



REQUEST FOR PROPOSALS

Parking Lot Lighting Replacement

Introduction

Lincoln Park Zoo is a historic, 49-acre zoo located in the heart of Chicago. Lincoln Park Zoo cares for more than 175 species, employs almost 300 full-time and seasonal workers, and welcomes 3 million visitors annually from around the world. It is committed to Chicago's communities, offering camps, programs, and events year-round.

Overview

Lincoln Park Zoo is seeking an experienced electrical or lighting contractor or firm to supply new lighting poles and fixtures for the parking lot at Lincoln Park Zoo.

Project Scope

This request for proposal is intended to cover the supply and delivery of the following light poles and fixtures:

Light poles are spun, prestressed concrete poles 700 series at twenty-three (23) feet tall similar to other poles in other Chicago Park District locations. All lights will be Philips Lumec Roadway RoadFocus or similar. Ten (10) foot TEArm made from 3 ½" O.D.x .188" wall, aluminum tube, tapered to 2 3/8" O.D. and flattened to 4 11/32" x 2 3/8" elliptical cross section. See below specifications of what is required or similar.

Twenty (20) poles total.

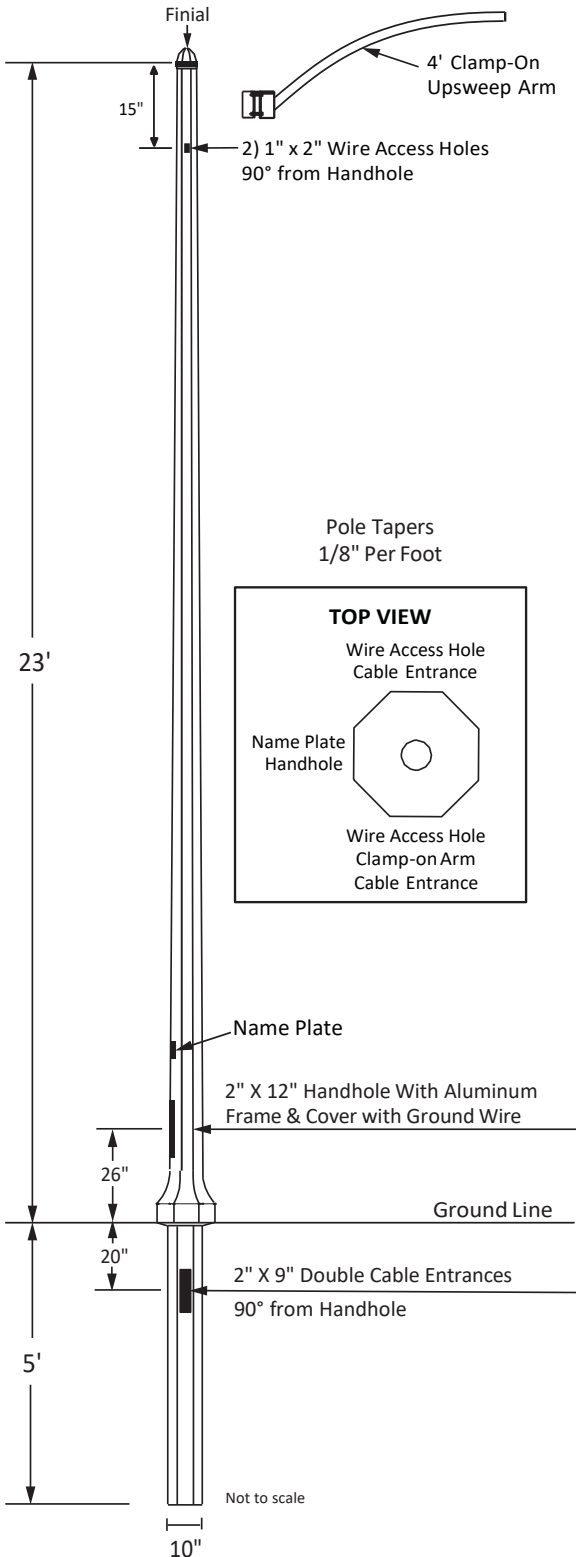
- Eleven (11) poles will have double arms.
- Two (2) poles will have single arms with flood light on top.
- Seven (7) poles will have single arms.

Light poles to be delivered to Lincoln Park Zoo

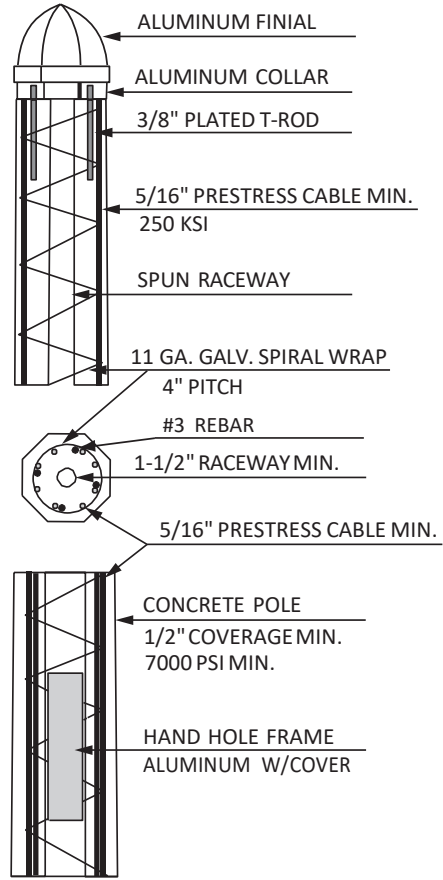
Light fixtures to be delivered to Chicago Park District Garfield Park Electrical Shop.

700 Series

Spun, Prestressed Concrete Pole



STRUCTURAL DETAIL



Job: **Lincoln Park Zoo**

Part #: **D723M-SP-EA-FI-4COA**

Direct Burial 700 Series Concrete Pole
 23' Above Ground, Modified
 Salt & Pepper Color
 Etched Finish with Acrylic Sealer
 Finial, Inserts for Wire Access Holes
 4' Clamp-on Upsweep Arm



**TRADITIONAL
CONCRETE, INC.**
Street Light Poles

Traffic Control Corporation
 10435 Argonne Woods Dr.
 Woodridge, IL 60517

Approved By: _____

Date: _____

**PHILIPS
LUMEC**

Roadway

RoadFocus

RFL: 145, 180, 215 and 241 W



Project: _____

Location: _____

Cat.No: _____

Type: _____

Lamps: _____ Qty: _____

Notes: _____

The Philips LumeC RoadFocus LED Cobra Head luminaires feature a sleek design that provides seamless replacement of existing HID luminaires. RoadFocus is available in three sizes, offers multiple lumen packages, and a complete array of optical distributions, making it an outstanding solution for all types of roadway applications.

Ordering guide

example: RFL-145W64LED4K-T-R2S-UNIV-DMG-OTL-RCD7-SP2-PHXL-GY3

Luminaire	LED Module	Optical System	Voltage	Driver and Dimming	Wattage Switch	Twist-Lock Receptacle	Surge Protection	Luminaire Options	Finish
RFL									
RFL RoadFocus Large	<p>4000K: 145W64LED4K-T 180W80LED4K-T 215W96LED4K-T 241W112LED4K-T</p> <p>3000K: 145W64LED3K-T 180W80LED3K-T 215W96LED3K-T 241W112LED3K-T</p>	<p>R2S Type II Short</p> <p>R2M Type II Medium</p> <p>R3S Type III Short</p> <p>R3M Type III Medium</p> <p>4 Type IV</p> <p>5 Type V</p>	<p>UNIV 120-277VAC</p> <p>HVU 347-480VAC</p>	<p>Standard: DMG^{1,6} Dimmable driver 0-10V</p> <p>Optional: Dynamidimmer Economy Profile</p> <hr/> <p>CDMGE25^{2,4,5,6} CDMGE50^{2,4,5,6} CDMGE75^{2,4,5,6}</p> <p>Median Profile</p> <p>CDMGM25^{2,4,5,6} CDMGM50^{2,4,5,6} CDMGM75^{2,4,5,6}</p> <p>Safety Profile</p> <hr/> <p>CDMGS25^{2,4,5,6} CDMGS50^{2,4,5,6} CDMGS75^{2,4,5,6}</p> <p>DALI^{2,4,5,6} Digitally Addressable Lighting Interface</p> <p>DMG-AST^{*2,4} Adjustable Startup Time</p> <p>DMG-CLO^{*2,4,5} Constant Light Output</p> <p>DMG-OTL^{*2,4} Over The Life</p> <p><small>*Includes 0-10v dimming</small></p>	<p>None (leave blank)</p> <p>FAWS⁵ Field Adjustable Wattage Selector (optional)</p>	<p>Standard: RCD^{3,7} Receptacle for twist-lock photocell or shorting cap, 5-pin (standard)</p> <p>Optional: RCD7^{3,7} Receptacle for twist-lock photocell or shorting cap, 7-pin (optional)</p>	<p>None (leave blank)</p> <p>SP2⁸ 20kV / 20kA Surge Protector (optional)</p>	<p>HS House side shield, 1 per 16 LEDlight engine</p> <p>PH8³ Twist-lock Photoelectric Cell, UNIV (120-277VAC)</p> <p>PH8/347³ Twist-lock Photoelectric Cell, HVU (347VAC)</p> <p>PH8/480³ Twist-lock Photoelectric Cell, HVU (480VAC)</p> <p>PHXL³ Twist-lock Photoelectric Cell, extended life, UNIV (120-277VAC)</p> <p>PH9³ Shorting cap</p> <p>API Factory installed NEMA label</p>	<p>BK Black finish</p> <p>BR Bronze finish</p> <p>GY3 Grayfinish</p> <p>WH White finish</p>

- Please note these integrated features come standard with RoadFocus luminaires.
- Denotes programmable driver option. Not available with HVU (347-480volt).
- Use of photoelectric cell or shorting cap is required to ensure proper illumination.
- Not available with HVU (347-480volt).
- FAWS not available with CDMG options, DALI or CLO.
- Dimming choices: Select either DMG or one of the CDMG options or DALI.
- When RDC7 option is selected you will get 7-pin instead of standard RCD 5-pin.
- When SP2 option is selected you will get SP2 instead of standard SP1.

Accessories (must be ordered as separate line items - quickly and easily installed in the field)

CPC or CPCD¹

CityTouch Connector Node.

1. Contact the factory for additional support when connected lighting or additional services are desired.

LED Wattage and Lumen Values

LED = Philips Lumileds LUXEON T, CRI = 70, CCT = 4000K (+/- 350K) System (LED + driver) rated life = 100,000 hrs¹

LED Module	Typical Delivered Lumens	Typical System Wattage (W) ²	LED Current (mA)	Typical System Current (A) @					Efficacy (Lm/W)	BUG Rating	
				208V	240V	277V	347V	480V			
145W64LED4K-T-R2S	16,349	137	700	1.15	0.66	0.58	0.51	0.41	0.31	119	B3-U0-G2
145W64LED4K-T-R2M	16,046	137	700	1.15	0.66	0.58	0.51	0.41	0.31	117	B3-U0-G3
145W64LED4K-T-R3S	15,763	137	700	1.15	0.66	0.58	0.51	0.41	0.31	115	B2-U0-G3
145W64LED4K-T-R3M	15,697	137	700	1.15	0.66	0.58	0.51	0.41	0.31	115	B3-U0-G2
145W64LED4K-T-4	13,954	137	700	1.15	0.66	0.58	0.51	0.41	0.31	102	B2-U0-G3
145W64LED4K-T-5	14,747	137	700	1.15	0.66	0.58	0.51	0.41	0.31	108	B4-U0-G2
180W80LED4K-T-R2S	20,444	174	700	1.46	0.86	0.76	0.69	0.52	0.39	117	B3-U0-G2
180W80LED4K-T-R2M	20,065	174	700	1.46	0.86	0.76	0.69	0.52	0.39	115	B3-U0-G3
180W80LED4K-T-R3S	19,711	174	700	1.46	0.86	0.76	0.69	0.52	0.39	113	B2-U0-G3
180W80LED4K-T-R3M	19,628	174	700	1.46	0.86	0.76	0.69	0.52	0.39	113	B3-U0-G3
180W80LED4K-T-4	17,449	174	700	1.15	0.66	0.58	0.51	0.41	0.31	100	B2-U0-G3
180W80LED4K-T-5	18,440	174	700	1.46	0.86	0.76	0.69	0.52	0.39	106	B4-U0-G2
215W96LED4K-T-R2S	24,538	207	700	1.74	1.01	0.89	0.80	0.62	0.46	119	B3-U0-G2
215W96LED4K-T-R2M	24,084	207	700	1.74	1.01	0.89	0.80	0.62	0.46	116	B3-U0-G3
215W96LED4K-T-R3S	23,658	207	700	1.74	1.01	0.89	0.80	0.62	0.46	114	B3-U0-G4
215W96LED4K-T-R3M	23,559	207	700	1.74	1.01	0.89	0.80	0.62	0.46	114	B3-U0-G3
215W96LED4K-T-4	20,944	207	700	1.74	1.01	0.89	0.80	0.62	0.46	101	B3-U0-G4
215W96LED4K-T-5	22,133	207	700	1.74	1.01	0.89	0.80	0.62	0.46	107	B5-U0-G3
241W112LED4K-T-R2S	28,633	248	700	2.03	1.17	1.02	0.91	0.72	0.53	115	B4-U0-G3
241W112LED4K-T-R2M	28,102	248	700	2.03	1.17	1.02	0.91	0.72	0.53	114	B3-U0-G4
241W112LED4K-T-R3S	27,606	244	700	2.03	1.17	1.02	0.91	0.72	0.53	113	B3-U0-G4
241W112LED4K-T-R3M	27,490	244	700	2.03	1.17	1.02	0.91	0.72	0.53	113	B3-U0-G4
241W112LED4K-T-4	24,439	243	700	1.74	1.01	0.89	0.80	0.62	0.46	101	B3-U0-G4
241W112LED4K-T-5	25,826	242	700	2.03	1.17	1.02	0.91	0.72	0.53	107	B5-U0-G3

1. L70 > 100,000 hrs (at ambient temperature = 25°C).

2. System wattage or total luminaire wattage includes the LED module and the LED driver.

Note: Due to rapid and continuous advances in LED technology, LED luminaire data is subject to change without notice and at the discretion of Philips.

LED Wattage and Lumen Values

LED = Philips Lumileds LUXEON T, CRI = 70, CCT = 3000K
(+/- 350K) System (LED + driver) rated life = 100,000 hrs¹

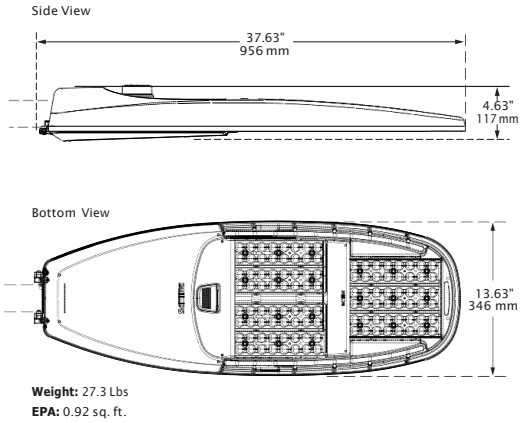
LED Module	Typical Delivered Lumens	Typical System Wattage (W) ²	LED Current (mA)	Typical System Current (A) @						Efficacy (lm/W)	BUG Rating
				208V	240V	277V	347V	480V			
145W64LED3K-T-R2S	14,868	137	700	1.15	0.66	0.58	0.51	0.41	0.31	109	B3-U0-G2
145W64LED3K-T-R2M	14,432	137	700	1.15	0.66	0.58	0.51	0.41	0.31	105	B3-U0-G3
145W64LED3K-T-R3S	14,405	137	700	1.15	0.66	0.58	0.51	0.41	0.31	105	B2-U0-G2
145W64LED3K-T-R3M	14,153	137	700	1.15	0.66	0.58	0.51	0.41	0.31	103	B3-U0-G2
145W64LED3K-T-4	14,516	137	700	1.15	0.66	0.58	0.51	0.41	0.31	106	B2-U0-G3
145W64LED3K-T-5	14,532	137	700	1.15	0.66	0.58	0.51	0.41	0.31	106	B4-U0-G2
180W80LED3K-T-R2S	18,303	174	700	1.46	0.86	0.76	0.69	0.52	0.39	105	B3-U0-G2
180W80LED3K-T-R2M	17,766	174	700	1.46	0.86	0.76	0.69	0.52	0.39	102	B3-U0-G3
180W80LED3K-T-R3S	17,733	174	700	1.46	0.86	0.76	0.69	0.52	0.39	102	B2-U0-G3
180W80LED3K-T-R3M	17,423	174	700	1.46	0.86	0.76	0.69	0.52	0.39	100	B3-U0-G3
180W80LED3K-T-4	17,870	174	700	1.15	0.66	0.58	0.51	0.41	0.31	103	B3-U0-G3
180W80LED3K-T-5	17,890	174	700	1.46	0.86	0.76	0.69	0.52	0.39	103	B4-U0-G2
215W96LED3K-T-R2S	22,106	207	700	1.74	1.01	0.89	0.80	0.62	0.46	107	B3-U0-G2
215W96LED3K-T-R2M	21,458	207	700	1.74	1.01	0.89	0.80	0.62	0.46	104	B3-U0-G3
215W96LED3K-T-R3S	21,419	207	700	1.74	1.01	0.89	0.80	0.62	0.46	103	B3-U0-G3
215W96LED3K-T-R3M	21,044	207	700	1.74	1.01	0.89	0.80	0.62	0.46	102	B3-U0-G3
215W96LED3K-T-4	21,583	207	700	1.46	0.86	0.76	0.69	0.52	0.39	104	B3-U0-G4
215W96LED3K-T-5	21,607	207	700	1.74	1.01	0.89	0.80	0.62	0.46	104	B5-U0-G3
241W112LED3K-T-R2S	25,833	248	700	2.03	1.17	1.02	0.91	0.72	0.53	104	B3-U0-G3
241W112LED3K-T-R2M	25,076	248	700	2.03	1.17	1.02	0.91	0.72	0.53	101	B3-U0-G3
241W112LED3K-T-R3S	25,030	244	700	2.03	1.17	1.02	0.91	0.72	0.53	103	B3-U0-G4
241W112LED3K-T-R3M	24,592	244	700	2.03	1.17	1.02	0.91	0.72	0.53	101	B3-U0-G3
241W112LED3K-T-4	25,222	243	700	1.74	1.01	0.89	0.80	0.62	0.46	104	B3-U0-G4
241W112LED3K-T-5	25,250	242	700	2.03	1.17	1.02	0.91	0.72	0.53	104	B5-U0-G3

- L70 > 100,000 hrs (at ambient temperature = 25°C).
- System wattage or total luminaire wattage includes the LED module and the LED driver.

Note: Due to rapid and continuous advances in LED technology, LED luminaire data is subject to change without notice and at the discretion of Philips.

Field Adjustable Wattage (FAWS) Multiplier Chart

FAWS Position	Typical Delivered Lumens Multiplier	Typical System wattage and typical current
1	0.37	0.29
2	0.55	0.50
3	0.62	0.58
4	0.71	0.69
5	0.77	0.75
6	0.81	0.81
7	0.84	0.87
8	0.94	0.91
9	0.98	0.96
10	1.00	1.00



Predicted Lumen Depreciation Data

Predicted performance derived from LED manufacturer's data and engineering design estimates, based on IESNA LM-80 methodology. Actual experience may vary due to field application conditions. L70 is the predicted time when LED performance depreciates to 70% of initial lumen output. Calculated per IESNA TM21-11. Published L70 hours limited to 6 times actual LED test hours.

Ambient Temperature °C	Driver mA	Calculated L70 Hours	L70 per TM-21	Lumen Maintenance % at 60,000 hrs
25°C	700 mA	>100,000 hours	>60,000 hours	>94%

Specifications

Housing

Made of a low copper die cast Aluminum alloy (A360), 0.100" (2.5mm) minimum thickness. Fits on a 1.66" (42mm) O.D. (1.25" NPS), 1.9" (48mm) O.D. (1.5" NPS) or 2 3/8" (60mm) O.D. (2" NPS) by 5 1/2" (140mm) minimum long tenon. Comes with 2 zinc plated clamps fixed by 4 zinc plated hexagonal bolts 3/8 16 UNC for ease of installation. Provides an easy step adjustment of +/- 5° tilt in 2.5° increments. Includes integral bubble level standard (always included). A quick release, tool less entry, single latch, hinged, removable door opens downward to provide access to electronic components and to a terminal block. Door is secured to prevent accidental dropping or disengagement. A clearance of 13" (330mm) at the rear is required in order to remove the door. Complete with a bird guard protecting against birds and similar intruders and an ANSI label to identify wattage and source (both included in box). Housing (including electrical compartment) rated IP54 per ANSI C136.37.

Light Engine

Composed of 4 main components: LED Module / Optical System / Heat Sink / Driver.

Electrical components are RoHS compliant, IP66 sealed light engine equipped with Philips Lumileds LUXEON T LEDs. LEDs tested by ISO 17025-2005 accredited lab in accordance with IESNA LM-80 guidelines in compliance with EPA ENERGY STAR, extrapolations in accordance with IESNA TM-21. Metal core board ensures greater heat transfer and longer lifespan.

LED Module: LED type Philips Lumileds LUXEON T. Composed of high-performance white LEDs. Color temperature as per ANSI/NEMA bin Neutral White, 3000 Kelvin nominal (3045K +/- 175K) or 4000 Kelvin nominal (3985K +/- 275K), CRI 70 Min. 75 Typical.

Optical System: Composed of high performance UV stabilized optical grade polymer refractor lenses to achieve desired distribution optimized to get maximum

Specifications (continued)

Driver: High power factor of 90% min. Electronic driver, operating range 50/60 Hz. Auto adjusting universal voltage input from 120 to 277 or 347 to 480 VAC rated for both application line to line or line to neutral, Class I, THD of 20% max. 1 driver (64 LED); 2 drivers (all others).

DMG: Dimming compatible 0-10 volts. The current supplying the LEDs will be reduced by the driver if the driver experiences internal overheating as a protection to the LEDs and the electrical components. Output is protected from short circuits, voltage overload and current overload. Automatic recovery after correction. Standard built in driver surge protection of 2.5kV (min).

Integrated Features

DMG: Dimmable driver 0-10V.

RCD*: Receptacle with 5 pins enabling dimming, can be used with a twist lock Starsense or photoelectric cell or a shorting cap.

SP1: Surge protection device tested in accordance with ANSI/IEEE C62.45 per ANSI/IEEE C62.41.2 Scenario I Category C High Exposure 10kV/10kA waveforms for Line-Ground, Line-Neutral and Neutral-Ground, and in accordance with DOE MSSLC Model Specification for LED Roadway Luminaires Appendix D Electrical Immunity High test level 10kV/10kA.

Please note that these integrated features always come with RoadFocus luminaire.

** Use of photoelectric cell or shorting cap is required to ensure proper illumination.*

Driver and Luminaire Options

AST*: Pre-set driver for progressive start-up of the LED module(s) to optimize energy management and enhance visual comfort at start-up.

CLO*: Pre-set driver to manage the lumen depreciation by adjusting the power given to the LEDs offering the same lighting intensity during the entire lifespan of the LED module.

DALI*: Pre-set driver compatible with the DALI control system.

OTL*: Pre-set driver to signal end of life of the LED module(s) for better fixture management.

CDMG*: Dimmer standard dimming functionalities including pre-programmed scenarios to suit many applications and needs

Economy Mode:

CDMG25: 8 hours 25% power dimming

CDMG50: 8 hours 50% power dimming

CDMG75: 8 hours 75% power dimming

FAWS: Field Adjustable Wattage Selector, pre-set to the highest position, can be easily switched in the field to the required position. This reduces total luminaire wattage consumption and reduces the light level – see the FAWS multiplier chart for more details.

Note: It is not recommended to use FAWS with other dimming or controls; if you do, set the switch to position 10 (maximum output) to enable the other dimming or controls. Switching FAWS to any position other than 10 will disable the other dimming or controls.

SP2: 20kV / 20kA surge protection device that provides extra protection beyond the SP1 10kV/10kA level.

RCD7*: Receptacle with 7 pins enabling dimming and additional functionality (to be determined), can be used with a twist lock Starsense node or photoelectric cell or a shorting cap.

Please note: Additional hardware will be required to utilize the additional 2 pins on this receptacle.

HS: House side shield, 1 per 16 LED light engine.

PH8*: Twist-lock Photoelectric Cell, UNIV (120-277VAC). **PH8/347*:** Twist-lock Photoelectric Cell, HVU (347VAC). **PH8/480*:** Twist-lock Photoelectric Cell, HVU (480VAC).

PHXL*: Twist-lock Photoelectric Cell, extended life, UNIV (120-277VAC).

PH9*: Shorting cap.

API: Factory Installed NEMA label, ANSI C136.15 compliant

** Use of photoelectric cell or shorting cap is required to ensure proper illumination.*

Luminaire Useful Life

Refer to IES files for energy consumption and delivered lumens for each option. Based on ISTMT in situ thermal testing in accordance with UL1598 and UL8750, Philips System Reliability Tool, Philips Advance data and Philips Lumileds LM-80/TM-21 data, expected to reach 100,000+ hours with >L70 lumen maintenance

@ 25°C. Luminaire Useful Life accounts for LED lumen maintenance AND all of these additional factors including: LED life, driver life, PCB substrate, solder joints, on/off cycles, burning hours and corrosion.

Wiring

The connection of the luminaire is done using a terminal block connector 600V, 85A for use with #2-14 AWG wires from the primary circuit, located inside the housing. Due to the inrush current that occurs with electronic drivers, recommend using a 10Amp time-delay fuse to avoid unwanted fuse blowing (false tripping) that can occur with normal or fast acting fuses.

CDMG25: 4 hours, 25% power dimming

CDMG50: 4 hours 50% power dimming

CDMG75: 4 hours 75% power dimming

Median Mode:

CDMG25: 6 hours 25% power dimming

CDMG50: 6 hours 50% power dimming

CDMG75: 6 hours 75% power dimming

Logistics

- **Project Schedule**
 - RFP Released: August 15, 2024
 - Quotes Due: September 6, 2024
 - Decision communicated: Week of September 9, 2024
 - Delivery Goal: Fall 2024
- **Submission Requirements**
 - Provide an overview of the company's organization, resources, and support capabilities.
 - Provide a projected timeline and budget.
 - Provide information regarding bidder's status as a Minority Business Enterprise or Women Business Enterprise. Contractors certified as such are preferred.
 - Include your company's Diversity Statement or policy.
 - Provide a list of current and past projects employing your company's services that have similar requirements to those of the zoo's request for proposals.
 - Successful bidders must comply with the Illinois Prevailing Wage Act.
 - All work must be completed by April 2025.
 - The preferred format for submission is PDF.
- **Submission Inquiries and Delivery**
 - The parking lot areas are available for a visit anytime between 6am and 11pm.
 - A site walk-through may be scheduled if prospective bidders are interested.
 - If you have questions, please email Project Manager Hannah Sorich via email at hsorich@lpzoo.org and copy Senior Accountant Emily Stroebel via email at estroebel@lpzoo.org.
 - Please submit your proposals to Senior Accountant Emily Stroebel via email at estroebel@lpzoo.org by September 6, 2024. Late proposals will not be accepted.

Selection Criteria

Selection criteria will include, but not be limited to, the following:

- Qualifications and experience
- Current and previous comparable projects
- Timeline and budget