New York State
Parks, Recreation and
Historic Preservation

Agency 1290000

PROJECT MANUAL

TA-JJ-2023-001
JOHN JAY HOMESTEAD: SITE AND BUILDING ENHANCEMENTS
JOHN JAY HOMESTEAD STATE HISTORIC SITE

BID PROPOSALS FOR THE FOLLOWING CONTRACT(S):
D006292 GENERAL CONTRACT
VOLUME 6 of 6

Are Due via email at:
12:30 PM
on
October 8, 2024

Bid proposals will be opened exclusively via Webex at:
1:00 PM
on
October 8, 2024

Webex Link at attend:
https://meetny.webex.com/meetny/j.php?MTID=m40b9689c6ed92a60ec352816a046e233

Contact Persons:	Senior Architect	Amanda Tucker / 518.807.1884
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	Capital Facility Manager	Garrett Jobson / 845.889.3840
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	Contract Administrator	Magen Bauer / 518.474.3258

Technical Specifications Volume 3 of 3

for

JOHN JAY HOMESTEAD
SITE AND BUILDLING ENHANCEMENTS

John Jay Homestead
400 Jay Street
Katonah, New York

Prepared for:

New York State Office of Parks, Recreation and Historic Preservation
Taconic Region

by:

Beyer Blinder Belle Architects & Planners LLP
New York, NY

100% CD SUBMISSION

5 June 2024

CLIENT

New York State Parks, Office of Parks
Recreation & Historic Preservation (NYSOPRHP)
625 Broadway
Albany NY 12207

NYSOPRHP Taconic Region
PO Box 308- 9 Old Post Road
Staatsburg, NY 12580

CONSULTANTS

ARCHITECT, PRIME
Beyer Blinder Belle, Architects and Planners, LLP
120 Broadway, 20th Floor
New York, NY 10271

STRUCTURE ENGINEERING
Thornton Tomasetti
120 Broadway, 15th Floor,
New York, NY 10271

MEP / FP / IT Engineering
Landmark Facilities Group
252 East Avenue
Norwalk, Ct 06855

CIVIL ENGINEERING
CHA Consulting, Inc.
575 Broadway, Suite 301,
Albany, NY 12207

LANDSCAPE ARCHITECT
Rhodeside Harwell Landscape Architecture
347 West 36th Street, Suite 1201
New York, NY 10018

LIGHTING ENGINEERING
HLB Lighting
38 East 32nd Street, 11th Floor
New York, NY 10016

SIGNAGE
LVCK - A Beyer Blinder Belle Studio
120 Broadway, 20th Floor,
New York, NY 10271

HAZARDOUS MATERIALS
Matrix New World Engineering
20 West 37th Street, 12th Fl
New York, NY 10018

SECTION 010000 TABLE OF CONTENTS

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DIVISION 00 - PROCUREMENT AND CONTRACTING REQUIREMENTS

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DIVISION 02 - EXISTING CONDITIONS

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ABBREVIATIONS

Parks	New York State Office of Parks, Recreation and Historic Preservation	Division 1
BBB	Beyer Blinder Belle, Architects & Planners, LLP	Architect
TT	Thornton Tomasetti	Structure Engineering
LFG	Landmark Facilities Group	MEP / IT / FP Engineering
CHA	CHA Consulting, Inc.	Civil Engineering
RHI	Rhodeside Harwell Landscape Architecture	Landscape Architect
HLB	HLB Lighting	Lighting Engineering
LVCK	LVCK – A Beyer Blinder Belle Studio	Signage
Matrix	Matrix New World Engineering	Hazardous Materials

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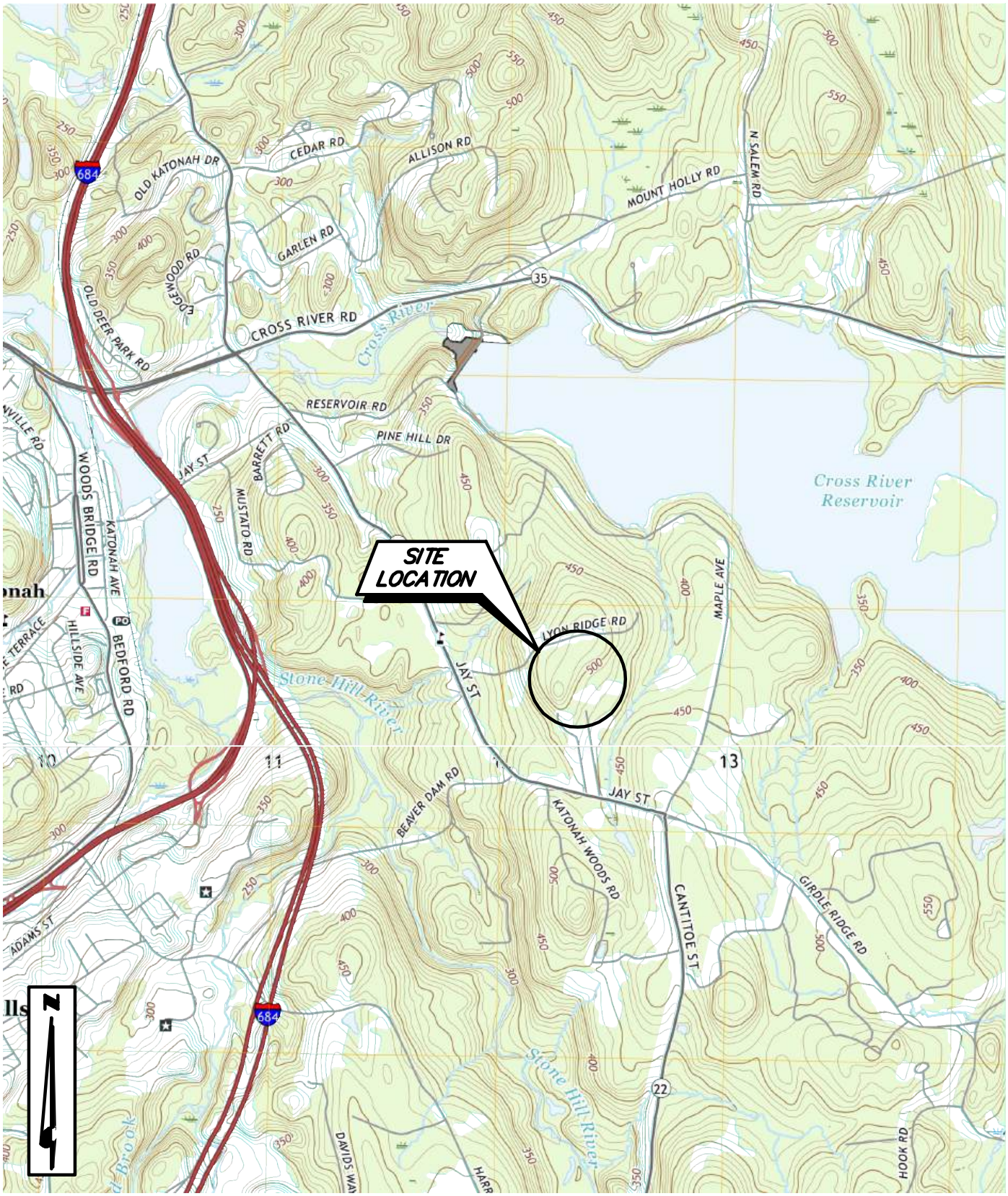
APPENDIX A

FIGURES



SOURCE: U.S.G.S. 7.5' Topographic
QUADRANGLES: CROTON FALLS AND MOUNT KISCO, NY

SCALE: 1"=2000'

CHA
III Winners Circle, PO Box 5269
Albany, NY 12205-0269
518.453.4500 · www.chacompanies.com

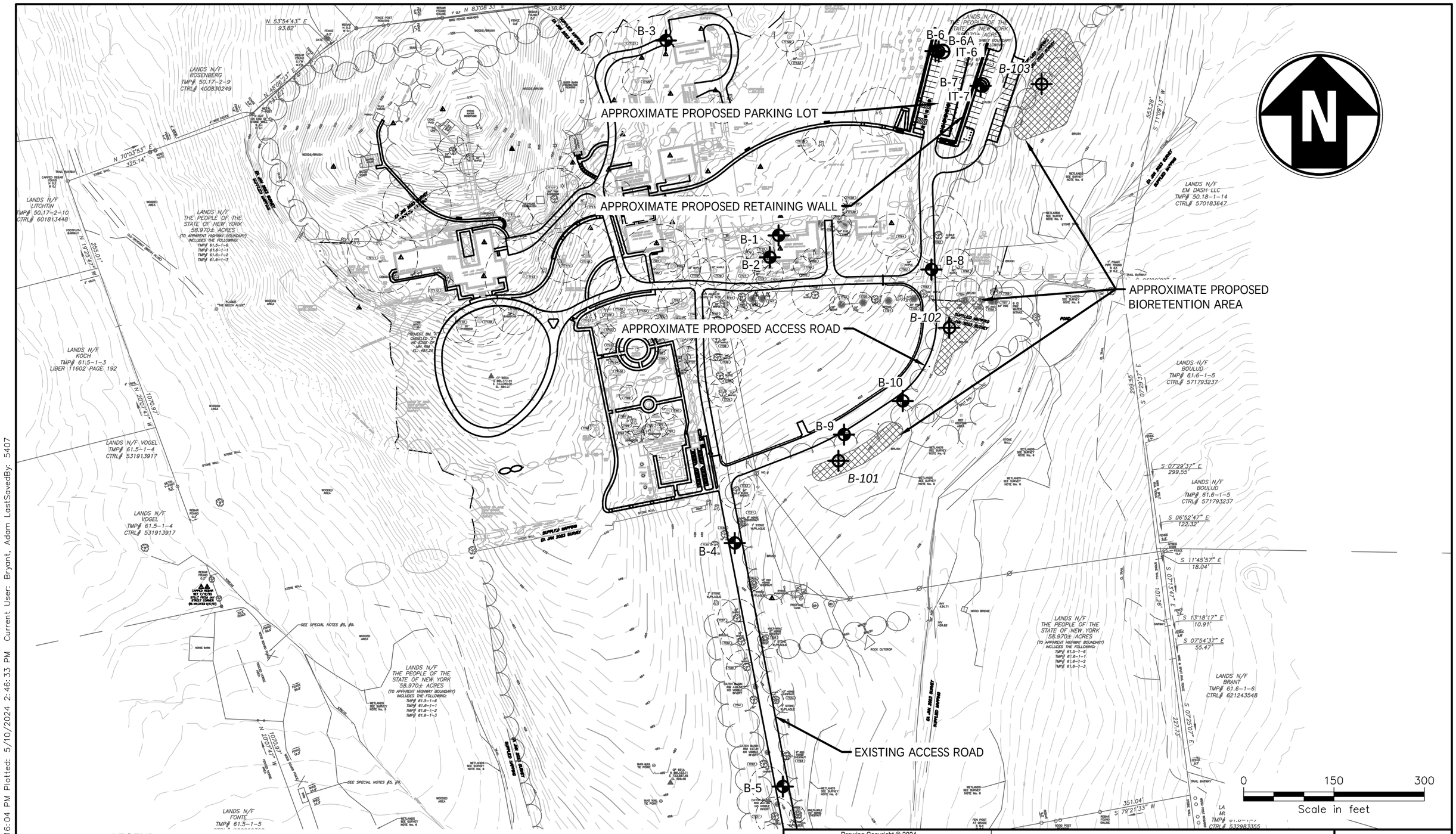
SITE LOCATION MAP

JOHN JAY HOMESTEAD STATE HISTORIC SITE
KATONAH, NEW YORK

PROJECT NO. 080675

DATE: 05/2024

FIGURE 1



LEGEND

B-1 — *APPROXIMATE JANUARY 2024 BORING LOCATION*

IT-6 — *APPROXIMATE JANUARY 2024 INFILTRATION TEST LOCATION*

B-101 — *APPROXIMATE APRIL 2024 BORING LOCATION*

CHA
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SUBSURFACE EXPLORATION PLAN

JOHN JAY HOMESTEAD STATE HISTORIC SITE
KATONAH, NEW YORK

PROJECT NO. 080675

DATE: 05/2024

FIGURE 2

APPENDIX B

PHOTOGRAPHS

1

Drilling operations at boring B-1, looking south

2

Drilling operations at boring B-2, looking south

3

Drilling operations at boring B-5, looking northwest

4

Groundwater observation well and infiltration casing installed at boring B-6A, looking west

5

Drilling operations at boring B-8, looking southeast

6

Groundwater observation well installed at boring B-10, looking southeast

7

Drilling operations at boring B-101, looking east

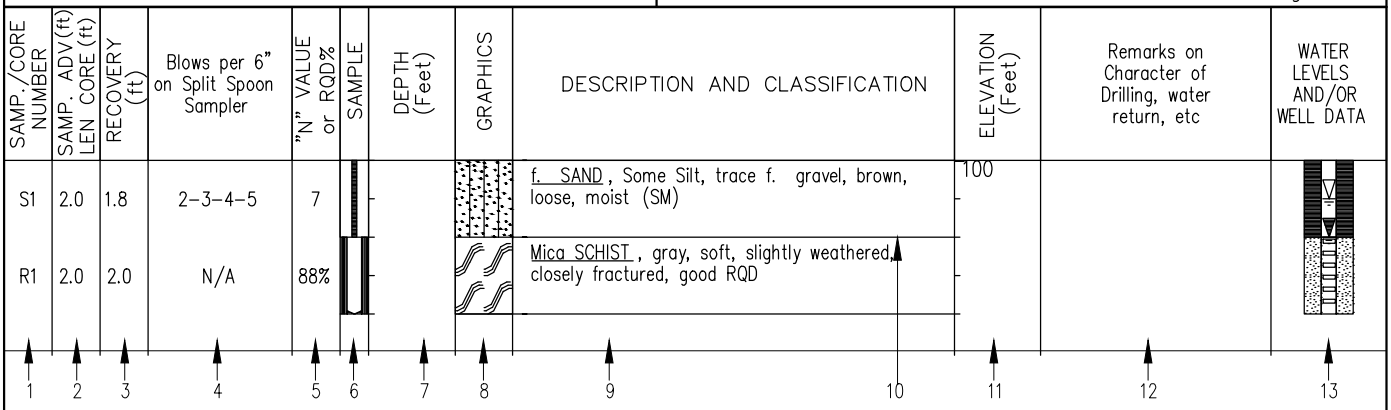
8

Drilling operations at boring B-103, looking east

APPENDIX C

BORING LOGS

LEGEND TO SUBSURFACE LOGS



Subsurface Logs present material classifications, test data, and observations from subsurface investigations at the subject site as reported by the inspecting geologist or engineer. In some cases, the classifications may be made based on laboratory test data when available. It should be noted that the investigation procedures only recover a small portion of the subsurface materials at the site. Therefore, actual conditions between borings and sampled intervals may differ from those presented on the Subsurface Logs. The information presented on the logs provide a basis for an evaluation of the subsurface conditions and may indicate the need for additional exploration. Any evaluation of the conditions reported on the logs must be performed by Professional Engineers or Geologists.

1. SAMP./CORE NUMBER – Samples are numbered for identification on containers, laboratory reports or in text reports.

2. SAMP.ADV/LEN.CORE – Length of sampler advance or length of coring run measured in feet.

3. RECOVERY – Amount of sample actually recovered after withdrawing sampler or core barrel from bore hole measured in feet.

4. SAMPLE BLOWS/6" – Unless otherwise noted, blow counts represent values obtained by driving a 2.0" (O.D.), 1-3/8" (I.D.) split spoon sampler into the subsurface strata with a 140 pound weight falling 30" as per ASTM International D1586. After an initial penetration of 6" to seat the sampler into undisturbed material, the sampler is then driven an additional 2 or 3 six inch increments. Refusal is defined as a resistance greater than 50 blows per 6" of penetration.

5. "N" Value or RQD % – "N" VALUE – The sum of the second and third sample blow increments is generally termed the Standard Penetration Test (SPT) "N" value. Refusal (R) is defined as a resistance greater than 50 blows for 6 inches of penetration. CORE RQD – Core Rock Quality Designation, RQD, is defined as the summed length of all pieces of core equal to or longer than 4 inches divided by the total length of the coring run. Fresh, irregular breaks distinguishable as being caused by drilling or recovery operations are ignored and the pieces are counted as intact lengths. RQD values are valid only for cores obtained with NX size core barrels.

6. SAMPLE – Graphical presentation of sample type and advance or core run length. See Table 1.

7. DEPTH – Depth as measured from the ground surface in feet.

8. GRAPHICS – Graphical presentation of subsurface materials. See Table 4. Dual soil classification and rock graphics may vary and are not shown on Table 4.

9. DESCRIPTION AND CLASSIFICATION – SOIL – Recovered samples are visually classified in the field by the supervising geologist or engineer unless otherwise noted. Particle size and plasticity classification is based on field observations, and using the Unified Soil Classification System (USCS). See Table 4. USCS symbols are presented in parentheses following the soil description. Where necessary, dual symbols may be used for combinations of soil types. Relative proportions, by weight and/or plasticity, are described in general accordance with "Suggested Methods of Test for Identification of Soils" by D.M. Burmister, ASTM Special Publication 479, 6-1970. See Table 2. Soil density or consistency description is based on the penetration resistance. See Table 3. Soil moisture description is based on the observed wetness of the soil recovered being moist or wet. Water introduced into the boring during drilling may affect the moisture content of the materials. Other geologic terms may also be used to further describe the subsurface materials. ROCK – Rock core descriptions are based on the inspector's observations and may be examined and described in greater detail by the project engineer or geologist. Terms used in the description of rock core are presented in Table 5.

10. DIVISION LINES – Division lines between deposits are based on field observations and changes in recovered material. Solid lines depict contacts between two deposits of different geologic depositional environment of known elevation. Dashed lines represent estimated elevation of contacts between two deposits of different geologic depositional environment. Dotted lines depict transitions of deposits within the same depositional environment, such as grain size or density.

11. ELEVATION – Elevation of strata changes in feet.

12. REMARKS – Miscellaneous observations.

13. WATER LEVELS & WELL DATA – Hollow water level symbol, if present, represents level at which first saturated sample or water level was encountered. Solid water level symbol, if present, depicts the most probable static water elevation at the time of drilling or as measured in an installed observation well at a later date. Subsurface water conditions are influenced by factors such as precipitation, stratigraphic composition, and drilling/coring methods. Conditions at other times may differ from those described on the logs. For graphical presentation of observation/monitoring well construction, see Table 6. Elevations of changes in construction are noted at the bottom of each section.

LEGEND TO SUBSURFACE LOGS

TABLE 1
TYPICAL SAMPLE TYPES

- SPLIT SPOON (1 3/8" I.D.)
- NX SIZE ROCK CORE
- SHELBY TUBE "UNDISTURBED"
- AUGER SAMPLE

TABLE 2
SAMPLE MATERIAL PROPORTIONS

ADJECTIVE	PERCENTAGE OF SAMPLE
"and"	35% – 50%
"some"	20% – 35%
"little"	10% – 20%
"trace"	< 10%

Standard split spoon samples may not recover particles with any dimension larger than 1 3/8". Therefore, reported gravel percentages may not reflect actual conditions.

TABLE 3
DENSITY/CONSISTENCY

GRANULAR SOILS		COHESIVE SOILS	
Blows/ft.	Density	Blows/ft.	Consistency
< 5	Very Loose	< 2	Very Soft
5–10	Loose	2–4	Soft
11–30	Med. Compact	5–8	Med. Stiff
31–50	Compact	9–15	Stiff
> 50	Very Compact	16–30	Very Stiff
		> 30	Hard

TABLE 4
USCS CLASSIFICATION, PARTICLE SIZE, & GRAPHICS

	MAJOR PARTICLE SIZE DIVISION	USCS SYMBOL	GRAPHIC SYMBOL	GENERAL DESCRIPTION
COARSE GRAINED SOILS	GRAVEL Coarse: 3"–3/4" Fine: 3/4"–#4 Classification based on > 50% being gravel	GW		Well graded gravels, gravel & sand mix.
		GP		Poorly graded gravels, gravel & sand mix.
		GM		Gravel, sand and silt mix.
		GC		Gravel, sand and clay mix.
	SAND Coarse: #4–#10 Med.: #10–#40 Fine: #40–#200 Classification based on > 50% being sand	SW		Well graded sand, sand & gravel mix.
		SP		Poorly graded sand, sand & gravel mix.
		SM		Sand and silt mix.
		SC		Sand and clay mix.
FINE GRAINED SOILS	SILT & CLAY Classification based on > 50% passing #200 sieve.	ML		Inorganic silt, low plasticity.
		CL		Inorganic clay, low plasticity.
		OL		Organic silt/clay, low plasticity.
		MH		Inorganic silt, high plasticity.
		CH		Inorganic clay, high plasticity.
		OH		Organic silt/clay, high plasticity.
ORGANIC SOILS		Pt		Peat and other highly organic soils.
FILL		Fill		Miscellaneous fill materials.

TABLE 5
ROCK CLASSIFICATION TERMS

HARDNESS:

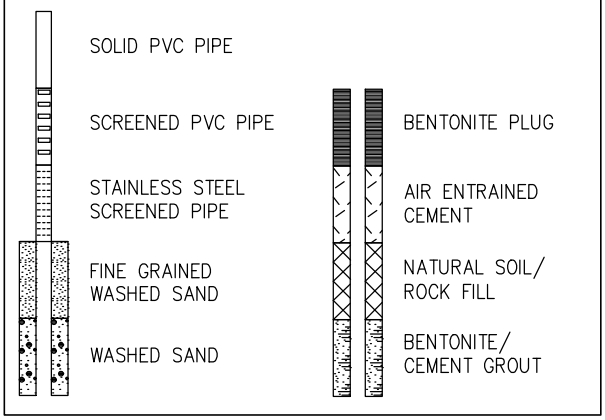
Very Soft	Carves
Soft	Grooves with knife
Med. Hard	Scratched easily with knife
Hard	Scatched with difficulty
Very Hard	Cannot be scratched with knife

WEATHERING:

Fresh	Slight or no staining of fractures, little or no discoloration, few fractures.
Slightly	Fractures stained, discoloration may extend into rock 1", some soil in fractures.
Moderately	Significant portions of rock stained and discolored, soil in fractures, loss of strength.
Highly	Entire rock discolored and dull except quartz grains, severe loss of strength.
Complete	Weathered to a residual soil.

BEDDING:		FRACTURE SPACING:		RQD:	
Massive	> 40"	Massive/V. Wide	> 6'	Excellent	> 90%
Thick	12' – 40"	Thick/Wide	2' – 6'	Good	76% – 90%
Medium	4" – 12"	Med./Med.	8" – 24"	Fair	51% – 75%
Thin	< 4"	Thin/Close	2 1/2" – 8"	Poor	25% – 50%
		V. Thin/V. Close	< 2 1/2"	V. Poor	< 25%

TABLE 6
WELL CONSTRUCTION



John Jay Homestead
SUBSURFACE LOG
HOLE NUMBER B-1

PROJECT NUMBER: 080675 4/26/2024

LOCATION: Katonah, New York

CLIENT: Beyer, Blinder, Belle Architects & Planners LLP

CONTRACTOR: New England Boring Contractors

DRILLER: D. DeAngelis INSPECTOR: C. Hourigan

CHECKED BY: CWS

COORDS. NORTHING: 882013.49 EASTING: 723564.52

SURFACE ELEV: 470.0 (ft; Estimated) DATUM: NAD83 / NAVD88

DRILL FLUID: None | DRILLING METHOD: 4.25" HSA | ROD SIZE: NW

HAMMER TYPE: Automatic | DRILL RIG: Rubber Track ATV

START: 1/18/2024 11:05:00 AM | FINISH: 1/18/2024 12:10:00 PM

WATER LEVEL OBSERVATIONS

DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
1-18-24	12:10 PM	Completion	10.7	20	20.9
1-18-24	1:15 PM	Completion	7.9	20	20.9

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
								TOPSOIL			
S-1	2	0.8	10-5-3-2	8				**SILT**, Some f.m.c. Sand, trace organics, brown, loose, moist **(FILL)**			
S-2	2	1.2	2-2-3-3	5				**f.m.c. SAND**, Some Silt, brown, loose, moist **(FILL)**			
S-3	2	1.4	5-5-3-3	8		5		**Clayey SILT**, Some f.m.c. Sand, brown, medium stiff, moist **(ML)**	465		
S-4	2	1.5	8-16-13-9	29				**f.m.c. SAND**, Some Silt, brown, medium compact, moist **(SM-TILL)**			
S-5	2	1.3	15-34-25-19	59				**f.m.c. SAND**, Some Silt, trace f.c. gravel, brown, very compact, moist **(SM-TILL)**		Water level observations made during drilling may not represent static groundwater conditions.	▽
S-6	2	0.7	14-20-18-16	38		10		**f.m.c. SAND**, little silt, brown, compact, brown, moist **(SM-TILL)**	460		
S-7	2	1	6-9-10-14	19		15		**f.c. GRAVEL**, Some Silt, Some f.m.c. Sand, brown, medium compact, wet **(GM-TILL)**	455		
S-8	0.9	0.9	51-100/0.4'	R		20		**f.m.c. SAND**, little silt, brown, very compact, wet **(COMPLETELY WEATHERED ROCK)**	450		
								End of Boring at 20.9 ft			

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John Jay Homestead
SUBSURFACE LOG
HOLE NUMBER B-2

PROJECT NUMBER: 080675 4/26/2024

LOCATION: Katonah, New York

CLIENT: Beyer, Blinder, Belle Architects & Planners LLP

CONTRACTOR: New England Boring Contractors

DRILLER: D. DeAngelis INSPECTOR: C. Hourigan

CHECKED BY: CWS

COORDS. NORTHING: 881975.48 EASTING: 723552.39

SURFACE ELEV: 469.5 (ft; Estimated) DATUM: NAD83 / NAVD88

DRILL FLUID: None | DRILLING METHOD: 4.25" HSA | ROD SIZE: NW

HAMMER TYPE: Automatic | DRILL RIG: Rubber Track ATV

START: 1/18/2024 1:45:00 PM | FINISH: 1/18/2024 2:40:00 PM

WATER LEVEL OBSERVATIONS	DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
	1-18-24	2:15 PM	Estimated	10	8	12
	1-18-24	2:40 PM	Completion	12.3	20	22

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
								TOPSOIL			
S-1	2	1	2-2-2-3	4				**SILT**, Some f.m.c. Sand, trace f. gravel, trace organics, trace wood, brown, very loose, moist **(FILL)**			
S-2	2	1.2	2-2-3-7	5				**SILT**, little f.m.c. sand, trace organics, brown, loose, moist **(FILL)**			
S-3	2	1.2	10-10-15-13	25		5		**f.m.c. SAND**, Some Silt, little f.c. gravel, brown, medium compact, moist **(SM-TILL)**	465		
S-4	2	1.4	13-13-14-18	27				**Similar Soil (SM-TILL)**			
S-5	2	0.4	19-16-9-8	25				Grades to little silt **(SM-TILL)**	460		▽
S-6	2	1.7	5-11-12-12	23		10		**f.m.c. SAND**, And Silt, little f. gravel, brown, medium compact, wet **(SM-TILL)**		Water level estimated based on visual soil sample moisture content. Water level observations made during drilling may not represent static groundwater conditions.	
S-7	2	1.4	11-17-10-8	27		15		Grades to little silt, trace f. gravel **(SM-TILL)**	455		
S-8	2	0.4	18-17-68-47	85		20		**f.m.c. SAND**, Some Silt, trace f.c. gravel, brown, very compact, wet **(SM-TILL)**	450		
								End of Boring at 22 ft	445		

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John Jay Homestead
SUBSURFACE LOG
HOLE NUMBER B-3

PROJECT NUMBER: 080675 4/26/2024

LOCATION: Katonah, New York

CLIENT: Beyer, Blinder, Belle Architects & Planners LLP

CONTRACTOR: New England Boring Contractors

DRILLER: D. DeAngelis INSPECTOR: C. Hourigan

CHECKED BY: CWS

COORDS. NORTHING: 882335.02 EASTING: 723379.97

SURFACE ELEV: 487.0 (ft; Estimated) DATUM: NAD83 / NAVD88

DRILL FLUID: None | DRILLING METHOD: 4.25" HSA | ROD SIZE: NW

HAMMER TYPE: Automatic | DRILL RIG: Rubber Track ATV

START: 1/19/2024 9:25:00 AM | FINISH: 1/19/2024 11:15:00 AM

WATER LEVEL OBSERVATIONS

DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
1-19-24	10:30 AM	Estimated	10	8	12
1-19-24	11:15 AM	Completion	13.2	20	22
1-19-24	12:30 PM	Completion	11.8	20	22

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
								TOPSOIL			
S-1	2	0.3	1-2-3-2	5				**SILT**, little f.m. sand, trace organics, brown, loose, moist **(ML)**			
									485		
S-2	2	0.8	6-5-4-8	9				**SILT**, Some f. Sand, trace f. gravel, brown, loose, moist **(ML-TILL)**			
S-3	2	1	12-19-24-24	43		5		**f.m.c. SAND**, Some Silt, Some f.c. gravel, brown, compact, moist **(SM-TILL)**			
								Becomes very compact **(SM-TILL)**			
S-4	2	1.5	34-31-26-57	57					480		
								Grades to Some f.c. Gravel **(SM-TILL)**			
S-5	2	0.5	23-35-36-82	71							▽
						10		**f.m.c. SAND**, little silt, trace f. gravel, brown, very compact, wet **(COMPLETELY WEATHERED ROCK)**		Water level estimated based on visual soil sample moisture content. Water level observations made during drilling may not represent static groundwater conditions.	
S-6	2	1	27-70-56-78	R					475		
						15		**Similar Soil (COMPLETELY WEATHERED ROCK)**			
S-7	2	1.5	76-45-40-37	85					470		
						20		Grades to no f. gravel **(COMPLETELY WEATHERED ROCK)**			
S-8	2	0.6	30-28-78-84	R							
								End of Boring at 22 ft	465		

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John Jay Homestead
SUBSURFACE LOG
HOLE NUMBER B-4

PROJECT NUMBER: 080675 4/26/2024

LOCATION: Katonah, New York

CLIENT: Beyer, Blinder, Belle Architects & Planners LLP

CONTRACTOR: New England Boring Contractors

DRILLER: D. DeAngelis INSPECTOR: C. Hourigan

CHECKED BY: CWS

COORDS. NORTHING: 881500.69 EASTING: 723494.50

SURFACE ELEV: 450.0 (ft; Estimated) DATUM: NAD83 / NAVD88

DRILL FLUID: None | DRILLING METHOD: 2.25" SSA | ROD SIZE: NW

HAMMER TYPE: Automatic | DRILL RIG: Rubber Track ATV

START: 1/18/2024 10:00:00 AM | FINISH: 1/18/2024 10:35:00 AM

WATER LEVEL OBSERVATIONS	DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
	1-18-24	10:35 AM	Completion	4	N/A	10

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
S-1	2	1	159-53-21-15	74				**f.m.c. SAND**, Some Silt, little f.c. gravel, gray, very compact, moist **(FILL)**			
S-2	2	0.6	12-9-9-7	18				**f.m.c. SAND**, Some Silt, brown, medium compact, moist **(SM-TILL)**			
S-3	2	2	2-6-10-16	16		5		**f.m.c. SAND**, Some Silt, brown, medium compact, wet **(SM-TILL)**	445	Water level observations made during drilling may not represent static groundwater conditions.	▽
S-4	2	1.5	14-16-16-16	32				Becomes compact **(SM-TILL)**			
S-5	2	2	20-14-15-11	29				Grades to trace f.c. gravel, becomes medium compact **(SM-TILL)**			
						10		End of Boring at 10 ft	440		
						15			435		
						20			430		

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John Jay Homestead
SUBSURFACE LOG
HOLE NUMBER B-5

PROJECT NUMBER: 080675 4/26/2024

LOCATION: Katonah, New York

CLIENT: Beyer, Blinder, Belle Architects & Planners LLP

CONTRACTOR: New England Boring Contractors

DRILLER: D. DeAngelis INSPECTOR: C. Hourigan

CHECKED BY: CWS

COORDS. NORTHING: 881096.64 EASTING: 723574.13

SURFACE ELEV: 450.0 (ft; Estimated) DATUM: NAD83 / NAVD88

DRILL FLUID: None | DRILLING METHOD: 2.25" SSA | ROD SIZE: NW

HAMMER TYPE: Automatic | DRILL RIG: Rubber Track ATV

START: 1/17/2024 3:00:00 PM | FINISH: 1/17/2024 3:25:00 PM

WATER LEVEL OBSERVATIONS	DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
	1-17-24	3:25 PM	Completion	3.1	N/A	10

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
S-1	2	1	82-51-23-17	74				**f.m.c. SAND**, And f.c. Gravel, Some Silt, gray, very compact, moist **(FILL)**			
S-2	2	1.5	3-4-3-6	7				**Clayey SILT**, little f.m.c. sand, brown, medium stiff, moist **(ML)**		Water level observations made during drilling may not represent static groundwater conditions.	▽
S-3	2	1.1	17-22-20-20	42		5		**f.m.c. SAND**, little silt, brown, compact, wet **(SM-TILL)**	445		
S-4	2	1	18-24-23-24	47				Grades to trace f. gravel **(SM-TILL)**			
S-5	2	2	25-23-23-51	46				**Similar Soil (SM-TILL)**			
						10		End of Boring at 10 ft	440		
						15			435		
						20			430		

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John Jay Homestead
SUBSURFACE LOG
HOLE NUMBER B-6

PROJECT NUMBER: 080675 4/26/2024

LOCATION: Katonah, New York

CLIENT: Beyer, Blinder, Belle Architects & Planners LLP

CONTRACTOR: New England Boring Contractors

DRILLER: D. DeAngelis INSPECTOR: C. Hourigan

CHECKED BY: CWS

COORDS. NORTHING: 882317.48 EASTING: 723827.65

SURFACE ELEV: 459.5 (ft; Estimated) DATUM: NAD83 / NAVD88

DRILL FLUID: None | DRILLING METHOD: 2.25" SSA | ROD SIZE: NW

HAMMER TYPE: Automatic | DRILL RIG: Rubber Track ATV

START: 1/16/2024 10:45:00 AM | FINISH: 1/16/2024 11:15:00 AM

WATER LEVEL OBSERVATIONS	DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
								TOPSOIL			
S-1	2	0.3	1-2-1-2	3				**SILT**, little f.m.c. sand, trace organics, brown, very loose, moist **(ML)**			
S-2	2	1.4	5-8-9-8	17				**Clayey SILT**, little f.m.c. sand, trace organics, brown, medium compact, moist **(ML-TILL)**			
S-3	1	0.5	17-50/0.5'	R		5		**f.m.c. SAND**, Some Silt, trace f. gravel, brown, very compact, moist **(SM-TILL)**	455		
								End of Boring at 5.5 ft		SSA refusal at 5.5' due to possible boulder. Offset 4 feet east to B-6A.	
						10			450		
						15			445		
						20			440		
									435		

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John Jay Homestead
SUBSURFACE LOG
HOLE NUMBER B-6A

PROJECT NUMBER: 080675 4/26/2024

LOCATION: Katonah, New York

CLIENT: Beyer, Blinder, Belle Architects & Planners LLP

CONTRACTOR: New England Boring Contractors

DRILLER: D. DeAngelis INSPECTOR: C. Hourigan

CHECKED BY: CWS

COORDS. NORTHING: 882316.50 EASTING: 723832.82

SURFACE ELEV: 459.5 (ft; Estimated) DATUM: NAD83 / NAVD88

DRILL FLUID: None | DRILLING METHOD: 2.25" SSA | ROD SIZE: NW

HAMMER TYPE: Automatic | DRILL RIG: Rubber Track ATV

START: 1/16/2024 11:15:00 AM | FINISH: 1/16/2024 11:45:00 AM

WATER LEVEL OBSERVATIONS

DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
1-19-24	1:40 PM	Static	11.7	12	12
4-15-24	8:45 AM	Static	12	12	12
4-16-24	9:15 AM	Static	12	12	12

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
						5			455		
S-1	2	1	10-10-13-15	23				**SILT**, And f.m.c. Sand, brown, medium compact, moist **(ML-TILL)**		Refer to B-6 for subsurface data to a depth of 5.5 feet.	
S-2	2	2	14-16-15-16	31				Becomes compact **(ML-TILL)**	450		
S-3	2	2	10-12-13-16	25		10		Becomes medium compact **(ML-TILL)**		Installed observation well to a depth of 12 feet upon completion. Infiltration test set adjacent to the borehole at a depth of 2 feet. Water level observations made during drilling may not represent static groundwater conditions.	
								End of Boring at 12 ft			
						15			445		
						20			440		
									435		

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John Jay Homestead
SUBSURFACE LOG
HOLE NUMBER B-7

PROJECT NUMBER: 080675 4/26/2024

LOCATION: Katonah, New York

CLIENT: Beyer, Blinder, Belle Architects & Planners LLP

CONTRACTOR: New England Boring Contractors

DRILLER: D. DeAngelis INSPECTOR: C. Hourigan

CHECKED BY: CWS

COORDS. NORTHING: 882259.83 EASTING: 723902.72

SURFACE ELEV: 451.0 (ft; Estimated) DATUM: NAD83 / NAVD88

DRILL FLUID: None | DRILLING METHOD: 2.25" SSA | ROD SIZE: NW

HAMMER TYPE: Automatic | DRILL RIG: Rubber Track ATV

START: 1/16/2024 1:35:00 PM | FINISH: 1/16/2024 2:10:00 PM

WATER LEVEL OBSERVATIONS

DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
1-19-24	1:45 PM	Static	7.3	12	12
4-15-24	8:40 AM	Static	8.2	12	12
4-16-24	9:10 AM	Static	7.9	12	12

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
S-1	2	1	2-1-1-1	2				**TOPSOIL** **SILT**, little f.m.c. sand, trace organics, brown, very loose, moist **(ML)**	450		
S-2	2	1.5	8-12-12-16	24				**f.m.c. SAND**, Some Silt, trace organics, brown, medium compact, moist **(SM-TILL)**			
S-3	2	0.8	8-10-16-16	26		5		**f.m.c. SAND**, Some Silt, brown, medium compact, moist **(SM-TILL)**	445		
S-4	2	1	10-16-14-16	30				**Similar Soil (SM-TILL)**			
S-5	2	0.4	10-14-16-13	30				Grades to And Silt, becomes wet **(SM-TILL)**		Water level observations made during drilling may not represent static groundwater conditions.	
S-6	2	1	16-16-12-11	28		10		**Similar Soil (SM-TILL)**	440	Installed observation well to a depth of 12 feet upon completion. Infiltration test set adjacent to the borehole at a depth of 2 feet.	
								End of Boring at 12 ft			
						15			435		
						20			430		

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John Jay Homestead
SUBSURFACE LOG
HOLE NUMBER B-8

PROJECT NUMBER: 080675 4/26/2024

LOCATION: Katonah, New York

CLIENT: Beyer, Blinder, Belle Architects & Planners LLP

CONTRACTOR: New England Boring Contractors

DRILLER: D. DeAngelis INSPECTOR: C. Hourigan

CHECKED BY: CWS

COORDS. NORTHING: 881955.04 EASTING: 723820.85

SURFACE ELEV: 451.0 (ft; Estimated) DATUM: NAD83 / NAVD88

DRILL FLUID: None | DRILLING METHOD: 2.25" SSA | ROD SIZE: NW

HAMMER TYPE: Automatic | DRILL RIG: Rubber Track ATV

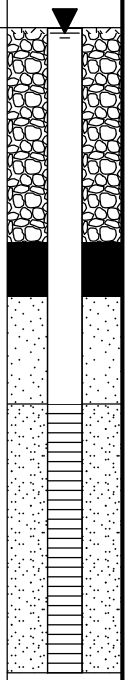
START: 1/17/2024 9:30:00 AM | FINISH: 1/17/2024 10:20:00 AM

WATER LEVEL OBSERVATIONS

DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
1-19-24	1:45 PM	Static	3.5	12	12
4-15-24	8:50 AM	Static	0.1	12	12
4-16-24	9:20 AM	Static	0.1	12	12

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	DEPTH (Feet)	ELEVATION (Feet)	DESCRIPTION AND CLASSIFICATION	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.
S-1	2	1.1	2-2-3-8	5		450	**TOPSOIL** **SILT**, Some f.m.c. Sand, trace organics, brown, loose, moist **(ML-TILL)**	Water level observations made during drilling may not represent static groundwater conditions.
S-2	2	1	8-10-10-13	20			Grades to no organics, becomes medium compact **(ML-TILL)**	
S-3	2	1.2	22-14-22-16	36	5		**f.m.c. SAND**, Some Silt, brown, compact, moist **(SM-TILL)**	
S-4	2	1.1	26-22-30-29	52		445	**SILT**, And f.m.c. Sand, brown, very compact, moist **(ML-TILL)**	
S-5	2	0.7	25-41-31-29	72			Grades to Some f.m.c. Sand **(ML-TILL)**	
S-6	2	2	28-32-40-44	72	10	440	Becomes wet **(ML-TILL)**	Installed observation well to a depth of 12 feet upon completion. Infiltration test set adjacent to the borehole at a depth of 3 feet. Test was not completed due to groundwater level observations after installation.
							End of Boring at 12 ft	
					15	435		
					20	430		

WATER LEVELS AND/OR WELL DATA



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John Jay Homestead
SUBSURFACE LOG
HOLE NUMBER B-9

PROJECT NUMBER: 080675 4/26/2024

LOCATION: Katonah, New York

CLIENT: Beyer, Blinder, Belle Architects & Planners LLP

CONTRACTOR: New England Boring Contractors

DRILLER: D. DeAngelis INSPECTOR: C. Hourigan

CHECKED BY: CWS

COORDS. NORTHING: 881680.96 EASTING: 723675.63

SURFACE ELEV: 449.5 (ft; Estimated) DATUM: NAD83 / NAVD88

DRILL FLUID: None | DRILLING METHOD: 2.25" SSA | ROD SIZE: NW

HAMMER TYPE: Automatic | DRILL RIG: Rubber Track ATV

START: 1/17/2024 1:30:00 PM | FINISH: 1/17/2024 2:10:00 PM

WATER LEVEL OBSERVATIONS

DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
1-17-24	2:10 PM	Completion	2.7	N/A	12
1-18-24	9:20 AM	24 Hours	1.1	12	12
1-19-24	1:50 PM	Static	0.8	12	12
4-15-24	8:40 AM	Static	0.7	12	12
4-16-24	9:10 AM	Static	1.2	12	12

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
S-1	2	0.1	2-1-2-3	3				**TOPSOIL**		Water level observations made during drilling may not represent static groundwater conditions.	
S-2	2	1.5	3-7-18-26	25				**f.m.c. SAND**, Some Silt, brown, medium compact, moist **(SM-TILL)**			
S-3	2	0.7	20-15-10-9	25		5		**f.m.c. SAND**, Some Silt, trace f. gravel, brown, medium compact, wet **(SM-TILL)**	445		
S-4	2	0.7	12-14-17-16	31				Becomes compact **(SM-TILL)**			
S-5	1	0.4	8-50/0.5'	R				Becomes very compact **(SM-TILL)**	440		
S-6	2	0.8	16-19-19-40	38		10		Grades to little silt, becomes compact **(SM-TILL)**		Installed observation well to a depth of 12 feet upon completion.	
								End of Boring at 12 ft			
						15			435		
						20			430		
									425		

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John Jay Homestead
SUBSURFACE LOG
HOLE NUMBER B-10

PROJECT NUMBER: 080675 4/26/2024

LOCATION: Katonah, New York

CLIENT: Beyer, Blinder, Belle Architects & Planners LLP

CONTRACTOR: New England Boring Contractors

DRILLER: D. DeAngelis INSPECTOR: C. Hourigan

CHECKED BY: CWS

COORDS. NORTHING: 881736.79 EASTING: 723773.25

SURFACE ELEV: 448.5 (ft; Estimated) DATUM: NAD83 / NAVD88

DRILL FLUID: None | DRILLING METHOD: 2.25" SSA | ROD SIZE: NW

HAMMER TYPE: Automatic | DRILL RIG: Rubber Track ATV

START: 1/17/2024 1:30:00 PM | FINISH: 1/17/2024 2:10:00 PM

WATER LEVEL OBSERVATIONS

DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
1-17-24	12:50 PM	Completion	2	N/A	12
1-18-24	9:15 AM	24 Hours	4.2	12	12
1-19-24	1:50 PM	Static	3	12	12
4-15-24	8:40 AM	Static	2.5	12	12
4-16-24	9:10 AM	Static	2.8	12	12

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
S-1	2	0.2	1-2-2-2	4				**TOPSOIL**			
S-2	2	0.9	2-19-10-8	29				**f.m.c. SAND**, little silt, brown, medium compact, moist **(SM-TILL)**	445	Water level observations made during drilling may not represent static groundwater conditions.	
S-3	2	1.4	8-10-11-14	21		5		**f.m.c. SAND**, Some Silt, trace f. gravel, brown, medium compact, wet **(SM-TILL)**			
S-4	2	0	23-15-19-16	34				No Recovery			
S-5	1	0.8	13-19-21-18	40				**SILT**, And f.m.c. Sand, brown, compact, wet **(ML-TILL)**	440		
S-6	2	2	17-20-22-17	42		10		Grades to Some f.m.c. Sand **(ML-TILL)**		Installed observation well to a depth of 12 feet upon completion.	
								End of Boring at 12 ft			
						15			435		
									430		
						20					
									425		

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John Jay Homestead
SUBSURFACE LOG
HOLE NUMBER B-101

PROJECT NUMBER: 080675 4/26/2024

LOCATION: Katonah, New York

CLIENT: Beyer, Blinder, Belle Architects & Planners LLP

CONTRACTOR: New England Boring Contractors

DRILLER: D. DeAngelis INSPECTOR: C. Hourigan

CHECKED BY: SMD

COORDS. NORTHING: 881637.41 EASTING: 723666.60

SURFACE ELEV: 445.5 (ft; Estimated) DATUM: NAD83 / NAVD88

DRILL FLUID: None | DRILLING METHOD: 2.25" SSA | ROD SIZE: NW

HAMMER TYPE: Automatic | DRILL RIG: Rubber Track ATV

START: 4/15/2024 1:30:00 PM | FINISH: 4/15/2024 2:20:00 PM

WATER LEVEL OBSERVATIONS

DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
4-15-24	2:20 PM	Completion	5.8	None	12
4-15-24	2:55 PM	End of Day	1	None	12
4-16-24	9:30 AM	Start of Day	0.4	None	5

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
								TOPSOIL	445	Standing water observed surrounding borehole. Water level observations made during drilling may not represent static groundwater conditions.	
S-1	2	1.7	WH-1-4-11	5				**Silty CLAY**, little f.m.c. sand, trace organics, brown, medium stiff, moist **(CL)**			
S-2	2	1.5	6-16-17-14	33				**f.m.c. SAND**, Some Silt, trace f. gravel, trace organics, brown, compact, wet **(SM-TILL)**			
S-3	2	1.3	15-18-18-14	36		5		grades to little f.c. gravel, no organics **(SM-TILL)**	440		
S-4	2	1	6-8-10-8	18				**Clayey SILT**, Some f.m.c. Sand, trace f. gravel, brown, very stiff, wet **(ML-TILL)**			
S-5	2	0.7	4-10-13-10	23				**f.m.c. SAND**, Some clayey Silt, trace f. gravel, brown, medium compact, wet **(SM-TILL)**			
S-6	0.1	0.1	100/0.1'	R		10		Insufficient recovery End of Boring at 10.5 ft	435	Solid Stem Auger refusal at 10.5 feet. The borehole was backfilled with soil cuttings upon completion.	
						15			430		
						20			425		

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John Jay Homestead
SUBSURFACE LOG
HOLE NUMBER B-102

PROJECT NUMBER: 080675 4/26/2024

LOCATION: Katonah, New York

CLIENT: Beyer, Blinder, Belle Architects & Planners LLP

CONTRACTOR: New England Boring Contractors

DRILLER: D. DeAngelis INSPECTOR: C. Hourigan

CHECKED BY: SMD

COORDS. NORTHING: 881858.22 EASTING: 723850.49

SURFACE ELEV: 445.2 (ft; Estimated) DATUM: NAD83 / NAVD88

DRILL FLUID: None | DRILLING METHOD: 2.25" SSA | ROD SIZE: NW

HAMMER TYPE: Automatic | DRILL RIG: Rubber Track ATV

START: 4/15/2024 11:10:00 AM | FINISH: 4/15/2024 11:40:00 AM

WATER LEVEL OBSERVATIONS

DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
4-15-24	11:40 AM	Completion	2.1	None	12
4-15-24	2:50 PM	End of Day	1.8	None	12
4-16-24	9:25 AM	Start of Day	2.2	None	3.8

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	DEPTH (Feet)	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
						TOPSOIL	445		
S-1	2	0.6	WH-WH-4-11	4		**Silty CLAY**, little f.m.c. sand, trace organics, brown, soft, moist **(CL)**			▽
S-2	2	0.6	9-8-12-14	20		**f.m.c. SAND**, Some Silt, Some f.c. Gravel, brown, medium compact, wet **(SM-TILL)**		Water level observations made during drilling may not represent static groundwater conditions.	
S-3	2	1.4	20-24-25-15	49	5	grades to little f.c. gravel, becomes compact **(SM-TILL)**	440		
S-4	2	1.8	11-10-9-11	19		**f.m.c. SAND**, Some Silt, trace f. gravel, trace organics, brown, medium compact, wet **(SM-TILL)**			
S-5	2	1.1	18-18-13-14	31		**f.m.c. SAND**, little silt, trace f.c. gravel, brown, compact, wet **(SM-TILL)**			
S-6	2	1.4	14-9-23-22	32	10	grades to little f.c. gravel **(SM-TILL)**	435		
						End of Boring at 12 ft		The borehole was backfilled with soil cuttings upon completion.	
					15		430		
					20		425		

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John Jay Homestead
SUBSURFACE LOG
HOLE NUMBER B-103

PROJECT NUMBER: 080675 4/26/2024

LOCATION: Katonah, New York

CLIENT: Beyer, Blinder, Belle Architects & Planners LLP

CONTRACTOR: New England Boring Contractors

DRILLER: D. DeAngelis INSPECTOR: C. Hourigan

CHECKED BY: SMD

COORDS. NORTHING: 882262.66 EASTING: 724003.70

SURFACE ELEV: 439.8 (ft; Estimated) DATUM: NAD83 / NAVD88

DRILL FLUID: None | DRILLING METHOD: 2.25" SSA | ROD SIZE: NW

HAMMER TYPE: Automatic | DRILL RIG: Rubber Track ATV

START: 4/15/2024 9:25:00 AM | FINISH: 4/15/2024 10:05:00 AM

WATER LEVEL OBSERVATIONS

DATE	TIME	READING TYPE	WATER DEPTH (ft)	CASING BOTTOM (ft)	HOLE BOTTOM (ft)
4-15-24	10:05 AM	Completion	8.1	None	12
4-15-24	2:40 PM	End of Day	3.8	None	12
4-16-24	9:10 AM	Start of Day	3.6	None	7.8

SAMP./CORE NUMBER	SAMP. ADV. (ft) LEN. CORE (ft)	RECOVERY (ft)	BLOWS PER 6" ON SPLIT SPOON SAMPLER	"N" Value or RQD%	SAMPLE	DEPTH (Feet)	GRAPHICS	DESCRIPTION AND CLASSIFICATION	ELEVATION (Feet)	REMARKS ON CHARACTER OF DRILLING, WATER RETURN, ETC.	WATER LEVELS AND/OR WELL DATA
								TOPSOIL			
S-1	2	1.5	1-3-2-2	5				**Clayey SILT**, little f.m.c. sand, trace f.c. gravel, trace organics, brown, loose, moist **(ML)**			
S-2	2	1.4	4-7-9-8	16				**f.m.c. SAND**, Some Silt, trace f. gravel, brown, compact, moist **(SM-TILL)**			
S-3	2	2	8-9-7-4	16		5		**f.m.c. SAND**, And clayey Silt, trace f. gravel, trace organics, brown, medium compact, moist **(SM-TILL)**	435	Water level observations made during drilling may not represent static groundwater conditions.	
S-4	2	2	8-11-13-20	24				**f.m.c. SAND**, Some clayey Silt, trace f. gravel, trace organics, brown, medium compact, wet **(SM-TILL)**			
S-5	2	0.9	26-16-16-14	32				**f.m.c. SAND**, little silt, little f.c. gravel, brown, compact, wet **(SM-TILL)**			
S-6	2	1.4	13-15-17-14	32		10		**Clayey SILT**, Some f.m.c. Sand, trace f.c. gravel, brown, hard, wet **(ML-TILL)**	430		
								End of Boring at 12 ft		The borehole was backfilled with soil cuttings upon completion.	
						15			425		
						20			420		
									415		

\\CHA-LLP.COM\PROJ\PROJECTS\ANYK6\080675.000\06_PROJECT_DATA\FIELD_DATA\GEO\080675_BORING LOGS.GPJ

APPENDIX D

LABORATORY TEST RESULTS

3348 Route 208, Campbell Hall, NY 10916
Phone: 845-496-1600 Fax: 845-496-1398
12960 Commerce Lake Drive, A14, Fort Myers, FL 33913
42 Day Farm Road, West Stockbridge, MA 01266
1813 State Route 7, Harpursville, NY 13787
877 US-4, Schuylerville, NY 12871

Client:	**CHA, Inc.**	**Project:**	John Jay Homestead Historic Site
Item:	B-4 S-1	**Project Number:**	240100
Source:	0-2'	**Lab Number:**	Q24-004E
Date Sampled:	1/29/2024	**Sampled By:**	Client
Date Tested:	1/30/2024	**Tested By:**	Michael Thomas

GRADATION (SIEVE ANALYSIS) OF SOIL OR AGGREGATE

Test Method(s): ASTM D422, C136, C117; AASHTO T88, T27, T11

Lab Number	Sample Type	Sampling Location	Specification
Q24-004E	B-4 S-1	In-Place	No Specification

Sieve Size		%	%	Spec. %
mm	Inches	Retained	Passing	Pass
100.0 mm	4"	0.0	100	
75.0 mm	3"	0.0	100	
63.0 mm	2 1/2"	0.0	100	
50.0 mm	2"	0.0	100	
37.5 mm	1 1/2"	0.0	100	
25.0 mm	1"	0.0	100	
19.0 mm	3/4"	0.0	100	
12.5 mm	1/2"	10.6	89	
6.3 mm	1/4"	15.1	74	
4.75 mm	#4	3.3	71	
2.00 mm	#10	10.7	60	
0.850 mm	#20	8.1	52	
0.600 mm	#30	2.1	50	
0.425 mm	#40	4.5	46	
0.150 mm	#100	13.4	32	
0.075 mm	#200	8.7	24	
Pan		23.5		

Comments:

Minus #200 by wash-sieve method.

Report Reviewed By: Emily J. Rodriguez

PDF

3348 Route 208, Campbell Hall, NY 10916
Phone: 845-496-1600 Fax: 845-496-1398
12960 Commerce Lake Drive, A14, Fort Myers, FL 33913
42 Day Farm Road, West Stockbridge, MA 01266
1813 State Route 7, Harpursville, NY 13787
877 US-4, Schuylerville, NY 12871

Client:	**CHA, Inc.**	**Project:**	John Jay Homestead Historic Site
Item:	B-5 S-1	**Project Number:**	240100
Source:	0-2'	**Lab Number:**	Q24-004F
Date Sampled:	1/29/2024	**Sampled By:**	Client
Date Tested:	1/30/2024	**Tested By:**	Michael Thomas

GRADATION (SIEVE ANALYSIS) OF SOIL OR AGGREGATE

Test Method(s): ASTM D422, C136, C117; AASHTO T88, T27, T11

Lab Number	Sample Type	Sampling Location	Specification
Q24-004F	B-5 S-1	In-Place	No Specification

Sieve Size		%	%	Spec. %
mm	Inches	Retained	Passing	Pass
100.0 mm	4"	0.0	100	
75.0 mm	3"	0.0	100	
63.0 mm	2 1/2"	0.0	100	
50.0 mm	2"	0.0	100	
37.5 mm	1 1/2"	0.0	100	
25.0 mm	1"	0.0	100	
19.0 mm	3/4"	0.0	100	
12.5 mm	1/2"	8.5	92	
6.3 mm	1/4"	20.4	71	
4.75 mm	#4	7.4	64	
2.00 mm	#10	13.0	51	
0.850 mm	#20	10.9	40	
0.600 mm	#30	2.2	38	
0.425 mm	#40	3.7	34	
0.150 mm	#100	6.6	27	
0.075 mm	#200	4.4	23	
Pan		22.9		

Comments:

Minus #200 by wash-sieve method.

Report Reviewed By: Emily J. Rodriguez

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12960 Commerce Lake Drive, A14, Fort Myers, FL 33913
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1813 State Route 7, Harpursville, NY 13787

Client:	CHA, Inc.	**Project:**	John Jay Homestead Historic Site
Material:	B-1 S-3	**Project #:**	240100
Source:	4-6'	**Lab No.:**	Q24-004A
Location:	In-Place	**Item Number:**	No Specifications
Date Sampled:	1/29/2024	**Sampled By:**	Client
Date Tested:	1/30/24	**Tested By:**	Michael Thomas

REPORT OF ATTERBERG LIMITS TEST RESULTS

TEST METHOD: ASTM D4318; LL Method B

	Lab Number: Q24-004A	Specification
Liquid Limit:	21	
Plastic Limit:	17	
Plasticity Index:	4	

Notes: Values shown are percent moisture.
Customary procedure is to round results to the nearest whole number.

Comments:

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42 Day Farm Road, West Stockbridge, MA 01266
1813 State Route 7, Harpursville, NY 13787

Client:	CHA, Inc.	**Project:**	John Jay Homestead Historic Site
Material:	B-1 S-3	**Project Number:**	240100
Source:	4-6'	**Lab Number:**	Q24-004A
Location:	In-Place	**Item Number:**	No Specifications
Date Sampled:	1/29/2024	**Sampled By:**	Client
Date Tested:	1/29/2024	**Tested By:**	Michael Thomas

Report of Natural Moisture Content of Soil and Rock
Test Method: ASTM D2216

Wet Weight (g):	299.7
Dry Weight (g):	250.5
% Nat. Moisture:	**19.6**

Specification:

Comments:

No specifications available at time of testing.

Emily J. Rodriguez

Report Reviewed By:

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3348 Route 208, Campbell Hall, NY 10916
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42 Day Farm Road, West Stockbridge, MA 01266
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877 US-4, Schuylerville, NY 12871

Client:	**CHA, Inc.**	**Project:**	John Jay Homestead Historic Site
Item:	B-1 S-7	**Project Number:**	240100
Source:	15-17'	**Lab Number:**	Q24-004B
Date Sampled:	1/29/2024	**Sampled By:**	Client
Date Tested:	1/30/2024	**Tested By:**	Michael Thomas

GRADATION (SIEVE ANALYSIS) OF SOIL OR AGGREGATE

Test Method(s): ASTM D422, C136, C117; AASHTO T88, T27, T11

Lab Number	Sample Type	Sampling Location	Specification
Q24-004B	B-1 S-7	In-Place	No Specification

Sieve Size		%	%	Spec. %
mm	Inches	Retained	Passing	Pass
100.0 mm	4"	0.0	100	
75.0 mm	3"	0.0	100	
63.0 mm	2 1/2"	0.0	100	
50.0 mm	2"	0.0	100	
37.5 mm	1 1/2"	0.0	100	
25.0 mm	1"	0.0	100	
19.0 mm	3/4"	13.6	86	
12.5 mm	1/2"	11.1	75	
6.3 mm	1/4"	12.4	63	
4.75 mm	#4	1.0	62	
2.00 mm	#10	2.9	59	
0.850 mm	#20	3.5	56	
0.600 mm	#30	1.0	55	
0.425 mm	#40	3.4	51	
0.150 mm	#100	12.2	39	
0.075 mm	#200	9.7	29	
Pan		29.2		

Comments:

Minus #200 by wash-sieve method.

Report Reviewed By: Emily J. Rodriguez

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3348 Route 208, Campbell Hall, NY 10916
Phone: 845-496-1600 Fax: 845-496-1398
12960 Commerce Lake Drive, A14, Fort Myers, FL 33913
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877 US-4, Schuylerville, NY 12871

Client:	**CHA, Inc.**	**Project:**	John Jay Homestead Historic Site
Item:	B-2 S-6	**Project Number:**	240100
Source:	10-12'	**Lab Number:**	Q24-004C
Date Sampled:	1/29/2024	**Sampled By:**	Client
Date Tested:	1/30/2024	**Tested By:**	Michael Thomas

GRADATION (SIEVE ANALYSIS) OF SOIL OR AGGREGATE

Test Method(s): ASTM D422, C136, C117; AASHTO T88, T27, T11

Lab Number	Sample Type	Sampling Location	Specification
Q24-004C	B-2 S-6	In-Place	No Specification

Sieve Size		%	%	Spec. %
mm	Inches	Retained	Passing	Pass
100.0 mm	4"	0.0	100	
75.0 mm	3"	0.0	100	
63.0 mm	2 1/2"	0.0	100	
50.0 mm	2"	0.0	100	
37.5 mm	1 1/2"	0.0	100	
25.0 mm	1"	0.0	100	
19.0 mm	3/4"	0.0	100	
12.5 mm	1/2"	4.5	96	
6.3 mm	1/4"	5.4	90	
4.75 mm	#4	0.1	90	
2.00 mm	#10	3.3	87	
0.850 mm	#20	5.9	81	
0.600 mm	#30	2.3	79	
0.425 mm	#40	6.2	72	
0.150 mm	#100	19.9	52	
0.075 mm	#200	12.4	40	
Pan		40.0		

Comments:

Minus #200 by wash-sieve method.

Report Reviewed By: Emily J. Rodriguez

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3348 Route 208, Campbell Hall, NY 10916
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12960 Commerce Lake Drive, A14, Fort Myers, FL 33913
42 Day Farm Road, West Stockbridge, MA 01266
1813 State Route 7, Harpursville, NY 13787
877 US-4, Schuylerville, NY 12871

Client:	**CHA, Inc.**	**Project:**	John Jay Homestead Historic Site
Item:	B-3 S-4	**Project Number:**	240100
Source:	6-8'	**Lab Number:**	Q24-004D
Date Sampled:	1/29/2024	**Sampled By:**	Client
Date Tested:	1/30/2024	**Tested By:**	Michael Thomas

GRADATION (SIEVE ANALYSIS) OF SOIL OR AGGREGATE

Test Method(s): ASTM D422, C136, C117; AASHTO T88, T27, T11

Lab Number	Sample Type	Sampling Location	Specification
Q24-004D	B-3 S-4	In-Place	No Specification

Sieve Size		%	%	Spec. %
mm	Inches	Retained	Passing	Pass
100.0 mm	4"	0.0	100	
75.0 mm	3"	0.0	100	
63.0 mm	2 1/2"	0.0	100	
50.0 mm	2"	0.0	100	
37.5 mm	1 1/2"	0.0	100	
25.0 mm	1"	0.0	100	
19.0 mm	3/4"	9.4	91	
12.5 mm	1/2"	4.5	86	
6.3 mm	1/4"	4.2	82	
4.75 mm	#4	1.6	80	
2.00 mm	#10	3.2	77	
0.850 mm	#20	5.1	72	
0.600 mm	#30	1.5	71	
0.425 mm	#40	5.3	65	
0.150 mm	#100	17.6	48	
0.075 mm	#200	14.0	34	
Pan		33.6		

Comments:

Minus #200 by wash-sieve method.

Report Reviewed By: Emily J. Rodriguez

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APPENDIX 9

New Private Primary Underground Service Installation –Rev. 12/1/2023-PFC

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NEW PRIVATE PRIMARY UNDERGROUND SERVICE INSTALLATION SPECS

NYSEG to provide:

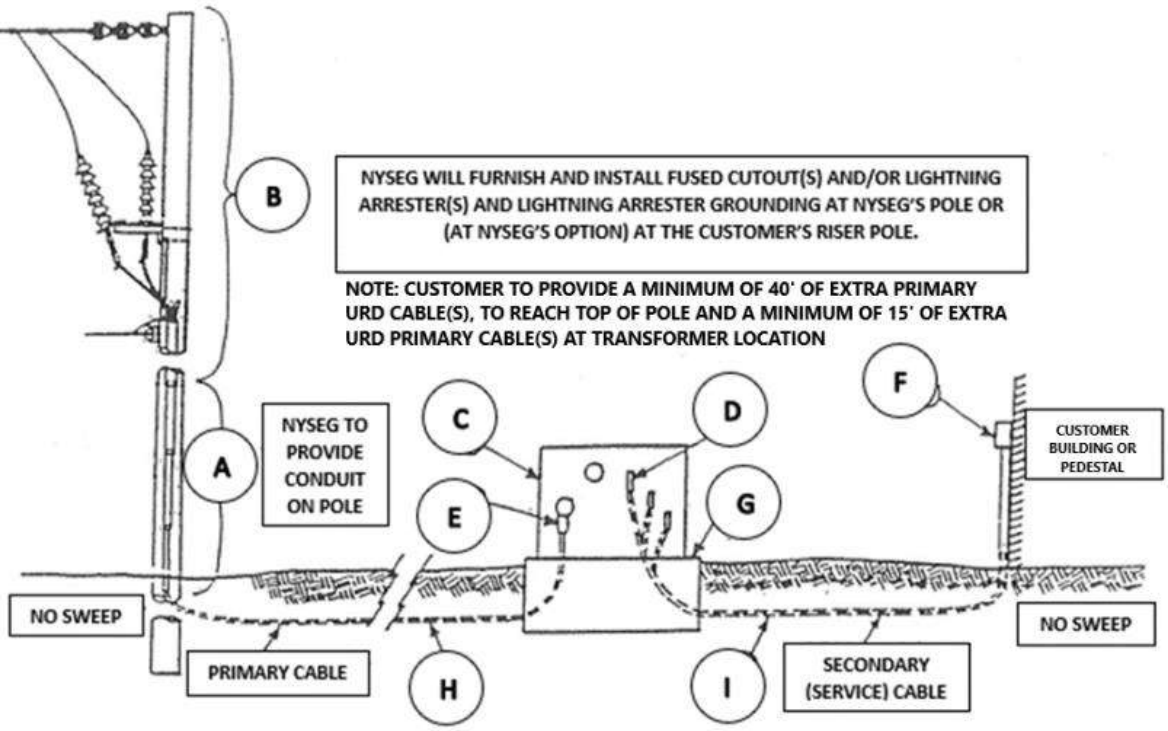
1. Riser pole if pole is not available on customer side of street.
2. Construct entire riser installation with customer provided primary underground wire.
3. Primary connections at pole.
4. Primary and secondary connections at transformer.
5. Pad mounted transformer.

CUSTOMER to provide:

1. **Vault pad** – Fiberglass or concrete can be used. Must be level with 6" of #2 crushed stone. See pages 7 through 16 for specs on fiberglass and concrete vault pad specs (single phase and three phase).
   VAULT PAD MUST BE NO MORE THAN 10 FT OFF ROAD/DRIVEWAY
2. **Trench** – 36" deep with clean back fill. Wire should be placed in 6" of sand on bottom then 6" on top or in conduit. Trench up to two feet from proposed riser pole/stake. See pages 22 & 24.
3. **Aluminum wire** (must be NYSEG approved) – NYSEG prefers 15kV rated, 175 mils insulation with concentric neutral primary underground wire. Semi-conductive jacketing recommended. There should be enough wire for the length of the service and to reach the top of the riser pole plus an extra 15 ft at the vault pad per phase. See pages 21 through 26 for primary underground wire specs. Customer is required to submit a "Customer Primary Voltage Cable Acceptance" form to NYSEG engineering department before customer provided URD cable is purchased.
4. **Grounding at vault pad** – #2 copper is to be used. See pages 9, 11, and 14 for grounding specs.
5. **Bumper Protections** – See pages 19 and 20.
6. **Meter location** – Consult meter location with NYSEG engineering department for approval. If a meter pedestal is to be installed, NYSEG requires a minimum of 10 ft from pad mounted transformer and no more 200 ft. See pages 3 through 6 for meter specs. For all meter pan specs/information, please see NYSEG's Electric Services & Meters manual PDF located on NYSEG's webpage (www.nyseg.com) under Account, Moving, Building and Remodeling.
7. **# of wires** – Confirm with NYSEG engineering department for system voltage, to determine how many primary underground URD cables will be needed by customer. See below.

   - 4.8kV – requires 2 wires – see pages 20 through 25 for specs
   - 7.62kV – requires 1 wire – see pages 20 through 25 for specs
   - Three phase primary service will require 3 wires for either 13.2kV or 4.8Kv

DRAWING 1



On a Customer Owned Riser Pole – Items **"A"** and **"B"** to be furnished and installed by customer.

OR

On a NYSEG Owned Riser Pole – Items **"A"** and **"B"** to be furnished and installed by NYSEG.

NOTE: If proposed riser pole is located along a public road, rigid steel conduit is **HIGHLY** recommended

Items furnished and Installed by NYSEG:

"C" – Pad mount Transformer (single or three phase)
"D" – Secondary Connectors
"E" – Primary Cable Terminations

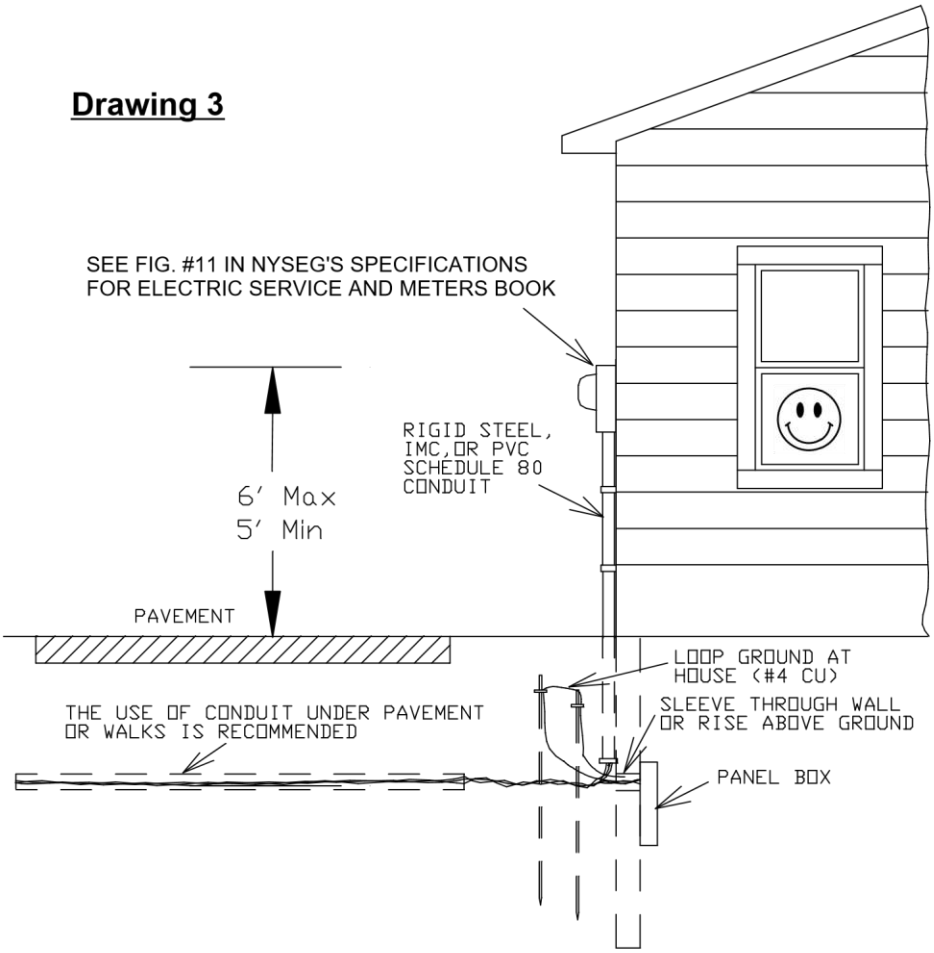
Items Furnished and Installed by Customer:

"F" – Meter pan
"G" – Vault Pad Foundation – See pages 9 through 13 for single phase and pages 14 through 16 for three phase pad foundation specifications. Clearances from fences, shrubs, and structures see pages 17 & 18.
"H" – Trench, primary cable, and conduit (if used). **NOTE** – Customer to trench up to two feet from proposed NYSEG riser pole or stake. **NO SWEEPS at riser pole**
For direct buried cable installations, the bottom of the trench shall be 2" to 4" in depth. The first 6" of cover backfill shall be sand and or loam (with no stones larger than 1"). The remainder of the backfill shall be cleared of any rocks, stones, or other materials which could damage the cable. The minimum covering between the top of direct buried cables to the grade shall be 30" for 15kV and 36" for 35kV.
"I" – Trench, secondary (service) cable, and conduit (if used). Minimum depth of cable shall be 24" below grade when direct buried or 18" when in conduit.

UNDERGROUND SERVICE CONNECTIONS
FROM OVERHEAD LINES
SECT.4,PARA.18-26

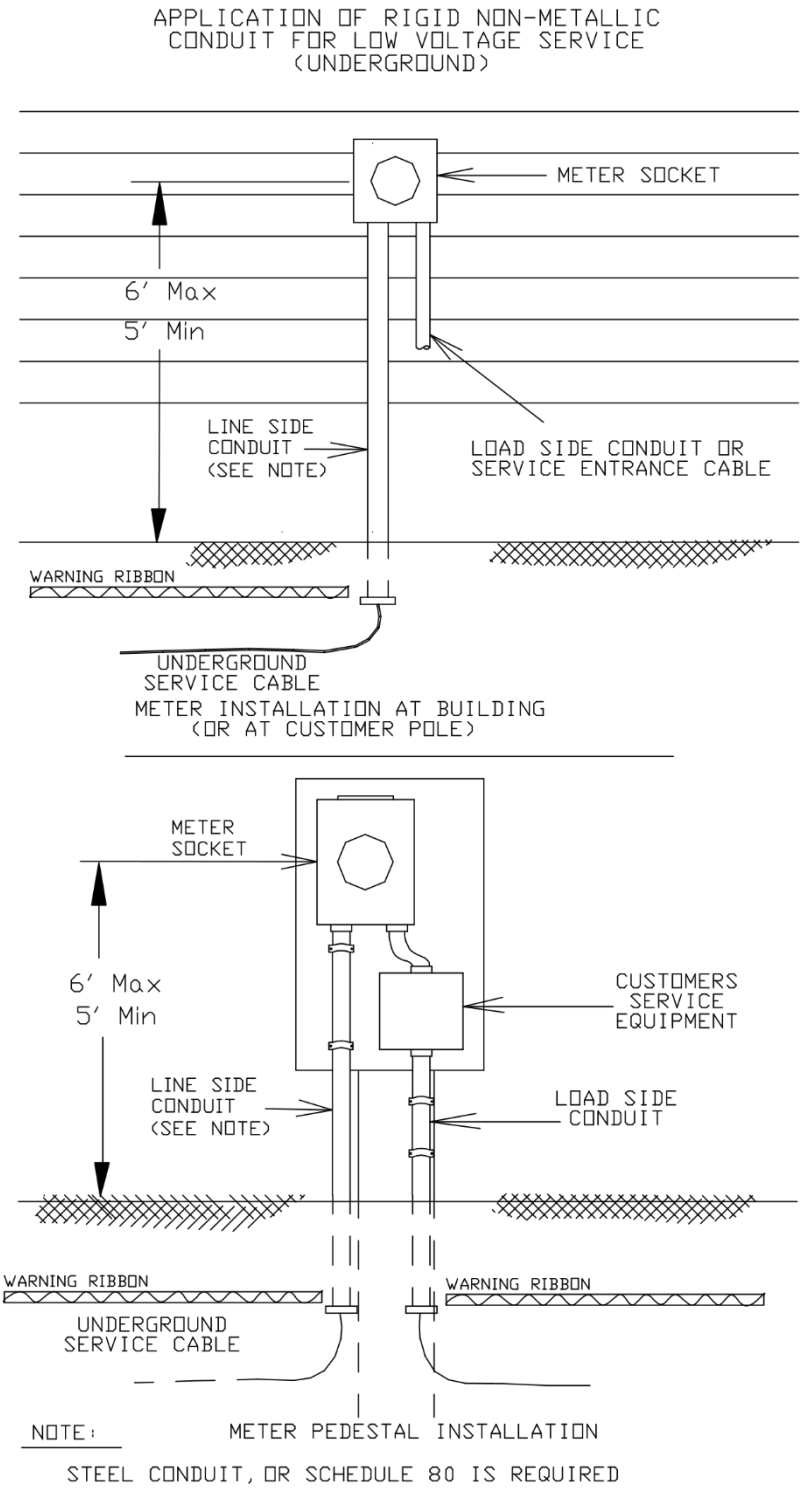
IN NYSEG'S SPECIFICATIONS FOR ELECTRIC SERVICE AND METERS BOOK

Drawing 3



WHERE NECESSARY TO PREVENT PHYSICAL DAMAGE TO DIRECT BURIED CONDUCTORS FROM ROCKS, SLATE, ETC., OR FROM VEHICULAR TRAFFIC ETC., DIRECT BURIED CONDUCTORS SHALL BE PROVIDED WITH SUPPLEMENTARY PROTECTION SUCH AS SAND, SAND AND SUITABLE RUNNING BOARDS, SUITABLE SLEEVES OR OTHER APPROVED MEANS.

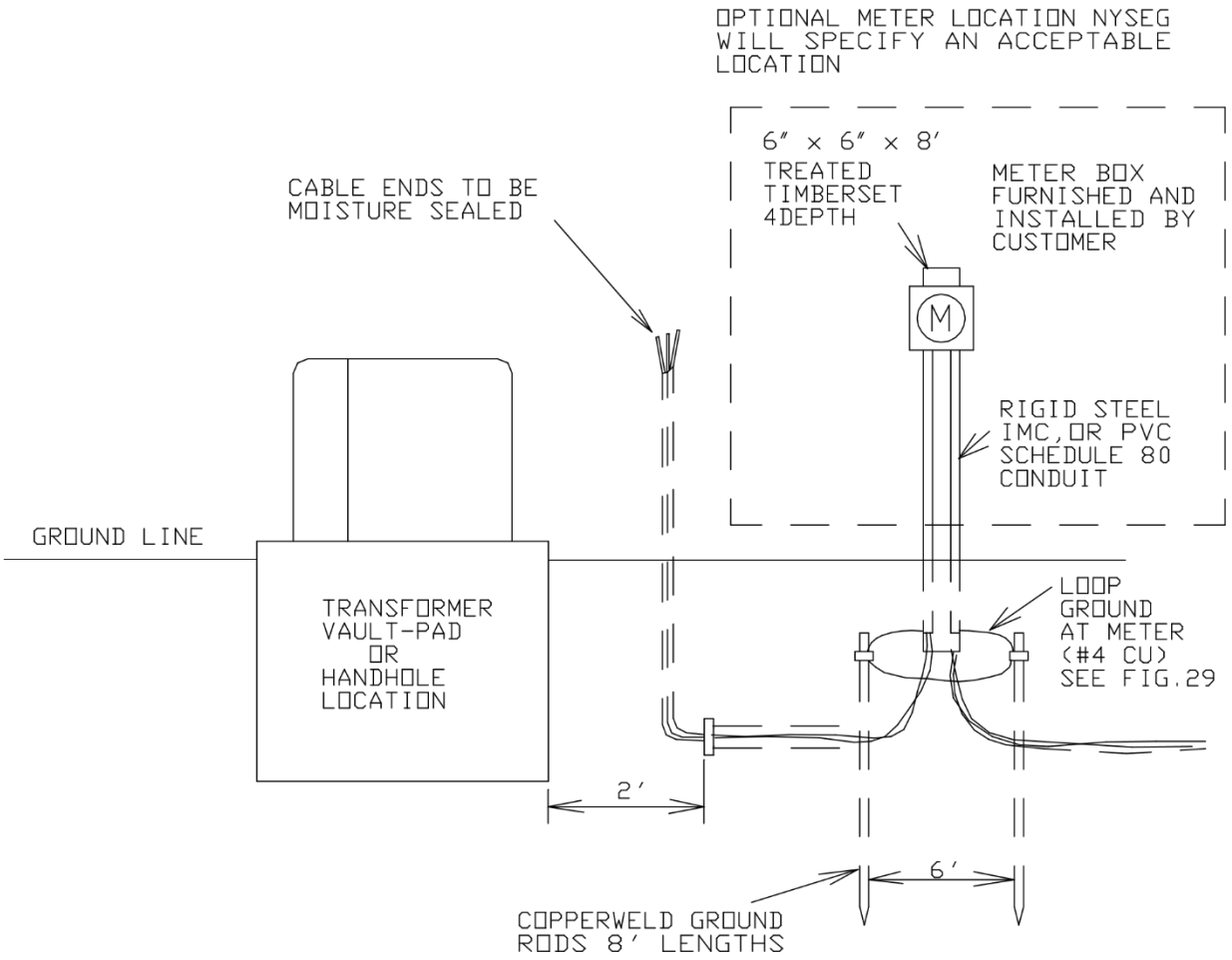
DRAWING 2


APPLICATION OF RIGID NON-METALLIC
CONDUIT FOR LOW VOLTAGE SERVICE
(UNDERGROUND)
METER SOCKET
6' Max
5' Min
LINE SIDE
CONDUIT
(SEE NOTE)
LOAD SIDE CONDUIT OR
SERVICE ENTRANCE CABLE
WARNING RIBBON
UNDERGROUND
SERVICE CABLE
METER INSTALLATION AT BUILDING
(OR AT CUSTOMER POLE)
METER
SOCKET
6' Max
5' Min
CUSTOMERS
SERVICE
EQUIPMENT
LINE SIDE
CONDUIT
(SEE NOTE)
LOAD SIDE
CONDUIT
WARNING RIBBON
WARNING RIBBON
UNDERGROUND
SERVICE CABLE
NOTE:
METER PEDESTAL INSTALLATION
STEEL CONDUIT, OR SCHEDULE 80 IS REQUIRED

UNDERGROUND SERVICE CONNECTION
FOR RESIDENTIAL DEVELOPMENTS
SECT.4,PARA.34-36

THE SERVICE CABLE AND CONDUIT (IF USED) ARE NOT TO BE INSTALLED CLOSER THAN TWO (2) FEET FROM THE TRANSFORMER OR HANDHOLE LOCATION.

DRAWING 4



Secondary (service URD cable between meter and building)

- Minimum of 15’ extra cable is required at the transformer or hand hole location

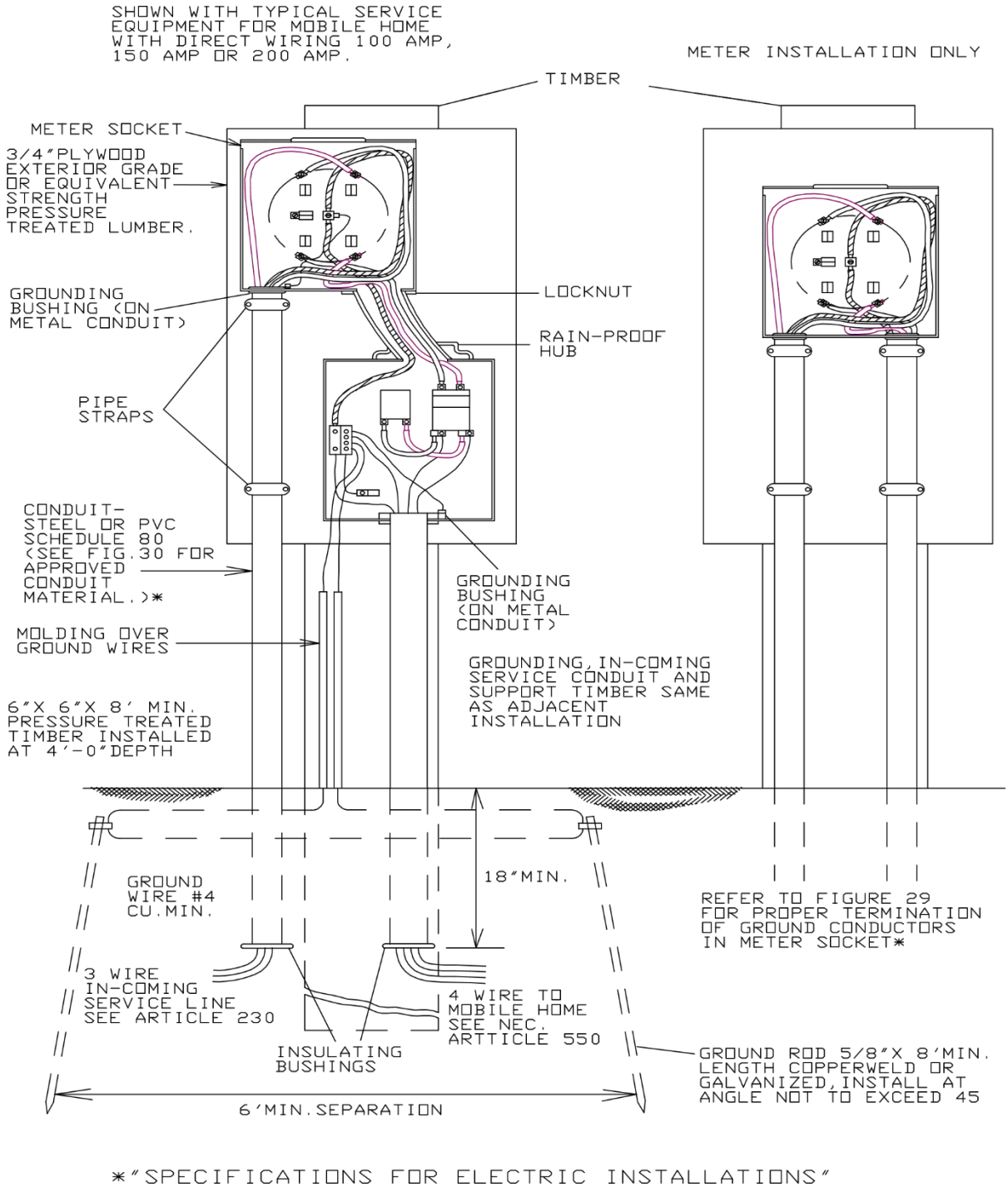
- Minimum secondary cover requirements

    - 24” direct buried

    - 18” in PVC

DRAWING 5

INSTALLATION OF CUSTOMER CONSTRUCTED PEDESTAL



*"SPECIFICATIONS FOR ELECTRIC INSTALLATIONS"

SIZES AND WEIGHTS OF SINGL

THE DIMENSIONS AND WEIGHTS SHOWN BELOW ARE BASED ON THE LARGEST AND HEAVIEST FOR THE RESPECTIVE KVA SIZE REPRESENTING THE FOLLOWING 1Ø MANUFACTURERS:

KUHLMAN	COOPER
HEVI-DUTY	HOWARD
GENERAL ELECTRIC	ABB

1Ø PADMOUNT TRANSFORMER

KVA	SIZE IN INCHES (A) (B) (C)	WEIGHT IN POUNDS (INCLUDES OIL)
	(SEE DWG "A" ON PAGE 8)	
25	34 X 36 X 32	1075
50	34 X 36 X 34	1287
100	34 X 36 X 38	1598
167	34 X 36 X 46	2200

THE DIMENSIONS AND WEIGHTS SHOWN BELOW ARE BASED ON THE LARGEST AND HEAVIEST FOR THE RESPECTIVE KVA SIZE REPRESENTING THE FOLLOWING 3Ø MANUFACTURERS:

PAUWELS	COOPER
GENERAL ELECTRIC	ABB
HOWARD	

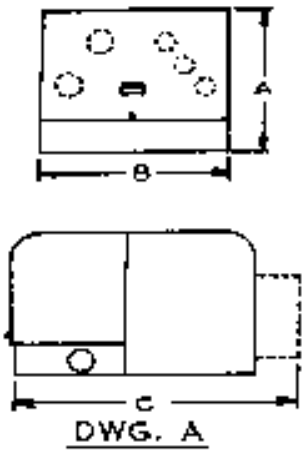
3Ø PADMOUNT TRANSFORMERS (UP TO 35KV)

KVA	SIZE IN INCHES (A)	(B)	(C)	WEIGHT POUNDS (INCLUDES OIL)
	(SEE DWGS B, C ON PAGE 8)			
150	52	66	64	4700
300	55	69	69	5400
500	56	71	69	6700
750	65	72	71	9400
1000	68	78	72	11000
1500	70	80	72	13000
2000	76	85	84	15500
2500	80	95	92	18000

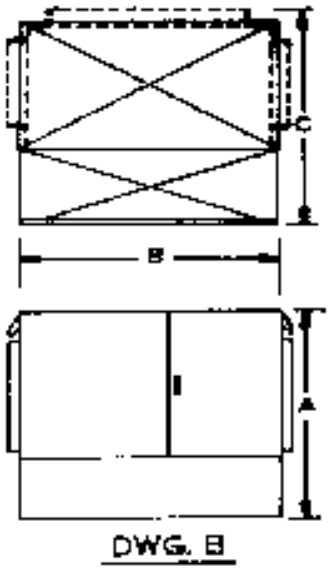
3Ø PADMOUNT STEP TRANSFORMER

KVA	SIZE IN INCHES (A)	(B)	(C)	WEIGHT POUNDS (INCLUDES OIL)
	(SEE DWGS B, C ON PAGE 8)			
500	60	76	62	8700
750	69	82	66	11500
1000	76	89	68	13600
1500	80	95	70	17200
2000	85	95	80	18000
2500	89	95	86	22000

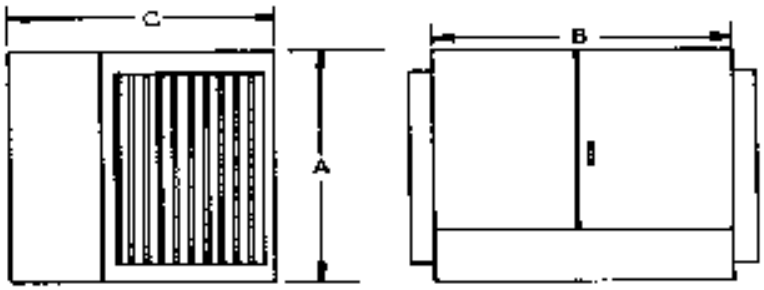
SIZES AND WEIGHTS OF SINGLE AND THREE-PHASE PADMOUNTED TRANFORMERS (CONTINUED)



DWG. A



DWG. B

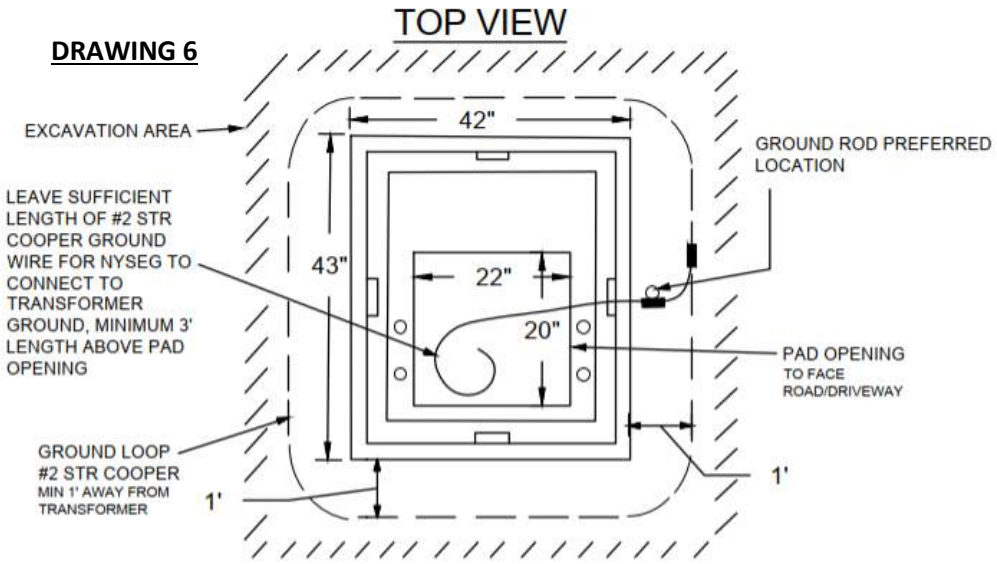


DWG. C

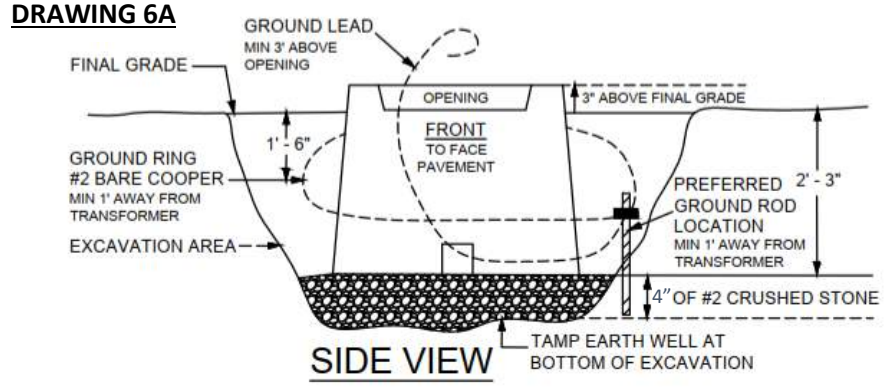
REFERENCE PAGE 7 FOR DIMENSIONS

INSTALLATION OF FIBERGLASS BOXPAD FOR SINGLE PHASE TRANSFORMERS

DRAWING 6



DRAWING 6A

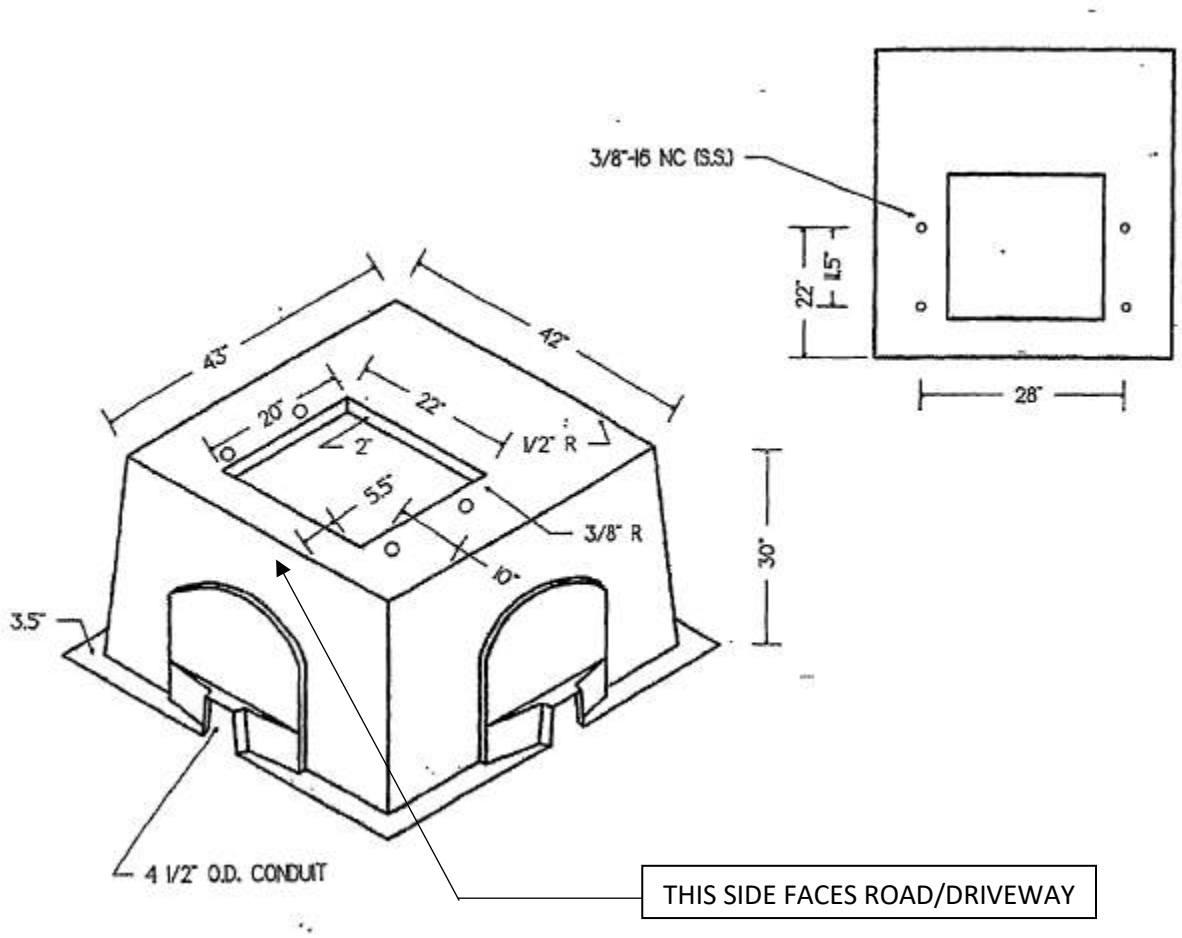


Notes:

1. **BOX PAD MUST BE NO MORE THAN 10 FT OFF ROAD/DRIVEWAY**
    - Vault pad shall be located a minimum of 4 ft. from a building and 10 ft. from doors and windows
2. Vault pad shall be installed level and placed on #2 crushed stone (4" minimum depth)
3. Grounding – One ground rod is to be installed, 1’ away from pad with #2 bare copper loop, 1’ away all around from pad is required. See above drawings 6 & 6A and drawings 7 & 7B on page 11 for preferred ground rod locations.
4. The transformer shall be secured to the foundation by hold-down cleats with a galvanized 9/16" steel washer, a galvanized ½" steel lock washer and a 3/8" x l½” long galvanized steel bolt

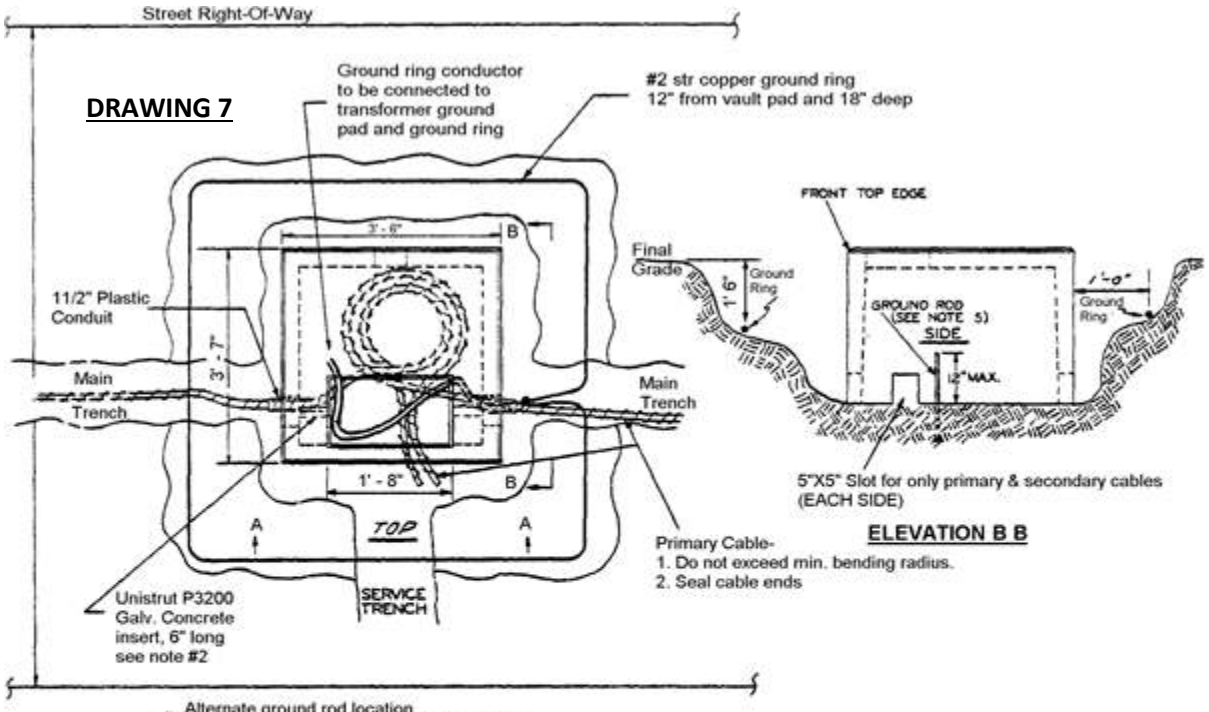
The vault pad will accommodate single phase pad mount transformers up to and including 100KVA transformers. For larger transformers, actual tank measurements must be verified with NYSEG before installation.

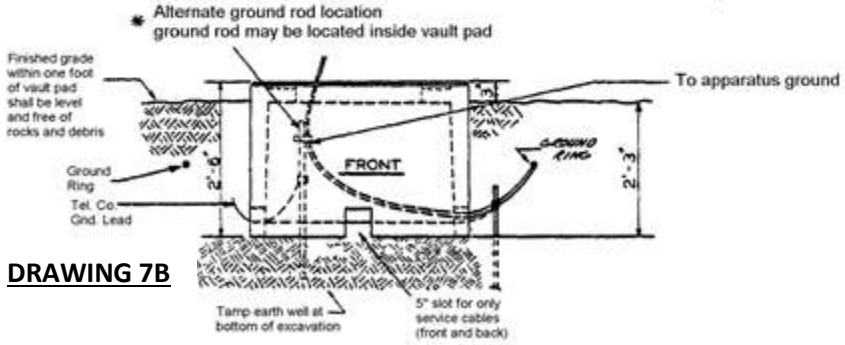
INSTALLATION OF FIBERGLASS BOXPAD FOR SINGLE PHASE TRANSFORMERS (CONTINUED)



INSTALLATION OF CONCRETE VAULTPADS FOR SINGLE PHASE TRANSFORMERS (CONTINUED)

DRAWING 7



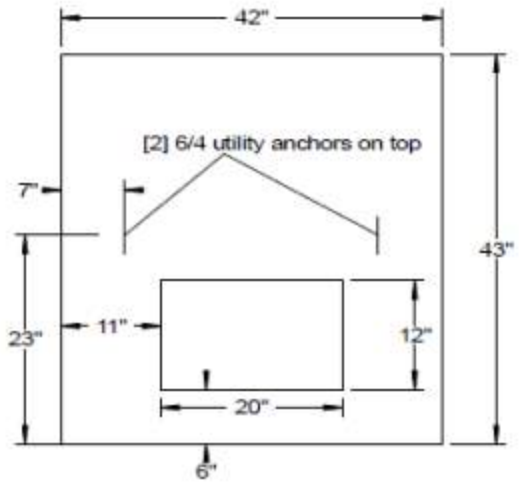


DRAWING 7B

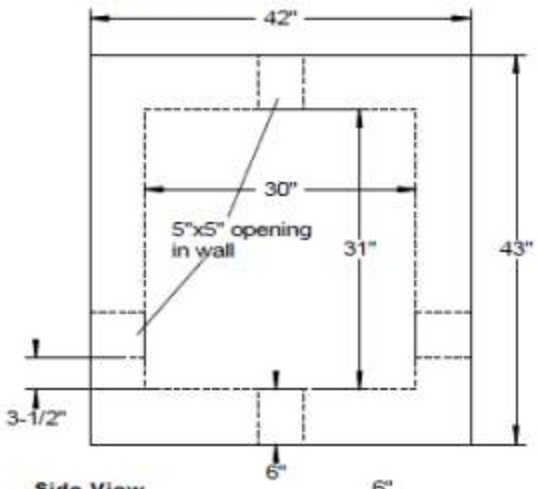
INSTALLATION OF CONCRETE VAULTPADS FOR SINGLE PHASE TRANSFORMERS (CONTINUED)

DRAWING 8

Top View

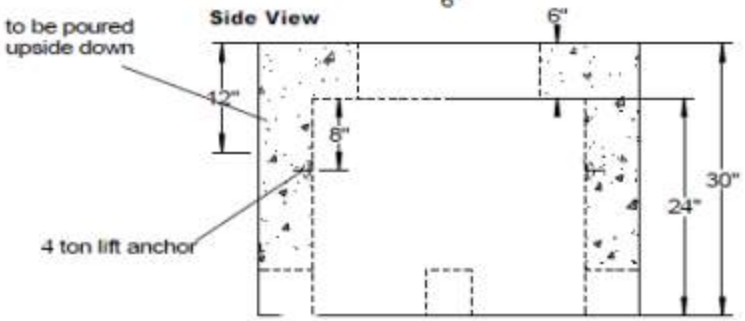


Top Viewof Wall



Concrete:
Roof = 0.20 Yards
Roof Weight = 805 lbs
Base Walls = 0.45 Yards
Base Weight = 1,800 lbs

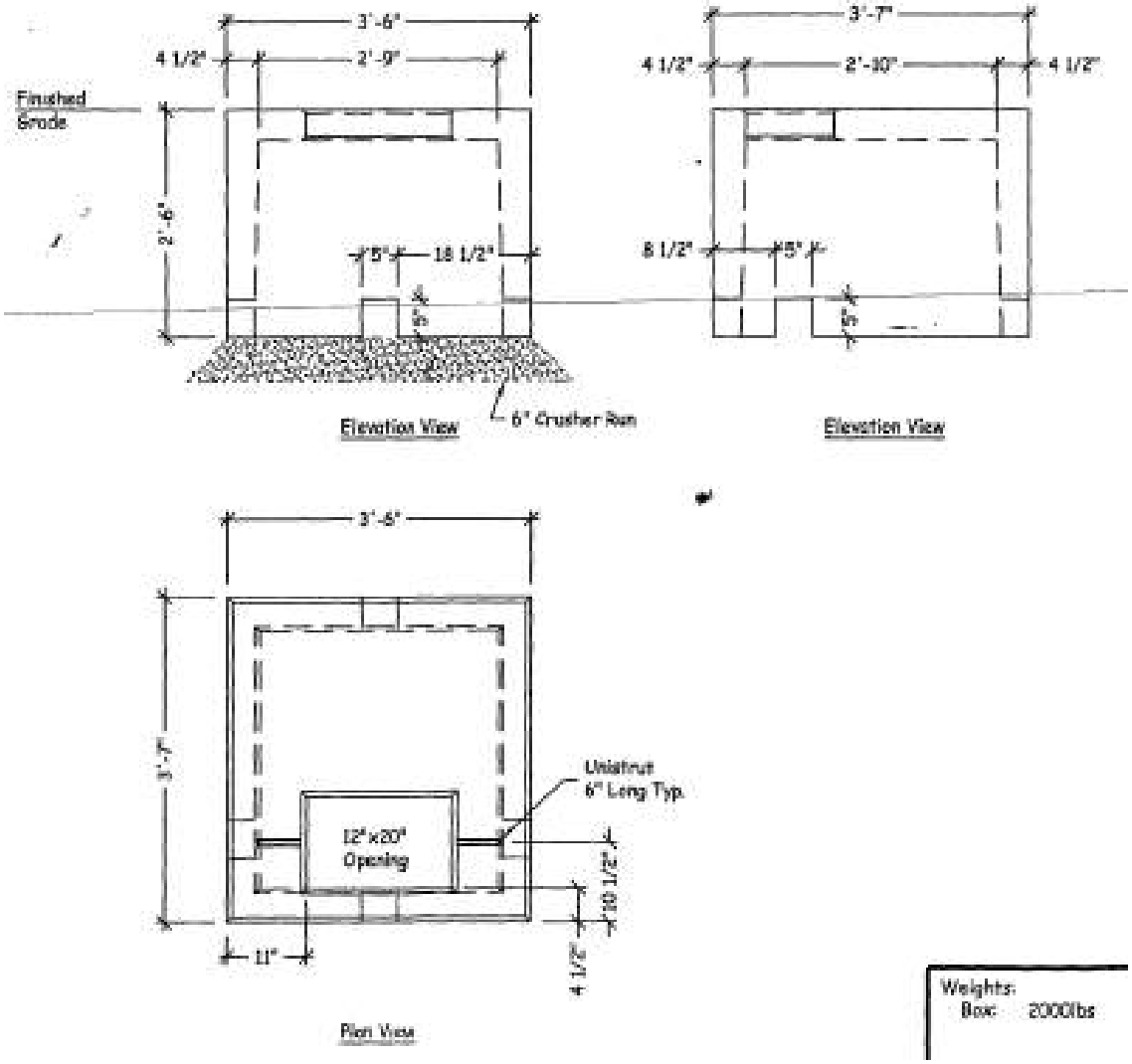
Side View



SPECIFICATIONS
Concrete Min. Strength: 4,000 psi at 28 days **Reinforcement: #4 bar / ASTM A615** **Air Entrainment: 6%** **Weight: 2,600 lbs**

INSTALLATION OF CONCRETE VAULT PADS FOR SINGLE PHASE TRANSFORMERS (CONTINUED)

DRAWING 9

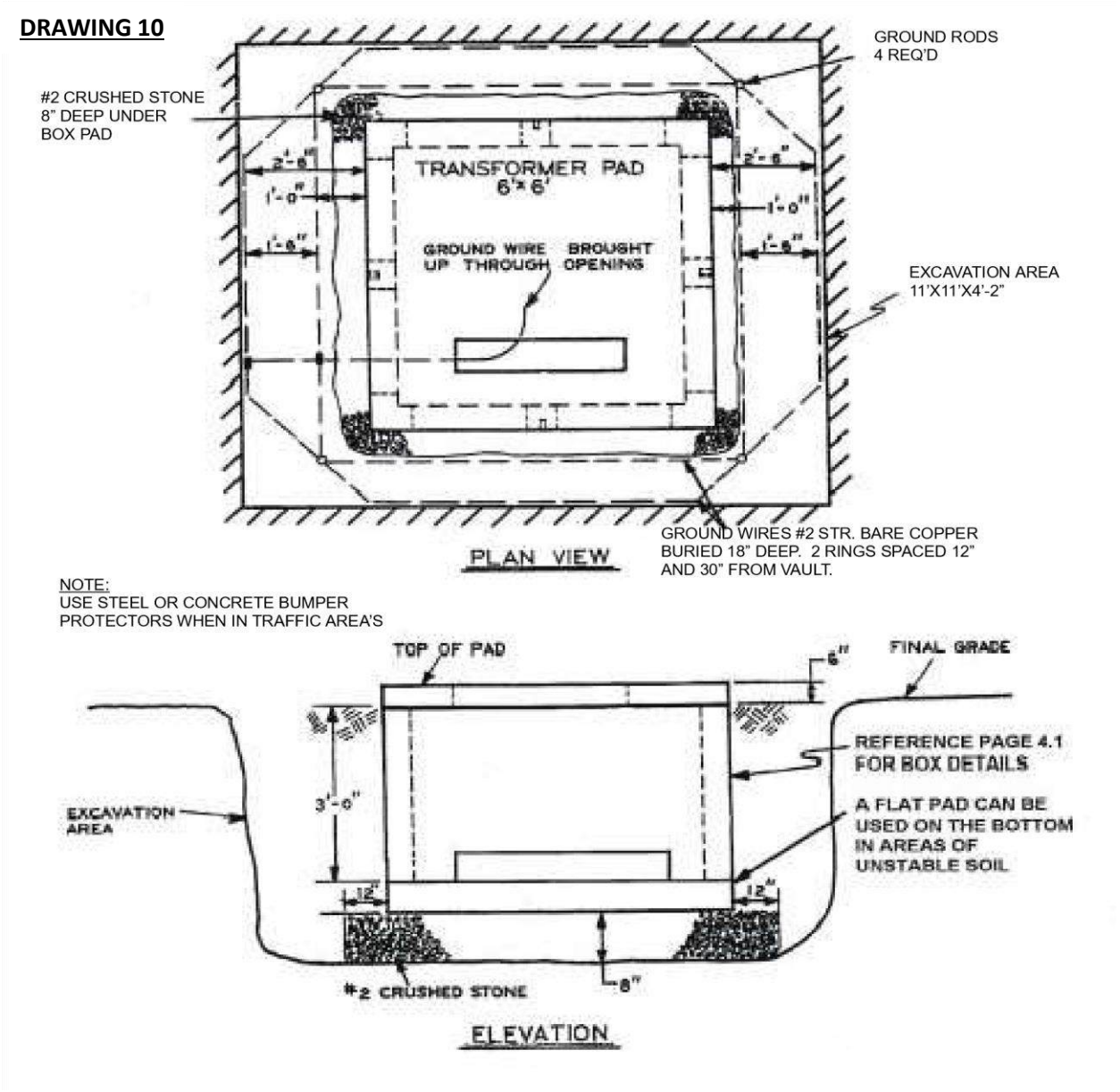


INSTALLATION OF THREE PHASE PADMOUNTED TRANSFORMERS ON VAULT PAD (CONTINUED)

6'X6'X3' BOX PAD

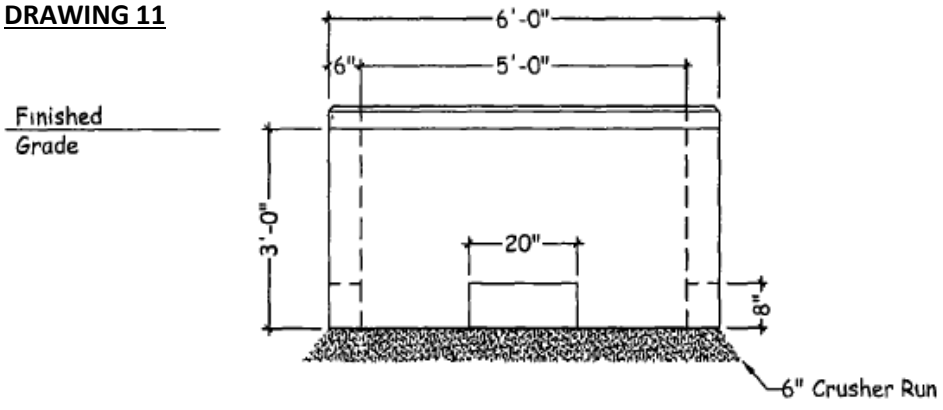
6'X6' FLAT PAD - (can be used as bottom)

DRAWING 10

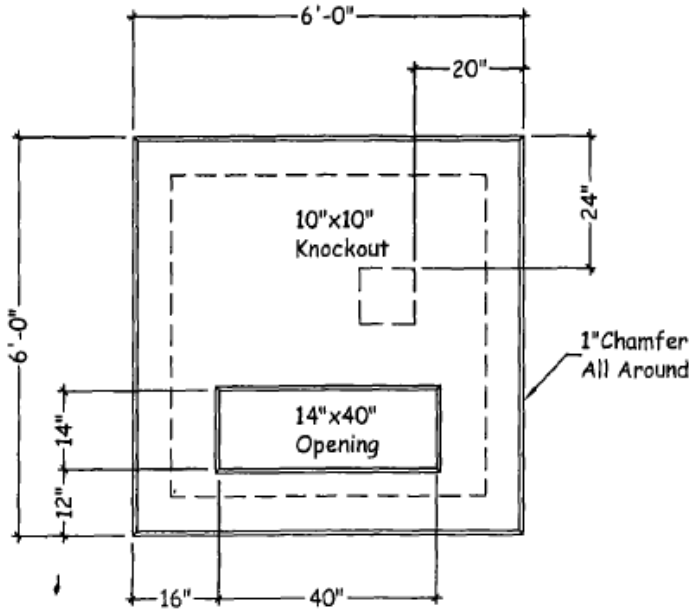


INSTALLATION OF THREE PHASE PADMOUNTED TRANSFORMERS ON PRECAST FOUNDATIONS (CONTINUED)

DRAWING 11



Elevation View

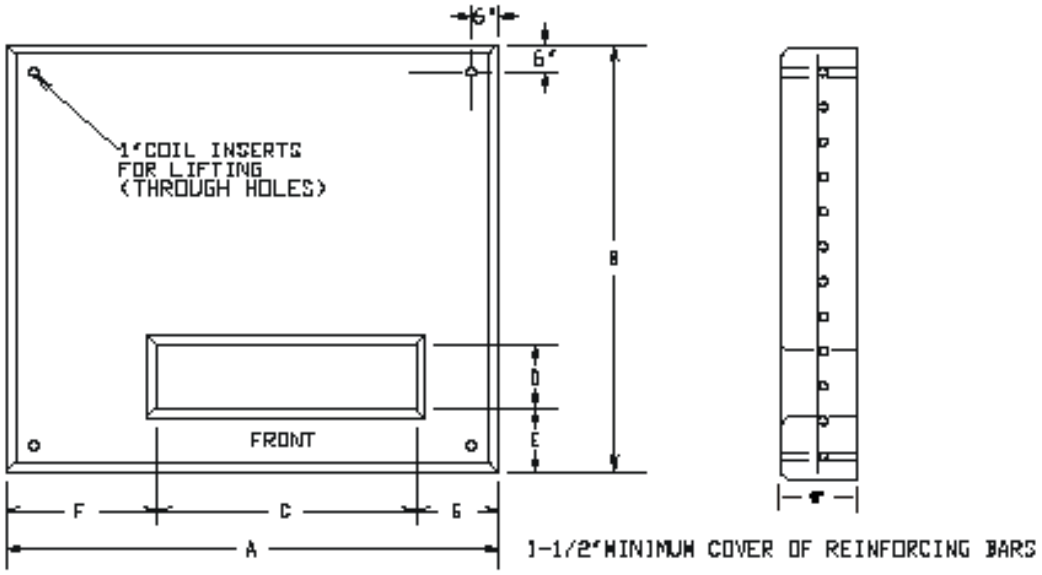


Plan View

Weights.
Box: 4800lbs
Cover. 2370lbs

DIMENSIONS OF POURED OR PRECAST CONCRETE PADS FOR THREE PHASE PADMOUNTED UTILIZATION TRANSFORMERS (CONTINUED)

DRAWING 12



DIMENSIONS OF POURED OR PRECAST CONCRETE PADS												
	TRANSFORMER RATING			DIMENSIONS IN INCHES								
TYPE	KV	PHASE	KVA	A	B	C	D	E	F	G	WEIGHT	SS#
~~Util~~	~~15/35~~	~~1~~	~~25-167*~~	~~50~~	~~50~~	~~24~~	~~12~~	~~7~~	~~13~~	~~13~~	~~750~~	~~262-803-00~~
Util	15	3	75-500	72	72	40	16	12	16	16	2367	262-776-00
Util	15	3	750-2500	89	75	50	17	14	21	18	3100	262-781-00
Util	35	3	75-1500	89	75	50	17	14	21	18	3100	262-781-00
Util	35	3	2500	96	96	60	24	12	24	12	4300	262-782-00
Step		1/3	250-500	76	71	30	15	22.5	23	23	2600	262-790-00
Step		3	500-1500	95	89	43	17	20	26	26	4100	262-791-00
Step		3	1500-2500	96	96	62	17	20	17	17	4300	262-792-00
Step		3	3750-5000	120	120	80	24	20	20	20	6500	262-793-00

*** Used for conversion of a submersible transformer installation to a padmounted installation. This unit is 4" thick, not 6".**

Notes

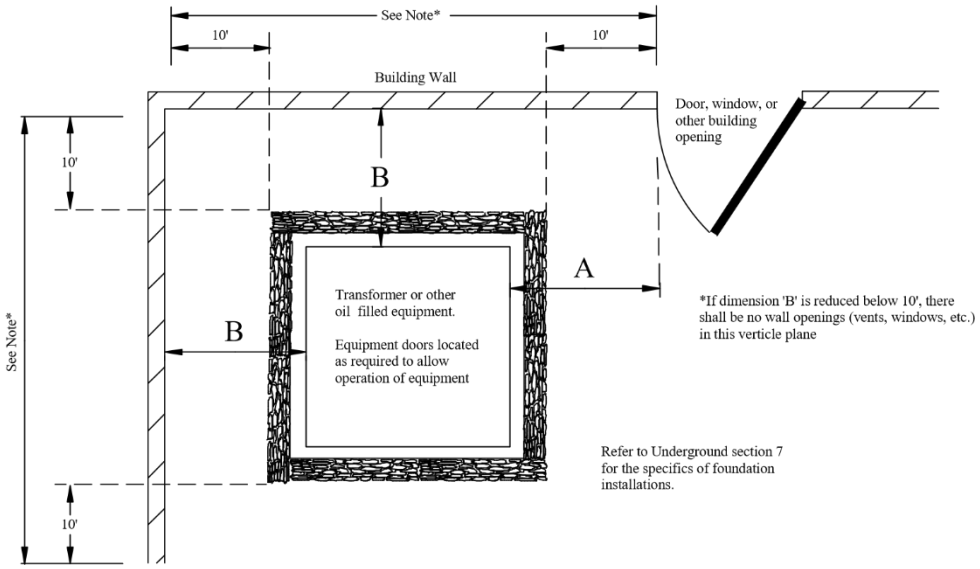
1. **Reinforce with grade 60 #4 bars on 6" centers both ways**
2. 4000 PSI concrete at 28 days
3. Top and Bottom to be smooth finish

FLAT PADS

Clearance of Oil Filled Equipment from Structures

The NESC recommends the minimizing of fire hazards when installing oil filled equipment by utilizing a less flammable liquid, space separation, absorption beds, fire resistant barriers, etc. The code does not provide specific minimum footages or the reductions that can be obtained by using these methods. Therefore, based on NYSEG's operating history, and NFPA and other industry references the following recommendations have been developed for the installation of oil filled pad mounted equipment.

Item	Description	Footage
A	Clearance from doors and windows	10'
B	Clearance from structure walls	10'
B (reduced)	Reduced Clearance from walls (*see notes below)	4'



Notes:

- The reduced clearance on 'B' from 10' to 4' is based on the use of oil containment (using vaults under mini pads and gravel containment on larger units) to remove and capture oil in the event of rupture and fire. To provide sufficient volume for oil containment, the depth of gravel under a flat pad installation must be increased to 3'.

- NYSEG bases the above clearances on the following - Standard mineral oil, 5 MVA maximum size to minimize oil capacity, all standard building materials are acceptable.

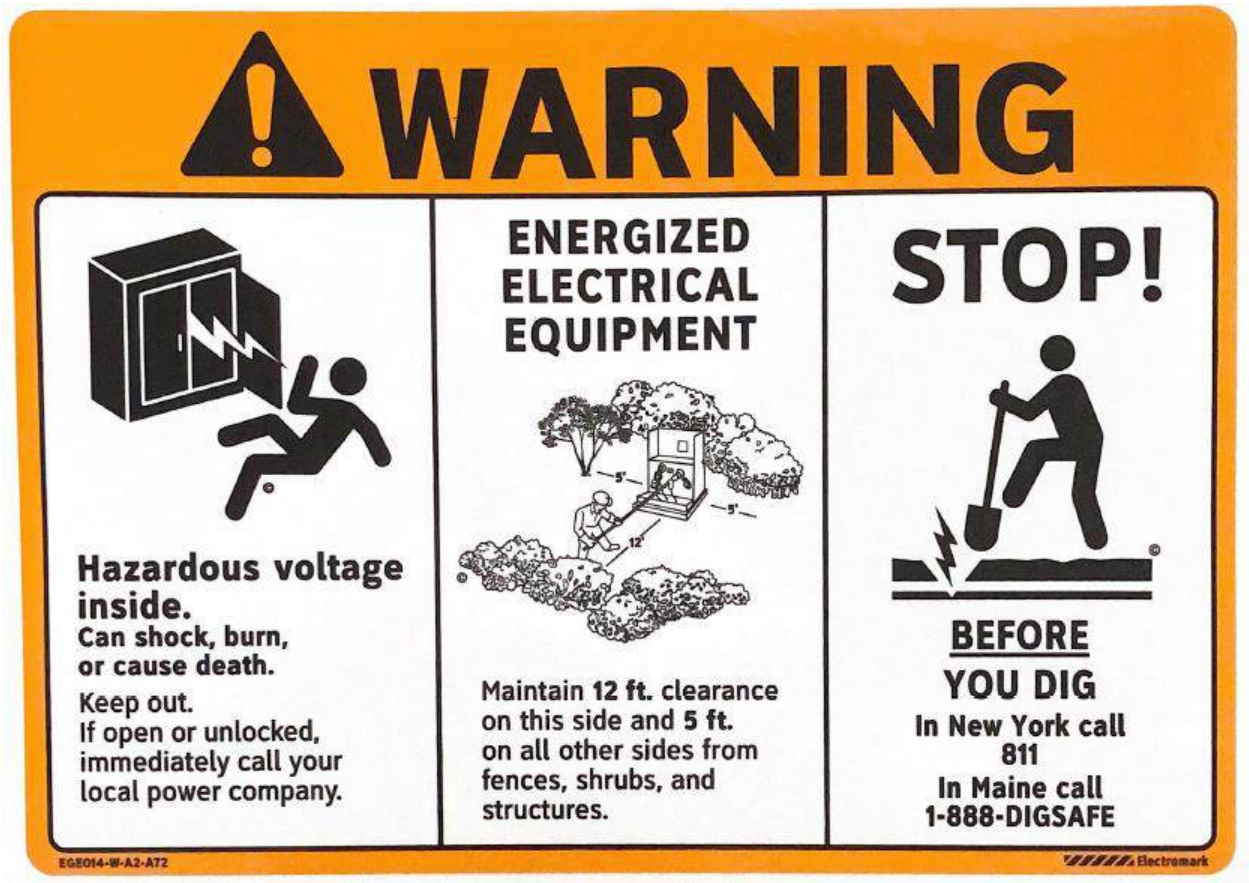
- The 'A' clearance from doors and windows of 10' should provide sufficient separation for access and egress.

- While not a standard NYSEG practice, clearances may also be reduced using fire walls or low flammability insulating fluid. These decisions would be made on a case-by-case basis.

Clearance of Oil Filled Equipment from Fences, Shrubs, and All Other Structures (Continued)

Maintain **12 ft.** clearance on front side of transformer and **5 ft.** on all other sides of transformer from fences, shrubs, and all other structures. See WARNING sticker below that is put on all NYSEG pad mounted transformers.

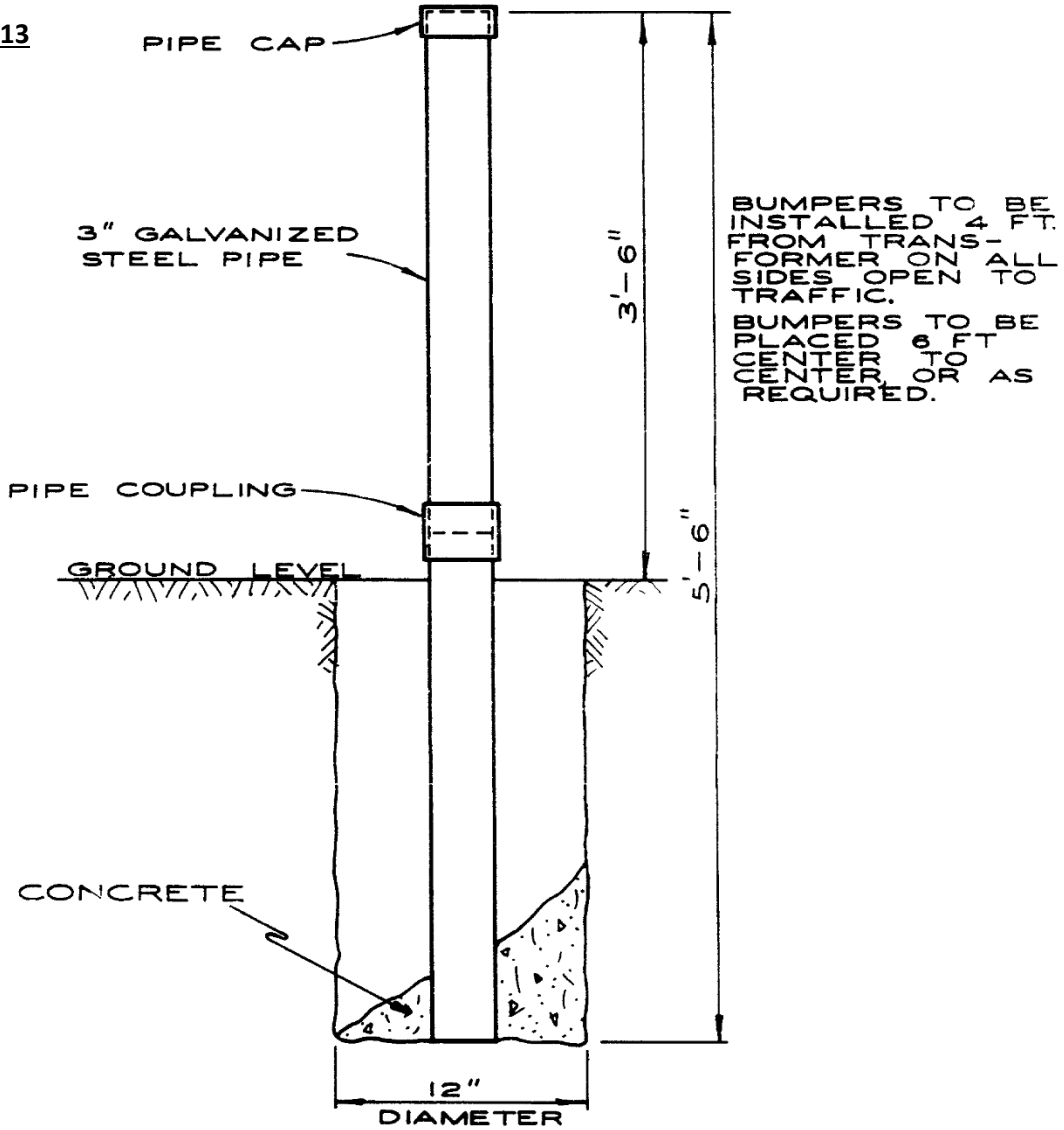
NOTE: ANY OBSTRUCTIONS MAY BE DAMAGED OR REMOVED AT NYSEG'S DISCRETION DURING SERVICE RETORATION OR MAINTENANCE



BUMPER PROTECTIONS

DETAIL OF BUMPER PROTECTION

DRAWING 13



MATERIAL REQ'D – 2 PCS. 3" PIPE (OR RIGID CONDUIT) WITH 1–PIPE CAP AND COUPLING.

NOTE

3" STEEL BEAMS OR RAILROAD RAILS OF THE SAME HEIGHT ARE ACCEPTABLE.

FOR CUSTOMER INSTALLATIONS SEE SP-1099

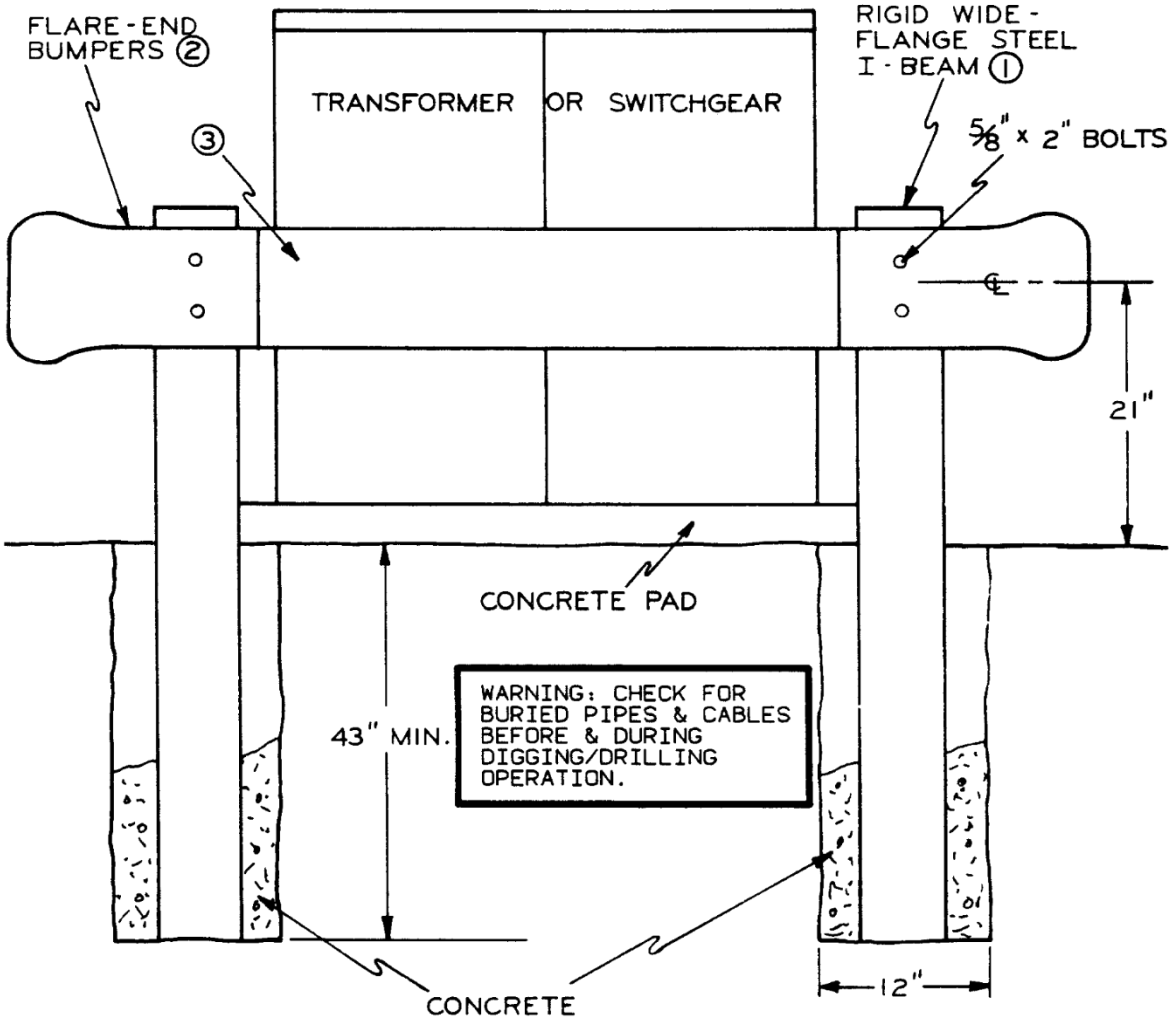
BUMPER PROTECTIONS (CONTINUED)

DETAIL OF BUMPER PROTECTION

NOTES

① W 6 x 8.5 I BEAM IN 5'-9" LENGTHS.
② 12 GAUGE FLARED-END IN 20" LENGTHS.
③ 12 GAUGE GALVANIZED W-BEAM IN 12'-6" LENGTHS - MAY NEED TO CUT TO FIT APPLICATION.

DRAWING 14



NOTE: ALLOW ENOUGH DISTANCE BETWEEN BUMPER PROTECTION AND EQUIPMENT IN ORDER TO OPEN DOORS AND OPERATE EQUIPMENT.

CUSTOMER OWNED MEDIUM VOLTAGE CABLES

Customers that require 15kV and 35kV URD or medium voltage power cable, frequently have trouble in obtaining Kerite or Okanite cables and have had trouble in finding another manufacturer.

Prysmian, Kerite and Okonite are the major manufacturers supplied on our system; however, customers may purchase the other manufacturers listed for installation in their own private facilities.

These cable manufacturers are accepted by NYSEG at this time:

Alcoa*	Prysmian (formerly Pirelli)	Anaconda*
Reynolds*	Nehiring	Essex
Olex	Condumex	Gaon Cable ((formerly Heesung), fonnerly Kutje))
Kerite	Okonite	Southwire - Furakowa*
GPT	BICC	Nexans
Daewon	Daesung***	American Insulated Wire (EPR insulated)

* These are former manufacturers of medium voltage cables

** Confirm cable supplied by Daewon has compressed stranding, not compact stranding. NYSEG's normal connectors do not fit compact stranding. Do not accept compact stranded cable from any supplier without special arrangements.

*** Daesung offers semiconducting tape as an option for the conductor shield. This cable would not be acceptable with that option. Only extruded shields will be allowed for new installations.

The cable manufacturers **NOT** accepted by NYSEG at this time:

Viakon	Hetna	Canada Wire
Cablec	Habirline	Crown Wire
Aetna	Huston Wire	Columbia Wire
Kew Cable (Korean)		

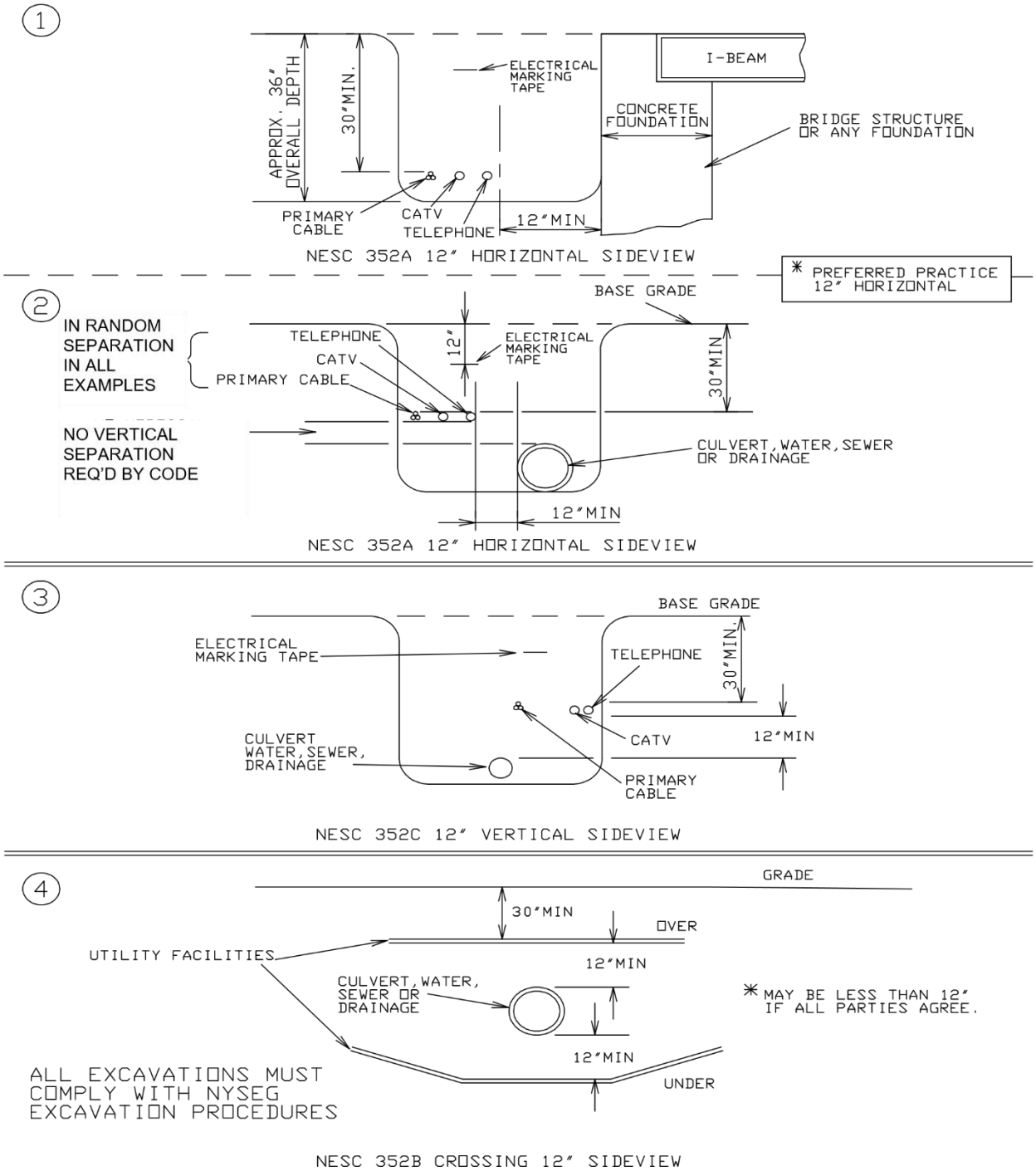
This letter is not to be considered as a blanket acceptance. It is only a list of possible suppliers. We will want a sample of the proposed wire to determine identification markings, strip ability and conformance to industry standards. No sample is required from Kerite or Okonite, or if the cable has the same specifications that have been previously accepted from that manufacturer.

King Wire, Omnicable and Futronix are supply houses and not manufacturers. Be sure to determine the manufacturer of cable from either of these suppliers.

****PLEASE NOTE THAT THE INSPECTION AGENCIES MAY REQUIRE A "UL" LABEL ON THE CABLE****

CONDUCTOR CLEARANCE FROM OTHER UNDERGROUND STRUCTURES

DRAWING 15



PRIMARY CABLE – REQUIREMENTS AND CONSTRUCTION

NOTE: Only those cables meeting NYSEG current internal cable specification (SP4294) will be suitable for takeover by NYSEG at a future date. If the CUSTOMER will be retaining ownership of the cable, see the minimum requirements below.

The following is NYSEG's minimum requirements for solid dielectric insulated cable suitable for use on **CUSTOMER** electric power systems at voltages of 15kV or 35kV. The **CUSTOMER** shall supply NYSEG with the selected manufacturer's specifications and receive approval prior to ordering cable.

The cables shall be manufactured in accordance with the most recent applicable Insulated Cable Engineers Association (ICEA) and Association of Edison Illuminating Companies (AEIC) standards or be a NYSEG approved equivalent. AEIC shall take preference over ICEA in cases of conflicts

The voltage rating of the cable shall be as required by the system with the minimum acceptable voltage class being 15kV. The minimum required conductor size is, #2 AWG concentric or compressed stranded copper or aluminum for 15kV, and 1/0 AWG concentric or compressed stranded copper or aluminum for 35kV. All conductors shall be stranded, annealed copper or "EC" grade aluminum as per current ICEA and National Electric Manufacturers Association (NEMA) standards.

The cable shall have an extruded strand shield.

The Cable shall have an extruded insulation layer of cross-linked polyethylene (XLPE), tree retardant crosslinked polyethylene (TRXLPE), or an ethylene propylene rubber (EPR) based compound suitable for use at conductor temperatures listed in the current AE-IC standard CS6.

Insulation thickness shall be as follows:

Cable Voltage Rating	Minimum Average Thickness
15kV	175 mils
35kV	345 mils

The insulation shall be covered with an extruded insulation shield of a design as dictated by the appropriate current AEIC standard.

Underground Construction:

NOTE: In accordance with industrial code #53, the CUSTOMER shall notify NYSEG and other utilities prior to digging.

CUSTOMERS who will be installing the primary cable in a common trench with telephone or cable TV cables (commonly referred to as joint trench) should adhere to the requirements of the NESC article 354. To paraphrase, if bare concentric neutral or semiconducting jacketed cables are direct buried, they can be installed in the trench with no intentional separation from the other facilities (random-lay). If the primary cable is installed in conduit, or an insulating jacket is used, the NESC **may** require either a one-foot separation between the primary cable and the other facilities, or the addition of a bare grounding conductor adjacent to the primary cable. Contact NYSEG for additional details prior to installing cable under these circumstances.

The **CUSTOMER'S** privately-owned underground system will commence at a **CUSTOMER** owned riser on a NYSEG designated pole, or at a NYSEG furnished and installed enclosure. The **CUSTOMER** can extend the single phase or three phase primary system using either a direct buried, or a conduit and manhole underground system. The **CUSTOMER** will install all primary cable, trench, conduit, and manholes (if necessary) between the interface point and the NYSEG installed transformer. The voltage class of the cable shall be in accordance with the operating voltage of the area to be served with 15kV being the minimum acceptable. In those area's designated for future conversion to a higher voltage, NYSEG may have additional requirements. The **CUSTOMER'S** primary cable specifications must be submitted to and accepted by NYSEG prior to ordering. The **CUSTOMER** may be required to supply NYSEG with a primary cable sample to assist in reviewing the acceptance of the cable, and to provide sizing information for terminations. **CUSTOMERS** installing unacceptable cable may be charged for the installation of terminations.

For direct buried primary cable installations, the minimum depth of burial shall be 30 inches for 15,000-volt cable and 36 inches for 35,000-volt cable. Depth of burial may be reduced as per the National Electric Code article 710-4b. The cable shall be protected above and below with back-fill free from stones or other material that will damage the cable. The remainder of the trench will also be back filled with select fill. The ends of all **CUSTOMER** installed cable shall be sealed by the **CUSTOMER** to prevent contamination of the cable with dirt or moisture. NYSEG reserves the right to inspect a **CUSTOMER'S** primary cable installation prior to back filling. Where a **CUSTOMER'S** cable may be used to serve additional future **CUSTOMERS**, NYSEG may impose more stringent design and equipment requirements.

PRIMARY URD CABLE EXAMPLE

Product Data
Section 2: Sheet 36

Okoguard® URO-J

15kV Underground Primary Distribution Cable-Jacketed

Red Identification Stripes
Filled Strand Aluminum Conductor/105°C Rating
100% and 133% Insulation Levels

A Conductor-Stranded Aluminum with Filled Strand
B Strand Screen - Extruded Semiconducting EPR
C Insulation-Okoguard EPR
D Insulation Screen - Extruded Semiconducting EPR
E Concentric Conductor-Bare Copper Wires
F Encapsulating Jacket-Okolene with Extruded ID Stripes & NESC lightning bolt

Insulation

Okoguard is Okonite's registered trade name for its exclusive ethylene-propylene rubber (EPR) based, thermosetting compound, whose optimum balance of electrical and physical properties is unequaled in other solid dielectrics. Okoguard insulation, with the distinctive red color and a totally integrated EPR system, provides the optimum balance of electrical and physical properties for long, problem free service.

The triple tandem extrusion of the screens with the insulation provides optimum electrical characteristics.

The compressed conductors are filled with a water swellable agent. This construction slows the migration of water through the strands in the event of a mechanical dig-in followed by external exposure to water.

An insulation screen of ethylene-propylene rubber is extruded over the insulation. The copper concentric wires are uniformly spaced around the insulation screen. The overall polyethylene jacket provides protection against mechanical damage and corrosion.

Product identification is provided through the use of three red stripes placed 120° apart in the black jacket, with an NESC lightning bolt.

Applications

Okoguard URO-J cables provide maximum circuit longevity in underground residential distribution systems. They can be buried directly or installed in underground ducts or conduits.

Specifications

Central Conductor: Aluminum per ASTM B-609, Class B stranded per B-231.

Filled Strand: Water swellable agent meets or exceeds ICEA T-31-610 water penetration resistance and ANSI/NEMA class A connectorability requirements.

Conductor Screen: Extruded semiconucting ethylene-propylene rubber meets or exceeds the requirements of ICEA S-94-649, AEIC CS8, and CSA C68.5.

Insulation: Extruded Okoguard meets or exceeds the requirements of ICEA S-94-649, AEIC CS8, and C68.5.

Insulation Screen: Extruded semiconducting ethylene-propylene rubber meets or exceeds the requirements of ICEA S-94-649, AEIC CS8, and CSA C68.5.

Concentric Conductor: Bare copper wires.

Jacket: Black Okolene with red extruded stripes meets or exceeds the requirements of ICEA S-94-649, AEIC CS8, and CSA C68.5 for polyethylene jackets.

Product Features

- Triple tandem extruded, all EPR system.
- Okoguard cables meet or exceed ICEA standards.
- Meets RUS 1728.204 for cables with filled strand or solid conductor and 133% insulation level.
- 105°C continuous operating temperature.
- 140°C emergency rating.
- 250°C short circuit rating.
- Excellent corona resistance.
- Low dielectric constant and power factor.
- Screens are clean stripping.
- Exceptional resistance to "treeing".
- Filled strand conductor.
- Moisture resistant.
- Overall jacket provides extended life.
- Excellent resistance to most chemicals.
- Can be listed by UL as Type MV-90 on Special Orders.
- CSA C68.5 listed, LTGG (-40°C), SR.
- Design Options:
  - Additional conductor sizes
  - Copper central conductor
  - Copper flat strap concentric neutral
  - Product identification via colored jackets.
  - Semiconducting jackets.
- Improved Temperature Rating.

Okoguard insulation system has been tested and qualified for operation at 105°C continuous and 140°C emergency operating temperature.

- Minimum installation temperature of -40°C.

PRIMARY URD CABLE EXAMPLE (CONTINUED)

Okoguard URO-J

15kV Underground Primary Distribution Cable-Jacketed
Red Identification Stripes
Filled Strand Aluminum Conductor/105°C Rating
100% Insulation Level

Product Data
Section 2: Sheet 36

Okoguard Insulation: 175 mils 100% Insulation Level

Catalog Number	Conductor Size AWG/kcmil	Nominal Dia. over Insulation (in.)	Insulation Screen Thickness (mils)	Nominal Dia. over Insulation Screen (in.)	Copper Neutral, No. x AWG (1)	Nominal O.D. (in.)	Aprox. Net Weight lbs./1000'	Aprox. Ship Weight lbs./1000'	90°C Ampacity Direct Burial (2)	90°C Ampacity Duct (2)	105°C Ampacity Direct Burial (2)	105°C Ampacity Duct (2)
FULL NEUTRAL												
◣ 163-23-2060	2(7x)	0.68	30	0.75	10x14	0.99	517	626	170	125	185	135
163-23-2066	1(19x)	0.72	30	0.79	13x14	1.03	588	698	195	145	210	155
▲ 163-23-2072	1/0(19x)	0.76	30	0.83	16x14	1.07	667	778	220	160	235	175
163-23-2075	2/0(19x)	0.80	30	0.87	13x12	1.14	793	910	250	185	270	205
163-23-2078	3/0(19x)	0.85	30	0.92	16x12	1.19	910	1029	285	210	310	230
163-23-2081	4/0(19x)	0.90	30	0.98	14x10	1.29	1131	1238	320	240	350	260
163-23-2084	250(37x)	0.97	30	1.04	16x10	1.35	1270	1418	350	270	380	295
163-23-2090	350(37x)	1.07	40	1.17	18x.1078	1.50	1603	1793	425	310	460	340

NYSEG PREFFERED CABLE

APPENDIX 10

Luminaire Schedule

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Luminaire Schedule

GENERAL NOTES:
- Provide luminaire shop drawings for Lighting Consultant, Architect, and Owner approval prior to fabrication. For all continuous run luminaires, including track, manufacturer shall submit a layout drawing for run lengths specified on architectural drawings during submittal review for Lighting Designer and Architect approval prior to fabrication.
- Architect shall verify all luminaire body, trim, flange, pole, track and any other visible accessories/hardware finishes. All visible conduit, junction boxes, canopy plates, hardware, gear containers, etc. shall be painted to match adjacent surfaces (Architect to verify).
- Refer to electrical drawings for voltage information. Electrical contractor shall verify all voltages with Electrical Engineer before placing any orders or proceeding with any work.
- Electrical contractor shall verify emergency operation of all luminaires with Electrical Engineer before placing any orders or proceeding with any work. Refer to electrical drawings for all emergency or code-related requirements.
- Contractor shall verify and coordinate recessed luminaire installation and mounting with architectural details, housing type, field conditions, and ceiling system details including grid type and flange requirements such that there are no light leaks between luminaire and ceiling system and luminaire can accommodate ceiling thickness.
- Contractor to verify and coordinate all other luminaire installation and mounting with architectural details and field conditions.
- Contractor shall verify mounting details with architect and/or architectural drawings and order all mounting components necessary for installation of luminaire at no additional cost, even if such components are not specifically called for in the contract documents.
- Provide adequate and sturdy support for each luminaire. Contractor shall be responsible for verifying weight and mounting method of all luminaires and furnish and install suitable supports. Luminaire mounting assemblies shall comply with all local seismic codes and regulations.
- Provide all luminaires as shown complete with all light sources, completely wired, controlled and securely attached to supports.
- Where both narrative and/or pictorial luminaire descriptions are provided, the written description shall take precedence and prevail. Contractor to confirm via RFI process with lighting designer and architect.
- Locations of luminaires are shown diagrammatically. Verify exact location and spacing with architectural drawings and designer at the site during installation. Notify Owner about field conditions at variance with Contract Documents before commencing installation.
- At the completion of construction, clean lenses and reflectors of all luminaires so as to render them free of any material, substance or film foreign to the luminaire. Blemished, damaged, or unsatisfactory luminaires shall be replaced in a satisfactory manner.
- When applicable, contractor shall review existing circuiting, verify new loads and panel capacity. Contractor shall notify Owner if a conflict between design documents and field conditions occur.
- Contractor shall refer to electrical drawings for information on controls and dimming requirements, and coordinate luminaire and control accessories required for a fully functioning system.
- Contractor to provide line item pricing at bid phase or earlier as requested by lighting designer or architect per type with labor and installation shown as separate line items.
- All 0-10V dimming gear provided shall be isolated to avoid AC interferance on the dimming line.
- All LED sources within the same luminaire Type shall be within two (2) MacAdam ellipses/steps of each other.
- For all adjustable luminaires provide labor and materials for final aiming and locking of all adjustable luminaires under the Architect's supervision. Aiming shall take place immediately before building is turned over to Owner, after regular working hours where required. Contractor shall coordinate necessary personnel and equipment
- All luminaires shall have a minimum 3-year warranty.
- All lighting systems shall be ordered with necessary gear, power feeds and mounting accessories as required for installation of a complete system.
- Locate remote gear in a secure, concealed, accessible and well-ventilated location in compliance with manufacturer's directions.
- All luminaires and workmanship shall be guaranteed free of defects and fully operational for a minimum of one year after the acceptance of the project by the Owner unless otherwise indicated in the specifications. Any luminaires or workmanship found to be defective during the warranty period shall either be fixed or replaced by the Contractor at no cost to the Owner.
- The luminaires and workmanship must be in accordance with and meet the standards and regulations of the following: Underwriters Laboratories, National Electric Code, & Local Building and Life Safety Code Agencies.
- Replace all burned-out or inoperative sources and gear in all luminaires before the building is accepted by the Owner so that all luminaires will be in first class operating condition.
- For pendant mounted luminaires provide adequate cord length to suspend luminaires at heights shown on architectural drawings or indicated in the lighting fixture schedule.
- Electrical contractor shall field-verify each run length of continuous fixtures prior to ordering.
- Provide luminaire samples per type as requested in the Fixture Schedule. Supply a completely operable luminaire with cord and plug for standard 120 Volt service.
- Code required accessories and controls such as but not limited to motion sensors, photocell controls, dimming controls, etc. to be specified and coordinated by Electrical Engineer.
- Contractor shall follow all manufacturer installation instructions and inform the Architect if there is a conflict with design documents.

TYPE	LOCATION	DESCRIPTION	FIXTURE FINISH	LAMPS/SOURCE	POWER SUPPLY/ DRIVER	INPUT WATTS	INPUT WATT UNITS	LISTING	MANUFACTURER	NOTES
INTERIOR LUMINAIRES										
F1	Bedford House Throughout, Carriage Barn Exhibits 102	Ceiling mounted 2" aperture round adjustable LED monopoint with 2.75" diameter micro-canopy, 40-degree optic, 360-degree rotation, 90-degree tilt, black cross baffle, and 1100 delivered lumens. Fixture shall be line voltage with die-cast aluminum housing and powder-coated finish. Dimensions: Fixture: 2" Dia x 3 1/4" H Canopy: 2 3/4" Dia x 2 3/8" H recessed (1/16" H visible)	White Architect shall verify	LED 3000K 80+ CRI L70 @ 50,000 Hours 1100 LM Delivered	Integral DIM ELV	14.0W	EA	UL Listed for Dry Location	Lumenture T50 Track Heads T50-30K-1100-40-W-MC + Accessories: T50-CB	- Fixture finish to be verified by Architect. - Contractor shall verify and coordinate luminaire installation and mounting with architectural details, housing type, field conditions, and ceiling system details including ceiling thickness, grid type, flange and insulation clearance requirements. - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Electrical Engineer shall confirm all EM requirements. - Fixture shall have a minimum 5-year warranty.
F1A	Carriage Barn Exhibits 101, 101A, 102	Same as F1, except fixture shall be mounted to track. Dimensions: 2" Dia x 3 1/4" H	White Architect shall verify	LED 3000K 80+ CRI L70 @ 50,000 Hours 1100 LM Delivered	Integral DIM ELV	14.0W	EA	UL Listed for Dry Location	Lumenture T50 Track Heads T50-30K-1100-40-W-J + Accessories: T50-CB	- Fixture finish to be verified by Architect. - F1B track and F1A luminaires shall be compatible. Contractor to provide all necessary lengths, feeds, connectors, supports, and other components for complete and code compliant installation. - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Electrical Engineer shall confirm all EM requirements. - Fixture shall have a minimum 5-year warranty.
F1B	Carriage Barn Exhibits, Gift Shop 105B	Ceiling surface-mounted two-circuit J-type line voltage track system with 40 amp capacity, solid copper conductors with insulators in 14-gauge extruded field-cuttable aluminum channels. Track shall have power feeds and connection accessories constructed of polycarbonate with galvanized steel back plates. Dimensions: Length Per Drawing x 1 3/8" W x 13/16" H	Black Architect shall verify	N/A	N/A	N/A	N/A	UL Listed for Dry Location	Lumenture JT 2-Circuit Line Voltage Track JT-Length Per Drawing-B Mounting and Power Accessories as Required	- Fixture finish to be verified by Architect. - F1B track and F1A and F1C luminaires shall be compatible. Contractor to provide all necessary lengths, feeds, connectors, supports, and other components for complete and code compliant installation. Track shall be equipped with Wattage-limiting circuit breaker equipment for each run of track. - Track shall be equipped with wattage-limiting circuit breaker equipment for each run of track. Allow for twice the wattage of fixtures shown on the electrical drawings/maximum Wattage as allowed by code. - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Electrical Engineer shall confirm all EM requirements. - Fixture shall have a minimum 5-year warranty.
F1C		NOT USED								
F1D	Bedford House Discovery Zone Kitchen (B-6)	Same as F1, except ceiling mounted with deep canopy collar over surface mounted j-box. Dimensions: Fixture: 2" Dia x 3 1/4" H Canopy: 4 5/8" Dia x 2" H	White Architect shall verify	LED 3000K 80+ CRI L70 @ 50,000 Hours 1100 LM Delivered	Integral DIM ELV	14.0W	EA	UL Listed for Dry Location	Lumenture T50 Track Heads T50-30K-1100-40-W-SC-JA-18-JA-18-W-Cover + Accessories: T50-CB	- Fixture finish to be verified by Architect. - Luminaire shall be mounted over a surface-mounted junction box (by electrician). - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Electrical Engineer shall confirm all EM requirements. - Fixture shall have a minimum 5-year warranty.
F2		NOT USED								

TYPE	LOCATION	DESCRIPTION	FIXTURE FINISH	LAMPS/SOURCE	POWER SUPPLY/ DRIVER	INPUT WATTS	INPUT WATT UNITS	LISTING	MANUFACTURER	NOTES
F3	Bedford House Ballroom, Porch	Recess mounted 2" aperture round adjustable LED downlight in die-cast aluminum housing with powder-coated finish and knife edge trim with 35-degree tilt. Fixture shall have 60-degree optic and 1600 delivered lumens. Dimensions: Fixture: 3 3/4" Dia x 4 7/8" H Housing: 11" L x 8" W x 5" H	White Architect shall verify	LED 3000K 80+ CRI L70 @ 50,000 Hours 1600 LM Delivered	Integral DIM 0-10V	17.0W	EA	UL Listed for Damp Location	Lumenture DLA60 2" Adjustable Downlights DLA60-30K-60-W-W-R-Z-400-C	- Fixture finish to be verified by Architect. - Contractor shall verify and coordinate luminaire installation and mounting with architectural details, housing type, field conditions, and ceiling system details including ceiling thickness, grid type, flange and insulation clearance requirements. - If required based on existing field conditions, provide IC and/or Airtight housing as required for installation in an insulated ceiling. Contractor to provide as required based on ceiling type and local codes. - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Electrical Engineer shall confirm all EM requirements. - Fixture shall have a minimum 5-year warranty.
F3A	Carriage Barn Entrance, Ticketing, Gift Shop	Same as F3, except fixture shall have 950 delivered lumens. Dimensions: Fixture: 3 3/4" Dia x 4 7/8" H Housing: 11" L x 8" W x 5" H	White Architect shall verify	LED 3000K 80+ CRI L70 @ 50,000 Hours 950 LM Delivered	Integral DIM 0-10V	8.5W	EA	UL Listed for Damp Location	Lumenture DLA60 2" Adjustable Downlights DLA60-30K-60-W-W-R-Z-200-C	- Fixture finish to be verified by Architect. - Contractor shall verify and coordinate luminaire installation and mounting with architectural details, housing type, field conditions, and ceiling system details including ceiling thickness, grid type, flange and insulation clearance requirements. - If required based on existing field conditions, provide IC and/or Airtight housing as required for installation in an insulated ceiling. Contractor to provide as required based on ceiling type and local codes. - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Electrical Engineer shall confirm all EM requirements. - Fixture shall have a minimum 5-year warranty.
F4	Mechanical 222, Stair 218	4'-0" L surface-mounted LED strip light with wraparound lens. Housing is die and brake-formed, cold gauge steel housing and ends with knockouts and frosted extruded micro-grooved round polycarbonate lens. Fixture shall have integrated occupancy sensor and 1948 delivered lumens. Dimensions: 44 7/8" L x 2 1/16" W x 2 7/8" H	White Architect shall verify	LED 3000K 80+ CRI L80 @ 50,000 Hours 1948 LM Delivered	Integral DIM 0-10V	13.7W	EA	UL Listed for Damp Location	Visioneering LCOMN LCOMN48-LED830K020LUNV-B39-V68	- Fixture finish to be verified by Architect. - Luminaire shall be mounted over a recessed junction box (by electrician). - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Electrical Engineer shall confirm all EM requirements. - Fixture shall have a minimum 5-year warranty.
F4A	Bedford House Stairs	Same as F4, except fixture shall be 2'-0" length with 1927 delivered lumens. Dimensions: 22 7/8" L x 2 1/16" W x 2 7/8" H	White Architect shall verify	LED 3000K 80+ CRI L80 @ 50,000 Hours 1927 LM Delivered	Integral DIM 0-10V	14.4W	EA	UL Listed for Damp Location	Visioneering LCOMN LCOMN24-LED830K020LUNV-B39-V68	- Fixture finish to be verified by Architect. - Luminaire shall be mounted over a recessed junction box (by electrician). - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Electrical Engineer shall confirm all EM requirements. - Fixture shall have a minimum 5-year warranty.
F4B		NOT USED								
F5		NOT USED								
F6	Bedford House Ballroom	Surface mounted linear LED cove light with asymmetrical 25-degree optic, 624 delivered lumens per foot and side feed and external mounting clip. Housing is one-piece extruded aluminum channel with cast aluminum end caps and powder coated finish, extruded high transmission optic lens, and 8% transmission loss. Fixtures shall have CREE LEDs mounted on robust platform. Dimensions: Length Per Drawing x 1" W x 0.48" H	Matte Black Architect shall verify	LED 3000K 90+ CRI L70 @ 50,000 Hours 624 LM/FT Delivered	Remote DIM 0-10V	4.8W	LFT	UL Listed Rated IP20 for Dry Location	Scout Optic SS-O-6-M-30-B-SFx-1-E-Y-Wire Length-S-Length Per Drawing + Driver: SDRVCC01075 Mounting and Power Accessories as Required	- Fixture finish to be verified by Architect. - Modular units to be installed for a continuous run condition as shown on drawing. Refer to architectural drawings for length of continuous runs, contractor shall provide an optimal combination of luminaire lengths to provide a continuous run as shown on architectural drawings. Luminaire shall stop from a minimum of 3" to a maximum of 8" from the corner or end of wall. - Luminaire shall be concealed in architectural cove. Refer to architectural drawings for details. - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Luminaire shall be ordered with necessary gear, control interfaces, power feed cables/terminators and mounting accessories as required for a complete system. - Locate remote gear in a secure, concealed, accessible and well-ventilated location in compliance with manufacturer's directions. Contractor/Manufacturer to coordinate remote gear size, location and wire gauge for <2% Voltage drop over entire length of run. - Provide manufacturer's dimensioned shop drawings showing all materials, finishes and components for Lighting Designer and Architect review prior to final fixture approval and fabrication. - Fixture shall have a minimum 5-year warranty.
F7	Bedford House Corridor 108	3" diameter pendant-mounted LED cylinder downlight with 50-degree optic and 1168 delivered lumens. Extruded aluminum house with machined aluminum canopy and powder-coated finish and high-efficiency textured diffuse lens. Fixture shall be mounted using 4'-0" field cuttable swivel rigid stem and have a ball-joint canopy for use in slopped ceiling installations where required. Dimensions: Fixture: 3 9/16" Dia x 8 5/8" H Canopy: 5" Dia x 1/4" H Stem 1: 52 1/8" H Stem 2: 26 9/16" H	White Architect shall verify	LED 3000K 80 CRI L70 @49,500 Hours 1168 LM Delivered	Integral DIM 0-10V	11.0W	EA	UL Listed for Damp Location	Alphabet Beta 3 BETA-3R-SW-10LM-30K-80-50HET-Accessory-NL-WH-WH-RP-UNV-DIM10-Electrical Options	- Fixture finish to be verified by Architect. - Refer to architectural drawings for mounting height AFF. Stem length to be cut in field to keep the bottom of the fixture height AFF constant at 11'-2" for flat and sloped ceiling locations. Luminaire shall be mounted over a recessed junction box (by electrician). - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system - Electrical Engineer shall confirm all EM requirements. - Fixture shall have a minimum 5-year warranty.
F8		NOT USED								

TYPE	LOCATION	DESCRIPTION	FIXTURE FINISH	LAMPS/SOURCE	POWER SUPPLY/ DRIVER	INPUT WATTS	INPUT WATT UNITS	LISTING	MANUFACTURER	NOTES
F9		NOT USED								
F10	Carriage Barn Exhibits 103, 104, Gift Shop, Circulation	Track mounted 1.5" aperture round adjustable LED track head with 40-degree opticm 360-degree rotation, 90-degree tilt, Solite lens, and 600 delivered lumens. Fixture shall be line voltage with die-cast aluminum housing and powder-coated finish and be compatible with F1B track. Dimensions: 1 5/8" Dia x 2 5/8" H	White Architect shall verify	LED 3000K 90+ CRI L70 @ 50,000 Hours 600 LM Delivered	Integral DIM ELV	7.0W	EA	UL Listed for Dry Location	Lumenture T40 Track Heads T40-30H-600-40-W-J + Accessories: SOL-38	- Fixture finish to be verified by Architect. - F1B track and F10 luminaires shall be compatible. Contractor to provide all necessary lengths, feeds, connectors, supports, and other components for complete and code compliant installation. - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Electrical Engineer shall confirm all EM requirements. - Fixture shall have a minimum 5-year warranty.
F10A	Bedford House Circulation	Same as F10, except fixture shall be micro-canopy mounted with linear spread lens. Dimensions: Fixture: 1 5/8" Dia x 2 5/8" H Canopy: 4 3/4" Dia x 3/8" H	White Architect shall verify	LED 3000K 90+ CRI L70 @ 50,000 Hours 600 LM Delivered	Integral DIM ELV	7.0W	EA	UL Listed for Dry Location	Lumenture T40 Track Heads T40-30H-600-40-W-MC + Accessories: LS-38	- Fixture finish to be verified by Architect. - Contractor shall verify and coordinate luminaire installation and mounting with architectural details, housing type, field conditions, and ceiling system details including ceiling thickness, grid type, flange and insulation clearance requirements. - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Electrical Engineer shall confirm all EM requirements. - Fixture shall have a minimum 5-year warranty.
F10B	Bedford House Exit Signs	Same as F10, except fixture shall be micro-canopy mounted with 22-degree beam spread and honeycomb louver. Dimensions: Fixture: 1 5/8" Dia x 2 5/8" H Canopy: 4 3/4" Dia x 3/8" H	White Architect shall verify	LED 3000K 90+ CRI L70 @ 50,000 Hours 600 LM Delivered	Integral DIM ELV	7.0W	EA	UL Listed for Dry Location	Lumenture T40 Track Heads T40-30H-600-22-W-MC + Accessories: HL-38	- Fixture finish to be verified by Architect. - Fixture shall be mounted 1'-6" o.c. setback from the front face of the historic exit signs to the center of the j-box. - Contractor shall verify and coordinate luminaire installation and mounting with architectural details, housing type, field conditions, and ceiling system details including ceiling thickness, grid type, flange and insulation clearance requirements. - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Electrical Engineer shall confirm all EM requirements. - Fixture shall have a minimum 5-year warranty.
F10C		NOT USED								
F11	Bedford House Restrooms, Office, Elevator Vestibule, Corridor, Carriage Barn Restroom	Recess mounted 2" round aperture fixed LED downlight in die-cast aluminum housing with powder-coated finish and knife edge trim. Fixture shall be line voltage and have 60-degree optic and 950 delivered lumens. Dimensions: Fixture: 3 3/4" Dia x 3 3/8" H Housing: 11" L x 8" W x 5" H	White Architect shall verify	LED 3000K 80+ CRI L70 @ 50,000 Hours 950 LM Delivered	Integral DIM 0-10V	8.5W	EA	UL Listed for Damp Location	Lumenture DLA60 2" Fixed Downlights DL60-30K-60-W-W-R-Z-200-C	- Fixture finish to be verified by Architect. - Contractor shall verify and coordinate luminaire installation and mounting with architectural details, housing type, field conditions, and ceiling system details including ceiling thickness, grid type, flange and insulation clearance requirements. - If required based on existing field conditions, provide IC and/or Airtight housing as required for installation in an insulated ceiling. Contractor to provide as required based on ceiling type and local codes. - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Electrical Engineer shall confirm all EM requirements. - Fixture shall have a minimum 5-year warranty.
F12		NOT USED								
F12A		NOT USED								
F13		NOT USED								
F14		NOT USED								
F15	Bedford House Staircase	Recess mounted 3" round aperture adjustable LED downlight in die-cast aluminum housing with powder-coated finish and knife edge trim with 35-degree tilt. Fixture shall be line voltage and have 25-degree optic and 1050 delivered lumens. Dimensions: Fixture: 3 3/4" Dia x 5" H Housing: 11" L x 8" W x 5" H	White Architect shall verify	LED 3000K 90+ CRI L70 @ 50,000 Hours 1050 LM Delivered	Integral DIM 0-10V	11.0W	EA	UL Listed for Damp Location	Lumenture DLA75 3" Adjustable Downlights DLA75-30H-25-W-W-R-U-250-C	- Fixture finish to be verified by Architect. - Contractor shall verify and coordinate luminaire installation and mounting with architectural details, housing type, field conditions, and ceiling system details including ceiling thickness, grid type, flange and insulation clearance requirements - If required based on existing field conditions, provide IC and/or Airtight housing as required for installation in an insulated ceiling. Contractor to provide as required based on ceiling type and local codes. - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Electrical Engineer shall confirm all EM requirements. - Fixture shall have a minimum 5-year warranty.
F16	Bedford House Bedroom 3	Surface-mounted square LED backlit assembly, edge-lit from 2 sides delivering 260 lumens per square foot, with opal diode imaging-free PMMA diffuser. Fixture shall be magnet-mounted using manufacturer provided 18-gauge galvanized steel backplate. Fixture shall be provided with long whip to be located at the corner of the fixture and reach the remote driver connection. Fixture shall be mounted within architectural detail to appear flush with the adjacent wall surfaces. Dimensions: 34" L x 21" W x 0.81" H (1.05" H total with magnetic mounting assembly)	N/A	LED 3000K 80+ CRI L70 @ 50,000 Hours 260 LM/SF Delivered	Remote DIM 0-10V	27.0W	EA	UL Listed for Dry/Damp Location	Nanometer Lighting NanoFloat Square NFL-SQ-SU-M-S-30-8-MO-2-34"x21"-10-U-S-Options + Driver: HLG-60H-24 Mounting and Power Accessories as Required	- Refer to architectural drawings/narrative for detail. - Fixture to be concealed in recessed niche of faux window, no wiring to be visible. - Provide manufacturer's dimensioned shop drawings showing all materials, finishes and components for Lighting Designer and Architect review prior to final approval and fabrication. - Locate remote gear in a secure, concealed, accessible and well-ventilated location in compliance with manufacturer's directions. Contractor/Manufacturer to coordinate remote gear size, location and wire gauge for <2% Voltage drop over entire length of run. - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Fixture shall have a minimum 5-year warranty.

TYPE	LOCATION	DESCRIPTION	FIXTURE FINISH	LAMPS/SOURCE	POWER SUPPLY/ DRIVER	INPUT WATTS	INPUT WATT UNITS	LISTING	MANUFACTURER	NOTES
F17	Carriage Barn Reception Desk	Surface mounted linear LED task light with 120-degree optic, 204 delivered lumens per foot and side/rear feed and external mounting clip. Housing is one-piece extruded aluminum channel with cast aluminum end caps and powder coated finish, extruded high transmission milky acrylic flat lens with no LED imaging and 50% transmission loss. Fixtures shall have CREE LEDs mounted on robust platform. Dimensions: Length Per Drawing x 0.63" W x 0.41" H	Architect to confirm finish and select from standard finishes	LED 3000K 90+ CRI L70 @ 50,000 Hours 204 LM/FT Delivered	Remote DIM 0-10V	2.8W	LFT	UL Listed Rated IP20 for Dry Location	Scout FlexDuo Straight FD-S-FM-L-30-Finish-Feed-1-E-N-Wire Length-S-Length Per Drawing + Driver: SDRVCC01075 Mounting and Power Accessories as Required	- Fixture finish to be verified by Architect. - Fixture to be concealed in undercounter millwork, no wiring to be visible. - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Luminaire shall be ordered with necessary gear, control interfaces, power feed cables/terminators and mounting accessories as required for a complete system. - Locate remote gear in a secure, concealed, accessible and well-ventilated location in compliance with manufacturer's directions. Contractor/Manufacturer to coordinate remote gear size, location and wire gauge for <2% Voltage drop over entire length of run. - Provide manufacturer's dimensioned shop drawings showing all materials, finishes and components for Lighting Designer and Architect review prior to final fixture approval and fabrication. - Fixture shall have a minimum 5-year warranty.
DECORATIVE LUMINAIRES										
D1	Bedford House Conservatory	Surface-mounted semi-decorative linear LED wall sconce in elongated aluminum housing with white finish and hand-blown 3-ply opal glass. Fixture shall have 3311 lumen output. Dimensions: 4" Dia x 5 3/8" W x 24" H	White Architect shall verify	LED 3000K 80+ CRI L70 @ 60,000 Hours 3311 LM Delivered	Integral DIM 0-10V	30.0W	EA	NRTL Listed for Dry Location	BEGA Limburg Opal Glass B19537-K3	- Fixture finish to be verified by Architect. - Luminaire shall be U.L. (or equivalent approved agency) listed. - Refer to architectural drawings for mounting height AFF. Luminaire shall be mounted over a recessed junction box (by electrician). - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Fixture shall have a minimum 5-year warranty.
D2	Bedford House Restroom	Surface-mounted slim linear LED wall vanity light with a co-extrusion of clear and white acrylic diffuser, aluminum hardware, and line-voltage AC LED. Fixture shall include 1" slim junction box and have 4874 lumen output. Dimensions: 97" L x 2" W x 1 1/4" H	Brushed Aluminum Architect shall verify	LED 3000K 90+ CRI L70 @ 54,000 Hours 4874 LM Delivered	Integral DIM ELV	88W	EA	ETL Listed for damp location	Modern forms Lightstick WS-47997-AL	- Fixture finish to be verified by Architect. - Luminaire shall be U.L. (or equivalent approved agency) listed. - Refer to architectural drawings for mounting height AFF. Luminaire shall be mounted over a recessed junction box (by electrician). - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Fixture shall have a minimum 5-year warranty.
D3	Bedford House Conservatory	Existing decorative pendant to be taken down, refurbished, safely stored and reinstalled with retrofit LED lamps.		LED Retrofit		Allow 100W	EA	UL or Similar		- Luminaire shall be U.L. (or equivalent approved agency) listed. - Fixture shall have a minimum 5-year warranty.

TYPE	LOCATION	DESCRIPTION	FIXTURE FINISH	LAMPS/SOURCE	POWER SUPPLY/ DRIVER	INPUT WATTS	INPUT WATT UNITS	LISTING	MANUFACTURER	NOTES
EXTERIOR LUMINAIRES										
FX1	Bedford House East Roadway, Security Gate	Pole Top Luminaire: Pole mounted LED pole top in two piece die-cast aluminum construction, slip fitting a 3" O.D. round pole top. Marine-grade, copper-free A360.0 aluminum alloy die casting. Clear acrylic diffuser with optical texture and reflector made of pure anodized aluminum held in place by die-cast aluminum frame and stainless steel rods. Fully gasketed for weather tight operation using a molded silicone rubber O-ring gasket. Powder coat finish with minimum 3 mil thickness. Asymmetric flat beam optic. Pole: 12-feet extruded aluminum 4" diameter round non-tapered pole shaft with fixed A356 aluminum alloy anchor base heat treated to T6 temper, with anchor bolts conforming to ASTM F1554 Grade 55, with 2 hex nut anchor bots and 2 flat washers, aluminum nut covers, and covered handhole with hardware and grounding provisions, 3" welded tenon, with 0.125" wall thickness and 26 lbs of structural weight. Matte textured powder coat finish with minimum 3 mil thickness. Dimensions: Fixture: 10 1/4" Dia x 25 3/4" H Pole: 4" Dia x 12'-0" H (Base: 8 7/8" L x 8 7/8" W)	Architect to confirm finish and select from standard finishes	LED 3000K 80+ CRI L70 @ 60,000 Hours 3134 LM Delivered	Integral DIM 0-10V	36.0W	EA	CSA Listed IP65 Rated for Wet Location	Bega 77165 77165-K3 + Bega 12 RFNS1 B12RFNS1-AB-Color	- Fixture finish to be verified by Architect. - Provide 12'-0" tall aluminum round pole. - Refer to base and anchorage detail by Architect / Civil Engineer. Provided pole shall meet local and AASHTO requirements for EPA of luminaire configuration. Architect / Civil Engineer shall coordinate pole anchorage detail to concrete base. - Provide detailed shop drawings noting aiming configurations, fixture heights on pole, hand hole locations, base & anchorage detail and pole specifications conforming to all applicable codes, electrical requirements and photometric characteristics prior to final approval and fabrication. - Adequate drainage must be provided in concrete foundation for pole and pole base. - Code required accessories and controls such as but not limited to motion sensors, photocell controls, etc. to be specified and coordinated by Electrical Engineer. - Fixture shall have a minimum 5-year warranty.
FX2	Parking Lots	Pole Top Luminaire: Pole mounted LED top in rectangular housing with integral fitter in extruded 6061 aluminum with T6 temper, invisible welds, and stainless steel hardware, mounted to tenon on pole and secured with four socket head cap screws to top of housing. LED arrays shall be four high-power LEDS mounted on field replaceable aluminum core PCBs enclosed in single-piece molded optical quality acrylic lens and sealed with one-piece weather-tight silicon gasket. Type II light distribution with B2-U0-G2 BUG Rating. Pole: 15-feet rectangular pole shaft constructed from seamless 6061 aluminum tubing and heat treated with T6 temper, 0.236" wall thickness, with 1/8" radiused corners for the sides of the shaft. Flush mounted handhole cover plasma cut with kerf not to exceed 1/8" with triangular tamper-resistant locking device. Two-piece base cover in fabricated aluminum. Pole shall have finely textured matte finish and IP65 ingress protection rating. Dimensions: Fixture: 4.2" L x 4.2" W x 43.5" H Pole: 6.3" L x 3.9" W x 15-ft H	Architect to confirm finish and select from standard finishes	LED 3000K 80+ CRI L70 @ 50,000 Hours 3593 LM Delivered	Integral DIM 0-10V	36.0W	EA	CSA Listed IP65 Rated for Wet Location	Hess Linea 450 G2 LN450G-1-30K-DIM-UNV-T2-15-A-BC-MK-Finish-Option	- Fixture finish to be verified by Architect. - Provide 15'-0" tall aluminum round pole. - Refer to base and anchorage detail by Architect / Civil Engineer. Provided pole shall meet local and AASHTO requirements for EPA of luminaire configuration. Architect / Civil Engineer shall coordinate pole anchorage detail to concrete base. - Provide detailed shop drawings noting aiming configurations, fixture heights on pole, hand hole locations, base & anchorage detail and pole specifications conforming to all applicable codes, electrical requirements and photometric characteristics prior to final approval and fabrication. - Adequate drainage must be provided in concrete foundation for pole and pole base. - Code required accessories and controls such as but not limited to motion sensors, photocell controls, etc. to be specified and coordinated by Electrical Engineer. - Fixture shall have a minimum 5-year warranty.
FX2A	Parking Lots	Same as FX2, except pole shall be modified with welded aluminum arm for mounting security camera by others. Dimensions: Fixture: 4.2" L x 4.2" W x 43.5" H Pole: 6.3" L x 3.9" W x 15-ft H	Architect to confirm finish and select from standard finishes	LED 3000K 80+ CRI L70 @ 50,000 Hours 3593 LM Delivered	Integral DIM 0-10V	36.0W	EA	CSA Listed IP65 Rated for Wet Location	Hess Linea 450 G2 LN450G-2-30K-DIM-UNV-T2-S-15-A-BC-MK-Finish-MOD(CAM)	- Fixture finish to be verified by Architect. - Provide 15'-0" tall aluminum round pole. - Refer to base and anchorage detail by Architect / Civil Engineer. Provided pole shall meet local and AASHTO requirements for EPA of luminaire configuration. Architect / Civil Engineer shall coordinate pole anchorage detail to concrete base. - Custom camera mounting arm shall be mounted 13'-0" AFF, to be confirmed by Architect. - Security cameras provided by others. - Provide detailed shop drawings noting aiming configurations, fixture heights on pole, camera mounting arm location, hand hole locations, base & anchorage detail and pole specifications conforming to all applicable codes, electrical requirements and photometric characteristics prior to final approval and fabrication. - Adequate drainage must be provided in concrete foundation for pole and pole base. - Code required accessories and controls such as but not limited to motion sensors, photocell controls, etc. to be specified and coordinated by Electrical Engineer. - Fixture shall have a minimum 5-year warranty.

TYPE	LOCATION	DESCRIPTION	FIXTURE FINISH	LAMPS/SOURCE	POWER SUPPLY/ DRIVER	INPUT WATTS	INPUT WATT UNITS	LISTING	MANUFACTURER	NOTES
FX3	Pedestrian Walkway	Slender shielded LED bollard in die-cast and extruded marine grade, copper-free A360.0 aluminum alloy housing, with clear safety glass, pure anodized aluminum reflector, high temperature silicone gasket, mechanically captive stainless steel fasteners, and mounting plate constructed of heavy cast aluminum. Fixture shall have asymmetric light distribution and be suitable for wet location with IP65 ingress protection rating, have textured polyester powder coat finish with minimum 3 mil thickness, and have 1475 lumen output. Dimensions: 7 1/2" Dia x 39 3/8" H	Bronze Architect shall verify	LED 3000K 80+ CRI L70 @ 60,000 Hours 1475 LM Delivered	Integral DIM 0-10V	14.5W	EA	NRTL Listed IP65 Rated for Wet Location	Bega 99058 99058-K3 (EXPRESS)-BRZ-Mounting-Options	- Fixture finish to be verified by Architect. - Luminaire shall be U.L. (or equivalent approved agency) listed and labeled “Suitable for wet locations.” - Refer to base and anchorage detail by Architect / Civil Engineer. - Provide detailed shop drawings noting base & anchorage detail and bollard specifications conforming to all applicable codes, electrical requirements and photometric characteristics. - Refer to base and anchorage detail by Architect / Civil Engineer. - Fixture shall have a minimum 5-year warranty.
FX4		NOT USED								
FX5		NOT USED								
FX6	Carriage Barn Façade	Fixture: Stake-mounted landscape LED flood light with 111.8 x 83.8-degrees wall wash optic with adjustable barn door accessory in cylindrical copper-free 6061-T6 aluminum housing with water-proof enclosed wireway with machined end caps gasketed for water-tight seal, and shock-resistant, hermetically sealed tempered glass lens with StarGuard Class A TGIC polyester powder-coat finish. Fixture shall be adjustable 180-degrees via LOCK knuckle integral to body, with high temperature silicone O-ring, and 1/2" pipe thread for mounting, and have 485 lumen output. Power Pipe: Stake shall be constructed from fully machined copper-free aluminum, with high temperature silicone O-ring seals, 60-degree angled bottom, stainless steel hardware, and polyester powder-coated finish, and have integral line voltage driver enclosed within the stake housing. Dimensions: Fixture: 2 5/8" Dia x 4 1/2" H Power Pipe: 3 1/4" Dia x 17 1/2" H	Satin Bronze Architect shall verify	LED 3000K 80+ CRI L70 @ 50,000 Hours 485 LM Delivered	Integral DIM 0-10V	10.0W	EA	UL Listed IP66 Rated for Wet Location	BK Lighting Saratoga LED SA-LED-x53-WW-BZP-13-BD-360SL + Stake/Driver: PPII-S12-010-BZP-B-MT-SF + Power and Mounting Accessories as Required	- Fixture finish to be verified by Architect. - Luminaire shall be U.L. (or equivalent approved agency) listed and labeled “Suitable for wet locations.” - Contractor shall verify and coordinate fixture installation, mounting and conduit entry with landscape details, housing type and field conditions. - Provide outdoor rated junction box. - Fixture to be stake-mounted. Landscape Architect to review mounting details. - Contractor to coordinate with the architect on the exact location for the stone wall facade. - Electrical Engineer to confirm fixture voltage, circuits, dimming and emergency requirements. - Fixtures require aiming by lighting consultant after installation. Contractor to coordinate personnel and equipment necessary for aiming session. - See Landscape/Architect details for mounting information. - Fixture shall have a minimum 5-year warranty.
FX6A	Bedford House Façade	Same as FX6, except location. Fixture shall be used for façade uplighting. Dimensions: Fixture: 2 5/8" Dia x 4 1/2" H Power Pipe: 3 1/4" Dia x 17 1/2" H	Satin Bronze Architect shall verify	LED 3000K 80+ CRI L70 @ 50,000 Hours 485 LM Delivered	Integral DIM 0-10V	10.0W	EA	UL Listed IP66 Rated for Wet Location	BK Lighting Saratoga LED SA-LED-x53-WW-BZP-13-BD-360SL + Stake/Driver: PPII-S12-010-BZP-B-MT-SF + Power and Mounting Accessories as Required	- Fixture finish to be verified by Architect. - Luminaire shall be U.L. (or equivalent approved agency) listed and labeled “Suitable for wet locations.” - Contractor shall verify and coordinate fixture installation, mounting and conduit entry with landscape details, housing type and field conditions. - Provide outdoor rated junction box. - Fixture to be stake-mounted. Landscape Architect to review mounting details. - Contractor to coordinate with the architect on the exact location for the stone wall facade. - Electrical Engineer to confirm fixture voltage, circuits, dimming and emergency requirements. - Fixtures require aiming by lighting consultant after installation. Contractor to coordinate personnel and equipment necessary for aiming session. - See Landscape/Architect details for mounting information. - Fixture shall have a minimum 5-year warranty.
FX6B	Entry Signage	Same as FX6, except fixture shall have 50-degree wide flood optic, honeycomb baffle shielding, and rectilinear lens. Dimensions: Fixture: 2 5/8" Dia x 4 1/2" H Power Pipe: 3 1/4" Dia x 17 1/2" H	Satin Bronze Architect shall verify	LED 3000K 80+ CRI L70 @ 50,000 Hours 1365 LM Delivered	Integral DIM 0-10V	10.0W	EA	UL Listed IP66 Rated for Wet Location	BK Lighting Saratoga LED SA-LED-x53-WFL-BZP-13-11-BD-360SL + Stake/Driver: PPII-S12-010-BZP-B-MT-SF + Power and Mounting Accessories as Required	- Fixture finish to be verified by Architect. - Luminaire shall be U.L. (or equivalent approved agency) listed and labeled “Suitable for wet locations.” - Contractor shall verify and coordinate fixture installation, mounting and conduit entry with landscape details, housing type and field conditions. - Provide outdoor rated junction box. - Fixture to be stake-mounted. Landscape Architect to review mounting details. - Contractor to coordinate with the architect on the exact location for the stone wall facade. - Electrical Engineer to confirm fixture voltage, circuits, dimming and emergency requirements. - Fixtures require aiming by lighting consultant after installation. Contractor to coordinate personnel and equipment necessary for aiming session. - See Landscape/Architect details for mounting information. - Fixture shall have a minimum 5-year warranty.

TYPE	LOCATION	DESCRIPTION	FIXTURE FINISH	LAMPS/SOURCE	POWER SUPPLY/ DRIVER	INPUT WATTS	INPUT WATT UNITS	LISTING	MANUFACTURER	NOTES
FX6C	Entry Stone Pier	Same as FX6, except location. Fixture shall be used for entry stone wall uplighting. Dimensions: Fixture: 2 5/8" Dia x 4 1/2" H Power Pipe: 3 1/4" Dia x 17 1/2" H	Satin Bronze Architect shall verify	LED 3000K 80+ CRI L70 @ 50,000 Hours 485 LM Delivered	Integral DIM 0-10V	10.0W	EA	UL Listed IP66 Rated for Wet Location	BK Lighting Saratoga LED SA-LED-x53-WW-BZP-13-BD-360SL + Stake/Driver: PPII-S12-010-BZP-B-MT-SF + Power and Mounting Accessories as Required	- Fixture finish to be verified by Architect. - Luminaire shall be U.L. (or equivalent approved agency) listed and labeled “Suitable for wet locations.” - Contractor shall verify and coordinate fixture installation, mounting and conduit entry with landscape details, housing type and field conditions. - Provide outdoor rated junction box. - Fixture to be stake-mounted. Landscape Architect to review mounting details. - Contractor to coordinate with the architect on the exact location for the stone wall facade. - Electrical Engineer to confirm fixture voltage, circuits, dimming and emergency requirements. - Fixture shall be programmed on site to a maximum of 50% output with further dimming in the field as required. - Fixtures require aiming by lighting consultant after installation. Contractor to coordinate personnel and equipment necessary for aiming session. - See Landscape/Architect details for mounting information. - Fixture shall have a minimum 5-year warranty.
FX6D	Entry Stone Wall	Same as FX6, except fixture shall have 20-degree spot optic, honeycomb baffle shielding, and rectilinear lens. Dimensions: Fixture: 2 5/8" Dia x 4 1/2" H Power Pipe: 3 1/4" Dia x 17 1/2" H	Satin Bronze Architect shall verify	LED 3000K 80+ CRI L70 @ 50,000 Hours 946 LM Delivered	Integral DIM 0-10V	10.0W	EA	UL Listed IP66 Rated for Wet Location	BK Lighting Saratoga LED SA-LED-x53-SP-BZP-13-11-BD-360SL + Stake/Driver: PPII-S12-010-BZP-B-MT-SF + Power and Mounting Accessories as Required	- Fixture finish to be verified by Architect. - Luminaire shall be U.L. (or equivalent approved agency) listed and labeled “Suitable for wet locations.” - Contractor shall verify and coordinate fixture installation, mounting and conduit entry with landscape details, housing type and field conditions. - Provide outdoor rated junction box. - Fixture to be stake-mounted. Landscape Architect to review mounting details. - Contractor to coordinate with the architect on the exact location for the stone wall facade. - Electrical Engineer to confirm fixture voltage, circuits, dimming and emergency requirements. - Fixture shall be programmed on site to a maximum of 50% output with further dimming in the field as required. - Fixtures require aiming by lighting consultant after installation. Contractor to coordinate personnel and equipment necessary for aiming session. - See Landscape/Architect details for mounting information. - Fixture shall have a minimum 5-year warranty.
FX7		NOT USED								
FX8	Bedford House Façade	Wall-mounted LED sconce in marine-grade copper-free A360.0 aluminum alloy housing with clear safety glass lens, captive stainless steel fasteners, and matte textured powder-coated finish with minimum 3 mil thickness in RAL color per Architect. Fixture shall be line voltage and include narrow opening wiring box and have 204 lumen output. Dimensions: 2 1/8" L x 2 3/8" W x 7 7/8" H	White Architect shall verify	LED 3000K 80+ CRI L80 @ 60,000 Hours 204 LM Delivered	Integral DIM 0-10V	7.0W	EA	NRTL Listed IP64 Rated for Wet Location	Bega B33514 B33514-K3-WHT + Wiring Box: B19545	- Fixture finish to be verified by Architect. - Luminaire shall be U.L. (or equivalent approved agency) listed and labeled “Suitable for wet locations.” - Refer to architectural drawings for mounting height AFF. Luminaire shall be mounted over a recessed junction box (by electrician). - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Fixture shall have a minimum 5-year warranty.
FX9	Feature Trees	Fixture: Stake-mounted adjustable LED monopoint. Unibody 6061-T6 copper-free aluminum housing with integral heat sink, adjustable 180-degrees vertical via LOCK Knuckle integral to the body and waterproof enclosed wireway, StarGuard Class A TGIC polyester powder coated finish and tamper-resistant stainless steel hardware and fully machined cap that can accommodate up to two lens or louver. Fixture shall have 25-degree medium flood optic, and interchangeable shock-resistant tempered 1/8" thick soda lime glass lens with soft focus and honeycomb baffle shielding. Fixture shall be provided with 5" diameter machined canopy with 1/2" pipe thread for mounting, and have 468 lumen output. Power Pipe: Stake shall be constructed from fully machined copper-free aluminum, with high temperature silicone O-ring seals, 60-degree angled bottom, stainless steel hardware, and polyester powder-coated finish. Compatible remote 0-10V 12VDC dimming driver shall be provided. Dimensions: Fixture: 1-5/8" Dia x 4-1/2" H Power Pipe: 2 1/4" Dia x 19 5/8" H	Architect to confirm finish and select from standard finishes	LED 3000K 80 CRI L70 @50,000 Hours 468 LM Delivered	Remote DIM 0-10V	7.0W	EA	UL Listed for Wet Location	B-K Lighting Micro Night Star MN-LED-e68-MFL-Finish-12-11-C-360SL + Stake: PP-A18-Finish-B + Driver: QTL QOM-eLED-PS-60W-UNV-12VDC-0-10V-BK + Power and Mounting Accessories as Required	- Fixture finish to be verified by Architect. - Luminaire shall be U.L. (or equivalent approved agency) listed and labeled “Suitable for wet locations.” - Fixture to be stake-mounted, Landscape Architect to review mounting details. When installed under a tree, place landscape uplights nominally 3’-0” from base of trunk. Final mounting location to be field verified based on type of tree. - Contractor shall verify and coordinate fixture installation, mounting and conduit entry with landscape details, housing type and field conditions. - Provide outdoor rated junction box. - Architect to confirm mounting requirements. - Electrical Engineer to confirm fixture voltage, circuits, dimming and emergency requirements. - Locate remote gear in a secure, concealed, accessible and well-ventilated location in compliance with manufacturer’s directions. Contractor/Manufacturer to coordinate remote gear size, location and wire gauge for <2% Voltage drop over entire length of run. - Fixtures require aiming by lighting consultant after installation. Contractor to coordinate personnel and equipment necessary for aiming session. - See Landscape/Architect details for mounting information. - Fixture shall have a minimum 5-year warranty.
FX10		NOT USED								
FX11	Bedford House Porch	Recess mounted 2" round aperture fixed LED downlight in die-cast aluminum housing with powder-coated finish and knife edge wet-rated trim. Fixture shall be line voltage and have 60-degree optic and 700 delivered lumens. Dimensions: Fixture: 3 3/4" Dia x 3 3/8" H Housing: 11" L x 8" W x 5" H	White Architect shall verify	LED 3000K 80+ CRI L70 @ 50,000 Hours 700 LM Delivered	Integral DIM 0-10V	6.5W	EA	UL Listed for Wet Location	Lumenture DLA60 2" Fixed Downlights DL60-30K-60-W-W-RW-Z1-150-C	- Fixture finish to be verified by Architect. - Luminaire shall be U.L. (or equivalent approved agency) listed and labeled “Suitable for wet locations.” - Contractor shall verify and coordinate luminaire installation and mounting with architectural details, housing type, field conditions, and ceiling system details including ceiling thickness, grid type, flange and insulation clearance requirements. - If required based on existing field conditions, provide IC and/or Airtight housing as required for installation in an insulated ceiling. Contractor to provide as required based on ceiling type and local codes. - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Fixture shall have a minimum 5-year warranty.

TYPE	LOCATION	DESCRIPTION	FIXTURE FINISH	LAMPS/SOURCE	POWER SUPPLY/ DRIVER	INPUT WATTS	INPUT WATT UNITS	LISTING	MANUFACTURER	NOTES
FX12	Bedford House Under Porch	Surface-mounted outdoor wet-rated cylindrical LED downlight in aluminum housing and lens diffuser. Fixture shall have integral driver concealed within the fixture and have 545 lumen output. Dimensions: 5" Dia x 7 1/8" H	White Architect shall verify	LED 3000K 90 CRI L70 @50,000 Hours 545 LM Delivered	Integral DIM 0-10V	11.0W	EA	ETL Listed IP65 Rated for Wet Location	WAC Lighting Caliber FM-W36607-3000K-WT	- Fixture finish to be verified by Architect. - Luminaire shall be U.L. (or equivalent approved agency) listed and labeled “Suitable for wet locations.” - Luminaire shall be mounted over a recessed junction box (by electrician). - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Fixture shall have a minimum 5-year warranty.
FX13		NOT USED								
FX14		NOT USED								
FX15		NOT USED								
FX16	Bedford House Façade	Wall-mounted LED sconce in marine grade copper free A360.0 aluminum alloy housing with clear safety glass lens with optical texture, captive stainless steel fasteners, and matte textured powder-coated finish with minimum 3 mil thickness. Fixture shall be line voltage, have asymmetric beam distribution, and have 618 lumen output Dimensions: 4 3/8" L x 4 3/8" W x 7 1/2" H	Custom RAL # TBD Architect shall verify	LED 3000K 80+ CRI L80 @ 60,000 Hours 618 LM Delivered	Integral DIM 0-10V	11.0W	EA	NRTL Listed IP64 Rated for Wet Location	Bega B33815 B33815-K3-RAL	- Fixture RAL finish to be verified by Architect. Contractor to coordinate with manufacturer to match color with Benjamin Moore Carrington Beige (HC-93) on wood substrate. - Luminaire shall be U.L. (or equivalent approved agency) listed and labeled “Suitable for wet locations.” - Refer to architectural drawings for mounting height AFF. Bottom of luminaire shall be a minimum of 6'-8" AFF to comply with ADA Standards (ADAAG 4.4). Luminaire shall be mounted over a recessed junction box (by electrician). - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Fixture shall have a minimum 5-year warranty.
FX16A	Bedford House Façade	Same as F16, except finish shall be bronze. Dimensions: 4 3/8" L x 4 3/8" W x 7 1/2" H	Bronze Architect shall verify	LED 3000K 80+ CRI L80 @ 60,000 Hours 618 LM Delivered	Integral DIM 0-10V	11.0W	EA	NRTL Listed IP64 Rated for Wet Location	Bega B33815 B33815-K3-BRZ	- Fixture finish to be verified by Architect. - Luminaire shall be U.L. (or equivalent approved agency) listed and labeled “Suitable for wet locations.” - Refer to architectural drawings for mounting height AFF. Bottom of luminaire shall be a minimum of 6'-8" AFF to comply with ADA Standards (ADAAG 4.4). Luminaire shall be mounted over a recessed junction box (by electrician). - Electrical Engineer/Contractor to verify compatibility of light source, gear and dimming system. - Fixture shall have a minimum 5-year warranty.

APPENDIX 11

Light Fixture Product Data Sheets

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John Jay Homestead

100% CD Submission
05 JUNE, 2024

LUMENTURE®

T50 TRACK HEADS

TYPE:

PROJECT:

The T50 track cylinder is designed to blend seamlessly into a wide range of environments - including retail, commercial, restaurant and hospitality settings. Coming standard with Lumenture's patent-pending, low-profile Infinity Adapter™ - the T50 has the ability to rotate continuously for effortless aiming. Specification level details - including no exposed hardware, special attention to finish and the ability to integrate a number of accessories make the T50 one of the leading-edge track heads on the market.

DIMMING
Triac, ELV

WEIGHT
12 oz.

WATTAGE
14W

EFFICACY
up to 1100lm
up to 79lm/W

INPUT
120V AC

FINISH
Die-cast aluminum housing, Powdercoat

ACCESSORIES
Field replaceable optics & accessories

MOVEMENT
Infinite rotation, 90° tilt

ORDERING

JA8-TITLE 24
Available combinations indicated by shading in the chart below.

FIXTURE	CCT/CRI [1]	LUMENS	BEAM SPREAD	FINISH	MOUNTING TYPE	ACCESSORIES [2]
T50	**22H** - 2200K, CRI 90+	1100	**15** - 15° [3]	**W** - White	**J** – J Type (Standard)	**SN** – Standard Tapered Snoot
	27H - 2700K, CRI 90+		**22** - 22°	**B** - Black	**G** – G Type / 2C2N	**SNC** – Cylinder Snoot
	30H - 3000K, CRI 90+		**40** - 40°	**S** - Silver	**H** – H Type	**JA-18** – Standard Mono-Point
	30B - 3000K, CRI 95+			**C** - Custom	**L** – L Type	**JA-21** – Duo-Point Adapter
	30K - 3000K, CRI 80+				**SC** – Slim Canopy	**JA-18-[Finish]-Cover** – Deep Canopy Collar
	30D - 3000K, CRI 90+, Dim-to-Warm				**MC** – Micro Canopy	
	35H - 3500K, CRI 90+					
	40H - 4000K, CRI 90+					

NOTES
1. Custom options available. Please consult factory.
2. See page (3) and (4) for a full list of accessories and canopy accessories.
3. Not available with 30D Dim-to-Warm option. See page (2) for photometrics.

ORDERING EXAMPLE:

T50 - 30H - 1100 - 22 - W - J - SN

LISTINGS
Certified to UL standard 1574 and CSA C22.2 No. 9.0 for dry locations

T50 Track Head Specifications p. 1/4
Custom options available, please consult factory
Product specifications are subject to change
info@lumenture.com **P.** 203.864.3333

LUMENTURE®
www.lumenture.com
version 20230712

PHOTOMETRICS

LUMEN OUTPUT

Values fluctuate based on CCT/CRI. To estimate delivered lumen output of the various CCT/CRI options, multiply nominal lumens (1100 lumens) by the multiplier below.

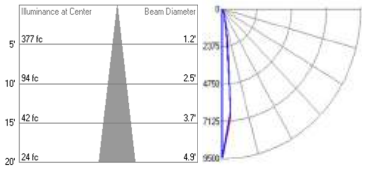
CODE	CCT	CRI	R9	TECHNOLOGY	15°	22°	40°
22H	2200K	90+	60+	Standard	0.75	0.75	0.75
27H	2700K	90+	60+	Standard	0.85	0.85	0.85
30H	3000K	90+	60+	Standard	0.90	0.90	0.90
30B	3000K	95+	60+	Standard	0.80	0.80	0.80
30K	3000K	80+	0+	Standard	1.00	1.00	1.00
30D	3000K	90+	60+	Dim-to-Warm [1]	N/A [1]	0.80 [1]	0.80 [1]
35H	3500K	90+	60+	Standard	0.95	0.95	0.95
40H	4000K	90+	60+	Standard	0.95	0.95	0.95

NOTES

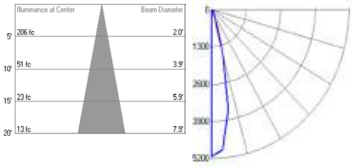
Lumenture maintains a lumen output tolerance of +/-7.5%

1. Dim-to-Warm dims from 3000K to 1800K

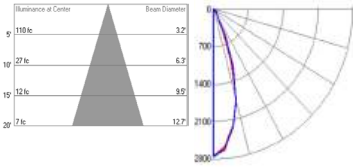
T50 - 15 Degree
Delivered Light Output: 1083 Lumens
Total Watts @120V: 14;
Lumens Per Watt: 77
Center Beam Candle Power: 9434
Spacing Criteria: 0.3



T50 - 22 Degree
Delivered Light Output: 1097 Lumens
Total Watts @120V: 14;
Lumens Per Watt: 78
Center Beam Candle Power: 5142
Spacing Criteria: 0.4

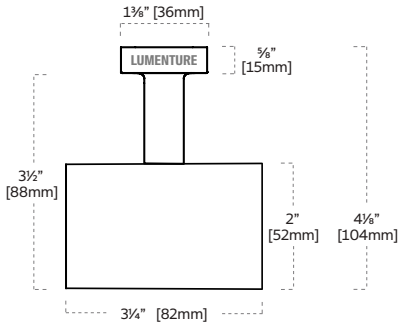


T50 - 40 Degree
Delivered Light Output: 1132 Lumens
Total Watts @120V: 14;
Lumens Per Watt: 81
Center Beam Candle Power: 2749
Spacing Criteria: 0.7



DIMENSIONS

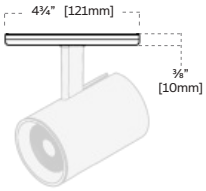
Standard option shown with our J-Type InfinityAdapter™



INTEGRAL CANOPY (Factory Installed)

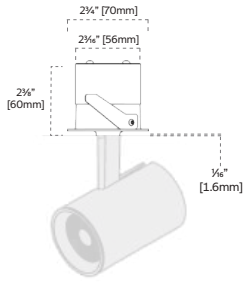
SC
(Slim Canopy)

The slim canopy mounts directly over a standard junction box - resulting in an elegant and clean install of Lumenture's award-winning T-Series track fixtures.
Finish: B, S, W



MC
(Micro Canopy)

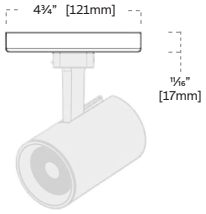
With a minimal 2.75" trim, the Lumenture micro-canopy virtually "disappears" into the ceiling - offering an even more refined look for the most high-end applications.
Finish: B, S, W | **Max ceiling thickness:** ⅝"



STANDARD CANOPY & ACCESSORIES (Ordered Separately)

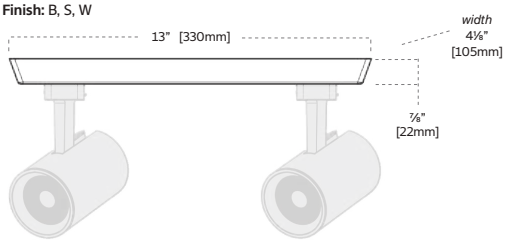
JA-18
(Standard Mono-Point)

The JA-18 canopy mounts directly over a standard junction box and includes a "female" connector that works with Lumenture and other "J-Type" track fixtures.
Finish: B, S, W



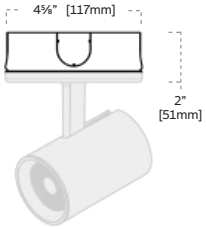
JA-21
(Duo-point Adapter)

Accepts two line voltage track heads to mount to a single outlet box. Compatible with Lumenture and other "J-Type" track fixtures.
Finish: B, S, W



JA-18-[Finish]-Cover
(Deep Canopy Collar)

The JA-18 Cover helps shield unsightly surface mount J-Boxes and blends seamlessly with the Lumenture JA-18 or SC Slim Canopy (sold separately).
Finish: B, W



Ordering Example: JA-18-B-Cover

Finish Codes:

B – Black
S – Silver
W – White

DIMMING

Dimming is standard and allows for smooth illumination below 1% with certain dimmers. Compatible with most Triac (forward phase) and ELV (reverse phase) dimmers. For dimmer compatibility, refer to the Fixture Dimming Compatibility document on our website.

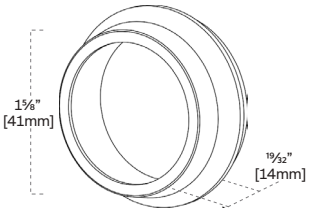
TRACK COMPATIBILITY

Lumenture J-Type track adapters are designed for use with Lumenture's track systems, as well as Juno® & Contech® track. Our H-Type adapter is compatible with Halo® track, G-Type is compatible with Global Trac 2C/2N track and L-Type adapter is compatible with Lightolier® one-circuit track. Registered trademarks are property of their respective owners.

ACCESSORIES

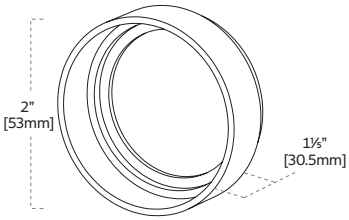
T50-SN-x
(Standard Tapered Snoot)

Will accept up to two (2) accessories.
Finish: W, B, S. The inside surface is black.



T50-SNC-x
(Cylinder Snoot)

Will accept up to two (2) accessories.
Finish: W, B, S. The inside surface is black.



T50-X
Lens Accessories

- **Y** Yellow
- **G** Green
- **LB** Light Blue
- **R** Red
- **RO** Rose
- **CR** Concentric Ring Baffle [1]
- **LS** Linear Spread
- **SOL** Solite
- **HL** Black Honeycomb Louver [1]
- **CB** Black Cross Baffle [1]

NOTES
Field replaceable optics and accessories available. Please consult factory.
1. Accessory requires a snoot.

LUMENTURE®

JT 2-CIRCUIT LINE VOLTAGE TRACK

TYPE:

PROJECT:

SPECIFICATIONS/FEATURES

Track

Many configurations are possible with this two-circuit , 120V rated commercial grade track section. 40 amp capacity; 20 amps per circuit. Two hot conductors and one common neutral. Adjust lighting effects by applying fixtures to desired circuits and utilize separate switching.

Track has solid copper conductors with insulators placed in heavy 14 ga. extruded aluminum channels.

Mechanical polarity with a visual indicator simplifies installation and mounting of fixtures while assuring proper electrical connections.

Toggle bolts are supplied for simple surface installation. Track suitable for suspension mount via cable or threaded rod.

Nominal length track sections can be cut in the field for exact fit. All track sections are supplied with two insulated end caps. Replacement caps available.

Power Feeds and Connection Accessories

Power feeds and connection accessories are constructed of polycarbonate with galvanized steel back plates. Every electrical component is polarized and has a grounding capability to ensure safe usage. Visual polarity indicators simplify proper electrical installation. Twelve gauge insulated wire is used for internal connections. Solid copper track contacts provide good electrical conductivity for years of trouble free operation.

Maximum power rating is 2400 Watts per circuit (4800W total):
20A per circuit (40A total capacity) at 120V, 60Hz. NEC allows 80% of full capacity or 1920 Watts per circuit (3840W total).

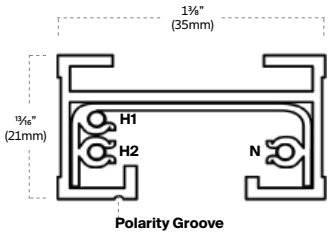
Warranty

This fixture is covered by Lumenture's full one (1) year replacement guarantee after date of purchase.

Listing

All track and track components are cULus listed. Installations are suitable for dry locations only.

Track Section End View



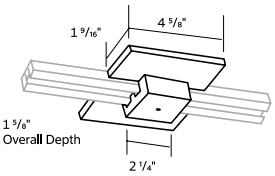
ORDERING

EXAMPLE ORDER: **JT - 28 - B**

JT –	(Two-Circuit Section Length)	–	(Finish)
	24 - 4' (48") nominal length; 44⅛" actual length **28 -** 8' (96") nominal length; 92⅛" actual length		**B -** Black **W -** White

JA-211 end caps are supplied with all track sections and may be ordered separately as needed.
4' sections supplied with (2) toggle bolts, 8' sections supplied with (3) toggle bolts.

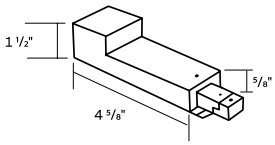
POWER FEEDS, STEMS & EXTENSIONS



Floating Feed Point

JA-207

Can be installed anywhere along track. Kit includes square J-Box Canopy Cover, J-Box Mounting Bracket, Track Adapter, and one JA-11 Series End Cap. Finish: B, W



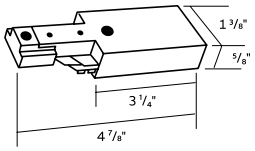
Surface Conduit End Feed

JA-208

End Feed. (1) ½" top K.O. and (1) ½" end K.O. for surface conduit. Finish: B, W

JA-208A

Reverse Polarity End Feed. (1) ½" top K.O. and (1)½" end K.O. for surface conduit. Finish: B, W



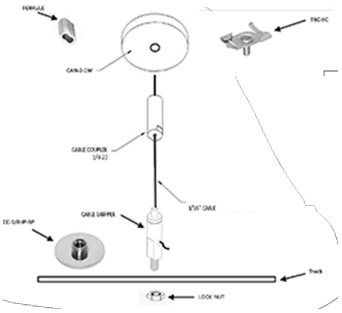
Top Access End Feed

JA-210

Power Feed. (1) ½" top K.O. for standard electrical conduit. Finish: B, W

JA-210A

Reverse Polarity Power Feed. (1) ½" top K.O. for standard electrical conduit. Finish: B, W



Cable Mounting Kit

JAC-150

150" galvanized aircraft cable. ¼"-20 internally threaded socket cup. Combination wood/ machine anchor post. T-Grid clip-standard ceiling. Toggle/loop ferrule plate. 2" diameter trim canopy. Side exit cable glider with nut. 1¼" Diameter backing/button plate.

* 2 kits per 4' track section. 3 kits per 8' track section

Line Voltage Fixture Extensions

JA-1012

12" stem length. Finish: B, W, S

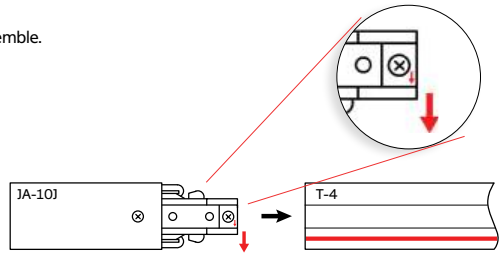
JA-1018

18" stem length. Finish: B, W, S

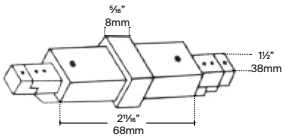
Finish Codes:
B - Black
W - White
S - Silver

SAMPLE SYSTEM INSTALLATION

Line up Polarity arrows with grooves.
Insert connectors into track sections to assemble.

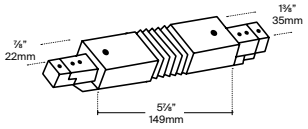


2-CIRCUIT TRACK POWER FEEDS



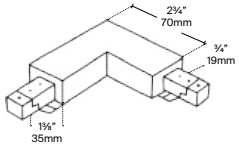
Mini-Connectors

JA-202
Conductive end-to-end connector. Finish: B, W



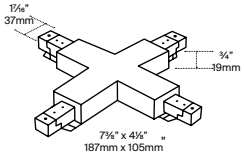
Flexible Connector

JA-203
Versatile connector allows wall to ceiling or pitched ceiling applications. 35°-325°. Finish: B, W



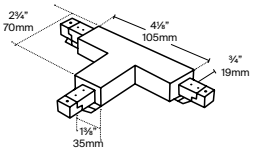
3-Way Joiner

JA-212
Use as standard or reverse polarity "L". Includes optional straight cover. May be used as power feed. Finish: B, W



"X" Connector

JA-215
Wired as two separate "L" sections.
Finish: B, W



"T" Connectors

JA-213
May be used as feed point. Finish: B, W

JA-214
Reverse polarity "T" Connector. May be used as feed point. Finish: B, W

Polarity-Configuration Legend

Reverse Polarity Configuration

Forward Polarity Configuration

Hot Side of Connector

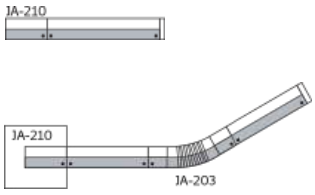
Feed Point

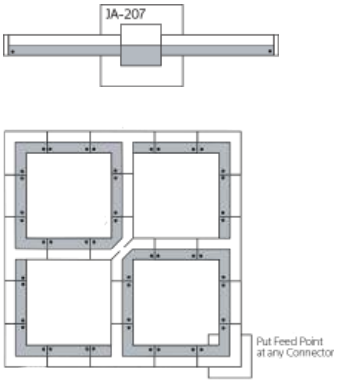
SAMPLE LAYOUTS WITH POLARITY

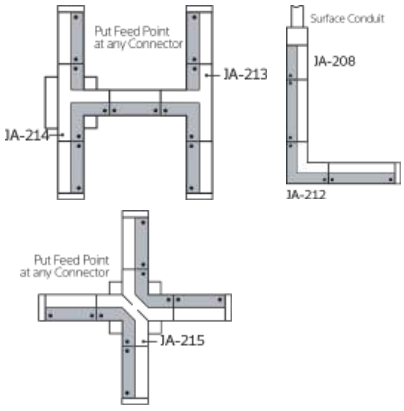
Floor view of track on ceiling. All straight sections are JT Series Track.

Dot = Connector Polarity Arrow Location

Shaded Area = Hot Side of Connection / Track Section







Not Used

Not Used

LUMENTURE®

DLA60 2" ADJUSTABLE DOWNLIGHTS

TYPE:

PROJECT:

With a discreet 2" aperture, knife-edge trim and excellent visual cutoff - Lumenture's DLA60 blends discreetly in any environment. These recessed modules offer 35 degrees of tilt and deliver high lumens without glare. The result is superior brightness and quality from an unobtrusive fixture. DLA60 is available both in remodel with an attached junction box or with optional rough-in housings to fit any construction needs.

DIMMING
Triac, ELV & 0-10V

WEIGHT
11 oz. (module only)

WATTAGE
8.5W-17W

EFFICACY
up to 1600lm
up to 111lm/W

AC DRIVER INPUT
120-277V

HOUSING
Open, Closed, Retrofit, Pan

FINISH
Aluminum module & trim, Powdercoat

ACCESSORIES
Field replaceable optics & accessories

MOVEMENT
35° tilt

ORDERING

JA8-TITLE 24
Available combinations indicated by shading in the chart below.

FIXTURE	CCT/CRI [1]	BEAM SPREAD [1]	CONE COLOR	TRIM COLOR	TRIM TYPE	DRIVER [2]	OUTPUT (mA)	Housing Availability [4] C	N	P	R	CP	HOUSING
DLA60	**22H** - 2200K, CRI 90+	**15** - 15°	**W** - White	**W** - White	**R** - Round		**200** - 8.5W	✓	✓	✓	✓	✓	**C** - Closed
	27H - 2700K, CRI 90+	**25** - 25°	**B** - Black	**B** - Black	**S** - Square	**T** - Triac/ELV	**275** - 12W	✓	✓	✓	✓	✓	**N** - Open
	30H - 3000K, CRI 90+	**40** - 40°	**S** - Silver	**S** - Silver			**350** - 15W	✓	✓			✓	**P** - Pan
	30B - 3000K, CRI 95+	**60** - 60°	**C** - Custom	**C** - Custom			**250** - 11W	✓	✓			✓	**R** - Remodel
	30K - 3000K, CRI 80+						**275** - 12W	✓	✓			✓	**CP** - Chicago Plenum
	30D - 3000K, CRI 90+ (Dim-to-Warm)					**U** - Universal Dimming Driver (Triac, ELV & 0-10V)	**300** - 12.5W	✓	✓			✓	
	35H - 3500K, CRI 90+						**350** - 15W	✓	✓			✓	
	40H - 4000K, CRI 90+						**400** - 17W		✓				
							250 - 11W	✓	✓	✓	✓	✓	
						Z - 0-10V	**300** - 12.5W	✓	✓			✓	
							350 - 15W	✓	✓			✓	

NOTES
1. Custom options available. Please consult factory.
2. EM battery backup option available. Please consult factory.
3. Check marks represent Housing/mA availability. All JA-8 Title 24 options are IC-Rated. All other options are Non-IC-Rated. Housing availability chart is for informational purposes only. Do not include in ordering.

ORDERING EXAMPLE:

DLA60 - 22H - 15 - W - W - R - T - 275 - P

LISTINGS
Certified to UL standard 1598 and CSA C22.2 No. 250.0-08 for damp locations.

Custom options available, please consult factory
Product specifications are subject to change
info@lumenture.com **P.** 203.864.3333

LUMENTURE®
www.lumenture.com
version 20231106

PHOTOMETRICS

LUMEN OUTPUT

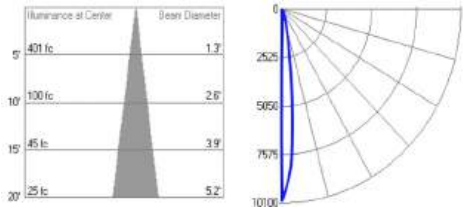
Values fluctuate based on CCT and CRI. To estimate delivered lumen output of various CCT/CRI options, multiply nominal lumens by the multiplier below.

OUTPUT (mA)	WATTAGE	NOMINAL LUMENS
200	8.5W	950
250	11W	1050
275	12W	1150
300	12.5W	1200
350	15W	1450
400	17W	1600

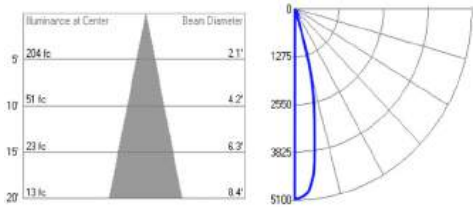
CODE	CCT	CRI	TECHNOLOGY	15°	25°	40°	60°
22H	2200K	90+	Standard	0.65	0.70	0.70	0.65
27H	2700K	90+	Standard	0.75	0.85	0.85	0.80
30H	3000K	90+	Standard	0.80	0.90	0.90	0.85
30B	3000K	95+	Standard	0.75	0.80	0.80	0.75
30K	3000K	80+	Standard	0.95	1.05	1.05	1.00
30D	3000K	90+	Dim-to-Warm	N/A	0.80	0.80	0.75
35H	3500K	90+	Standard	0.85	0.95	0.95	0.90
40H	4000K	90+	Standard	0.85	0.95	0.95	0.90

Lumenture maintains a lumen output tolerance of +/-7.5%
**Dim-to-Warm dims from 3000K to 1800K

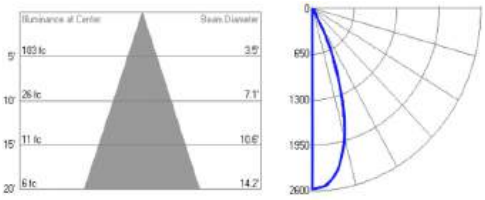
DLA60 - 15 Degree
Delivered Light Output: 1037 Lumens
Total Watts @120V: 12;
Lumens Per Watt: 86
Center Beam Candle Power: 10029
Spacing Criteria: 0.5



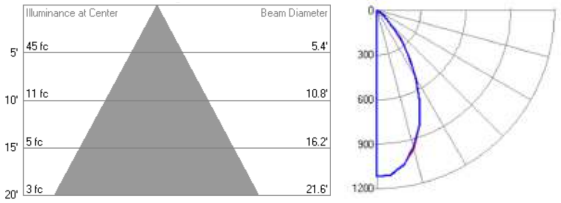
DLA60 - 25 Degree
Delivered Light Output: 1173 Lumens
Total Watts @120V: 12;
Lumens Per Watt: 98
Center Beam Candle Power: 5090
Spacing Criteria: 0.6



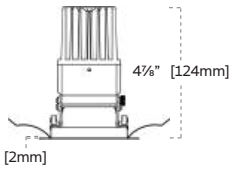
DLA60 - 40 Degree
Delivered Light Output: 1179 Lumens
Total Watts @120V: 12;
Lumens Per Watt: 98
Center Beam Candle Power: 2581
Spacing Criteria: 0.8

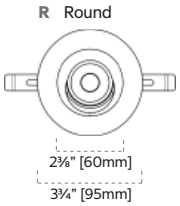


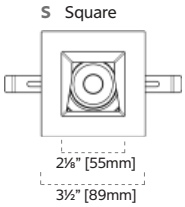
DLA60 - 60 Degree
Delivered Light Output: 1120 Lumens
Total Watts @120V: 12;
Lumens Per Watt: 93
Center Beam Candle Power: 1121
Spacing Criteria: 0.9



DIMENSIONS

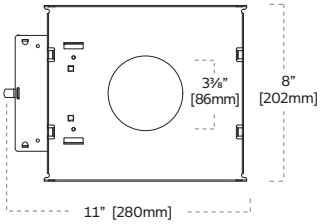


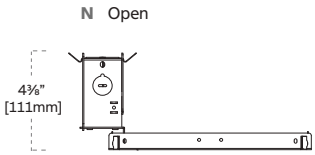


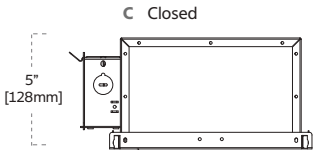


Max Ceiling Thickness = 1"

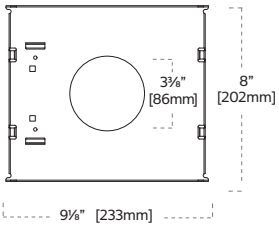
OPEN AND CLOSED HOUSING DIMENSIONS

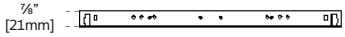






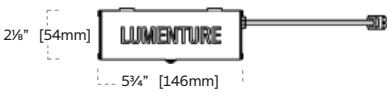
PAN HOUSING DIMENSIONS

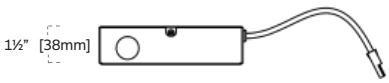




Supplied with (R) Remodel Housing (Loose Junction Box)

REMODEL DIMENSIONS (Loose Junction Box)





DLA60 2in Adjustable Downlight Specifications p. 3/4
Custom options available, please consult factory
Product specifications are subject to change
info@lumenture.com **P.** 203.864.3333

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version 20231106

DIMMING

Dimming is standard and allows for smooth illumination below 1% with certain dimmer/driver combinations. The "U" (Universal) driver accepts 120-277V AC Input and is compatible with 0-10V, Triac (forward phase) and ELV (reverse phase) dimmers. The "T" (Triac/ELV) driver is 120V AC Input only and compatible with Triac and ELV dimmers. The "Z" (0-10V) driver accepts 120-277V AC Input and is compatible with 0-10V dimmers. For dimmer compatibility, refer to the Fixture Dimming Compatibility document on our website.

ACCESSORIES

DL-X
Lens Accessories

- **Y** (Yellow)
- **G** (Green)
- **LB** (Light Blue)
- **R** (Red)
- **RO** (Rose)
- **HL** (Black Honeycomb Louver)
- **LS** (Linear Spread)
- **SOL** (Solite)

Field replaceable optics, accessories, and emergency backup options available. Please consult factory.

LCOMN

LED - Commercial Luminaire Type N

VISIONEERING | a LEVITON brand

Project:	Catalogue #:	Type:
Notes:		

Product Description

Commercial-grade, LED strip luminaire. Ideal for many applications requiring a low cost, small profile, lighting solution.

Applications

Coves, Enclosed parking garages, Retail Shelving, Industrial Racks, Utility Areas

Features

- Shallow design
- Surface or suspension mountable
- Available in nominal length of 24, 48, & 96 inches
- Continuous raceway and row-mounting capability
- 80+ CRI
- Standard low voltage dimming (0-10v)

Featured Options

- Speedy hangers
- Aircraft cable set
- Emergency lighting battery pack

Optical System

Standard units are supplied with frosted extruded micro-grooved round polycarbonate lens.

Mounting

Mounting holes are provided. This product can be surface or suspension mounted.

Construction

Die and brake-formed, code gauge, steel housing and ends. Knockouts are provided for conduit attachment.

Finish

White, pre-painted housing.

Electrical

Long life LEDs coupled with high efficiency drivers provide quality illumination. Rated to deliver L80 performance > 50,000 hours. Supplied with dimmable drivers (0-10v).

Warranty

5 year limited warranty. For complete warranty, click here: 5YR Warranty

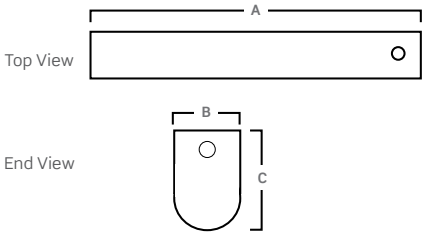
Approvals

- Approved to CSA and UL standards.
- Tested in accordance to IESNA LM-79.
- Suitable for damp locations.
- DesignLights Consortium® Qualified.

All configurations may not be DLC qualified. Check www.designlights.org/QPL for qualified configurations.

c UL us LISTED | DLC LISTED | DAMP LOC

Dimensions



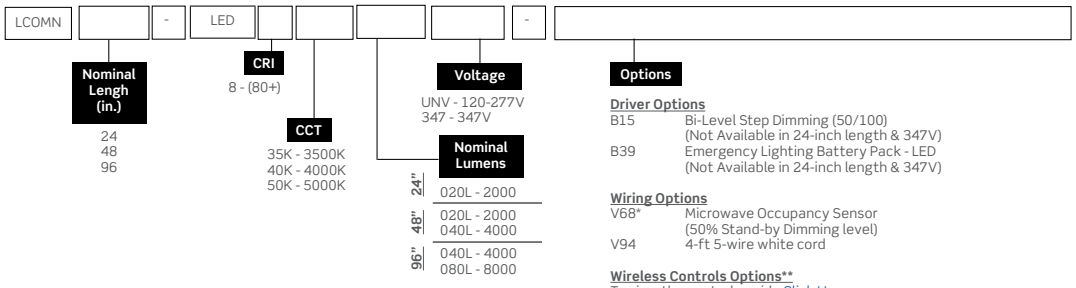
Size	A	B	C
24"	22 7/8"	2 1/16"	2 7/8"
48"	44 7/8"	2 1/16"	2 7/8"
96"	89 1/4"	2 1/16"	2 7/8"

Consult installation guide for exact dimensions.

Project:	Catalogue #:	Type:
Notes:		

Order Key

EXAMPLE: LCOMN96-LED835K040LUNV



Driver Options

B15	Bi-Level Step Dimming (50/100) (Not Available in 24-inch length & 347V)
B39	Emergency Lighting Battery Pack - LED (Not Available in 24-inch length & 347V)

Wiring Options

V68*	Microwave Occupancy Sensor (50% Stand-by Dimming level)
V94	4-ft 5-wire white cord

Wireless Controls Options**

To view the controls guide Click Here.

* Not to be used with step dimming (B15). Integrated sensor adds 2.5 inches to standalone fixture length.

** Some controls may impact on standalone fixture length. Consult factory for exact dimensions.

Other options may be available, consult factory. Specifications and data subject to change without notice.

Performance Data

LED Performance Data				
Size	**Nominal Lumens**	**Delivered Lumens**	**Watts**	**Lumens per Watt**
24	2000	2037	14.4	141.2
48	2000	2059	13.7	150.8
	4000	4274	30.5	140.2
96	4000	4407	29.4	150.1
	8000	7982	56.4	150.1

Values based on 840K with standard lens at 25C

Performance Scaling Factor

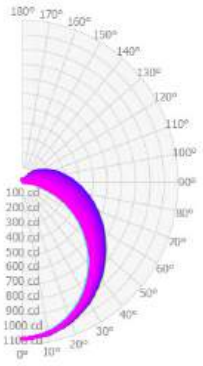
	50K	40K	35K	30K
80CRI	1.000	1.000	0.960	0.946
90CRI	0.875	0.875	0.836	0.809

Mounted Accessories (Ordered Seperately)	
KIT00001	Chain Set (2) 4ft w/ S-hooks.M10
KIT00002	Speedy Hangers (2).M23
KIT00003	Stem & Canopy Set 3/8"IP (2) 4ft.M26
KIT00043	Aircraft Cable & Canopy Set (2) 4ft.M48 (Cord not included with the kit)
KIT00044	Stem & Canopy Set Sloped Ceilings (2) 3ft.M29
KIT00045	Stem & Canopy Set Sloped Ceilings (2) 4ft.M29
KIT00046	Stem & Canopy Set Sloped Ceilings (2) 6ft.M29
KIT00047	Stem & Canopy Set 3/8"IP (2) 2ft.M26
KIT00048	Stem & Canopy Set 3/8"IP (2) 1ft.M26
KIT00050	Stem & Canopy Set 3/8"IP (2) 3ft.M26
KIT00053	Stem & Canopy Set 3/8"IP (2) 6ft.M26

Project:	Catalogue #:	Type:
Notes:		

Photometrics

IES File: LCOMN48-LED840K040LUNV
Lumens: 4179
Wattage: 31
Eff cacy: 135



Zonal Lumen Summary

Zone	Lumens	%Fixture
0.0° - 30.0°	827	19.8%
0.0° - 40.0°	1364	32.6%
0.0° - 60.0°	2488	59.5%
0.0° - 90.0°	3641	87.1%
0.0° - 110.0°	3989	95.5%
0.0° - 130.0°	4137	99.0%
0.0° - 150.0°	4166	99.7%
0.0° - 170.0°	4177	100.0%
0.0° - 180.0°	4179	100.0%

Average Luminance Table (cd/m2)
CP Summary

	0.00°	45.00°	90.00°
0.00°	18257	18257	18257
45.00°	16045	13336	13218
55.00°	14944	12320	12531
65.00°	13292	11448	12054
75.00°	10377	10871	11884
85.00°	4558	10900	12249

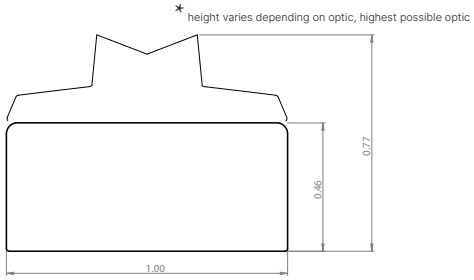
Coefficients of Utilization

ρc	80%			70%			50%		
ρw	70%	50%	30%	70%	50%	30%	70%	50%	30%
0	116	116	116	112	112	112	104	104	104
1	103	97	92	99	94	89	91	87	83
2	93	84	76	89	81	73	82	75	69
3	84	73	64	81	70	62	74	65	58
4	77	64	55	73	62	53	67	58	50
5	70	57	47	67	55	46	62	51	44
6	65	51	42	62	49	41	57	46	39
7	60	46	37	58	45	36	53	42	34
8	56	42	33	54	41	32	49	38	31
9	52	38	30	50	37	29	46	35	28
10	49	35	27	47	34	27	43	32	26

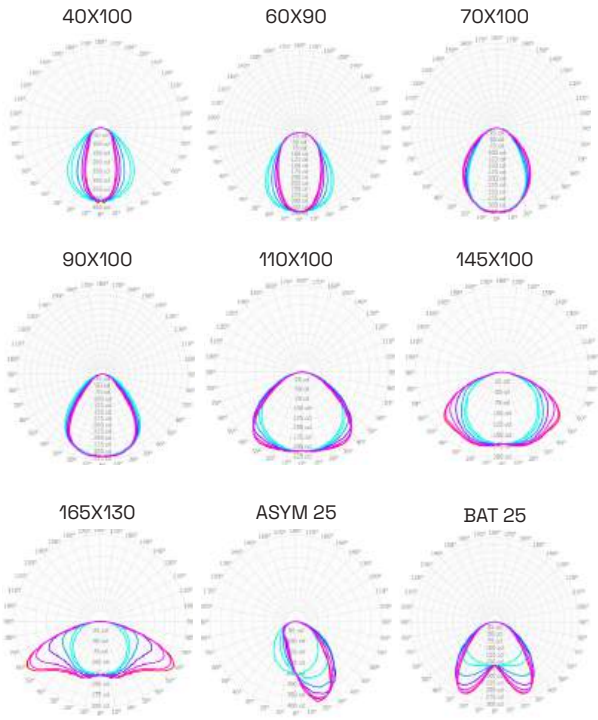
Effective Floor Cavity Reflectance: 20%

Not Used

Dimensions



Optics



Spec Lock

- LED specially binned through forward voltage within a 3-step MacAdam ellipse for increased CCT fidelity and smooth lower end dimming.
- Mechanically fastened Rigid PCB set within an extruded aluminum channel for simple installation and total serviceability.
- Pressure fit metal pin connection for solderless in-field connection between LED boards for a seamless appearance.
- Flexible power feed injections maintain LED pitch consistency for a plethora of mounting options.
- Never a shadow, hotspot nor break in light no matter the output and run length.
- No double-sided adhesion (tape) or soldering during installation.

S

Scout Lighting reserves the right to modify this specification without prior notice. **Updated 4/23/24**

Part # Builder

SS-O	+		+		+		+		+		+		+		+		+		+		+	
Fixture		1		2		3		4		5		6		7		8		9		10		11	

Fixture	1 : Lens	2 : Intensity [1]	3 : Color Temp
SS-O : Optic	1 : 60 × 90 2 : 110 × 100 3 : 40 × 100 4 : 70 × 100 5 : BAT 25 6 : ASYM 25 7 : 145 × 100 8 : 90 × 100 9 : 165 × 130	SL : Super Low (212lm/1.6w per ft) L : Low (376lm/2.8w per ft) M : Medium (624lm/4.8w per ft) H : High (1058lm/8.3w per ft) SH : Super High (1232lm/9.8w per ft) LD : LumenDial (Consult Factory)	22 : 2200K 27 : 2700K 30 : 3000K 35 : 3500K 40 : 4000K 50 : 5000K TW2235: 22K-35K TW2750: 27K-50K
4 : Finish [2]	**5 : Feed [3]**	**6 : Control**	**7 : Mounting**
M : Mill Finish W : Gloss White (Cost Adder) B : Matte Black (Cost Adder) C : Custom RAL# (Cost Adder - Consult Factory)	EF : End Feed RF : Rear Feed SF1 : Side Feed 1 SF2 : Side Feed 2	0 : None 1 : 0-10 -1% Dimming 2 : 0-10 - 0.1% Dimming 3 : DMX/ DALI 4 : POE 5 :ELV / MLV / Phase 6 : 0-10 Tuneable White 7 : 0-10 Warm Dim 8 : Lutron Hi-Lume 1% Ecosystem W/ SO-FTB 9: Lutron Hi Lume 1% 3 Wire + G 10: Lutron Athena Wireless Node - RF Only 11: Casambi 12: nLyte 13: Enlighted 14: Other - Consult Factory	N : None E : External EM : External Magnetic T1 : Tiltable Stand ELV : Elevated Mounting Clip W : Wall Clip Custom : Consult Factory
8 : Blind Cove [4]	**9 : Wire Length**	**10 : Shape**	**11 : Fixture Length**
Y : Yes N : No	12” 24” 48” 96” Custom - (Consult Factory)	S - Straight U - U Shape L - L Shape R - Rectangle P - Pattern (Consult Factory)	X’ Y”

Optic Lens - Visible Diodes - 8% Light Loss

OUTPUT	SL	L	M	H	SH
Lumens/Foot	212	376	624	1058	1232
Watts/ Foot	1.6	2.8	4.8	8.3	9.8
Lumens/Watt	135	133	131	127	125

Driver Wiring

Installation Guide

Specification Details

	LENS	LIGHT LOSS	VISIBLE DIODES	SUPER LOW	LOW	MEDIUM	HIGH	SUPER HIGH
Watts / Foot	N/A			1.6	2.8	4.8	8.3	9.8
mA / Foot	N/A			50	89	149	256	300
Optic Lens: Lumens / Foot	Optic	8%	Yes	212	376	624	1058	1232
Optic Lens: Lumens / Watt [1]	Optic	8%	Yes	135	133	131	127	125
0-10 / Lutron Athena Node	Max Output 2000mA			40 Feet	20 Feet	12 Feet	6 Feet	4 Feet
Phase	Max Output 700mA			14 Feet	7 Feet	4 Feet	2 Feet	1 Foot
DMX/DALI	Consult Factory							
POE	Consult Factory							
Lutron Drivers	LDE1 Hi-Lume 1% EcoSystem. Soft On Fade to Black				L3DA3W Hi-Lume 1% 3 WIRE+G			
Color Temperatures (K) + Flux	2200 (82%), 2700 (100%), 3000 (100%), 3500 (115%) , 4000 (118%), 5000 (106%)							
CRI	90+							
R9	50+							
MacAdams Ellipses	3 Steps							
Beam Angle [2]	120 Degrees							
IP Rating	IP20 - Dry Location							
Lamp Life	50,000 Hours							
Dimming / Control [3]	0-10 / POE / DMX / DALI / PHASE / LUTRON / LUTRON WIRELESS							
Operating Temperature	-13°F to 122°F							

FINISH
Standard Mill Aluminum Finish.
Powder Coating to any RAL# available upon specification
Increased pricing for powder coating.

Warranty
2 Year Limited Warranty - Covers all Scout manufactured products.
Default to manufactures warranty for all 3rd party components. Does not cover labor.

ORDER DETAILS
- All fixtures come standard with starter end cap feed unless otherwise specified.
- All Scout Select Fixtures come preassembled up to 8 feet long with 8" power feed.
- Any Fixture length under 8 feet long will be made as a complete fixture.
- Any Fixture length over 8 feet long will broken into 6 foot lengths + the balance length. A 10 Foot Fixture will be broken into 1 length @ 6 Feet and 1 @ 4 Feet.
- Fixtures daisy chain together with Scout_ LockTM Technology.
- In situations where fixtures are longer then the maximum wattage load new power will be injected from either the side or rear. Standard Injection is side Feed 1.
- All orders come with an approval drawing. Fabrication will not begin until drawing has been signed off or waived.

[1] Lumens / Watt accounts nominal driver efficacy at full load
[2] Finish: Mill Finish comes standard. Cost Adder for Power Coating. Contact Factory for Custom RAL#
[3] Feed: See Feed Detail's on page 4

LED SYSTEM
Proprietary linear LED Scout Engine incorporates premium Cree LEDs on a robust platform to achieve excellent thermal management. LEDs are placed to promote a uniform appearance.
Available in 2200K, 2700K, 3000K, 3500K, 4000K or 5000K in 90+ CRI. LED modules and drivers are replaceable.
Color accuracy <3 SDCM

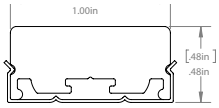
CONSTRUCTION
One piece extruded aluminum housing. Cast aluminum end caps.

OPTICS
Extruded High Transmission Milky Acrylic Lens with No LED imaging. Extruded High Transmission Frosted Acrylic Lens with LED imaging.

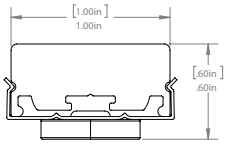
ELECTRICAL
Fixture comes reassembled with 8" whip.
All Drivers are installed in remote location.
All drivers are Universal input 120-277 VAC.
Standard Constant Current drivers include 0-10V dimming preinstalled in enclosure.

LABELS
Conforms To UL STD 2108Certified To CSA STD C22.2 # 250.0
Suitable for Dry or Damp Locations, indoor use only.
ETL Control # 5011600

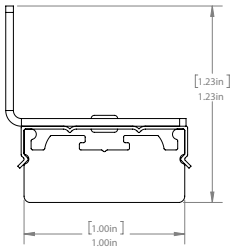
Mounting Clips



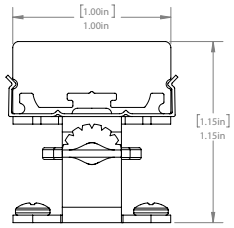
External Clip



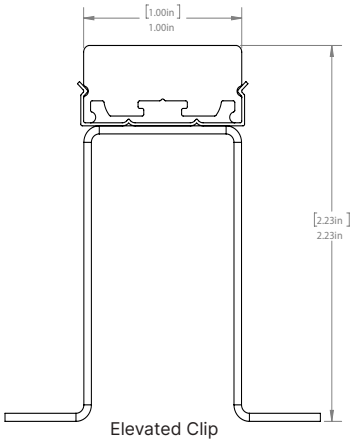
External Magnetic



Wall Clip

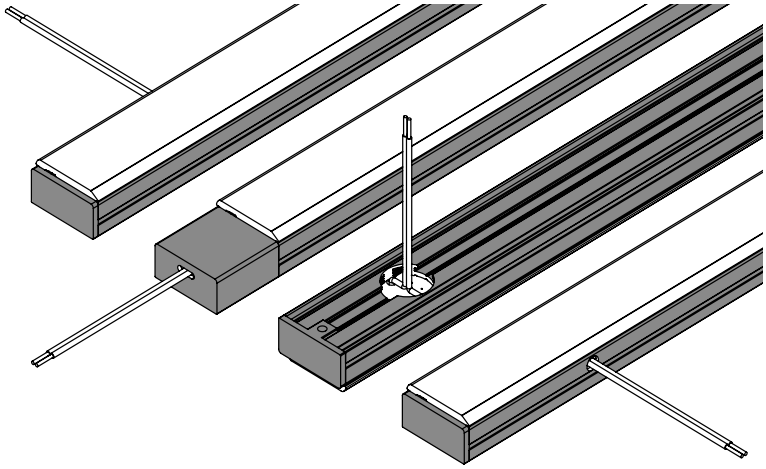


Tiltable Stand



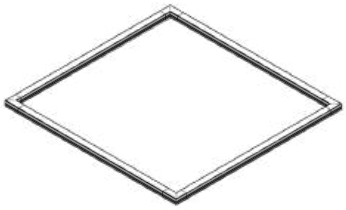
Elevated Clip

Feed Points



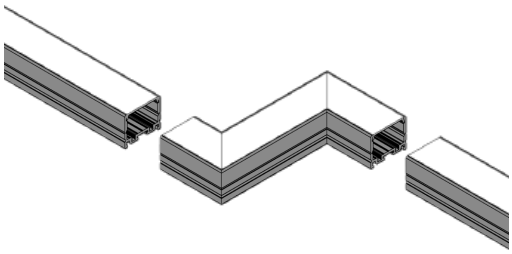
Side Feed 1 End Feed Rear Feed Side Feed 2

Patterns



Coplanar surfaces

Changing elevations



Custom patterns

SCOUT LIGHTING
Designed - Built - Shipped - New York

75 WATT 0-10 LED DRIVER
PART #SDRVCC01075

Project : Firm : Type : Quantity:

Quick Specs

Driver Type	Constant Current
Dimming Control	0-10 : 1%
# of Channels	1
DC Voltage Range	27-54 VDC
AC Input Voltage	120 - 277
Class	2
mA	2000
Wattage	75
Warranty	5 years
Efficency	>90%

Max Load (2000mA)

Super Low (50mA)	40 Feet
Low (89mA)	22 Feet
Medium (149mA)	13 Feet
High (250mA)	8 Feet
Super High (300mA)	5 Feet

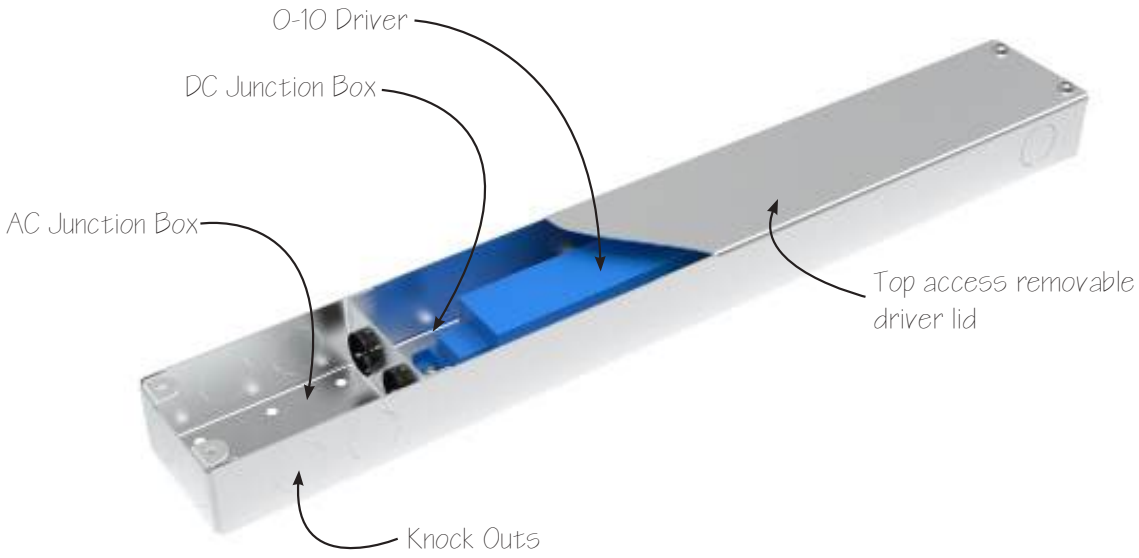
Max Distance

20 AWG	20 Feet
18 AWG	40 Feet
16 AWG	60 Feet
14 AWG	100 Feet
12 AWG	150 Feet

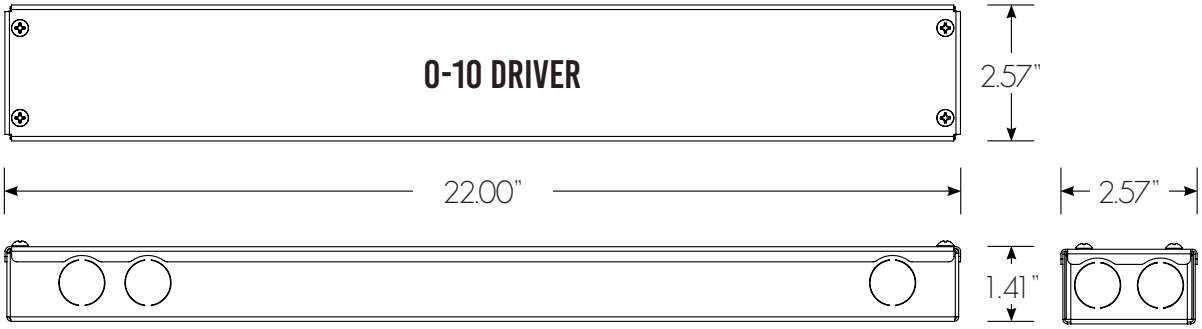
Scout Lighting reserves the right to modify this specification without prior notice. Updated 10/02/21.

New York, NY
1.833.SCOUTLD
www.ScoutLighting.com
Info@ScoutLighting.com

Driver Anatomy



Dimensions



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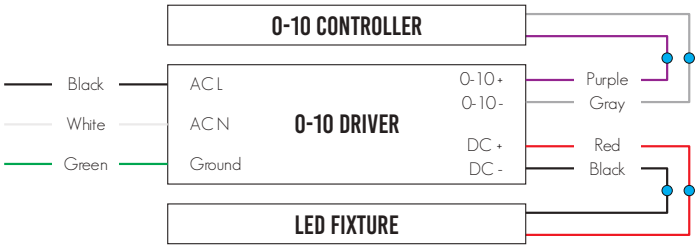
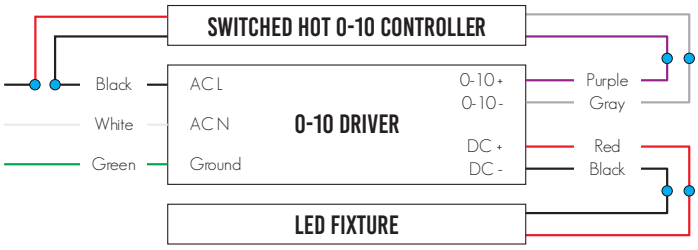
www.ScoutLighting.com
Info@ScoutLighting.com

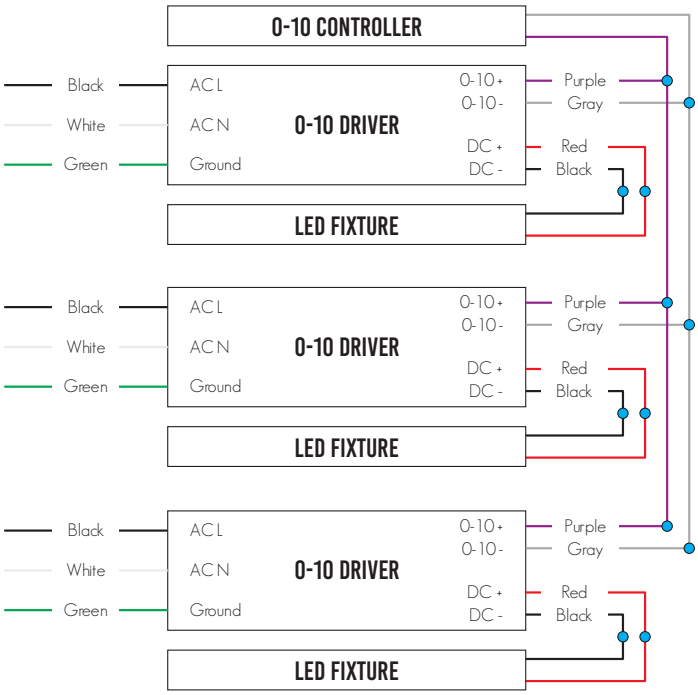
Wiring



Single 0-10 wiring



Switched Hot 0-10 Wiring



Multiple fixture wiring to single 0-10 Dimmer

Scout Lighting reserves the right to modify this specification without prior notice. Updated 10/02/21.

New York, NY
1.833.SCOUTLD
www.ScoutLighting.com
Info@ScoutLighting.com

alphabet

PROJECT INFORMATION			
JOB NAME		TYPE	
ORDERING CODE			

BETA 3

3" Cylinder Standard White

15° - 60° BEAM (Note: Specifications are subject to change without notice)		
14mm COB PERFORMANCE DATA		
LED LIGHT ENGINE	**NOMINAL DELIVERED LUMENS**	**SYSTEM WATTAGE**
10LM	1180LM @30K/80CRI	11W
15LM	1370LM @30K/80CRI	13W
20LM	1770LM @30K/80CRI	17W
10LM	1180LM @30K/90CRI	11W
15LM	1370LM @30K/90CRI	13W
20LM	1770LM @30K/90CRI	17W
Notes	Delivered lumens based on 40C, 3000K (see page 2)	

CASAMBI

FEATURES
- Seamless extrusion with powder coated finish for clean aesthetics
- Thermally optimized for longevity
- 15° - 60° beam spread
- UGR < 19
- Micro slim canopy options at 1/4"-3/8" depth plus 1/2" diameter stem.
- Multiple mounting, glare control options, trims and finishes available

DIMMING AND CONTROLS
- Flicker free 0-10V dimming to 1%
- Leading & trailing edge (Triac/ELV) dimming to 1%
- Lutron Hi-lume 2-Wire (Eco System) dimming to 0.1%
- Casambi bluetooth dimming to 1%

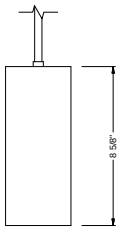
CONSTRUCTION
- Extruded aluminum housing
- Lexan™ (PC) Optimal connectivity for wireless control signal
- Machined aluminum canopy
- SVT pendant cord

LED
- 90 CRI: SDCM = 2-step MacAdam Ellipse, Lumen Maintenance: L_{70} > 66,000 hrs
- 80 CRI: SDCM = 2-step MacAdam Ellipse, Lumen Maintenance: L_{70} > 66,000 hrs

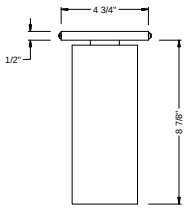
LISTING
- ULus Listed to UL1598 & UL2108; cUL Listed to CSA C22.2 #250.0
- Suitable for dry and damp locations
- 5 Year Limited warranty

ELECTRICAL
- 120V-277V, 120 only Triac / ELV
- Power factory ≥ 0.9
- 2kV driver input surge protection
- Remote emergency test switch
- 7 W, 10W (T20 CEC) and 12W EM 90min battery

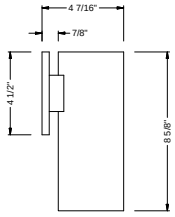
PENDANT

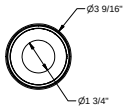


SURFACE MOUNT



WALL MOUNT





101032

alphabet

PROJECT INFORMATION			
JOB NAME		TYPE	
ORDERING CODE			

ORDERING CODE			
SERIES	BETA	BETA	
TYPE	3R	3" round	
LED	SW	standard white	
DELIVERED LUMENS	10LM	1180 lm	
	15LM	1370 lm	
	20LM	1770 lm	
	Standard Configuration: 3000K 80CRI 40C NL **Calculated Delivered Lumens** = [Delivered Lumen Value] x [CCT Multiplier] x [Reflector Multiplier]		
CCT	27K	2700K	
	30K	3000K	
	35K	3500K	
	40K	4000K	

CCT	2700K		3000K		3500K		4000K	
CRI	80+	90+	80+	90+	80+	90+	80+	90+
CCT MULTIPLIER FOR LUMEN OUTPUT	0.96	0.81	1	0.84	1.01	0.85	1.03	0.87

CRI	80	80 CRI	
	90	90 CRI	
OPTIC & LM MULTIPLIER SEE PAGE 3	15C[1]	15° reflector with clear lens	(0.95)
	20C	20° reflector with clear lens	(0.97)
	25C	25° reflector with clear lens	(0.97)
	40C	40° reflector with clear lens	(0.96)
	55C	55° reflector with clear lens	(0.95)
	40D	40° reflector with diffused lens	(0.93)
	45D	45° reflector with diffused lens	(0.92)
	50D	50° reflector with diffused lens	(0.92)
	60D	60° reflector with diffused lens	(0.93)
	20HET[1]	20° high efficiency textured lens, similar to Solite™	(0.94)
	25HET	25° high efficiency textured lens, similar to Solite™	(0.98)
	30HET	30° high efficiency textured lens, similar to Solite™	(0.95)
	40HET	40° high efficiency textured lens, similar to Solite™	(0.99)
	50HET	50° high efficiency textured lens, similar to Solite™	(0.99)
ACCESSORY	HCL[2]	honeycomb louver	
	Attached to bezel		
BEZEL LENS	NL[3]	no lens	(1.00)
FINISH SEE PAGE 3	BK	black	
	WH	white	
	MC	matte chrome	
BEZEL COLOR SEE PAGE 3	BK	black	(0.98)
	WH	white	(1.00)
	MC	matte chrome	(0.99)
	BZ	bronze	(0.98)
	WT	wheat	(0.99)

ORDERING CODE		
MOUNTING OPTIONS SEE PAGE 6	W	wall mount
	S	surface mount
	JCOV-S	conduit junction box cover with knockouts, surface
	P	pendant, 108" flexible cord
	RP	rigid pendant 4' stem with swivel stem/canopy
	RP5	rigid pendant 5' stem with swivel stem/canopy
	RP6	rigid pendant 6' stem with swivel stem/canopy
	RP8	rigid pendant 8' stem with swivel stem/canopy
	RP10	rigid pendant 10' stem with swivel stem/canopy
	RPF2	rigid pendant 2' with fixed stem/canopy
	RPF3	rigid pendant 3' with fixed stem/canopy
	RPF4	rigid pendant 4' with fixed stem/canopy
	RPF6	rigid pendant 6' with fixed stem/canopy
	JCOV-XX[4]	conduit junction box cover with knockouts, complete XX code with desired pendant mount
VOLTAGE	120	120V
	UNV	120V-277V
DIMMING	DIM10	0-10V dimming to 1%
	LUTP	Lutron Hi-lume Premier Ecosystem dimming to 0.1%, Soft-on & Fade-to-Black
	ELV1[5]	leading & trailing edge (Triac/ELV) dimming to 1%
	CAS	Casambi Bluetooth control with flicker free 1% dimming
ELECTRICAL OPTIONS	EM7	remote emergency battery backup, 90 minutes at 7 watts to LED
	EM12	remote emergency battery backup, 90 minutes at 12 watts to LED
	EM10CA20	remote emergency battery backup, 90 minutes at 10W to LED, CA title 20

YOUR COMPLETED ORDERING CODE
Follow the steps to specify your fixture, example:
BETA - 3R - SW - 15LM - 35K - 80 - 20C - WH - WH - P - UNV - DIM10 - EM7

NOTES

1. 15C and HET20 available in 10LM/15LM.
2. HCL not available with lens. Multiplier: Delivered Lumens (0.80) / Beam Spread (0.80).
3. NL option available for 15C/20C/25C/40C/55C.
4. JCOV not available with RP mounting.
5. ELV1 available in 120V.

*Slim canopy with rigid stem connection shall be used in jurisdictions that DO NOT require light fixtures to freely swing in lateral directions, complying with local and national building codes.

*RP mounting with swivel is recommended to be installed on a 4in square or 4in deep regress 2-1/8" octagonal junction box.

101032

alphabet

PROJECT INFORMATION			
JOB NAME		TYPE	
ORDERING CODE			

BEZEL OPTIONS

BEZEL COLORS

WH MC BK BZ WT

OPTICAL OPTIONS

- UGR calculation based on CIE 117-1995; room size: 4H X 8H, reflectance: 70/50/20;
- UGR calculation based on 15LM fixtures.

CL
Clear Lens

OPTIC	BEAM ANGLE	UGR
15C	16.2	17.1
20C	20.6	17.3
25C	23.5	17.5
40C	37.4	18
55C	55.8	18.6

DL
Diffused Lens

OPTIC	BEAM ANGLE	UGR
40D	42.6	21.9
45D	45.2	22.2
50D	52.4	22.9
60D	58.9	23.6

HET
High Efficiency Textured Lens

OPTIC	BEAM ANGLE	UGR
20HET	19.5	17.7
25HET	24.4	18
30HET	27	18.6
40HET	38.5	19.1
50HET	49.5	19.4

NL
No Lens

OPTIC	BEAM ANGLE	UGR
15C	14	17.2
20C	21	16.6
25C	25	16.8
40C	39	17.7
55C	55	18

ACCESSORY
Honeycomb Louver

OPTIC	BEAM ANGLE	UGR
15C	12	≤5
20C	16	≤5
25C	20	≤5
40C	32	≤5
55C	44	≤5

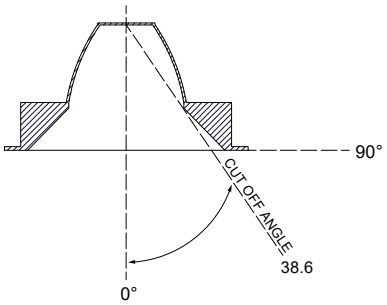
GLARE CONTROL

CUT-OFF ANGLE

Visual comfort is achieved with a lower cut-off angle due to improved glare control. The smaller the cut-off angle, the easier it is on the eye.

Alphabet downlights have been thoughtfully engineered to eliminate glare while still delivering functional illumination.

- Cutoff angle of CL is 38.6 degrees;



101032

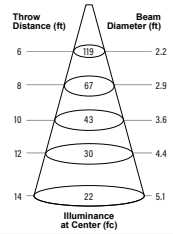
alphabet

PROJECT INFORMATION			
JOB NAME		TYPE	
ORDERING CODE			

PHOTOMETRIC DATA

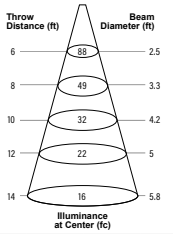
10LM CCT MULTIPLIERS		
	80CRI	90CRI
2700K	0.96	0.81
3000K	1	0.85
3500K	1.03	0.88
4000K	1.06	0.91
FC Formula = CBCP / Distance^2		

20C
20° REFLECTOR WITH CLEAR LENS



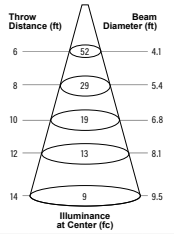
WATTS: 8.6	LPW: 109.6
LUMENS: 942	CCT: 3000K
INTENSITY	
DEGREE	CANDELA
0	4291
5	3694
15	1004
25	380
35	242
45	7

25C
24° REFLECTOR WITH CLEAR LENS



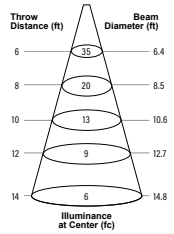
WATTS: 8.6	LPW: 110.2
LUMENS: 948	CCT: 3000K
INTENSITY	
DEGREE	CANDELA
0	3159
5	2764
15	1117
25	503
35	239
45	7

40C
38° REFLECTOR WITH CLEAR LENS



WATTS: 8.6	LPW: 110.1
LUMENS: 947	CCT: 3000K
INTENSITY	
DEGREE	CANDELA
0	1857
5	1787
15	1204
25	591
35	262
45	8

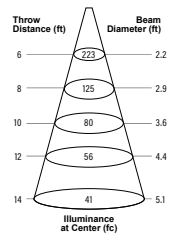
55C
56° REFLECTOR WITH CLEAR LENS



WATTS: 8.6	LPW: 109.8
LUMENS: 944	CCT: 3000K
INTENSITY	
DEGREE	CANDELA
0	1260
5	1240
15	1105
25	746
35	268
45	9

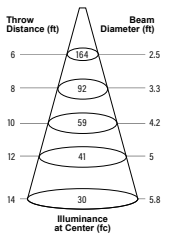
20LM CCT MULTIPLIERS		
	80CRI	90CRI
2700K	0.96	0.81
3000K	1	0.85
3500K	1.03	0.88
4000K	1.06	0.91
FC Formula = CBCP / Distance^2		

20C
20° REFLECTOR WITH CLEAR LENS



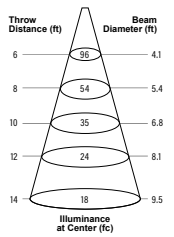
WATTS: 16.5	LPW: 106.7
LUMENS: 1761	CCT: 3000K
INTENSITY	
DEGREE	CANDELA
0	8021
5	6905
15	1877
25	711
35	452.3
45	13

25C
24° REFLECTOR WITH CLEAR LENS



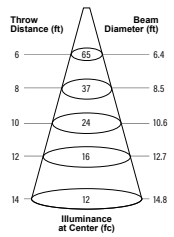
WATTS: 16.5	LPW: 107.4
LUMENS: 1771	CCT: 3000K
INTENSITY	
DEGREE	CANDELA
0	5904
5	5167
15	2088
25	939
35	447
45	12

40C
38° REFLECTOR WITH CLEAR LENS



WATTS: 16.5	LPW: 107.3
LUMENS: 1770	CCT: 3000K
INTENSITY	
DEGREE	CANDELA
0	3471
5	3340
15	2250
25	1104
35	490
45	15

55C
56° REFLECTOR WITH CLEAR LENS



WATTS: 16.5	LPW: 107
LUMENS: 1765	CCT: 3000K
INTENSITY	
DEGREE	CANDELA
0	2356
5	2318
15	2065
25	1394
35	501
45	17

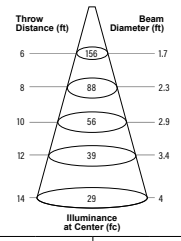
alphabet

PROJECT INFORMATION			
JOB NAME		TYPE	
ORDERING CODE			

PHOTOMETRIC DATA

10LM CCT MULTIPLIERS		
	80CRI	90CRI
2700K	0.96	0.81
3000K	1	0.85
3500K	1.03	0.88
4000K	1.06	0.91
FC Formula = CBCP / Distance^2		

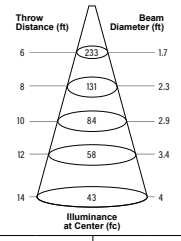
15C
16° REFLECTOR WITH CLEAR LENS



WATTS: 10.2	LPW: 82.1
LUMENS: 838	CCT: 3000K
INTENSITY	
DEGREE	CANDELA
0	5631
5	4276
15	655
25	308
35	247
45	4

15LM CCT MULTIPLIERS		
	80CRI	90CRI
2700K	0.96	0.81
3000K	1	0.85
3500K	1.03	0.88
4000K	1.06	0.91
FC Formula = CBCP / Distance^2		

15C
16° REFLECTOR WITH CLEAR LENS

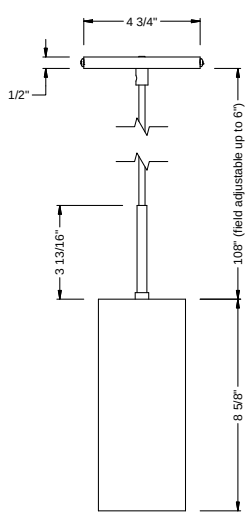


WATTS: 17.7	LPW: 70.6
LUMENS: 1250	CCT: 3000K
INTENSITY	
DEGREE	CANDELA
0	8398
5	6377
15	977
25	459
35	369
45	6

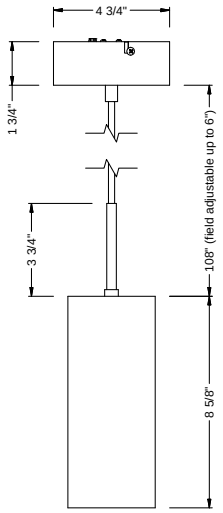
alphabet

PROJECT INFORMATION			
JOB NAME		TYPE	
ORDERING CODE			

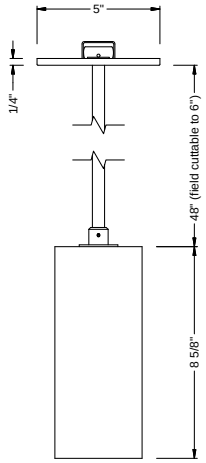
MOUNTING OPTIONS



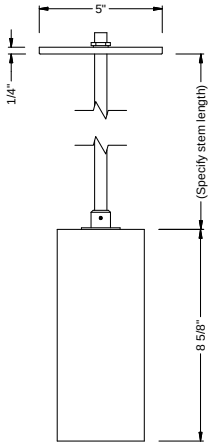
PENDANT
ELV1 / CAS



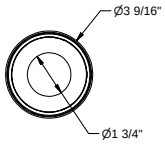
PENDANT
DIM10 / LUTP

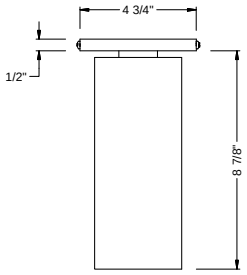


RP SWIVEL
DIM10 / ELV1 / CAS

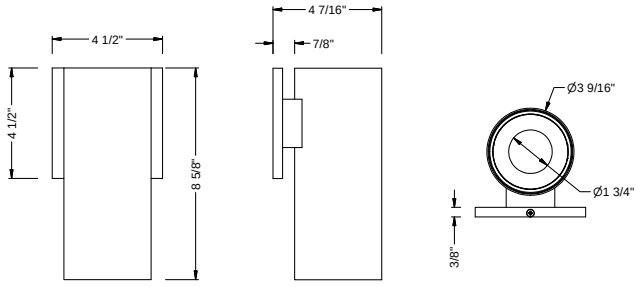


RPF FIXED
DIM10 / ELV1 / CAS





SURFACE MOUNT
DIM10 / ELV1 / CAS



WALL MOUNT
DIM10 / ELV1 / CAS

101032

alphabet

PROJECT INFORMATION			
JOB NAME		TYPE	
ORDERING CODE			

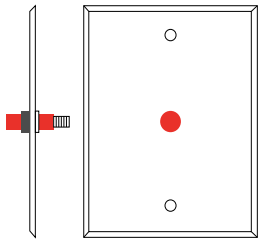
BATTERY OPTIONS

EMERGENCY BATTERY
IOTA's ILB battery backups are UL Listed LED emergency drivers that allow the same LED fixture to be used for both normal and emergency operation. In the event of a power failure, the ILB switches to the emergency mode and operates the existing fixture for 90 minutes. The unit contains a battery, charger, and converter circuit in a single can. The constant power design of the ILB maintains the output wattage to the LED array even as the system voltage diminishes. UL 924 Listed for U.S. and Canada. UL 1310 Certified, output class 2 compliant. Includes single-piece TBTS test switch and charge indicator accessory kit. For use with switched and unswitched fixtures, and includes two-wire universal AC input. Meets or exceeds all National Electric Code and Life Safety Code Emergency Lighting requirements. Rated for use in plenum, damp location, recessed type IC, and enclosed and gasketed luminares.

REMOTE TEST SWITCH
The remote test switch may be mounted adjacent to the LED Fixture by others.

EMERGENCY BATTERY ACCESS
Above ceiling access is recommended for ease of service.

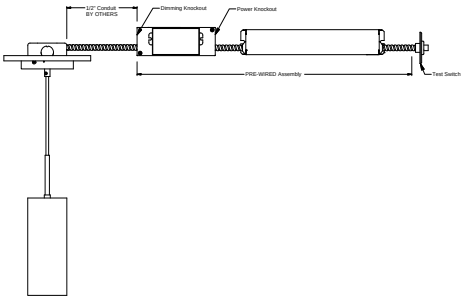
REMOTE LOCATION
Maximum remote mounting distance of the emergency driver shall be 50 feet. Remote location wiring provided by others. Follow all local and national electric/ building codes.

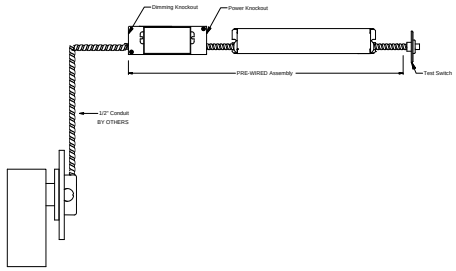


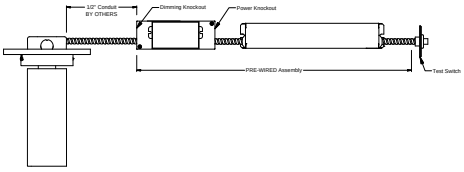
Remote Test Switch

EM MODE OUTPUT (DELIVERED LUMENS)			
LUMEN ORDERING CODE	EM7	EM10	EM12
ALL OPTIONS (10LM TO 20LM)	880LM	1280LM	1480LM
Notes: Based on 30K, 80CRI			

REMOTE BATTERY

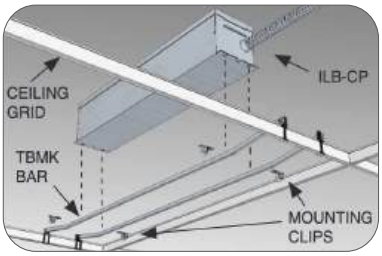






Accessory

76066 Optional T-Grid Mounting Kit[1]



1. Can be used with any of the Emergency Battery Backups. Must be ordered as a separate line item.

101032

Not Used

Not Used

LUMENTURE®

T40 TRACK HEADS

TYPE:

PROJECT:

The T40 track cylinder is designed to blend seamlessly into a wide range of environments - including retail, commercial, restaurant and hospitality settings. The T40 comes standard with Lumenture's patent-pending, low-profile mini track adapter and is available in both round and square designs. Specification level details - including no exposed hardware, special attention to finish and the ability to integrate a number of accessories - make the T40 one of the leading-edge track heads on the market.

DIMMING
Triac, ELV

WEIGHT
4.5 oz.

WATTAGE
7W

EFFICACY
up to 600lm
up to 85lm/W

INPUT
120V AC

FINISH
Cold forged aluminum housing, Powdercoat

ACCESSORIES
Field replaceable optics & accessories

MOVEMENT
90° tilt
355° rotation

ORDERING

FIXTURE	-	CCT/CRI [1]	-	LUMENS	-	BEAM SPREAD [1]	-	FINISH	-	MOUNTING TYPE [2]	-	ACCESSORIES [3]
T40 - Round **T40S** - Square		**22H** - 2200K, CRI 90+ **27H** - 2700K, CRI 90+ **30H** - 3000K, CRI 90+ **30B** - 3000K, CRI 95+ **30D** - 3000K, CRI 90+ (Dim-to-Warm) **35H** - 3500K, CRI 90+ **40H** - 4000K, CRI 90+		**600**		**22** - 22° **40** - 40°		**W** - White **B** - Black **S** - Silver		**J** – J Type (Standard) **L** – L Type **MC** – Micro Canopy **SC** – Slim Canopy		**SN** – Standard Tapered Snoot [4] **SNC** – Cylinder Snoot [5] **JA-18-[Finish]-Cover** – Deep Canopy Collar

NOTES
1. Custom options available. Please consult factory.
2. Mini Adapter is for single-circuit only.
3. See page (3) for a full list of accessories and canopy accessories.
4. Available for T40S (square) only.
5. Available for T40 (round) only.

ORDERING EXAMPLE:

T40	-	30H	-	600	-	22	-	W	-	J	-	SNC

LISTINGS
Certified to UL standard 1574 and CSA C22.2 No. 9.0 for dry locations

T40 Track Head Specifications p. 1/4
Custom options available, please consult factory
Product specifications are subject to change
info@lumenture.com **P.** 203.864.3333

LUMENTURE®
www.lumenture.com
version 20240103

PHOTOMETRICS

LUMEN OUTPUT

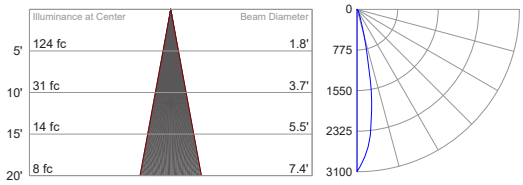
Values fluctuate based on CCT/CRI. To estimate delivered lumen output of the various CCT/CRI options, multiply nominal lumens (600 lumens) by the multiplier below.

CODE	CCT	CRI	TECHNOLOGY	22°	40°
22H	2200K	90+	Standard	0.75	0.75
27H	2700K	90+	Standard	0.85	0.85
30H	3000K	90+	Standard	1.00	1.00
30B	3000K	95+	Standard	0.80	0.80
30D	3000K	90+	Dim-to-Warm*	0.80*	0.80*
35H	3500K	90+	Standard	1.05	1.05
40H	4000K	90+	Standard	1.05	1.05

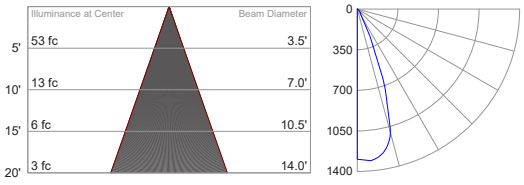
NOTES

Lumenture maintains a lumen output tolerance of +/-7.5%
1. Dim-to-Warm dims from 3000K to 1800K

T40 - 22 Degree
Delivered Light Output: 590 Lumens
Total Watts @120V: 7;
Lumens Per Watt: 84
Center Beam Candle Power: 3442
Spacing Criteria: 0.4

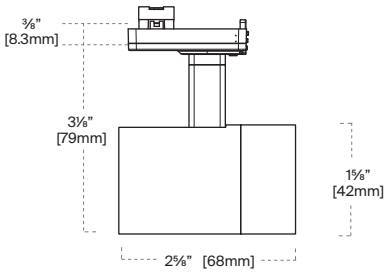


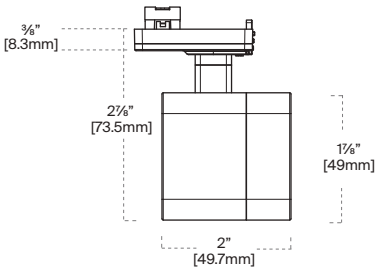
T40 - 40 Degree
Delivered Light Output: 610 Lumens
Total Watts @120V: 7;
Lumens Per Watt: 87
Center Beam Candle Power: 1375
Spacing Criteria: 0.6



DIMENSIONS

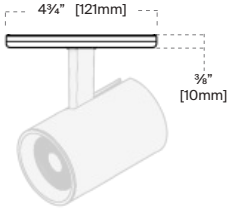
Standard option shown with our J-Type mini track adapter.



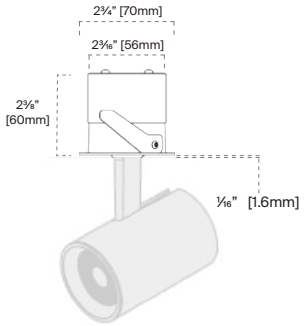


INTEGRAL CANOPY (Factory Installed)

SC (Slim Canopy)
The slim canopy mounts directly over a standard junction box - resulting in an elegant and clean install of Lumenture's award-winning T-Series track fixtures.
Finish: B, S, W

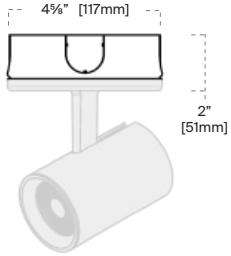


MC (Micro Canopy)
With a minimal 2.75" trim, the Lumenture micro-canopy virtually "disappears" into the ceiling - offering an even more refined look for the most high-end applications.
Finish: B, S, W



CANOPY ACCESSORIES (Ordered Separately)

JA-18-[Finish]-Cover (Deep Canopy Collar)
The JA-18 Cover helps shield unsightly surface mount J-Boxes and blends seamlessly with the Lumenture JA-18 or SC Slim Canopy (sold separately).
Finish: B, W



Ordering Example: JA-18-B-Cover

Finish Codes:

B – Black
S – Silver
W – White

DIMMING

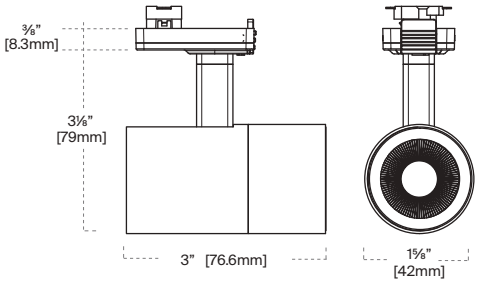
Dimming is standard and allows for smooth illumination below 1% with certain dimmers. Compatible with most Triac (forward phase) and ELV (reverse phase) dimmers. For dimmer compatibility, refer to the Fixture Dimming Compatibility document on our website.

TRACK COMPATIBILITY

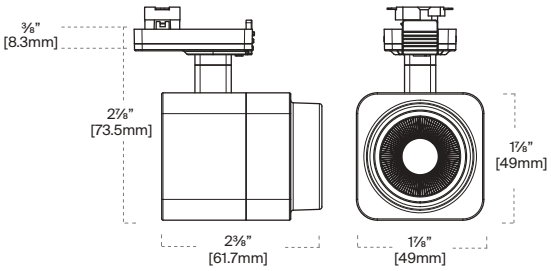
Lumenture J-Type Mini Adapters are designed for use with Lumenture's track systems, as well as Juno® & Contech® track. Our L-Type adapter is compatible with Lightolier® track. Due to it's patent-pending small form factor, the Mini Adapter is single circuit only.

ACCESSORIES

SNC (Cylinder Snoot)
Will accept up to two (2) accessories.
Finish: W, B, S. The inside surface is black.
Available for T40 Round only.



SN (Standard Tapered Snoot)
Will accept up to two (2) accessories.
Finish: W, B, S. The inside surface is black.
Available with T40S Square only.



LENS ACCESSORIES
Field replaceable optics available. Please consult factory.

- **Lens-Yellow-38**
- **Lens-Green-38**
- **Lens-Blue-38** (Light Blue)
- **Lens-Red-38**
- **Lens-Rose-38**
- **HL-38** [1] (Black Honeycomb Louver)
- **LS-38** (Linear Spread)
- **SOL-38** (Solite)

NOTES
Field replaceable optics and accessories available. Please consult factory.
1. Accessory requires a snoot.

LUMENTURE®

DL60 2” FIXED DOWNLIGHTS

TYPE:

PROJECT:

With a 2” aperture, knife-edge trim and excellent visual cutoff - Lumenture’s DL60 blends discreetly in any environment. These recessed modules deliver high lumens without glare. The result is superior brightness and quality from an unobtrusive fixture. The DL60 is available both in remodel with an attached junction box or with optional rough-in housings to fit any construction needs.

DIMMING
Triac, ELV & 0-10V

WEIGHT
13.5 oz. (module only)

WATTAGE
8.5W-15W

EFFICACY
up to 1450lm
up to 111lm/W

AC DRIVER INPUT
120-277V

HOUSING
Open, Closed, Remodel, Pan

FINISH
Aluminum module & trim, Powdercoat or anodized

ACCESSORIES
Field replaceable optics & accessories

ORDERING

AIR TIGHT

JA8-TITLE 24
Available combinations indicated by shading in the chart below.

FIXTURE	CCT/CRI [1]	BEAM SPREAD [1]	CONE COLOR	TRIM COLOR	TRIM TYPE [2]	DRIVER [3]	OUTPUT (mA)	Housing Availability [4] C	N	P	R	CP	HOUSING
DL60	**22H** - 2200K, CRI 90+	**15** - 15°	**W** - White	**W** - White	**R** - Round	**T** - Triac/ELV	**200** - 8.5W	✓	✓	✓	✓	✓	**C** - Closed
	27H - 2700K, CRI 90+	**25** - 25°	**B** - Black	**B** - Black	**RF** - Round Flangeless		**275** - 12W	✓	✓	✓	✓	✓	**N** - Open
	30H - 3000K, CRI 90+	**40** - 40°	**S** - Silver	**S** - Silver	**RW** - Round Wet		**350** - 15W	✓	✓			✓	**P** - Pan
	30B - 3000K, CRI 95+	**60** - 60°	**C** - Custom	**C** - Custom	**RFW** - Round Flangeless Wet	**U** - Universal Dimming Driver (Triac, ELV & 0-10V)	**250** - 11W	✓	✓	✓	✓	✓	**R** - Remodel
	30K - 3000K, CRI 80+				**S** - Square		**275** - 12W	✓	✓			✓	**CP** - Chicago Plenum
	30D - 3000K, CRI 90+ (Dim-to-Warm)				**SF** - Square Flangeless		**300** - 12.5W	✓	✓			✓	
					SW - Square Wet		**350** - 15W	✓	✓			✓	
	35H - 3500K, CRI 90+				**SFW** - Square Flangeless Wet		**250** - 11W	✓	✓	✓	✓	✓	
	40H - 4000K, CRI 90+					**Z** - 0-10V	**300** - 12.5W	✓	✓			✓	
							350 - 15W	✓	✓			✓	

NOTES
1. Custom options available. Please consult factory.
2. When “wet” trim is added, the fixtures are Wet Location Rated
3. EM battery backup option available. Please consult factory.
4. Check marks represent Housing/mA availability. All JA-8 Title 24 options are IC-Rated. All other options are Non-IC-Rated. Housing availability chart is for informational purposes only. Do not include in ordering.

ORDERING EXAMPLE:

DL60 - 22H - 15 - W - W - R - T - 275 - P

LISTINGS
Certified to UL standard 1598 and CSA C22.2 No. 250.0-08 for damp locations.
Airtight (AT) certified less than 2 cfm leakage @ 1.57PSI per ASTM E283.

DL60 2in Fixed Downlight Specifications p. 1/4
Custom options available, please consult factory
Product specifications are subject to change
info@lumenture.com **P.** 203.864.3333

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version 20231012

PHOTOMETRICS

LUMEN OUTPUT

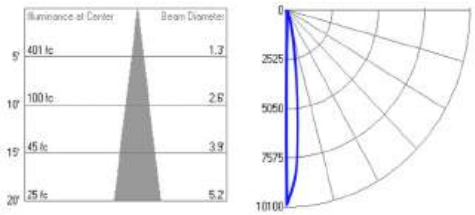
Values fluctuate based on CCT and CRI. To estimate delivered lumen output of various CCT/CRI options, multiply nominal lumens by the multiplier below.

OUTPUT (mA)	WATTAGE	NOMINAL LUMENS
200	8.5W	950
250	11W	1050
275	12W	1150
300	12.5W	1200
350	15W	1450

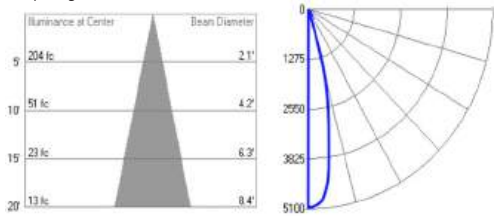
CODE	CCT	CRI	TECHNOLOGY	15°	25°	40°	60°
22H	2200K	90+	Standard	0.65	0.70	0.70	0.65
27H	2700K	90+	Standard	0.75	0.85	0.85	0.80
30H	3000K	90+	Standard	0.80	0.90	0.90	0.85
30B	3000K	95+	Standard	0.75	0.80	0.80	0.75
30K	3000K	80+	Standard	0.95	1.05	1.05	1.00
30D	3000K	90+	Dim-to-Warm	N/A	0.80	0.80	0.75
35H	3500K	90+	Standard	0.85	0.95	0.95	0.90
40H	4000K	90+	Standard	0.85	0.95	0.95	0.90

Lumenture maintains a lumen output tolerance of +/-7.5%
**Dim-to-Warm dims from 3000K to 1800K

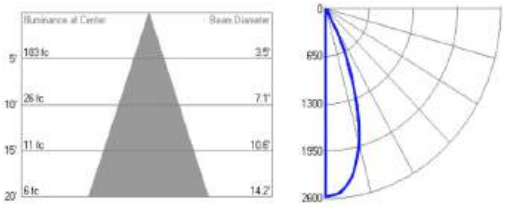
DL60 - 15 Degree
Delivered Light Output: 1037 Lumens
Total Watts @120V: 12;
Lumens Per Watt: 86
Center Beam Candle Power: 10029
Spacing Criteria: 0.5



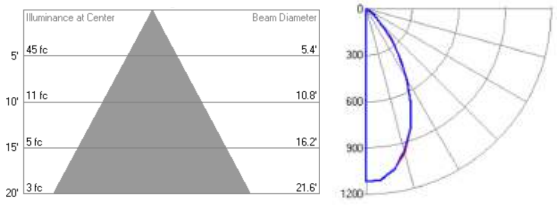
DL60 - 25 Degree
Delivered Light Output: 1173 Lumens
Total Watts @120V: 12;
Lumens Per Watt: 98
Center Beam Candle Power: 5090
Spacing Criteria: 0.6



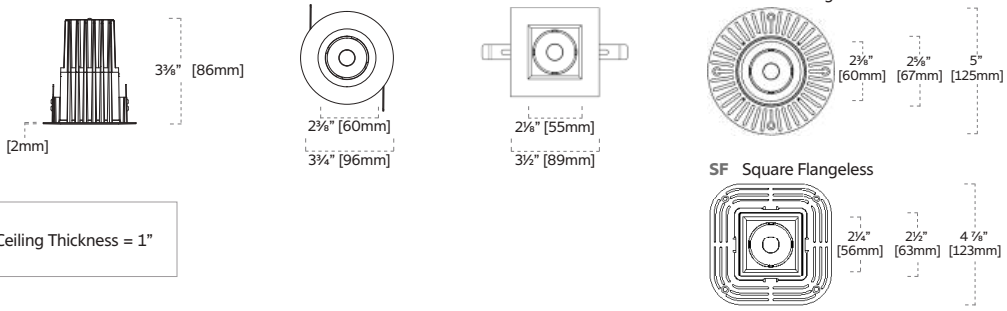
DL60 - 40 Degree
Delivered Light Output: 1179 Lumens
Total Watts @120V: 12;
Lumens Per Watt: 98
Center Beam Candle Power: 2581
Spacing Criteria: 0.8



DL60 - 60 Degree
Delivered Light Output: 1120 Lumens
Total Watts @120V: 12;
Lumens Per Watt: 93
Center Beam Candle Power: 1121
Spacing Criteria: 0.9

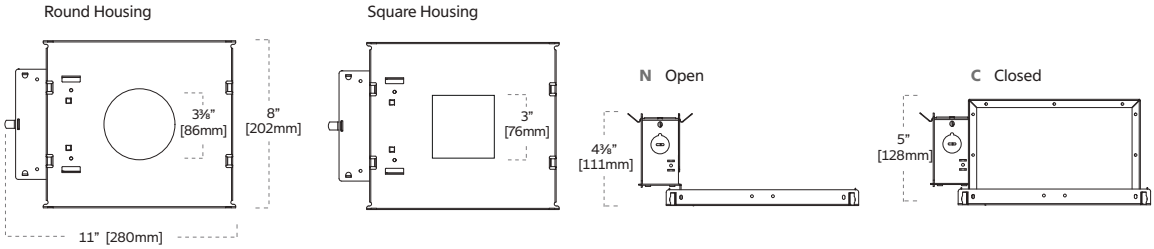


DIMENSIONS

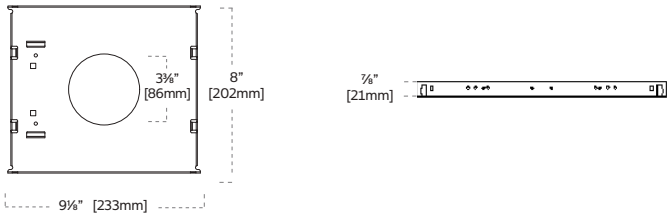


Max Ceiling Thickness = 1"

OPEN AND CLOSED HOUSING DIMENSIONS



PAN HOUSING DIMENSIONS



Supplied with (R) Remodel Housing (Loose Junction Box)

REMODEL DIMENSIONS (Loose Junction Box)

DIMMING

Dimming is standard and allows for smooth illumination below 1% with certain dimmer/driver combinations. The "U" (Universal) driver accepts 120-277V AC Input and is compatible with 0-10V, Triac (forward phase) and ELV (reverse phase) dimmers. The "T" (Triac/ELV) driver is 120V AC Input only and compatible with Triac and ELV dimmers. The "Z" (0-10V) driver accepts 120-277V AC Input and is compatible with 0-10V dimmers. For dimmer compatibility, refer to the Fixture Dimming Compatibility document on our website.

ACCESSORIES

DL-X
Lens Accessories

- **Y** (Yellow)
- **G** (Green)
- **LB** (Light Blue)
- **R** (Red)
- **RO** (Rose)
- **HL** (Black Honeycomb Louver)
- **LS** (Linear Spread)
- **SOL** (Solite)

Field replaceable optics, accessories, and emergency backup options available. Please consult factory.
For wet location, only LS (Linear Spread) and SOL (Solite) films can be added.

Not Used

Not Used

Not Used

Not Used

LUMENTURE®

DLA75 3" ADJUSTABLE DOWNLIGHTS

TYPE:

PROJECT:

With a discreet 3" aperture, knife-edge trim and excellent visual cutoff - Lumenture's DLA75 blends discreetly into any environment. These recessed modules offer 35 degrees of tilt and deliver high lumens without glare. The result is superior brightness and quality from an unobtrusive fixture. DLA75 is available both in remodel with an attached junction box or with optional rough-in housings to fit any construction needs.

DIMMING
Triac, ELV, 0-10V, DALI & LEDcode

WEIGHT
11 oz. (module only)

WATTAGE
6.5W-17W

EFFICACY
up to 1600lm
up to 111lm/W

AC DRIVER INPUT
120-277V

HOUSING
Closed, Open, Pan, Remodel, Chicago Plenum

FINISH
Aluminum module & trim, Powdercoat

ACCESSORIES
Field replaceable optics & accessories

MOVEMENT
35° tilt

ORDERING

FIXTURE	CCT/CRI (1)	BEAM SPREAD (1)	CONE COLOR (1)	TRIM COLOR (1)	TRIM TYPE	DRIVER (2)	OUTPUT (mA) (1)	Housing Availability (3) C	N	P	R	CP	HOUSING/ J-BOX
DLA75	**22H -** 2200K, CRI 90+	**15 -** 15°	**W -** White	**W -** White	**R -** Round	**U -** Universal Dimming Driver (Triac, ELV & 0-10V)	**150 -** 6.5W	✓	✓	✓	✓	✓	**C -** Closed
	27H - 2700K, CRI 90+	**25 -** 25°	**B -** Black	**B -** Black	**RF -** Round Flangeless	**D1 -** EldoLED DALI/LEDcode (0.1% dimming)	**200 -** 8.5W	✓	✓	✓	✓	✓	**N -** Open
	30H - 3000K, CRI 90+	**40 -** 40°	**S -** Silver	**S -** Silver	**S -** Square		**250 -** 11W	✓	✓	✓	✓	✓	**P -** Pan
	30B - 3000K, CRI 95+	**60 -** 60°			**SF -** Square Flangeless	**Z1-** EldoLED 0-10V (0.1% dimming)	**300 -** 12.5W	✓	✓			✓	**R -** Remodel
	30D - 3000K, CRI 90+ (Dim-to-Warm)						**350 -** 15W	✓	✓			✓	**CP -** Chicago Plenum
	35H - 3500K, CRI 90+						**400 -** 17W		✓				
	40H - 4000K, CRI 90+												

NOTES

1. Custom options available. Please consult factory.
2. EM battery backup option available. See page (4).
3. Housing availability chart is for informational purposes only. Do not include in ordering.
* Optional butterfly brackets available. See accessories on page (4).
Butterfly brackets and factory installed brackets are required for acoustical ceiling tile (ACT) ceilings.

KEY

✓ Available, Non-IC-Rated
✓ Available, IC-Rated, Title-24 Certified
✓ Available, IC-Rated
x Not available

ORDERING EXAMPLE:

DLA75 - 22H - 15 - W - W - R - U - 250 - P

LISTINGS

Certified to UL standard 1598 and CSA C22.2 No. 250.0-08 for damp locations.

DLA75 3in Adjustable Downlight Specifications p. 1/4
Custom options available, please consult factory
Product specifications are subject to change
info@lumenture.com **P.** 203.864.3333

LUMENTURE
www.lumenture.com
version 2024229

PHOTOMETRICS

LUMEN OUTPUT

Values fluctuate based on CCT and CRI. To estimate delivered lumen output of various CCT/CRI options, multiply nominal lumens by the multiplier below.

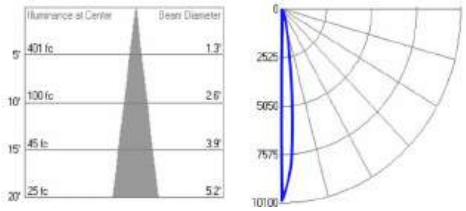
OUTPUT (mA)	WATTAGE	NOMINAL LUMENS
150	6.5W	700
200	8.5W	950
250	11W	1050
300	12.5W	1200
350	15W	1450
400	17W	1600

CODE	CCT	CRI	TECHNOLOGY	15°	25°	40°	60°
22H	2200K	90+	Standard	0.70	0.75	0.75	0.70
27H	2700K	90+	Standard	0.80	0.90	0.90	0.85
30H	3000K	90+	Standard	0.85	0.95	0.95	0.90
30B	3000K	95+	Standard	0.80	0.85	0.85	0.80
30D	3000K	90+	Dim-to-Warm	N/A	0.85	0.85	0.80
35H	3500K	90+	Standard	0.90	1.00	1.00	0.95
40H	4000K	90+	Standard	0.90	1.00	1.00	0.95

Lumenture maintains a lumen output tolerance of +/-7.5%
**Dim-to-Warm dims from 3000K to 1800K

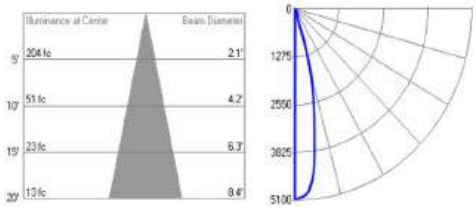
DLA75 - 15 Degree

Delivered Light Output: 1037 Lumens
Total Watts @120V: 12.5;
Lumens Per Watt: 86
Center Beam Candle Power: 10029
Spacing Criteria: 0.5



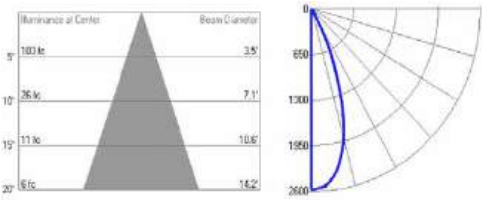
DLA75 - 25 Degree

Delivered Light Output: 1173 Lumens
Total Watts @120V: 12.5;
Lumens Per Watt: 98
Center Beam Candle Power: 5090
Spacing Criteria: 0.6



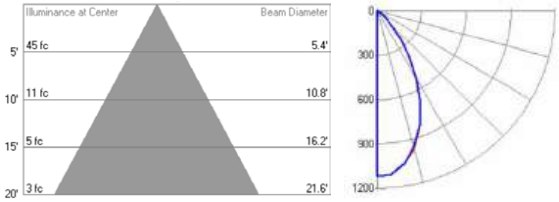
DLA75 - 40 Degree

Delivered Light Output: 1179 Lumens
Total Watts @120V: 12.5;
Lumens Per Watt: 98
Center Beam Candle Power: 2581
Spacing Criteria: 0.8



DLA75 - 60 Degree

Delivered Light Output: 1120 Lumens
Total Watts @120V: 12.5
Lumens Per Watt: 93
Center Beam Candle Power: 1121
Spacing Criteria: 0.9



DLA75 3in Adjustable Downlight Specifications p. 2/4
Custom options available, please consult factory
Product specifications are subject to change
info@lumenture.com **P.** 203.864.3333

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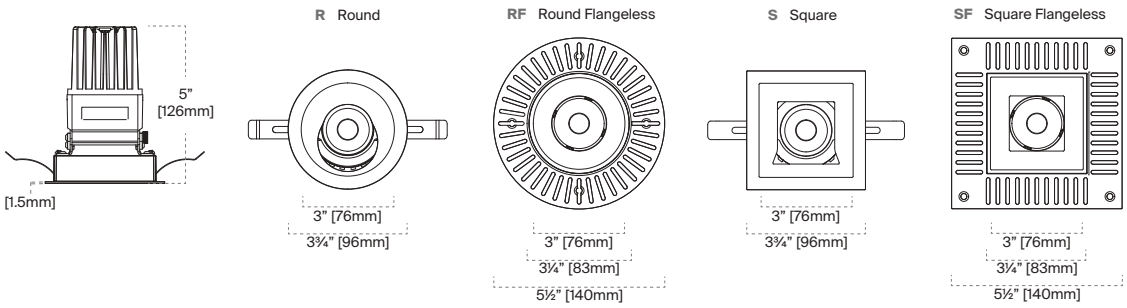
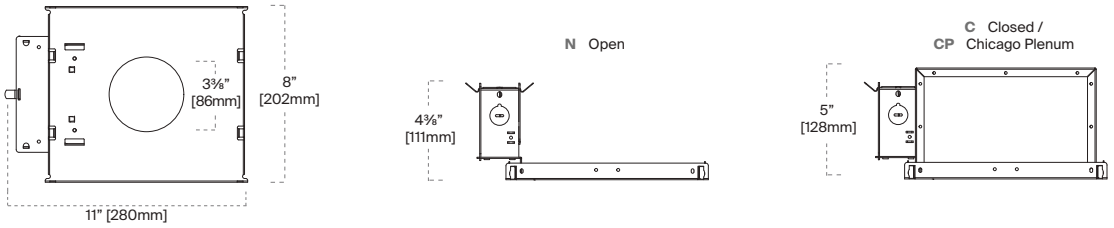
DLA75 3” ADJUSTABLE DOWNLIGHTS

DIMENSIONS

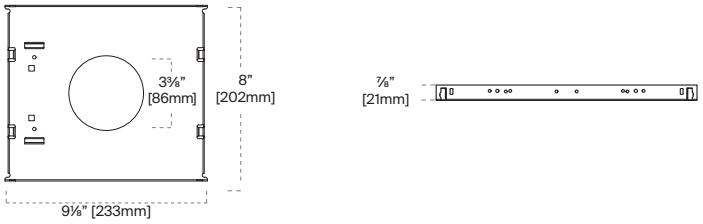
Max Ceiling Thickness = 1”
Please consult factory for thicker ceiling options



OPEN (N), CLOSED (C), AND CHICAGO PLENUM (CP) HOUSING DIMENSIONS



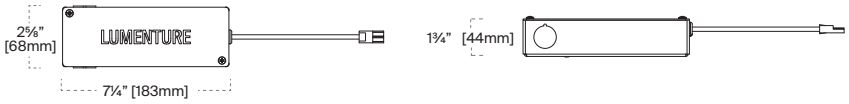
PAN (P) HOUSING DIMENSIONS



Supplied with (2) 24” adjustable hanger bars with nails. Butterfly brackets for C-Channel available upon request.

Supplied with (R) Remodel Housing (Loose Junction Box)

REMODEL (R) DIMENSIONS (Loose Junction Box)



DLA75 3in Adjustable Downlight Specifications p. 3/4
Custom options available, please consult factory
Product specifications are subject to change
info@lumenture.com **P.** 203.864.3333

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version 2024229

DIMMING

Dimming is standard and allows for smooth illumination below 0.1% with certain dimmer/driver combinations. The "U" (Universal) driver dims to 1%, accepts 120-277V AC Input and is compatible with 0-10V, Triac (forward phase) and ELV (reverse phase) dimmers. The "Z1" (0-10V) driver dims to 0.1%, accepts 120-277V AC Input and is compatible with 0-10V dimmers. The "D1" (DALI) driver dims to 0.1%, accepts 120-277V AC Input and is compatible with DALI dimmers. For dimmer compatibility, refer to the Dimming Compatibility document on our website.

ACCESSORIES

LENS ACCESSORIES

- **Lens-Yellow-38**
- **Lens-Green-38**
- **Lens-Blue-38** (Light Blue)
- **Lens-Red-38**
- **Lens-Rose-38**
- **HL-38** (Black Honeycomb Louver)
- **LS-38** (Linear Spread)
- **SOL-38** (Solite)

NOTES
Field replaceable optics and accessories available. Please consult factory.
Lens accessories can not be combined with any Wet Trim.

BUTTERFLY BRACKET KIT
Contains two (2) butterfly brackets and two (2) wing nuts
Butterfly brackets and factory installed brackets are required for acoustical ceiling tile (ACT) ceilings.

EMERGENCY BACKUP

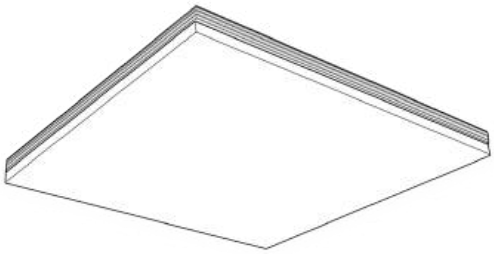
	LEM08: Lithonia LEM08-A-06
Output Power:	8W (initial)
Emergency Operation:	90 minutes
Battery Type:	nickel-cadmium
Input Voltage:	120-277 VAC
Output Voltage:	20-50 VDC
Class 2 Output:	Yes
Diagnostic Type:	Manual
Title-20 Compliant:	Yes
Life Expectancy:	7-10 years
Dimensions:	13.4 x 2.4 x 1.6"
Mounting Type:	Remote Inline (metal conduit)
Maximum Distance:	25 ft
Weight:	2.8 lbs
Cost:	$$

NOTES
Access panel is required for service of remote emergency backup battery.

TYPE	PROJECT NAME

nanofloat

NanoFloat Square



The NanoFloat Square, available in multiple dimensions and with a minimum depth of 0.81" is an elegant, edgelit lighting solution for any space, from corporate to commercial to hospitality. In addition to size options, a broad range of kelvin temperatures and 80+ or 90+ CRI are available, and the opal PMMA diffusor ensures uniform, even lighting free of LED imaging. Multiple dimming options are available.

MADE IN THE USA

CONFIGURATION

SAMPLE ORDER CODE:
NFL-SQ-SU-M-S-40-9-MO-4-3x3-DA-U-S-IP-EC

CATALOG NUMBER	MOUNTING	MOUNTING OPTIONS	LED TYPE	CCT	CRI	OUTPUT/WATTAGE (Initial output by linear foot. See lumen calculators for adjusted output (pages 2-3))
NFL-SQ-	SU SURFACE	C SURFACE CLIP M MAGNETIC	S STATIC	27 2700K 30 3000K 35 3500K 40 4000K 50 5000K	8 80+ 9 90+ Leave blank if color-changing	SO STANDARD 2.8 W/FT. MO MEDIUM 4.5 W/FT. HO HIGH 6.1 W/FT.
	P RIGID STEM	48 SHORT 48" 96 LONG 96"				
	AC CABLE	48 SHORT 48" 96 LONG 96"	T TUNABLE WHITE	27-40 2700-4000K others available		
	R RECESSED	**DRYWALL** TM TRIMLESS MUD-IN **T-GRID** TC T-GRID CLIP	C3 RGB			
			C4 RGBW	40 RGBW, 4000K WHITE		

ILLUMINATED SIDES	SIZE (in.)	DIMMING	VOLTAGE	PROFILE SIZE	OPTIONS
2 2 SIDES 4 4 SIDES	**LENGTH** x **WIDTH**	10 0-10V (for Static only) DX DMX DA DALI 10X DUAL 0-10V (for Tunable only. Apply 0.5 light loss factor for tuning algorithm.) WD WARM-DIM (for Tunable only) EV PHASE (for Static only) POE PoE LAT LUTRON ATHENA (Static and Tunable only) 0 OTHER (Contact manufacturer for more options)	U 120V-277V 2 347V 3 220V, 50HZ	S SLIM FRAME P PLUS FRAME IP IP67	EC EMERGENCY CIRCUIT EI REMOTE EMERGENCY INVERTER CS CUSTOM SHIELD (See diagram (page 7) for details.) AEB or AEW ARCHITECTURAL ENCLOSURE (Available with surface magnetic, rigid stem, or aircraft table mounting. Available in black (AEB) or white (AEW) finish. Contact factory for more finish options.) AEB-DL or AEW-DL ARCHITECTURAL ENCLOSURE WITH DROPPED LENS (Available with surface magnetic, rigid stem, or aircraft table mounting. Available in black (AEB) or white (AEW) finish. Contact factory for more finish options.)

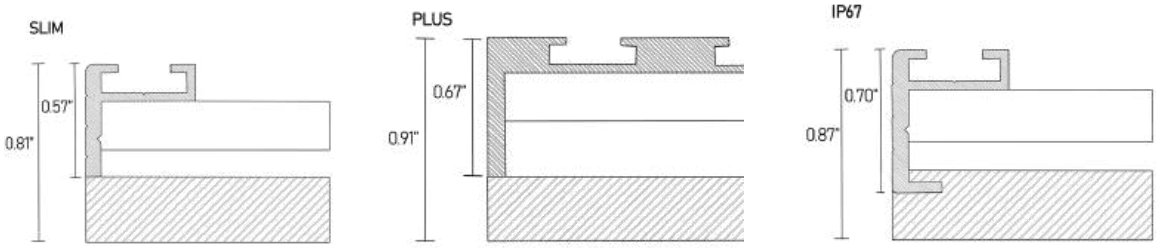
nanometer lighting 57-10 49th place, maspeth, ny, 11378 | 718.497.0394 | nanoltg.com

10/23/2023

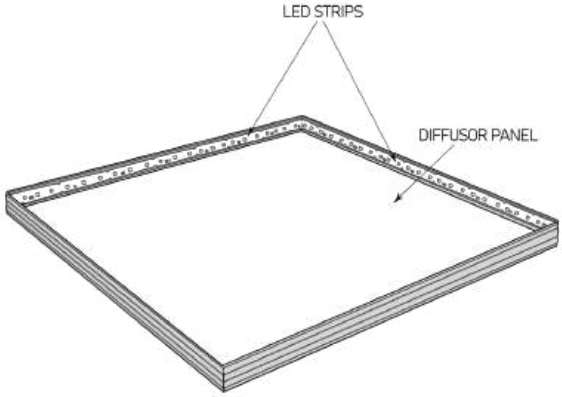
TECHNICAL SPECS

Weight	5 lbs / sq ft
Luminous Output	80-1400 LM/sq ft
Input Voltage	120 to 277VAC
Min/Max Operating Temperature	-10°F to 110°F

PROFILE DEPTH



INTERIOR VIEW



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10/23/2023

DELIVERED LUMENS BY SIZE

STANDARD OUTPUT (2.8 W)

2.8	12								24							
	2 Sides				All Sides				2 Sides				All Sides			
Length	W/Fixture	LM/Fixture	W/SF	LM/SF	W/Fixture	Lm/Fixture	W/SF	LM/SF	W/Fixture	Lm/Fixture	W/SF	LM/SF	W/Fixture	LM/Fixture	W/SF	LM/SF
12	5.6	323	5.6	323	11.2	646	11	646	5.6	323	3	162	16.8	968	8	484
24	11.2	646	5.6	323	16.8	968	8	484	11.2	646	3	162	22.4	1291	6	323
36	16.8	968	5.6	323	22.4	1291	7	431	16.8	968	3	162	28	1613	5	269
48	48	2765	12	1482	28	1613	7	404	22.4	1291	3	162	33.6	1936	4	242
60	28	1613	5.6	323	33.6	1936	7	388	28	1613	3	162	39.2	2258	4	226
72	33.6	1936	5.6	323	39.2	2258	7	377	33.6	1936	3	162	44.8	2581	4	216
84	39.2	2258	5.6	323	44.8	2581	6	369	39.2	2258	3	162	50.4	2904	4	208
96	44.8	2581	5.6	323	50.4	2904	6	363	44.8	2581	3	162	56	3226	4	202
108	50.4	2904	5.6	323	56	3226	6	359	50.4	2904	3	162	61.6	3549	3	198
120	56	3226	5.6	323	61.6	3549	6	355								

	36								48							
	2 Sides				All Sides				2 Sides				All Sides			
Length	W/Fixture	LM/Fixture	W/SF	LM/SF	W/Fixture	LM/Fixture	W/SF	LM/SF	W/Fixture	LM/Fixture	W/SF	LM/SF	W/Fixture	LM/Fixture	W/SF	LM/SF
12	5.6	323	2	108	22.4	1291	7	431	5.6	323	1	81	25.01333	1441	6	361
24	11.2	646	2	108	28	1613	5	269	11.2	646	1	81	27.62667	1592	3	199
36	16.8	968	2	108	33.6	1936	4	216	16.8	968	1	81	30.24	1742	3	146
48	22.4	1291	2	108	39.2	2258	3	189	22.4	1291	1	81	44.8	2581	3	162
60	28	1613	2	108	44.8	2581	3	173	28	1613	1	81	35.46667	2043	2	103
72	33.6	1936	2	108	50.4	2904	3	162	33.6	1936	1	81	38.08	2194	2	92
84	39.2	2258	2	108	56	3226	3	154	39.2	2258	1	81	40.69333	2344	1	180
96	44.8	2581	2	108	61.6	3549	3	148								

MEDIUM OUTPUT (4.5 W)

4.5	12								24							
	2 Sides				All Sides				2 Sides				All Sides			
Length	W/Fixture	LM/Fixture	W/SF	LM/SF	W/Fixture	Lm/Fixture	W/SF	LM/SF	W/Fixture	Lm/Fixture	W/SF	LM/SF	W/Fixture	LM/Fixture	W/SF	LM/SF
12	9	519	9	519	18	1037	18	1037	9	519	5	260	27	1556	14	778
24	18	1037	9	519	27	1556	14	778	18	1037	5	260	36	2074	9	519
36	27	1556	9	519	36	2074	12	692	27	1556	5	260	45	2592	8	432
48	48	2765	12	922	45	2592	11	648	36	2074	5	260	54	3111	7	389
60	45	2592	9	519	54	3111	11	623	45	2592	5	260	63	3629	6	363
72	54	3111	9	519	63	3629	11	605	54	3111	5	260	72	4148	6	346
84	63	3629	9	519	72	4148	10	593	63	3629	5	260	81	4666	6	334
96	72	4148	9	519	81	4666	10	584	72	4148	5	260	90	5184	6	324
108	81	4666	9	519	90	5184	10	576	81	4666	5	260	99	5703	6	317
120	90	5184	9	519	99	5703	10	571								

	36								48							
	2 Sides				All Sides				2 Sides				All Sides			
Length	W/Fixture	LM/Fixture	W/SF	LM/SF	W/Fixture	LM/Fixture	W/SF	LM/SF	W/Fixture	LM/Fixture	W/SF	LM/SF	W/Fixture	LM/Fixture	W/SF	LM/SF
12	9	519	3	173	36	2074	12	692	9	519	2	130	42.75	2463	11	616
24	18	1037	3	173	45	2592	8	432	18	1037	2	130	49.5	2852	6	357
36	27	1556	3	173	54	3111	6	346	27	1556	2	130	56.25	3240	5	270
48	36	2074	3	173	63	3629	5	303	36	2074	2	130	72	4148	5	260
60	45	2592	3	173	72	4148	5	277	45	2592	2	130	69.75	4018	3	201
72	54	3111	3	173	81	4666	5	260	54	3111	2	130	76.5	4407	3	184
84	63	3629	3	173	90	5184	4	247	63	3629	2	130	83.25	4796	3	229
96	72	4148	3	173	99	5703	4	238								

DELIVERED LUMENS BY SIZE

HIGH OUTPUT (6.1 W)

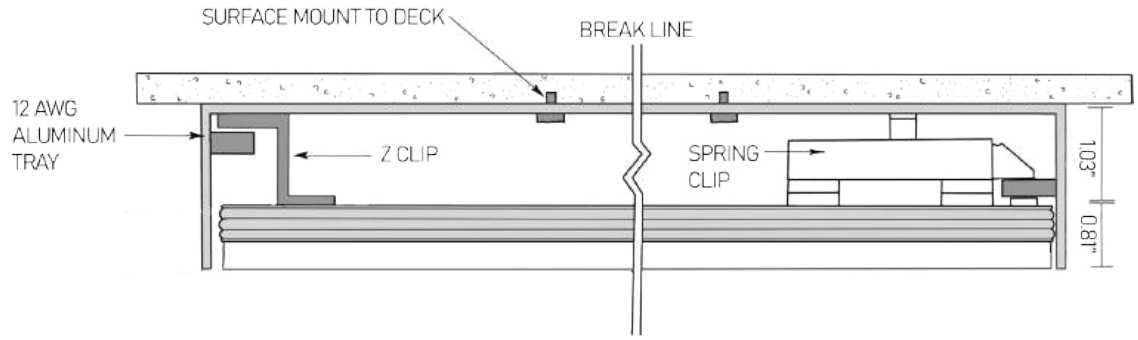
Length	6.1	12								24							
		2 Sides				All Sides				2 Sides				All Sides			
		W/Fixture	LM/Fixture	W/SF	LM/SF	W/Fixture	Lm/Fixture	W/SF	LM/SF	W/Fixture	LM/Fixture	W/SF	LM/SF	W/Fixture	LM/Fixture	W/SF	LM/SF
	12	12.2	703	12.2	703	24.4	1406	24	1406	12.2	703	6	352	36.6	2109	18	1055
	24	24.4	1406	12.2	703	36.6	2109	18	1055	24.4	1406	6	352	48.8	2811	12	703
	36	36.6	2109	12.2	703	48.8	2811	16	937	36.6	2109	6	352	61	3514	10	586
	48	48	2765	12	680	61	3514	15	879	48.8	2811	6	352	73.2	4217	9	528
	60	61	3514	12.2	703	73.2	4217	15	844	61	3514	6	352	85.4	4920	9	492
	72	73.2	4217	12.2	703	85.4	4920	14	820	73.2	4217	6	352	97.6	5622	8	469
	84	85.4	4920	12.2	703	97.6	5622	14	804	85.4	4920	6	352	109.8	6325	8	452
	96	97.6	5622	12.2	703	109.8	6325	14	791	97.6	5622	6	352	122	7028	8	440
	108	109.8	6325	12.2	703	122	7028	14	781	109.8	6325	6	352	134.2	7730	7	430
	120	122	7028	12.2	703	134.2	7730	13	773								

Length	36								48							
	2 Sides				All Sides				2 Sides				All Sides			
	W/Fixture	LM/Fixture	W/SF	LM/SF	W/Fixture	LM/Fixture	W/SF	LM/SF	W/Fixture	LM/Fixture	W/SF	LM/SF	W/Fixture	LM/Fixture	W/SF	LM/SF
12	12.2	703	4	235	48.8	2811	16	937	12.2	703	3	176	61.20333	3526	15	882
24	24.4	1406	4	235	61	3514	10	586	24.4	1406	3	176	73.60667	4240	9	530
36	36.6	2109	4	235	73.2	4217	8	469	36.6	2109	3	176	86.01	4955	7	413
48	48.8	2811	4	235	85.4	4920	7	410	48.8	2811	3	176	97.6	5622	6	352
60	61	3514	4	235	97.6	5622	7	375	61	3514	3	176	110.8167	6384	6	320
72	73.2	4217	4	235	109.8	6325	6	352	73.2	4217	3	176	123.22	7098	5	296
84	85.4	4920	4	235	122	7028	6	335	85.4	4920	3	176	135.6233	7812	5	275
96	97.6	5622	4	235	134.2	7730	6	323								

MOUNTING OPTIONS

SURFACE

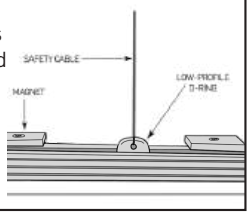
SURFACE CLIP

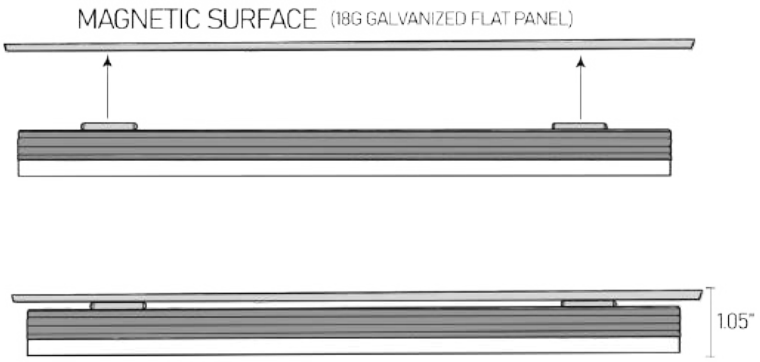


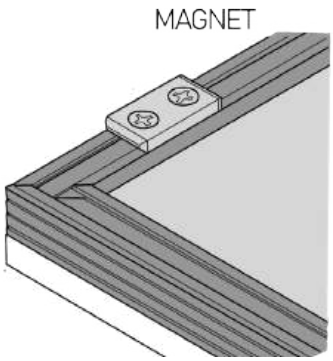
MOUNTING OPTIONS, CONT'D

MAGNETIC

Magnetic mounted NanoFloat fixtures are fitted with an 18-gauge galvanized steel backplate and a low-profile D-ring and safety cable.

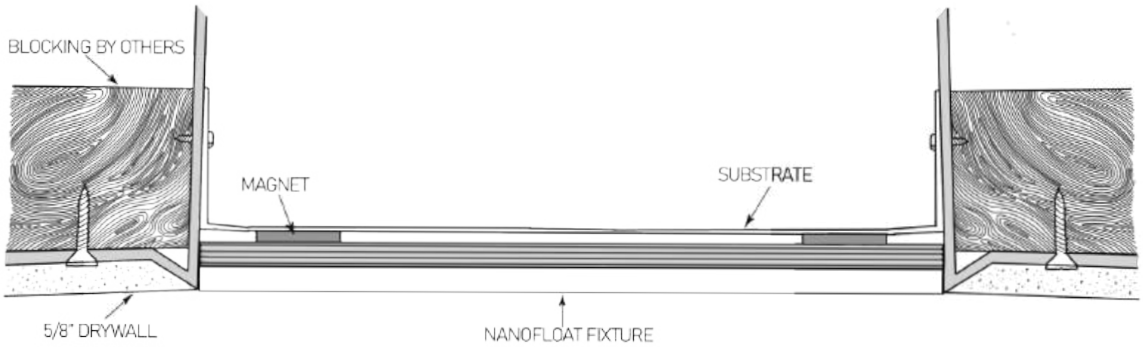






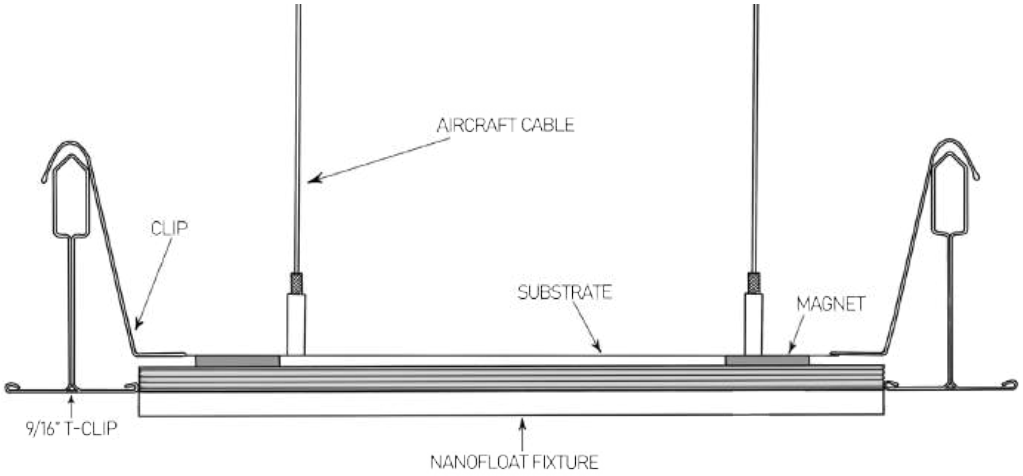
RECESSED

TRIMLESS MUD-IN

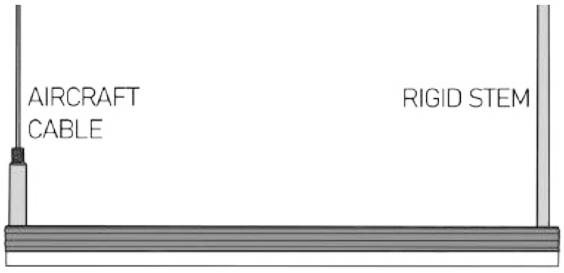


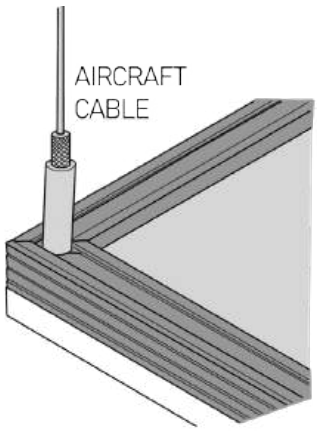
MOUNTING OPTIONS, CONT'D

9/16" T-GRID CLIP



PENDANT (RIGID STEM OR AIRCRAFT CABLE



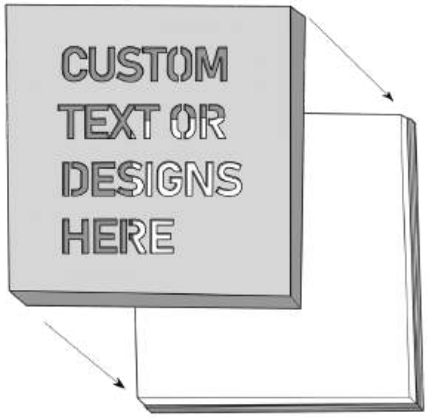


OPTIONAL ADDITIONS

CUSTOM SHIELD

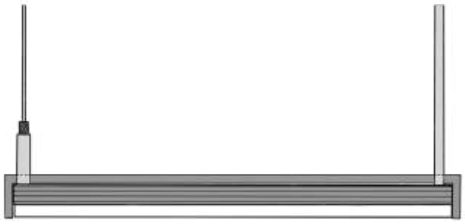
The Custom Shield is a bespoke metal shield crafted for the NanoFloat, and includes the option for custom etched text or graphics, making it perfect for unique, backlit signage. It fits snugly and securely over the fixture, and can be removed for easy maintenance.

Please attach image details and specifications.

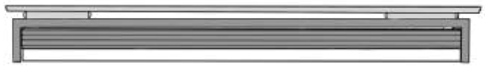


ARCHITECTURAL ENCLOSURE

The Architectural Enclosure, shown here with a pendant mount sample, provides a seamless exterior for the NanoFloat fixture. It is available with Rigid Stem, Adjustable Aircraft, or Surface Magnetic mounting options. The Dropped Lens Architectural Enclosure does not obstruct the side of the PMMA.



PENDANT/AAC MOUNTING



MAGNETIC MOUNTING

ARCHITECTURAL ENCLOSURE WITH DROPPED LENS

PENDANT/AAC MOUNTING

MAGNETIC MOUNTING

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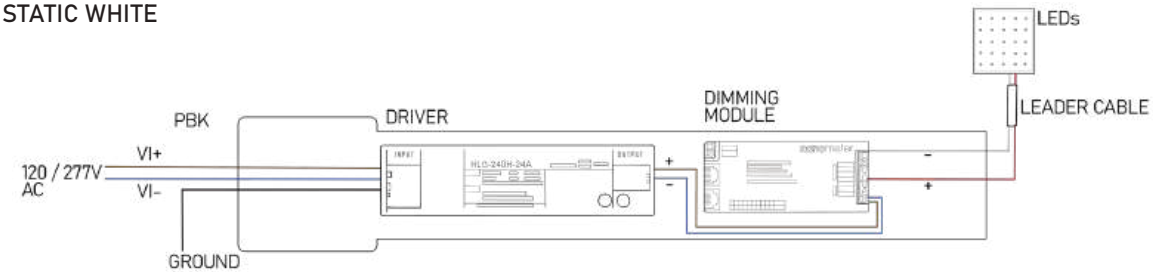
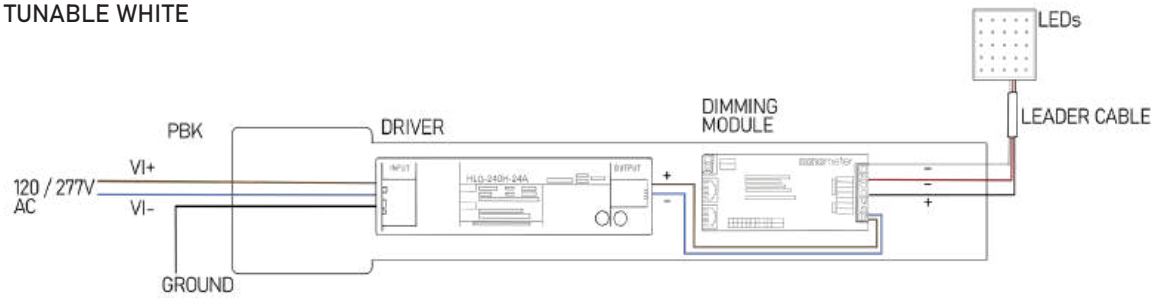
10/23/2023

WIRING DIAGRAMS

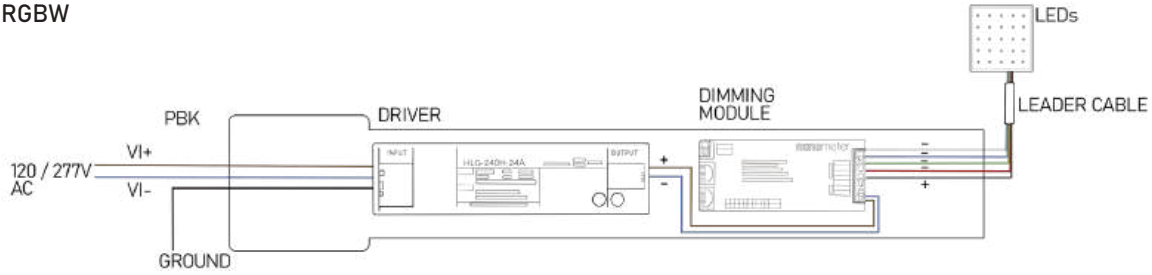
STATIC WHITE



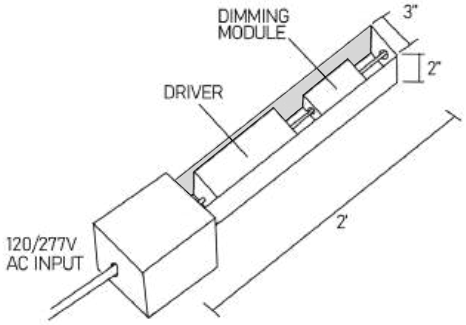
TUNABLE WHITE



RGBW



POWERBOX DIAGRAM



Wire Size (AWG)	Distance (ft.)
18	25
14	50
10	100

Data based on a Class 2 load.

Provided standard 10' 18 AWG leader.
Driver can be remoted at various maximum distance.
Distance will vary with load; please verify before release.

Learn more about the NanoFloat product family at nanoltg.com.

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10/23/2023

TAIWAN EXCELLENCE 2011

SELV IP65 IP67 Type HL

Features

- Constant Voltage + Constant Current mode output
- Metal housing with class I design
- Built-in active PFC function
- Class 2 power unit
- IP67 / IP65 rating for indoor or outdoor installations
- Function options: output adjustable via potentiometer; 3 in 1 dimming; Timer dimming
- Typical lifetime > 62000 hours
- 7 years warranty

Applications

- LED street lighting
- LED high-bay lighting
- Parking space lighting
- LED fishing lamp
- LED greenhouse lighting
- Type "HL" for use in Class I , Division 2 hazardous (Classified) location.

Description

HLG-60H series is a 60W AC/DC LED driver featuring the dual mode constant voltage and constant current output. HLG-60H operates from 90 ~ 305VAC and offers models with different rated voltage ranging between 15V and 54V. Thanks to the high efficiency up to 90.5%, with the fanless design, the entire series is able to operate for -40℃ ~ +80℃ case temperature under free air convection. The design of metal housing and IP67/IP65 ingress protection level allows this series to fit both indoor and outdoor applications. HLG-60H is equipped with various function options, such as dimming methodologies, so as to provide the optimal design flexibility for LED lighting system.

Model Encoding

HLG - 60H - 42 A

- A — Function options
- 42 — Rated output voltage (15V/20V/24V/30V/36V/42V/48V/54V)
- 60H — Rated wattage
- HLG — Series name

Type	IP Level	Function	Note
Blank	IP67	Io and Vo fixed	In Stock
A	IP65	Io and Vo adjustable through built-in potentiometer	In Stock
B	IP67	3 in 1 dimming function (1~10VDC, 10V PWM signal and resistance)	In Stock
AB	IP65	Io and Vo adjustable through built-in potentiometer & 3 in 1 dimming function (1~10Vdc, 10V PWM signal and resistance)	In Stock
D	IP67	Timer dimming function, contact MEAN WELL for details(safety pending).	By request

SPECIFICATION

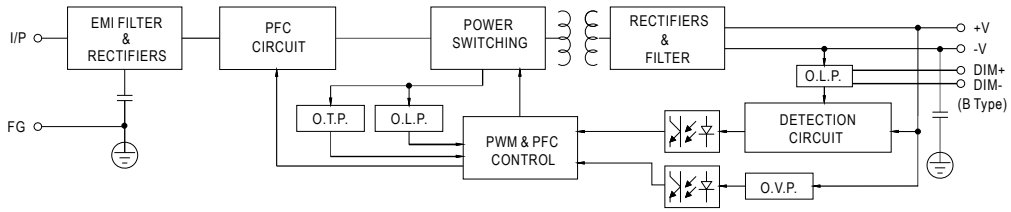
MODEL		HLG-60H-15□	HLG-60H-20□	HLG-60H-24□	HLG-60H-30□	HLG-60H-36□	HLG-60H-42□	HLG-60H-48□	HLG-60H-54□
OUTPUT	DC VOLTAGE	15V	20V	24V	30V	36V	42V	48V	54V
	CONSTANT CURRENT REGION Note.4	9 ~ 15V	12 ~ 20V	14.4 ~ 24V	18 ~ 30V	21.6 ~ 36V	25.2 ~ 42V	28.8 ~ 48V	32.4 ~ 54V
	RATED CURRENT	4A	3A	2.5A	2A	1.7A	1.45A	1.3A	1.15A
	RATED POWER	60W	60W	60W	60W	61.2W	60.9W	62.4W	62.1W
	RIPPLE & NOISE (max.) Note.2	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	300mVp-p	300mVp-p	300mVp-p
	VOLTAGE ADJ. RANGE	Adjustable for A/AB-Type only (via built-in potentiometer)							
		13.5 ~ 17V	17 ~ 22V	22 ~ 27V	27 ~ 33V	33 ~ 40V	40 ~ 46V	44 ~ 53V	49 ~ 58V
	CURRENT ADJ. RANGE	Adjustable for A/AB-Type only (via built-in potentiometer)							
		2.4 ~ 4A	1.8 ~ 3A	1.5 ~ 2.5A	1.2 ~ 2A	1 ~ 1.7A	0.87 ~ 1.45A	0.78 ~ 1.3A	0.69 ~ 1.15A
	VOLTAGE TOLERANCE Note.3	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.5%	±1.0%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	SETUP, RISE TIME Note.6	500ms,80ms/115VAC 500ms,80ms/230VAC							
	HOLD UP TIME (Typ.)	16ms / 115VAC, 230VAC							
INPUT	VOLTAGE RANGE Note.5	90 ~ 305VAC 127 ~ 431VDC (Please refer to "STATIC CHARACTERISTIC" section)							
	FREQUENCY RANGE	47 ~ 63Hz							
	POWER FACTOR (Typ.)	PF≧0.98/115VAC, PF≧0.95/230VAC, PF≧0.92/277VAC @ full load (Please refer to "POWER FACTOR (PF) CHARACTERISTIC" section)							
	TOTAL HARMONIC DISTORTION	THD< 20% (@ load≧60% / 115VAC,230VAC; @ load≧75% / 277VAC) (Please refer to "TOTAL HARMONIC DISTORTION (THD)" section)							
	EFFICIENCY (Typ.)	87.5%	89%	89.5%	90%	90%	90%	90.5%	90.5%
	AC CURRENT (Typ.)	0.64A / 115VAC 0.32A / 230VAC 0.3A / 277VAC							
	INRUSH CURRENT(Typ.)	COLD START 55A(t_{width}=265μs measured at 50% I_{peak}) at 230VAC; Per NEMA 410							
	MAX. No. of PSUs on 16A CIRCUIT BREAKER	9 units (circuit breaker of type B) / 16 units (circuit breaker of type C) at 230VAC							
	LEAKAGE CURRENT	<0.75mA / 277VAC							
PROTECTION	OVER CURRENT Note.4	95 ~ 108%							
		Constant current limiting, recovers automatically after fault condition is removed							
	SHORT CIRCUIT	Hiccup mode, recovers automatically after fault condition is removed							
	OVER VOLTAGE	18 ~ 24V	23 ~ 30V	28 ~ 35V	35 ~ 43V	41 ~ 49V	48 ~ 58V	54 ~ 65V	59 ~ 68V
		Shut down o/p voltage, re-power on to recover							
	OVER TEMPERATURE	Shut down o/p voltage, re-power on to recover							
ENVIRONMENT	WORKING TEMP.	Tcase= -40 ~ +80℃ (Please refer to "OUTPUT LOAD vs TEMPERATURE" section)							
	MAX. CASE TEMP.	Tcase= +80℃							
	WORKING HUMIDITY	20 ~ 95% RH non-condensing							
	STORAGE TEMP., HUMIDITY	-40 ~ +80℃, 10 ~ 95% RH							
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 60℃)							
	VIBRATION	10 ~ 500Hz, 5G 12min./1cycle, period for 72min. each along X, Y, Z axes							
SAFETY & EMC	SAFETY STANDARDS Note.8	UL8750(type"HL"), CSA C22.2 No. 250.0-08, EN/AS/NZS 61347-1,EN/AS/NZS 61347-2-13 independent,GB19510.1,GB19510.14,EAC TP TC 004, IP65 or IP67 approved ;optional models for J61347-1, J61347-2-13 ; design refer to UL60950-1, TUV EN60950-1, EN60335-1							
	WITHSTAND VOLTAGE	I/P-O/P:3.75KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC							
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH							
	EMC EMISSION Note.8	Compliance to EN55015, EN61000-3-2 Class C (@ load≧60%) ; EN61000-3-3,GB17743 and GB17625.1, EAC TP TC 020							
	EMC IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11; EN61547, light industry level (surge immunity Line-Earth 4KV, Line-Line 2KV), EAC TP TC 020							
OTHERS	MTBF	1132K hrs min. Telcordia SR-332 (Bellcore) ; 338K hrs min. MIL-HDBK-217F (25℃)							
	DIMENSION	171*61.5*36.8mm (L*W*H)							
	PACKING	0.73Kg; 20pcs/15.6Kg/0.9CUFT							

NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated current and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Please refer to "DRIVING METHODS OF LED MODULE".
5. De-rating may be needed under low input voltages. Please refer to “STATIC CHARACTERISTIC” sections for details.
6. Length of set up time is measured at first cold start. Turning ON/OFF the driver may lead to increase of the set up time.
7. The driver is considered as a component that will be operated in combination with final equipment. Since EMC performance will be affected by the complete installation, the final equipment manufacturers must re-qualify EMC Directive on the complete installation again.
8. To fulfill requirements of the latest ErP regulation for lighting fixtures, this LED driver can only be used behind a switch without permanently connected to the mains.
9. This series meets the typical life expectancy of >62,000 hours of operation when Tcase, particularly (tc) point (or TMP, per DLC), is about 70℃ or less.
10. Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com.
11. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).

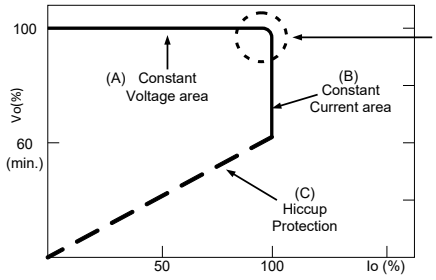
■ BLOCK DIAGRAM

Fosc : 100KHz



■ DRIVING METHODS OF LED MODULE

※ This series is able to work in either Constant Current mode (a direct drive way) or Constant Voltage mode (usually through additional DC/DC driver) to drive the LEDs.

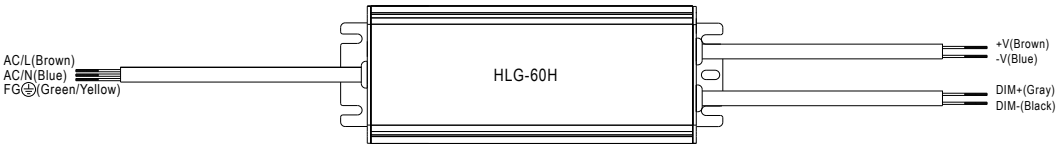


Typical output current normalized by rated current (%)

In the constant current region, the highest voltage at the output of the driver depends on the configuration of the end systems.

Should there be any compatibility issues, please contact MEAN WELL.

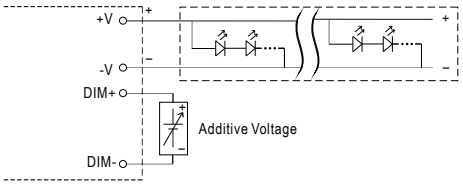
■ DIMMING OPERATION



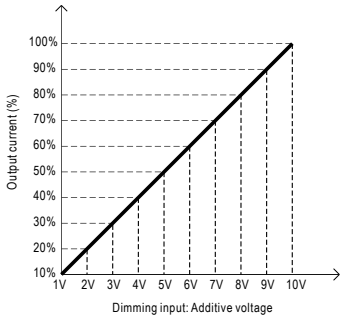
※ **3 in 1 dimming function (for B/AB-Type)**

- Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 1 ~ 10VDC, or 10V PWM signal or resistance.
- Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers.
- Dimming source current from power supply: 100μA (typ.)

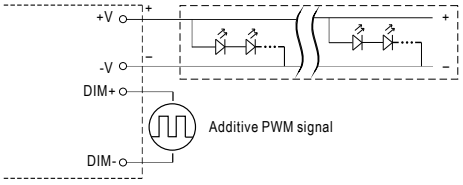
◎ Applying additive 1 ~ 10VDC



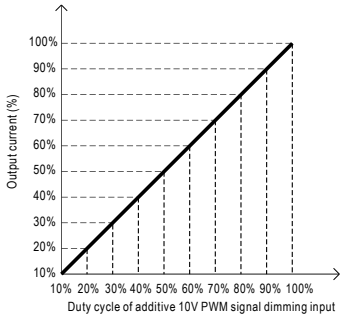
"DO NOT connect "DIM- to -V"



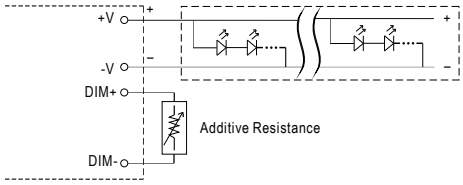
◎ Applying additive 10V PWM signal (frequency range 100Hz ~ 3KHz):



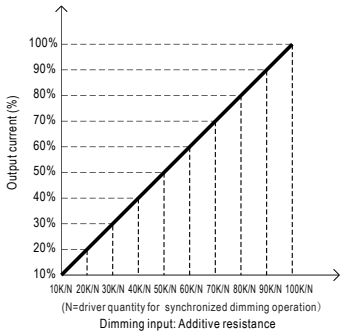
"DO NOT connect "DIM- to -V"



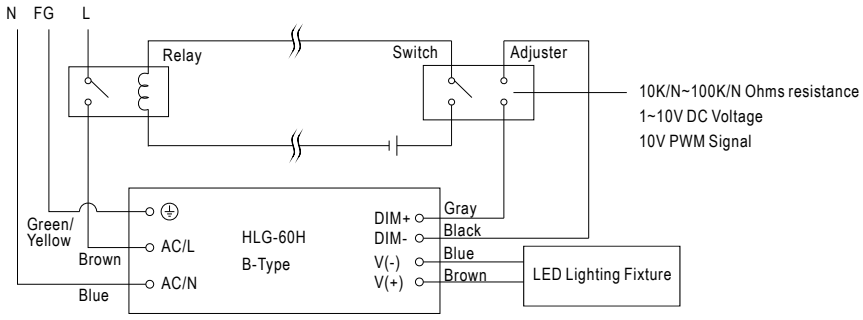
◎ Applying additive resistance:



"DO NOT connect "DIM- to -V"

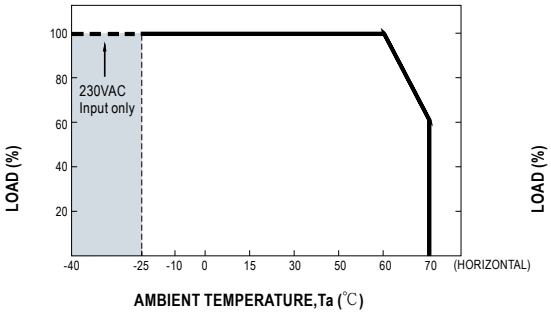


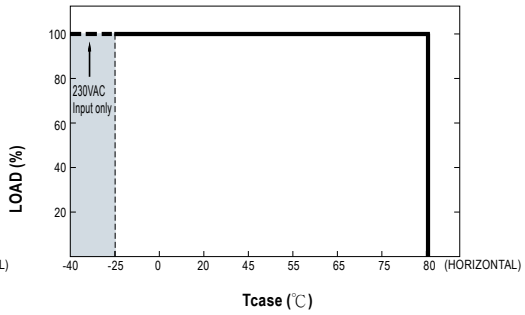
Note: In the case of turning the lighting fixture down to 0% brightness, please refer to the configuration as follow, or please contact MEAN WELL for other options.



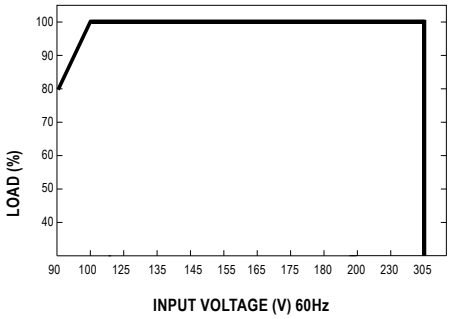
Using a switch and relay can turn ON/OFF the lighting fixture.

■ OUTPUT LOAD vs TEMPERATURE(Note.10)





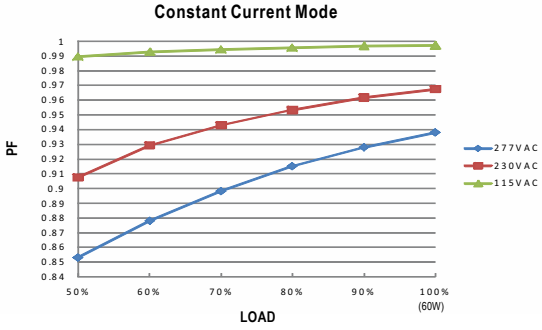
■ STATIC CHARACTERISTICS



※ De-rating is needed under low input voltage.

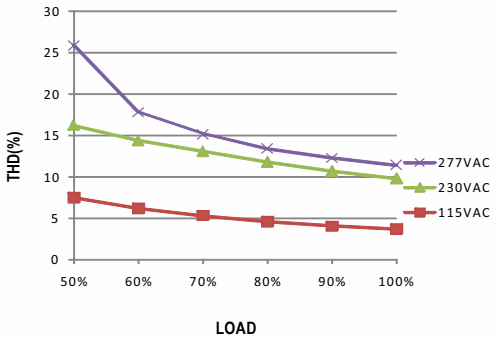
■ POWER FACTOR(PF) CHARACTERISTIC

※Tcase at 70℃



■ TOTAL HARMONIC DISTORTION (THD)

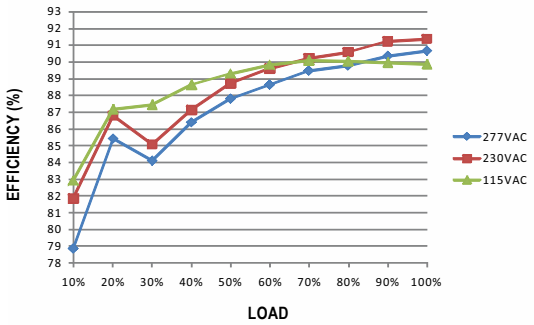
※ 48V Model, Tcase at 70℃



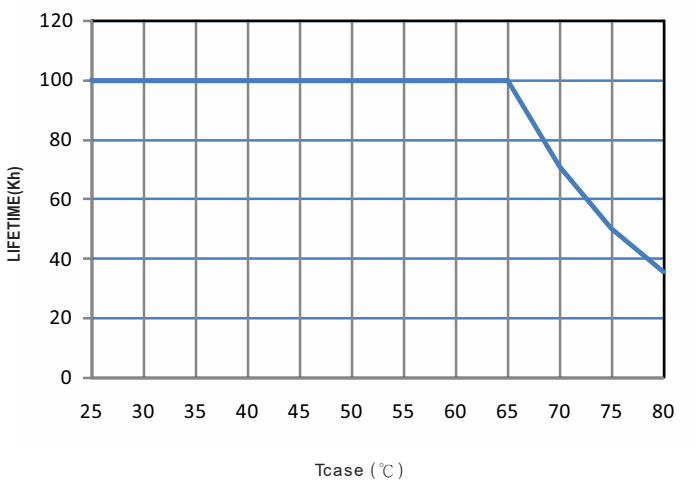
■ EFFICIENCY vs LOAD

HLG-60H series possess superior working efficiency that up to 90.5% can be reached in field applications.

※ 48V Model, Tcase at 70℃



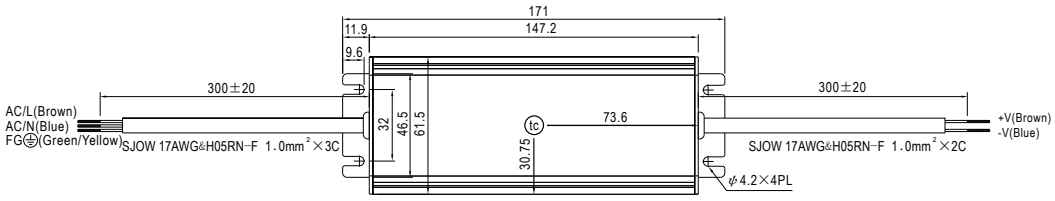
LIFETIME


120
100
80
60
40
20
0
LIFETIME(Kh)
25 30 35 40 45 50 55 60 65 70 75 80
Tcase (℃)

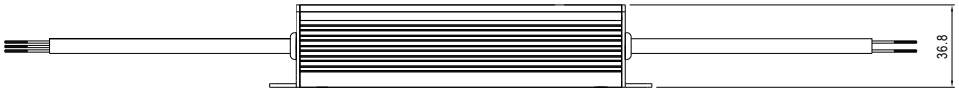
■ MECHANICAL SPECIFICATION

Case No.957B Unit:mm

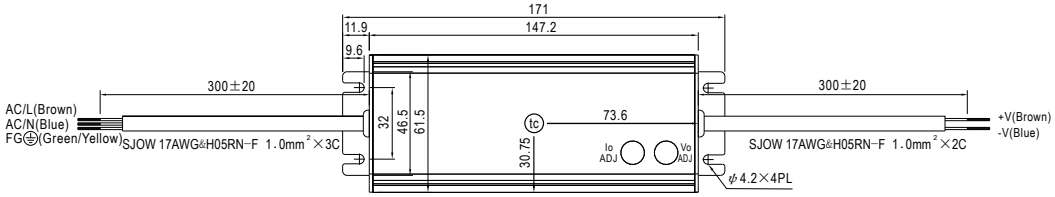
※Blank/D-Type



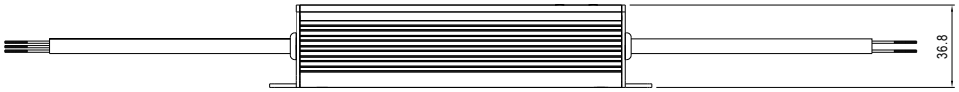
• tc : Max. Case Temperature



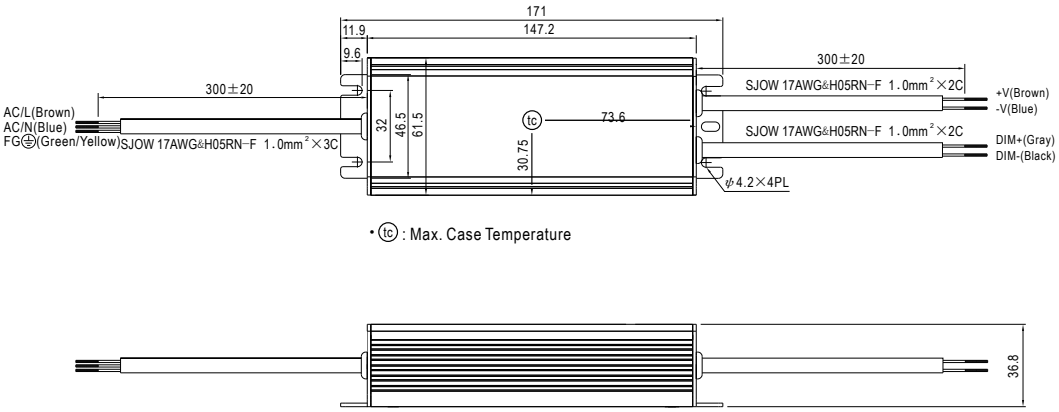
※A-Type



• tc : Max. Case Temperature

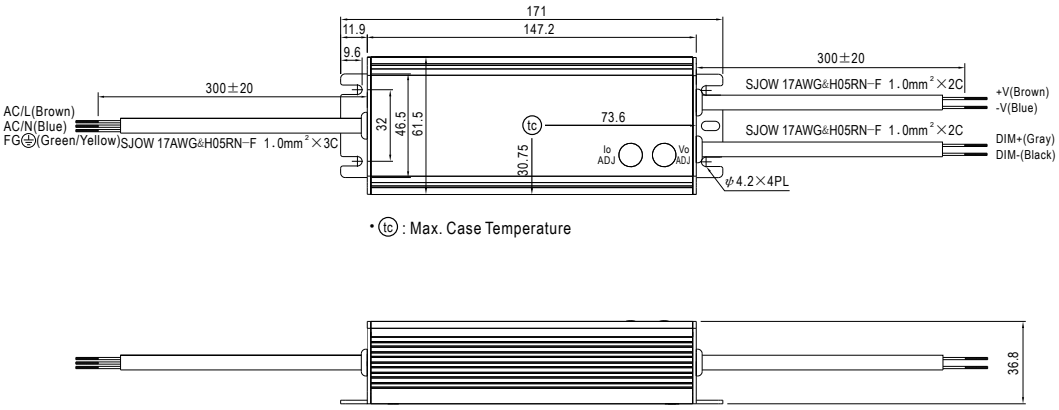


※B-Type



• tc : Max. Case Temperature

※AB-Type

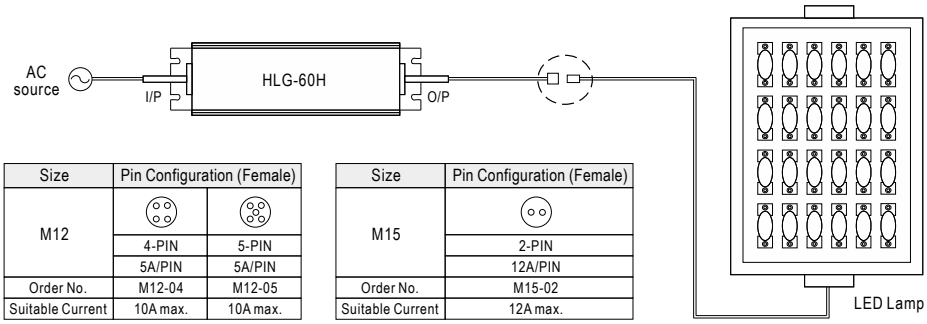


• tc : Max. Case Temperature

■ WATERPROOF CONNECTION

※ Waterproof connector

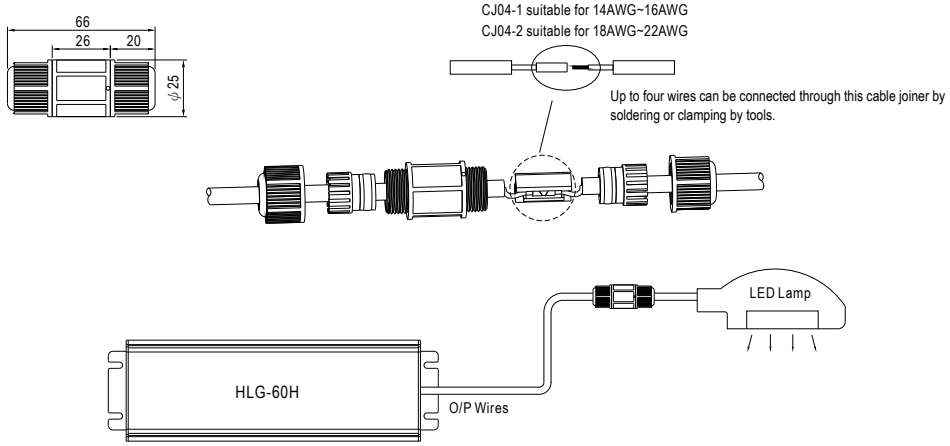
Waterproof connector can be assembled on the output cable of HLG-60H to operate in dry/wet/damp or outdoor environment.



Size	Pin Configuration (Female)	
M12		
	4-PIN	5-PIN
	5A/PIN	5A/PIN
Order No.	M12-04	M12-05
Suitable Current	10A max.	10A max.

Size	Pin Configuration (Female)
M15	
	2-PIN
	12A/PIN
Order No.	M15-02
Suitable Current	12A max.

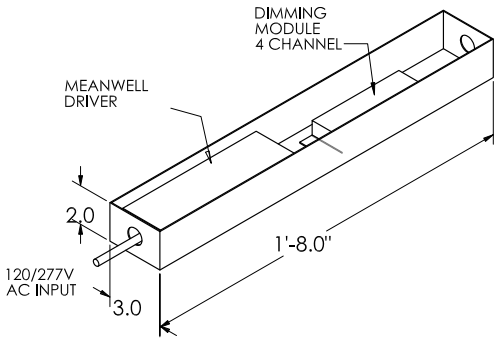
※ **Cable Joiner**



◎ CJ04 cable joiner can be purchased independently for user's own assembly.
MEAN WELL order No. : CJ04-1, CJ04-2.

■ INSTALLATION MANUAL

Please refer to : http://www.meanwell.com/manual.html



PBK-MW6024-DM4
POWER BOX ENCLOSURE, 120/27V AC INPUT WITH 60W DRIVER 24V DC OUTPUT.

PBK-MW10024-DM4
POWER BOX ENCLOSURE, 120/27V AC INPUT WITH 100W DRIVER 24V DC OUTPUT.

PBK-MW15024-DM4
POWER BOX ENCLOSURE, 120/27V AC INPUT WITH 150W DRIVER 24V DC OUTPUT.

PBK-MW24024-DM4
POWER BOX ENCLOSURE, 120/27V AC INPUT WITH 240W DRIVER 24V DC OUTPUT.

NOTES:

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULAR: MACH ± BEND ±
TWO PLACE DECIMAL ±
THREE PLACE DECIMAL ±
INTERPRET GEOMETRIC TOLERANCING PER:
MATERIAL
FINISH
DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	CS	11/06/2017
CHECKED		
ENG APPR.		
MFG APPR.		
Q.A.		

COMMENTS:

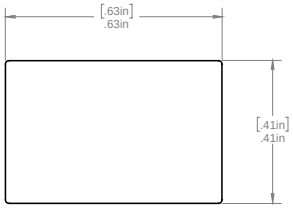
nanometer lighting
57-10 49th place maspeth, ny 11378
p.718.497.0394
f.718.821.9316

TITLE: Power Box DWG

SIZE A | DWG. NO | REV

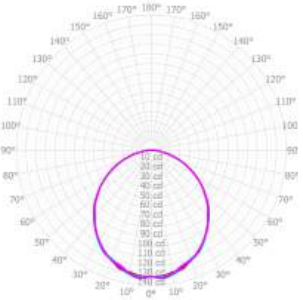
SCALE:1:1 | SHEET 3 OF 3

Dimensions



Optics

Flat Milky



Spec Lock

- LED specially binned through forward voltage within a 3-step MacAdam ellipse for increased CCT fidelity and smooth lower end dimming.
- Mechanically fastened Rigid PCB set within an extruded aluminum channel for simple installation and total serviceability.
- Pressure fit metal pin connection for solderless in-field connection between LED boards for a seamless appearance.
- Flexible power feed injections maintain LED pitch consistency for a plethora of mounting options.
- Never a shadow, hotspot nor break in light no matter the output and run length.
- No double-sided adhesion (tape) or soldering during installation.

S

Part # Builder

FD-S	+		+		+		+		+		+		+		+		+	
Fixture		1		2		3		4		5		6		7		8		9		10		11

Fixture	1 : Lens	2 : Intensity [1]	3 : Color Temp
FD-S : Zip Straight	FM : Flat Milky	L : Low (388lm/2.8w per ft) H : High (1092lm/8.3w per ft)	27 : 2700K 30 : 3000K 35 : 3500K
4 : Finish [2]	**5 : Feed [3]**	**6 : Control**	**7 : Mounting**
M : Mill W : Gloss White B : Matte Black C : Custom RAL	EF : End Feed RF : Rear Feed SF1 : Side Feed 1	0 : None 1 : 0-10 -1% Dimming 2 : 0-10 - 0.1% Dimming 3 : DMX/ DALI 4 : POE 5 :ELV / MLV / Phase 6 : 0-10 Tuneable White 7 : 0-10 Warm Dim 8 : Lutron Hi-Lume 1% Ecosystem W/ SO-FTB 9: Lutron Hi Lume 1% 3 Wire + G 10: Lutron Athena Wireless Node - RF Only 11: Casambi 12: nLyte 13: Enlighted 14: Other - Consult Factory	N : None E : External
8 : Blind Cove [4]	**9 : Wire Length**	**10 : Shape**	**11 : Fixture Length**
N : No	12” 24” 48” 96” Custom - (Consult Factory)	S - Straight U - U Shape L - L Shape R - Rectangle P - Pattern (Consult Factory)	X’ Y”

Flat Milky : No Imaging - 50% Light Loss

OUTPUT	SL	L	M	H	SH
Lumens/Foot	115	204	339	575	670
Watts/ Foot	1.6	2.8	4.8	8.3	9.8
Lumens/Watt	73	72	71	69	68

Driver Wiring

Installation Guide

Specification Details

	LENS	LIGHT LOSS	VISIBLE DIODES		LOW	High		
Watts / Foot	N/A				2.2	4.4		
mA / Foot	N/A				92	184		
Lumens / Watt	N/A				136	136		
No Lens: Lumens / Foot	None	0%	No		288	576		
0-10 / Lutron Athena Node	Max Load @ 96 Watts				40 Feet	20 Feet		
DMX / DALI	Max Load @ 96 Watts				40 Feet	20 Feet		
Phase	Max Load @ 96 Watts				40 Feet	20 Feet		
POE	Consult Factory							
Lutron Drivers	LDE1 Hi-Lume 1% EcoSystem. Soft On Fade to Black				L3DA3W Hi-Lume 1% 3 WIRE+G			
Color Temperatures (K) + Flux	2700 (100%), 3000 (100%), 3500 (115%)							
Max Run Length	20 Feet							
CRI	90+							
R9	50+							
MacAdams Ellipses	3 Steps							
Beam Angle [2]	120 Degrees							
IP Rating	IP20 - Dry Location							
Lamp Life	50,000 Hours							
Dimming / Control [3]	0-10 / POE / DMX / DALI / PHASE / LUTRON / LUTRON WIRELESS							
Operating Temperature	-13°F to 122°F							

FINISH
Standard Mill Aluminum Finish.
Powder Coating to any RAL# available upon specification
Increased pricing for powder coating.

Warranty
2 Year Limited Warranty - Covers all Scout manufactured products.
Default to manufactures warranty for all 3rd party components. Does not cover labor.

ORDER DETAILS
- All fixtures come standard with starter end cap feed unless otherwise specified.
- All Scout Select Fixtures come preassembled up to 8 feet long with 8" power feed.
- Any Fixture length under 8 feet long will be made as a complete fixture.
- Any Fixture length over 8 feet long will broken into 6 foot lengths + the balance length. A 10 Foot Fixture will be broken into 1 length @ 6 Feet and 1 @ 4 Feet.
- Fixtures daisy chain together with Scout_ LockTM Technology.
- In situations where fixtures are longer then the maximum wattage load new power will be injected from either the side or rear. Standard Injection is side Feed 1.
- All orders come with an approval drawing. Fabrication will not begin until drawing has been signed off or waived.

[1] Lumens / Watt accounts nominal driver efficacy at full load
[2] Finish: Mill Finish comes standard. Cost Adder for Power Coating. Contact Factory for Custom RAL#
[3] Feed: See Feed Detail's on page 4

LED SYSTEM
Proprietary linear LED Scout Engine incorporates premium Cree LEDs on a robust platform to achieve excellent thermal management. LEDs are placed to promote a uniform appearance.
Available in 2200K, 2700K, 3000K, 3500K, 4000K or 5000K in 90+ CRI. LED modules and drivers are replaceable.
Color accuracy <3 SDCM

CONSTRUCTION
One piece extruded aluminum housing. Cast aluminum end caps.

OPTICS
Extruded High Transmission Milky Acrylic Lens with No LED imaging. Extruded High Transmission Frosted Acrylic Lens with LED imaging.

ELECTRICAL
Fixture comes reassembled with 8" whip.
All Drivers are installed in remote location.
All drivers are Universal input 120-277 VAC.
Standard Constant Voltage drivers include 0-10V dimming preinstalled in enclosure.

LABELS
Conforms To UL STD 2108Certified To CSA STD C22.2 # 250.0
Suitable for Dry or Damp Locations, indoor use only.
ETL Control # 5011600

SCOUT LIGHTING
Designed - Built - Shipped - New York

75 WATT 0-10 LED DRIVER
PART #SDRVCC01075

Project : Firm : Type : Quantity:

Quick Specs

Driver Type	Constant Current
Dimming Control	0-10 : 1%
# of Channels	1
DC Voltage Range	27-54 VDC
AC Input Voltage	120 - 277
Class	2
mA	2000
Wattage	75
Warranty	5 years
Efficency	>90%

Max Load (2000mA)

Super Low (50mA)	40 Feet
Low (89mA)	22 Feet
Medium (149mA)	13 Feet
High (250mA)	8 Feet
Super High (300mA)	5 Feet

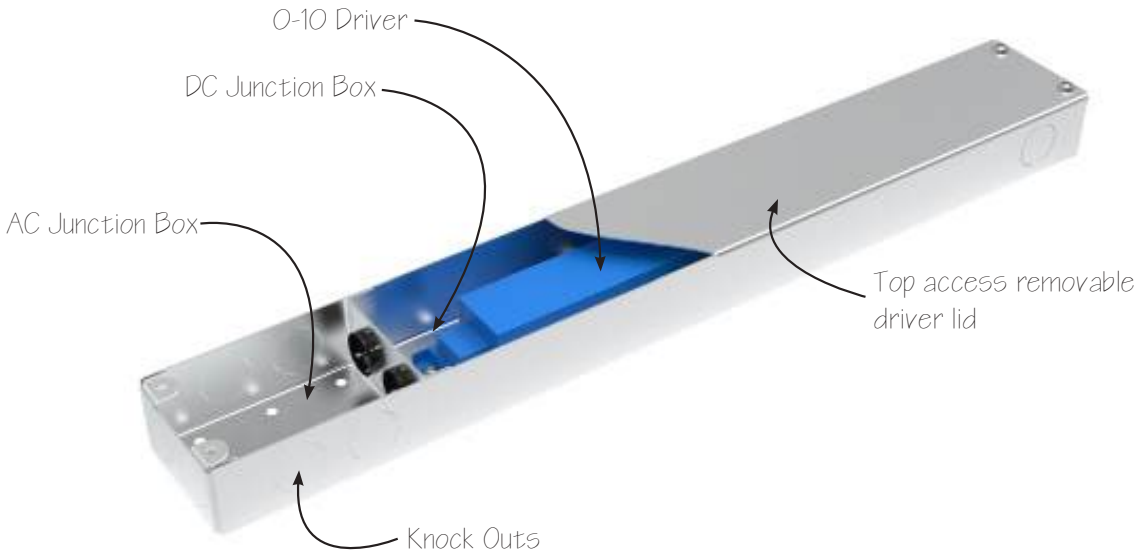
Max Distance

20 AWG	20 Feet
18 AWG	40 Feet
16 AWG	60 Feet
14 AWG	100 Feet
12 AWG	150 Feet

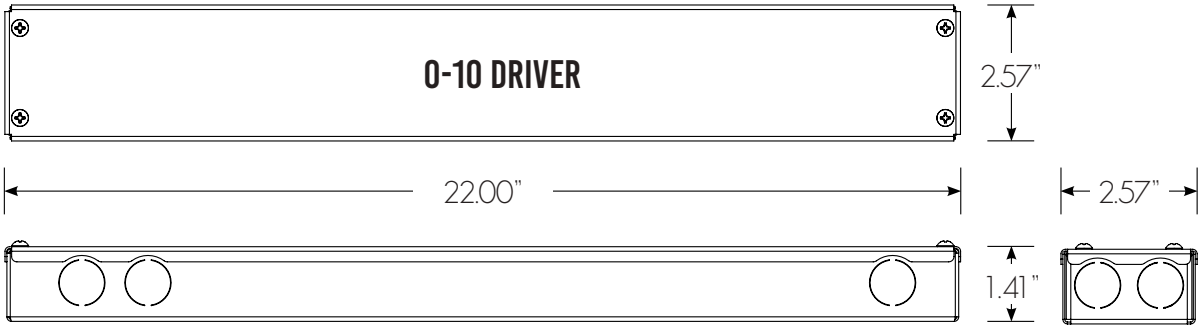
Scout Lighting reserves the right to modify this specification without prior notice. Updated 10/02/21.

New York, NY
1.833.SCOUTLD
www.ScoutLighting.com
Info@ScoutLighting.com

Driver Anatomy

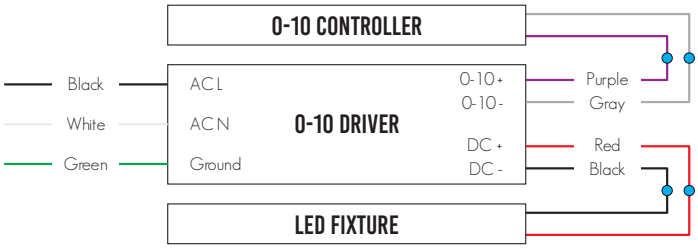


Dimensions

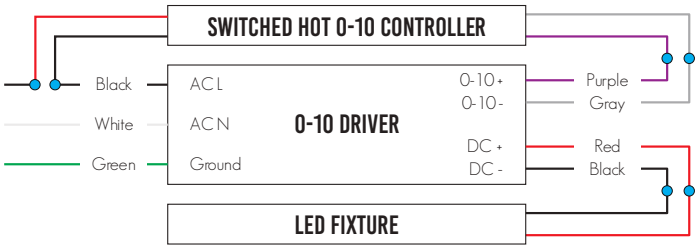


New York, NY
1.833.SCOUTLD
www.ScoutLighting.com
Info@ScoutLighting.com

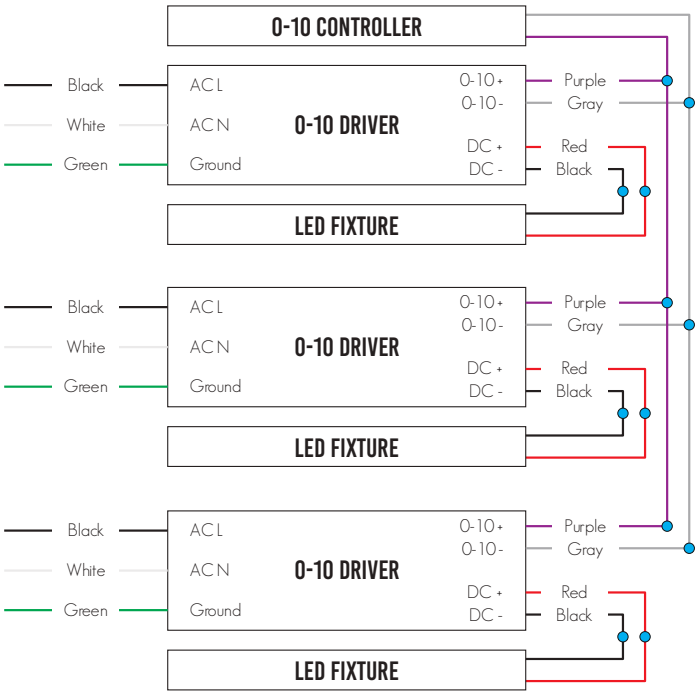
Wiring



Single 0-10 wiring



Switched Hot 0-10 Wiring



Multiple fixture wiring to single 0-10 Dimmer

Scout Lighting reserves the right to modify this specification without prior notice. Updated 10/02/21.

New York, NY
1.833.SCOUTLD
www.ScoutLighting.com
Info@ScoutLighting.com

Application
Open wall luminaires with a high level of efficiency, characterized by an elongated design. As solid and reliable lighting tools with modern lamp technology and high-quality workmanship, they will provide very cost-effective service over long operating periods.

Materials
Hand-blown three-ply opal glass
Aluminum housing

NRTL listed to North American Standards, for interior use only

Weight: 6.6 lbs.

Electrical

Operating voltage	120-277V AC
Minimum start temperature	-20° C
LED module wattage	30.0 W
System wattage	35.6 W
Controllability	0-10V dimming down to 0.1%
Color rendering index	Ra > 80
Luminaire lumens	3311 lm
LED service life (L70)	60000 hrs

LED color temperature
☐ 4000K (K4)
☐ 3500K (K35)
☐ 3000K (K3)
☐ 2700K (K27)

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish
White finish. Custom colors not available.

Type:
BEGA Product:
Project:
Modified:

Included (available for pre-shipment)
☐ B19537 Narrow opening wiring box

Linear wall luminaire · Opal glass

	LED	A	B	C
B50084	30.0 W	4	24	$5^{3}/_{8}$

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Updated 05/09/23

Project:	
Location:	
Fixture Type:	
Catalog Number:	

AVAILABLE FINISHES:

Lightstick

WS-47997

PRODUCT DESCRIPTION

Modern and ultra-minimal. Lightstick is a slim LED vanity luminaire designed perfectly for residential, hospitality and commercial powder rooms. A slender bar of light constructed froma co-extrusion of clear and white acrylic affords the luxurious dimensional look of cased glass but durable enough for its dramatic proportions. The versatile design allows it to beplaced horizontally or vertically or even at angles on walls and ceilings.

FEATURES

- ACLED driverless technology
- Co-extruded acrylic diffuser
- 1" slim junction box included and can be ordered separately (model# JB-0501)
- 0-10V dimming option available (special order), unit dimensions: 3.4" x 1.2" x 0.5" (model#LDS065M010AFE-LO1)
- Conversion plate included for 4" junction box
- Trimless spackle cover available for 4" square junction box recessed in drywall thicknesses of 1/2", 5/8", 1", and 1-1/4"; accessory not included and can be ordered separately (model# MKCP-3040-WT)

WS-47997

SPECIFICATIONS

Rated Life	54000 Hours
Standards	ETL, cETL,Damp Location Listed,Title 24 JA8: 2019 Compliant,ADA
Input	120 VAC,50/60Hz
Dimming	ELV
Mounting	Can be mounted on ceiling or wall in all orientations
Color Temp	3000K
CRI	90
Construction	Aluminum hardware, co-extruded acrylic diffuser

REPLACEMENT PARTS

JB-0501 - 1" Slim Junction Box

Model & Size	Color Temp	Finish	LED Watts	LED Lumens	Delivered Lumens
WS-47997 97"	3000K	AL Brushed Aluminum	88W	6342	4874
	3000K	WT White	88W	6342	4874

Example: **WS-47997-WT**

For custom requests please contact customs@modernforms.com

ModernForms.com | Phone: (866) 810-6615 | Fax (800) 526-2585
Central Distribution Center: 1600 Distribution Ct, Lithia Springs, GA 30122
Western Distribution Center: 1750 Archibald Avenue, Ontario, CA 91760

MODERN FORMS

Housing/fitter: Two piece die-cast aluminum construction. The fixture slip fits a 3“ O.D. pole top or tenon and is secured by six (6) socket head stainless steel set screws threaded into stainless steel inserts. Die castings are marine grade, copper free (≤ 0.3% copper content) A360.0 aluminum alloy.

Enclosure: Clear acrylic diffuser with optical texture and reflector made of pure anodized aluminum held in place by die-cast aluminum frame and stainless steel rods. Fully gasketed for weather tight operation using a molded silicone rubber O-ring gasket.

Electrical: 31.0W LED luminaire, 36.0 total system watts, -30°C start temperature. Integral 120V through 277V electronic LED driver, 0-10V dimming. LED module(s) are available from factory for easy replacement. Standard LED color temperature is 4000K with a >80 CRI. Available in 3000K (>80 CRI); add suffix K3 to order.

Note: LEDs supplied with luminaire. Due to the dynamic nature of LED technology, LED luminaire data on this sheet is subject to change at the discretion of BEGA-US. For the most current technical data, please refer to www.bega-us.com.

Finish: All BEGA standard finishes are polyester powder coat with minimum 3 mil thickness. Available in four standard BEGA colors: Black (BLK); White (WHT); Bronze (BRZ); Silver (SLV). To specify, add appropriate suffix to catalog number. Custom colors supplied on special order.

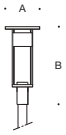
CSA certified to U.S. and Canadian standards, suitable for wet locations. Protection class IP65

Weight: 11.0 lbs.

EPA (Effective projection area): 1.1 sq. ft.

Luminaire Lumens: 3134

Type:
BEGA Product:
Project:
Voltage:
Color:
Options:
Modified:



Pole-top luminaires · **asymmetric flat beam**

	Lamp	A	B
77 165	31.0 W LED	10 1/4	25 3/4

* recommended for use with 12’ to 18’ poles

BEGA **1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 FAX (805) 566-9474 www.bega-us.com**

Application
A round, non-tapered, aluminum pole with a fixed base. Useful for mounting pole-top luminaires, floodlights, banners, or other accessories. Consult a licensed structural engineer when specifying. Poles must be unwrapped when delivered and should not be allowed to sit in their packaging.

Materials & Specifications
Extruded aluminum pole shaft
A356 aluminum alloy anchor base heat-treated to T6 temper
Anchor bolts conform to ASTM F1554 Grade 55 with L bend on one end and galvanized minimum 12" on threaded end
Anchor bolts provided with (2) hex nuts and (2) flat washers
Aluminum nut covers
Covered handhole with hardware and grounding provisions provided
3" welded tenon
Wall thickness: 0.125"
Structural weight: 26 lbs

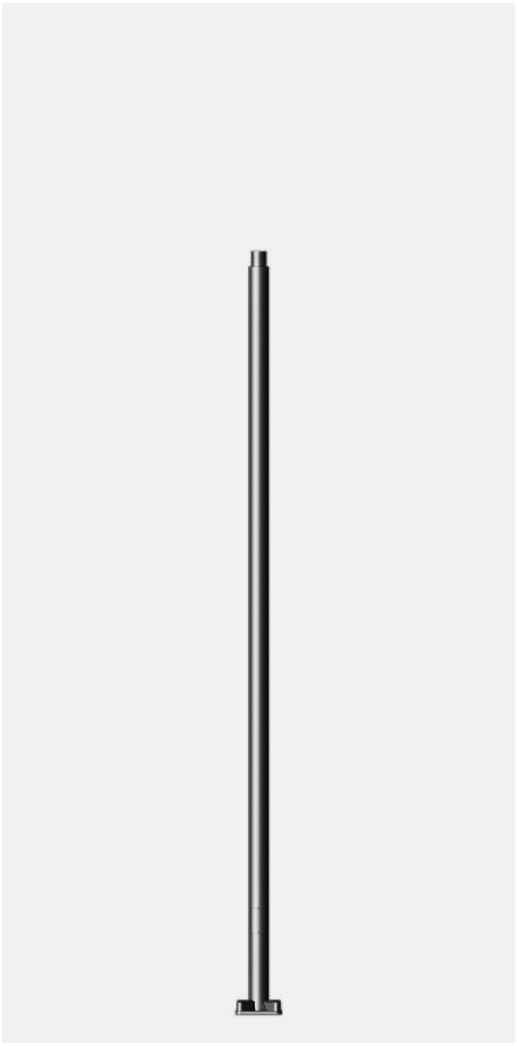
Maximum Luminaire Weight: 62 lbs

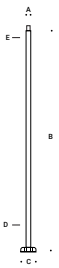
Finish
All BEGA standard finishes are a matte, textured powder coat with a minimum 3 mil thickness. BEGA Unidure® finish, a fluoropolymer technology, provides superior fade protection in Black, Bronze, and Silver. BEGA standard White, as well as optionally available RAL and custom colors, are a polyester powder.

Available colors ☐ Black (BLK) ☐ White (WHT) ☐ RAL:
☐ Bronze (BRZ) ☐ Silver (SLV) ☐ CUS:

Disclaimer
BEGA North America warrants the specific anchor bolts and pole combination according to the product number(s) and description(s) indicated on the submittal sheet. Structural changes to the pole requested by the customer, including changes to pole length, may affect the compatibility of the anchor bolts and corresponding poles. BEGA North America is not responsible for the incompatibility of the anchor bolts and poles resulting from such structural changes without review by the BEGA North America engineering department. This includes, but is not limited to, any labor charges, charges for replacement materials and shipping. For safety reasons, do not mount more than 50 lbs. to hinged poles and more than 62 lbs. to fixed poles. Pole capacities are based upon the provisions of AASHTO 2013 (LTS-6) and assume a max vertical eccentricity to the fixture of 2'-0" above the pole top. Adequate drainage must be provided in concrete foundation or grout. Do not seal the base of the pole. Due to structural reasons, do not install pole without fixture or other appropriate weight on the top.

Type:
BEGA Pole:
Location:
Quote or Sales Order:
Date:
Specifier:
Representative:
BEGA Luminaire:
Total Mounted EPA:
Total Mounted Weight:





Aluminum pole · Round fixed non-tapered

	A	B˙	C	D	E	Anchorage
12 RFNS1	3"	12'	8 ⅞"	4"	4"	**B12RFNS1-AB**

Pole wind load rating

MPH	85	90	100	110	120	130	140	150
EPA¨	5.1	4.4	3.2	2.4	1.8	1.4	1.2	1.0

˙Height is rounded to the nearest foot, for precise measurements see submittal drawing.
¨Data above assumes grade level installation and a maximum luminaire weight of 62 lbs.

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

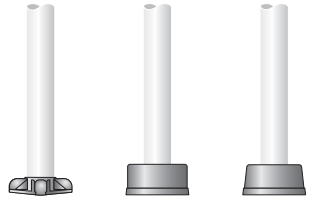
Updated 12/16/21

Accessories

Base Cover
Standard pole is provided with nut covers.
See alternate base cover options below.

☐ Round

☐ Square

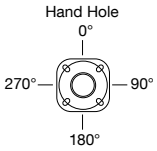


Nut cover Round Square

Options

Power Receptacle - Standard Location
GFCI covers provided are intended for portable tools or other portable equipment connected to the outlet when attended. Wet location listed when cover is closed. Handhole must be 18" from GFCI.

☐ GFCI at default location
Orientation: 180°; Height: 36" A.F.G.
☐ In-use cover



Modifications

Any changes or additions to BEGA North America's standard pole offering that are not listed as accessories or options are considered modifications. Should a modification be required, the below section is intended to help streamline the process during the initial design and specification. All modifications will need to be quoted and approved by BEGA North America prior to order placement.

Modified Pole Height:

Power Receptacle - Nonstandard Location
☐ GFCI at custom location
Orientation:
Height (min. 18" A.F.G.):
☐ In-use cover

Handhole
Unless otherwise specified handhole will be located 18" A.F.G. between two anchor bolts.

☐ Handhole at custom location
Orientation:
Height:

Vibration Dampener
☐ Vibration dampener
Solution provided will vary depending on needs.

Still not finding what you need? Additional modifications may be available. Please contact your local BEGA representative to learn more about our modification capabilities.

Note: Accessories, options, and modifications may require additional lead-time and increase cost. All details must be quoted and approved by BEGA North America prior to order placement.

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Updated 12/16/21

DESCRIPTION

The LINEA G2® leverages the latest in LED technology with distinctive design and exceptional versatility to perceptively capture today's minimalist design philosophy. The well-proportioned reduced form continues retain its validity far into the future. Available in single or twin mounting configurations, the pedestrian-scale model is 15' tall, with complementary models in intermediate and taller heights of 20' and 26' for proper scale in a variety of applications. A selection of LED illuminating bollards for performance or ambience complements the product family. All hardware is stainless steel. CSA Listed for Wet Locations.

PROTECTED BY PRIMAR®

Date: _____ Type: _____ Catalog Number: _____

Project Name: _____

ORDERING INFORMATION

LUMINAIRE AND POLE

MODEL	LED MODULE	CCT	CONTROL	VOLT	DISTRIBUTION	MOUNTING	POLE HEIGHT	POLE MATERIAL	BASE COVER	MOUNTING KIT	FINISH	OPTION
LN450G	**1** 1 Module	**30K** 3000K	**DIM** 0-10v Dimming	**UNV** 120-277v	**T2** Type II	**S** Single	**15** 15' Straight Rectangular	**A** Aluminum	**BC** Base Cover	**MK** Mounting Kit (Anchor bolts + Template)	**BL** Black	**3PR** 3-pin NEMA Photocontrol Receptacle
	2 2 Modules	**40K** 4000K			**T3** Type III	**D** Double	**XX*** *Other (Specify in feet)	**S** Steel			**DB** Dark Bronze	**7PR** 7-pin NEMA Photocontrol Receptacle
					T4 Type IV						**DG** Dark Grey	**GFCI** GFCI Receptacle
					T5 Type V						**GG** Graphite Grey	**HSS** House Side Shield
											SG Silver Grey	**MS** Motion Sensor
											CC Custom RAL Color	**TVSS20** 20KV Surge Suppressor

BANNER ARM ACCESSORY

BANNER ARM TYPE	BANNER WIDTH	BANNER LENGTH	ORIENT[2]	HEIGHT TOP OF BANNER
BA-S Single Banner Arm Set	**18** 18 inches	**30** 30 inches	**0** 0°	**XX**[3]
BA-D Double Banner Arm Set	**24** 24 inches	**48** 48 inches	**90** 90°	
		60 60 inches	**180** 180°	
		72 72 inches	**270** 270°	

SPECIFICATIONS

HOUSING

Rectangular luminaire housing with integral fitter is extruded 6061 aluminum with T6 temper and shows no visible welds. Individual LED arrays are sealed by the lens and a one-piece silicone gasket making a weather tight modular assembly. Luminaire mounts to tenon on pole and secured with four socket head cap screws on top of the housing. Luminaire is available in single or twin back-to-back mounting configurations. All hardware is stainless steel.

OPTICS

Optics consist of 1 or 2 LED light engines. Each light engine consists of a field replaceable aluminum core PCB with four high-power LEDs and a single piece lens molded from optical quality acrylic. Light distributions include a choice of Type II, III, or IV optics. Luminaire emits zero uplight at 90 degrees horizontal and above and is suitable for use in all LEED lighting zones. Optional house side shields for the individual modules are available on request.

LED DELIVERED LUMEN OUTPUT / BUG RATING
2 Modules: 72 watts

Type II -	3000k:	7185 lms / B2-U0-G2	Type II -	4000k:	7789 lms / B2-U0-G2
Type III -	3000k:	7196 lms / B2-U0-G2	Type III -	4000k:	7800 lms / B2-U0-G2
Type IV -	3000k:	6813 lms / B2-U0-G2	Type IV -	4000k:	7405 lms / B2-U0-G2

2 Modules w/ House Side Shield: 72 watts

Type II -	3000k:	6814 lms / B1-U0-G1	Type II -	4000k:	7386 lms / B1-U0-G2
Type III -	3000k:	6805 lms / B2-U0-G1	Type III -	4000k:	7377 lms / B2-U0-G1
Type IV -	3000k:	6407 lms / B1-U0-G2	Type IV -	4000k:	6945 lms / B1-U0-G2

NOTE: Due to rapid and continuous advances in LED technology, LED luminaire data is subject to change without notice and at the discretion of HessAmerica. Consult factory for current technical data.

ELECTRICAL

Each LED module is driven by an independent electronic driver. Input voltage range is 120v through 277v at 50/60Hz. Each driver supplies 700mA drive current to its respective LED module. Power consumption for single driver is 36 watts and 72 watts for models with two LED light engines. Optional 0-10v DC dimming is available on request.

LUMINAIRE WEIGHT: 22 lbs.

LUMINAIRE EPA: 1.3 sq. ft

ALUMINUM:

Straight rectangular pole is 6.3" x 3.9" nominal and manufactured from seamless 6061 aluminum tubing and heat treated to produce a T6 temper. Nominal wall thickness is 0.236". Sides of the shaft are flat with 1/8" radiused corners. Flush mounted hand hole cover is plasma cut with kerf not to exceed 1/8" and includes triangular tamper-resistant locking device. Two-piece base cover is fabricated aluminum. Nominal pole height is 15'.

STEEL:

Straight rectangular pole is 6.3" x 3.5" nominal and manufactured from cold drawn over mandrel, electric weld, mechanical steel tubing with nominal wall thickness of 0.197". Sides of shaft are flat with 3/8" radiused corners. Pole shall show no seam along the shaft. Flush mounted hand hole cover is plasma cut with kerf not to exceed 1/16" and includes triangular tamper-resistant locking device. Pole is hot-dip galvanized with coating inside and out, then lightly sanded prior to painting. Two-piece base cover is fabricated aluminum. Nominal pole height is 15'.

FINISH:

Standard finishes are finely textured matte silver grey metallic, dark grey, graphite grey, matte black, or dark bronze. Special colors available on request.

CERTIFICATION: CSA Certified for Wet Locations

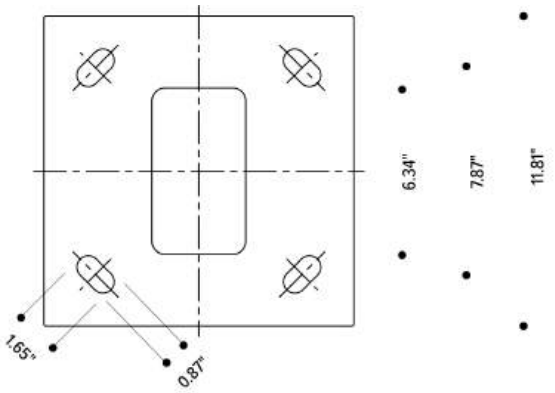
INGRESS PROTECTION: IP65

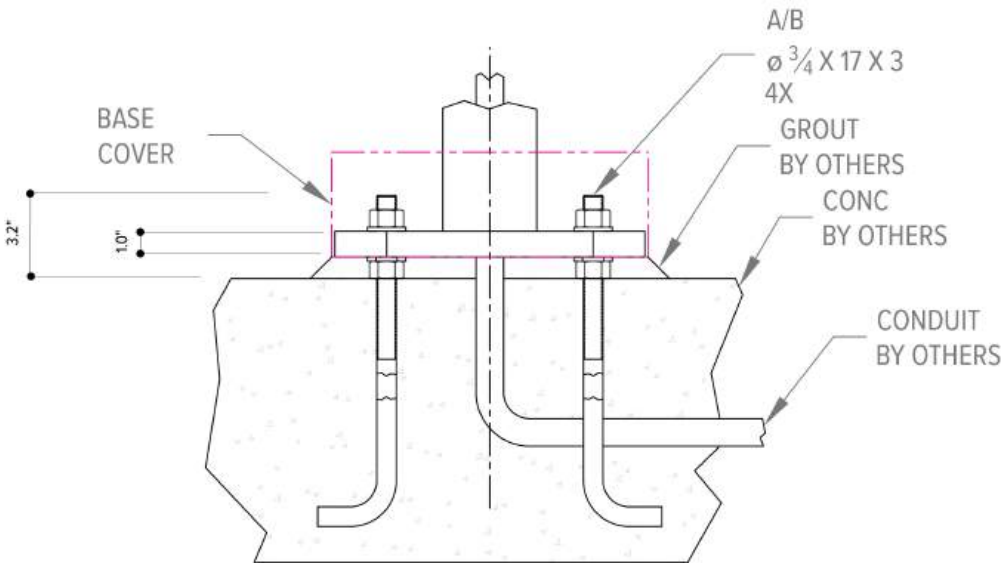
WARRANTY

Limited product warranty period including LEDs is five years. Driver shall carry the manufacturer's limited warranty.

MOUNTING DETAILS

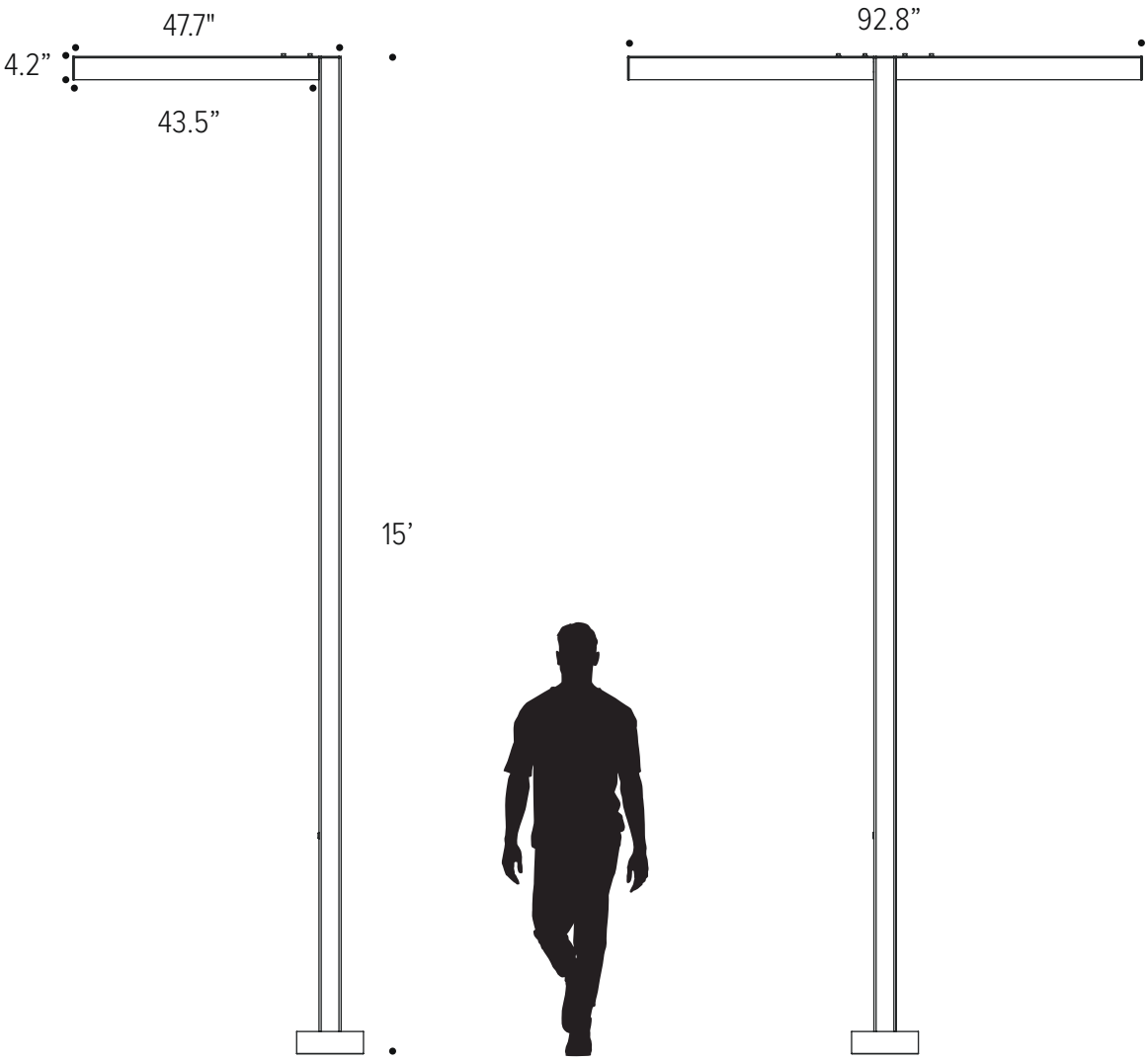
All dimensions are shown in inches unless otherwise noted.





DIMENSIONS

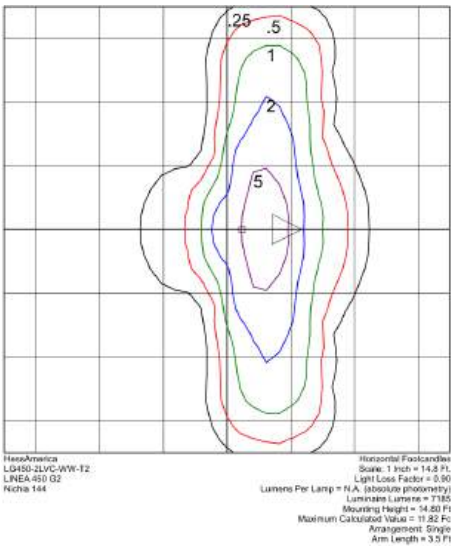
All dimensions are shown in inches unless otherwise noted.



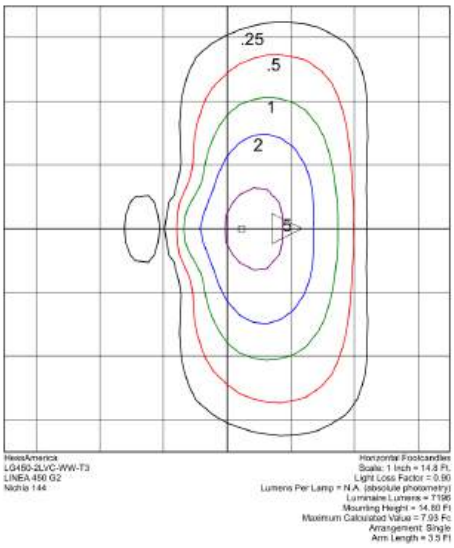
PHOTOMETRICS (3000K)

Mounting Height: 1" / Scale: Each square = 14.8'

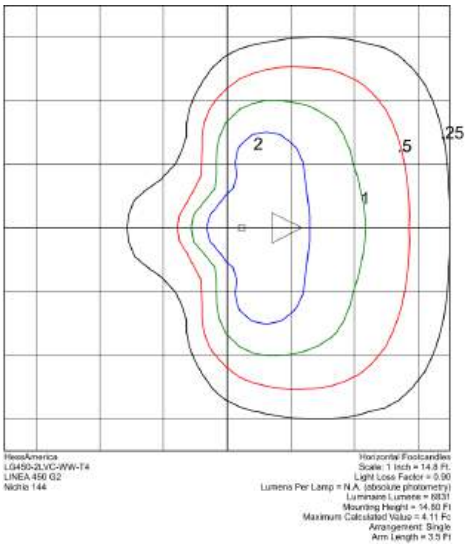
Type II - Standard Optics



Type III - Standard Optics



Type IV - Standard Optics

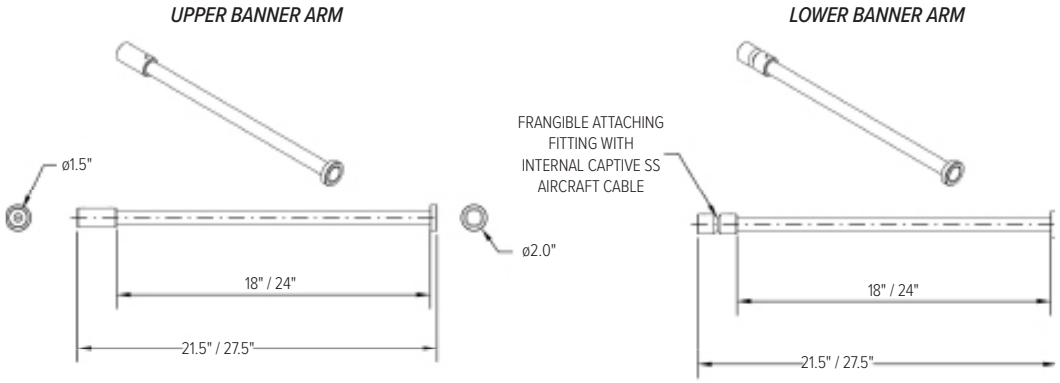


ISOLINES LEGEND:

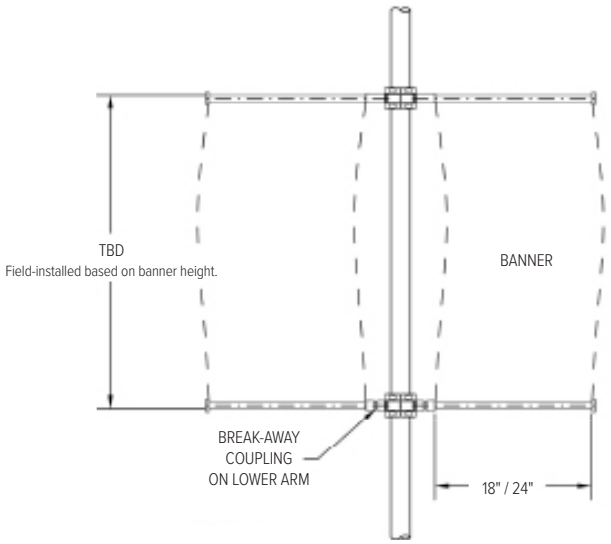
Black	=	0.25 FC
Red	=	0.50 FC
Green	=	1.0 FC
Blue	=	2.0 FC
Purple	=	5.0 FC

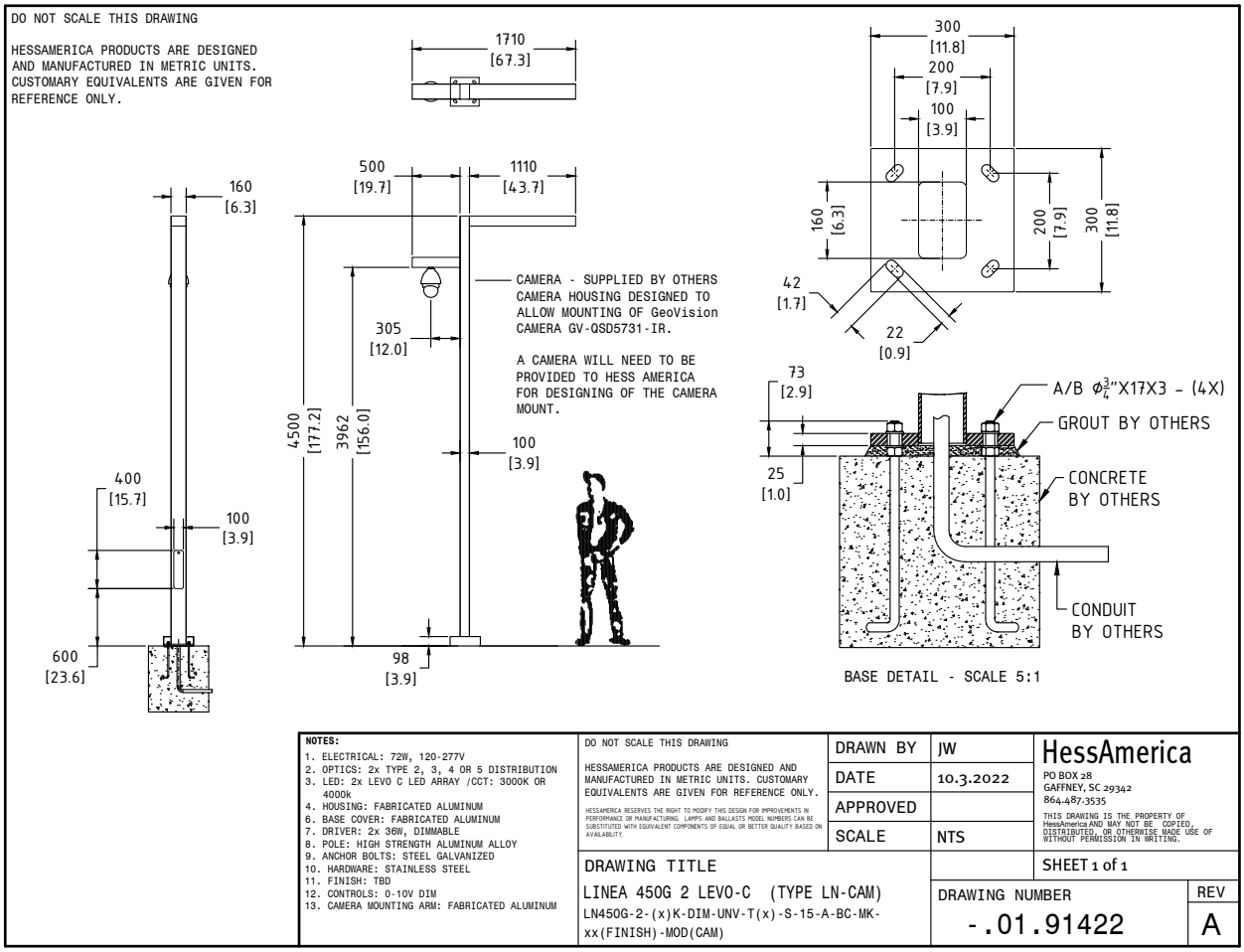
BANNER ARM DETAILS

All dimensions are shown in inches unless otherwise noted.



NOTE: Frangible attachments for banner arms are designed to break at 60% to 70% of the rated load of the pole.




DO NOT SCALE THIS DRAWING
HESSAMERICA PRODUCTS ARE DESIGNED AND MANUFACTURED IN METRIC UNITS. CUSTOMARY EQUIVALENTS ARE GIVEN FOR REFERENCE ONLY.
1710 [67.3]
300 [11.8]
200 [7.9]
100 [3.9]
160 [6.3]
200 [7.9]
300 [11.8]
42 [1.7]
22 [0.9]
500 [19.7]
1110 [43.7]
160 [6.3]
CAMERA - SUPPLIED BY OTHERS
CAMERA HOUSING DESIGNED TO ALLOW MOUNTING OF GeoVision CAMERA GV-QSD5731-IR.
A CAMERA WILL NEED TO BE PROVIDED TO HESS AMERICA FOR DESIGNING OF THE CAMERA MOUNT.
305 [12.0]
4500 [177.2]
3962 [156.0]
100 [3.9]
400 [15.7]
100 [3.9]
600 [23.6]
98 [3.9]
73 [2.9]
25 [1.0]
A/B $\phi\frac{3}{4}$"X17X3 - (4X)
GROUT BY OTHERS
CONCRETE BY OTHERS
CONDUIT BY OTHERS
BASE DETAIL - SCALE 5:1
NOTES:
1. ELECTRICAL: 72W, 120-277V
2. OPTICS: 2x TYPE 2, 3, 4 OR 5 DISTRIBUTION
3. LED: 2x LEVO C LED ARRAY /CCT: 3000K OR 4000k
4. HOUSING: FABRICATED ALUMINUM
6. BASE COVER: FABRICATED ALUMINUM
7. DRIVER: 2x 96W, DIMMABLE
8. POLE: HIGH STRENGTH ALUMINUM ALLOY
9. ANCHOR BOLTS: STEEL GALVANIZED
10. HARDWARE: STAINLESS STEEL
11. FINISH: TBD
12. CONTROLS: 0-10V DIM
13. CAMERA MOUNTING ARM: FABRICATED ALUMINUM
DO NOT SCALE THIS DRAWING
HESSAMERICA PRODUCTS ARE DESIGNED AND MANUFACTURED IN METRIC UNITS. CUSTOMARY EQUIVALENTS ARE GIVEN FOR REFERENCE ONLY.
HESSAMERICA RESERVES THE RIGHT TO MODIFY THIS DESIGN FOR IMPROVEMENTS IN PERFORMANCE OR MANUFACTURING. LAMPS AND BALLASTS MODEL NUMBERS CAN BE SUBSTITUTED WITH EQUIVALENT COMPONENTS OF EQUAL OR BETTER QUALITY BASED ON AVAILABILITY.
DRAWN BY JW
DATE 10.3.2022
APPROVED
SCALE NTS
HessAmerica
PO BOX 28
GAFFNEY, SC 29342
864.487.3535
THIS DRAWING IS THE PROPERTY OF HessAmerica AND MAY NOT BE COPIED, DISTRIBUTED, OR OTHERWISE MADE USE OF WITHOUT PERMISSION IN WRITING.
SHEET 1 of 1
DRAWING TITLE
LINEA 450G 2 LEVO-C (TYPE LN-CAM)
LN450G-2-(x)K-DIM-UNV-T(x)-S-15-A-BC-MK-xx(FINISH)-MOD(CAM)
DRAWING NUMBER
-.01.91422
REV
A

Application
An LED bollard with shielded asymmetric light distribution. Designed for effective lighting of landscapes, pathways, and open spaces. The fully shielded design provides visual comfort while illuminating ground surfaces. Provided with mounting system that allows the luminaire to be adjusted independent of anchor bolt orientation.

Materials
Luminaire housing constructed of die-cast and extruded marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy
Clear safety glass
Reflector made of pure anodized aluminum
High temperature silicone gasket
Mechanically captive stainless steel fasteners
Mounting plate constructed of heavy cast aluminum

NRTL listed to North American Standards, suitable for wet locations
Protection class IP65
Weight: 14.5lbs

Electrical

Operating voltage	120-277V AC
Minimum start temperature	-30° C
Maximum ambient temperature	90° C
LED module wattage	11.6W
System wattage	14.5W
Controllability	0-10V
Color rendering index	Ra > 80
Luminaire lumens	1475 lumens (4000K)
LED service life (L70)	60,000 hours

LED color temperature

☐ 4000K - Product number + **K4** ***(EXPRESS)***
☐ 3500K - Product number + **K35**
☐ 3000K - Product number + **K3** ***(EXPRESS)***
☐ 2700K - Product number + **K27**

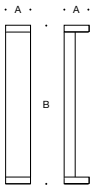
Wildlife friendly amber LED - Optional
Luminaire is optionally available with a narrow bandwidth, amber LED source (585-600nm) approved by the FWC. This light output is suggested for use within close proximity to sea turtle nesting and hatching habitats. Electrical and control information may vary from standard luminaire.

LED module wattage	17.6W (Amber)
System wattage	22.0W (Amber)
Luminaire lumens	574 lumens (Amber)

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish
All BEGA standard finishes are matte, textured polyester poywder coat with minimum 3 mil thickness.

Available colors ☐ Black (BLK) ☐ White (WHT) ☐ RAL:
☐ Bronze (BRZ) ☐ Silver (SLV) ☐ CUS:



Shielded LED bollard · asymmetric

	LED	A	B	Anchorage
99058	11.6W	7 ½	39 ⅜	**79817**

Type:
BEGA Product:
Project:
Modified:

Mounting Accessories
☐ **79817** Anchorage Kit
☐ **70895** Direct burial anchorage

Available options
☐ **FSC** Fusing
☐ **AMB** Amber LED
☐ **FPRO** Factory Programmed Reduced output
☐ **EMPK** Integral Emergency Battery Pack
☐ **AWB** Asymmetric Wide Beam

See individual accessory spec sheet for details.

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Not Used

Not Used

SARATOGA LED (REMOTE DRIVER) IP66 RATED

DATE:	PROJECT:	TYPE:

CATALOG NUMBER LOGIC:

Driver housing required. Configure separately.

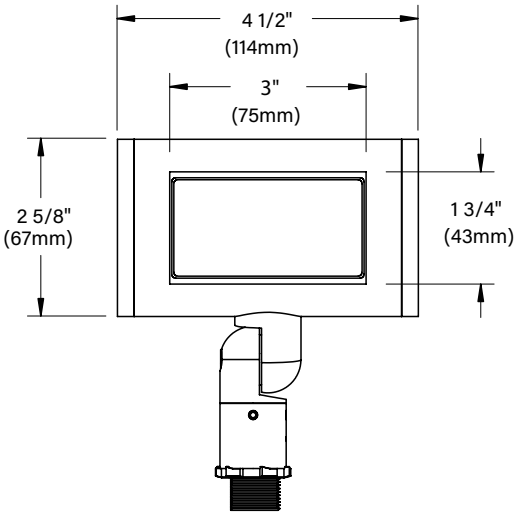
**Standard with Wall Wash Optic.*

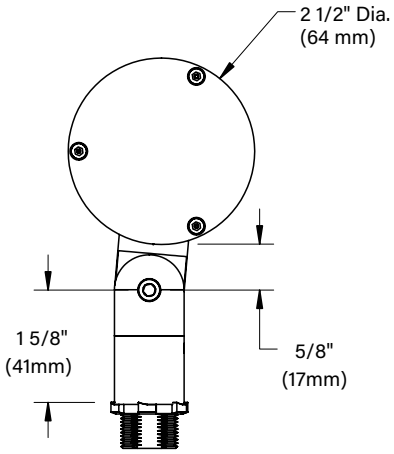
***Not available with Wall Wash Optic.*

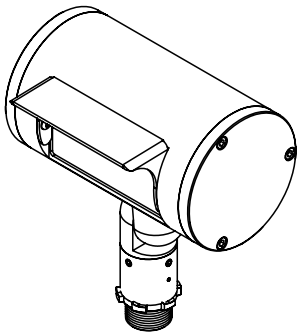
****The 360SL cost is already included in the price of UPM, UPM dual, and Power Canopy.*

CATALOG NUMBER LOGIC
Example: SA - LED - x52 - WW - BLP - 9 - 11 - CV - 360SL
MATERIAL
Aluminum
SERIES
SA - Saratoga
SOURCE
LED - Chip on Board Technology
LED TYPE
x52 - 10W LED/2700K x53 - 10W LED/3000K x54 - 10W LED/4000K
OPTICS
SP - Spot (20°) WFL - Wide Flood (50°) WW - Wall Wash
FINISH (See page 2 for full-color swatches)
Standard Finishes (BZP, BZW, BLP, BLW, WHP, WHW, SAP, VER)
Premium Finish (ABP, AMG, AQW, BCM, BGE, BPP, CAP, CMG, CRM, HUG, NBP, OCP, RMG, SDS, SMG, TXF, WCP, WIR)
Also available in RAL Finishes
LENS TYPE
9 - Clear (Standard)
13 - Rectilinear*
SHIELDING
11 - Honeycomb Baffle**
ACCESSORIES
CV - Cutoff Visor
CS - Cutoff Snoot
BD - Adjustable Barn Doors
OPTIONS
360SL - Knuckle Mounting System***

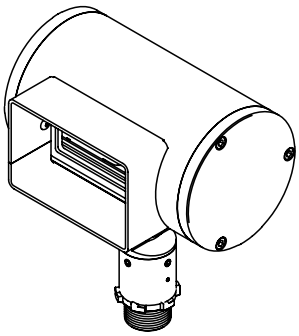
DATE: | PROJECT: | TYPE:



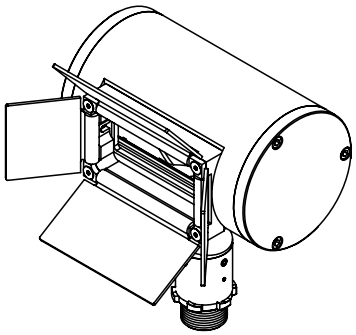




Cutoff Visor



Cutoff Snoot



Adjustable Barn Doors

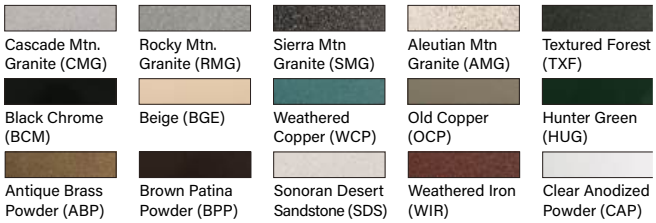
STANDARD FINISHES

Satin Black (BLP) | Satin Bronze (BZP) | Satin White (WHP) | Satin Aluminum (SAP)

Black Wrinkle (BLW) | Bronze Wrinkle (BZW) | White Wrinkle (WHW) | Verde (VER)

Click Here to view larger, full-color swatches of all available finishes on our website.

PREMIUM FINISHES



Cascade Mtn. Granite (CMG) | Rocky Mtn. Granite (RMG) | Sierra Mtn Granite (SMG) | Aleutian Mtn Granite (AMG) | Textured Forest (TXF)

Black Chrome (BCM) | Beige (BGE) | Weathered Copper (WCP) | Old Copper (OCP) | Hunter Green (HUG)

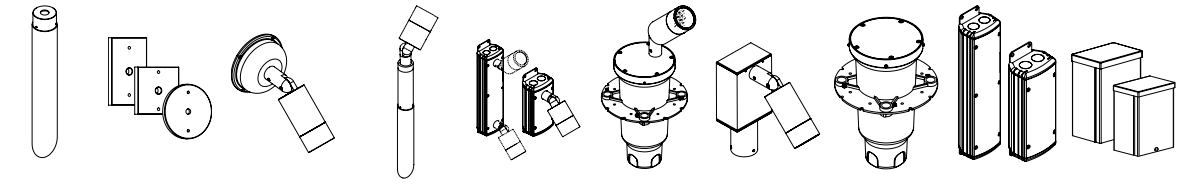
Antique Brass Powder (ABP) | Brown Patina Powder (BPP) | Sonoran Desert Sandstone (SDS) | Weathered Iron (WIR) | Clear Anodized Powder (CAP)

Cream (CRM) | Antique White (AQW) | Natural Brass Powder (NBP)

12/06/2022 SKU-1313
SUB-2784-00

DATE:	PROJECT:	TYPE:

Accessories (Configure separately)



Power Pipe | Canopies | Power Canopy | Power Pipe | PM2D & PM2 | HP2 | TMB | HP2RM | PM2DRM & PM2RM | DRM & RM

SPECIFICATIONS

ELECTRICAL	WATTAGE	10W LED
	WIRING	18GA, Stranded, XLPE, 300V, 150° C rated.
	REMOTE DRIVER	For use with remote LED driver. See remote driver submittal to determine remote distance and wiring requirements prior to detailing field installation of any remote wiring.
PHYSICAL	MATERIALS	Furnished in copper-free aluminum (6061-T6).
	BODY	Enclosed, water-proof wireway with machined end caps gasketed to create a water-tight seal for optical compartment.
	KNUCKLE	LOCK Knuckle is integral to the body and features an interior taper machined from solid billet and a second, reverse angle taper allowing full 180° vertical adjustment without the use of aim-limiting serrated teeth. High temperature, silicone 'O' Ring provides water-tight seal and compressive resistance to maintain fixture position. Design withstands 73 lbs. static load prior to movement for optical alignment with a ½" pipe thread for mounting. Optional 360SL provides biaxial source control with 360° horizontal rotation in addition to vertical adjustment.
	LENS	Shock-resistant, tempered glass lens is factory adhered to fixture cap and provides hermetically sealed optical compartment.
	LED	Integrated solid state system and modular design with electrical disconnects allow for easy field upgrade and maintenance. LM-80 certified. Minimum 50,000 hour rated life at 70% of initial lumens (L70). LED technology provides long life, significant energy reduction and exceptional thermal management.
	COLOR MANAGEMENT	Chip on board technology delivers natural white light. Exact color point conformity exceeds ANSI C78.377 standard. Module exceeds 80 CRI (RA>80, R9.16). Color point uniformity 2 SDCM color control for 2700K-4000K CCT.
	OPTICS	Interchangeable optics permit optical field changes.
	ACCESSORIES	Three (3) accessory options for optimum lighting control.
	HARDWARE	Tamper-resistant, stainless steel hardware. LOCK hardware is black oxide treated for additional corrosion resistance.
	FINISH	StarGuard, our 15-stage chromate-free process cleans and conversion coats aluminum components prior to application of Class 'A' TGIC polyester powder coating and is RoHS compliant.
	WARRANTY	5-year limited warranty.
	CERTIFICATION & LISTING	ITL tested to IESNA LM-79. UL Listed. Certified to CAN/CSA/ANSI Standards. RoHS compliant. Suitable for indoor or outdoor use, in wet locations, and for installation within 4' of the ground. IP66 Rated. Made in the USA with sustainable processes.

c UL us LISTED

RoHS

MADE IN THE USA

12/06/2022 SKU-1313
SUB-2784-00

LAMP & DRIVER DATA (x52, x53, x54)

DATE:	PROJECT:	TYPE:

DRIVER ELECTRICAL DATA

Type	AC Input Range	Frequency Hz	Power Factor At Full Load (Efficiency)	THD	InRush Current	Operating Current	Operation Ambient Temperature	Dimmer Type	Dimmer Range
INC	120-277VAC	50/60	> 0.9	<20%	n/a	350mA	-30° C ~ 90°C	TRIAC/ELV (120V)	1-100%
0-10	120-277VAC	50/60	> 0.9	<20%	n/a	350mA	-30° C ~ 90°C	0-10V Dimming	1-100%

LM79 DATA

BK No.	CCT (Typ.)	CRI (Typ.)	Input Watts (Typ.)
x52	2700K	80	10W
	2700K	80	10W
	2700K	80	10W
x53	3000K	80	10W
	3000K	80	10W
	3000K	80	10W
x54	4000K	80	10W
	4000K	80	10W
	4000K	80	10W

L70 DATA

Minimum Rated Life (hrs.) 70% of initial lumens (L_{70})
50,000
50,000
50,000
50,000
50,000
50,000
50,000
50,000
50,000

OPTICAL DATA

Angle	Delivered Lumens
20°	904.9
50°	1306.1
111.8 x 83.8	479.4
20°	945.5
50°	1364.8
111.8 x 83.8	484.8
20°	1016.7
50°	1467.5
111.8 x 83.8	538.7

OPTICS

Optic	Angle
Spot	20°
Flood	50°
Wall Wash	111.8 x 83.8

SARATOGA - POWER PIPE II INTEGRAL DRIVER HOUSING (10W)

ORDER FIXTURE SEPARATELY.

DATE:	PROJECT:	TYPE:

CATALOG NUMBER LOGIC:

**For use with incandescent dimmer. 120V only for dimming.*

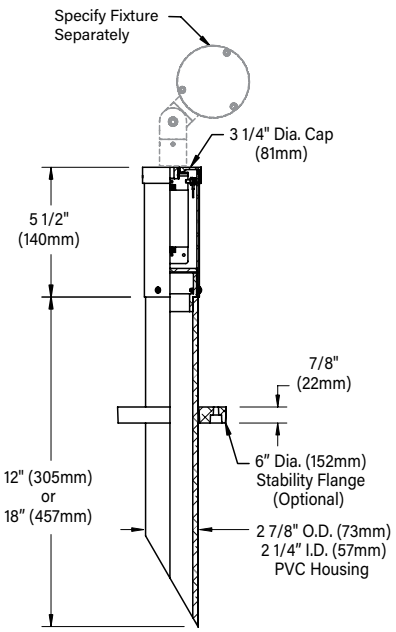
CATALOG NUMBER LOGIC
Example: PPII - S12 - 010 - BZW - B - MT - SF
MATERIAL
Aluminum
SERIES
PPII - Power Pipe II System
TYPE*
S12 - 12" Stake
S18 - 18" Stake
J12 - 12" Junction Box
J18 - 18" Junction Box
CONTROL TYPE
INC - 10W TRIAC/ELV Dimming 1-100%, 120V Only
010 - 10W Dimming Driver 0-10V Dimming 1-100%
FINISH
Standard Finishes (BZP, BZW, BLP, BLW, WHP, WHW, SAP, VER)
Premium Finish (ABP, AMG, AQW, BCM, BGE, BPP, CAP, CMG, CRM, HUG, NBP, OCP, RMG, SDS, SMG, TXF, WCP, WIR)
(Also available in RAL Finishes. See submittal SUB-1439-00)
CAP STYLE
B - Single Hole Cap
INPUT VOLTAGE
MT - 120-277 VAC
OPTIONS
SF - Stability Flange

SARATOGA - POWER PIPE II INTEGRAL DRIVER HOUSING (10W)

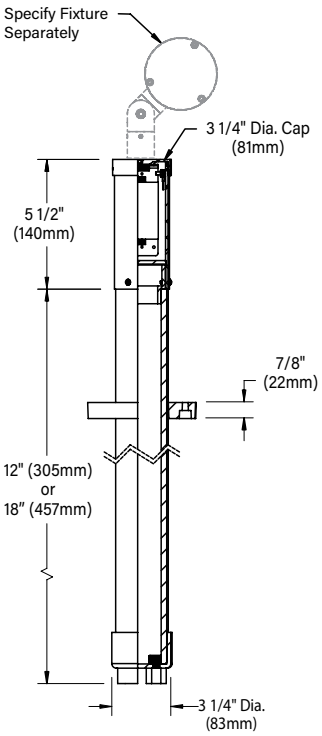
ORDER FIXTURE SEPARATELY.

DATE: | PROJECT: | TYPE:

STAKE (S)

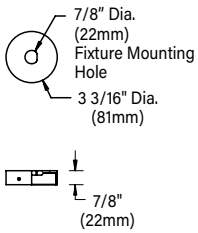


JUNCTION (J)

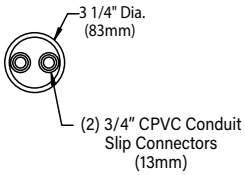


CAP STYLE

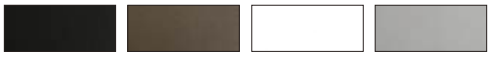
'B' Cap (Single Hole)



Bottom View of "J"



STANDARD FINISHES

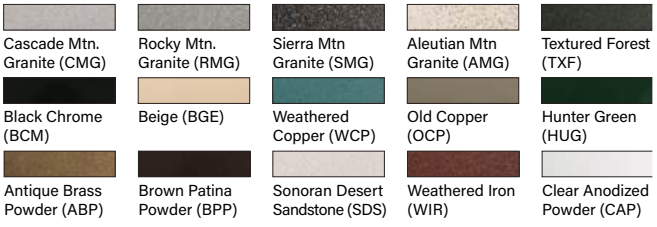


Satin Black (BLP) | Satin Bronze (BZP) | Satin White (WHP) | Satin Aluminum (SAP)

Black Wrinkle (BLW) | Bronze Wrinkle (BZW) | White Wrinkle (WHW) | Verde (VER)

Click Here to view larger, full-color swatches of all available finishes on our website.

PREMIUM FINISHES



Cascade Mtn. Granite (CMG) | Rocky Mtn. Granite (RMG) | Sierra Mtn Granite (SMG) | Aleutian Mtn Granite (AMG) | Textured Forest (TXF)

Black Chrome (BCM) | Beige (BGE) | Weathered Copper (WCP) | Old Copper (OCP) | Hunter Green (HUG)

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Cream (CRM) | Antique White (AQW) | Natural Brass Powder (NBP)

B-K LIGHTING | MADE IN THE USA | 559.438.5800 | INFO@BKLIGHTING.COM | BKLIGHTING.COM

12/06/2022 SKU-1317

SARATOGA - POWER PIPE II INTEGRAL DRIVER HOUSING (10W) ORDER FIXTURE SEPARATELY.

DATE:	PROJECT:	TYPE:

Accessories (Configure separately)

SPECIFICATIONS

Electrical	WIRING / CONNECTORS	18GA, Stranded, XLPVC, 300V, 150° C rated. Pre-wired and labeled terminal strip(s).
	DRIVER	One (1) 350mA, Class A, constant current driver. 120-277VAC (nominal) primary input voltage. 50/60Hz. >0.9 Power Factor, 0.25A input current, .20%THD (nominal at 120VAC full load). Output over-voltage, over-current, and short circuit protection with auto recovery. INC Driver - For use with Incandescent Standard TRIAC or ELV dimmers. 1-100% range, 120V Only. 010 Driver - For use with 0-10V dimmers. 1-100% range, external controls by others.
PHYSICAL	INSTALLATION	Provides a clean, architectural transition from wiring system to fixture. 2" Schedule 80 PVC pipe. For direct burial in soil or concrete. Available in 12" and 18" lengths. Available in three installation types:
	STAKE (TYPE S)	60° angled bottom designed for use with conduit or direct burial low voltage cable.
	JUNCTION BOX (TYPE J)	Includes two (2) 3/4" PVC slip connectors for branch circuit wiring.
	STABILITY FLANGE	Optional 6" diameter, molded stability flange simplifies installation and projects into substrate to simplify installation and reinforce housing stability.
	CAP STYLE	Machined from copper-free aluminum.
	DRIVER HOUSING	Fully machined from copper-free aluminum. Stainless steel hardware. High temperature, silicone 'O' Ring provides watertight seal.
	HARDWARE	Tamper-resistant, stainless steel hardware.
	FINISH	StarGuard, our 15-stage, chromate-free process cleans and conversion coats aluminum components prior to application of Class 'A' TGIC polyester powder coating and is RoHS compliant.
	WARRANTY	5-year limited warranty.
	CERTIFICATION & LISTING	Certified to CAN/CSA/ANSI Standards. UL Listed. RoHS compliant. Made in USA with sustainable processes.

c UL us LISTED

RoHS

MADE IN THE USA

Not Used

Application
As an individual luminaire with low mounting heights, it can be used for marking danger areas or in rows for illuminating corridors and passageways. With high mounting heights it can be used as a wall luminaire next to doors or for lighting small wall areas.

Materials
Clear safety glass with matte finish
Marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy
High temperature silicone gasket
Mechanically captive stainless steel fasteners

NRTL listed to North American Standards, suitable for wet locations
Protection class IP 64

Weight: 1.1 lbs.

Electrical

Operating voltage	120-277V AC
Minimum start temperature	-30° C
LED module wattage	3.0 W
System wattage	7.0 W
Controllability	0-10V dimmable
Color rendering index	Ra > 80
Luminaire lumens	204 lm
LED service life (L70)	60000 hrs

LED color temperature
☐ 4000K (K4)
☐ 3500K (K35)
☐ 3000K (K3)
☐ 2700K (K27)

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish
All BEGA standard finishes are matte, textured powder coat with minimum 3 mil thickness. BEGA Unidure® finish, a fluoropolymer technology, provides superior fade protection in Black, Bronze, and Silver. BEGA standard White is a super durable polyester powder. Optionally available RAL and custom color finishes provided in either polyester powder or liquid paint.

Available colors
☐ Black (BLK)
☐ Silver (SLV)
☐ RAL:
☐ Bronze (BRZ)
☐ White (WHT)
☐ CUS:

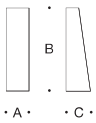
Type:
BEGA Product:
Project:
Modified:

Available options

☐ CUS	Custom finish
☐ FSC	Fusing
☐ MGU	Marine grade undercoat
☐ RAL	RAL finish

Included (available for pre-shipment)

☐ B19545	Narrow opening wiring box



Wall luminaire · Directed light

		LED	A	B	C
B33514	ADA	3.0 W	2 1/8	7 7/8	2 3/8

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Updated 01/16/24

MICRO NITE STAR LED

IP66 RATED

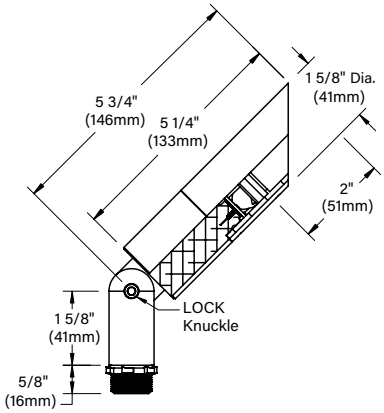
DATE: | PROJECT: | TYPE:

CATALOG NUMBER LOGIC:

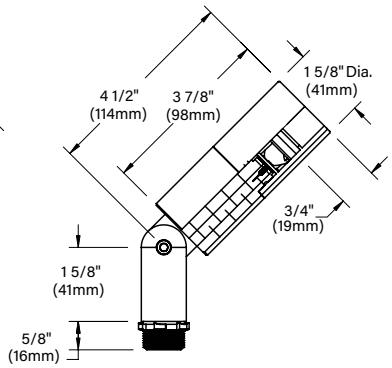
**Designed for use with LED transformer. Requires magnetic low voltage dimmer.*

***The 360SL cost is already included in the price of UPM, UPM dual, and Power Canopy.*

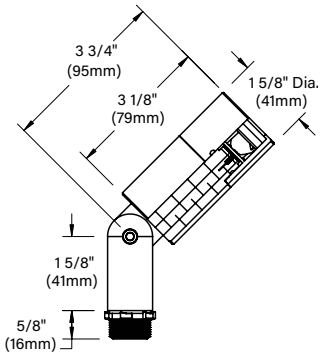
CATALOG NUMBER LOGIC
Example: B - MN - LED - e68 - SP - WHP - 12 - 11 - A - 360SL
MATERIAL
(Blank) - Aluminum B - Brass
SERIES
MN - Micro Nite Star
SOURCE
LED - with Integral Dimming Driver (25W min. load when dimmed)*
LED TYPE
e67 - 7W LED/2700K e82 – 7W/2700K 90 CRI
e68 - 7W LED/3000K e83 – 7W/3000K 90 CRI
e69 - 7W LED/4000K e84 – 7W/3500K 80 CRI
e75 - 7W LED/Amber
OPTICS
SP - Spot (17°) MFL - Medium Flood (25°) FL - Flood (30°)
FINISH (See page 2 for full-color swatches)
Standard Finishes (BZP, BZW, BLP, BLW, WHP, WHW, SAP, VER)
Premium Finish (ABP, AMG, AQW, BCM, BGE, BPP, CAP, CMG, CRM, HUG, NBP, OCP, RMG, SDS, SMG, TXF, WCP, WIR)
Also available in RAL Finishes
Brass Finishes (MAC, POL, MIT)
LENS TYPE
12 - Soft Focus 13 - Rectilinear
SHIELDING
11 - Honeycomb Baffle
CAP STYLE
A - 45°
B - 90°
C - Flush Lens
D - 45° Less Weephole (Interior use only)
E - 90° Less Weephole (Interior use only)
OPTIONS
360SL - Knuckle Mounting System**
MOD OPTIONS
5 - 5 Ft Leads
25 - 25 Ft Leads



"A/D" CAP



"B/E" CAP



"C" CAP

STANDARD FINISHES

Satin Black (BLP)	Satin Bronze (BZP)	Satin White (WHP)	Satin Aluminum (SAP)
Black Wrinkle (BLW)	Bronze Wrinkle (BZW)	White Wrinkle (WHW)	Verde (VER)

Click Here to view larger, full-color swatches of all available finishes on our website.

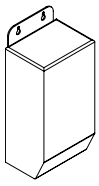
PREMIUM FINISHES

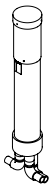
Cascade Mtn. Granite (CMG)	Rocky Mtn. Granite (RMG)	Sierra Mtn Granite (SMG)	Aleutian Mtn Granite (AMG)	Textured Forest (TXF)
Black Chrome (BCM)	Beige (BGE)	Weathered Copper (WCP)	Old Copper (OCP)	Hunter Green (HUG)
Antique Brass Powder (ABP)	Brown Patina Powder (BPP)	Sonoran Desert Sandstone (SDS)	Weathered Iron (WIR)	Clear Anodized Powder (CAP)
Cream (CRM)	Antique White (AQW)	Natural Brass Powder (NBP)		

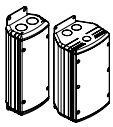
12/06/2022 SKU-737
SUB000927

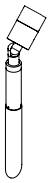
DATE:	PROJECT:	TYPE:

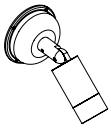
Accessories (Configure separately)

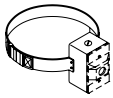

TR Series


Power Pipe

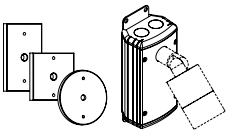

UPMRM


Power Pipe


Power Canopy


Tree Strap


Stems


Canopies UPM

SPECIFICATIONS

ELECTRICAL	WATTAGE	7W LED
	WIRING	XLPE, 18GA,150C, 600V, rated and certified to UL3321.
	REMOTE TRANSFORMER	For use with 12VAC remote transformer or magnetic transformers only. B-K Lighting cannot guarantee performance with third party manufacturers' transformers.
PHYSICAL	MATERIALS	Furnished in copper-free aluminum (6061-T6) or brass (360).
	BODY	Unibody design with enclosed, water-proof wireway and integral heat sink is fully machined from solid billet.
	KNUCKLE	LOCK Knuckle is integral to the body and features an interior taper machined from solid billet and a second, reverse angle taper allowing full 180° vertical adjustment without the use of aim-limiting serrated teeth. High temperature, silicone 'O' Ring provides water-tight seal and compressive resistance to maintain fixture position. Design withstands 73 lbs. static load prior to movement for optical alignment with a ½" pipe thread for mounting. Optional 360SL provides biaxial source control with 360° horizontal rotation in addition to vertical adjustment.
	CAP	Fully machined and accommodates two (2) lens or louver media.
	LENS	Shock-resistant, tempered glass lens is factory adhered to fixture cap and provides hermetically sealed optical compartment.
	LED	Integrated solid state system and modular design with electrical disconnects allow for easy field upgrade and maintenance. High power, forward throw source complies with ANSI C78.377 binning requirements and exceeds ENERGY STAR® lumen maintenance requirements. LM-80 certified components. Integral, constant current driver. 12VAC/VDC input. 50/60Hz. Proprietary input control scheme achieves power factor correction and eliminates inrush current (limited to <250mA non-dimming). Output, overvoltage, open-circuit, and short circuit protected. Conforms to Safety Std. C22.2 No. 250.13-12.
	DIMMING	Line voltage dimmable via magnetic low voltage dimmer with dedicated neutral conductor. Remote magnetic transformer with LED loads should be loaded to 25% of the transformer VA (watts) rated value.
	OPTICS	Interchangeable OPTIKIT modules permit optical field changes. Color-code: Narrow Spot (NSP) = red; Spot (SP) = green; Medium Flood (MFL) = yellow; Wide Flood (WFL) = blue.
	HARDWARE	Tamper-resistant, stainless steel hardware. LOCK aiming screw is black oxide treated for additional corrosion resistance.
	FINISH	StarGuard, our 15-stage chromate-free process cleans and conversion coats aluminum components prior to application of Class 'A' TGIC polyester powder coating and is RoHS compliant. Powder coat or metal finish options available for brass material.
	WARRANTY	5-year limited warranty.
	CERTIFICATION & LISTING	ITL tested to IESNA LM-79. UL Listed. Certified to CAN/CSA/ANSI Standards. RoHS compliant. Suitable for indoor or outdoor use, in wet locations, and for installation within 4' of the ground. IP66 Rated. Made in the USA with sustainable processes.

c UL us LISTED

RoHS

MADE IN THE USA

LAMP & DRIVER DATA (e67, e68, e69, e75)

DATE:	PROJECT:	TYPE:

DRIVER DATA	Input Volts	InRush Current	Operating	Dimmable	Operation Ambient Temperature
	12VAC/DC 50/60Hz	<250mA (non-dimmed)	500mA	Magnetic Low Voltage Dimmer	-22°F-194°F (-30°C - 90°C)

LM79 DATA				L70 DATA	OPTICAL DATA		
BK No.	CCT (Typ.)	CRI (Typ.)	Input Watts (Typ.)	Minimum Rated Life (hrs.) 70% of initial lumens (L_{70})	Angle	CBCP	Delivered Lumens
e67	2700K	80	7	50,000	17°	3632	459
	2700K	80	7	50,000	25°	1708	435
	2700K	80	7	50,000	30°	1337	438
e68	3000K	80	7	50,000	17°	3871	489
	3000K	80	7	50,000	25°	1821	464
	3000K	80	7	50,000	30°	1425	467
e69	4000K	80	7	50,000	17°	3991	504
	4000K	80	7	50,000	25°	1877	478
	4000K	80	7	50,000	30°	1469	481
e75	Amber (590nm)	~	7	50,000	~	~	~

OPTICS

Optic	Angle
SP - Spot	17°
MFL - Medium Flood	25°
FL - Flood	30°

POWER PIPE

ORDER FIXTURE SEPARATELY.

DATE:	PROJECT:	TYPE:

CATALOG NUMBER LOGIC:

**Includes stake, not available with Junction Box or transformer. Not compatible with fixtures that has 360HD knuckle.*

***For use with MR16 LED Lamps and Halogen Lamps.*

****For use with 3W-7W LED fixtures. 105-300 VAC. 50/60 Hz. non-dimming.*

*****Non-dimming.*

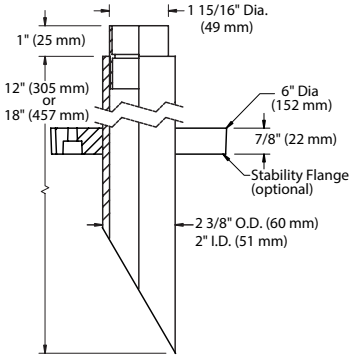
CATALOG NUMBER LOGIC
Example: PP - S12 - TRSS75 - BZW - B - 120 -SF
MATERIAL
(Blank) - Aluminum B - Brass S - Stainless Steel
SERIES
PP - Power Pipe System
TYPE
S12 - 12" Stake
S18 - 18" Stake
J12 - 12" Junction Box
J18 - 18" Junction Box
A18 - 18" Adjustable Stem*
TRANSFORMER HOUSING
(Blank) - Less Transformer Housing
TRSS75 - 75VA Electronic Transformer with Housing**
TRe20 - TRe20 Electronic Transformer with Housing***
FINISH (See page 2 for full-color swatches)
Standard Finishes (BZP, BZW, BLP, BLW, WHP, WHW, SAP, VER)
Premium Finish (ABP, AMG, AQW, BCM, BGE, BPP, CAP, CMG, CRM, HUG, NBP, OCP, RMG, SDS, SMG, TXF, WCP, WIR)
(Also available in RAL Finishes. See submittal SUB-1439-00)
Brass Finishes (MAC, POL, MIT)
Stainless Steel Finishes (MAC, POL)
CAP STYLE
(Blank) - Less Cap (Adjustable stem only)
B - Single Hole Cap
C- Solid Cap
INPUT VOLTAGE
(Blank) - For use with TRe20 Electronic Transformer***
120 - 120 VAC (For use with TRSS75)
230 - 230 VAC**** (Electronic only, for use with TRSS75)
277 - 277 VAC**** (For use with TRSS75)
OPTIONS
SF - Stability Flange

POWER PIPE

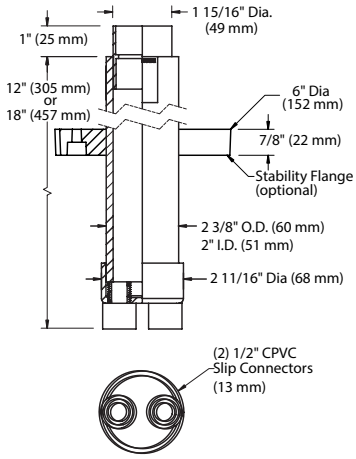
ORDER FIXTURE SEPARATELY.

DATE: | PROJECT: | TYPE:

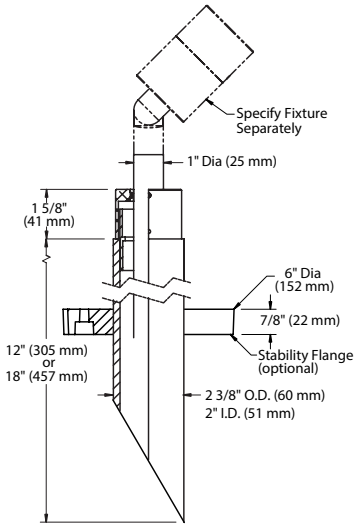
STAKE (S)



JUNCTION (J)

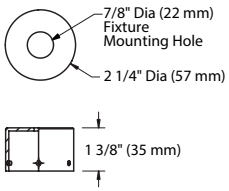


ADJUSTABLE STEM (A)

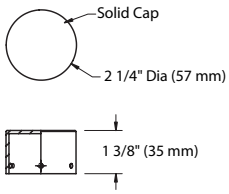


CAP STYLES

'B' Cap (Single Hole)

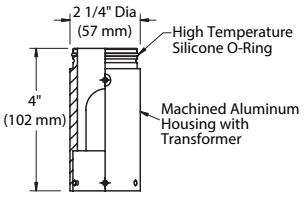


'C' Cap (Solid Cap)



TRANSFORMER

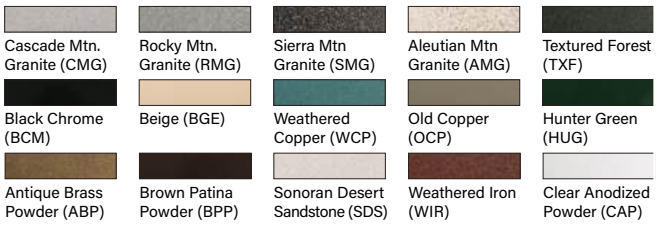
Transformer with Housing



STANDARD FINISHES

Click Here to view larger, full-color swatches of all available finishes on our website.

PREMIUM FINISHES



B-K LIGHTING | MADE IN THE USA | 559.438.5800 | INFO@BKLIGHTING.COM | BKLIGHTING.COM

12/06/2022 SKU-449

DATE:	PROJECT:	TYPE:

Accessories (Configure separately)

SPECIFICATIONS

Electrical	WIRING	Teflon® coated wire, 18AWG, 600V, 250° C rated and certified to UL 1659 standard. Adjustable stem mount additionally includes 24" or 36" 12/2 direct burial low voltage cable.
	TRANSFORMER HOUSING	Fully machined from copper-free aluminum, solid machined brass or stainless steel. Stainless steel hardware. High temperature, silicone 'O' Ring provides watertight seal.
	ELECTRONIC TRANSFORMER	For use with halogen lamps. 120V, 230V, and 277V primary voltage. 120V is fully dimmable (40W minimum load). 50/60Hz. 11.6V secondary voltage. 10W minimum load (halogen) non-dimmed. 75 watt maximum load. >0.93 Power Factor. <20% THD. Operating frequency >10kHz. Soft start circuitry to extend lamp life.
	TRe20 ELECTRONIC TRANSFORMER	For use with solid state 12V systems. 105-300VAC primary voltage. 50/60Hz. Non-dimming. 20VA maximum load.
PHYSICAL	INSTALLATION	Provides a clean, architectural transition from wiring system to fixture. 2" Schedule 80 PVC pipe. For direct burial in soil or concrete. Available in 12" and 18" lengths. Available in three installation types:
	STAKE (TYPE S)	60° angled bottom designed for use with conduit or direct burial low voltage cable.
	JUNCTION BOX (TYPE J)	Includes two (2) 1/2" PVC slip connectors for branch circuit wiring.
	ADJUSTABLE STEM (TYPE A18)	18" field adjustable stem accommodates future landscape growth. Unused stem length remains hidden inside housing. Delrin bushing and stainless steel set screws lock mounting height.
	STABILITY FLANGE	Optional 6" diameter, molded stability flange simplifies installation and projects into substrate to simplify installation and reinforce housing stability.
	CAP STYLE	Machined from copper-free aluminum or machined brass.
	HARDWARE	Tamper-resistant, stainless steel hardware.
	FINISH	StarGuard, our 15-stage, chromate-free process cleans and conversion coats aluminum components prior to application of Class 'A' TGIC polyester powder coating and is RoHS compliant.
	WARRANTY	5-year limited warranty.
	CERTIFICATION & LISTING	Certified to CAN/CSA/ANSI Standards. UL Listed. RoHS compliant. Made in USA with sustainable processes.

c UL us LISTED

RoHS

MADE IN THE USA

QOM-eLED+0-10V-PS

LED POWER SUPPLY 60W–300W

- Surface mount, exterior rated LED power supply center
- Utilizes Advance Xitanium drivers with optional 0-10V dimming modules
- Designed for powering 12VDC or 24VDC constant voltage products
- Suitable for 0-10V dimming or on/off applications
- 0-10V dimming provides PWM to the fixture for smooth dimming
- UL listed enclosure can accommodate 1-3 drivers and 1-3 dimming modules

1 PRODUCT	2 WATTAGE	3 PRIMARY VOLTAGE	4 SECONDARY VOLTAGE	5 CONTROL	6 COLOR
QOM-eLED-PS		UNV		0-10V	

Sample Part Number: **QOM-eLED-PS-60W-UNV-12VDC-0-10V-BK**

1 PRODUCT

QOM-eLED-PS

2 WATTAGE

60W 120W 180W	
100W 200W 300W	

3 PRIMARY VOLTAGE

UNV	Universal (120-277V)
UNV	Universal (120-277V)

4 SECONDARY VOLTAGE

12VDC
24VDC

5 CONTROL

0-10V

6 COLOR

BK	Black Powder Coat Finish (Standard)
SS	316 Marine Grade Stainless Steel

PRODUCT INFORMATION

- Limited output voltage and current, plus isolation for safe operation
- Dimmable 0.1% - 100% w/ additional 0-10V dimming module
- Fully potted driver(s) for moisture resistance
- Suitable for dry, damp, and wet locations
- Surface mount only
- Suitable for use with submersible luminaire
- Suitable for pool and spa application
- Primary voltage - universal (120-277V)
- Wide operating temperature range: -40˚F to 104˚F
- Fits up to (3): 60W 12VDC or (3):100W 24VDC driver(s) and
- (1) 0-10V dimming module
- 5 year warranty
- Driver has Class A sound rating
- Class 2 output
- CSA #239924
- Low Voltage Lighting Systems
  - CSA Class 3425-15 and Class 3425-95
  - CSA Standard C22.2 No. 250.0-08 - Luminaires
  - ANSI/ UL Standard 2108 - Low Voltage Lighting System
  - ANSI/ UL Standard 8750 - Light Emitting Diode (LED) Equipment for Use in Lighting Products
  - CSA Std C22.2 No 250.13-14 - Light Emitting Diode (LED) Equipment for Lighting Applications
- Landscape Lighting Systems
  - CSA Class 3402-15 and Class 3402-95
  - CSA Standard C22.2 No. 250.7-07 - Extra-Low-Voltage Landscape Lighting Systems
  - ANSI/ UL Standard 1838 - Low Voltage Landscape Lighting Systems
  - ANSI/ UL Standard 8750 - Light Emitting Diode (LED) Equipment for Use in Lighting Products
  - CSA Std C22.2 No 250.13-14 - Light Emitting Diode (LED) Equipment for Lighting Applications
- Hydromassage (Pool and Spa)
  - CSA Class 3425-46 and class 3425-96
  - UL Standard 379 - Power Unit for Fountain, Swimming Pool and Spa Luminares
  - CSA STD C22.2 NO.89-15-Swimming Pool Luminaire, Submersible Luminaires and Accessories

Specification subject to change. Rev-03-12-24

QOM-eLED+0-10V-PS

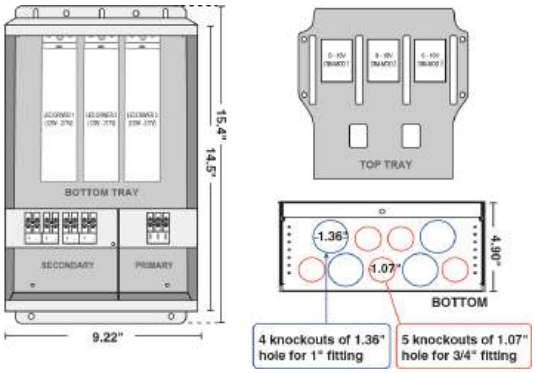
LED POWER SUPPLY 60W–300W

VOLTAGE DROP CHART

This product must be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the product and the hazards involved. If dimming with optional 0-10V dimming module, use a dimmer rated for 0-10

VDC	Load Wattage (W)	Distance from PS for 5% Voltage Drop								
		10 AWG	12 AWG	14 AWG	16 AWG	18 AWG	20 AWG	22 AWG	24 AWG	26 AWG
12	12	315'	198'	125'	78'	49'	31'	19'	12'	7'
	25	115'	72'	45'	28'	18'	11'	7'	4'	4'
	60	7'	4'	3'						
24	17	897'	564'	355'	223'	140'	88'	55'	35'	22'
	25	567'	356'	224'	141'	88'	56'	35'	22'	14'
	40	309'	194'	122'	77'	48'	30'	30'	12'	7'
	80	130'	82'	51'	32'	20'	13'	8'	5'	3'
	100	84'	53'	33'	21'	13'	8'	5'	3'	

1 PRODUCT - DIMENSIONS



2 TECHNICAL INFORMATION

Wattage	Max Load (Watts)	Secondary Voltage	Max Prim Amps @ 120V	Max Prim Amps @ 277V
60W	1x60W	12VDC	0.60A	0.29A
120W	2x60W	12VDC	1.20A	0.58A
180W	3x60W	12VDC	1.80A	0.87A
100W	1x100W	24VDC	0.95A	0.40A
200W	2x100W	24VDC	1.90A	0.80A
300W	3x100W	24VDC	2.85A	1.20A

HOUSING

- 18 gauge welded steel enclosure: 15.4"L x 9.22"W x 4.90"D
- Door: 14.5"L x 9.27"W
- Knockouts: 9
- Built-in support bracket incorporated to secure housing for surface mounting

PERFORMANCE

- Rated for surface mount or outdoor use
- Fully rated to operate low voltage load at listed wattage (No derating required)
- Voltage regulation to 2% or less of rated output voltage
- The ability to be dimmed using 0-10V dimming
- Universal input range of 120-277 Vrms
- Low Voltage Lighting Systems
  - CSA Class 3425-15 and Class 3425-95
- LED Landscape Lighting System Components
  - CSA Class 3402-15 and Class 3402-95
- Hydromassage (Pool & Spa)
  - CSA Class 3425-46 and Class 3425-96
  - Short circuit protection (SCP)
  - Over voltage protection (OVP)
  - Over current protection (OCP)
  - Live tested by the manufacturer to ensure proper operation
- Terminal blocks are made of tin plated copper with a voltage rating of 300V and a current rating of 40A

Specification subject to change. Rev-03-12-24

QOM-eLED+0-10V-PS

LED POWER SUPPLY 60W–300W

SPECIFICATIONS

Input	12VDC			24VDC		
Input Voltage (Vrms)	120	230	277	120	230	277
Input Current, max (Arms)	0.58	0.30	0.25	0.98	0.51	0.42
Inrush Current, max* (Apk)	-	-	-	45	90	100
Input Frequency (Hz)	50/60			50/60		
Input Power (Wmax)	70			117		

Output	12VDC	24VDC
Output Voltage, nom (V)	12	24
Output Current (A)	5.0	4.1
Output Power (Wmax)	60	100
Dimming 0-10V, max	2mA	

Environmental	Min	Nom	Max	Min	Nom	Max
THD (%)	-	-	20	-	-	20
PF (%)	0.90	-	-	0.90	-	-
Case Temp (°F)	-	-	90	-	-	90

*-200us event

PROTECTIONS

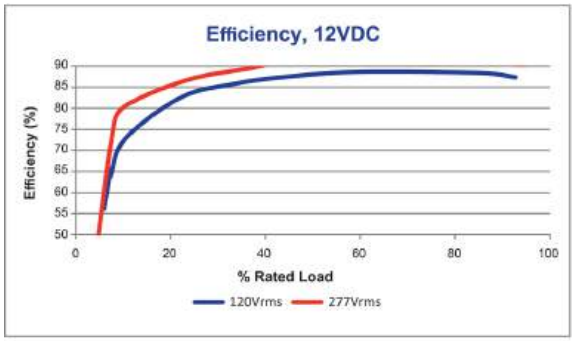
- Short Circuit Protection
  (SCP)Over Voltage Protection
  (OVP)Over Current Protection
  (OCP)Class 2 Output

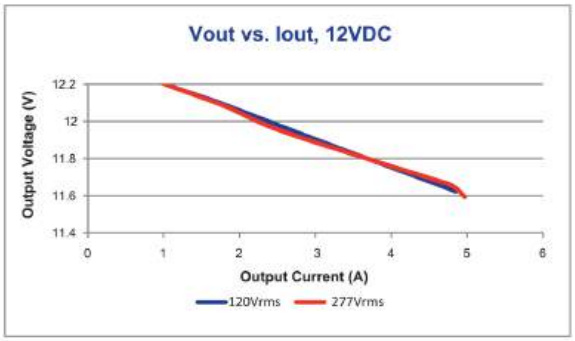
6 COLOR

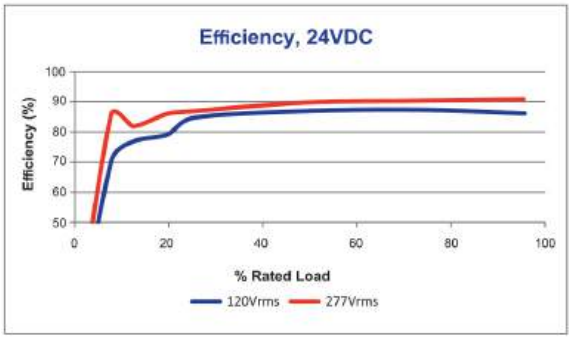
Black Powder Coat Finish (Standard)
316 Marine Grade Stainless Steel

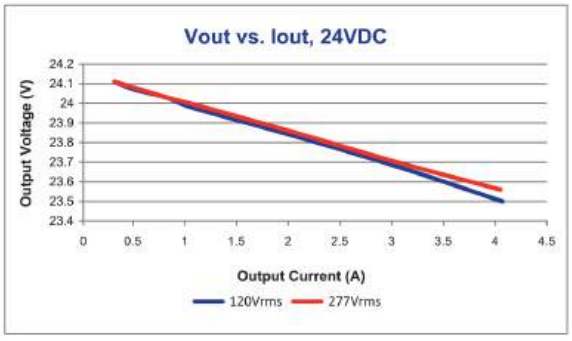
COMPLIANCE

- EMI Spec
  - FCC 47 Part 15
  - EN61000-3-2
- CSA Certified
  - UL-2108
  - UL-1838
  - UL-8750
  - UL 379
  - CSA C22.2 No 250.7-07
  - CSA C22.2 No 250.0-08
  - CSA C22.2 No 250.13-14
  - CSA C22.2 No 89-15

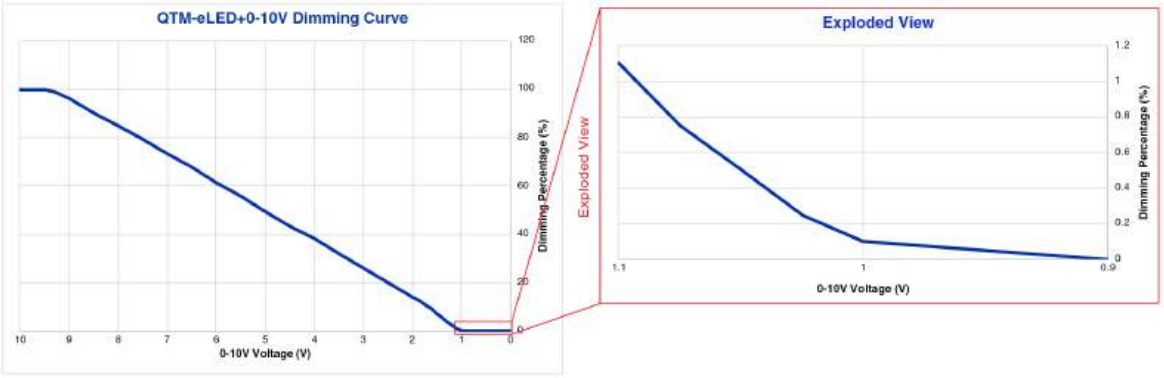


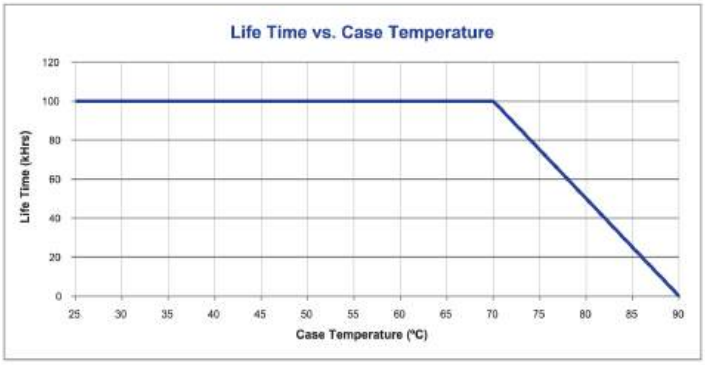




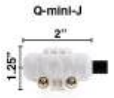


Specification subject to change. Rev-03-12-24





COMPATIBLE WIRING ACCESSORIES



UL Listed, miniature junction box

Not Used

LUMENTURE®

DL60 2” FIXED DOWNLIGHTS

TYPE:

PROJECT:

With a 2” aperture, knife-edge trim and excellent visual cutoff - Lumenture’s DL60 blends discreetly in any environment. These recessed modules deliver high lumens without glare. The result is superior brightness and quality from an unobtrusive fixture. The DL60 is available both in remodel with an attached junction box or with optional rough-in housings to fit any construction needs.

DIMMING
Triac, ELV, 0-10V, DALI & LEDcode

WEIGHT
11 oz. (module only)

WATTAGE
6.5W-17W

EFFICACY
up to 1600lm
up to 111lm/W

AC DRIVER INPUT
120-277V

HOUSING
Closed, Open, Pan, Remodel, Chicago Plenum

FINISH
Aluminum module & trim, Powdercoat

ACCESSORIES
Field replaceable optics & accessories

ORDERING

FIXTURE	CCT/CRI (1)	BEAM SPREAD (1)	CONE COLOR (1)	TRIM COLOR (1)	TRIM TYPE (2)	DRIVER (3)	OUTPUT (mA) (1)	Housing Availability (4) C	N	P	R	CP	HOUSING/ J-BOX
DL60	**22H -** 2200K, CRI 90+	**15 -** 15°	**W -** White	**W -** White	**R -** Round	**U -** Universal Dimming Driver (Triac, ELV & 0-10V)	**150 -** 6.5W	✓	✓	✓	✓	✓	**C -** Closed
	27H - 2700K, CRI 90+	**25 -** 25°	**B -** Black	**B -** Black	**RF -** Round Flangeless	**D1 -** EldoLED DALI/LEDcode (0.1% dimming)	**200 -** 8.5W	✓	✓	✓	✓	✓	**N -** Open
	30H - 3000K, CRI 90+	**40 -** 40°	**S -** Silver	**S -** Silver	**RP -** Round Pinhole		**250 -** 11W	✓	✓	✓	✓	✓	**P -** Pan
	30B - 3000K, CRI 95+	**60 -** 60°			**RW -** Round Wet		**300 -** 12.5W	✓	✓	x	x	✓	**R -** Remodel
	30D - 3000K, CRI 90+ (Dim-to-Warm)				**RFW -** Round Flangeless Wet	**Z1-** EldoLED 0-10V (0.1% dimming)	**350 -** 15W	✓	✓	x	x	✓	**CP -** Chicago Plenum
	35H - 3500K, CRI 90+				**S -** Square		**400 -** 17W	x	✓	x	x	x	
	40H - 4000K, CRI 90+				**SF -** Square Flangeless								
					SW - Square Wet								
					SFW - Square Flangeless Wet								

NOTES

1. Custom options available. Please consult factory.
2. When “wet” trim is added, the fixtures are Wet Location Rated.
   Above ceiling access is required for Flangeless Trim options.
   Flangeless Trim options are only available with C (Closed), N (Open), and CP (Chicago Plenum).
3. EM battery backup option available. See page (4).
4. Housing availability chart is for informational purposes only. Do not include in ordering.

* Optional butterfly brackets available. See accessories on page (4).
Butterfly brackets and factory installed brackets are required for acoustical ceiling tile (ACT) ceilings.

KEY

- ✓ Available, Non-IC-Rated
- ✓ Available, IC-Rated, Title-24 Certified
- ✓ Available, IC-Rated
- x Not available

ORDERING EXAMPLE:

DL60 - 22H - 15 - W - W - R - U - 250 - P

LISTINGS

Certified to UL standard 1598 and CSA C22.2 No. 250.0-08 for damp locations.
Airtight (AT) certified less than 2 cfm leakage @ 1.57PSI per ASTM E283.

DL60 2in Fixed Downlight Specifications p. 1/4
Custom options available, please consult factory
Product specifications are subject to change
info@lumenture.com **P.** 203.864.3333

LUMENTURE®
www.lumenture.com
version 20240306

PHOTOMETRICS

LUMEN OUTPUT

Values fluctuate based on CCT and CRI. To estimate delivered lumen output of various CCT/CRI options, multiply nominal lumens by the multiplier below.

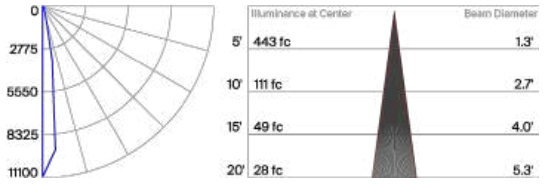
OUTPUT (mA)	WATTAGE	NOMINAL LUMENS
150	6.5W	700
200	8.5W	950
250	11W	1050
300	12.5W	1200
350	15W	1450
400	17W	1600

CODE	CCT	CRI	TECHNOLOGY	15°	25°	40°	60°
22H	2200K	90+	Standard	0.65	0.70	0.70	0.65
27H	2700K	90+	Standard	0.75	0.85	0.85	0.80
30H	3000K	90+	Standard	0.80	0.90	0.90	0.85
30B	3000K	95+	Standard	0.75	0.80	0.80	0.75
30D	3000K	90+	Dim-to-Warm	N/A	0.80	0.80	0.75
35H	3500K	90+	Standard	0.85	0.95	0.95	0.90
40H	4000K	90+	Standard	0.85	0.95	0.95	0.90

Lumenture maintains a lumen output tolerance of +/-7.5%
**Dim-to-Warm dims from 3000K to 1800K

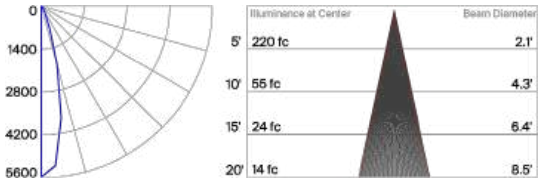
DL60 - 15 Degree

Delivered Light Output: 1159 Lumens
Total Watts @120V: 13.5;
Lumens Per Watt: 86
Center Beam Candle Power: 10993
Spacing Criteria: 0.26



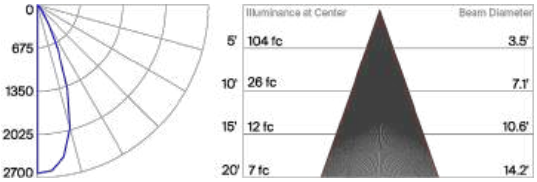
DL60 - 25 Degree

Delivered Light Output: 1248 Lumens
Total Watts @120V: 12.5;
Lumens Per Watt: 100
Center Beam Candle Power: 5480
Spacing Criteria: 0.42



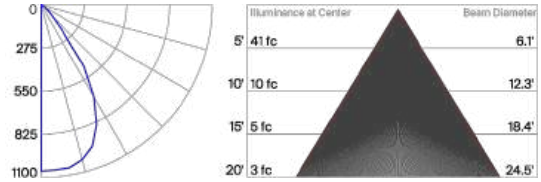
DL60 - 40 Degree

Delivered Light Output: 1225 Lumens
Total Watts @120V: 12.5;
Lumens Per Watt: 98
Center Beam Candle Power: 2597
Spacing Criteria: 0.62



DL60 - 60 Degree

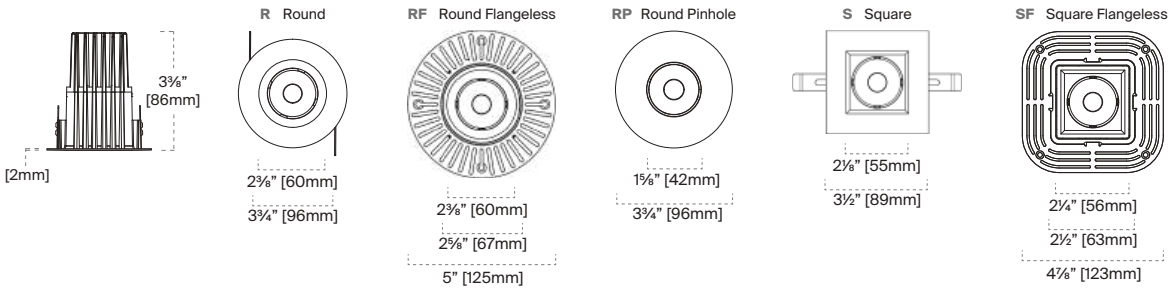
Delivered Light Output: 1100 Lumens
Total Watts @120V: 12.5;
Lumens Per Watt: 88
Center Beam Candle Power: 1029
Spacing Criteria: 0.92



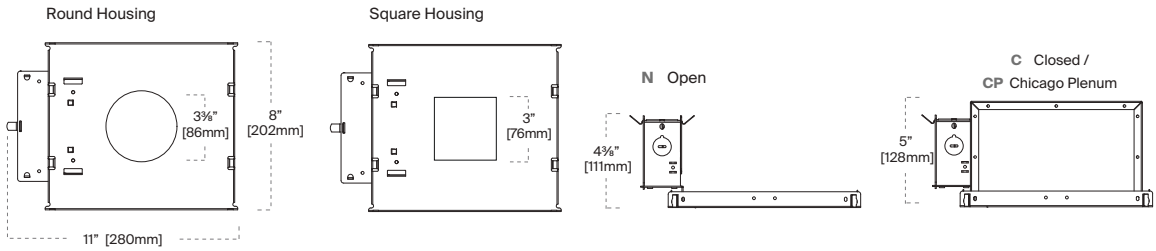
DL60 2" FIXED DOWNLIGHTS

DIMENSIONS

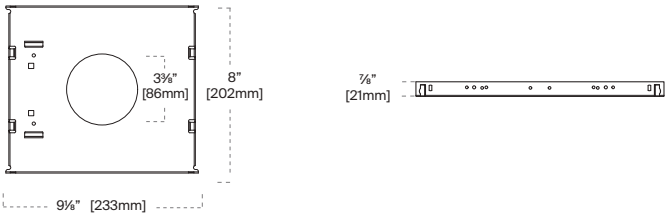
Max Ceiling Thickness = 1"
Please consult factory for thicker ceiling options



OPEN (N), CLOSED (C) AND CHICAGO PLENUM (CP) HOUSING DIMENSIONS



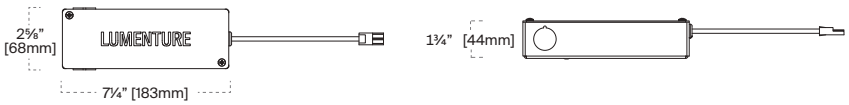
PAN (P) HOUSING DIMENSIONS



Supplied with (2) 24" adjustable hanger bars with nails. Butterfly brackets for C-Channel available upon request.

Supplied with (R) Remodel Housing (Loose Junction Box)

REMODEL (R) DIMENSIONS (Loose Junction Box)



DL60 2in Fixed Downlight Specifications p. 3/4
Custom options available, please consult factory
Product specifications are subject to change
info@lumenture.com **P.** 203.864.3333

LUMENTURE
www.lumenture.com
version 20240306

DIMMING

Dimming is standard and allows for smooth illumination below 0.1% with certain dimmer/driver combinations. The "U" (Universal) driver dims to 1%, accepts 120-277V AC Input and is compatible with 0-10V, Triac (forward phase) and ELV (reverse phase) dimmers. The "Z1" (0-10V) driver dims to 0.1%, accepts 120-277V AC Input and is compatible with 0-10V dimmers. The "D1" (DALI) driver dims to 0.1%, accepts 120-277V AC Input and is compatible with DALI dimmers. For dimmer compatibility, refer to the Dimming Compatibility document on our website.

ACCESSORIES

LENS ACCESSORIES

- **Lens-Yellow-50**
- **Lens-Green-50**
- **Lens-Blue-50** (Light Blue)
- **Lens-Red-50**
- **Lens-Rose-50**
- **HL-50** (Black Honeycomb Louver)
- **LS-50** (Linear Spread)
- **SOL-50** (Solite)

NOTES
Field replaceable optics and accessories available. Please consult factory.
Lens accessories can not be combined with any Wet Trim.

BUTTERFLY BRACKET KIT
Contains two (2) butterfly brackets and two (2) wing nuts
Butterfly brackets and factory installed brackets are required for acoustical ceiling tile (ACT) ceilings.

EMERGENCY BACKUP

	LEM08: Lithonia LEM08-A-06
Output Power:	8W (initial)
Emergency Operation:	90 minutes
Battery Type:	nickel-cadmium
Input Voltage:	120-277 VAC
Output Voltage:	20-50 VDC
Class 2 Output:	Yes
Diagnostic Type:	Manual
Title-20 Compliant:	Yes
Life Expectancy:	7-10 years
Dimensions:	13.4 x 2.4 x 1.6"
Mounting Type:	Remote Inline (metal conduit)
Maximum Distance:	25 ft
Weight:	2.8 lbs
Cost:	$$

NOTES
Access panel is required for service of remote emergency backup battery.

WAC LIGHTING

Fixture Type:

Catalog Number:

Project:

Location:

Caliber

Outdoor Ceiling Mount

Model & Size	Color Temp	Finish	LED Watts	LED Lumens	Delivered Lumens
❍ FM-W36607 7"	3000K	❍ AL Brushed Aluminum ❍ BK Black ❍ BZ Bronze ❍ WT White	11W	855	545

Example: **FM-W36607-WT**

For custom requests please contact customs@waclighting.com

DESCRIPTION

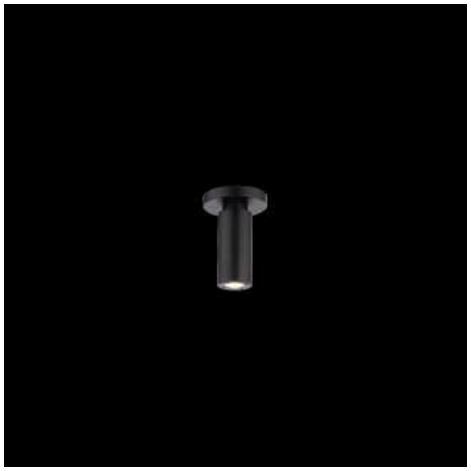
Light projection tuned with precision.

FEATURES

- Driver concealed within the fixture
- 5 year warranty

SPECIFICATIONS

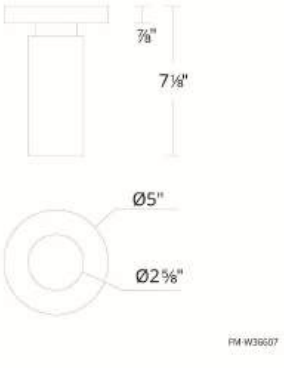
Color Temp:	3000K
Input:	120-277V,50/60Hz
CRI:	90
Dimming:	ELV: 100-5% , 0-10V: 100-5%,TRIAC: 100-10%
Rated Life:	50000 Hours
Standards:	ETL, cETL,IP65
	Wet Location Listed
Construction:	Aluminum hardware with lens diffuser



FINISHES:

Black | Brushed Aluminum | Bronze | White

LINE DRAWING:



Not Used

Not Used

Not Used

Application
This wall mounted luminaire features a forward throw light distribution and is designed for the general illumination of pathways and walkways from various mounting heights. Downlight applications only.

Materials
Clear safety glass with optical texture
Marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy
High temperature silicone gasket
Mechanically captive stainless steel fasteners

NRTL listed to North American Standards, suitable for wet locations
Protection class IP 64

Weight: 2.7 lbs.

Electrical

Operating voltage	120-277V AC
Minimum start temperature	-30° C
LED module wattage	7.9 W
System wattage	11.0 W
Controllability	0-10V, TRIAC, and ELV dimmable
Color rendering index	Ra > 80
Luminaire lumens	618 lm
LED service life (L70)	60000 hrs

LED color temperature
☐ 4000K (K4)
☐ 3500K (K35)
☐ 3000K (K3)
☐ 2700K (K27)

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

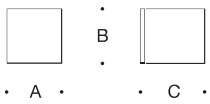
Finish
All BEGA standard finishes are matte, textured powder coat with minimum 3 mil thickness. BEGA Unidure® finish, a fluoropolymer technology, provides superior fade protection in Black, Bronze, and Silver. BEGA standard White is a super durable polyester powder. Optionally available RAL and custom color finishes provided in either polyester powder or liquid paint.

Available colors
☐ Black (BLK)
☐ Silver (SLV)
☐ RAL:
☐ Bronze (BRZ)
☐ White (WHT)
☐ CUS:

Type:
BEGA Product:
Project:
Modified:

Available options

☐ CUS	Custom finish
☐ FSC	Fusing
☐ MGU	Marine grade undercoat
☐ RAL	RAL finish



Wall luminaire · Asymmetric

	LED	A	B	C
B33815	7.9 W	$4^{3}/_{8}$	$7^{1}/_{2}$	$4^{3}/_{8}$

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

Updated 03/08/24

APPENDIX 12

Control Narrative

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APPENDIX C – LIGHTING CONTROL NARRATIVE

1.1 GENERAL

A. Lighting Control Systems: John Jay Homestead Site and Building Enhancements is following 2020 Energy Conservation Construction Code of New York State which is based on IECC 2018 and requires interior lighting be dimmable and controlled by automated photocell, timeclock, and/or occupancy sensing controls. Exterior lighting will be dimmable per lighting fixture schedule and controlled by automated photocell, astronomical timeclock, and/or occupancy sensing controls. Lighting will be connected to the building energy management system for timeclock activation. Localized control stations will be designed for areas where individual usage and occupant controls are desired.

B. For John Jay Homestead Site and Building Enhancements, the lighting controls will be designed to meet the energy code requirements and project standards. The electrical engineer will provide those compliant systems and HLB will coordinate with them to ensure the luminaires will be controlled by those systems. The spaces described below are those requiring lighting controls above and beyond these standard requirements. The enhanced lighting control will provide improved functionality of the spaces.

1.2 ENHANCED LIGHTING CONTROLS

A. BEDFORD HOUSE / Exhibit Spaces

1. Automatic Controls

   a. Architect and Owner shall confirm hours of operation.
   b. Engineer shall confirm emergency requirements.
   c. Allow for up to (3) recorded presets to be controlled by timeclock.

2. Manual Controls

   a. Allow for manual dimming override via wireless tablet(s) or phone(s). Tablet(s) to be located in back of house location(s).

3. Zones

   a. The minimum requirement is to allow one zone of dimming control per fixture type in each location.

4. Sequence

   a. All lighting shall be triggered to Full On scene via timeclock at sunrise/or opening of facility.
   b. All lighting shall be triggered to Closed scene via timeclock at preset time (by Owner).
   c. Allow for up to (3) scenes to be determined by Owner.
   d. Cleaning (100% on) and Closed scenes shall be triggered manually by staff.

B. BEDFORD HOUSE / Event Spaces (Ballroom, Porch, Conservatory)

1. Automatic Controls

a. Architect and Owner shall confirm hours of operation.
b. Allow for up to (4) recorded presets.

2. Manual Controls

a. Allow for manual dimming override via wireless tablet(s) or phone(s). Tablet(s) to be located in back of house location(s).
b. Override local preset station shall be located at the ballroom entrances and other areas as designated by the Architect and Owner.

3. Zones

a. The minimum requirement is to allow one zone of dimming control per fixture type in each location.

4. Sequence

a. All lighting shall be triggered to Full On scene via timeclock at sunrise.
b. All lighting shall be triggered to Closed scene via timeclock at preset time (by Owner).
c. Allow for up to (4) scenes to be determined by Owner.
a. Cleaning (100% on) and Closed scenes shall be triggered manually by staff.

C. BEDFORD HOUSE / Office Spaces

1. Automatic Controls

a. Vacancy sensors.
b. Engineer shall confirm emergency requirements.

2. Manual Controls

a. Allow for manual override by staff via switch at room entrance. Location to be determined by the Architect and Owner.

3. Zones

a. The minimum requirement is to allow one zone of dimming control per fixture type in each location.

4. Sequence

a. Vacancy sensors will turn lights off automatically when 20 minutes if no occupancy has been detected. Wall-mounted sensors integrated into switches may be used for small rooms where coverage of device is sufficient.

D. BEDFORD HOUSE / Storage

1. Automatic Controls

a. Occupancy Sensors.
b. Engineer shall confirm emergency requirements.

2. Manual Controls
    a. Allow for manual override by staff via switch at room entrance. Location to be determined by the Architect and Owner.
3. Zones
    a. The minimum requirement is to allow one zone of dimming control per fixture type in each location.
4. Sequence
    a. Allow for manual All-ON override by switch.
    b. During regular operation, occupancy sensor shall switch lighting in the following sequence:
        1) Lighting shall turn on to preset level if motion is detected.
        2) Lighting shall turn off if no motion is detected after 20 minutes or the code-required maximum delay time, whichever is longer.

E. BEDFORD HOUSE / Egress Staircase
1. Automatic Controls
    a. Occupancy Sensors.
    b. Engineer shall confirm emergency requirements.
2. Zones
    a. The minimum requirement is to allow one zone of dimming control per fixture type in each location.
3. Sequence
    a. During regular operation, occupancy sensor shall switch lighting in the following sequence:
        1) Lighting shall turn on to preset level if motion is detected.

F. CARRIAGE BARN / Entrance, Ticketing, Gift Shop
1. Automatic Controls
    a. Architect and Owner shall confirm hours of operation.
    b. Engineer shall confirm emergency requirements.
    c. Allow for up to (3) recorded presets to be controlled by timeclock.
2. Manual Controls
    a. Allow for manual dimming override via wireless tablet(s) or phone(s). Tablet(s) to be located in back of house location(s).
3. Zones
    a. The minimum requirement is to allow one zone of dimming control per fixture type in each location.

4. Sequence

    a. All lighting shall be triggered to Full On scene via timeclock at sunrise.
    b. All lighting shall be triggered to Closed scene via timeclock at preset time (by Owner).
    c. Allow for up to (3) scenes to be determined by Owner.
    d. Cleaning (100% on) and Closed scenes shall be triggered manually by staff.

G. CARRIAGE BARN / Exhibits

1. Automatic Controls

    a. Architect and Owner shall confirm hours of operation.
    b. Engineer shall confirm emergency requirements.
    c. Allow for up to (4) recorded presets to be controlled by timeclock.

2. Manual Controls

    a. Allow for manual dimming override via wireless tablet(s) or phone(s). Tablet(s) to be located in back of house location(s).

3. Zones

    a. The minimum requirement is to allow one zone of dimming control per fixture type in each location.

4. Sequence

    a. All lighting shall be triggered to Full On scene via timeclock at sunrise.
    b. All lighting shall be triggered to Closed scene via timeclock at preset time (by Owner).
    c. Allow for up to (4) scenes to be determined by Owner.
    d. Cleaning (100% on) and Closed scenes shall be triggered manually by staff.

H. BEDFORD HOUSE & CARRIAGE BARN / Façade

1. Automatic Controls

    a. Astronomical Timeclock
    b. Architect and Owner shall confirm hours of operation.

2. Manual Controls

    a. Allow for manual dimming override via wireless tablet and touchscreen(s). Touchscreen(s) to be located in back of house location(s).
    b. c

3. Zones

    a. Bedford House South Porch (FX11)
    b. Bedford House South Façade (FX16)
    c. Bedford House East Entry (FX16A)
    d. Bedford House Ballroom Porch Entry (FX16A)
    e. Bedford House Conservatory Entry (FX8)
    f. Bedford House Stone Wall (FX6A)

g. Carriage Barn Stone Wall (FX6)

4. Sequence

a. Provide manual override control to turn on/off fixtures per zone.

I. BEDFORD HOUSE & CARRIAGE BARN / Restrooms

1. Automatic Controls

a. Occupancy Sensors.
b. Engineer shall confirm emergency requirements.

2. Manual Controls

a. Allow for manual override by staff via switch at room entrance. Location to be determined by the Architect and Owner.

3. Zones

a. The minimum requirement is to allow one zone of dimming control per fixture type in each location.

4. Sequence

a. Allow for manual All-ON override by switch.
b. During regular operation, occupancy sensor shall switch lighting in the following sequence:

1) Lighting shall turn on to preset level if motion is detected.
2) Lighting shall turn off if no motion is detected after 20 minutes or the code-required maximum delay time, whichever is longer.

J. BEDFORD HOUSE & CARRIAGE BARN / Circulation, Breezeway, Elevator Lobby

1. Automatic Controls

a. Occupancy Sensors.
b. Engineer shall confirm emergency requirements.

2. Manual Controls

a. Allow for manual override by staff via switch at room entrance. Location to be determined by the Architect and Owner.

3. Zones

a. The minimum requirement is to allow one zone of dimming control per fixture type in each location.

4. Sequence

a. Allow for manual All-ON override by switch.
b. During regular operation, occupancy sensor shall switch lighting in the following sequence:

1) Lighting shall turn on to preset level if motion is detected.

2) Lighting shall dim to 50% if no motion is detected after 15 minutes or the code-required maximum delay time, whichever is longer.

K. SITE / Site Entrance Piers and Wall

1. Automatic Controls

a. Astronomical Timeclock
b. Photocell override for inclement weather
c. Architect and Owner shall confirm hours of operation.
d. Allow for up to (4) recorded presets to be triggered by timeclock.

2. Manual Controls

a. Allow for manual dimming override via wireless tablet and touchscreen(s). Touchscreen(s) to be located in back of house location(s).

3. Zones

a. Entrance Piers (FX6D)
b. Left Wall (FX6C)
c. Right Wall (FX6C)

4. Sequence

a. Allow for up to (4) recorded presets to be triggered by timeclock during Owner-identified times of day. Provide manual override control to select different presets, and/or turn off fixtures per zone.

L. SITE / Entrance Signage

1. Automatic Controls

a. Astronomical Timeclock
b. Photocell override for inclement weather
c. Architect and Owner shall confirm hours of operation.
d. Allow for up to (3) recorded presets to be triggered by timeclock.

2. Manual Controls

a. Allow for manual dimming override via wireless tablet and touchscreen(s). Touchscreen(s) to be located in back of house location(s).

3. Zones

a. Entrance Signage (FX6B)

4. Sequence

a. Allow for up to (3) recorded presets to be triggered by timeclock during Owner-identified times of day. Provide manual override control to select different presets, and/or turn off fixtures per zone.

M. SITE / Pathways

1. Automatic Controls

   a. Astronomical Timeclock

2. Manual Controls

   a. Allow for manual switch override via wireless tablet and touchscreen(s). Touchscreen(s) to be located in back of house location(s).

3. Zones

   a. Garden Pathway (FX3)
   b. Parking Lot to Bedford House Pathway (FX3)
   c. Bedford House Pathway (FX3)
   d. Entrance to Laundry Building, Coachman's Cottage, Brick Cottage (FX3)

4. Sequence

   a. Provide manual override control to turn on/off fixtures per zone.

N. SITE / Parking Lots, Security Gate

1. Automatic Controls

   a. Astronomical Timeclock
   b. Photocell override for inclement weather
   c. Architect and Owner shall confirm hours of operation.
   d. Allow for up to (3) recorded presets to be triggered by timeclock.

2. Manual Controls

   a. Allow for manual switch override via wireless tablet and touchscreen(s). Touchscreen(s) to be located in back of house location(s).

3. Zones

   a. Main Parking Lot (FX2, FX2A)
   b. Bedford House Gravel Parking (FX1)
   c. Security Gate (FX1)

4. Sequence

   a. Provide manual override control to turn on/off fixtures per zone.

O. SITE / Trees

1. Automatic Controls

   a. Astronomical Timeclock
   b. Photocell override for inclement weather

2. Manual Controls

   a. Allow for manual dimming override via wireless tablet and touchscreen(s). Touchscreen(s) to be located in back of house location(s).

3. Zones

    a. Bedford House West 60” Linden Tree (FX9)
    b. Bedford House West 24” Tree (FX9)
    c. Bedford House East 60” Linden Tree (FX9)
    d. Carriage Barn 60” Magnolia Tree (FX9)

4. Sequence

    a. Allow for up to (3) recorded presets to be triggered by timeclock during Owner-identified times of day. Provide manual override control to select different presets, and/or turn off fixtures per zone.

APPENDIX 12

IT Cable and Conduit Guidelines

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Section 1 – Inside Data and Voice Network Cabling Guidelines

Overview

This document is intended as a reference for specifying, designing, and installing individual inside cabling for data network and phone connections including, but not limited to:

- PCs
- Printers
- Telephones
- Wi-Fi Access Points

It can also be referenced to plan and budget for network cabling.

Using the Guidelines

1. Determine the size of the cabling effort using the Equipment Location (typical) and Cable Qty. columns in Table 1 – Data Network Equipment Sizing Reference. If the number of cables in the Cable Qty. column exceeds the maximum number of cables for the Equipment Location, use the row for the appropriate Cable Qty.
2. The data network equipment will require:
   a. Power
   b. UPS power backup for short term outages
   c. Data network equipment rack for mounting cables and equipment(see Illustration 1 – Example of Utility Room Data Network Equipment Rack)
   d. Patch panels for terminating individual cables
   e. Modular data jack inserts for terminating cables in the patch panels

   These elements are listed in each row of Table 1 – Data Network Equipment Sizing Reference according to Equipment Location and Cable Qty.

3. Endpoint device types have differing cable and cabling component type requirements. PCs, printers, and phones typically require CAT6 cable and cabling components. Wi-Fi access points require CAT6A cable and cabling components noted in Table 1 – Data Network Equipment Sizing Reference in the CAT6A Jack Insert column and in Table 2 – Data Cable and Jack Reference in the Endpoint Device row labeled “Wi-Fi Access Point”.
4. Table 1 – Data Network Equipment Sizing Reference and Table 2 – Data Cable and Jack Reference contain hyperlinks to products and components that are representative of actual products and components that are required for inside cable and data rack installations. Price and availability subject to change.
5. All cabling listed and referenced in hyperlinks contained in Tables 1 & 2 below are for standard PVC jacketed cable. Other cable compositions may be required depending on application such as plenum rated cable for placement in plenum ceilings or wall assemblies and direct burial cable for outdoor installations. Verify cabling application requirements prior to purchase and installation.
6. See Section 2 - Generalized Local Area Network Cabling Specifications and Illustration 2 – Example of Network Equipment Room size Data network equipment Rack for additional cabling and electrical instruction and specifications.
7. Other communication cabling types, not covered in this document, include, but not limited to fiber optic, outside cable, copper distribution cabling, and backbone cabling.

Table 1 – Data Network Equipment Sizing Reference

Equipment Location (typical)	**Size**	**Cable Qty.**	**Power**	**UPS**	**Equipment Rack**	**Patch Panel**	**CAT6 Jack Insert**	**CAT6A Jack Insert**
Tollbooth	Small	1 to 24	120V, 15-amp dedicated, single duplex	600W	4U Enclosed Wall Rack	One 24-Port Blank Patch Panel	CAT6 RJ-45 Module	CAT6A RJ-45 Module
Park Office	Medium	25 to 48	120V, 15-amp dedicated, single duplex	900W	6U Enclosed Wall Rack	Two 24-Port Blank Patch Panels	CAT6 RJ-45 Module	CAT6A RJ-45 Module
Utility Room	Large	49 to 96	120V, 20-amp dedicated, NEMA L5-20R	1600W	12U Wall Rack	Four 24-Port Blank Patch Panels	CAT6 RJ-45 Module	CAT6A RJ-45 Module
Network Equipment Room	Extra Large	> 96	Custom Design Required	Custom Design Required	7' x 19" Free-standing Rack	Custom Design Required	Custom Design Required	Custom Design Required

Table 2 – Data Cable and Jack Reference

Endpoint Device	**Cable Type**	**Surface Jack**	**Wall Jack**	**Jack Insert**	**Patch Cables - 1'**	**Patch Cables - 3'**
PC/Printer/Phone	CAT6 Cable - Green	2-port Jack	2-port Wall Plate	CAT6 RJ-45 Module (2 required per wall plate)	CAT6 1' - Green	CAT6 3' - Green
Wi-Fi Access Point	CAT6A Cable - Green	1-port Jack	1-port Wall Plate	CAT6A RJ-45 Module (2 required per wall plate)	CAT6A 1' - Green	CAT6A 3' - Green

Illustration 1 – Example of Utility Room size Data Network Equipment Rack

Section 2 - Generalized Local Area Network Cabling Specifications

Structured Copper Cabling

- All structured cabling should be installed to meet EIA/TIA Category 6 and 6A industry standard.
- Green sheath cable should be utilized for new installations. When adding to existing infrastructure the existing cable manufacturer should be matched for consistency wherever possible.
- All data network equipment locations should have uniform lighting throughout, consistent air exchange or cooling to maintain 72-degree ambient temperature.
- All Wireless Access Points should be cabled with category 6A cable, jacks, and patch panels. A modular RJ-45 jack should be installed at the access point end of the cable.
- Modular RJ-45 wall, or face plates should match the wall or modular furniture opening.
- Overhead cables should be supported by J-hooks or cable saddles spaced at 48" intervals above the dropped ceiling. Cable support apparatus may be connected to building steel or connected to wall structures.
- Cabling shall be routed to run along established walkways, where feasible to do so, to avoid working over desks.
- All cables will be labeled at both ends with a corresponding cable identification number.
- Patch panels and data jacks should be machine labeled with a cable ID number that meets EIA/TIA Category 6 and 6A industry standard.
- All LAN cables should be tested to the established EIA/TIA Category 6 and 6A industry standard. Test reports should be generated (paper or electronic) and include, but not limited to:
    - Cable ID number
    - Near end and far end cross talk attenuation
    - Wire mapping
    - Cable length

Network Equipment Room Layout (where applicable)

- Network equipment rooms to be sized with a minimum of 36" clearance between equipment and any other fixed part of the building structure (I.E. walls, door swing, support columns).
- Provide and install Telco-Style Cable Runway and all associated hardware to attach to the wall, within all Tel/Data closets. Runway is required to properly route the cable entering the closets over to the network racks. The cable runway should be installed over the network racks and be positioned in a manner as to provide 36 – 48 inches of space behind the network rack
- Provide and install network racks and wire management. Racks should be positively secured to the floor and the ladder rack to prevent any lateral movement.
- Fire rated, painted, plywood should be used to accommodate the securing of ladder rack, wall mounted equipment, and vendor needs. It is generally recommended to cover (3) walls of the room to provide for multiple possibilities.

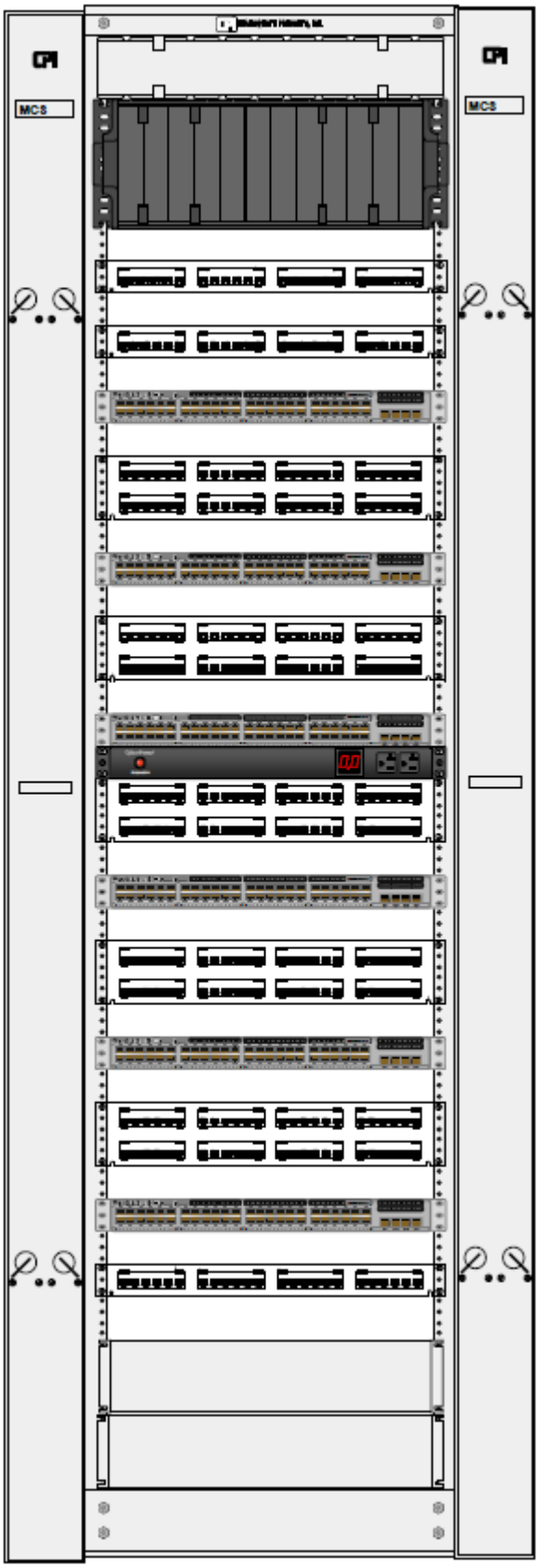
- No equipment, panels, or wall fields should be installed immediately behind data racks. This area should remain clear of obstructions to access racked equipment.

Network Room Electrical (where applicable)

- In addition to electrical receptacles placed along walls, according to the current version of the National Electrical Code (NEC), dedicated electrical service shall be installed for network equipment where specified.

- All network rack assemblies shall be grounded to building steel or other ground source, as specified in the current version of the National Electrical Code (NEC), with a #6 AWG copper ground wire.

Illustration 2 – Example of Network Equipment Room size Data Network Equipment Rack



Recommended Network/Data Rack Layout

(design can accommodate 288 cables divided between workstations and wireless access points)

Data Rack: standard 7' tall, 19" wide (Black)

Dual sided vertical wire managers on either side to allow for easy cable management in front and rear of rack.

2U Horizontal Manager at the top of each rack to allow protected transition from rack to rack and from side to side.

Fiber connector housing. Size determined by need. located only in the primary rack.

CAT6a patch panel for wireless access points located near the top. Wireless access point connections to be distributed equally among the network switches to share the load. (WAPs not to be consolidated to only one switch)

Cabling distribution to start with a 24-port CAT6 patch panel followed by a standard 1U gap, 48-port network switch, standard 1U gap, 48-port CAT6 patch panel, standard 1U gap, 48-port network switch, etc.
These 1U gaps allow for easier maintenance down the road and allows for a clean 1' patch cord distribution.
*patch panels should have unpopulated ports distributed throughout to accommodate WAP cables from above. The corresponding ports on the switch will be connected to the ports on the CAT6a panel.

Optional power distribution units can be incorporated to provide convenient access to power. Alternatively placing quad box, 20A circuits at the top of the rack (attached to ladder rack or nearby wall) can provide direct access.

It is recommended to leave roughly 6U+ of space along the bottom of the rack and opt for an additional rack if more patch panels are needed. Recommend placing the same horizontal wire manager at the top of subsequent racks to allow for easy cable transitions and adding a vertical wire manager at the end for additional cable management support.

ITS Physical Plant underground conduit guideline overview

Telecommunications pathways shall be specified to support the initial and anticipated wireline telecommunications needs of the total area served. Accommodation should be made for diverse Access Points.

In determining the total number of pathways required, the planner shall consider:

a) type and use of building.

b) growth.

c) difficulty of adding pathways in the future.

d) alternate entrance; and

e) type and size of cables likely to be installed.

Note: ITS requests a minimum size of 2" conduit placed with a minimum of two (2) installed in all OSP excavations for redundancy. This is based on a 70% new construction fill capacity and increases nominally with the size and number of installed cables.

Examples of conduit types include:

a) EB-20 – For encasement in concrete.

b) EB-35 – For encasement in concrete.

c) DB-60 – For direct burial or encasement in concrete.

d) DB-100 – For direct burial or encasement in concrete.

e) DB-120 – For direct burial or encasement in concrete.

f) **Rigid Nonmetallic Conduit Schedule 40 – For direct burial or encasement in concrete; Note: ITS Preferred**

g) **Rigid Nonmetallic Conduit Schedule 80 – For direct burial or encasement in concrete; Note: ITS Preferred**

h) Multiple Plastic Duct (MPD) – For direct burial or installation in conduit.

i) Rigid Metal Conduit (RMC) – For direct burial or encasement in concrete.

j) Intermediate Metal Conduit (IMC) – For direct burial or encasement in concrete.

k) Fiberglass Duct – For direct burial or encasement in concrete.

l) Innerduct Polyethylene (PE) – For direct burial or installation in conduit.

m) Innerduct Polyvinyl Chloride (PVC) – For direct burial or installation in conduit.

n) PVC coated steel conduit (PSC), NEMA RN-1; galvanized rigid steel conduit with factory applied external 40 mil PVC coating and urethane interior coating.

Non-metallic conduits shall be encased in concrete of minimum 17225 kPa (2500 lb./in^2) compressive strength where vehicular traffic (i.e., automotive, railway) is above the pathway, or where a bend or sweep in excess of 15 degrees is placed.

The section length of conduit shall not exceed 183 m (600 ft.) between pulling points on a straight pathway.

Where bends are required, manufactured bends should be used whenever possible. Bends made manually shall not reduce the internal diameter of the conduit. All bends shall be sweeps with a minimum radius of six times the internal diameter for conduits up to 2 inch and ten times the internal diameter for all conduits larger than 2 inches. Bend types include:

a) **90-Degree Bend**: any radius bend in a piece of pipe that changes direction of the pipe 90-degrees.
b) **Kick**: a bend in a piece of pipe, usually less than 45-degrees, made to change the direction of the pipe.
c) **Offset**: two bends, usually having the same degree of bend, made to avoid an obstruction blocking the run of the pipe.

No section of conduit shall contain more than two 90-degree bends, or equivalent between pull points (e.g. handholes, maintenance holes, and vaults). Back-to-back 90-degree bends shall be avoided. Underground conduit should be installed such that a slope exists at all points of the run to allow drainage and prevent the accumulation of water. A drain slope of no less than 10 mm per meter (.125 in per foot) is desirable when extending conduit away from building structures. Where conduit extends between maintenance holes, a slope of 10 mm per meter (.125 in per foot) should extend from the middle of the span to each maintenance hole.

All excavations for ITS require a minimum depth of 30 inches (below winter frost line) unless conditions simply do not accommodate such burial depth. When installing non-metallic cabling (i.e. Fiber Optic), ITS requires a tracer wire be placed in all conduit runs for future locating situations. Ducts shall be sealed to resist liquid and gas infiltration at all maintenance holes and building entrance point locations.

ITS Physical Plant underground conduit guideline overview -continued

For an installation consisting of twin 2" Schedule 40 conduits (recommended), direct buried, we recommend a standard open bottom 24" w x 36" l x 30" d pull box. The box should be installed in accordance with the manufacturer's instructions and the cover of the box shall be flush with the ground surface to facilitate safe mowing without damaging the structure. The cover should be a tier 22 rated for 22,500 lbs. to protect the structure in the case of incidental drive over by vehicle traffic. The Quazite structure should not be placed in a roadway or sidewalk where consistent vehicle traffic is expected. Extensions for the box can be purchased as needed to achieve certain depths. The area where the box is located should have adequate drainage. We recommend excavating 12" deeper than the box and placing a bed of #2 stone to facilitate drainage. This following link will take you to the Hubble web site and the specification page for this structure. Hex head bolts should be utilized to maintain security on the structures and a tool for opening the boxes should be maintained by the Parks Office for future access. Conduits shall be brought into the structure through the mouse holes provided with the box. http://www.hubbellpowersystems.com/enclosures/below-ground/straight/24x36/pg-quazite.asp

Conduits running under roadways should be at a depth of 30" or more and it is recommended that they be encased in a flowable fill concrete with installation no less than 6" above, below and on either side of the conduits. The attached link will take you to a page detailing what flowable fill is. http://www.nrmca.org/aboutconcrete/cips/17p.pdf . The duct bank shall have a marker tape installed 12" above the conduit to denote the duct bank location to future excavators. An economy grade tape indicating telephone cable below will suffice. The link to a manufacturer us listed below. http://www.terram.com/products/underground-tapes/utilitape-underground-warning-tape.html

#12 Tracer wire can follow the conduit run and can be taped to a conduit. 4 – 6 'of tracer wire shall be coiled in each pull box and it shall extend into the buildings where the conduits terminate. This cable will help future locaters mark out the location of the conduit. The following link specifies a brand of tracer wire that can be used. http://www.southwire.com/products/tracer-wire-water-well.htm

All conduits must be threaded with a poly rope or mule tape to facilitate the installation of cable facilities.

NOTE: Fiber optic cable should have at least 40 feet coiled in every other handhole to provide additional length for future expansion/splicing. Additionally, each fiber cable should have a 15 foot service loop at each termination location.

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