

Addendum #12

Walnut Plaza and Ed Johnson Memorial

CONTRACT NO. R-19-007

Bid schedule per Addendum #10

Pre-Bid Meeting September 17th at 10:00 am

Bid Opening November 5th at 2:00 pm

Attachments

Product sheet for proposed handrail lights

Question received via email:

1. How are the pole lights and hand rail lights shown on drawings L1.50 to be controlled? Please Clarify.
 - a. These are considered street lights and shall be controlled using the same circuit as existing street lights and Holmberg stair lights.
2. On drawing L1.50, what will be the required spacing for the lights in each of the 5 hand rails? Please provide a total quantity per handrail.
 - a. Handrail spacing of light fixtures to be ~2'-0" on center. Final Layout along each rail to be proposed by contractor in handrail shop drawing submittal. Landscape architect shall approve layout and may adjust for safety and aesthetics. Provide for up to 12 fixtures on the three Oval Stair rails and 55 fixtures on the two Holmberg Stair rail. Lights shall match lights chosen for Holmberg Bridge, product sheet attached to this addendum.

Job Name:	Contact:
Ordering Code:	Fixture Type:

ZETA750

Description

The ZETA750 Series Puck is the most flexible and vandal resistant LED handrail lighting module on the market, offering unrivalled uniformity and photometric performance. Designed with the specifier in mind, it accommodates a wide range of options of beam distribution for a clean design.

The pucks can be installed in new handrail or retrofitted into existing handrail, flat or oval metallic structures and surfaces. Powerful yet small and unobtrusive, makes the Handrail Puck ideal for incorporation into street sculptures, illuminating artwork or to wash walls with clean, white LED light.

The ZETA750 is engineered of electroplated 316 stainless steel. Other custom materials are available including aluminum, brass, and super-duplex stainless steel (which offers exceptional corrosion resistance), as well as custom painted finishes. Please consult factory for these custom options.

At standard handrail height the pucks provide 11 foot-candles at the surface below. They are offered with wide, narrow, and asymmetric beam patterns. ETL wet rated for outdoor applications. For round handrail, the LED pucks are field installed with use of the ZETA750 series Drill Tool Kit. For flat surfaces, the installer may use their own drill bits and threading taps. Please refer to the installation instructions.

Housing

Extremely durable 316 stainless steel marine grade housing, with 3.5" (90mm) 20AWG wire leads. Choice of Thin Wall (recommended for ease of installation), or Heavy Wall. Curved face or flat face options available in three different beam patterns 60°, 90° asymmetric, and 120°.

Mounting

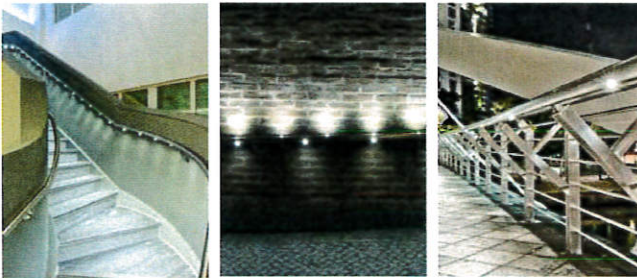
Type of Surface- Install in metallic surface only for proper thermal dissipation. Luminaire is for use in non-insulated recessed surfaces.
Fits Railing size - Ø38.0mm, 1.496in to 100.0mm, 3.937in.
Thin Wall Puck minimum wall thickness - 1.5mm, 0.059in.
Heavy Wall Puck minimum wall thickness - 2.5mm, 0.980in.
Minimum distance between lights - 101.6mm, 4.000inches (center to center). Max 16 lights may be connected in series.

Electrical / Led Driver

- 3VDC, 500mA, 1.5W (Remote Driver Required)

Listings

- ETLus Listed to UL2108 (suitable for wet locations)
- cETL Listed to CSA C22.2 #250.0
- Impact tested to IK10 (EN62262)
- IP66 rated
- ADA Compliant when using handrail diameter 31.75mm (1.25") to 38.1mm (1.5") O.D.



LED Performance

LED:	Cree XPG	Lumens	CCT
DUV:	.001	104 lm	2700k
CCT:	2700k, 3000k, 4000k, 5000k	111 lm	3000k
CRI:	>80*	119 lm	4000k
Life:	90% at 51k hrs based on LM-80 testing	127 lm	5000k

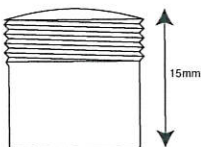
Warranty: 5 year limited warranty

*At 5000K CRI >70

Ordering Codes

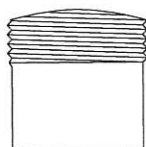
Follow the steps to specify your fixture, example: 750 - 4 - 2 - 1 - 1

Part Number	CCT	Beam	Face Type	Wall Thickness
750 Rail Puck	2 2700k	1 Standard 60°	1 Curved	1 Heavy
	3 3000k	2 Symmetric 120°	2 Flat	2 Thin
	4 4000k	3 Assymetric 90°		
	5 5000k			



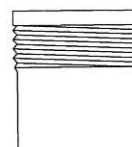
Heavy Wall Curved Face

- Mounts to pipe size: Ø38mm - Ø100mm
- Wall thickness ≥ 2.5mm
- Mounting thread: M16x1mm
- Requires counterbore Ø16mm x 1.8mm



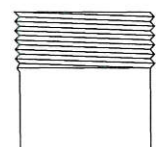
Thin Wall Curved Face

- Mounts to pipe size: Ø38mm - Ø100mm
- Wall thickness ≥ 1.5mm
- Mounting thread: M16x1mm



Heavy Wall Flat Face

- Mounts to flat surfaces
- Wall thickness ≥ 2.5mm
- Mounting thread: M16x1mm
- Requires counterbore Ø16mm x 1.8mm



Thin Wall Flat Face

- Mounts to flat surfaces
- Wall thickness ≥ 1.5mm
- Mounting thread: M16x1mm

LM-79

Job Name:

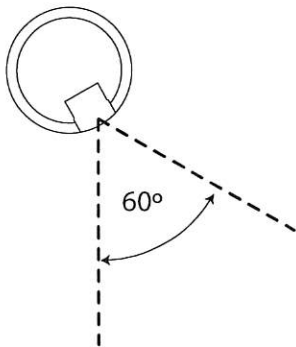
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Ordering Code:

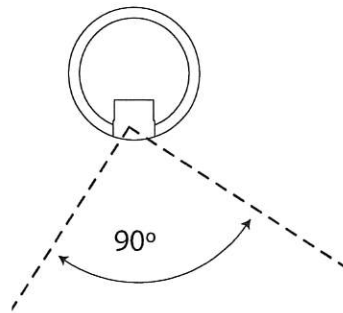
Fixture Type:



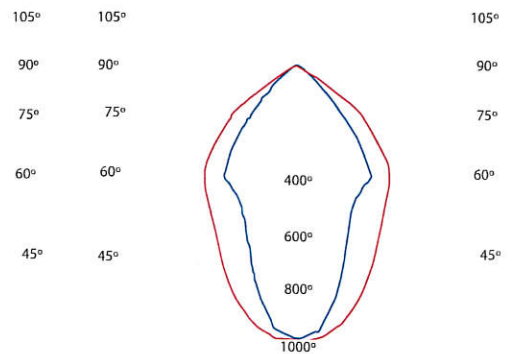
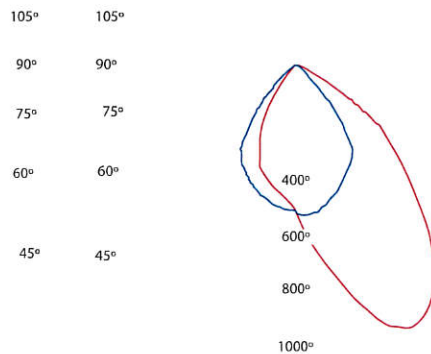
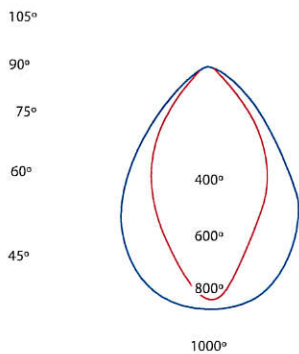
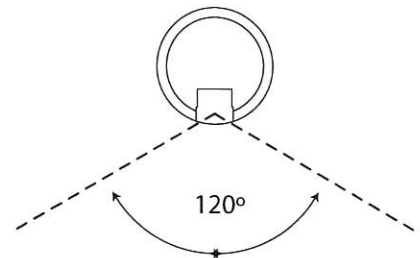
Standard 60°



Assymmetric 90°



Symmetric 120°



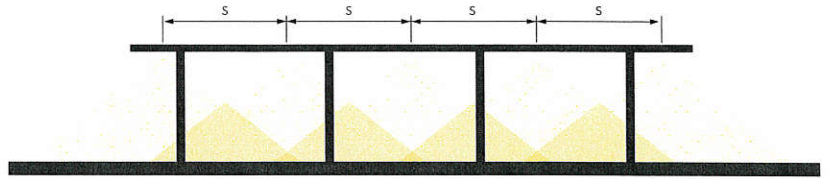
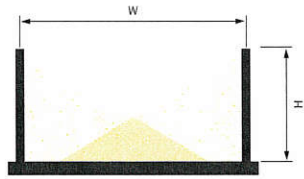
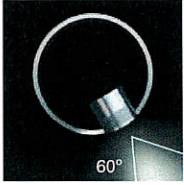
Job Name: _____

Contact: _____

Ordering Code: _____

Fixture Type: _____

60° STANDARD BEAM



W = Path Width H = handrail height (900mm nominal) S = LED spacing

STANDARD BEAM - LIGHT FROM ONE SIDE

path width	1.2m		2.0m		3.0m		4.0m	
LED Spacing	lx	u	lx	u	lx	u	lx	u
0.5m	107	0.67	82	0.51	61	0.31	47	0.19
1.0m	55	0.76	41	0.58	31	0.34	24	0.21
2.0m	27	0.78	21	0.59	15	0.34	12	0.21

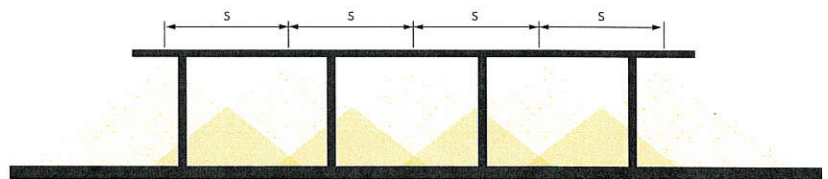
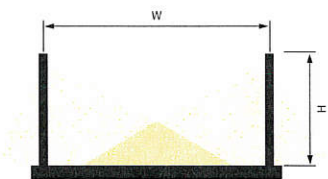
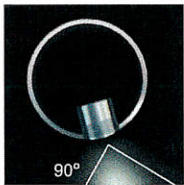
lx = average lux u = uniformity color temp = 3000K

STANDARD BEAM - LIGHT FROM BOTH SIDES

path width	1.2m		2.0m		3.0m		4.0m	
LED Spacing	lx	u	lx	u	lx	u	lx	u
0.5m	216	0.76	164	0.68	121	0.66	95	0.66
1.0m	109	0.82	83	0.72	61	0.72	48	0.72
2.0m	55	0.84	41	0.72	31	0.71	24	0.72

lx = average lux u = uniformity color temp = 3000K

90° VERTICAL ASYMMETRIC



W = Path Width H = handrail height (900mm nominal) S = LED spacing

STANDARD BEAM - LIGHT FROM ONE SIDE

path width	1.2m		2.0m		3.0m		4.0m	
LED Spacing	lx	u	lx	u	lx	u	lx	u
0.5m	95	0.8	73	0.45	52	0.21	40	0.15
1.0m	48	0.89	37	0.51	27	0.23	20	0.16
2.0m	23	0.89	18	0.51	13	0.23	10	0.16

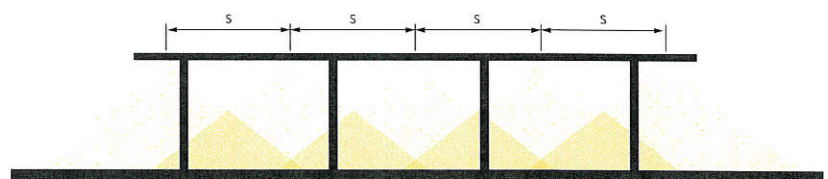
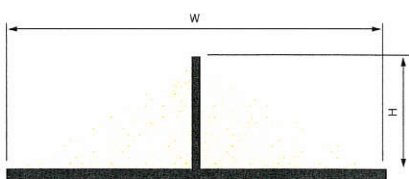
lx = average lux u = uniformity color temp = 3000K

STANDARD BEAM - LIGHT FROM BOTH SIDES

path width	1.2m		2.0m		3.0m		4.0m	
LED Spacing	lx	u	lx	u	lx	u	lx	u
0.5m	193	0.89	148	0.8	105	0.77	81	0.62
1.0m	97	0.9	74	0.8	53	0.86	41	0.66
2.0m	48	0.84	37	0.8	27	0.84	20	0.68

lx = average lux u = uniformity color temp = 3000K

120° VERTICAL SYMMETRIC



W = Path Width H = handrail height (900mm nominal) S = LED spacing

STANDARD BEAM - LIGHT FROM ONE SIDE

path width	1.2m		2.0m		3.0m		4.0m	
LED Spacing	lx	u	lx	u	lx	u	lx	u
0.5m	147	0.7	113	0.4	79	0.12	58	0.02
1.0m	74	0.71	57	0.44	40	0.12	29	0.02
2.0m	36	0.22	28	0.11	19	0.03	14	0.01

lx = average lux u = uniformity color temp = 3000K

STANDARD BEAM - LIGHT FROM BOTH SIDES

path width	1.2m		2.0m		3.0m		4.0m	
LED Spacing	lx	u	lx	u	lx	u	lx	u
0.5m	195	0.87	103	0.56	61	0.12	46	0.02
1.0m	95	0.88	52	0.62	32	0.11	24	0.02
2.0m	43	0.25	25	0.15	15	0.05	11	0.01

lx = average lux u = uniformity color temp = 3000K

Job Name:

Contact:

Ordering Code:

Fixture Type:

Driver Matrix

Driver	Quantity	Power Spec
P70418-500 26W LED Driver	for 2-16 fixtures	120-277V, 26W, 500mA, Trailing Edge (ELV) dimming
P70414-500-ECO 50W LED Driver w/ box	for 1-15 fixtures per channel (1 channel driver)	120-277V, 50W, 500mA, 0-10V (1%) dimming
P70414-500-SOLO 50W LED Driver w/ box	for 1-15 fixtures per channel (2 channel driver)	120-277V, 50W, 500mA, 0-10V (.1%) dimming
P70469-500-ECO 50W LED Driver w/ box	for 1-15 fixtures per channel (1 channel driver)	120-277V, 50W, 500mA, DALI (1%) dimming
P70469-500-SOLO 50W LED Driver w/ box	for 1-15 fixtures per channel (2 channel driver)	120-277V, 50W, 500mA, DALI (.1%) dimming
P70470-500 50W LED Driver w/ box	for 1-10 fixtures per channel (3 channel driver)	120-277V, 50W, 500mA, DMX/ ROM (0%) dimming

Note
1. All driver boxes are nema 1 rated for dry location only. wet rated nema enclosure to be provided by contractor as needed.

ZETA750 Tool Kit - For Round Handrail



* Not shown, wire crimping pliers.

- 1 1 x drill jig with clamp
- 2 1 x drill clutch assembly with 15 + 16mm cutters
- 3 1 x drill tap assembly with M16 x 1 tap
- 4 1 x M16 x 1 tap (spare)
- 5 1 x File
- 6 2 x 15mm cutters (spares)
- 7 1 x 16mm cutter (spare)
- 8 2 x cutter removal tools
- 9 1 x 10mm nut driver
- 10 1 x 2mm Allen key kit
- 11 1 x insertion tool
- 12 1 x bottle of cutting fluid

* Not shown, wire crimping pliers.

Rental Procedures and Fees

- Tool Kits are rented for a period of 30 days from time of shipping.
- Kits will need a separate PO for the cost to replace the kit as a DEPOSIT to be invoiced if not returned on time or in working order.
- No invoice will be issued if Kit is returned within allotted time inspected for to ensure nothing is missing and it is operable.
- A non-refundable / non-negotiable RENTAL FEE for consumables and labor is charged for every order.
- Consult factory for fees as they are subject to change.

Flat Surfaces - No Toolkit Required

- For thin wall pucks: Drill 15mm hole in mounting surface; then thread 15mm hole using M16x1mm tap.
- For thick wall pucks: Drill 15mm hole in mounting surface; drill 16mm counterbore 1.8mm deep; then thread 15mm hole using M16x1mm tap.
- Drill bits/taps provided by others.

JOB NAME _____

CONTACT _____

ORDERING CODE _____

LM-79

ORDERING CODE

PART NUMBER	P70418	LED driver with box
CURRENT	500	500mA

ORDERING CODE _____

Follow the steps to specify your fixture, example:
P70418 - 500

See Wiring Diagram on page 2

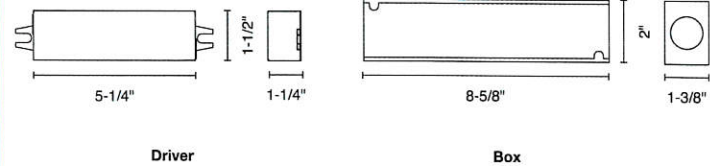
ZETA750 **ELV Dimming Driver**
26W LED



NUMBER OF PUCKS IN SERIES (500mA AT FULL LOAD)			MAXIMUM WIRING DISTANCE FROM DRIVER TO THE FIRST PUCK AT FULL LOAD	
PUCKS	AWG VALUE	DISTANCE' (FT)	AWG VALUE	DISTANCE (FT)
15	20	135	20	23
15	18	205	18	36
12	20	300	17	46
12	18	380	16	59

NOTES

1 Maximum wiring distance from the first to the last puck.



DESCRIPTION

- Trailing Edge (ELV) dimmable protocol LED Drive with 10% dimming

TECHNICAL SPECS

- 120-277Vac, 50/60Hz input
- 26W max output
- 500mA DC constant current output
- 4-52 Vdc output
- Trailing Edge (ELV) 10% dimming
- Operating temperature: -4°F to 140°F
- Class II rated
- Suitable for use in damp and dry locations
- Short circuit protection
- Overload protection
- Over-voltage protection
- Thermal protection
- Box: Length = 8-5/8", Width = 2", Height = 1-3/8"
- Driver: Length = 5-1/4", Width = 1-1/2", Height = 1-1/4"

LISTINGS

- ETLus Listed to UL2108 (suitable for dry and damp locations)
- cETL Listed to CSA C22.2 #250.0

WIRING DIAGRAMS

