOFTSCAPE FINISH SU03 - STONE FINISH SU04 - CORTEN FINISH					
THERE IS AN ADDITIONAL COST FOR THESE FINISHES					

ADDITIONAL OPTIONS			

NAT - Natatorium Rated
 SCE - Surface Conduit Decorative Trim
 DIM - 0-10v Dimming
 F - Frosted Lens

More Custom Finishes Available Upon Request

Consult factory for pricing and lead times



Ligman Lighting USA reserves the right to change specifications without prior notice, please contact factory for latest information. Due to the continual improvements in LED technology data and components may change without notice.

Date: _____ Customer: _____
Project: _____
Type: _____ Qty: _____

selux

Saturn Cutoff LED



Order Code: _____

Pole Order Code: _____

	Series	Height	Finish	Options					
SACL	Series	SACL Saturn Cutoff LED							
	Optics	R1 Type I	R2 Type II	R3 Type III	R3W Type III (Wide)	R4 Type IV	R5R Type V (Round)	R5S Type V (Square)	R5Q Type V (Rectangular)
	Mounting	1 Single	1A Single Arm Mount	2 Double	W Wall Mount				
	Light Engine	5G450 39W/4442lm	5G700 62W/6544lm	5G105 93W/9241lm					*Based on R1 distribution in 3000K CCT
	CCT	27 ¹ 2700K	30¹ 3000K	40 4000K					IDA Approved *For other CCT please consult factory
	Power Cord Length	8' 8'	10' 10'	12' 12'	14' 14'	16' 16'	13' 13'	XX' XX'	*For 1 mounting use the pole height. For 1A or 2 mounting use the pole height +2
	Finish	WH White	BK Black	BL Semi-Matte Black	BZ Brnznz	SV Silver	SP Specify Premium Color		
	Voltage	UNV 120- 277	120 120V	240 240V	277 277V	347 ² 347V	480 ² 480V		² Equipped with step-down transformer
	Options	DM⁴ Dimming (0-10V)	HS ³ House Sde Shield (180°)	HL30 ^{4,5} Hi-Lo Switching Low Output 30%	HL50 ^{4,5} Hi-Lo Switching Low Output 50%	DS No Uplight Finish	PCT Photocell Tenon		³ Type I, II, III, and IV only ⁴ DM, HLXX, TLR or IMS only. Cannot be combined. ⁵ 120V, 240V or 277V only ⁶ Only available at 120/230/240/277V. Consult factory for 208/347/480V.

Pole Motion Sensor⁶
with optional photocell
See page 3 for order code

Product Modifications

Please list modification requirements for review by factory:

Approvals

Date: _____



Selux Corporation © 2020, T 845-834-1400, 800-735-8927, F 845-834-1401, www.selux.us

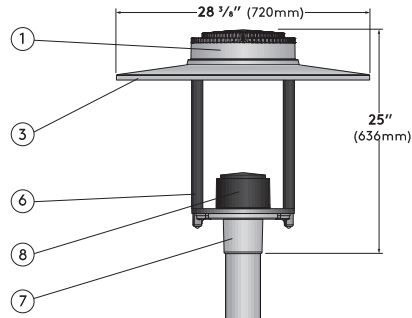
In a continuing effort to offer the best product possible, we reserve the right to change, without notice, specifications or materials that in our opinion will not alter the function of the product. Specification sheets found at www.selux.us are the most recent versions and supercede all other printed or electronic versions.

Page 1 of 11
(Rev. 12/2021)
SACL_v6.7

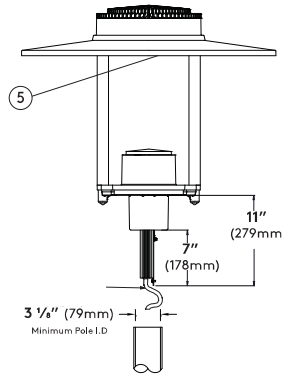
Saturn Cutoff LED

SACL-1-XX-DS

selux



For further details, please see installation instructions.



**STIPULATION SET
RETAIN FOR RECORDS
APPROVED**

07/08/2022

DATE

Omar J. Mailhot
APPROVED BY

Specifications

1. Luminaire Cover - Die cast aluminum cover made from low copper alloy, designed to ensure optimal thermal management for extra long life time of LED light engine.

2. Gasketing - (not shown) Continuous gasket provides weatherproofing, dust and insect control at all fixture connections.

3. Luminaire Hood - Aluminum shade with white painted interior.

4. LED Array - (not shown) High flux LEDs mounted to PC boards and attached to aluminum heat sink for maximum LED performance and life. CCT tolerance 1/4 step binning for 3000K, and 4000K. CRI minimum 80. Complete light engine can be removed easily for future upgrade. LED light engine provides a reported lumen maintenance of 93% at 50,000 hours. L70 calculated greater than 100,000 hours..

5. LED Optics - Technical Optics (R1, R2, R3, R3W, R4, R5S, R5Q and R5R) use Selux signature light pattern acrylic lens holder to secure proprietary silicone optics. Internal micro house side shield available for distributions types I, II, III & IV. Clear glass option as well as flat diffuse, and diffuse bowl.

6. LED Driver - (not shown) LEDs are driven by RoHS compliant constant current programmable LED driver. Driver includes 0-10V dimming to 10%, meets the requirements of IP66. Driver assembly located inside the head.

7. Hood Supports - Two aluminum arms support shade and optic assembly and attach to the die cast aluminum pole fitter (shown painted matte black for DS option).

8. Pole Fitter - Self-leveling, die-cast low-copper aluminum alloy, fitter base secured to pole with three, stainless steel, Allen head set screws. Fitter for 3 1/2" (90mm) O.D. poles.

9. Driver cover - Die cast aluminum cover made from low copper alloy, removes for tool-less access to driver. Driver secured to removable tray for ease of maintenance (shown painted matte black for DS option).

10. Surge Protector - (not shown) Designed to protect luminaire from electrical surge (20kA).

11. Power Cord - (not shown) Pre-installed at factory. Please specify power cord length in accordance to height of the pole. Add 2 feet to power cord length if double mounting (2) is specified.

Exterior Luminaire Finish - Selux utilizes a high quality Polyester Powder Coating. All Selux luminaires and poles are finished in our Tiger Drylac certified facility and undergo a five stage intensive pretreatment process where product is thoroughly cleaned, phosphated and sealed. Selux powder coated products provide excellent salt and humidity resistance as well as ultraviolet resistance for color retention. All products are tested in accordance with test specifications for coatings from ASTM and PCI.

Standard exterior colors are White (WH), Black (BK), Semi-Matte Black (BL), Bronze (BZ), and Silver (SV). Selux premium colors (SP) are available, please specify from your Selux color selection guide.

5 Year Limited LED Luminaire Warranty - Selux offers a 5 Year Limited Warranty to the original purchaser that the Saturn Cutoff LED luminaire shall be free from defects in material and workmanship for up to five (5) years from date of shipment. This limited warranty covers the LED driver and LED array when installed and operated according to Selux instructions. For details, see "Selux Terms and Condition of Sale."

Listings and Ratings: Luminaire and LED tested to IP65 and IESNA LM-79-08 standards. LED tested to LM-80 standards. Luminaire and LED tested at 25°C ambient temperature.

Luminaire suitable for ambient temperature of 45°C. Minimum operating temperature of luminaire at -40°C (-40°F)

NRTL Listed (i.e. UL, CSA)

Visit selux.us for our LED End of Life recycling policy.

For Buy American compliance on poles, please consult the factory.

Saturn Cutoff LED

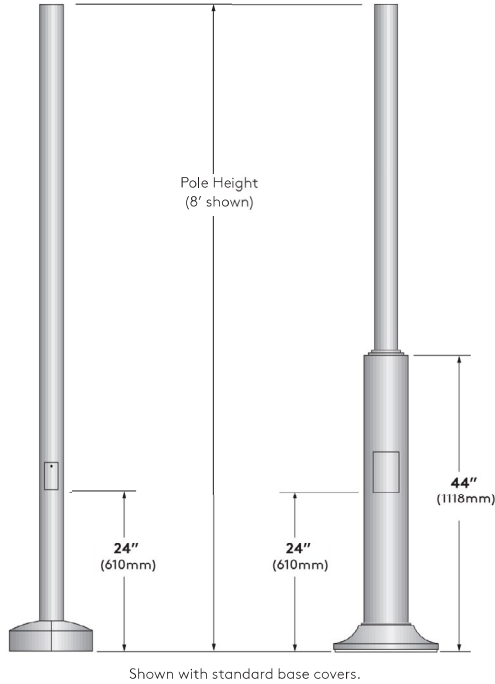
selux

Pole Information

Refer to pole specification sheets for construction details, anchorage information and additional options.

**A35 & S35
Round Straight Aluminum
& Round Straight Steel Poles**

**S635
Round Stepped Steel Poles**



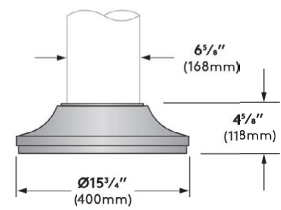
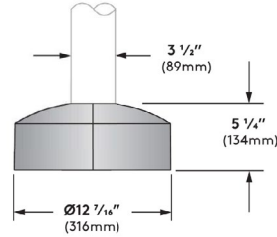
Shown with standard base covers.

Base Cover Information

Refer to pole specification sheets for construction details, anchorage information and additional options.

**Standard Base Cover (BC5)
Supplied with A35 and S35**
Two-piece cast aluminum

**Standard Base Cover (BC6)
Supplied with S635**
One-piece cast aluminum



Pole Data Chart

Pole Series	Bolt Circle	EPA Information					Height	Finish	Options
		70mph	80mph	90mph	100mph	110mph			
S635 3 1/2" Diameter Stepped Steel Pole	Ø9"	57.6	44.3	34.6	27.5	22.8	8 ft.	WH White	REC GFCI Receptacle with weatherproof cover
A35 3 1/2" Diameter Straight Aluminum Pole	Ø7 3/4"	16.1	12.2	9.4	7.3	5.9		BK Black	REC2 GFCI Receptacle with padlockable in-use cover
S35 3 1/2" Diameter Straight Steel Pole	Ø7 3/4"	14.8	11.3	8.6	6.7	5.4		BL Semi-Matte Black	REC3 USB and Duplex Receptacle with weather proof cover
S635 3 1/2" Diameter Stepped Steel Pole	Ø9"	45.6	35.0	27.3	21.6	17.8	10 ft.	BZ Bronze	REC4 USB &and Duplex Receptacle with weatherproof padlockable in-use cover
A35 3 1/2" Diameter Straight Aluminum Pole	Ø7 3/4"	2.4	9.3	7.1	5.4	4.3			
S35 3 1/2" Diameter Straight Steel Pole	Ø7 3/4"	11.4	8.6	6.5	4.9	3.9			
S635 3 1/2" Diameter Stepped Steel Pole	Ø9"	37.6	28.7	22.3	17.5	14.4	12 ft.	SV Silver	MS Motion Sensor w/ Optional Photocell Meets Title 24 Requirements)
A35 3 1/2" Diameter Straight Aluminum Pole	Ø7 3/4"	9.9	7.3	5.4	4.0	3.1			
S35 3 1/2" Diameter Straight Steel Pole	Ø7 3/4"	9.1	6.7	4.9	3.6	2.8			
S635 3 1/2" Diameter Stepped Steel Pole	Ø9"	31.7	24.2	18.6	14.6	11.9	14 ft.		
A35 3 1/2" Diameter Straight Aluminum Pole	Ø7 3/4"	8.0	5.8	4.2	3.0	2.2			
S35 3 1/2" Diameter Straight Steel Pole	Ø7 3/4"	7.3	5.3	3.8	2.7	1.9			
S635 3 1/2" Diameter Stepped Steel Pole	Ø9"	21.7	15.8	12.3	9.6	7.6	16 ft.		
A35 3 1/2" Diameter Straight Aluminum Pole	Ø7 3/4"	4.9	3.2	2.2	1.4	N/A			
S35 3 1/2" Diameter Straight Steel Pole	Ø7 3/4"	4.4	2.8	1.9	N/A	N/A			

Catalog Number: **DUR107**

Date: 1/31/2022

Project: VANGUARD ARIZONA CAMPUS SITE LIGHTING

OVERVIEW

The DUR105/107 retrofit receptacle kit allows for an existing light fixture without a NEMA locking receptacle to be used with a locking type photocontrol. The retrofit kit can be mounted to wood utility poles, metal poles, walls or directly to the fixture.

FEATURES

APPLICATIONS

- Comes standard with L-shaped mounting bracket, receptacle cup with 1/2" NPT threads, and locknut
- Available in 5 contact or 7 contact configurations

SPECIFICATIONS

REGULATORY LISTINGS

- UL Recognized Component
- Meets NEMA standards
- Meets ANSI C136.41 standards
- ROHS compliant

OPERATING CHARACTERISTICS

- Electrical rating - 15 amp, 480VAC Max., 50/60 Hz
- Leads

DUR105 - 5 PIN RECEPTACLE

- Red = Load, Black = Line, White = Common
 - 14 gauge, stranded 12"
 - Leads are rated 105°C
- Purple & Gray = Dimming per ANSI C136.41
 - 18 gauge, stranded 12"
 - Leads are rated 105°C

DUR107 - 7 PIN RECEPTACLE

- Red = Load, Black = Line, White = Common
 - 14 gauge, stranded 12"
 - Leads are rated 105°C
- Purple & Gray = Dimming, Brown & Orange = low voltage per ANSI C136.41
 - 18 gauge, stranded 12"
 - Leads are rated 105°C

Warranty

Six-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx

Note: Actual performance may differ as a result of end-user environment and application.
Specifications subject to change without notice.

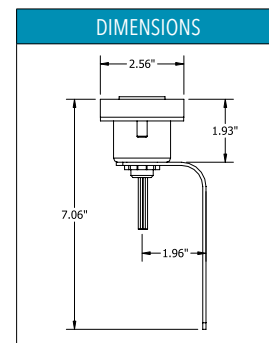


DUR 105/107 Series Retrofit Receptacle Kit

DUR105



DUR107



ORDERING INFORMATION

DUR 105/107 SERIES		Example: DUR105 M50
Series & Voltage	Pkg. Qty.	
DUR105 5 Pin 120-480V	M50	Master pack of 50 ¹
DUR107 7 Pin 120-480V		

NOTES
1. Non-standard multiples of 50 may be ordered.

Catalog Number: **NECY BG** NECY MVOLT BAC ENC GFXK

Date: 1/31/2022

Project: VANGUARD ARIZONA CAMPUS SITE LIGHTING

OVERVIEW

The nLight ECLYPSE™ system controller connects an nLight® lighting network to support connectivity and management over an IP network, control and device setting adjustment, integration with building management, integration with demand response, and more.

FEATURES

- Communicates over IP, allowing the system controller and connected lighting controls devices to be accessed and configured across a local area network
- Each system controller supports up to 750 nLight and nLight AIR devices. Additional controllers can connect and scale a system of lighting controls to a maximum of 20,000 devices
- BACnet Testing Laboratories (BTL) listed as a BACnet Building Controller (B-BC)
- Can be discovered and managed through free SensorView software and through an onboard web GUI
- Provides time-of-day and astronomical time clock capabilities for scheduled lighting control events
- Manages forwarding of global control channels and system profiles to affect devices on multiple controllers at the same time
- Enhanced security through toggleable HTTP or HTTPS connections, a FIPS 140-2, Level 1 compliant security interface, SSO or Radius Server capabilities, and more
- Optional demand response client allows activation of configurable load shed dimming levels by utility DRAS through OpenADR 2.0a

Warranty

Five-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.



BACnet is a registered trademark of ASHRAE.
ASHRAE does not endorse, approve or test products for compliance with ASHRAE standards. Compliance of listed products to the requirements of ASHRAE Standard 135 is the responsibility of BACnet International (BI). BTL is a registered trademark of BI.

Patents:
- US9819544B2 - US10073423B2
- EP3250970B1 - US9608538B2
- EP3139697B1 - CA2971061A1
- US9924243B2



nLight ECLYPSE™
System Controller



ORDERING INFORMATION

NECY					Example: NECY MVOLT BAC ENC				
Series		Voltage		BACnet		AutoDR		Visualization Software	
nECY	nLight ECLYPSE	MVOLT	120-277VAC	[blank]	Not Enabled	[blank]	Not Enabled	[blank]	Not Enabled
		347	120-277VAC, 347VAC	BAC	BACnet/IP & MS/TP Enabled	ADR	Open ADR VEN	SVS ¹	Envysion

Cellular Modem		Enclosure		Wi-Fi Adapter		Options	
[blank]	No Cellular Modem	ENC	NEMA Type 1 metal enclosure	[blank]	Includes Wi-Fi Adapter	[blank]	None
REM ⁶	Prewired CLAIRITY™ Link router with cellular SIM			NW	No Wi-Fi Adapter Included	SEP	Single Ethernet Port
REMR ^{2,6}	Prewired CLAIRITY™ Link router with cellular SIM and cloud-toggleable relay					GFXK ³	Touchscreen interface (model nGWY2 GFX, mounted separately), PS 150 power supply, CAT5 cable
						AIR ⁴	Includes NECYD NLTAIR G2

ACCESSORIES	
nECY ENC	NEMA 1 Enclosure and pre-mounted 120-277VAC input, 24VDC output (Max 50W) power supply
nECYD NLTAIR G2	nLight AIR wireless adapter
nECYREPL INTF	nLight Interface module (introduces 750 device limit if added to an ECLYPSE with AIR option)
nECYUPG SVEA ⁵	nLight ECLYPSE License, adds support of up to 5 MODBUS devices

Notes

1. Requires BACnet option.
2. Cloud-toggleable relay is prewired and intended to powercycle the nLight ECLYPSE remotely.
3. If 347 voltage option is selected, includes PS150 347.
4. AIR option supports 150 devices. RJ45 ports for connecting nLight wired devices are not available with the AIR option. GFXK option is not available with AIR option.
5. SVEA license requires SVS and BAC licenses as prerequisites. See nLight [ECLYPSE Replacement Parts Guide](#) for more information.
6. 347 option is required for cellular connectivity in Canada. MVOLT versions will support connectivity in the United States and Mexico only. Active connectivity plan required for cellular connectivity. All routers ship with 12-months Ethernet connectivity enabled. See CLAIRITY Link router specification sheet for more information.
7. Cellular connectivity performance may be affected by carrier coverage and antenna placement. Coverage by supported carriers should be verified prior to purchase.
8. See the Specifications section for a list of all supported carriers per country.
9. Use of default SIM included with hardware is required for REMCONN CELL connectivity plan. REMCONN ETH does not require use of a cellular SIM but is required for connectivity with the portal using a non-standard, third-party SIM, provided by, paid for, and maintained by others. Compatibility with non-default, third party SIMs is not guaranteed or warranted.

CONNECTIVITY PLANS

Remote support via the CLAIRITY Link solution is enabled through a connectivity plan (REMCONN). Purchase of a CLAIRITY Link router includes an initial 12-month Ethernet connectivity plan that begins upon shipment of hardware from the factory. For extended periods of connectivity, or for cellular connectivity, supplementary plans can be purchased. Flexible plans are offered in 3-month to 24-month durations and can be purchased at any time.

FEATURES

- Flexible connectivity periods offer affordable, connected assistance from nLight technical experts
- With no hidden fees and no continuous costs, CLAIRITY Link connectivity is an on-demand service that can be purchased at any time
- On-premise systems continue to operate when a connectivity plan is inactive
- Optional service plans affordably supplement the ability to remotely connect, adding comprehensive programming, sustainment, and preventative maintenance options

Example: REMCONN ETH 24MO CAR1							
Series		Connection Type		Service Length		Supported Countries	
REMCONN	Connectivity plan to enable remote access by factory representatives	ETH	Uses Ethernet connection to a customer-provided network with Internet access for communication with the CLAIRITY Link portal	3MO	3-month length	CAR1	US, Mexico, and Canada
				6MO	6-month length		
				9MO	9-month length		
		CELL ^{7,8,9}	Includes a cellular plan to supplement or replace Ethernet connectivity for communication with the CLAIRITY Link portal	12MO	12-month length		
				18MO	18-month length		
		24MO	24-month length				

SPECIFICATIONS

Control Module

Size:	4.74" H x 3.57" W x 2.31" D (12.03 cm x 9.07 cm x 5.86 cm)
Mounting:	DIN rail mounted
nLight ECLYPSE Assembly Size:	4.74" H x 14.76" W x 2.43" D (12.03 cm x 37.5 cm x 6.16 cm)
Ports:	Ethernet: (2) switched RJ-45 Ethernet ports USB Connections: 2 x USB 2.0 ports RS-485 Serial Communications: Screw terminals (Used for either BACnet MS/TP Subnet: RJ-45)
Real Time Clock (RTC):	Real Time Clock with rechargeable battery. Supports SNTP network time synchronization
RTC Battery:	20 hours charge time, 20 days discharge time. Up to 500 charge / discharge cycles
Enclosure:	FR/ABS UL94-V0 flammability rating
Environmental:	Operating Temperature: 32°F to 122°F (0 to 50°C) Storage Temperature: -22°F to 158°F (-30 to 70°C) Relative Humidity: 0 to 90% non-condensing Ingress Protection Rating: IP20
Security:	FIPS Publication 140-2, Level 1 Compliant Complies with California Civil Code Title 1.81.26, Security of Connected Devices, approved under Senate Bill No. 327 (2018)

nLight Network Interface Module

Size:	4.74" H x 3.20" W x 2.31" D (12.03 cm x 8.12 cm x 5.86 cm)
Mounting:	DIN rail mounted
Ports:	3 nLight bus ports (RJ-45)
nLight Bus Power Output:	0mA per port

Power Supply Module (24V)

Size:	24V: 4.74" H x 2.85" W x 2.31" D (12.03 cm x 7.24 cm x 5.86 cm)
Operating Voltage:	24V: 24VAC/DC; $\pm 15\%$; Class 2
Output Voltage:	
Rated Current & Power:	24V: 18VDC regulated, 0-1.6A, 30W max

Enclosure

Type:	NEMA 1 rated surface mount screw cover
Size:	14.25"H x 14.25"W x 4.00"D (36.20cm x 36.20cm x 10.16cm)
Rating:	UL 2043 (Plenum) Rated

CLAIRITY Link Router

Size:	2.92"H x 3.27"W x 0.99"D (74mm x 83mm x 25mm)
Power Consumption:	< 6.5W
Input Voltage Range:	9-30VDC
Mobile:	4G LTE - up to 150Mbps 3G - up to 42Mbps 2G - up to 236.8kbps United States - ATT, T-Mobile/Sprint, US Cellular, Alaska Wireless Mexico - Telefonica Canada - Tellus, Bell, SaskTel®
Ethernet:	WAN - 10/100Mbps; connects to an owner-provided, Internet-connected network. May be used for nLight ECLYPSE controller discovery on the same network. LAN-10/100Mbps; used for discovery of nLight ECLYPSE controllers that are connected to a network without Internet connectivity Wireless Mode - IEEE 802.11b/g/n Security - WPA2-Enterprise Wi-Fi Hotspot - used for modem and SIM diagnostics Wi-Fi Client - not supported
Environmental:	Operating temperature - -40C to 75C Operating humidity - 10% to 90% non-condensing Storage temperature - -45C to 75C
Security:	Firewall - pre-configured firewall Attack Prevention - DDOS prevention, port scan prevention WEB filter - whitelist for specifying allowed sites only Access control - control of TCP, UDP, ICMP packets, MAC address filter Complies with California Civil Code Title 1.81.26, Security of Connected Devices, approved under Senate Bill No. 327 (2018)
Ingress Protection	IP30
Regulatory	FCC, IC/ISED, EAC, RCM, PTCRB, RoHS, CE/RED, WEEE, Wi-Fi Certified, CCC, Anatel, GCF, REACH, Thailand NBTC, Ukraine UCRF, SDPPI (POSTEL)
Antennas:	Mobile - 698-960/1710-2690 MHz, SMA male connector Wi-Fi - 2400-2483.5 MHz, SMA male connector
Input/Output	Input - 1x digital, non-isolated input (on 4 pin power connector) Output - 1 x digital, open collector output (30 V, 300 mA, on 4 pin power connector)
SIM	1 x SIM slot (Mini SIM - 2FF), 1.8V/3V, external SIM holder
Dimensions	83 x 25 x 74 mm

COMMUNICATION

Ethernet Connection Speed:	10/100 Mbps
Addressing:	IPv4 or Hostname
BACnet Profile:	BACnet Building Controller (B-BC)
BACnet Listing:	BTL, B-BC
BACnet Interconnectivity:	BBMD forwarding capabilities BACnet/IP to BACnet MS/TP routing
BACnet Transport Layer:	MS/TP & IP (optional)
Web Server Protocol:	HTML5
Web Server Application Interface:	REST API

Supported BACnet MS/TP and Modbus RTU Connectivity:

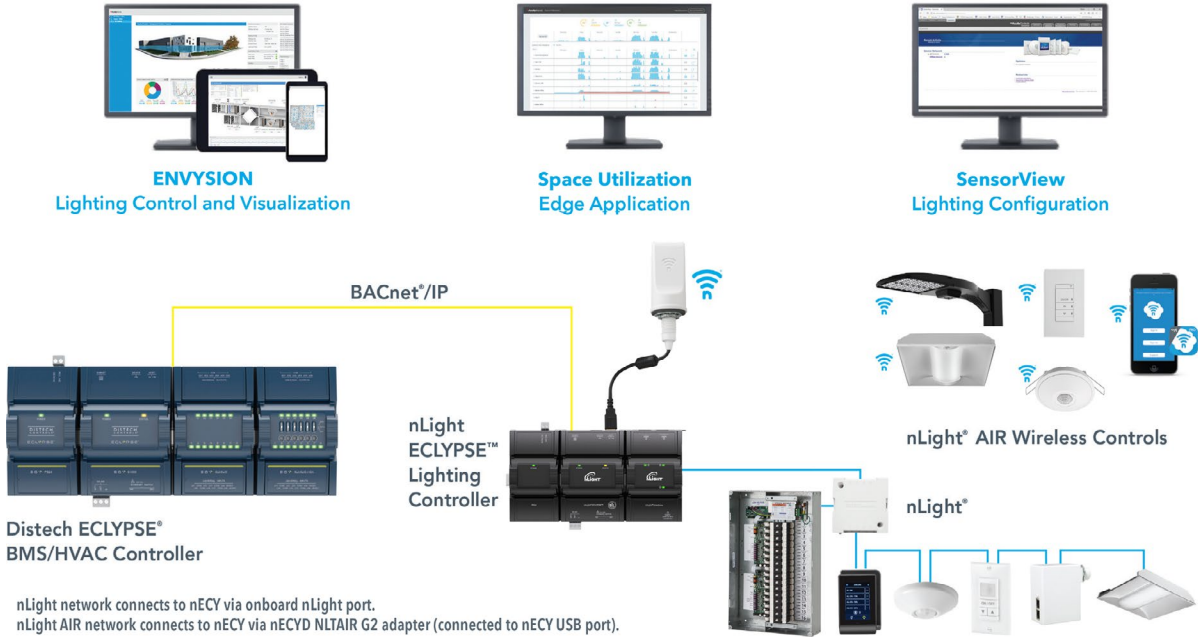
- BACnet MS/TP OR Modbus RTU 1 × RS-485 serial communications ports
- Each RS-485 port supports one communication protocol at a time
- RS-485 Wiring - 1-pair + Common/shield
- RS-485 EOL Resistor - Built-in
- RS-485 Baud Rates - 9600, 19200, 38400, or 76800 bps
- RS-485 Addressing - Controller's Web Configuration Interface

Supported Wireless Connectivity:

- Wireless Adapter - USB Port Connection
- Wi-Fi Communication Protocol - IEEE 802.11b/g/n
- Wi-Fi Network Types - Client, Access Point, Hotspot

SYSTEM ARCHITECTURE

The nLight ECLYPSE serves as the backbone for nLight and nLight AIR digital lighting networks. The nLight ECLYPSE provides networked devices with schedule management and remote software programming via SensorView web-based software. The backbone also provides support for system-wide controls such as master override switches, automated demand response, and BACnet integration. One nLight ECLYPSE is capable of handling up to 750 total devices and up to 128 global channels for the entire network. The nLight ECLYPSE is also compatible with other Distech ECLYPSE products, offering a full suite of BAS capabilities.



HVAC Integration with ECLYPSE and Third Party Controllers

Lighting Management and Control Through Web Applications

Connection with nLight Wired and nLight AIR Devices

EXAMPLE NLIGHT ECLYPSE NOMENCLATURE AND OPTIONS

Example Nomenclature	Connection to Wired Devices	Maximum of 150 Wireless Devices	Maximum of 750 Wireless Devices	All License Options Available (BAC, SVS, SVEA)
NECY MVOLT ENC	✓	No AIR Adapter	No AIR Adapter	✓
NECY MVOLT ENC + NECYD NLTAIR G2	✓	Not Limited at 150	✓	✓
NECY MVOLT ENC <u>AIR</u>	No Wired Interface Module	✓	Reduced Capability	✓
NECY MVOLT ENC <u>AIR</u> + NECYREPLY INTF	✓	Not Limited at 150	✓	✓

Catalog Number: **NECYD NLTAIR G2**

Date: 1/31/2022

Project: VANGUARD ARIZONA CAMPUS SITE LIGHTING

OVERVIEW

The nLight® AIR Adapter is used to connect an nLight AIR control system to the nLight ECLYPSE®, enabling time-based configuration, remote programming, and control via BACnet, Automated Demand Response, and RESTful API. Using browser based software, users can control their wired and wireless nLight devices through a graphic floor plan, configure settings through the floor plan view or a tree view, and perform firmware updates.

The nLight AIR Adapter gives secure network capability to devices within a single space or across multiple spaces. A network of nLight AIR devices can be zoned, programmed, and controlled through an nLight ECLYPSE and Adapter with protection from nLight AIR's robust five-tier security framework.

FEATURES

- Enables wireless network control of up to 750 nLight AIR devices (per nLight AIR Adapter) in a single space or across multiple spaces
- Allows control of devices through SensorView software, BACnet commands, Automated Demand Response, and RESTful API
- Easy wiring through a USB connection to the nLight ECLYPSE.
- 5-tier security prevents unauthorized control of the wireless network.
- IP66 rating for indoor and outdoor use.
- Includes a 16-foot cable, mounting bracket, and an optional extender for remote mounting.
- Supports web-based update of devices using SensorView software

Warranty

Five-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/customer-support/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.

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**nLight® AIR
Adapter**
*Wirelessly enables nLight
AIR devices to communicate
with nLight ECLYPSE
Controller*



ORDERING INFORMATION

NECY		Examples: NECYD NLTAIR G2	
Series		Generation	
NECYD NLTAIR	Networked nLight AIR wireless adapter	G2	Generation 2 compatibility

Additional Accessories: Order as separate catalog number.	
NECYD EXT150	USB to CAT6 extender to add up to 150 feet of length ^{1,3}

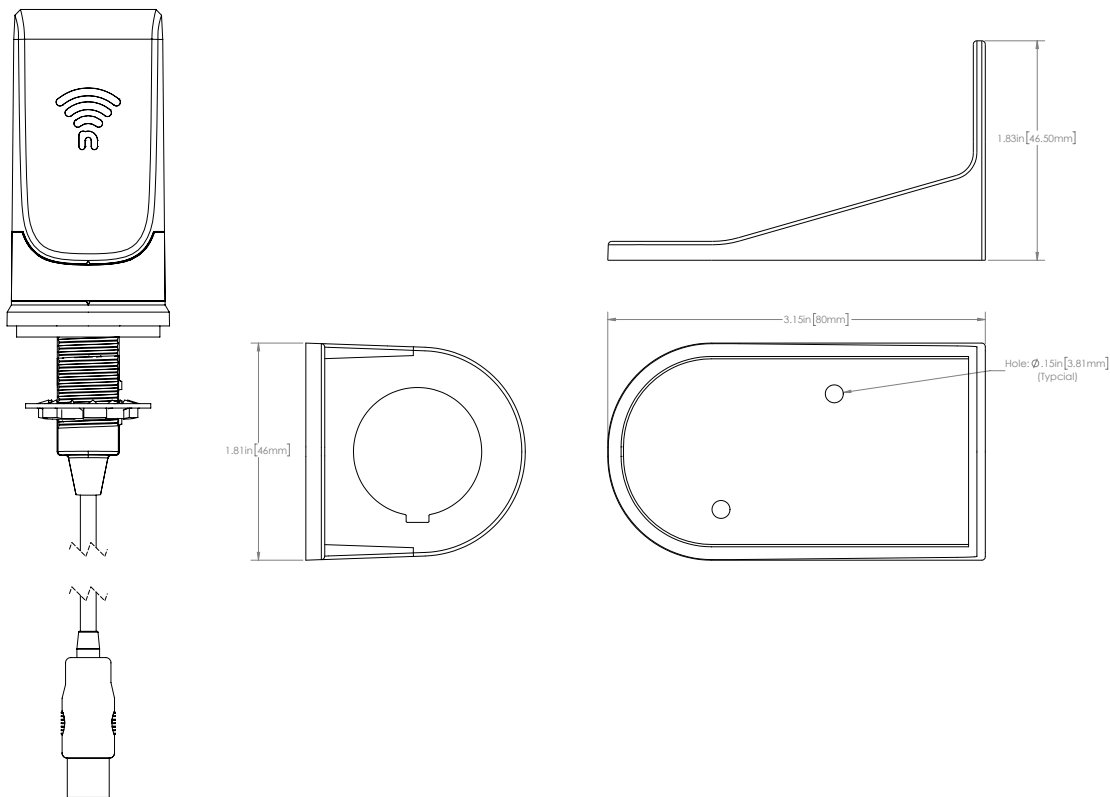
Notes:

1. USB extender requires 120V. Wall adapter is included for connection closest to the NECYD NLTAIR G2. Requires use of CAT6 cable (provided by others). CAT5 and CAT5e cable should not be used with this product.
2. Wireless Range is subject to site-specific conditions. See nLight AIR Design Guide for more information.
3. The USB extender accessory is manufactured by CommFront. Five-year limited manufacturer warranty. Please reference www.acuitybrands.com/support/customer-support/terms-and-conditions regarding third party manufacturer warranty terms.

SPECIFICATIONS

Dimensions:	5" h x 1.62" l x 1.62" d
Product Weight:	5.8 oz
Trim Color:	White
Enclosure Material:	Technomelt™ (high performance thermoplastic polyamide)
Max Humidity:	0-95% non-condensing
Operating Temperature:	-40°C to 65°C
Mounting:	Ceiling mount, wall mount, panel mount (with included bracket)
Radio Frequency:	Dual Radio: 900MHz & 2.4GHz
RF Transmit Power:	900MHz: up to 27 dBm 2.4GHz: up to 10.4 dBm
Wireless Standard:	900MHz: IEEE 802.15.4-based 2.4GHz: Version 4.0+ of the Bluetooth specification
Wireless Range:	1,000 ft line of sight, 150 ft range in standard indoor construction ² Connected nLight AIR devices support repeating broadcasts to increase initial broadcast range ²
Security:	Application Data Encryption: AES-128 bit Mutual Entity Authentication Message Confidentiality Message Authentication and Replay Prevention Limited Anonymity Complies with California Civil Code Title 1.81.26, Security of Connected Devices, approved under Senate Bill No. 327 (2018)
Regulatory Compliance:	Wireless: FCC, IC, Safety: Canada & US UL Listed; RoHS Compliant
Cable:	16 ft; not plenum rated

MECHANICAL AND MOUNTING DETAILS



Catalog Number: **NECYD EXT150**

Date: 1/31/2022

Project: VANGUARD ARIZONA CAMPUS SITE LIGHTING

OVERVIEW

The nLight® AIR Adapter is used to connect an nLight AIR control system to the nLight ECLYPSE®, enabling time-based configuration, remote programming, and control via BACnet, Automated Demand Response, and RESTful API. Using browser based software, users can control their wired and wireless nLight devices through a graphic floor plan, configure settings through the floor plan view or a tree view, and perform firmware updates.

The nLight AIR Adapter gives secure network capability to devices within a single space or across multiple spaces. A network of nLight AIR devices can be zoned, programmed, and controlled through an nLight ECLYPSE and Adapter with protection from nLight AIR's robust five-tier security framework.

FEATURES

- Enables wireless network control of up to 750 nLight AIR devices (per nLight AIR Adapter) in a single space or across multiple spaces
- Allows control of devices through SensorView software, BACnet commands, Automated Demand Response, and RESTful API
- Easy wiring through a USB connection to the nLight ECLYPSE.
- 5-tier security prevents unauthorized control of the wireless network.
- IP66 rating for indoor and outdoor use.
- Includes a 16-foot cable, mounting bracket, and an optional extender for remote mounting.
- Supports web-based update of devices using SensorView software

Warranty

Five-year limited warranty. Complete warranty terms located at:

www.acuitybrands.com/support/customer-support/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.

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nLight® AIR Adapter
Wirelessly enables nLight AIR devices to communicate with nLight ECLYPSE Controller



ORDERING INFORMATION

NECY		Examples: NECYD NLTAIR G2	
Series		Generation	
NECYD NLTAIR	Networked nLight AIR wireless adapter	G2	Generation 2 compatibility

Additional Accessories: Order as separate catalog number.	
NECYD EXT150	USB to CAT6 extender to add up to 150 feet of length ^{1,3}

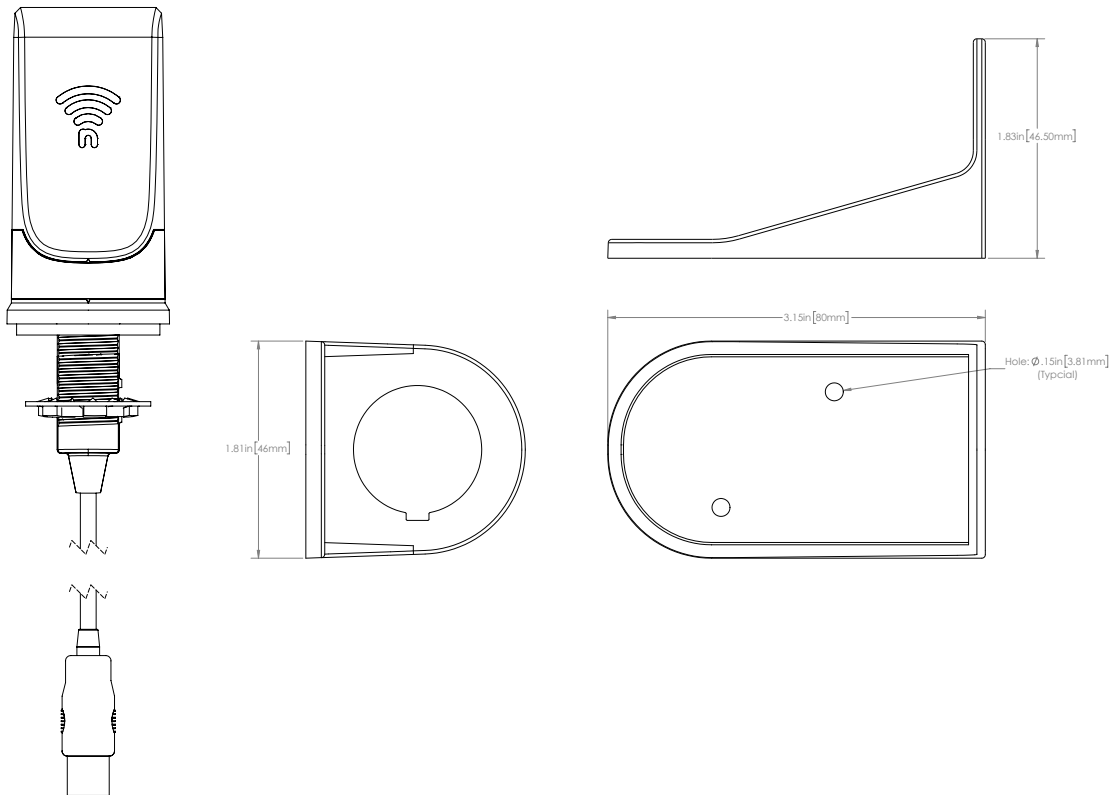
Notes:

1. USB extender requires 120V. Wall adapter is included for connection closest to the NECYD NLTAIR G2. Requires use of CAT6 cable (provided by others). CAT5 and CAT5e cable should not be used with this product.
2. Wireless Range is subject to site-specific conditions. See nLight AIR Design Guide for more information.
3. The USB extender accessory is manufactured by CommFront. Five-year limited manufacturer warranty. Please reference www.acuitybrands.com/support/customer-support/terms-and-conditions regarding third party manufacturer warranty terms.

SPECIFICATIONS

Dimensions:	5" h x 1.62" l x 1.62" d
Product Weight:	5.8 oz
Trim Color:	White
Enclosure Material:	Technomelt™ (high performance thermoplastic polyamide)
Max Humidity:	0-95% non-condensing
Operating Temperature:	-40°C to 65°C
Mounting:	Ceiling mount, wall mount, panel mount (with included bracket)
Radio Frequency:	Dual Radio: 900MHz & 2.4GHz
RF Transmit Power:	900MHz: up to 27 dBm 2.4GHz: up to 10.4 dBm
Wireless Standard:	900MHz: IEEE 802.15.4-based 2.4GHz: Version 4.0+ of the Bluetooth specification
Wireless Range:	1,000 ft line of sight, 150 ft range in standard indoor construction ² Connected nLight AIR devices support repeating broadcasts to increase initial broadcast range ²
Security:	Application Data Encryption: AES-128 bit Mutual Entity Authentication Message Confidentiality Message Authentication and Replay Prevention Limited Anonymity Complies with California Civil Code Title 1.81.26, Security of Connected Devices, approved under Senate Bill No. 327 (2018)
Regulatory Compliance:	Wireless: FCC, IC, Safety: Canada & US UL Listed; RoHS Compliant
Cable:	16 ft; not plenum rated

MECHANICAL AND MOUNTING DETAILS



Catalog Number: **RCMS 10 G2**

Date: 1/31/2022

Project: VANGUARD ARIZONA CAMPUS SITE LIGHTING

OVERVIEW

The rCMS family of nLight AIR-enabled wireless ceiling/surface mount occupancy sensors provide a range of sensor solutions for applications with finished ceilings (e.g. ceiling tiles, sheetrock, plaster). The rCMS family sensors utilize digital Passive Infrared (PIR) detection and are available with several lens options, providing flexibility for multiple mounting height and coverage pattern requirements. Dual technology occupancy detection can also be added as an option for applications where occupants are stationary for long periods of time. All sensors have integrated on/off photocells, with automatic daylight harvesting/dimming control standard. Additionally, the rCMS family sensors are also available with an optional auxiliary low voltage relay for simple integration with a BMS system or other building system.

The rCMS family sensors are powered by an nLight AIR Power Pack (rPP20) or by a 24V DC supply (PS150). rCMS family sensors typically communicate with one or more nLight AIR-enabled fixtures or Power Packs to enable control of fixtures individually or in groups.

FEATURES

- Digital PIR detection
- Integrated, dimming photocell standard – Photocell views down through sensor lens
 - Provides automatic dimming control between min and max trim levels
 - Works during occupied periods when applied with an occupancy behavior
- Optional auxiliary low voltage solid-state relay (AR option) for dry contact output
- LED status indicator
- Adjustable settings (e.g. occupancy time delays, photocell set-points) via **CLAIRITY+** Mobile App or SensorView software application
- Powered by 24V DC from rPP20 or nLight PS 150 power supply
- Standards-based nLight AIR 900 MHz

Warranty

Five-year limited warranty. Complete warranty terms located at:

www.acuitybrands.com/support/customer-support/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice

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nLight® AIR
rCMS
Ceiling Mounted
Smart Sensor



ORDERING INFORMATION

rCMS						Example: RCMS PDT 10 AR G2	
Series / Detection	Power Supply ¹	Occupancy Detection	Lens (Required)	Operating Mode	Generation		
RCMS nLight AIR occupancy and daylight sensor	[blank] Power Supply ordered separately	[blank] PIR Detection PDT ² Dual Tech PIR/Microphonics	10 Large Motion/ Extended Range 360°	[BLANK] None AR Auxiliary Relay	G2 Generation 2 compatibility		
	PS 150 Standard 150 mA Power Supply		9 Small Motion/ Extended Range 360°				
			6 High Bay 360° Lens				

1. PS 150 or RPP20 24V required to power RCMS. Can also be ordered separately.
2. Must be ordered with 10 or 9.

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RCMS
1 of 3

Created in Visual Controls

SPECIFICATIONS

Dimensions	4.55" Dia. (11.56 cm) 1.55" Deep (3.94 cm)
Product Weight	6 oz
Color	Matte White
Enclosure Material	Poly-Carbonate/ABS
Max Humidity	5-95% non-condensing
Mounting	Ceiling Tile / Sheetrock Surface, 3.5" Octagon Box, Single Gang Handy box
Wires	9"; (2) 20 AWG used for DC input; 9"; (2) 20AWG used for AR option only
Relay	Rating (AR option only) 100mA @ 24VAC/VDC (resistive only)
Peak Consumption	650mW
Operating Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Radio Frequency	Dual Radio: 900MHz & 2.4GHz
RF Transmit Power	900MHz: up to 20 dBm 2.4GHz: up to 10.4 dBm
Wireless Standard	900MHz: IEEE 802.15.4-based 2.4GHz: Version 4.0+ of the Bluetooth specification
Security Application Data Encryption:	AES-128 bit Mutual Entity Authentication Message Confidentiality Message Authentication and Replay Prevention Limited Anonymity Complies with California Civil Code Title 1.81.26, Security of Connected Devices, approved under Senate Bill No. 327 (2018)
Regulatory Compliance Wireless:	FCC, IC, IFETEL, cULus, ROHS Compliant

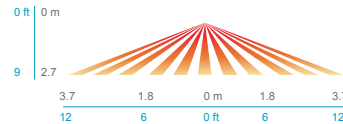
COVERAGE PATTERNS

SMALL MOTION 360°

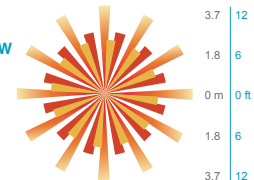


- Best choice for small motion (e.g. hand movements) detection
- 360° conical shaped pattern
- Provides 12 ft (3.66 m) radial coverage (~500 ft²) when mounted to standard 9 ft (2.74 m) ceiling
- 8 to 15 ft (2.44 to 4.57 m) mounting heights provide 10 to 20 ft (3.05 to 6.10 m) radial coverage

SIDE VIEW



TOP VIEW



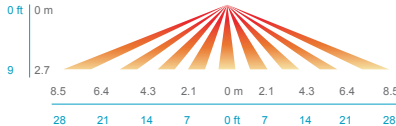
¹ Sensors with Microphonics™ provides overlapping detection of human activity over the complete PIR coverage area. Advanced filtering is also utilized to prevent non-occupant noises from keeping the lights on.

LARGE MOTION 360°

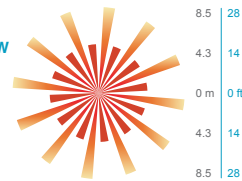


- Best choice for large motion detection (e.g. walking)
- 360° conical shaped pattern
- Provides ~24 ft (7.32 m) radial coverage (~2000 ft²) when mounted at 9 ft (2.74 m)
- 7 to 15 ft (2.13 to 4.57 m) mounting heights provide 16 to 36 ft (4.88 to 10.97 m) radial coverage
- Detection range improves when walking across beams compared to into beams

SIDE VIEW



TOP VIEW



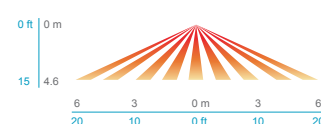
¹ Sensors with Microphonics™ provides overlapping detection of human activity over the complete PIR coverage area. Advanced filtering is also utilized to prevent non-occupant noises from keeping the lights on.

HIGH MOUNT 360°

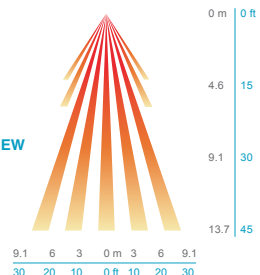


- Best choice for 15 to 45 ft (4.57 to 13.72 m) mounting heights
- 15 to 20 ft (4.57 to 6.10 m) radial coverage overlaps area lit by a typical high bay fixture
- Excellent detection of large motion (e.g. walking) up to 35 ft (10.76 m)
- Excellent detection of extra large motion (e.g. forklifts) up to a 45 ft (13.72 m)

LOW VIEW

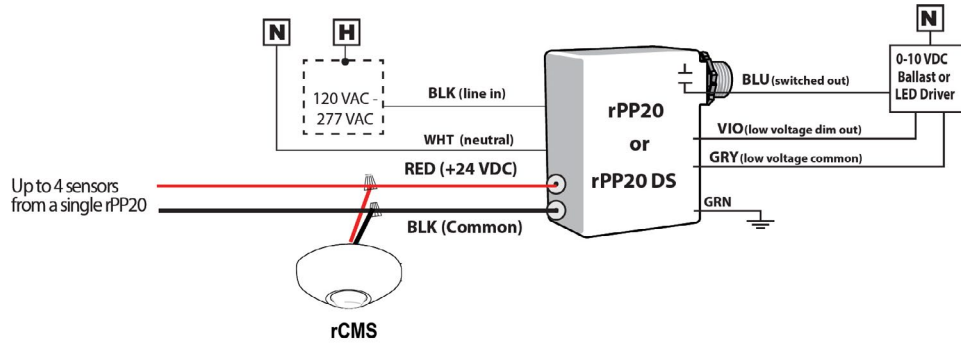


HIGH VIEW

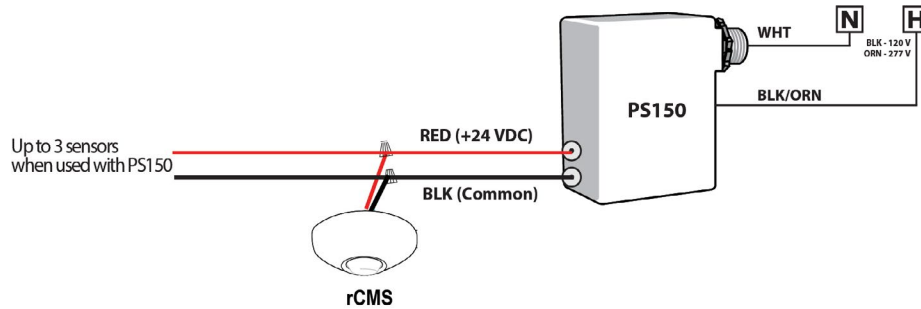


TYPICAL APPLICATIONS

Wiring an rCMS to an nLight AIR relay Power Pack (rPP20)



Wiring to an nLight PS 150 Power Supply



Catalog Number: **rPP20 D 24V EFP G2**

Date: 1/31/2022

Project: VANGUARD ARIZONA CAMPUS SITE LIGHTING

OVERVIEW

The nLight AIR rPP family of power packs are lighting control devices designed to offer flexible control for commercial and industrial lighting applications. The rPP consists of a relay, 0-10V dimming control, and a low voltage power supply output to power and wireless sensors. The rPP is capable of switching loads up to 20 A via a latching relay designed with robust inrush protection from the harsh switching requirements of fluorescent and LED loads. Select power packs provide +24VDC low voltage output to power up to 4 nLight AIR mounted occupancy sensors and photocells. The nLight AIR rPP is designed for use as part of an nLight AIR group of devices or with nLight Eclipse.

POWER PACK FEATURES

- On/Off and dimming control of a luminaire or groups of luminaires (up to 20A loads)
- 24VDC output to power up to 4 nLight AIR rCMS low voltage sensors or other low voltage devices
- Suitable for plug load control
- UL924 listed options for simplified lighting control on emergency lighting circuits
- Power Monitoring with Current Measurement +/- 3% accuracy

INSTALLATION FEATURES

- Wireless communication enables simple retrofits - no communication wires to pull between devices
- Chase nipple or side output dimming options
- UL2043 listed for plenum applications
- An optional external antenna (CP option) for meeting code specific requirements or IP-rated applications
- Simple app-based configuration of space behaviors

ADVANCED WIRELESS FEATURES

- Devices intercommunicate to provide grouped-response to motion and on/off and dimming response to daylight conditions when wirelessly connected to a motion or daylight sensor, or on/off/dimming when connected to a wireless switch
- Fully compatible with other nLight AIR devices on the site
- Easy to integrate into the nLight Eclipse which provides site-wide lighting control through nLight's SensorView software and further BMS integration
- Advanced wireless security measures providing peace-of-mind

Warranty

Five-year limited warranty. Complete warranty terms located at:

www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.

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nLight® AIR rPP20 Power/Relay Pack



ORDERING INFORMATION

rPP20										Example: rPP20 D 24V EFP G2									
Series		Dimming and Low Voltage Output						Emergency				Fault Protection							
RPP20	nLight Air Power/Relay Pack	24V	No dimming, 24V Output Terminals		DS	0-10VDC dimming output (via side leads), no 24V output terminals		[blank]	None			EFP	External Fault Protection						
		D	0-10VDC Dimming output (via chase nipple), no 24V Output Terminals		DS 24V	0-10VDC Dimming output (via side leads), 24V Output Terminals		ER	UL924 Emergency Operation, via power sense leads										
		D 24V	0-10VDC dimming output (via chase nipple), 24V output terminals				EM	UL924 Emergency Operation, via power interrupt detection											

Territory Compliance	Voltage	Power Monitoring	Generation
[blank] None	[blank] 120-277V ²	[blank] None	G2 Generation 2 compatibility
CP ¹ Chicago Plenum	UVOLT 120-480V ²	IM Current Monitoring	

ACCESSORIES

NPP FUSE J10 Replacement Fuse

Notes

1. Not available with UVOLT model.
2. All phase-to-phase applications, including 208VAC and 480VAC, require factory installation.

SPECIFICATIONS

Size: 3.50" x 3.52" x 1.82" (120-277V model)
4.725" x 4.80" x 1.865" (UVOLT model)
Weight: 6 oz
Mounting: 1/2" Knockout
Color: White (standard), Red (ER & EM)
Humidity: 5 to 95% non-condensing
Location: Damp Location Rating
Wires: Line and load 12 AWG stranded
Neutral, ground, and power sense (ER version) 18 AWG stranded
0-10V, 20 AWG stranded
Operating Voltage: 120-277VAC, 120-480VAC (UVOLT)
Relay type: Latching
Frequency: 50/60Hz
Current Monitoring: In SensorView MVOLT options will have automatic voltage detection for power calculation. UVOLT options will require user input of the voltage to calculate power
Minimum Current required to ensure +/- 3% Accuracy
MVOLT - 425mA
UVOLT - 625mA

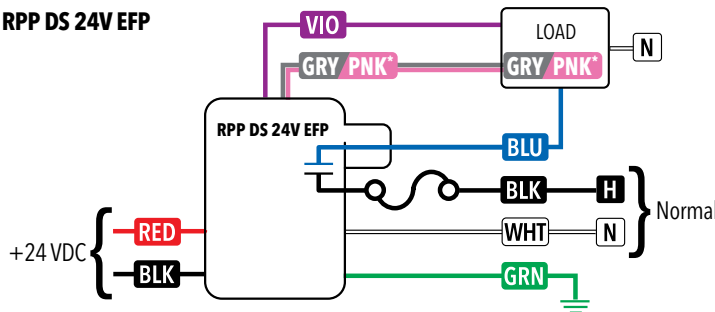
DC Output Terminals: Push-in Terminals, solid or tinned 16-20AWG
DC Output Voltage/Current: 24 VDC, 100 mA max output
0-10V Dimming: Sinks 150mA; 0-10VDC dimmable ballasts or LED drivers;
Radio Frequencies: 900 MHz up to +20dBm, 2.4 GHz up to +10 dBm
Wireless Standard: 900 MHz: IEEE 802.15.4-based; 2.4 GHz: Version 4.0+ of the Bluetooth specification
Security: Application Data Encryption AES-128 bit, Mutual Entity Authentication, Message Confidentiality, Message Authentication and Replay Prevention, Limited Anonymity
Complies with California Civil Code Title 1.81.26, Security of Connected Devices, approved under Senate Bill No. 327 (2018)
Regulatory Compliance: FCC ID: 2ADCB-RMODIT3
IC: 6715C-RMODIT3
IFETEL: RCPN120-2057
cULus
RoHS

Temperature and Load Ratings

Model	rPP20 (-10 to 50 C)		rPP20 (-10 to 60 C)		rPP20 UVOLT (-10 to 70C)			
Voltage	120 VAC	277 VAC	120 VAC	277 VAC	120 VAC	277 VAC	347 VAC	480 VAC
General Purpose	20 A	20 A	5 A	5 A	20 A	20 A	20 A	5 A
Tungsten	20 A	20 A	5 A	5 A	20 A	20 A	20 A	5 A
Standard Ballast	20 A	20 A	5 A	5 A	20 A	20 A	20 A	5 A
Electronic Ballast	16 A	16 A	5 A	5 A	16 A	16 A	16 A	5 A
Motor	1.5 HP	1.5 HP	1.5 HP	1.5 HP	1.5 HP	1.5 HP	3/4 HP	1/2 HP

WIRING (Do not wire hot)

RPP DS 24V EFP



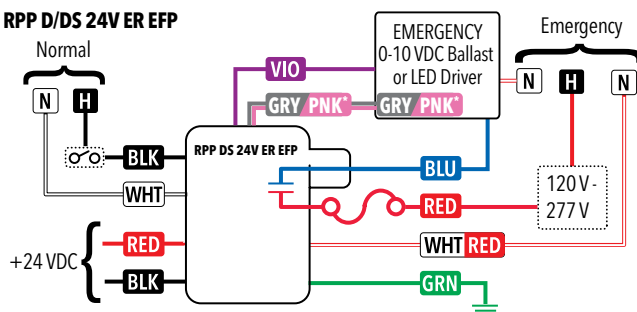
Legend

BLK - Unswitched Hot 120-277V
WHT - Neutral
BLU - Switched Output
VIO - 0-10V Dim
PNK* - 0-10V Common
RED (Terminal) - +24VDC
BLK (Terminal) - DC Common
GRN - Ground

*0-10V Dimming Common from luminaire may be pink or as otherwise indicated per section 410.69 of the 2020 NEC

WIRING FOR EMERGENCY (-ER) UNITS

RPP D/DS 24V ER EFP



Legend

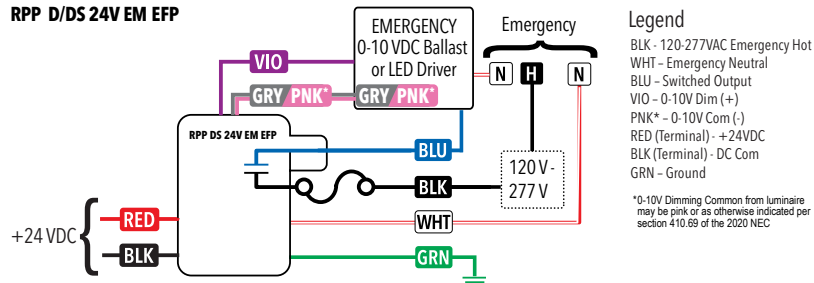
RED - 120-277VAC Emergency Hot
WHT/RED - Emergency Neutral
BLK - Unswitched Norm. Hot
WHT - Norm. Neutral
BLU - Switched Output
VIO - 0-10V Dim (+)
PNK* - 0-10V Com (-)
RED (Terminal) - +24VDC
BLK (Terminal) - DC Com
GRN - Ground
Optional Test Switch (by others)

*0-10V Dimming Common from luminaire may be pink or as otherwise indicated per section 410.69 of the 2020 NEC

UL924 Sequence of Operation: When normal power sense leads have absence of voltage

- Relay is closed and 0-10V dimming is at high end trim level
- Device ignores wireless lighting control commands

WIRING FOR EMERGENCY (-EM) UNITS

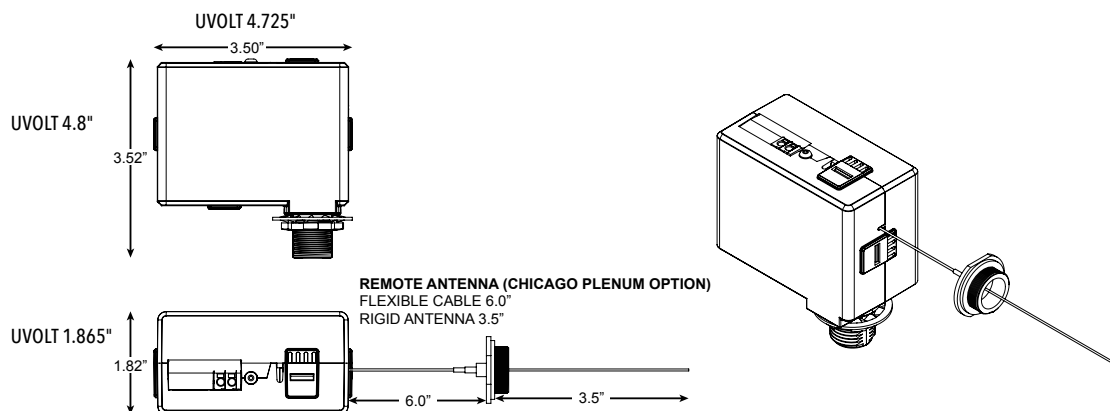


UL924 Sequence of Operation:

For 90 minutes following any complete AC power interruption >30 ms:

- Relay is closed and 0-10V dimming is at high end trim level
- Device ignores wireless lighting control commands
- If another nLight AIR device in the nLight AIR group (as defined by CLAIRITY+) is on normal power, and has its power restored prior to the 90-minute timeout, the "EM" device will exit this override state and return to normal operation. This is accomplished by having a normal power device send an "exit EM" message to the "EM" device
- Devices that will send the "exit EM" command when normal power is present
 - Dimming Power Pack Devices (rPP20 D/DS)
 - ER Non-Dimming and Dimming Power Pack Devices (rPP20 D/DS ER)
 - Other nLight AIR Non-"EM" Devices (rLSXR, rSBOR, rSDGR, rIO, rES7, rMSOD)
- Devices that will not send the "exit EM" command when normal power is present
 - Non-Dimming Power Pack Devices (rPP20)
 - Other nLight AIR "EM" Devices (rPP20 EM, rLSXR EM, rSBOR EM, rSDGR EM, rIO EM, rES7 EM, rMSOD EM)
 - Ceiling Mount Sensors (rCMS)
 - Wall Switches (rPODB, rPODL)
 - nLight Air Adapter (nECYD)
- Upon power up, "EM" devices will be at high trim setting for 90 minutes. During commissioning with CLAIRITY+, the device will exit this override when a device is identified or added to the grid.

DIMENSIONS



Catalog Number: **rTLN** rTLN MVOLT DSNV G2

Date: 1/31/2022

Project: VANGUARD ARIZONA CAMPUS SITE LIGHTING

OVERVIEW

The nLight AIR rTLN Twist-to-lock node provides reliable versatile networked control for outdoor applications that utilize a NEMA/ANSI C136.41 receptacle. Designed to mount directly to a luminaire, the rTLN provides on/off and dimming control, has an on-board photocell for sunrise to sunset control, and supports third party motion sensor control. The rTLN has a dual radio that allows it to be configured from the ground and communicate wirelessly to other nLight AIR devices to enable control strategies like grouped response to motion, on/off control in response to daylight, and on/off by switch.

NODE FEATURES

- On/off luminaire control with 0-10V and DALI-based dimming options
- On-board photocell that operates dusk-to-dawn out of the box
- 7-pin design to support a third party motion sensor input
- Power Monitoring with current measurement +/- 2% accuracy

INSTALLATION FEATURES

- Wireless communication enables simple retrofits - no communication wires to pull between devices
- Plug and play use on any luminaire with a ANSI/NEMA C136.41
- Simple app-based configuration of space behaviors from the ground

ADVANCED WIRELESS FEATURES

- Devices intercommunicate to provide grouped-response to motion and on/off response to daylight conditions
- Fully compatible with other nLight AIR devices on the site
- Easy to integrate into the nLight Eclipse which provides site-wide lighting control through nLight's SensorView software and further BMS integration
- Advanced wireless security measures providing peace-of-mind

Warranty

Five-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
Specifications subject to change without notice

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nLight AIR
rTLN
Twist-to-Lock Node



ORDERING INFORMATION

rTLN					Example: rTLN MVOLT DSNV G2	
Series	Dimming	Voltage	Variant	Generation		
rTLN nLight AIR Twist-to-Lock Node	(blank) 0-10V DALI DALI control	MVOLT 120-277 VAC HVOLT 347-480 VAC	DSNV DSN Variant	G2 Generation 2 Compatibility		

Accessories

DUR103 U	3 Pin Retrofit Receptacle Kit
DUR105 M50	5 Pin Retrofit Receptacle Kit
DUR107 M50	7 Pin Retrofit Receptacle Kit

NOTE: For additional Retrofit Receptacle Kit information, see spec sheets: [DUR103](#) Spec Sheet, [DUR105-107](#) Spec Sheet

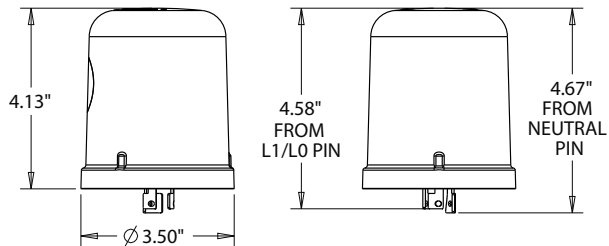
SPECIFICATIONS

Color:	Black
Mounting:	NEMA receptacle compliant with ANSI C136.10/C136.41
Maximum Load:	1000W, 1800VA, 15A max switching
Dimming Load:	0-10V or DALI dimming, supports up to 5 drivers (2mA per driver) sink or source operation
Occupancy Control:	Supports active high occupancy sensors, Pin 5 = Ground or reference, Pin 6 = Sense, Pin 7 supplies 24VDC. DALI sensors are not supported
Surge/In-rush:	LED protection with TRIAC assisted relay, 1080J/36kA
IP Rating:	IP66
Temperature Rating:	-40° to 70° C ambient
Operating Voltages:	120-277VAC or 347/480VAC
Frequency:	50/60 Hz
RF:	Transmit Power 900Mhz: +20dBm, Max 1000ft Clear LOS; 2.4GHz: +10.4 dBm, Max 100ft Clear LOS
Wireless:	Standard 900MHz: IEEE 802.15.4-based 2.4GHz: Version 4.0+ of the Bluetooth specification
Security:	Complies with California Civil Code Title 1.81.26, Security of Connected Devices, approved under Senate Bill No. 327 (2018)
Regulatory Compliance:	Wireless: FCC, IC, IFETEL Safety: cULus 773, RoHS Compliant, NOM Certified
Programming Tool:	CLAIRITY+ Mobile App

OUT OF BOX OPERATION

Photocell Control	Enabled
Photocell Set Point	1.5fc turn on, 2.25fc turn off
Photocell Transition On Time	45 Seconds
Photocell Transition Off Time	5 Minutes

DIMENSIONS



Width conforms to ANSI C136.10 spec to ensure the right fit on most types of fixtures.

Catalog Number:

Date:

Project:

OVERVIEW

The nLight AIR rSBOR outdoor pole and fixture mount motion and photo sensor provides reliable networked control in a variety of outdoor and indoor lighting control applications. Designed to mount directly through a 1/2" knockout (7/8" hole) in a light fixture or pole, the rSBOR utilizes 100% Digital Passive Infrared (PIR) technology that is tuned for walking size motion while preventing false tripping from the environment. The rSBOR has a dual radio that allows it to communicate wirelessly to other nLight AIR devices to enable control strategies like group response to motion, on/off control in response to daylight, and on/off by switch.

SENSOR FEATURES

- 100% digital PIR detection
- Combined daylight and occupancy sensor
- Fully dimmable with 0-10V dimming, providing the right amount of light for the application and to optimize energy savings
- Power Monitoring with Current Measurement +/- 3% accuracy

INSTALLATION FEATURES

- IP66 rated for outdoor or other demanding environments
- Wireless communication enables simple retrofits - no communication wires to pull between devices
- Designed to mount directly to 1/2" knockout (7/8" hole) in a luminaire, on a pole, or to a junction box for a sensor only configuration
- Simple app-based configuration of space behaviors

ADVANCED WIRELESS FEATURES

- Devices intercommunicate to provide grouped-response to motion and on/off and dimming response to daylight conditions
- Flexible sensor time delays and light levels in responding to motion and daylight conditions
- Fully compatible with other nLight AIR devices on the site
- Easy to integrate into the nLight Eclipse which provides site-wide lighting control through nLight's SensorView software and further BMS integration
- Advanced wireless security measures providing peace-of-mind

Warranty

Five -year limited warranty. Complete warranty terms located at:

www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.

Specifications subject to change without notice

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nLight AIR rSBOR Outdoor Pole/ Fixture Mount Sensor



Note: Sensor may appear different from above photo depending on selected body and bracket type.



ORDERING INFORMATION

rSBOR						Example: rSBOR 6 IM WH G2							
Series				Mounting Height		Voltage		Emergency					
rSBOR	nLight AIR Outdoor Pole/ Fixture Mount Sensor			6	High Mount (15-30 ft)	[blank]	120-277 VAC (MVOLT) ¹	[blank]	None				
				10	Low Mount (8-15 ft)	HVOLT	347-480 VAC ¹	EM	UL 924 Emergency Operation, via power interrupt detection (MVOLT ONLY)				
				40	High Mount Site/ Area (40 ft)								
Body/ Bracket				Power Monitoring		Color		Generation		Pack Qty			
[blank]	Short extension, low back	EB3	Long extension, high back	IM	Current Monitoring	WH	White	G2	Generation 2 compatibility	[blank]	Single J40	40 Pack	
EB1	Short extension, high back	EB4	Medium extension, low back			BK	Black						
EB2	Long extension, low back	EB5	Medium extension, high back			BZ	Dark Bronze						
				NA	Natural Aluminum								

Note:

1. All phase-to-phase applications, including 208VAC and 480VAC, require factory installation.

SPECIFICATIONS

Size: Bracket Dependent
Weight: 9.6 oz
Mounting: 1/2" knockout (7/8" hole)
Mounting Height: rSBOR 10: 8-15 ft (2.44-4.57 m)
rSBOR 6: 15-30 ft (4.57-9.14 m)
rSBOR 40: 40 ft (12.19m)
Maximum Load: 800 W @ 120 VAC,
1200 W @ 277 VAC,
1000 W @ 208 VAC,
1500 W @ 347 VAC,
1200 W @ 240 VAC,
2160 W @ 480 VAC
Motor Load: 1/4 HP
Dimming Load: Sinks <10 mA (0-10 VDC LED Drivers / Ballasts)
Ingress Protection: IP66
Operating Voltages: 120-277VAC or 347VAC/480VAC
Frequency: 50/60Hz
Temperature Rating: -40°C to 65°C ambient
RF: Transmit Power 900Mhz: +20dBm; 2.4GHz: +10.4 dBm
Wireless: Standard 900Mhz: IEEE 802.15.4-based
2.4GHz: Version 4.0+ of the Bluetooth specification
Security: Complies with California Civil Code Title 1.81.26, Security of Connected Devices,
approved under Senate Bill No. 327 (2018)
Current Monitoring: In SensorView MVOLT options will have automatic voltage detection for power calculation
HVOLT options will require user input of the voltage to calculate power
Minimum Current of 225mA required to ensure +/- 3% Accuracy

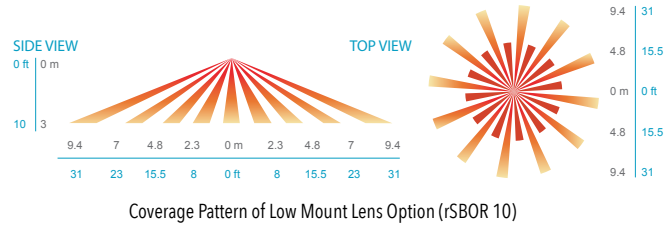
Out-Of-Box Functionality

Occupancy Control Enabled
Idle Tim Until Dim 7.5 Minutes
Occupied Dim Level 100%
Unoccupied Dim Level 30%
Dimming Fade Rate Time 5 Minutes
Photocontrol Enabled
Photocontrol Set Point 5 fc
Photocontrol Transition On Time 45 Seconds
Photocontrol Transition Off Time 5 Minutes

COVERAGE PATTERN

Parking Garage / Low Mount Applications

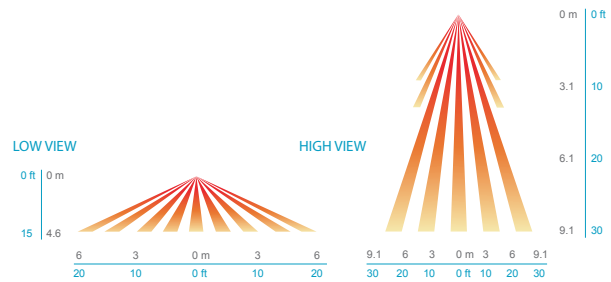
In general, the rSBOR 10 is recommended for 8-15 ft (2.44-4.57 m) mounting and provides a coverage area radius for walking motion of greater than 2x the mounting height. When mounted 10 ft high, for example, on a luminaire in a parking garage, the sensor's coverage for walking motion extends out 30 ft in a 360° pattern. This closely matches the lighting distribution of a typical parking garage luminaire. When mounted to a light pole, for example, in a parking lot or along a path, the sensor provides 270° of coverage (90° is blocked by the pole). Note, walking askew to sensor typically results in earlier detection than walking directly at sensor.



Coverage Pattern of Low Mount Lens Option (rSBOR 10)

Site & Area Lighting / High Mount Applications

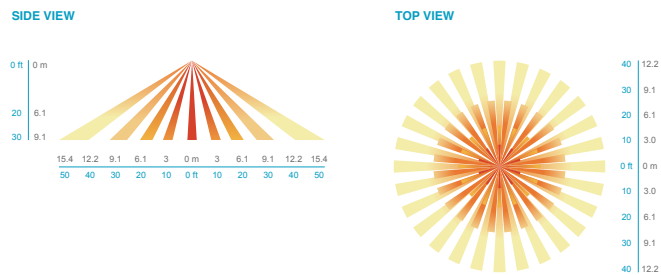
The rSBOR 6 is intended for higher pole mount applications, between 15-30 ft (4.57-9.14 m), and provides a coverage area radius for walking motion of 15-20 ft (4.57-6.10 m). When mounted to a pole the sensor provides 270° of coverage (90° is blocked by the pole). Higher mounting (e.g. 40 ft or 12.20 m) may result in shorter detection range.



Coverage Pattern of High Mount Lens Option (rSBOR 6)

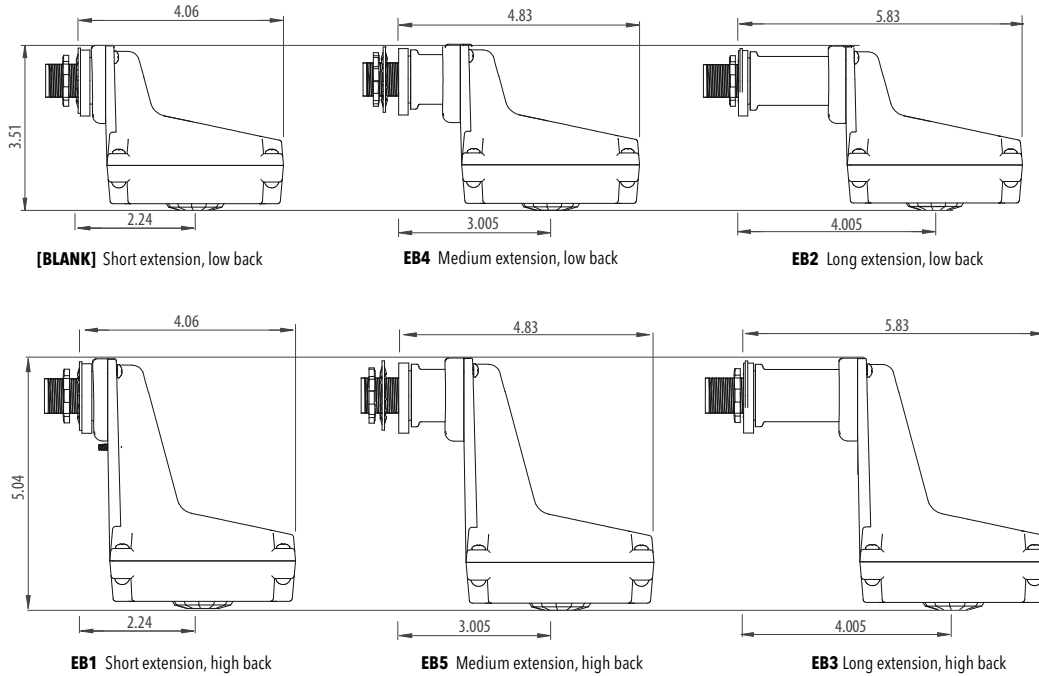
Site & Area Lighting / High Mount Applications

The rSBOR 40 is intended for the highest of mounting heights - up to 40ft. It provides a coverage area radius for walking motion of 50ft. When mounted to a pole, the sensor provides 270 degrees of coverage.



Coverage Pattern of High Mount Site/ Area Lens Option (rSBOR 40)

BODY/BACKET OPTIONS

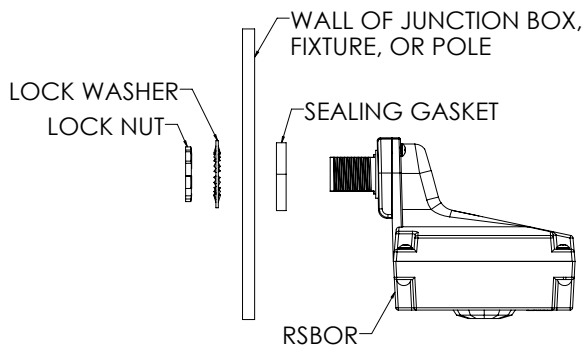


INSTALLATION INSTRUCTIONS

- Sensor has a 1/2" chase nipple that enables mounting through a knockout/hole in a junction box, fixture, or pole.

MOUNTING SPECIFICATIONS

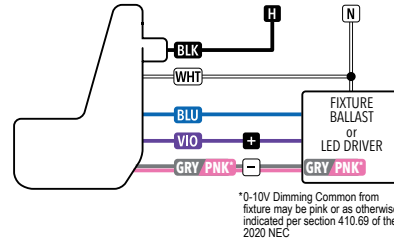
- Mounts through 7/8" diameter hole
- Requires access on opposite or adjacent side to secure mounting nut
- Required mounting distance from light source may vary by sensor functionality and luminaire design
- See specification drawing for details



WIRING** (DO NOT WIRE HOT)

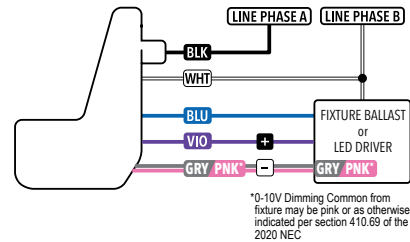
WIRING TO SINGLE PHASE POWER (120/277/347 VAC)

- BLACK*** - 120/240/347 VAC Input
BLUE* - Switched Line Voltage Output to Luminaire
WHITE - Neutral
VIOLET - Low Voltage Dim Output (0-10 VDC)
PINK - Low Voltage Common



WIRING TO 2-PHASE POWER* (208/240/480 VAC)

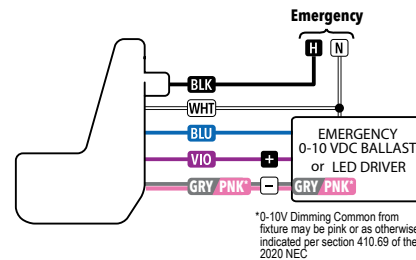
- BLACK*** - 208/240/480 VAC Phase A Input
BLUE* - Switched Line Voltage Output to Luminaire
WHITE - Phase B of 208/240/480 VAC Input
VIOLET (w/ D option) - Low Voltage Dim Output (0-10 VDC)
PINK (w/ D option) - Low Voltage Common



***Safety Note: only one line phase is being switched**
Factory install required

WIRING TO EMERGENCY (-EM) UNITS

- BLACK** - 120/277 Input Emergency Hot
BLUE - Switched Line Voltage Output to Luminaire
WHITE - Emergency Neutral
VIOLET - Low Voltage Dim Output (0-10 VDC)
PINK - Low Voltage Common



UL924 Sequence of Operation (EM Option):

For 90 minutes following any complete AC power interruption >30 ms:

- Relay is closed and 0-10V dimming is at high end trim level
- Device ignores wireless lighting control commands
- If another nLight AIR device in the nLight AIR group (as defined by CLAIRITY+) is on normal power, and has its power restored prior to the 90-minute timeout, the "EM" device will exit this override state and return to normal operation. This is accomplished by having a normal power device send an "exit EM" message to the "EM" device
- Devices that will send the "exit EM" command when normal power is present
 - Dimming Power Pack Devices (rPP20 D/DS)
 - ER Non-Dimming and Dimming Power Pack Devices (rPP20 D/DS ER)
 - Other nLight AIR Non-"EM" Devices (rLSXR, rSBOR, rSDGR, rIO, rES7, rMSOD)
- Devices that will not send the "exit EM" command when normal power is present
 - Non-Dimming Power Pack Devices (rPP20)
 - Other nLight AIR "EM" Devices (rPP20 EM, rLSXR EM, rSBOR EM, rSDGR EM, rIO EM, rES7 EM, rMSOD EM)
 - Ceiling Mount Sensors (rCMS)
 - Wall Switches (rPODB, rPODL)
 - nLight Air Adapter (nECYD)
- Upon power up, "EM" devices will be at high trim setting for 90 minutes. During commissioning with CLAIRITY+, the device will exit this override when a device is identified or added to the grid.

**Safety Note: only one line phase is being switched*

***Device must be permanently energized*

VANGUARD ARIZONA CAMPUS SITE LIGHTING RENOVATION

N NORTHSIGHT BOULEVARD, SCOTTSDALE, AZ 85260

NORTHSIGHT COURTYARD AND PARKING GARAGE (SELECT AREAS)

SCOTTSDALE REVIEW SUBMISSION
MAY 3, 2022

PROJECT TEAM

BEAM
ILLUMINATING ARCHITECTURE

BEAM, Ltd.
2220 Mount Carmel Avenue
Glenside, PA 19038
T. 215.508.0900
www.beamltd.com

SHEET INDEX

	COVER SHEET
LG1.1	SITE LIGHTING PLANS
LG1.2	SITE + GARAGE LIGHTING PLANS
LG1.1P	SITE LIGHTING PHOTOMETRIC PLANS-FULL INTENSITY
LG1.2P	SITE + GARAGE LIGHTING PHOTOMETRIC PLANS-FULL INTENSITY
LG1.1P-A	SITE LIGHTING PHOTOMETRIC PLANS-NIGHTTIME DIMMED
LG1.2P-A	SITE + GARAGE LIGHTING PHOTOMETRIC PLANS-NIGHTTIME DIMMED

SYMBOLS

XX#	LIGHT FIXTURE TAG
⊕	POST TOP POLE
○	SURFACE / SUSPENDED DOWNLIGHT
—	WALL SCONCE

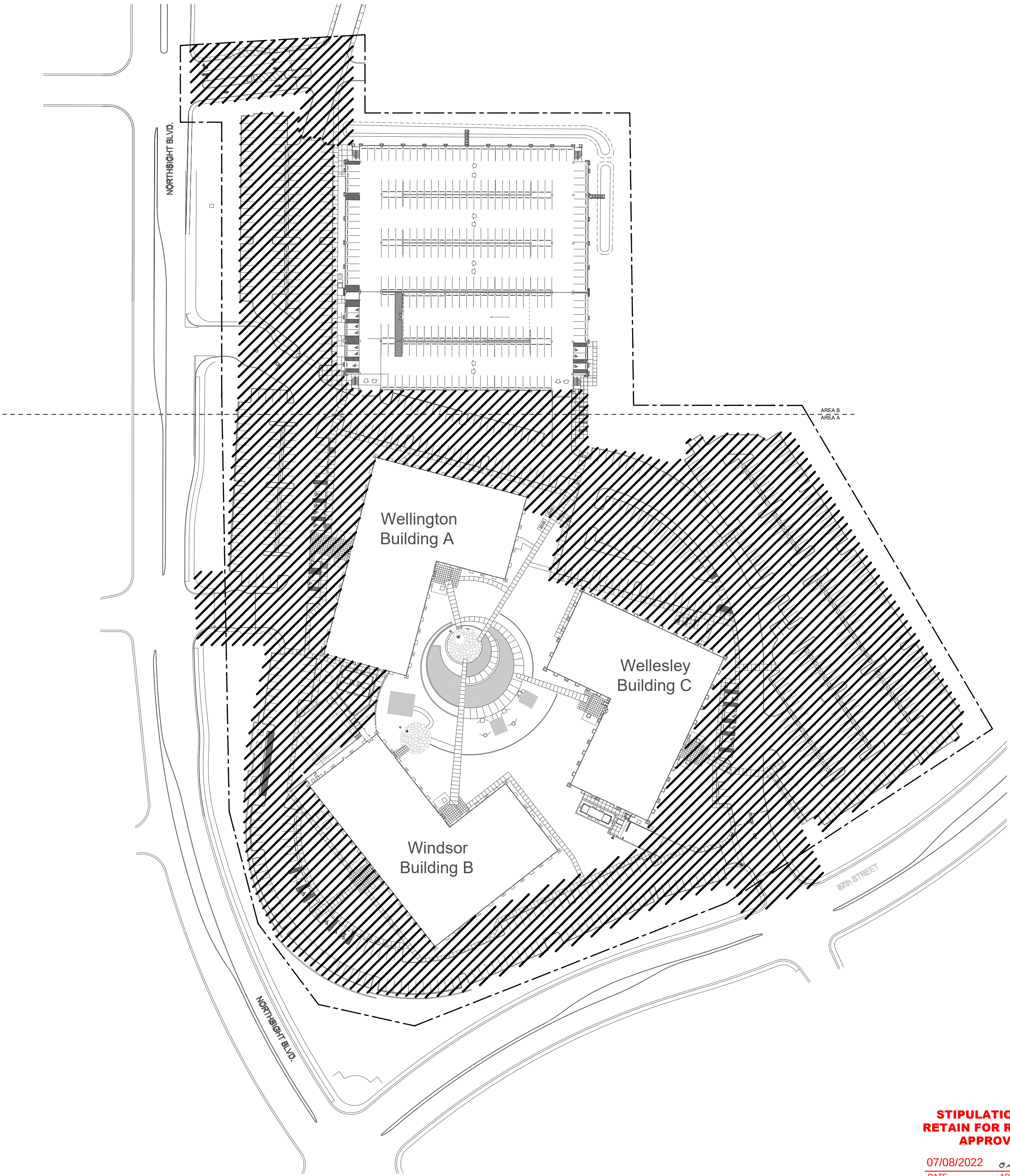
NOTES

GENERAL NOTES

RE-USE EXISTING POWER RUNS WHERE PRACTICAL.

RE-USE EXISTING CONCRETE POLE FOOTINGS WHERE PRACTICAL. IF EXISTING POLE FOOTING IS SIGNIFICANTLY DEGRADED IT IS TO BE REPLACED WITH A NEW CONCRETE FOOTING ABLE TO SUPPORT SPECIFIED POLE HEIGHT/WEIGHT UNDER REGIONALLY EXPECTED WIND LOAD.

CONFIRM EXISTING FOOTING BOLT CIRCLE DIAMETER. NEW POLE BASE TO MATCH.

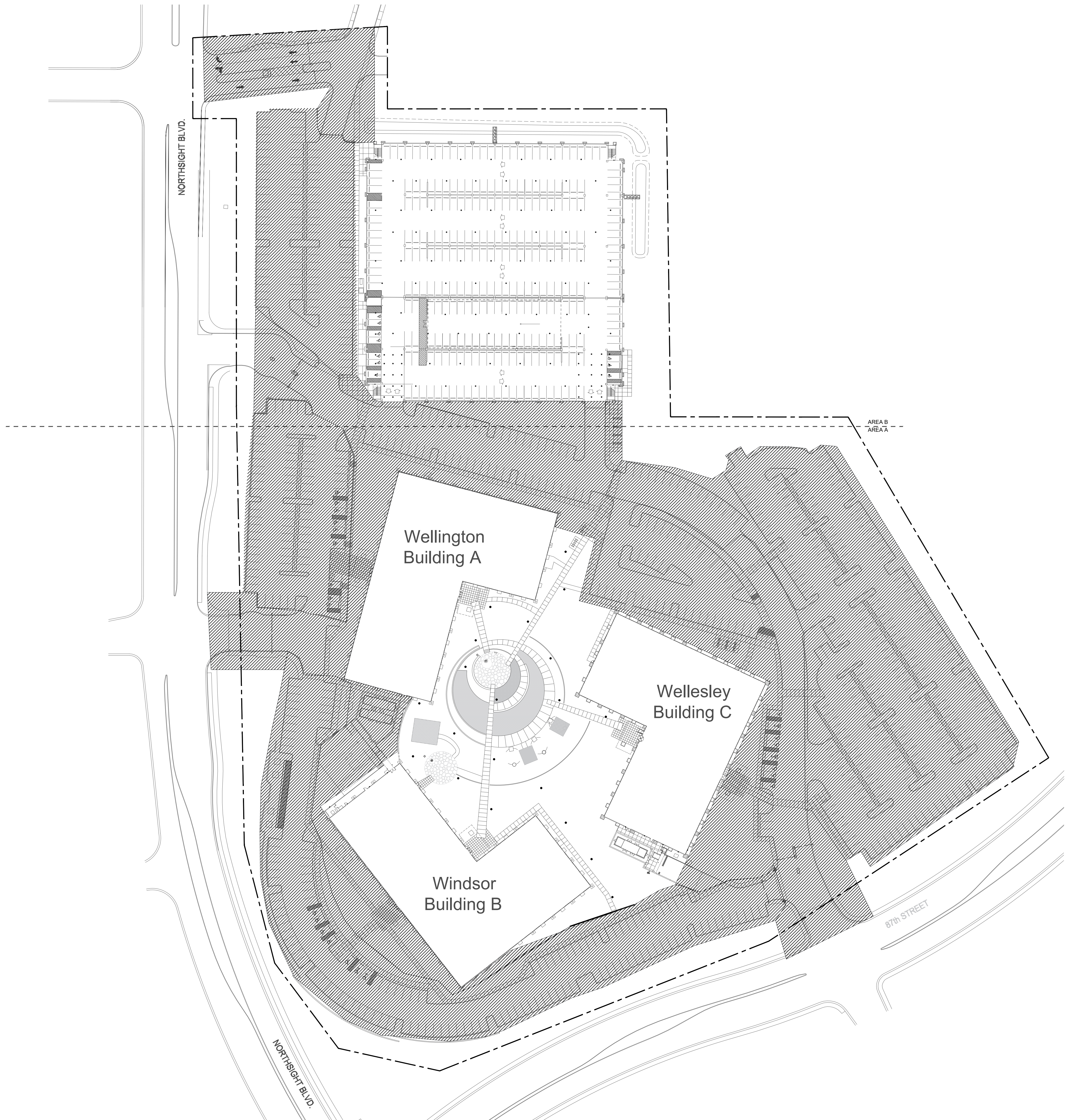


STIPULATION SET
RETAIN FOR RECORDS
APPROVED

07/08/2022
DATE

0.00000000
APPROVED BY

PROJECT KEY SITE PLAN



1 OVERALL SITE PLAN
LG1.0 1" = 50'-0"

GENERAL NOTE:
HATCHED AREA DESIGNATES DESIGN IS ON HOLD
PENDING SOLAR CANOPY COORDINATION.

BEAM

ILLUMINATING ARCHITECTURE

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2220 Mount Carmel Avenue
Glenside, PA 19038
T. 215.508.0900
www.beamltd.com

REVISIONS

NO.	DATE	REMARKS

PROJECT PHASE

SCOTTSDALE REVIEW
SUBMISSION

PROJECT NAME

VANGUARD ARIZONA
CAMPUS SITE LIGHTING

14321 NORTH NORTHSIGHT BLVD
SCOTTSDALE, AZ 85260

DRAWING TITLE

OVERALL SITE PLAN

Project Number: 330.21

Date: 05.03.2022

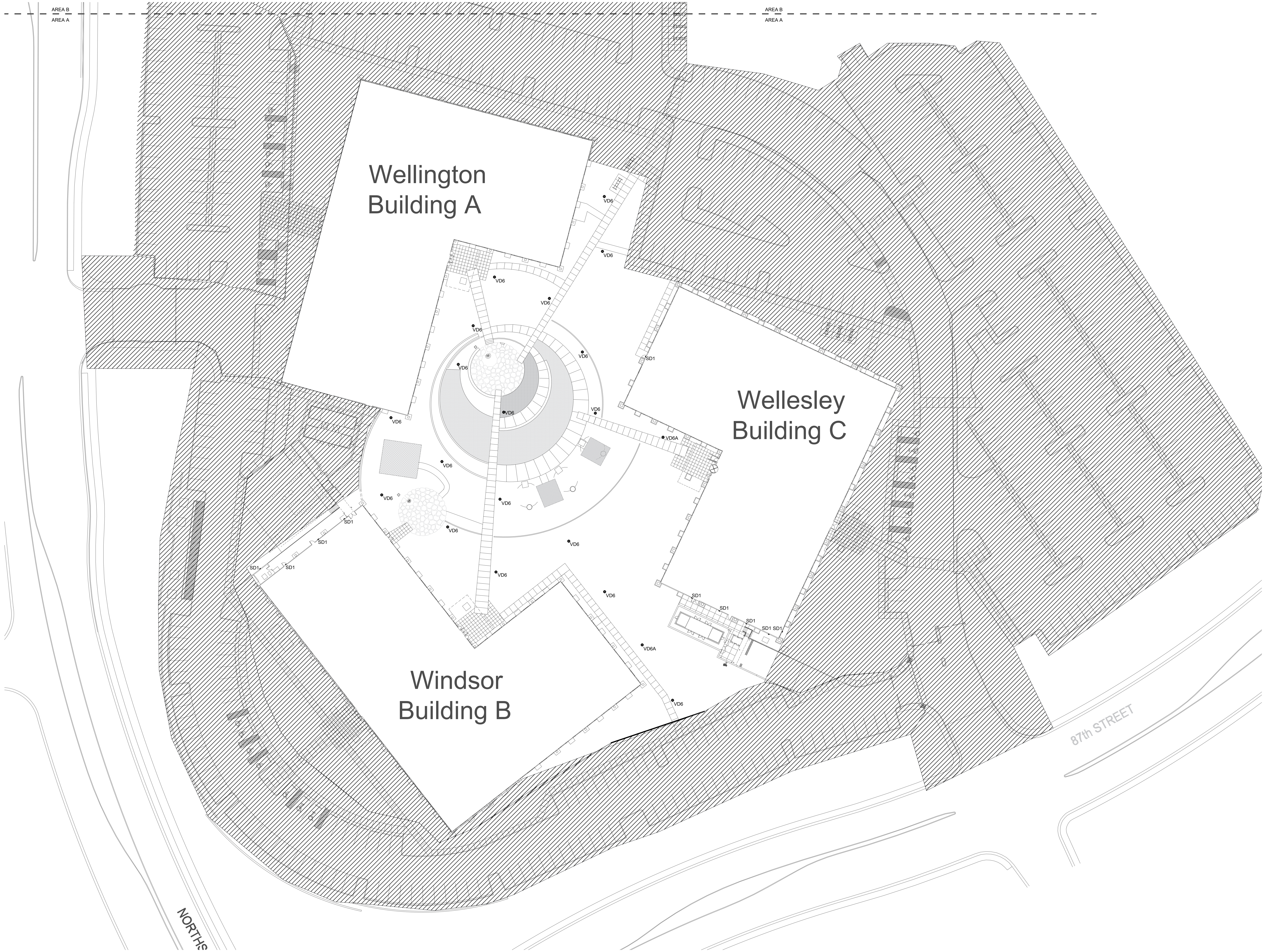
Drawn By: JB, EP

Checked By: JK

Scale: 1" = 50'-0"

DRAWING NO.

LG1.0



REVISIONS		
NO.	DATE	REMARKS

PROJECT PHASE
SCOTTSDALE REVIEW
SUBMISSION

PROJECT NAME
VANGUARD ARIZONA
CAMPUS SITE LIGHTING
14321 NORTH NORTHSIGHT BLVD
SCOTTSDALE, AZ 85260

DRAWING TITLE
SITE LIGHTING PLANS

Project Number:	330.21
Date:	05.03.2022
Drawn By:	JB, EP
Checked By:	JK
Scale:	1" = 30'-0"
DRAWING NO.	

LG1.1

GENERAL NOTE:
HATCHED AREA DESIGNATES DESIGN IS ON HOLD
PENDING SOLAR CANOPY COORDINATION.



GENERAL NOTE:
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PROJECT PHASE

SCOTTSDALE REVIEW
SUBMISSION

PROJECT NAME

VANGUARD ARIZONA
CAMPUS SITE LIGHTING

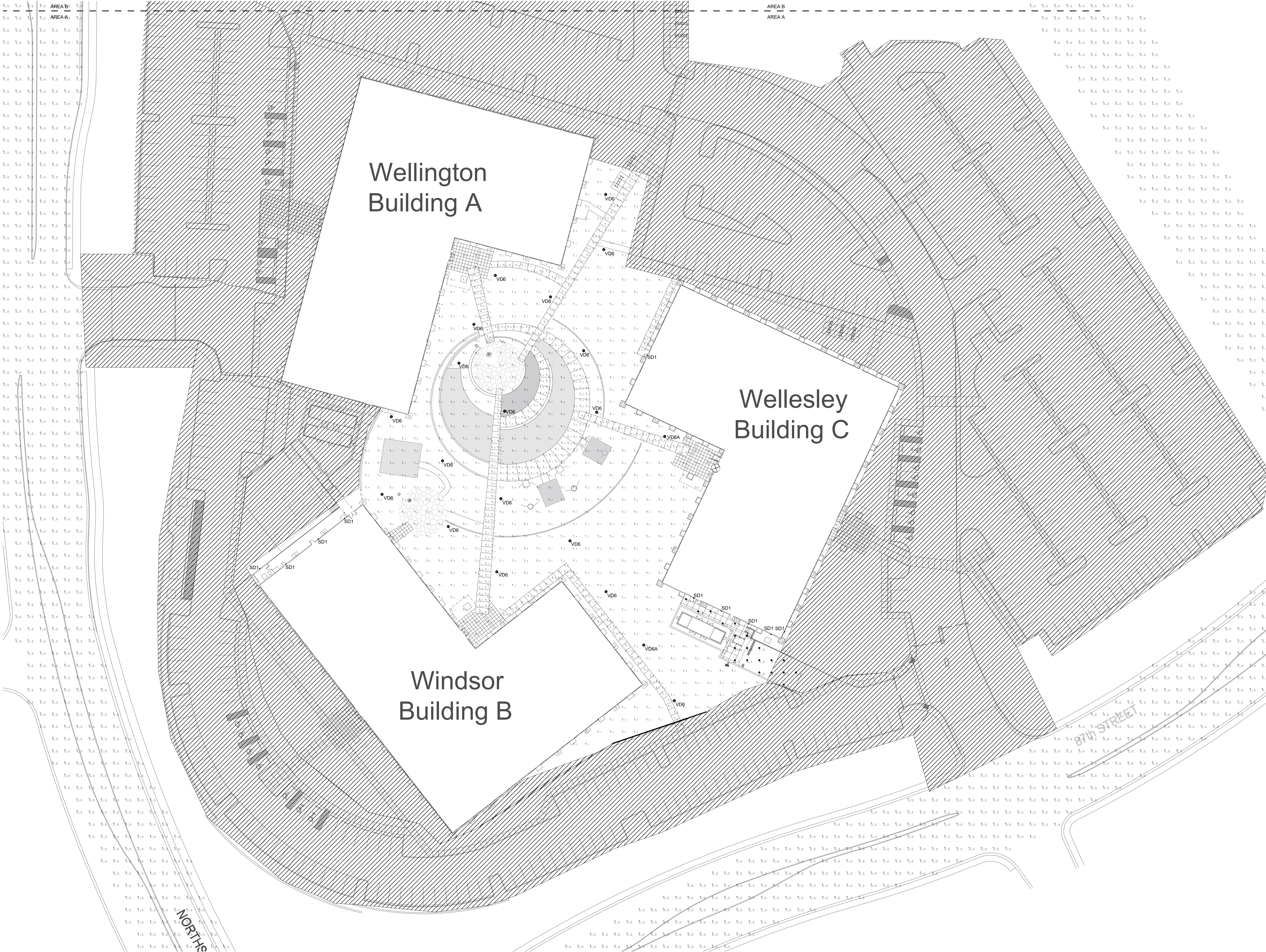
14321 NORTH NORTHSIGHT BLVD
SCOTTSDALE, AZ 85260

DRAWING TITLE

SITE + GARAGE
LIGHTING PLANS

Project Number:	330.21
Date:	05.03.2022
Drawn By:	JB, EP
Checked By:	JK
Scale:	1" = 30'-0"
DRAWING NO.	

LG1.2



1 AREA A LIGHTING PHOTOMETRIC PLAN
LG1.1P 1" = 30'-0"

GENERAL NOTE:
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SCOTTSDALE REVIEW
SUBMISSION

PROJECT NAME

VANGUARD ARIZONA
CAMPUS SITE LIGHTING

14321 NORTH NORTHSIGHT BLVD
SCOTTSDALE, AZ 85260

DRAWING TITLE

SITE LIGHTING
PHOTOMETRIC PLANS-
FULL INTENSITY

Project Number: 330.21

Date: 07.01.2022

Drawn By: JB, EP

Checked By: JK

Scale: 1" = 30'-0"

DRAWING NO.

LG1.1P



GENERAL NOTE:
HATCHED AREA DESIGNATES DESIGN IS ON HOLD
PENDING SOLAR CANOPY COORDINATION.

PROJECT NAME

VANGUARD ARIZONA
CAMPUS SITE LIGHTING

14321 NORTH NORTHSIGHT BLVD
SCOTTSDALE, AZ 85260

DRAWING TITLE

SITE + GARAGE
LIGHTING
PHOTOMETRIC PLANS
FULL INTENSITY

Project Number: 33

Date: 05.03.20

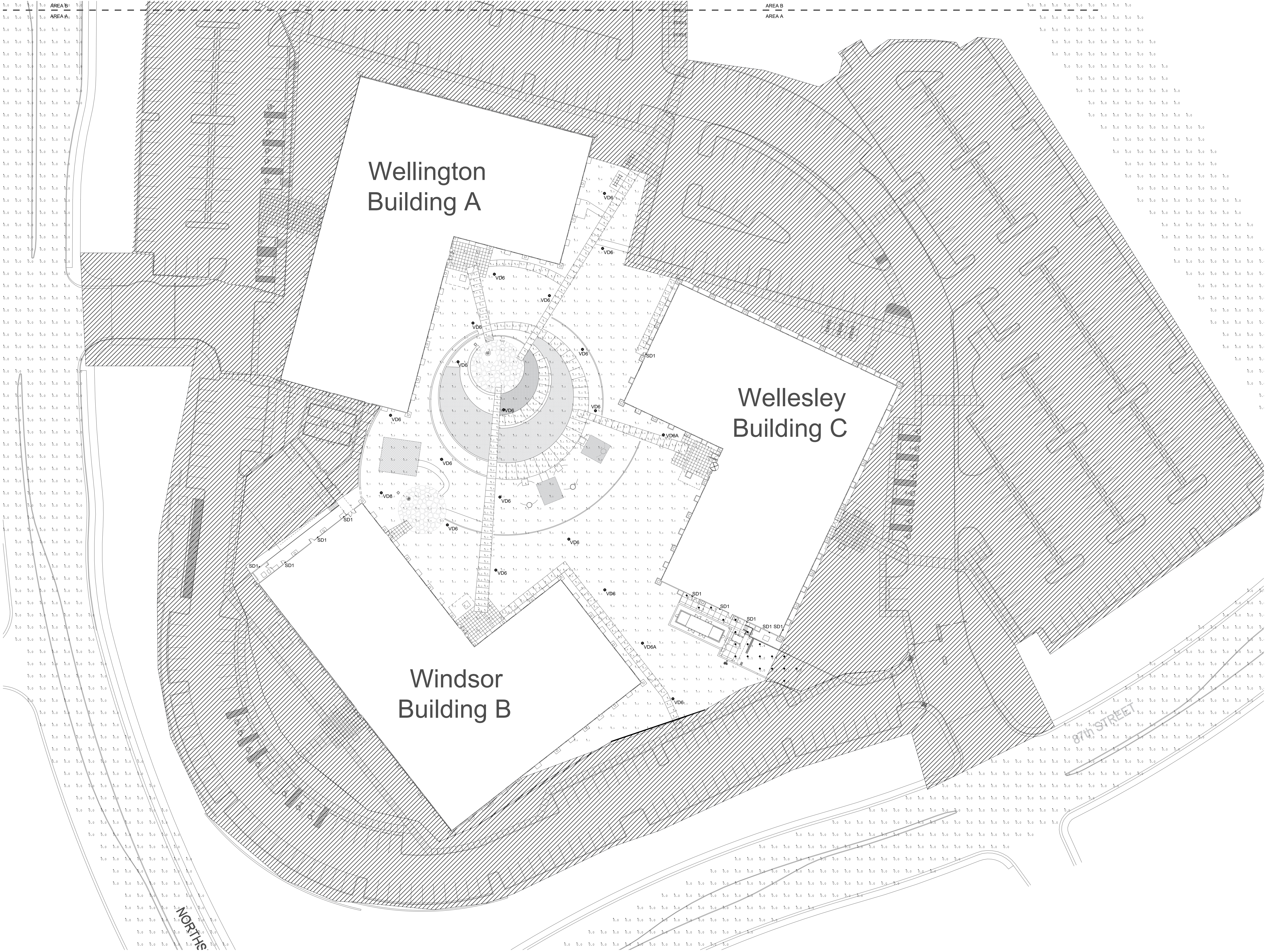
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Checked By: _____

Sample:	41	20
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DRAWING NO. _____

LG1.2P



1 AREA A LIGHTING PHOTOMETRIC PLAN
LG1.1P-A 1" = 30'-0"

GENERAL NOTE:
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REVISIONS

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PROJECT PHASE

SCOTTSDALE REVIEW
SUBMISSION

PROJECT NAME

VANGUARD ARIZONA
CAMPUS SITE LIGHTING

14321 NORTH NORTHSIGHT BLVD
SCOTTSDALE, AZ 85260

DRAWING TITLE

SITE LIGHTING
PHOTOMETRIC PLANS-
NIGHTTIME DIMMED

Project Number: 330.21

Date: 07.01.2022

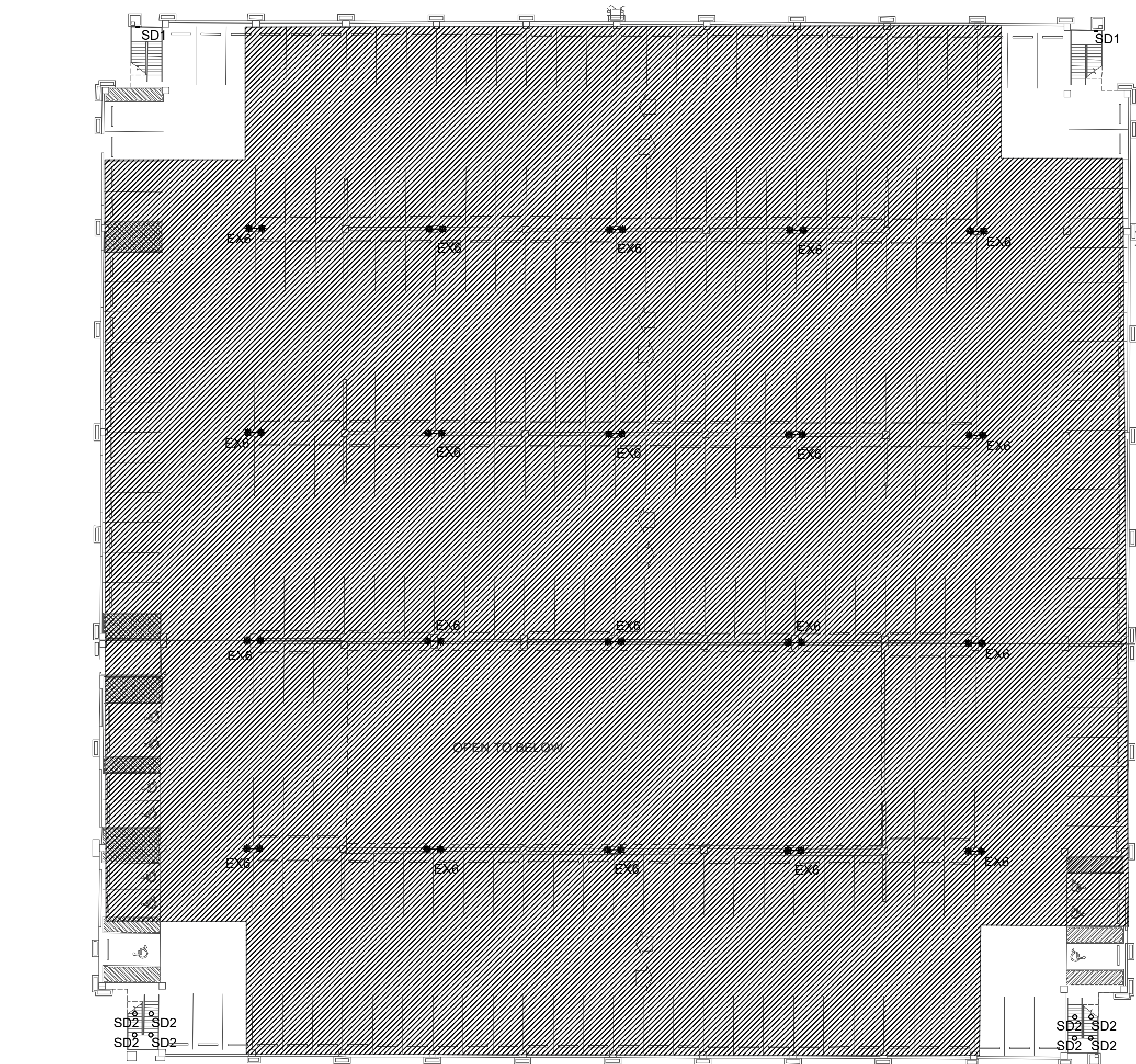
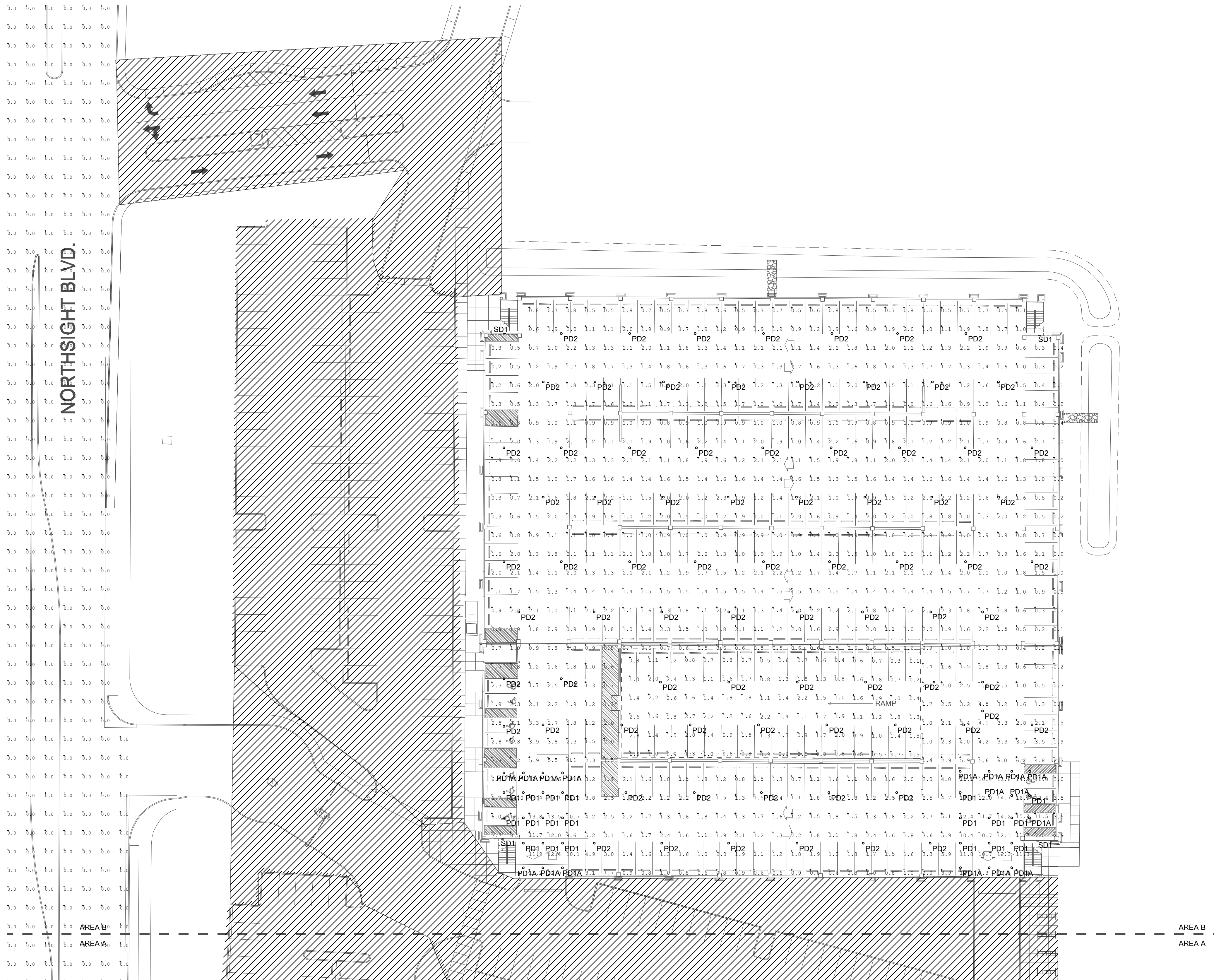
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Checked By: JK

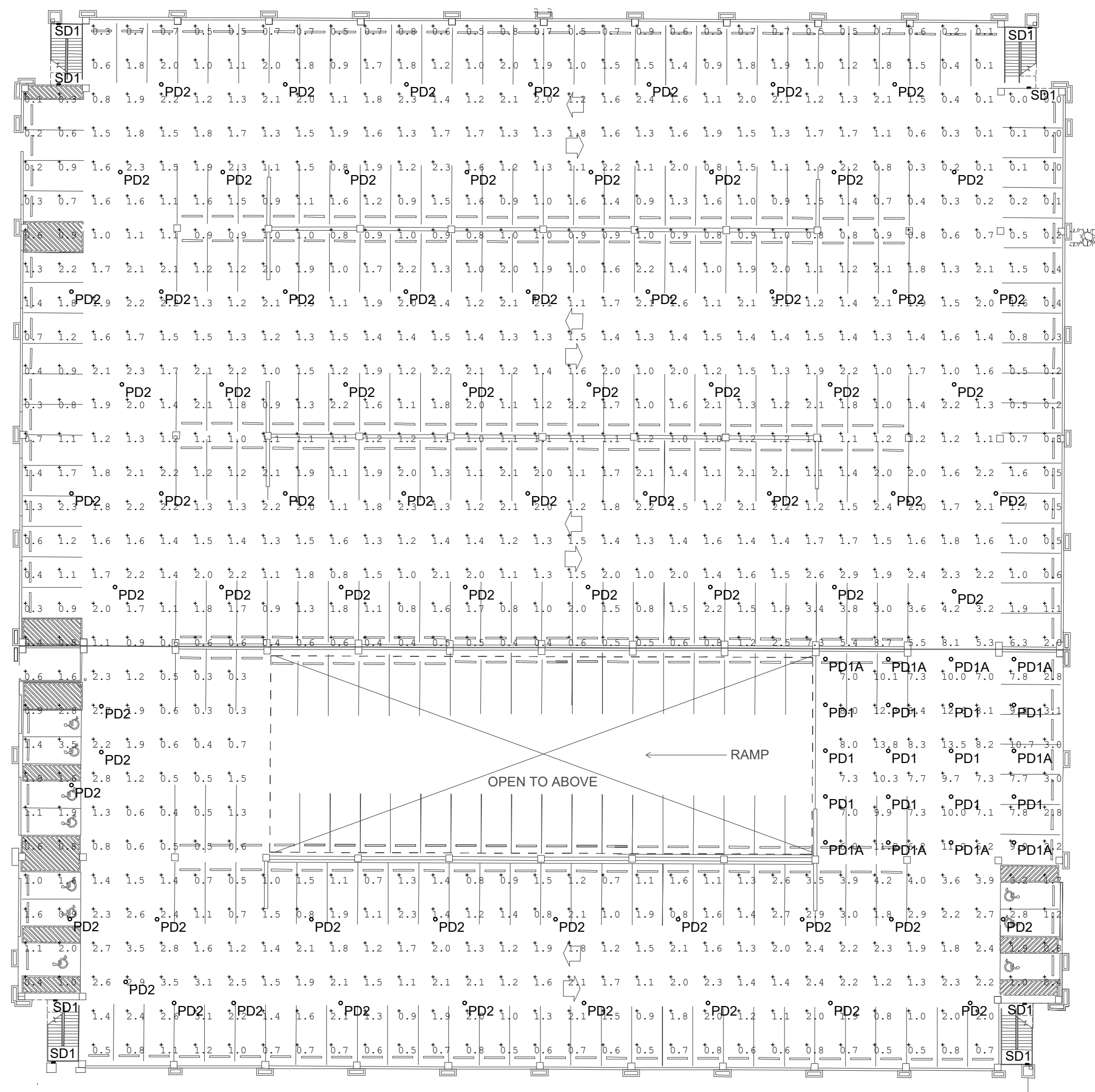
Scale: 1" = 30'-0"

DRAWING NO.

LG1.1P-A



3 GARAGE ROOFTOP LIGHTING PHOTOMETRIC PLAN



2 GARAGE LEVEL 2 LIGHTING PHOTOMETRIC PLAN

GENERAL NOTE:
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REVISIONS

NO.	DATE	REMARKS

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SCOTTSDALE REVIEW
SUBMISSION

PROJECT NAME

VANGUARD ARIZONA
CAMPUS SITE LIGHTING

14321 NORTH NORTHSIGHT BLVD
SCOTTSDALE, AZ 85260

DRAWING TITLE

SITE + GARAGE
LIGHTING
PHOTOMETRIC PLANS-
NIGHTTIME DIMMED

Project Number: 330.21

Date: 05.03.2022

Drawn By: JB, EP

Checked By: JK

Scale: 1" = 30'-0"

DRAWING NO.

LG1.2P-A