

NOTES:

- ALL LIGHTING IS TO BE LED PHOTOCCELL CONTROLLED.
- PROCESS AND BUILDING LIGHTING IS TO BE FULL CUTOFF, DARK SKY TYPE FIXTURES.
- POLE LIGHTS USED FOR ROADWAY & WALK PATH MATCH EXISTING SITE FIXTURE TYPE & MOUNTING HEIGHT.
- POLE LIGHTS MOUNTED AT 25FT ABOVE GRADE.
- POLE LIGHTS MOUNTED TO PIPE RACK AS NOTED.
- ALL LIGHTING IS TO BE 120V-1PH.
- ALL PENDANT & STANCHION MOUNTED FIXTURES ONE ELEVATED STRUCTURES SHALL BE FULL CUTOFF DARK SKY TYPE FIXTURES.
- PENDANT LIGHTS FOR STORAGE SHEDS WILL BE RECESSED AND INSTALLED USING THE DARK SKY APPROVED VISOR ACCESSORY.
- FLOOD LIGHTS ARE NOT SPECIFIED FOR THIS PROJECT.
- FLASHING & STROBE LIGHTS WILL NOT BE SPECIFIED FOR THIS PROJECT.
- LIGHTING DESIGN WILL ADHERE TO THE MESA DEL SOL LEVEL B DESIGN CRITERIA.

FIXTURE LEGEND:

- (R)** ROADWAY LIGHT FIXTURE, BEACON RATIO SERIES W/ 25' MOUNTING POLE
CATALOG NO.;
RAR2-320L-140-4K7-5QW-UNV-ASQU-DBT.
SSSH25-40A-1-B3-DBT.
- (W)** WALL PACK LIGHT FIXTURE, LUMARK CROSSTOUR LED SERIES CATALOG NO.;
XTOR3B-Y-BK-PC1.
- (A1)** AREA LIGHT FIXTURE, APPLETON INDUSTRIAL MERCMASTER LED GENERATION 3 SERIES, 5400 LUMEN (NON-HAZARDOUS).
CATALOG NO.;
IMGL52WP3BU1 - CEILING MOUNT
IMGL54WP3BU1 - PENDANT MOUNT
IMGL54WP3BU1 - 25 DEG STANCHION MOUNT
IMGL52WP3BU1 - TRUNNION MOUNT
ADD 'MMVISOR' ACCESSORY TO EACH FIXTURE TO MEET DARK SKY CRITERIA. PURCHASED SEPARATE.
- (A2)** AREA LIGHT FIXTURE, APPLETON INDUSTRIAL MERCMASTER LED GENERATION 3 SERIES, 8300 LUMEN (NON-HAZARDOUS).
CATALOG NO.;
IMGL72WP3BU1 - CEILING MOUNT
IMGL72WP3BU1 - PENDANT MOUNT
IMGL74WP3BU1 - 25 DEG STANCHION MOUNT
IMGL72WP3BU1 - TRUNNION MOUNT
ADD 'MMVISOR' ACCESSORY TO EACH FIXTURE TO MEET DARK SKY CRITERIA. PURCHASED SEPARATE.
- (A3)** HAZARDOUS AREA LIGHT FIXTURE, APPLETON INDUSTRIAL MERCMASTER LED GENERATION 3 SERIES, 5400 LUMEN (NON-HAZARDOUS).
CATALOG NO.;
IMGL52WP3BU1 - CEILING MOUNT
IMGL52WP3BU1 - PENDANT MOUNT
IMGL54WP3BU1 - 25 DEG STANCHION MOUNT
IMGL52WP3BU1 - TRUNNION MOUNT
ADD 'MMVISOR' ACCESSORY TO EACH FIXTURE TO MEET DARK SKY CRITERIA. PURCHASED SEPARATE.

CONFIDENTIAL AND PROPRIETARY

REVISION HISTORY

REV	DATE	DESCRIPTION	BY	CHK	APP
A	08/09/24	ISSUED FOR INFORMATION - NOT FOR CONSTRUCTION	RRS	CFS	SAT
B	09/12/24	ISSUED FOR CLIENT REVIEW - NOT FOR CONSTRUCTION	RSJ	CFS	SAT



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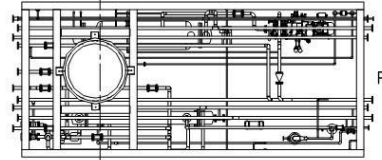
PRODUCTION FACILITY

OVERALL SITE PLAN ROADWAY AND SITE LIGHTING PLAN ELECTRICAL

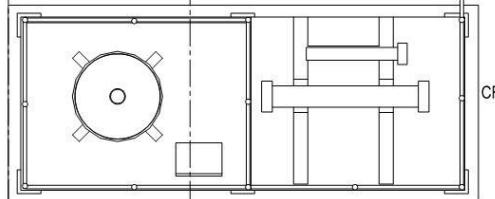
DRAWN	RSJ	CHECKED	CFS	APPROVED	SAT	DATE	09/12/24
SCALE	3/8"=1'-0"	DRAWING NUMBER	N212-KBR-EL-DWG-EJ2-01	REV.	B		

UNIT 300
INTERNAL
PIPE RACK

PREVAPORATION
PROCESS / BUFFER TANKS



PREVAPOR
SKID



CRYSTAL
SKID

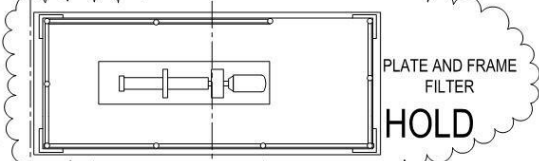
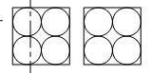


PLATE AND FRAME
FILTER
HOLD

CROWN ETHER
FLOW PATH
→



CARBON BEDS

MODULE 300AB

MODULE 300C

MODULE 300G

MODULE 300K

MODULE 300J

MODULE 300S

MODULE 300X

MODULE 300B

MODULE 300F

MODULE 300L

MODULE 300I

MODULE 300R

MODULE 300Y

MODULE 300A

MODULE 300E

MODULE 300H

MODULE 300M

MODULE 300Q

MODULE 300V

MODULE 300AA

MODULE 300D

MODULE 300N

MODULE 300O

MODULE 300P

MODULE 300W

NORTH SOUTH
EGRESS WAY

NORTH SOUTH
EGRESS WAY

NORTH SOUTH
EGRESS WAY

SOLID MATERIAL

CATECHOL
LOADING

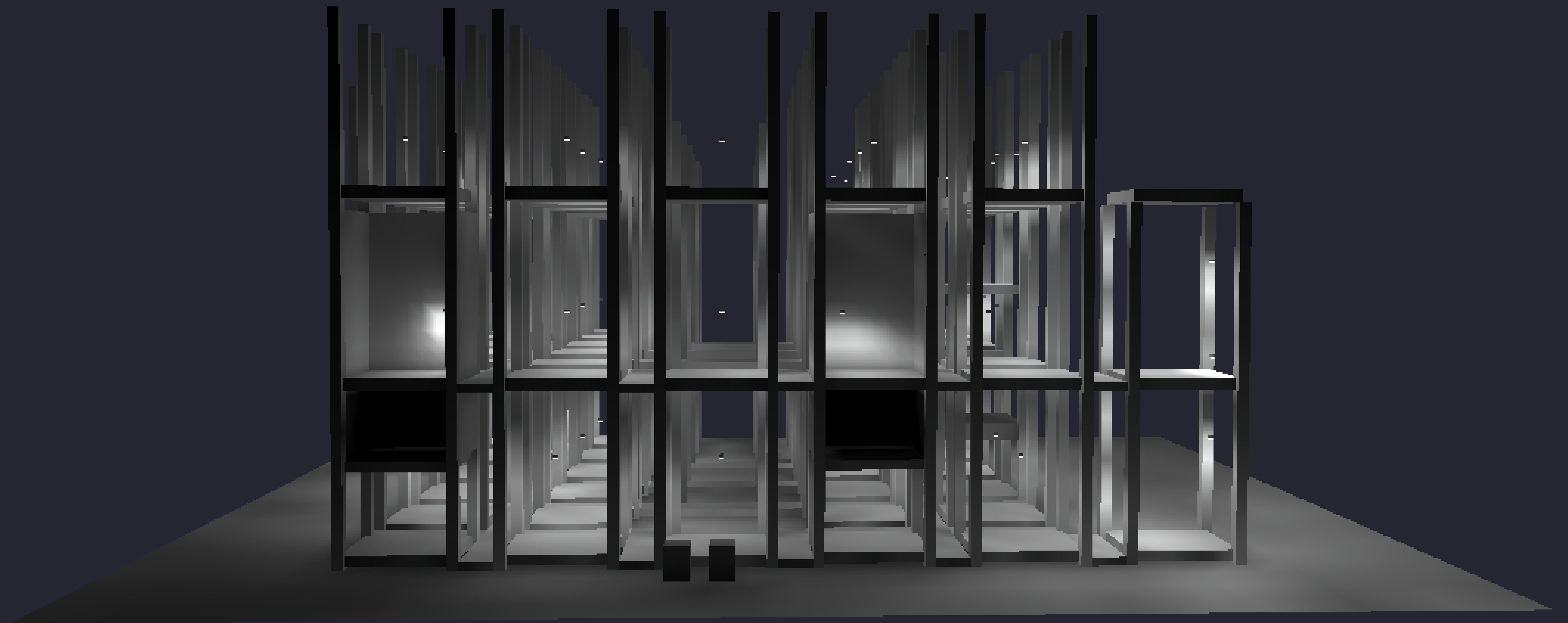
CLOSED DRAIN
SUMP PIT

SOLID
MATERIAL
LIFT

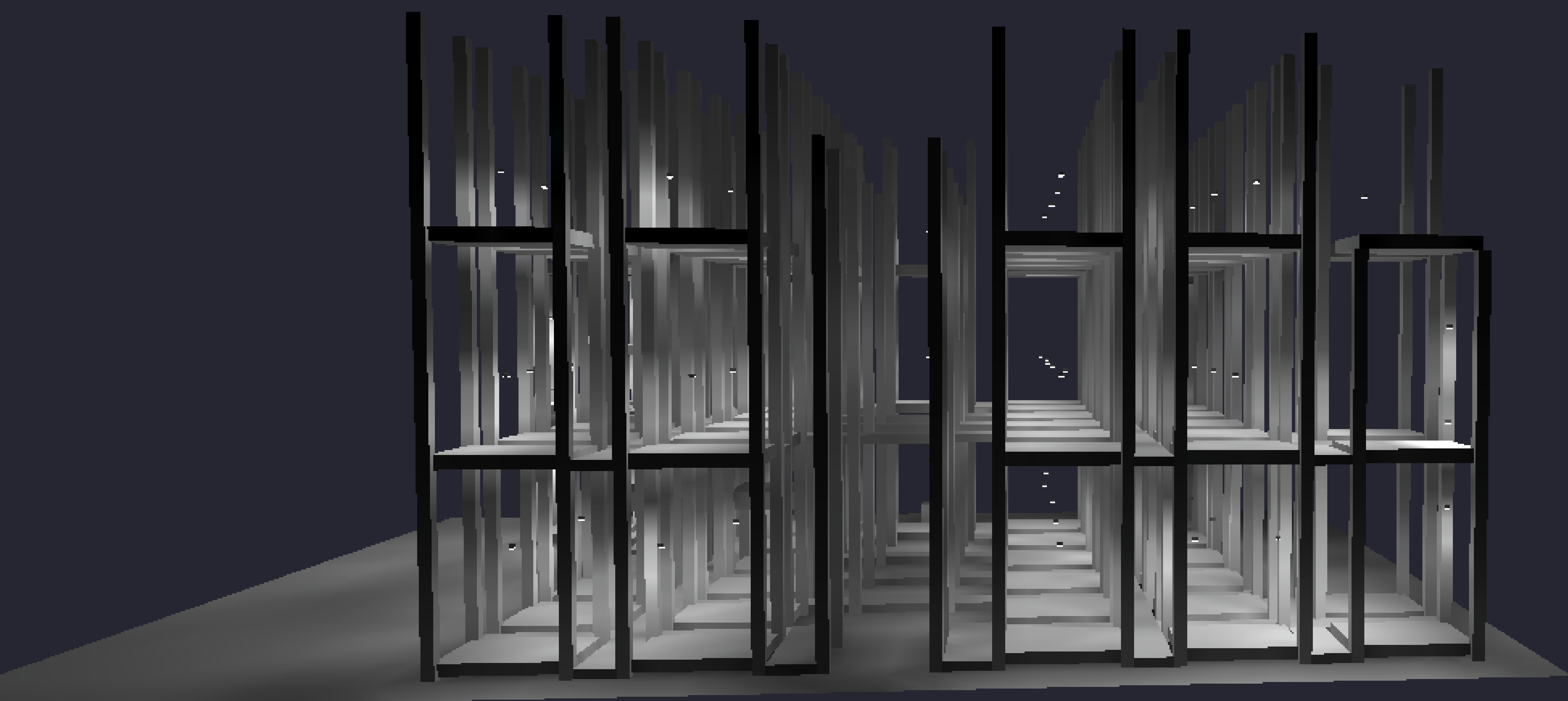
CROWN ETHER
LOADING

PIPE RACK
TO/FROM
UNIT 100

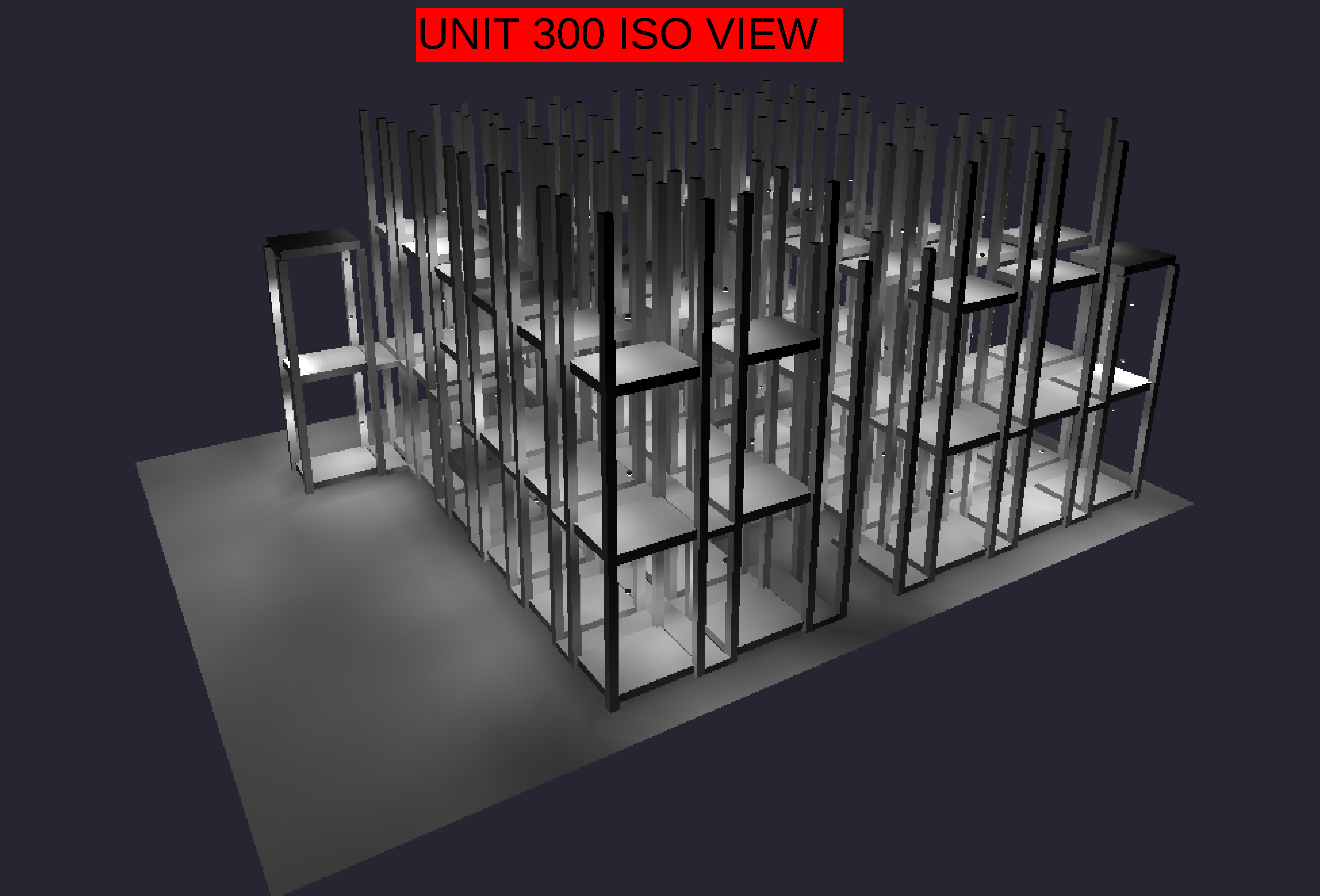
UNIT 300 LOOKING EAST



UNIT 300 LOOKING WEST

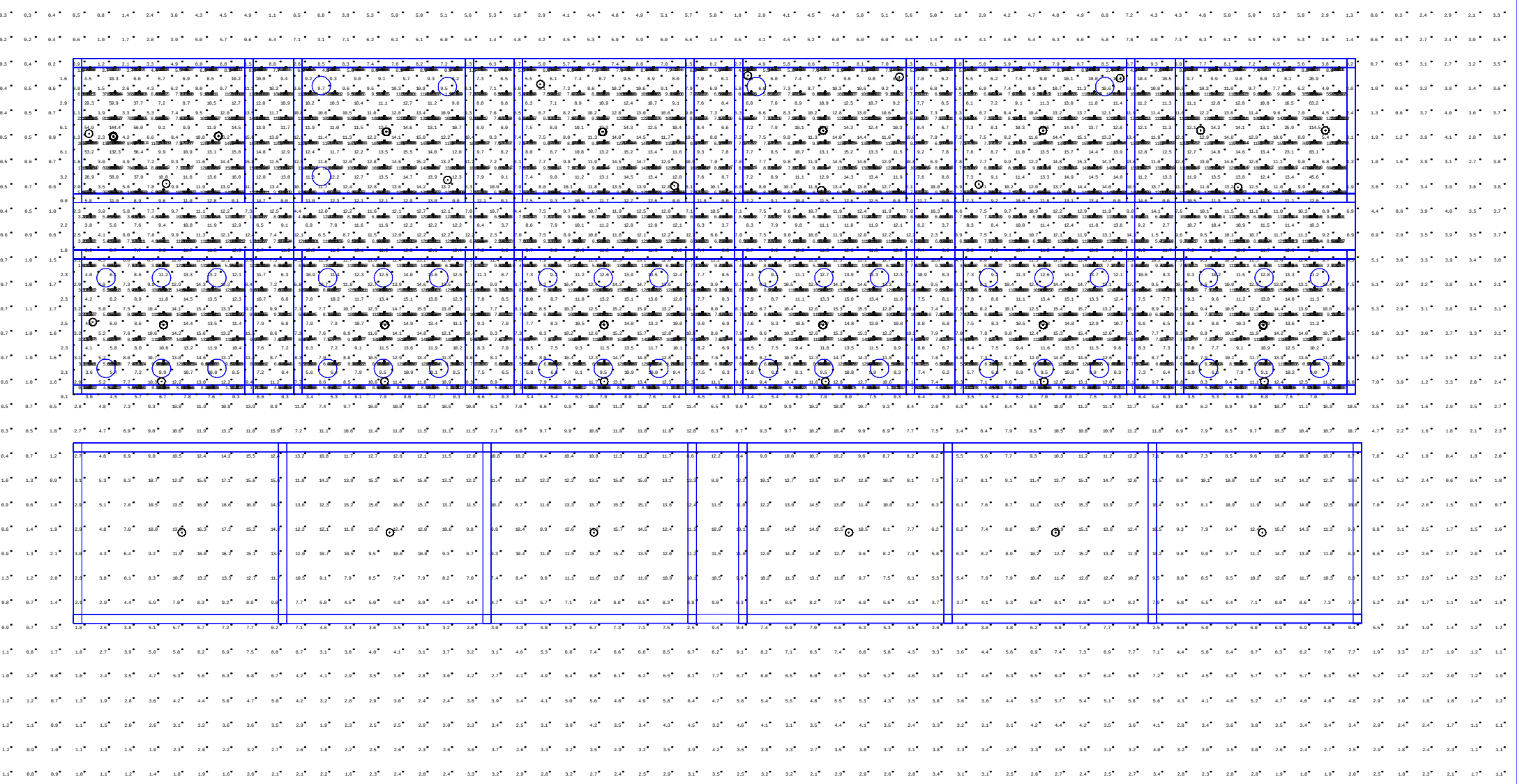


UNIT 300 ISO VIEW

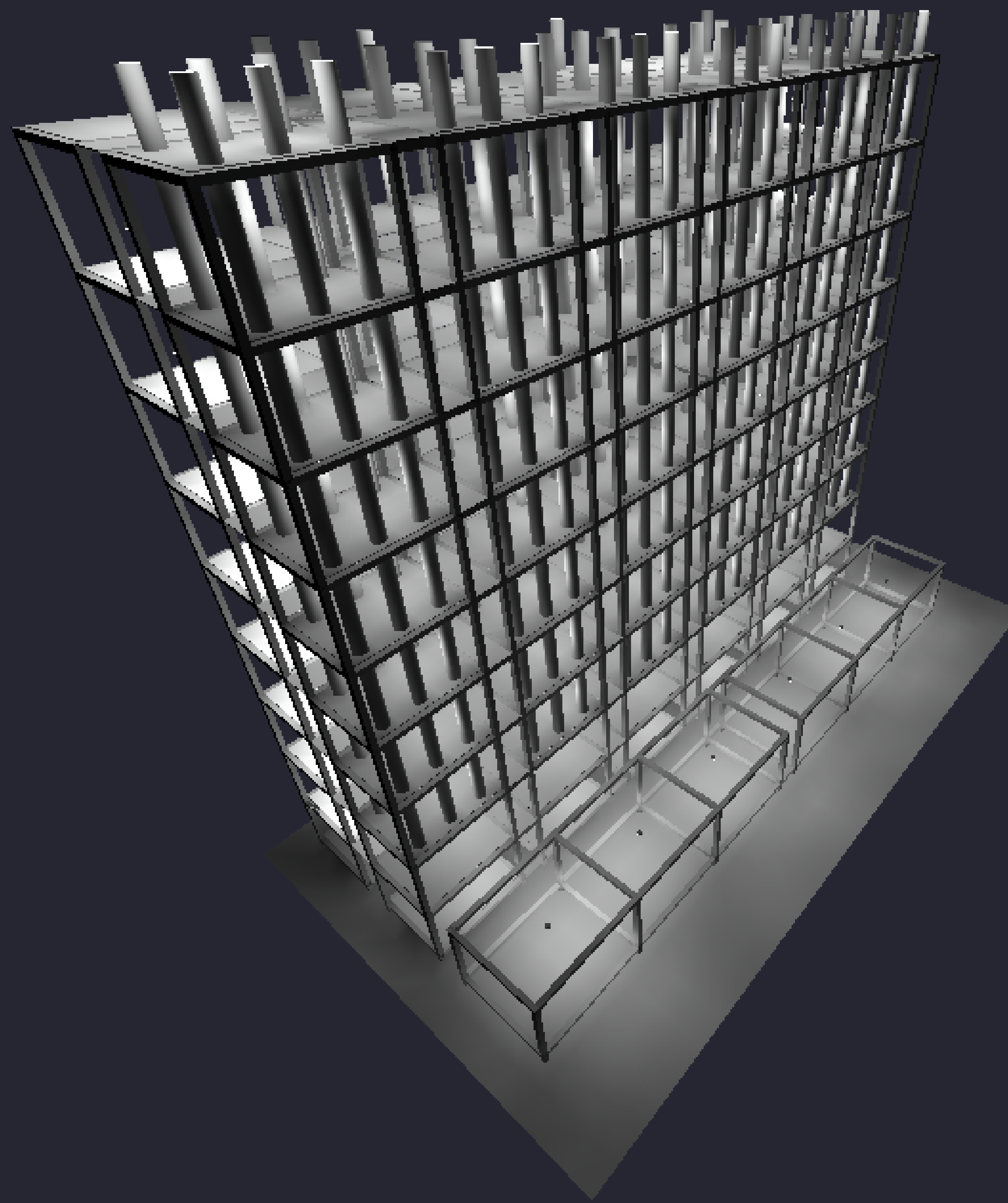


Calculation Summary			
Label	CalcType	Units	Avg
300U Intermediate Platform	Illuminance	Fc	0.00
300X Intermediate Platform	Illuminance	Fc	0.01
First Platform Level Unit 300	Illuminance	Fc	14.92
Ground Floor Unit 300	Illuminance	Fc	12.76
Second Platform Level Unit 300	Illuminance	Fc	13.46

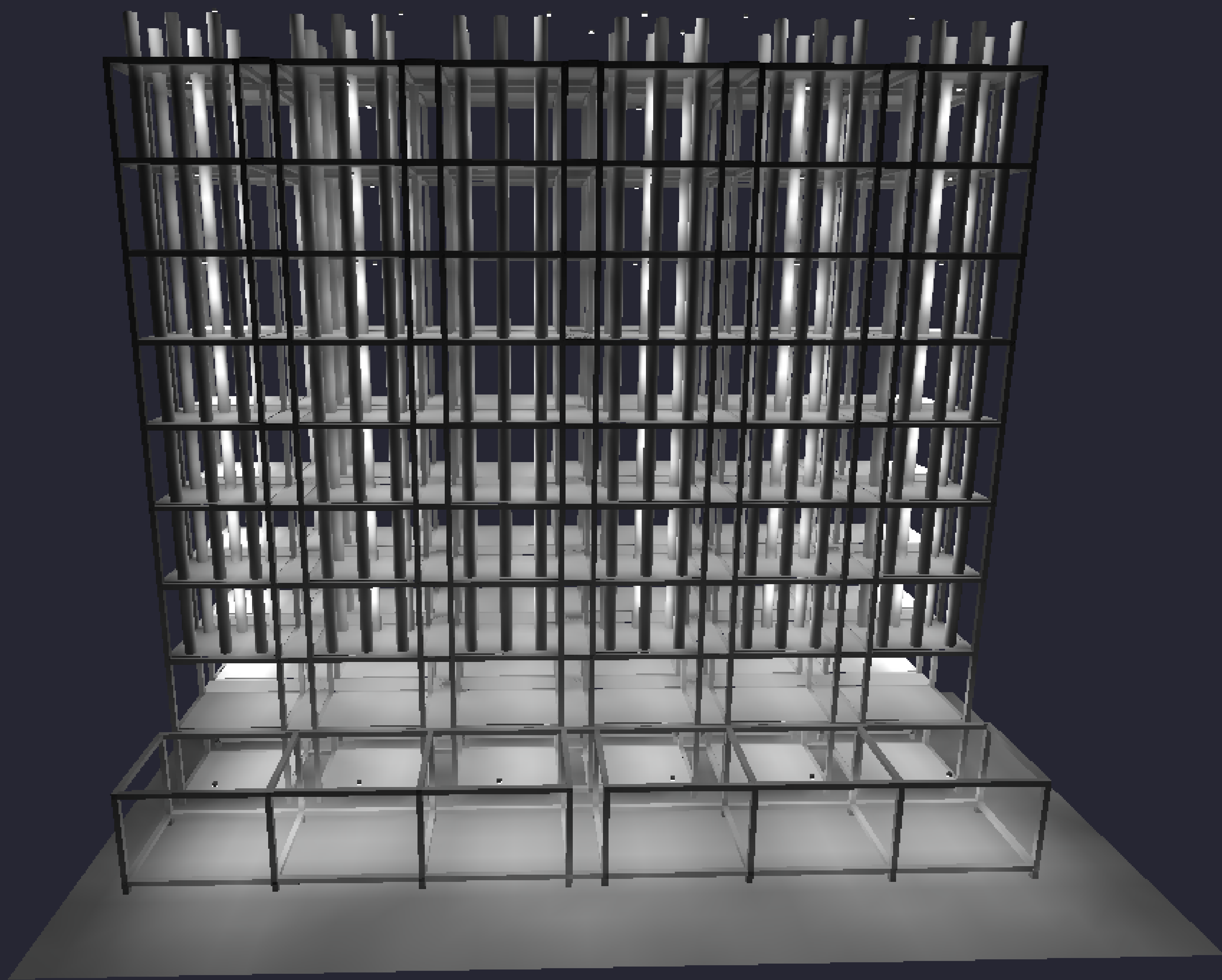
Luminaire Schedule			
Symbol	Qty	Arrangement	Description
⊕	92	SINGLE	MLGL5WP3BU



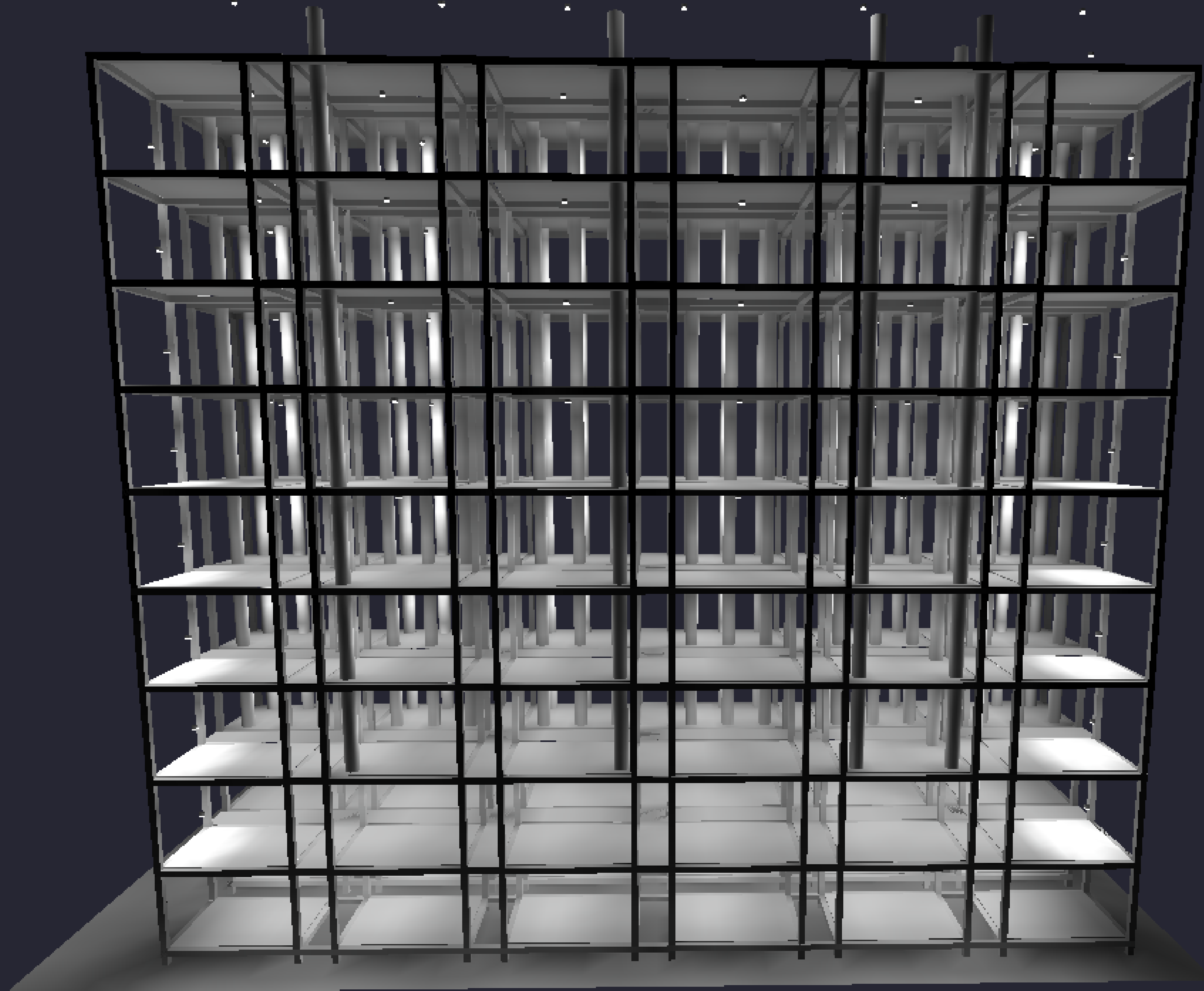
UNIT 400 ISO VIEW



UNIT 400 LOOKING EAST



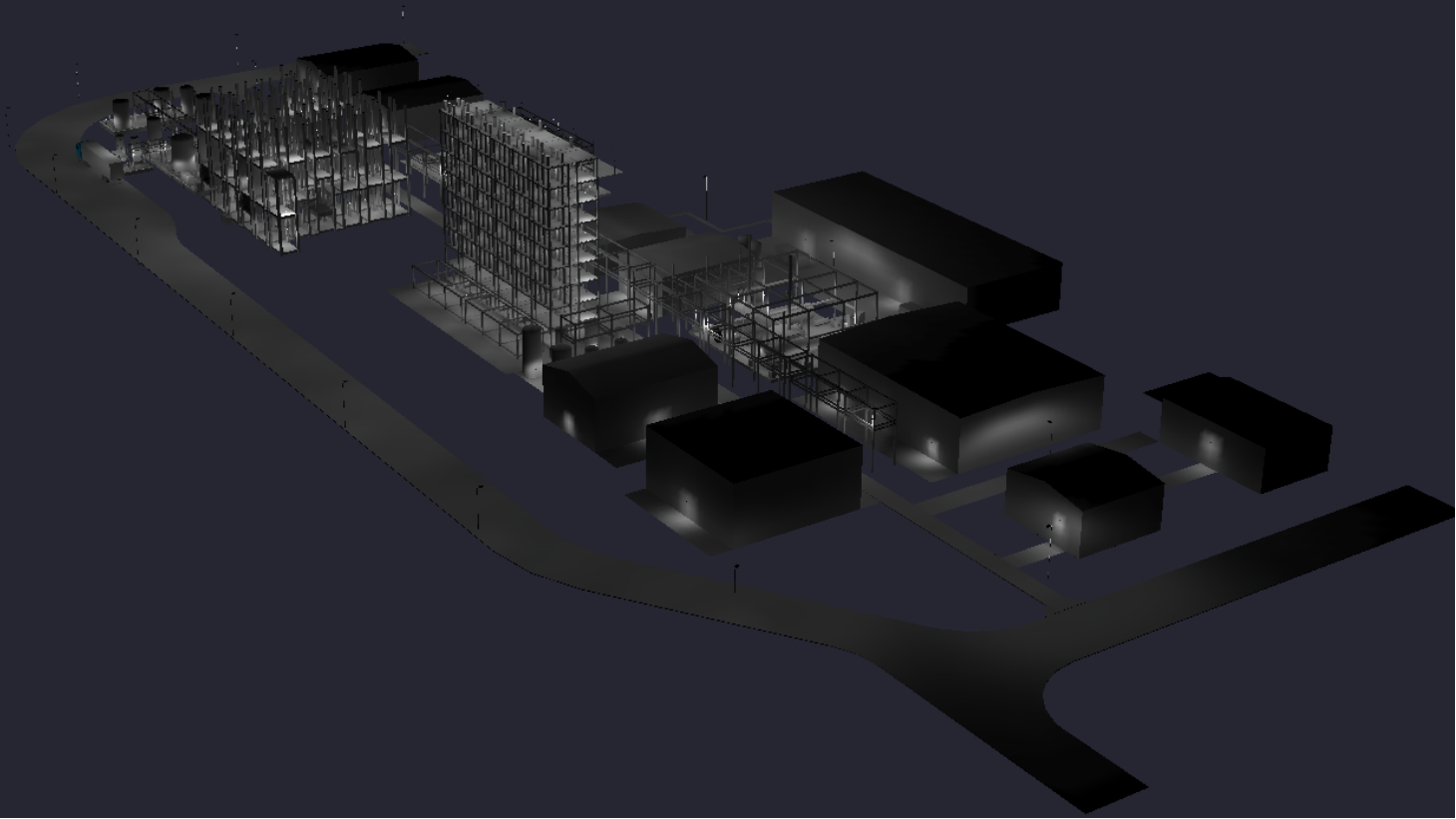
UNIT 400 LOOKING WEST



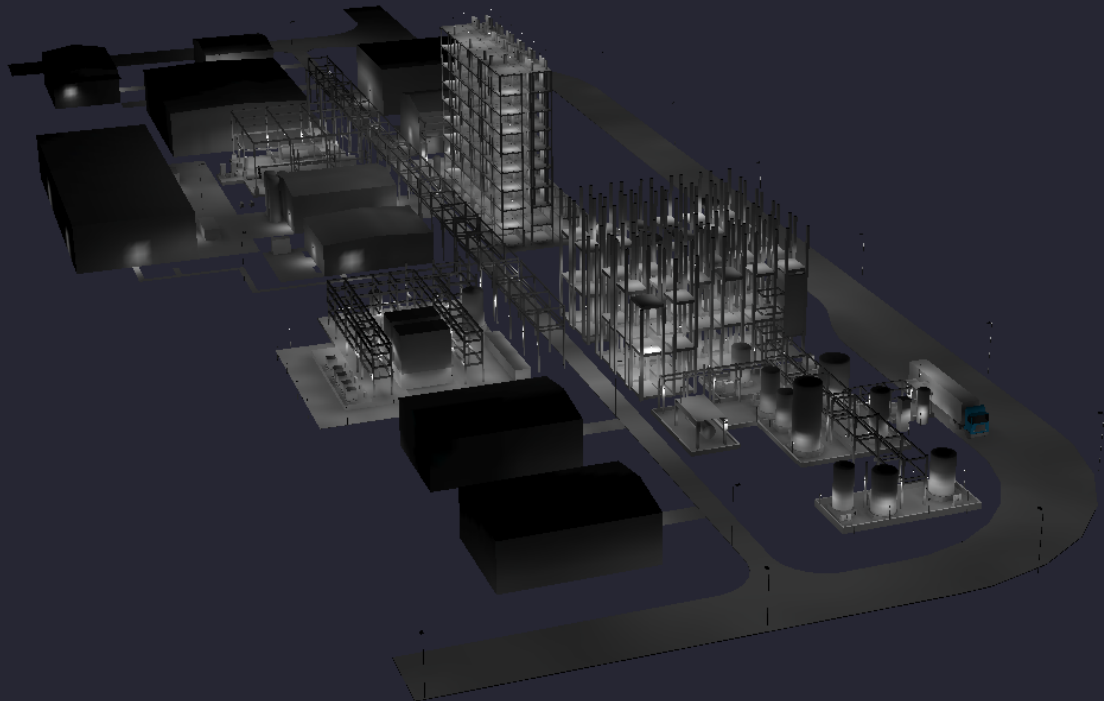
Calculation Summary			
Label	CalcType	Units	Avg
1st Level	Illuminance	Fc	10.80
2nd Level	Illuminance	Fc	10.58
3rd Level	Illuminance	Fc	10.59
4th Level	Illuminance	Fc	10.55
5th Level	Illuminance	Fc	10.48
6th Level	Illuminance	Fc	10.55
7th Level	Illuminance	Fc	10.58
8th Level	Illuminance	Fc	10.48
9th Level	Illuminance	Fc	10.77
Ground Level	Illuminance	Fc	10.48
Ground Level Exterior	Illuminance	Fc	7.41

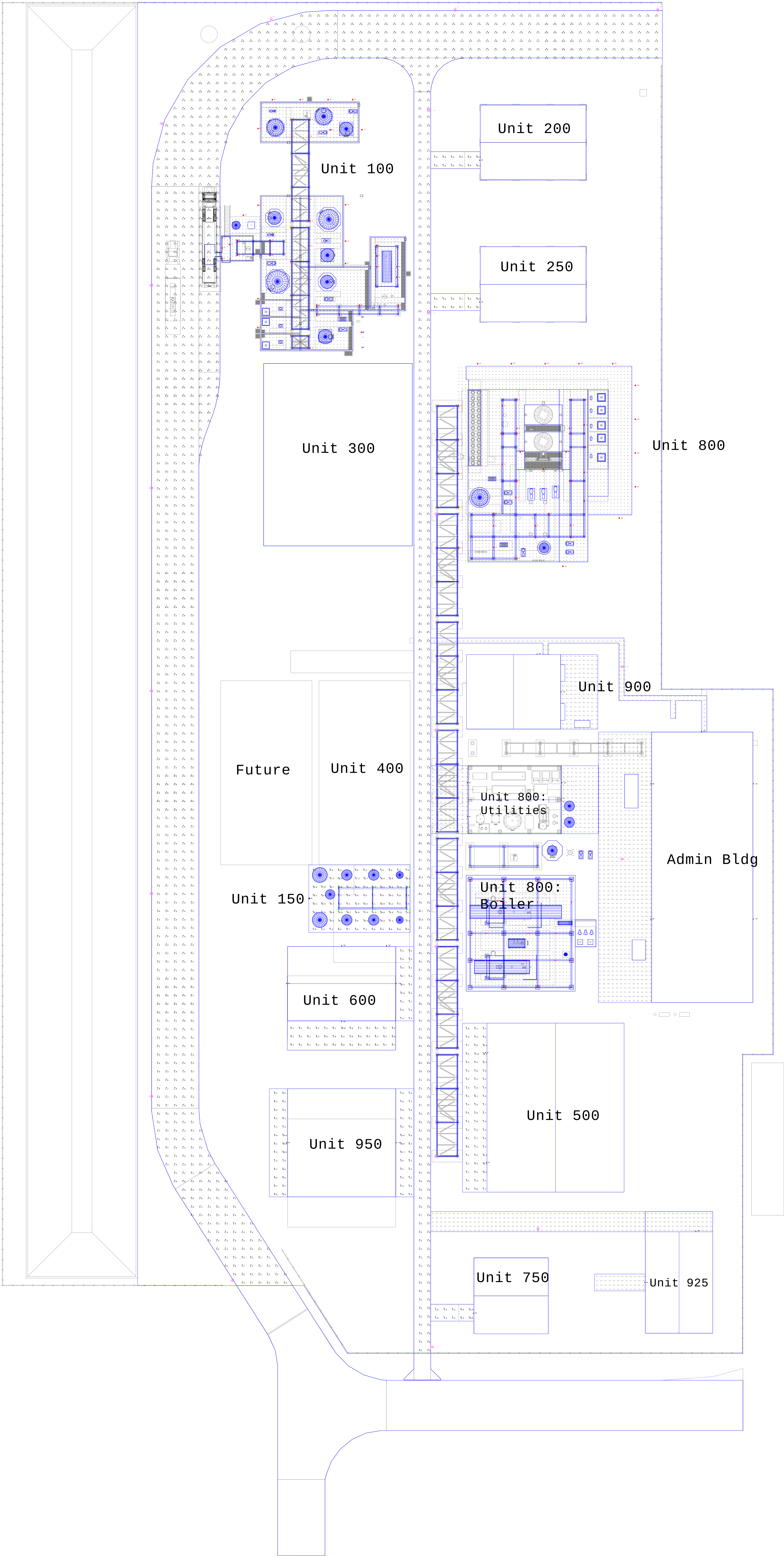
Luminaire Schedule			
Symbol	Qty	Arrangement	Description
⊙	148	SINGLE	MLGL3WP3BU

Site Plan - Looking North



Site Plan - Looking South





Luminaire Schedule			
Symbol	Qty	Label	Description
	8	MLGH1WP3BU_CEILING MOUNTED	MLGH1WP3BU
	20	MLGL5WP3BU_CEILING MOUNTED	MLGL5WP3BU
	49	MLGL5WP3BU_COLUMN MOUNTED	MLGL5WP3BU
	8	MLGL5WP3BU_HANDRAIL MOUNTED	MLGL5WP3BU
	24	MLGL5WP3BU_POLE MOUNTED	MLGL5WP3BU
	6	MLGL7WP3BU+Visor_2018-June-20	MLGL7WP3BU
	4	RAR2-320L_COLUMN MOUNTED	RAR-2-320L-140-4K7-5Qw
	16	RAR2-320L_POLE MOUNTED	RAR-2-320L-140-4K7-5Qw
	24	XTOR3B-Y wall pack	XTOR3B-Y
	1	MLGL7WP3BU+Visor Pole Mounted	MLGL7WP3BU

Calculation Summary					
Label	CalcType	Units	Avg	Max	Min
STREET LIGHTING	Illuminance	Fc	1.65	12.9	0.0
Unit 150 Ground Floor	Illuminance	Fc	11.88	24.3	0.1
Unit 200 Front Approach	Illuminance	Fc	5.90	15.5	1.8
Unit 250 Front Approach	Illuminance	Fc	6.38	15.8	2.5
Unit 500 Front	Illuminance	Fc	4.34	48.4	0.4
Unit 600 Front of Structure	Illuminance	Fc	6.32	39.1	1.5
Unit 600 Overhang Area	Illuminance	Fc	1.86	29.6	0.1
Unit 750 Front Approach	Illuminance	Fc	6.34	15.6	1.8
Unit 800 Front Area	Illuminance	Fc	5.76	46.5	0.3
Unit 800 Rear Area	Illuminance	Fc	4.11	45.5	0.4
Unit 900 Rear Entrance Area	Illuminance	Fc	3.85	46.1	0.3
Unit 900 Walking Path	Illuminance	Fc	2.46	41.7	0.1
Unit 925 Canopy Area	Illuminance	Fc	3.50	15.3	0.3
Unit 925 Walk Path	Illuminance	Fc	1.95	2.9	0.4
Unit 925 West Entrance Area	Illuminance	Fc	4.62	15.5	1.1
Unit 950 Front	Illuminance	Fc	4.98	38.6	1.6
Unit 950 Rear	Illuminance	Fc	3.50	40.0	0.2
UNIT100-PLATFORM1	Illuminance	Fc	12.80	19.4	6.1
UNIT100-PLATFORM2	Illuminance	Fc	12.19	22.6	3.0
UNIT100-TANK FARM-AREA 1	Illuminance	Fc	14.63	22.2	6.0
UNIT100-TANK FARM-AREA 2	Illuminance	Fc	11.20	20.8	3.8
UNIT800 - UTILITY NORTH	Illuminance	Fc	10.30	22.3	2.4
UNIT800 - UTILITY SOUTH	Illuminance	Fc	13.39	21.9	3.4
UNIT800 - UTILITY SOUTH_PL1	Illuminance	Fc	15.43	23.2	9.1
UNIT800 - UTILITY SOUTH_PL2	Illuminance	Fc	18.24	33.8	8.9
UNIT800-UTILITY NORTH PLATFORM	Illuminance	Fc	12.88	23.6	3.2
West Side Unit 900 Admin	Illuminance	Fc	3.03	48.9	0.2



Understanding Dark Skies

To promote energy conservation, reduction of carbon emissions, public safety, and astronomical research capabilities many countries have enacted “dark skies” legislation. There are a few authoritative voices lighting manufactures need to consider when developing products to control light pollution.

Dark Sky Approval requirements per the International Dark-Sky Association:

- There is an uplight allowance of 0.5% of total output or 50 lumens; whichever is lower, with no more than 10 lumens in 90-100 degree UL zone. Allowable uplight as a byproduct of the structure and not the source, i.e. the fixture is fully shielded
- Luminaires are required to have fixed mounts to ensure they are mounted as photometered. There can be up to + or- 10 degree adjustment for leveling if needed
- Luminaires must have dimming capability to 10% of full rating
- Light sources shall have a maximum correlated color temperature of 3000K

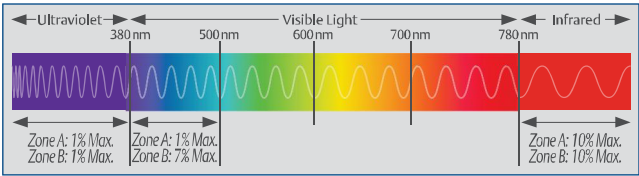
Light pollution friendly refers to product lines where Dark Sky Approval photometric requirements are met:

- The fixture design, provides additional mounting flexibility that is outside of the compliant +/-10% leveling allowed.
- The fixture should be installed facing downward.

Chile Zoning Compliance per the Ministry of Environment (MMA):

- There is an uplight allowance of 0.0% at 90 degrees.
- Luminaires must be installed looking down, unless a visor is provided. Installation with a visor should be at a 50-degree angle maximum.
- Depending on the application Zone, the below blue light requirements must be met.
 - Zone A (special protection area such as astronomy and biodiversity): Maximum content of visible blue spectrum to be 1%
 - Zone B (Other areas): Maximum content of visible blue spectrum to be 7%

Light Spectrum | Chile Zone A & B



Different types of light pollution and how they can be minimized

	Pollution Type	Issue	Solution
	Glare	Unshielded lighting is too bright that it effects the field of vision; can decrease visual acuity and causes eye fatigue.	Use warmer correlated color temperature lighting solution that aims lights downwards. Use reflectors or visors if necessary.
	Light Trespass	Light is distributed to areas where is it not needed or wanted.	Use fixtures in a downward fixed position with reflectors or visors to direct light down to the area required only.
	Clutter	Light fixtures are placed too close together creating brighter area of concentrated light.	Use photometric simulation to determine lowest lumen output required, minimum number of fixtures and placement of fixtures to avoid over lighting an area.
	Sky Glow	When the combination of all the reflected light and upward-directed (unshielded) light escapes up into the sky. It is a combination of light trespass and clutter.	Aim lights downwards, instead of wasting light by directing it above the horizontal plane. Shielding the light source will minimize glare and light trespass.

Understanding Dark Skies | Appleton™ LED Series Luminaires by Emerson

As an industry leader and a corporate citizen in our communities, Emerson seeks to improve quality of life, reduce the impact of our operations and products on the environment, and leave the planet in a better place for future generations. Our environmental stewardship is reflected in the design of our Appleton LED luminaires. The below models are either Dark Sky Approved, Chile Zoning Compliant, or Light Pollution Friendly. Refer to product series catalog pages for detailed product specifications and Catalog Numbering Guide; available on www.masteringled.com/smartled.

	IDA Dark Sky Approved	Light Pollution Friendly	Chile Zoning Compliant	Class I, Division 2	Class II, Division 1	Class II, Division 2	Class III	Zone 2	Zone 20	Zone 21	Zone 22	Wet Locations	Marine Outside Type	ABS Certified	NOM	Type 3R	Type 4	Type 4X	IP66	IP67	IK08	IK10
Mercmaster™ LED Generation 3 Series Luminaires Lumen Output: 3,200 to 26,070																						
	Hazardous Model	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	Industrial Model	•	•									•	•	•	•	•	•	•	•	•	•	
• IDA Dark Sky Approved: [I]MLG[A/B/C/D/R/W]xxxW[P/D/G]5Bxxx with MMVISOR accessory • Light pollution Friendly: [I]MLG[T/K/U/X]xxxW[P/D/G]xBxxx with MMVISOR accessory																						
Mercmaster™ LED Low Profile Series Luminaires Lumen Output: 2,800 to 7,500																						
	Hazardous Model	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•
	Industrial Model	•	•	•								•	•	•	•	•	•	•	•	•	•	•
• IDA Dark Sky Approved: [I]MLLED[A/B/C/D/R/W] xxW[P/D/G]5Bxxx with MMVISOR accessory • Light pollution Friendly: [I]MLLED[T/K/U/X] xx[A/S/W] [P/D/G]5Bxxx with MMVISOR accessory • Chile Zoning compliant Zone A: [I]MLLEDxxxA [P/D/G]5Bxxx with local Visor accessory ① • Chile Zoning compliant Zone B: [I]MLLEDxxx[A/S] [P/D/G]5Bxxx with local Visor accessory ①																						
Contender™ LED Series Luminaires Lumen Output: 3,300 to 5,500																						
	Hazardous Model	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•
	Industrial Model	•	•									•	•	•	•	•	•	•	•	•	•	•
• IDA Dark Sky Approved: [I]VMV[3L/4L/5L]W[P5/D5/G5]xxx with MMVISOR accessory																						
Rigmaster™ LED Linear Series Luminaires Lumen Output: 3,890 to 7,650																						
	Hazardous Model	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•
	Industrial Model	•	•									•	•	•	•	•	•	•	•	•	•	•
• IDA Dark Sky Approved: [I]RM[A/B/L][2/4][1/2]W[D/P]L [BU/BH][N/H/E]G[W/T] [Blank/1/2] with [I]RMPENDKIT/[I]RMHPENDKIT • Light Pollution Friendly: [I]RM[A/B/L][2/4][1/2]W[D/P]L [BU/BH][N/H/E]G[W/T] [Blank/1/2]																						
Areamaster™ Generation 2 LED Luminaires Lumen Output: 5,950 to 37,500																						
	Hazardous Model		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	Industrial Model		•	•								•	•	•	•	•	•	•	•	•	•	
• Light Pollution Friendly: [I]AMLG[L6/L7/L8]W[G/F/D][6/7][BU/BH][F/S/M] with AMLGV Visor accessory or [I]AMLH[L1/L2/L3]W[G/F][3/5/6/7][BU/BH][F/S/M] with AMLHV Visor accessory • Chile Zoning Compliant Zone A: [I]AMLG[L6/L7/L8]A[G/F/D][6/7][BU/BH][F/S/M] or [I]AMLH[L1/L2/L3]A[G/F][3/5/6/7][BU/BH][F/S/M] with local Visor accessory ① • Chile Zoning Compliant Zone B: [I]AMLG[L6/L7/L8][A/S][G/F/D][6/7][BU/BH][F/S/M] or [I]AMLH[L1/L2/L3][A/S][G/F][3/5/6/7][BU/BH][F/S/M] with local Visor accessory ①																						
Baymaster™ LED Luminaires Lumen Output: 5,950 to 37,500																						
	Hazardous Model		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
	Industrial Model		•	•								•	•	•	•	•	•	•	•	•	•	
• Light Pollution Friendly: [I]BLL[Blank/P][L6/L7/L8]W[G/F/D][A/M/W]N[BU/BH][F/S/M] or [I]BHL[Blank/P][L1/L2/L3]W[G/F][V/N/M/W]N[BU/BH][F/S/M] • Chile Zoning Compliant Zone A: [I]BLL[Blank/P][L6/L7/L8]A[G/F/D][A/M/W]N[BU/BH][F/S/M] or [I]BHL[Blank/P][L1/L2/L3]A[G/F][V/N/M/W]N[BU/BH][F/S/M] with local Visor accessory ① • Chile Zoning Compliant Zone B: [I]BLL[Blank/P][L6/L7/L8][A/S][G/F/D][A/M/W]N[BU/BH][F/S/M] or [I]BHL[Blank/P][L1/L2/L3][A/S][G/F][V/N/M/W]N[BU/BH][F/S/M] with local Visor accessory ①																						

① Contact your local Appleton Sales Representative for details about ordering Chile Zoning Compliant luminaire with local Visor accessory.

INDUSTRIAL MERCMASTER™ LED GENERATION 3 SERIES LUMINAIRES

STANDARD — ORDINARY LOCATION

FEATURES

- Modular design provides thousands of combinations for maximum versatility
- Choice of optics for optimal light distribution in a variety of applications: Type I, Type III, Type V or Type V Wide
- Customize to the application requirements with four different globe options: clear and diffused polycarbonate, clear glass, or prismatic glass refractor
- Seven standard mounting hood designs allow for mounting in any location. Uses same mounting hoods as Mercmaster III, Mercmaster LED and Mercmaster LED Low Profile.
- Retrofit adapters for Crouse-Hinds™, Mercmaster II, and Killark™ hoods available.
- Watertight Pendant Hood with IP68 cord grip available to address water ingress into luminaire via conduit
- Higher ambient options available (up to 75 °C [167 °F]) on select configurations
- Hinge has high lip for added safety during installation and servicing. Hinge and bolt construction assures 360° compression at all points on fixture housing gasket for positive sealing. Swing away design of captive bolt and nut simplifies installation

WARRANTY

- 5 year standard warranty. 10 year limited warranty for select part number configurations

TYPICAL APPLICATIONS

- Power plants
- Processing plants
- Chemical plants
- Oil refineries
- Waste and sewage treatment
- Hydrogen and Biofuels plants
- LNG (Liquid Natural Gas) plants
- Other areas where dust, water, dirt and rough usage are a problem

LUMINAIRE MATERIALS

- Mounting hoods and bodies: cast copperfree (4/10 of 1% max.) aluminum
- Gaskets: silicone
- All hardware and catch assemblies: stainless steel
- Globe: polycarbonate or glass
- Globe guard, short refractor guard and safety cable: stainless steel

ACCESSORIES (PURCHASE SEPARATELY)

- Globe guard: MGU1
- Refractor guard: KRG2S
- Visor: MMVISOR
- 30° Angled Reflector: CMR-4AN

NEC/CEC/NOM LISTINGS

- Marine Outside Type (Salt Water)
- Type 3R, 4, 4X
- IP66/IP67
- Simultaneous Exposure
- Suitable for Use in Wet Locations
- NOM

IECEE CB LISTINGS

- IP66
- IK08

NOTABLE LISTINGS

- ABS Certified
- Dark Sky (IDA) Approved
- DLC listed

RELATED PRODUCTS

- Industrial Mercmaster LED Generation 3 Luminaires with Emergency Battery Backup
- Mercmaster LED Generation 3 Luminaires Standard or with Emergency Battery Backup
- Industrial Mercmaster Connect LED Luminaires



IMLG*L + Clear Globe + Ceiling Mount



IMLG*L + Short Refractor + Ceiling Mount



IMLG*H/IMLG*X + Clear Globe + Ceiling Mount



IMLG*H/IMLG*X + Short Refractor + Ceiling Mount

PRODUCT SPECIFICATIONS

Series * Lumen Output	IMLG*L3	IMLG*L5	IMLG*L7	IMLG*L9	IMLG*H9	IMLG*H1	IMLG*H3	IMLG*H6	IMLG*X1	IMLG*X5	
Nominal Wattage (W, @120 V)	30	46	57	75	75	93	115	145	169	210	
Equivalencies (W, HID)	70 -100	100 -150	175 -250	250-350	250-350	350-400	400	400-600	600-750	1000	
Nominal Lumens ❶	3700	5400	8300	10400	11200	13600	16400	20100	21937	26070	
Efficacy (up to, lm/W) ❶	123	117	146	139	149	146	143	139	130	124	
Color Temperature (CCT) (K)	5000 / 4000/3000										
Color Rendering Index (CRI)	≥ 70 CRI (5000K) ≥ 80 CRI (4000K / 3000K)										
Voltage	120-277 Vac, 50/60 Hz; 125-300 Vdc 347-480 Vac, 50/60 Hz										
Surge Protection	Standard: 6 kV, 3 kA Optional: 10 kV, 5 kA										
Lifetime (hrs, reported)	L90 > 60000 hrs @ 75 °C					L70 > 76000 hrs @ 25 °C					
Ambient Temperature ❷	Standard: -40 °C to +65 °C (-40 °F to +149 °F) High ambient: -40 °C to +75 °C (-40 °F to +167 °F)										
Fixture Weight - kg (lbs) ❸	9.20 (20.3)					12.00 (26.4)				13.15 (29.0)	
Replaceable Parts	Drivers, Globes										

❶ Nominal lumens are based on 5000K CCT, clear glass lens and Type III optic (L3 thru L9) or Type V optic (H1 thru X5). Review the catalog pages for detailed performance.

❷ Refer to catalog pages for detailed temperature tables/operating temperature based on lumen output/certification. High ambient max temperature may vary from +70 °C to +75 °C (+158 °F to +167 °F).

❸ Driver housing weight shown. See catalog pages for more details.

APPLETON™

For product information:
www.masteringled.com
1.800.621.1506



CONSIDER IT SOLVED™

INDUSTRIAL MERCMASTER™ LED GENERATION 3 SERIES LUMINAIRES

STANDARD — ORDINARY LOCATION

Project Information

Part Number: _____ Date: _____
 Project: _____
 Fixture Type: _____

Specifications

CATALOG NUMBERING GUIDE

Series Prefix	Mounting	Lumen (nominal)	Hub Size	Color Temperature	Globe Material	Light Distribution Pattern	Voltage	Optional Fusing	Options
IMLG	C	L3	2	W	P	3	BU		

SERIES PREFIX:

IMLG Industrial Mercmaster LED Generation 3 Series

MOUNTING:

A Pendant
B Watertight Pendant ▲
C Ceiling ⑥
D Pendant Cone ▲ ⑥
R 90° Stanchion ①
S 25° Stanchion ①
T Trunnion
K Killark™ Adapter Universal ▲
U Mercmaster II Adapter, Ceiling or Pendant ▲
V Mercmaster II Adapter, Stanchion or Wall ▲
W Wall
X Crouse Hinds™ Adapter, Ceiling or Pendant ▲ ⑦
Y Crouse Hinds™ Adapter, Stanchion or Wall ▲
Blank No mounting hood

LUMEN (NOMINAL): ②*

L3 3,500
L5 5,500
L7 7,500
L9 9,500
H9 9,500 ◆
H1 11,500
H3 13,500
H6 17,500
X1 20,000
X5 24,000

HUB SIZE: ③

2 3/4" NPT
3 1" NPT
4 1-1/4" NPT stanchion
5 1-1/2" NPT stanchion
6 Metric M20
Blank If using adapter or no hood

COLOR TEMPERATURE (CCT): ‡

C Cool, 5000K
N Neutral, 4000K
W Warm, 3000K

GLOBE MATERIAL: ③

P Clear Polycarbonate Globe
D Diffused Polycarbonate Globe
G Clear Glass Globe
J Short Glass Prismatic Refractor ⑩

LIGHT DISTRIBUTION PATTERN:

1 Type I ⑧
3 Type III ⑧
5 Type V
W Type V Wide

VOLTAGE:

BU 120-277 Vac, 50/60 Hz;
 125-300 Vdc
BH 347-480 Vac, 50/60 Hz ▲

OPTIONAL FUSING: ④

F Fusing
Blank No fusing

OPTIONS:

1 Photocontrol 120V ⑤
2 Photocontrol 208V ⑤
3 Photocontrol 240V ⑤
4 Photocontrol 277V ⑤
S Additional surge to 10 kV †
A High Ambient ★◆
Blank No Options Chosen

① 3/4" NPT, 1" NPT and Metric M20 hub entries are not offered in this mounting option.

② Refer to catalog pages for detailed lumen output information, see Lumen Output (Efficacy) Table.

③ Guards for the glass refractors and globes are ordered separately. Refer to catalog pages for complete accessories information.

④ Fusing only permitted for cCSAus rating. Factory installed. Use of fuse voids Marine Outside Type (Salt Water) rating. Fusing is mounted in the driver housing. For retrofit applications, fusing must be removed from the mounting hood and ordered in the luminaire.

⑤ Luminaires with photocontrol are not rated IECEx, IP66/67, 3R, 4, 4X, or Marine Outside Type (Salt Water). Photocontrol available for 120-277 Vac only. Factory installed in the mounting hood.

⑥ Ceiling-mount and pendant cone mounting hoods and adapters are not designed to use the in hood photocontrol. Ceiling and pendant cone mounts must use an FS/FD box with photocontrol. Contact your local sales rep for more information.

⑦ Only allowed for Type V and Type V Wide light distribution.

⑧ Type I and Type III use a multiple hinge housing.

⑨ Hub size does not apply to luminaires ordered with adapters.

⑩ Short glass prismatic refractor (J) is only available in light distribution pattern Type V.

★ For NEC/CEC, high ambient is available with lumen packages L3 to H3. For IECEx, high ambient is available with lumen packages L7, H9 and H1. See details in Temperature Code tables for specific NEC/CEC or IECEx applications.

◆ H9 only available with High Ambient option (-A). Refer to catalog pages for detailed temperature code tables for specific NEC/CEC applications.

† 10 year warranty standard when ordered with light distribution pattern Type I, III or V Wide or additional (10 kV) surge protection (not available with high ambient options).

‡ Other CCT options available upon request. Contact your local sales representative for more information.

▲ Adapters, watertight pendant hood and BH Voltage only certified for cCSAus.

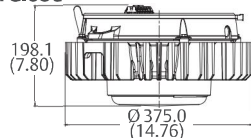
◆ Killark is a registered trademark of Hubbell Incorporated.

+ Crouse-Hinds is a registered trademark of Cooper Crouse-Hinds.

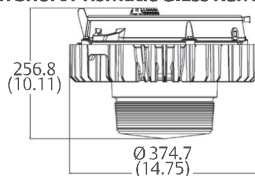
DIMENSIONAL DRAWINGS • | MILLIMETERS (INCHES)

IMLG* L3 to IMLG* L9

With Globe

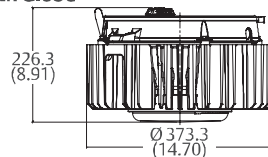


With Short Prismatic Glass Refractor

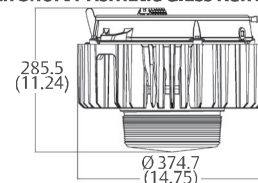


IMLG* H1 to IMLG* H9 and IMLG* X1 to IMLG* X5

With Globe



With Short Prismatic Glass Refractor



① Driver housing models with globes shown. Refer to catalog pages or the Product Drawing configurator page for additional dimensional information; available on www.masteringled.com.

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 Canada: + 1.888.765.2226 | China: + 86.21.3338.7000 | Europe: + 33.3.22.54.13.90
 Mexico/Latin America: + 52.55.5809.5049 | Middle East/Africa/India: + 971.4.811.8100
www.masteringled.com

EMERSON™

MERCMASTER™ LED GENERATION 3 SERIES LUMINAIRES

STANDARD — HAZARDOUS LOCATION

FEATURES

- Modular design provides thousands of combinations for maximum versatility
- Choice of optics for optimal light distribution in a variety of applications: Type I, Type III, Type V or Type V Wide
- Customize to the application requirements with four different globe options: clear and diffused polycarbonate, clear glass, or prismatic glass refractor
- Seven standard mounting hood designs allow for mounting in any location. Uses same mounting hoods as Mercmaster III, Mercmaster LED and Mercmaster LED Low Profile.
- Retrofit adapters for Crouse-Hinds™⁺, Mercmaster II, and Killark™[✦] hoods available.
- Watertight Pendant Hood with IP68 cord grip available to address water ingress into luminaire via conduit
- Higher ambient options available (up to 75 °C [167 °F]) on select configurations
- Hinge has high lip for added safety during installation and servicing. Hinge and bolt construction assures 360° compression at all points on fixture housing gasket for positive sealing. Swing away design of captive bolt and nut simplifies installation

WARRANTY

- 5 year standard warranty. 10 year limited warranty for select part number configurations

TYPICAL APPLICATIONS

- Power plants
- Processing plants
- Chemical plants
- Oil refineries
- Waste and sewage treatment
- Hydrogen and Biofuels plants
- LNG (Liquid Natural Gas) plants
- Other areas where dust, water, dirt and rough usage are a problem

LUMINAIRE MATERIALS

- Mounting hoods and bodies: cast copperfree (4/10 of 1% max.) aluminum
- Gaskets: silicone
- All hardware and catch assemblies: stainless steel
- Globe: polycarbonate or glass
- Globe guard, short refractor guard and safety cable: stainless steel

ACCESSORIES (PURCHASE SEPARATELY)

- Globe guard: MGU1
- Refractor guard: KRG2S
- Visor: MMVISOR
- 30° Angled Reflector: CMR-4AN

NEC/CEC LISTINGS ①

- NEC: Class I, Division 2, Groups A, B, C, D | Class II, Division 1, Groups E, F, G | Class II Division 2 Groups F, G | Class III
- CEC: Class I, Zone 2 AEx ec IIC | Zone 21 AEx tb IIIC | Class I, Zone 2 Ex ec II | Zone 21 Ex tb IIIC
- Marine Outside Type (Salt Water)
- Type 3R, 4, 4X
- IP66/IP67
- Simultaneous Exposure
- Suitable for Use in Wet Locations

IEC / ATEX LISTINGS ①

- IECEx: Zone 2 and 21/22 | Ex ec IIC | Ex tb IIIC | Ex tc IIIC
- ATEX: Zone 2 and 21/22 | Ⓜ II 3 G | Ⓜ II 2 GD
- IP66
- IK08

NOTABLE LISTINGS ①

- ABS Certified
- Dark Sky (IDA) Approved
- DLC listed

RELATED PRODUCTS

- Mercmaster LED Generation 3 Luminaires with Emergency Battery Backup
- Industrial Mercmaster LED Generation 3 Standard and with Emergency Battery Backup Luminaires
- Mercmaster LED Generation 3 Zone 1 Luminaires



MLG*L + Clear Globe + Ceiling Mount



MLG*L + Short Refractor + Ceiling Mount



MLG*H/MLG*X + Clear Globe + Ceiling Mount



MLG*H/MLG*X + Short Refractor + Ceiling Mount

- Mercmaster Connect LED Luminaires

① Refer to catalog pages for detailed certification information.
 ✦ Killark is a registered trademark of Hubbell Incorporated.
 + Crouse-Hinds is a registered trademark of Cooper Industries, Inc., a wholly owned subsidiary of the Eaton Corporation plc.

PRODUCT SPECIFICATIONS

Series * Lumen Output	MLG*L3	MLG*L5	MLG*L7	MLG*L9	MLG*H9	MLG*H1	MLG*H3	MLG*H6	MLG*X1	MLG*X5
Nominal Wattage (W, @120 V)	30	46	57	75	75	93	115	145	169	210
Equivalencies (W, HID)	70-100	100-150	175-250	250-350	250-350	350-400	400	400-600	600-750	1000
Nominal Lumens ❶	3700	5400	8300	10400	11200	13600	16400	20100	21937	26070
Efficacy (up to, lm/W) ❶	123	117	146	139	149	146	143	139	130	124
Color Temperature (CCT) (K)	5000 / 4000/3000									
Color Rendering Index (CRI)	≥ 70 CRI (5000K) ≥ 80 CRI (4000K / 3000K)									
Voltage	120-277 Vac, 50/60 Hz; 125-300 Vdc 347-480 Vac, 50/60 Hz									
Surge Protection	Standard: 6 kV, 3 kA Optional: 10 kV, 5 kA									
Lifetime (hrs, reported)	L90 > 60000 hrs @ 75 °C				L70 > 76000 hrs @ 25 °C					
Ambient Temperature ❷	Standard: -40 °C to +65 °C (-40 °F to +149 °F) High ambient: -40 °C to +75 °C (-40 °F to +167 °F)									
Temperature Code ❷	T3 - T6									
Fixture Weight - kg (lbs) ❸	9.20 (20.3)				12.00 (26.4)				13.15 (29.0)	
Replaceable Parts	Drivers, Globes									

① Nominal lumens are based on 5000K CCT, clear glass lens and Type III optic (L3 thru L9) or Type V optic (H1 thru X5). Review the catalog pages for detailed performance.

② Refer to catalog pages for detailed temperature tables/operating temperature based on lumen output/certification. High ambient max temperature may vary from +70 °C to +75 °C (+158 °F to +167 °F).

③ Driver housing weight shown. See catalog pages for more details.

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EMERSON™

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MERCMASTER™ LED GENERATION 3 SERIES LUMINAIRES

STANDARD — HAZARDOUS LOCATION

Project Information		Specifications
Part Number: _____	Date: _____	_____
Project: _____	_____	_____
Fixture Type: _____	_____	_____

CATALOG NUMBERING GUIDE

Series Prefix	Mounting	Lumen (nominal)	Hub Size	Color Temperature	Light Distribution Pattern	Voltage	Optional Fusing	Options
MLG	C	L3	2	W	P	3	BU	

SERIES PREFIX:	LUMEN (NOMINAL): **	COLOR TEMPERATURE (CCT): ‡	OPTIONAL FUSING: *
MLG Mercmaster LED Generation 3 Series	L3 3,500	C Cool, 5000K	F Fusing
MOUNTING:	L5 5,500	N Neutral, 4000K	Blank No fusing
A Pendant	L7 7,500	W Warm, 3000K	OPTIONS:
B Watertight Pendant ▲	L9 9,500	GLOBE MATERIAL: ③	1 Photocontrol 120V ④
C Ceiling ⑤	H9 9,500 ⑧	P Clear Polycarbonate Globe	2 Photocontrol 208V ④
D Pendant Cone ⑤	H1 11,500	D Diffused Polycarbonate Globe	3 Photocontrol 240V ④
R 90° Stanchion ①	H3 13,500	G Clear Glass Globe	4 Photocontrol 277V ④
S 25° Stanchion ①	H6 17,500	J Short Glass Prismatic Refractor ⑨	S Additional surge to 10 kV ②
T Trunnion	X1 20,000	LIGHT DISTRIBUTION PATTERN:	A High Ambient + ⑧
K Killark™ ▲ Adapter Universal ▲	X5 24,000	1 Type I ②	Blank No Options Chosen
U Mercmaster II Adapter, Ceiling or Pendant ▲	HUB SIZE:	3 Type III ②	
V Mercmaster II Adapter, Stanchion or Wall ▲	2 3/4" NPT ①	5 Type V ②	
W Wall	3 1" NPT ①	W Type V Wide	
X Crouse Hinds™ ▲ Adapter, Ceiling or Pendant ▲ ⑥	4 1-1/4" NPT stanchion	VOLTAGE:	
Y Crouse Hinds™ ▲ Adapter, Stanchion or Wall ▲	5 1-1/2" NPT stanchion	BU 120-277 Vac, 50/60 Hz; 125-300 Vdc ⑦	
Blank No mounting hood	6 Metric M20 ①	BH 347-480 Vac, 50/60 Hz ▲	
	Blank If using adapter or no hood		

- ① 3/4" NPT, 1" NPT and Metric M20 hub entries are not offered on 90° or 25° Stanchion mounting options.
- ② 10 year warranty standard when ordered with light distribution pattern Type I, III or V Wide or additional (10 kV) surge protection (not available with high ambient options). 10 kV surge is not rated for ATEX/IECEX.
- ③ Guards for the globes and refractor are ordered separately. Refer to catalog pages for complete accessories information.
- ④ Photocontrol available for 120-277 Vac only. Factory installed in the mounting hood. Photocontrols only certified for cCSAus. Luminaires with photocontrol are not rated IP66/67, Class II, 3R, 4, 4X, or Marine Outside Type (Salt Water).
- ⑤ Ceiling-mount and pendant cone mounting hoods and adapters are not designed to use the in hood photocontrol. Ceiling and pendant cone mounts must use an FS/FD box with photocontrol (ordered separately).
- ⑥ Only allowed for Type V and Type V Wide light distribution.
- ⑦ For 125-170 Vdc, operating temperature range is -40 °C to +55 °C (-40 °F to +131 °F) for IECEx/ATEX only. NEC/CEC operating temperature remains -40 °C to +65 °C (-40 °F to +149 °F) for full Vdc range.
- ⑧ H9 only available with High Ambient option (-A). Refer to catalog pages for detailed temperature code tables for specific NEC/CEC or ATEX/IECEX applications.
- ⑨ Short glass prismatic refractor (J) is only available in light distribution pattern Type V. Refractor is not rated for ATEX/IECEX.
- ▲ For NEC/CEC, high ambient is available with lumen packages L3 to H3. For ATEX/IECEX, high ambient is only available with lumen packages L7, H9 and H1. See details in Temperature code tables for specific NEC/CEC or ATEX/IECEX applications.
- ★ Refer to catalog pages for detailed lumen output information, see Lumen Output (Efficacy) Table.
- Ⓜ Fusing only permitted for NEC/CEC rating. Factory installed. Use of fuse voids Marine Outside Type (Salt Water) rating. Fusing is mounted in the driver housing.
- ‡ Other CCT options available upon request. Contact your local sales representative for more information.
- ▲ Adapters, watertight pendant hood and BH Voltage only certified for cCSAus. Not available for use with photocontrol.
- ✦ Killark is a registered trademark of Hubbell Incorporated.
- ✦ Crouse-Hinds is a registered trademark of Cooper Industries, Inc., a wholly owned subsidiary of the Eaton Corporation plc.

DIMENSIONAL DRAWINGS ■ | MILLIMETERS (INCHES)

MLG* L3 to MLG* L9		MLG* H1 to MLG* H9 and MLG* X1 to MLG* X5	
With Globe	With Short Prismatic Glass Refractor	With Globe	With Short Prismatic Glass Refractor

① Driver housing models with globes shown. Refer to catalog pages or the Product Drawing configurator page for additional dimensional information; available on www.masteringled.com.

APPLETON™

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www.masteringled.com

EMERSON™

DESCRIPTION

The patented Lumark Crosstour™ LED Wall Pack Series of luminaires provides an architectural style with super bright, energy efficient LEDs. The low-profile, rugged die-cast aluminum construction, universal back box, stainless steel hardware along with a sealed and gasketed optical compartment make the Crosstour impervious to contaminants. The Crosstour wall luminaire is ideal for wall/surface, inverted mount for façade/canopy illumination, post/bollard, site lighting, floodlight and low level pathway illumination including stairs. Typical applications include building entrances, multi-use facilities, apartment buildings, institutions, schools, stairways and loading docks test.

SPECIFICATION FEATURES

Construction

Slim, low-profile LED design with rugged one-piece, die-cast aluminum hinged removable door and back box. Matching housing styles incorporate both a small and medium design. The small housing is available in 12W, 18W and 26W. The medium housing is available in the 38W model. Patented secure lock hinge feature allows for safe and easy tool-less electrical connections with the supplied push-in connectors. Back box includes three half-inch, NPT threaded conduit entry points. The universal back box supports both the small and medium forms and mounts to standard 3-1/2" to 4" round and octagonal, 4" square, single gang and masonry junction boxes. Key hole gasket allows for adaptation to junction box or wall. External fin design extracts heat from the fixture surface. One-piece silicone gasket seals door and back box. Minimum 5" wide pole for site lighting application. Not recommended for car wash applications.

Optical

Silicone sealed optical LED chamber incorporates a custom engineered mirrored anodized reflector providing high-efficiency illumination. Optical assembly includes impact-resistant tempered glass and meets IESNA requirements for full cutoff compliance. Available in seven lumen packages; 5000K, 4000K and 3000K CCT.

Electrical

LED driver is mounted to the die-cast housing for optimal heat sinking. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from the LED source. 12W, 18W, 26W and 38W series operate in -40°C to 40°C [-40°F to 104°F]. High ambient 50°C models available. Crosstour luminaires maintain greater than 89% of initial light output after 72,000 hours of operation. Three half-inch NPT threaded conduit entry points allow for thru-branch wiring. Back box is an authorized

Catalog #		Type
Project		
Comments		Date
Prepared by		

electrical wiring compartment. Integral LED electronic driver is standard 0-10V dimming. 120-277V 50/60Hz or 347V 60Hz models.

Finish

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

Warranty

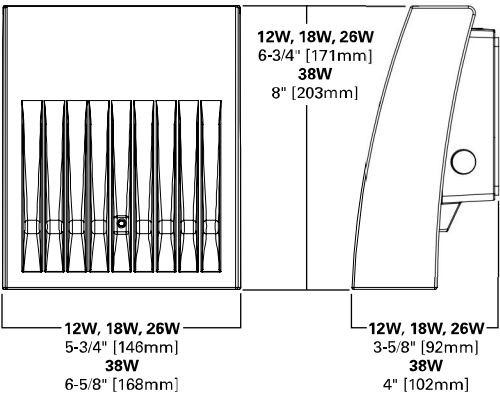
Five-year warranty.



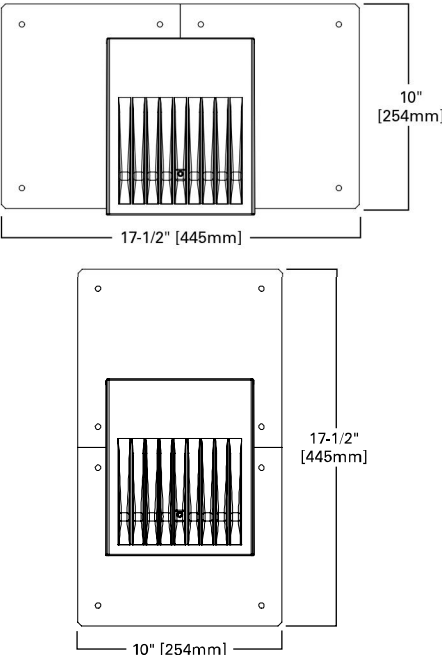
XTOR
CROSSTOUR LED

APPLICATIONS:
WALL / SURFACE
POST / BOLLARD
LOW LEVEL
FLOODLIGHT
INVERTED
SITE LIGHTING

DIMENSIONS



ESCUTCHEON PLATES



CERTIFICATION DATA

Dark Sky Approved (Fixed mount, Full cutoff, and 3000K CCT only)
UL/cUL Wet Location Listed
LM79 / LM80 Compliant
ROHS Compliant
ADA Compliant
NOM Compliant Models
IP66 Ingress Protection Rated
Title 24 Compliant
DesignLights Consortium® Qualified*

TECHNICAL DATA

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

EPA

Effective Projected Area (Sq. Ft.):
XTOR1B, XTOR2B, XTOR3B=0.34
XTOR4B=0.45

SHIPPING DATA:

Approximate Net Weight:
3.7 – 5.25 lbs. [1.7 – 2.4 kgs.]

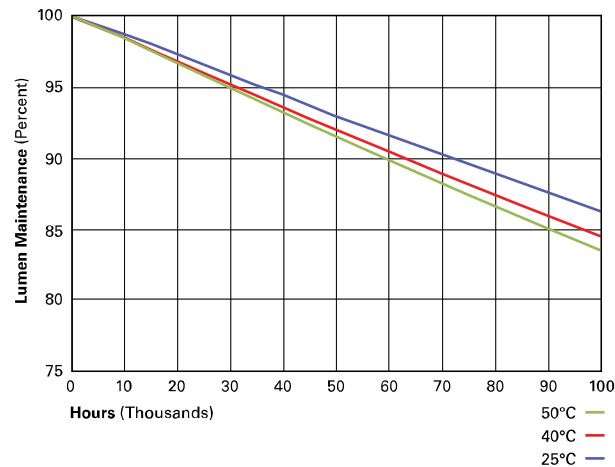
POWER AND LUMENS BY FIXTURE MODEL

LED Information	XTOR1B	XTOR1B-W	XTOR1B-Y	XTOR2B	XTOR2B-W	XTOR2B-Y	XTOR3B	XTOR3B-W	XTOR3B-Y	XTOR4B	XTOR4B-W	XTOR4B-Y
Delivered Lumens (Wall Mount)	1,418	1,396	1,327	2,135	2,103	1,997	2,751	2,710	2,575	4,269	4,205	3,995
Delivered Lumens (With Flood Accessory Kit) ¹	1,005	990	940	1,495	1,472	1,399	2,099	2,068	1,965	3,168	3,121	2,965
B.U.G. Rating ²	B1-U0-G0	B1-U0-G0	B1-U0-G0	B1-U0-G0	B1-U0-G0	B1-U0-G0	B1-U0-G0	B1-U0-G0	B1-U0-G0	B2-U0-G0	B2-U0-G0	B2-U0-G0
CCT (Kelvin)	5,000	4,000	3,000	5,000	4,000	3,000	5,000	4,000	3,000	5,000	4,000	3,000
CRI (Color Rendering Index)	70	70	70	70	70	70	70	70	70	70	70	70
Power Consumption (Watts)	12W	12W	12W	18W	18W	18W	26W	26W	26W	38W	38W	38W

NOTES: 1 Includes shield and visor. 2 B.U.G. Rating does not apply to floodlighting.

LUMEN MAINTENANCE

Ambient Temperature	TM-21 Lumen Maintenance (72,000 Hours)	Theoretical L70 (Hours)
XTOR1B Model		
25°C	> 90%	255,000
40°C	> 89%	234,000
50°C	> 88%	215,000
XTOR2B Model		
25°C	> 89%	240,000
40°C	> 88%	212,000
50°C	> 87%	196,000
XTOR3B Model		
25°C	> 89%	240,000
40°C	> 88%	212,000
50°C	> 87%	196,000
XTOR4B Model		
25°C	> 89%	222,000
40°C	> 87%	198,000
50°C	> 87%	184,000



CURRENT DRAW

Voltage	Model Series			
	XTOR1B	XTOR2B	XTOR3B	XTOR4B
120V	0.103A	0.15A	0.22A	0.34A
208V	0.060A	0.09A	0.13A	0.17A
240V	0.053A	0.08A	0.11A	0.17A
277V	0.048A	0.07A	0.10A	0.15A
347V	0.039A	0.06A	0.082A	0.12A

RATIO Series

AREA/SITE LIGHTER

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as retail, commercial and campus parking lots
- Featuring Micro Strike Optics which maximizes target zone illumination with minimal losses at the house-side, reducing light trespass issues
- Visual comfort standard
- Compact and lightweight design with low EPA
- 3G rated for high vibration applications including bridges and overpasses
- Control options including photo control, occupancy sensing, NX Distributed Intelligence™ and 7-Pin with networked controls
- Best in class surge protection available



CONTROL TECHNOLOGY



SPECIFICATIONS

CONSTRUCTION

- Rectilinear form mimics the traditional shoebox form factor keeping a similar but updated style and appearance, ideal for retrofit applications
- Die-cast housing with hidden vertical heat fins that are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with powder coat paint finish

OPTICS

- Entire optical aperture illuminates to create a larger luminous surface area resulting in a low glare appearance without sacrificing optical performance
- 80, 160, 320 or 480 midpower LEDs
- 3000K, 4000K or 5000K (70 CRI) CCT
- Zero uplight at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Standard square arm mount, compatible with B3 drill pattern
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option or accessory for square and round poles.
- Knuckle arm fitter option available for 2-3/8" OD tenon, Max tilt of 60 degrees with 4 degree adjustable increments. (Restrictions apply for 7-pin options)

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40°C to 40°C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised

CONTROLS

- Photo control, occupancy sensor and wireless available for complete on/off and dimming control
- 7-pin ANSI C136.41-2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)
- 0- 10 V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard
- NX Distributed Intelligence™ available with in fixture wireless control module, features dimming and occupancy sensor

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Please refer to the DLC website for specific product qualifications at www.designlights.org
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures
- 3G rated for ANSI C136.31 high vibration applications
- Fixture is IP66 rated
- Meets IDA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product qualifies as a "designated country construction material" per FAR 52.225-11 Buy American-Construction Materials under Trade Agreements effective 04/23/2020. See Buy American Solutions

WARRANTY

- 5 year limited warranty
- See HLI Standard Warranty for additional information

KEY DATA	
Lumen Range	3,000–48,000
Wattage Range	25–340
Efficacy Range (LPW)	118–155
Fixture Projected Life (Hours)	L70>60K
Weights lbs. (kg)	13.5–24 (6.1–10.9)



RATIO SERIES

AREA/SITE LIGHTER

DATE:	LOCATION:
TYPE:	PROJECT:
CATALOG #:	

ORDERING GUIDE

Example: RAR1-80L-25-3K7-2-UNV-ASQ-BL-NXWE-BC

CATALOG #

ORDERING INFORMATION

Series	# LEDs - Wattage	CCT/CRI	Distribution	Optics Rotation	Voltage
RAR1 Ratio Area Size 1	80L-25 25W - 3,000 Lumens	3K7 3000K, 70 CRI	2 IES TYPE II	Blank for no rotation	UNV Universal 120-277V
	80L-39 39W - 5,200 Lumens	4K7 4000K, 70 CRI	3 IES TYPE III	L Optic rotation left	120 120V
	80L-50 50W - 6,000 Lumens	5K7 5000K, 70 CRI	4W IES TYPE IV	R Optic rotation right	208 208V
	160L-70 70W - 9,000 Lumens		4F IES TYPE IV Forward		240 240V
	160L-100 100W - 12,000 Lumens		5QW IES TYPE V		277 277V
	160L-115 115W - 15,000 Lumens				347 347V
	160L-135 135W - 18,000 Lumens				480 480V
RAR2 Ratio Area Size 2	320L-110 110W - 15,000 Lumens				
	320L-140 140W - 18,000 Lumens				
	320L-165 165W - 21,000 Lumens				
	480L-185 185W - 24,000 Lumens				
	480L-210 210W - 27,000 Lumens				
	480L-240 240W - 30,000 Lumens				
	480L-255 255W - 36,000 Lumens				
	480L-295 295W - 42,000 Lumens				
	480L-340 340W - 48,000 Lumens				

Mounting	Color	Control Options Network	Options
ASQ Arm mount for square pole/flat surface	BLT Black Matte Textured	NXWE NX Wireless Enabled (module + radio)	BC Backlight control
ASQU Universal arm mount for square pole/flat surface	BLS Black Gloss Smooth	NXSPW_F NX Wireless, PIR Occ. Sensor, Daylight Harvesting ⁴	F Fusing (must specify voltage)
Mounting Round Poles	DBT Dark Bronze Matte Textured	NXSP_F NX, PIR Occ. Sensor, Daylight Harvesting ⁴	TB Terminal block
A_ Arm mount for round pole ¹	DBS Dark Bronze Gloss Smooth	Control Options Other	2PF 2 power feed with 2 drivers ²
A_U Universal arm mount for round pole ¹	GTT Graphite Matte Textured	SCP-40F Programmable occupancy sensor ³	
Mounting Other	LGS Light Grey Gloss Smooth	7PR 7-Pin twist lock receptacle	
WB Wall bracket	PSS Platinum Silver Smooth	7PR-SC 7-Pin receptacle with shorting cap	
MAF Mast arm fitter for 2-3/8" OD horizontal arm	WHT White Matte Textured	7PR-MD40F Low voltage sensor for 7PR	
K Knuckle	WHS White Gloss Smooth	7PR-TL 7-Pin PCR with photocontrol	
	VGT Verde Green Textured	ADD AutoDim Timer Based Dimming	
	Color Option	ADT AutoDim Time of Day Dimming	
	CC Custom Color	Sensors	
		BTS_F Bluetooth Programmable, PIR Occupancy/Daylight Sensor, 360° lens ⁴	
		BTSO_F Bluetooth Programmable, PIR Occupancy/Daylight Sensor, 360° lens, up to 12' mounting height ⁵	

Notes:

- 1 Replace " _ " with "3" for 3.5"-4.13" OD pole, "4" for 4.18"-5.25" OD pole, "5" for 5.5"-6.5" OD pole
- 2 Not available with 25, 50, 255, 295 & 340W configurations
- 3 At least one SCPREMOTE required to program SCP motion sensor
- 4 Replace " _ " with "14" for up to 14' mounting height, "40F" for 15-40' mounting height
- 5 Replace " _ " with "12" for up to 12' mounting height

STOCK ORDERING INFORMATION

Catalog Number	Lumens	Wattage	LED Count	CCT/CRI	Voltage	Distribution	Mounting	Finish
RAR1-100-4K-3	12,000	100W	160L	4000K/70CRI	120-277V	Type 3	Square Arm	Bronze
RAR1-100-4K-4W	12,000	100W	160L	4000K/70CRI	120-277V	Type 4W	Square Arm	Bronze
RAR1-135-4K-3	18,000	135W	160L	4000K/70CRI	120-277V	Type 3	Square Arm	Bronze
RAR1-135-4K-4W	18,000	135W	160L	4000K/70CRI	120-277V	Type 4W	Square Arm	Bronze
RAR2-165-4K-3	21,000	165W	320L	4000K/70CRI	120-277V	Type 3	Square Arm	Bronze
RAR2-165-4K-4W	21,000	165W	320L	4000K/70CRI	120-277V	Type 4W	Square Arm	Bronze



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Rev 07/06/22
NEW_Design_Ratio_Area_Series_High_Output



RESOURCE LIGHTING

Date: May 17, 2023

Job Name: KAIROS POWER - EXPANSION-Submittal 10/24/22

SSSH25-40A-1-B3-DBT

TYPE: SA POLE

Bid Date: Oct 20, 2022

Submittal Date: Oct 24, 2022

**Job Name:**KAIROS POWER - EXPANSION-Submittal 10/24/22
Contractor: B & D ELECTRIC (ALBUQUERQUE)**Catalog Number:**

SSSH25-40A-1-B3-DBT

Notes:

Type:**SA POLE**

RESN22-65243

HUBBELL®
Outdoor Lighting**SSS-H SERIES
POLES**

SQUARE STRAIGHT STEEL

DATE: _____ LOCATION: _____

TYPE: _____ PROJECT: _____

CATALOG #: _____

RESET

APPLICATIONS

Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

CONSTRUCTION

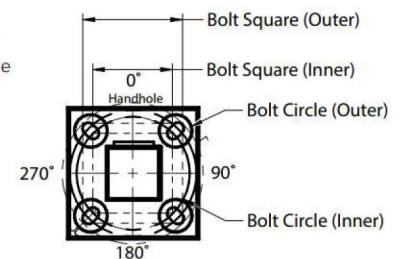
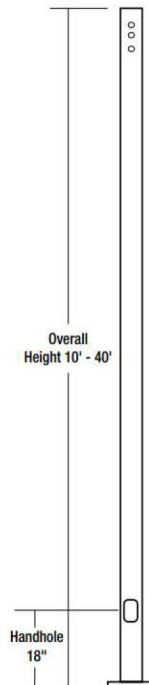
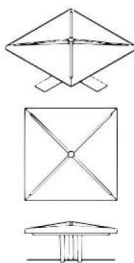
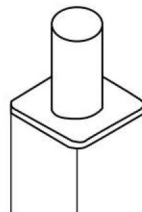
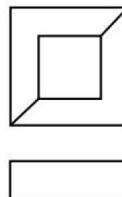
- Shaft: One-piece straight steel with square cross section, flat sides and minimum 0.23" radius on all corners; Minimum yield of 46,000 psi (ASTM-A500, Grade B); Longitudinal weld seam to appear flush with shaft side wall; Steel base plate with axial bolt circle slots welded to pole shaft having minimum yield of 36,000 psi (ASTM A36)
- base cover: Two-piece square aluminum base cover included standard
- pole cap: Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
- hand hole: Rectangular 3x5 steel hand hole frame (2.38" x 4.38" opening); Mounting provisions for grounding lug located behind gasketed cover
- anchor bolts: Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling
- Anchor bolt part numbers:
 - 3/4 x 30 x 3 — TAB-30-M38
 - 1 x 36 x 4 — TAB-36-M38

FINISH

- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint prime applied over "white metal" steel substrate cleaned via mechanical shot blast method
- Decorative finish coat available in multiple standard colors; Custom colors available; RAL number preferable

WAREHOUSE 'STOCKED' POLES:

- SSSH-20-40-STK and SSSH-25-40-STK
- The above catalog numbers use a combination of the S2 and B3 drill pattern

**POLE CAP****TENON****BASE COVER****BASE DETAIL**