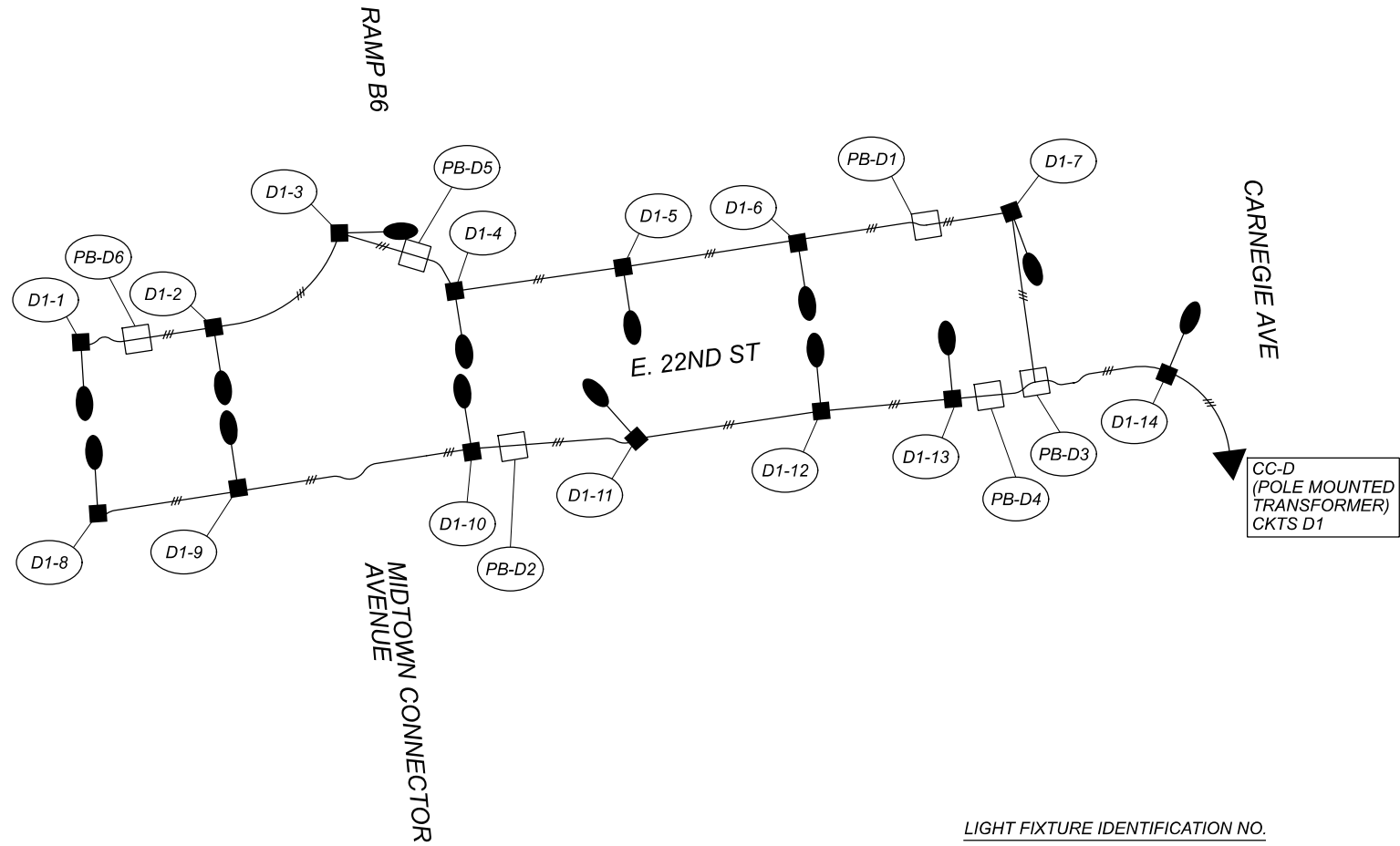




HORIZONTAL SCALE IN FEET
 0 NTS



LIGHT FIXTURE IDENTIFICATION NO.

CONTROL CENTER CIRCUIT NO. **D# ##** POLE NO. WITHIN CIRCUIT

PULL BOX / JUNCTION BOX IDENTIFICATION NO.

PULL BOX / JUNCTION BOX **PB-D#** PULL BOX / JUNCTION BOX NO. WITHIN CIRCUIT (SEE NOTE 2) CONTROL CENTER

LEGEND:

- WOOD POLE, EXISTING, WITH 1 NEW LED LUMINAIRE, 30' HEIGHT
- WOOD POLE WITH 1 LED LUMINAIRE, 30' HEIGHT
- BRONZE SHOEBOX POLE WITH 1 LED LUMINAIRE, 30' HEIGHT
- UNDERPASS LED WALLPACK FIXTURE
- TRANSFORMER (BY CPP)
- PULL BOX / JUNCTION BOX
- CIRCUIT WIRE (SINGLE-PHASE, 3-WIRE SYSTEM)

POWER SERVICE DATA									
POWER SERVICE	LINE VOLTAGE (VOLTS)	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CABLE (AWG)	ENCLOSURE RATING (AMPS)	CIRCUIT NO.	CIRCUIT LOAD (AMPS)	CIRCUIT FUSE SIZE (AMPS)	CIRCUIT CABLE SIZE (AWG)	MAINTAINING AGENCY
D	120V / 240V (SINGLE PHASE, 3-WIRE)	2.69	4	60	1	11.20	20	4	CPP

NOTES:

- 1) "CIRCUIT CABLE SIZE" REFERS TO THE WIRE AWG COMING OUT OF THE CONTROL CENTER FOR EACH CIRCUIT.
- 2) ONLY PULL BOXES / JUNCTION BOXES FOR BRANCH CIRCUITS AND JUNCTION BOXES BREAKING UP LONG CONDUIT RUNS ARE SHOWN IN THE CIRCUIT SCHEMATIC.
- 3) THE CONTRACTOR SHALL INSTALL THE CONDUIT, TRANSFORMER, CONDUCTORS AND POLES; CONNECTIONS AT THE TRANSFORMER SHALL BE INSTALLED BY CPP FORCES.

CIRCUIT SCHEMATIC & POWER SERVICE DATA - TRANSFORMER D

DESIGN AGENCY

Michael Baker INTERNATIONAL

DESIGNER

REVIEWER

PROJECT ID

82382

SHEET TOTAL

SLC1004 TOTAL

Fixture	Use/Location	System Wattage	Input Current (240V)	25% Contingency
GE Evolve ERL2 (400W equiv)	Wood Poles on Carnegie Avenue	194	0.81	1.01
GE Evolve ERLH (250W equiv)	Wood Poles on E. 14th, Midtown Connector, Cedar Avenue, and Central Connector	111	0.46	0.58
Cooper Lighting Solutions Streetworks USSL	Shoebox fiberglass poles	153	0.64	0.80
VersaLED WP3-Q	Wall Pack for lighting under bridges	47	0.20	0.25

Cooper Lighting Solutions Streetworks USSL

POWER AND LUMENS (USSL)

Light Engine	C01	C027	C029	C02	
Power (Watts)	52	96	131	153	
Input Current @ 120V (A)	0.43	0.80	1.09	1.32	
Input Current @ 277V (A)	0.19	0.35	0.48	0.57	
Input Current @ 347V (A)	0.17	0.30	0.41	0.48	
Input Current @ 487V (A)	0.12	0.22	0.30	0.35	
Distribution					
Type II	4000K Lumens	7,123	13,205	17,172	20,083
	BUG Rating	B2-U0-G2	B2-U0-G2	B3-U0-G3	B3-U0-G3
	3000K Lumens	6,994	12,965	16,860	19,718
Type III	4000K Lumens	7,111	13,183	17,144	20,050
	BUG Rating	B1-U0-G2	B2-U0-G3	B3-U0-G4	B3-U0-G4

VersaLED WP3-Q

ILLUMINATION

- 41.3W LED
- 47 System Watts
- 250W HID

MOUNTING

- Optional cast aluminum mounting plate mounts directly over a 4" recessed outlet box, or use 1/2" surface conduit

ORDERING INFORMATION

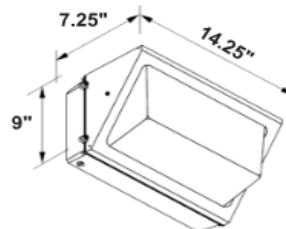
CATALOG #	LUMENS	COLOR	LENS
WP3-Q-41L-QT-30K-PL	4,473 Lumens	3000K	Prismatic
WP3-Q-41L-QT-30K-DL	2,583 Lumens	3000K	Diffused
WP3-Q-41L-QT-40K-PL*	5,283 Lumens	4000K	Prismatic
WP3-Q-41L-QT-40K-DL*	5,177 Lumens	4000K	Diffused
WP3-Q-41L-QT-50K-PL*	5,503 Lumens	5000K	Prismatic
WP3-Q-41L-QT-50K-DL*	5,393 Lumens	5000K	Diffused

OPTIONS (Factory Installed)

EBLED	- Integral EM Ballast
SGF	- Single Fusing
DBF	- Double Fusing
SGP	- Surge Protection
OCS	- Occupancy Sensor

ACCESSORIES (Order Separately, Ships on Side)

WP3-Q-LG	- Vandal Guard
WP3-Q-GS	- Glare Shield
WP3-Q-WG	- Wire Guard

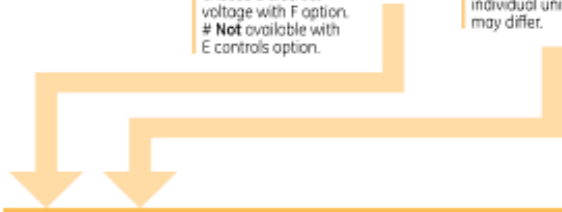


*Dimming for Mounting of 8' - 40'

GE Evolve ERL2 (400W equiv)

ERL2 0 23 C3 40 A

PROD. ID	VOLTAGE	LUMEN OUTPUT	DISTRIBUTION*	CCT	CONTROLS
E = Evolve	0 = 120-277V*	16	A3 = Type II Narrow	27 = 2700K \leftrightarrow	A = ANSI C136.41 7-pin
R = Roadway	1 = 120	18	B3 = Type II Wide	30 = 3000K \leftrightarrow	D = ANSI C136.41 7-pin with Shorting Cap
L = Local	2 = 208	19	C3 = Type III	40 = 4000K	E = ANSI C136.41 7-pin with non-Dimming PE Control.*
2 = Double Module	3 = 240	21	D3 = Type IV	\leftrightarrow Select 2700K or 3000K CCT for IIDA approved units.	*PE Control Only available if 120-277V or 480V Discrete, available for 347-480V or 3-Discrete.
	4 = 277	23	E3 = Type II Enhanced Back Light		NOTE: Dimming controls w/ 0-10V standard unless DALI "U" requested.
	5 = 480	25	See Table		
	D = 347	27	*Nominal IES Type classing subject to typical variation, individual units may differ.		
	H = 347-480*#	28			
	* Not available with Fusing. Must choose a discrete voltage with F option.	30			
	# Not available with E controls option.	See Table			



LUMEN OUTPUT	DISTRIBUTION	TYPICAL INITIAL LUMENS			TYPICAL SYSTEM WATTAGE		BUG RATING			
		4000K	3000K	2700K	120-277V	347-480V	4000K	3000K	2700K	
16	A3	16000	15300	14900	120		B3-U0-G3	B3-U0-G3	B3-U0-G3	ERL2_16A340_JES
	B3						B3-U0-G3	B3-U0-G3	B3-U0-G3	ERL2_16B340_JES
	C3						B2-U0-G3	B2-U0-G3	B2-U0-G3	ERL2_16C340_JES
	D3						B2-U0-G3	B2-U0-G3	B2-U0-G3	ERL2_16D340_JES
	E3						B3-U0-G3	B3-U0-G3	B3-U0-G3	ERL2_16E340_JES
18	A3	18000	17300	16700	140		B3-U0-G3	B3-U0-G3	B3-U0-G3	ERL2_18A340_JES
	B3						B3-U0-G3	B3-U0-G3	B3-U0-G3	ERL2_18B340_JES
	C3						B2-U0-G3	B2-U0-G3	B2-U0-G3	ERL2_18C340_JES
	D3						B2-U0-G3	B2-U0-G3	B2-U0-G3	ERL2_18D340_JES
	E3						B3-U0-G3	B3-U0-G3	B3-U0-G3	ERL2_18E340_JES
19	A3	19000	18200	17700	149		B3-U0-G3	B3-U0-G3	B3-U0-G3	ERL2_19A340_JES
	B3						B3-U0-G3	B3-U0-G3	B3-U0-G3	ERL2_19B340_JES
	C3						B2-U0-G3	B2-U0-G3	B2-U0-G3	ERL2_19C340_JES
	D3						B2-U0-G3	B2-U0-G3	B2-U0-G3	ERL2_19D340_JES
	E3						B3-U0-G3	B3-U0-G3	B3-U0-G3	ERL2_19E340_JES
21	A3	21000	20100	19500	174	177	B3-U0-G3	B3-U0-G3	B3-U0-G3	ERL2_21A340_120-277VIES
	B3						B3-U0-G3	B3-U0-G3	B3-U0-G3	ERL2_21B340_120-277VIES
	C3						B3-U0-G4	B3-U0-G3	B3-U0-G3	ERL2_21C340_120-277VIES
	D3						B2-U0-G3	B2-U0-G3	B2-U0-G3	ERL2_21D340_120-277VIES
	E3						B3-U0-G3	B3-U0-G3	B3-U0-G3	ERL2_21E340_120-277VIES
23	A3	23000	22100	21400	194	196	B3-U0-G3	B3-U0-G3	B3-U0-G3	ERL2_23A340_120-277VIES
	B3						B3-U0-G3	B3-U0-G3	B3-U0-G3	ERL2_23B340_120-277VIES
	C3						B3-U0-G4	B3-U0-G3	B3-U0-G3	ERL2_23C340_120-277VIES
	D3						B2-U0-G4	B2-U0-G4	B2-U0-G3	ERL2_23D340_120-277VIES
	E3						B3-U0-G3	B3-U0-G3	B3-U0-G3	ERL2_23E340_120-277VIES

GE Evolve ERLH (250W equiv)

ERLH **0** **13** **C3** **40** **A**

PROD. ID	VOLTAGE	LUMEN OUTPUT	DISTRIBUTION*	CCT	CONTROLS
E = Evolve	0 = 120-277V*	10	A3 = Type II Narrow	27 = 2700K <>	A = ANSI C136.41 7-pin
R = Roadway	1 = 120	11	B3 = Type II Wide	30 = 3000K <>	D = ANSI C136.41 7-pin with Shorting Cap
L = Local	2 = 208	13	C3 = Type III	40 = 4000K <>	E = ANSI C136.41 7-pin with non-Dimming PE Control.*
H = High Output	3 = 240	14	D3 = Type IV	<> Select 2700K or 3000K CCT for IDA approved units.	*PE Control Only available for 120-277V or 480V Discrete. Not available for 347-480V or 347V Discrete.
	4 = 277	15	E3 = Type II Enhanced Back Light		NOTE: Dimming controls wired for 0-10V standard unless DALI option "U" requested.
	5 = 480	16	See Table		
	D = 347	See Table	See Table		
	H = 347-480*#		*Nominal IES Type classing subject to typical variation, individual units may differ.		
	* Not available with Fusing. Must choose a discrete voltage with F option.				
	# Not available with E controls option.				

LUMEN OUTPUT	DISTRIBUTION	TYPICAL INITIAL LUMENS			TYPICAL SYSTEM WATTAGE		BUG RATING			
		4000K	3000K	2700K	120-277V	347-480V	4000K	3000K	2700K	4000K
10	A3	10000	9600	9300	82	B2-U0-G2	B2-U0-G2	B2-U0-G2	ERLH_10A340	JES
	B3					B2-U0-G2	B2-U0-G2	B2-U0-G2	ERLH_10B340	JES
	C3					B2-U0-G3	B2-U0-G2	B2-U0-G2	ERLH_10C340	JES
	D3					B1-U0-G3	B1-U0-G2	B1-U0-G2	ERLH_10D340	JES
	E3					B3-U0-G3	B3-U0-G3	B3-U0-G3	ERLH_10E340	JES
11	A3	11500	11000	10700	98	B3-U0-G3	B2-U0-G2	B2-U0-G2	ERLH_11A340	JES
	B3					B3-U0-G3	B2-U0-G2	B2-U0-G2	ERLH_11B340	JES
	C3					B2-U0-G3	B2-U0-G3	B2-U0-G3	ERLH_11C340	JES
	D3					B1-U0-G3	B1-U0-G2	B1-U0-G2	ERLH_11D340	JES
	E3					B3-U0-G3	B3-U0-G3	B3-U0-G3	ERLH_11E340	JES
13	A3	13000	12500	12100	111	B3-U0-G3	B3-U0-G3	B3-U0-G3	ERLH_13A340	JES
	B3					B2-U0-G3	B2-U0-G3	B2-U0-G3	ERLH_13B340	JES
	C3					B2-U0-G3	B2-U0-G3	B2-U0-G3	ERLH_13C340	JES
	D3					B2-U0-G3	B2-U0-G3	B1-U0-G3	ERLH_13D340	JES
	E3					B3-U0-G3	B3-U0-G3	B3-U0-G3	ERLH_13E340	JES

VOLTAGE DROP CALCULATIONS

Control Center D - Circuit 1

No. of Wires for Calculation Purposes: 3

Power Service:

Circuit:

Supply Voltage: 240

Wire Resistance Usr No. 4 AWG. 0.310

No. AWG.

Voltage: 240	Wire Factor Used (Two - No. 10 AWG Wires):	2.40	ohms/mft/1000	Circuit: 'X'
	Wire Factor Used (Two - No. 8 AWG Wires):	1.56	ohms/mft/1000	
	Wire Factor Used (Two - No. 6 AWG Wires):	0.98	ohms/mft/1000	
	Wire Factor Used (Two - No. 4 AWG Wires):	0.62	ohms/mft/1000	
	Wire Factor Used (Two - No. 2 AWG Wires):	0.38	ohms/mft/1000	

Section			Amperes		Ampere-Feet	AWG	Voltage Drop		% Drop	At Point
From	To	Design Feet	At Point	Accum.			In Section	Accum.		
D1-1	D1-2	95	0.80	0.80	76	4	0.047	3.20	1.33	D1-1
D1-2	D1-3	120	0.80	1.60	192	4	0.119	3.15		D1-2
D1-3	D1-4	110	0.80	2.40	264	4	0.164	3.03		D1-3
D1-4	D1-5	110	0.80	3.20	352	4	0.218	2.87		D1-4
D1-5	D1-6	110	0.80	4.00	440	4	0.273	2.65		D1-5
D1-6	D1-7	110	0.80	4.80	528	4	0.327	2.38		D1-6
D1-7	PB-D3	80	0.00	4.80	384	4	0.238	2.05		D1-7
PB-D3	D1-14	35	0.80	5.60	196	4	0.122	1.81		PB-D3
D1-8	D1-9	100	0.80	0.80	80	4	0.050	1.69		D1-8
D1-9	D1-10	112	0.80	1.60	179	4	0.111	1.64		D1-9
D1-10	D1-11	140	0.80	2.40	336	4	0.208	1.53		D1-10
D1-11	D1-12	145	0.80	3.20	464	4	0.288	1.32		D1-11
D1-12	D1-13	110	0.80	4.00	440	4	0.273	1.04		D1-12
D1-13	PB-D3	70	0.80	4.80	336	4	0.208	0.76		D1-13
D1-14	CC-D	80	11.20	11.20	896	4	0.556	0.56		D1-14

CIRCUIT FUSE SIZE (AMPS):

Size Breakers to 125% of maximum input current (20 AMP MINIMUM):

$$11.20 / 0.8 = 14.00 \quad \text{USE 20 AMP CIRCUIT BREAKER (CIRCUIT FUSE SIZE)}$$

CIRCUIT LOAD (AMPS):

Equal to the cumulative total input current for the circuit

11.20 Amps

CONNECTED LOAD (KVA):

Circuit load * line voltage / 1000

2.69 KVA